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VOLUME I

PLANETARY POSITION-VELOCITY EPHEMERIDES, 1965-2000

HELIOCENTRIC EQUATORIAL SYSTEM

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VOLUME I HELIOCENTRIC EQUATORIAL SYSTEM

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REVISIONS

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ABSTRACT

This document contains lunar and planetary position and velocity ephemerides for the period from 1965 to 2000. The position ephemeris appears in both rectangular and spherical coordinates, while the velocity ephemeris is presented only in the rectangular form. The distance from the central body and the magnitude of the planet's velocity are also printed out. These ephemerides are presented in three coordinate systems: the heliocentric mean ecliptic and equinox of 1950.0, the heliocentric mean equatorial and equinox of 1950.0, and the geocentric mean equatorial and equinox of 1950.0.

The data are based upon the first release from the JPL Ephemeris Tape System, a basic position-velocity ephemerides prepared under contract to the National Aeronautics and Space Administration.

KEY WORDS

Ephemeris
Planets
Moon
Position
Velocity
Sun
Heliocentric
Equatorial
Ecliptic
Geocentric

0.0 GENERAL INFORMATION

0.0.1 INTRODUCTION

The basic ephemerides presented in the tables of volumes one, two and three are those produced and released on magnetic tape by JPL. They were generated by selecting initial values such that the subsequent position predictions obtained by integrating the equations of motion using Cowell's perturbation method were the best least-squares fit to certain source position predictions over the arc of integration. The success of this method in generating acquisition ephemerides for radar observations of Venus in 1961 led to the establishment of the ephemeris library system from which this data was obtained.

To insure the easy availability of these results and to supplement or supplant ephemerides previously used within The Boeing Company, it was decided to release this document. It is hoped that it will prove useful in the analysis of interplanetary and lunar missions.

0.0.2 GENERATION OF THE EPHEMERIS

Given epoch conditions, the equations of motion to be integrated are the equations of Cowell's method.

$$\ddot{X}^i = -k^2(1+m)\frac{X^i}{r^3} + \Sigma_j k^2 m_j \left(\frac{X^i_j - X^i}{(\rho_j)^3} - \frac{X^i_j}{(r_j)^3} \right)_{(i=1,2,3)}$$

where

$$(r)^2 = \sum_{i=1}^{3} (X^i)^2$$

$$(r_j)^2 = \sum_{i=1}^{3} (X^i_j)^2$$

$$(\rho_j)^2 = \sum_{i=1}^{3} (X^i_j - X^i)^2$$

and where X^i are the position coordinates and m is the mass of the body whose motion is sought, while m_j and X^i_j are the masses and positions of the set of perturbing bodies.

The integration of this equation yields coordinates $X^i(t,c)$ and the consistent velocity components $\dot{x}_j(t,c)$, $(i = 1,2,3)$, at time points $t_o = t_1 < t_2 < \dots \leq t_f$. The computed coordinates in general depend on some parameter

set $C = (C_1, C_2, \dots C_6)$, the six constants of integration. JPL used the osculating elements of the initial epoch for this parameter set, as these values serve to fix the coordinates and velocity components at t_o. The C are chosen such that the sum of the squared residuals, the difference between the computed position coordinates and the source coordinates, is a minimum.

$$S = \sum_{j=0}^{n} \left\{ \sum_{i=1}^{3} (\Delta X^i_j)^2 \right\} = \min$$

The method used in minimizing S consisted of calculating the partial derivatives $\partial X^i_j / \partial C_k$ $(i = 1,2,3)$, $(k = 1,2,\dots 6)$ for assumed values of the C at the points t_j, then solving the normal equations

$$\sum_{j=0}^{n} \left\{ \sum_{i=1}^{3} \left(\frac{\partial X^i_j}{\partial C_m} \Delta X^i_j \right) \right\} = \sum_{k=1}^{6} \left\{ \sum_{L=1}^{n} \frac{\partial X^i_j}{\partial C_m} \frac{\partial X^i_j}{\partial C_k} \right\} \Delta C_k \qquad (m=1,2,\dots 6)$$

for corrections ΔC_k to the values of C_k.

For the initial fit of Jupiter, the perturbing set consisted of source positions only. Then a fitted Jupiter ephemeris was used in fitting Saturn, Jupiter was then refitted with this fitted Saturn ephemeris; and Uranus and Pluto were fitted using the previous fits to Jupiter and Saturn.

The remaining fits were generated using fitted Jupiter, Saturn, Uranus and Pluto ephemerides. Next Mars, the Earth-Moon barycenter, and finally Venus were fitted. The fit of Mercury has been delayed until relativistic effects can be included and difficulty was experienced in fitting Neptune; consequently, the position-velocity ephemerides of these planets were obtained by evaluating and then numerically differentiating the source position prediction theories.

0.0.3 SOURCE EPHEMERIDES

The source position theories used by JPL were, for the inner planets, results obtained through general perturbation methods. One can think of such a method as a harmonic analysis in which the constants are determined by observation. Such expressions may be improved by the incorporation of either more terms or by time variable coefficients, e.g. in first order theories the coefficients are taken to be functions of constant osculating orbital elements at some epoch; in second order theory, the change in the orbital elements with time is taken into account, etc. Each higher order theory yields a slightly better approximation to the actual orbit than the preceding one, but the accuracy of any order is limited by the exactness of the determination of certain astrodynamic constants (e.g. solar parallax). The theories employed were of either second or third order.

The particular theories used were:

1. Brown's improved Lunar Theory
2. The Newcomb-Duncombe Theories of Venus and the Earth-Moon Barycenter
3. The Hansen-Clemence Theory of Mars
4. The Newcomb-Clemence Theory of Mercury.

The results of a numerical integration procedure carried out by Eckert, Clemence, and Brouwer (and later modified by Clemence) were used as the source data for the coordinates of the five outer planets.

0.0.4 ACCURACY OF THE EPHEMERIDES

The ephemerides produced using a fitting process can be no more accurate than the original source predictions, and those theories present varying degrees of accuracy. The greatest accuracy is shown in the source data for the moon, where the uncertainty in latitude and longitude are of the order of a few hundredths of a second of arc while the uncertainty of the radius vector is of the order of one kilometer. Systematic errors in longitude, moreover, are assimilated into Δt, the difference between Ephemeris Time and Universal Time. For the inner planets, the accuracy is on the order of 0".1 in latitude and longitude with the uncertainty in the radius vectors essentially the uncertainty of the astronomical unit (although no value is available on the uncertainty of the radius vector of Mercury.) An estimation of the accuracy of the source data for the outer planets is more difficult to make; since, for example, Krotkov and Dicke[7] found the source data for Jupiter to show systematic discrepancies with observation of about 0".25 while according to Gurnette and Woolley, Pluto showed a right ascension in 1960 about 0".5 greater than that predicted by the source data. Such systematic departures from observation are caused by errors in the constants adopted in the original calculations.

In summary, the accuracy of 12 significant figures quoted in JPL reports indicates the number of digits free from random error generated within the computer program. The use of accuracy in this sense is similar to that of Clemence and Brouwer in Reference 3. If, however, accuracy refers to agreement with observation then a more realistic figure would be five-six significant figures for the inner planets.

0.0.5 PRINTOUT FORMAT AND CONSTANTS

Three coordinate systems appear in these tables. They are the heliocentric mean equatorial of 1950.0, the heliocentric mean ecliptic of 1950.0, and the geocentric mean equatorial of 1950.0. In all three reference frames the vernal equinox of 1950.0 serves as the x-axis. (It should be noted that 1950.0 indicates the beginning of the Besselian year, or the instant when the right ascension of the fictitious mean sun, affected by aberration and measured from the mean equinox, is 18 hours and 40 minutes. It does not coincide exactly with the calendar year.)

The basic units used by the original tapes are astronomical units (A.U.'s) and A.U.'s/day. In the printout, these have on some occasions been converted to other units. When such transformations have been carried out, the conversion factors are printed on the table. The factors used are:

1. 1 A.U. = 149,599,000 Km
2. 1 Earth Radius (ER) = 6378.3255 Km
3. $\bar{\epsilon}$ (mean obliquity of 1950.0) = .409206194 radians
4. 1 radian = 57.29577951 degrees

The quantities appearing in these tables were found from the basic X, Y, Z, $\dot{X}$, $\dot{Y}$, $\dot{Z}$ of the tapes by the following formulae:

1. Velocity = $\sqrt{\dot{X}^2 + \dot{Y}^2 - \dot{Z}^2}$

2. Radius = $\sqrt{X^2 + Y^2 + Z^2}$

3. declination = $\tan^{-1}\left(Z/(X^2+Y^2)^{\frac{1}{2}}\right) = \phi$, $0° \leq |\phi| \leq 90°$

4. right ascension = $\tan^{-1}(Y/X) = \theta$, $0° \leq \theta \leq 360°$

5. Transformations between the tapes' equatorial system and the ecliptic system is carried out by use of the matrix:

$$\bar{X}_{ecliptic} = \begin{pmatrix} 1 & 0 & 0 \\ 0 & \cos\bar{\epsilon} & \sin\bar{\epsilon} \\ 0 & -\sin\bar{\epsilon} & \cos\bar{\epsilon} \end{pmatrix} \bar{X}_{equatorial}$$

6. $\sin\bar{\epsilon} = .91743695225$

7. $\cos\bar{\epsilon} = .3978811865$

8. Transformations into the geocentric system are carried out by equations of the form:

$$\bar{X}_{geocentric} = \bar{X}_{heliocentric} - \bar{X}_{earth}$$

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1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
64/12/31	2438760.5	-0.32184	0.11847	0.09651	-30.25262	-38.33614	-17.42151	0.35627	51.84969	159.79	15.72
65/ 1/ 2	2438762.5	-0.35256	0.07288	0.07525	-22.95592	-40.41583	-19.28491	0.36780	50.32217	168.32	11.81
65/ 1/ 4	2438764.5	-0.37492	0.02553	0.05219	-15.79447	-41.39226	-20.54360	0.37940	48.83466	176.10	7.91
65/ 1/ 6	2438766.5	-0.38917	-0.02239	0.02800	-8.92815	-41.42692	-21.26763	0.39081	47.41533	183.29	4.11
65/ 1/ 8	2438768.5	-0.39570	-0.06987	0.00324	-2.45824	-40.67180	-21.52798	0.40183	46.08353	190.01	0.46
65/ 1/10	2438770.5	-0.39502	-0.11609	-0.02158	3.55670	-39.26174	-21.39086	0.41229	44.85202	196.38	-3.00
65/ 1/12	2438772.5	-0.38767	-0.16036	-0.04605	9.08753	-37.31207	-20.91503	0.42205	43.72885	202.47	-6.26
65/ 1/14	2438774.5	-0.37422	-0.20212	-0.06979	14.12428	-34.91909	-20.15103	0.43100	42.71887	208.37	-9.32
65/ 1/16	2438776.5	-0.35523	-0.24089	-0.09251	18.66873	-32.16204	-19.14148	0.43906	41.82480	214.14	-12.16
65/ 1/18	2438778.5	-0.33127	-0.27630	-0.11393	22.72917	-29.10553	-17.92185	0.44617	41.04802	219.83	-14.79
65/ 1/20	2438780.5	-0.30290	-0.30804	-0.13384	26.31680	-25.80207	-16.52138	0.45227	40.38907	225.48	-17.21
65/ 1/22	2438782.5	-0.27066	-0.33583	-0.15204	29.44325	-22.29430	-14.96412	0.45733	39.84803	231.13	-19.42
65/ 1/24	2438784.5	-0.23506	-0.35948	-0.16836	32.11903	-18.61704	-13.26979	0.46132	39.42479	236.82	-21.40
65/ 1/26	2438786.5	-0.19663	-0.37879	-0.18265	34.35235	-14.79907	-11.45465	0.46422	39.11911	242.57	-23.17
65/ 1/28	2438788.5	-0.15587	-0.39362	-0.19478	36.14836	-10.86459	-9.53219	0.46601	38.93079	248.40	-24.71
65/ 1/30	2438790.5	-0.11328	-0.40385	-0.20463	37.50871	-6.83460	-7.51381	0.46669	38.85965	254.33	-26.01
65/ 2/ 1	2438792.5	-0.06938	-0.40938	-0.21210	38.43103	-2.72809	-5.40946	0.46625	38.90563	260.38	-27.06
65/ 2/ 3	2438794.5	-0.02467	-0.41013	-0.21710	38.90867	1.43680	-3.22815	0.46470	39.06878	266.56	-27.85
65/ 2/ 5	2438796.5	0.02033	-0.40604	-0.21953	38.93039	5.64164	-0.97860	0.46204	39.34922	272.87	-28.37
65/ 2/ 7	2438798.5	0.06508	-0.39709	-0.21934	38.48010	9.86651	1.33016	0.45828	39.74715	279.31	-28.59
65/ 2/ 9	2438800.5	0.10903	-0.38325	-0.21644	37.53667	14.08863	3.68812	0.45345	40.26281	285.88	-28.51
65/ 2/11	2438802.5	0.15160	-0.36455	-0.21080	36.07378	18.28079	6.08341	0.44757	40.89636	292.58	-28.10
65/ 2/13	2438804.5	0.19216	-0.34104	-0.20238	34.05995	22.40951	8.50132	0.44067	41.64780	299.40	-27.34
65/ 2/15	2438806.5	0.23006	-0.31282	-0.19116	31.45898	26.43270	10.92306	0.43281	42.51668	306.33	-26.21
65/ 2/17	2438808.5	0.26459	-0.28004	-0.17715	28.23076	30.29694	13.32411	0.42405	43.50187	313.38	-24.69
65/ 2/19	2438810.5	0.29502	-0.24292	-0.16040	24.33308	33.93413	15.67236	0.41445	44.60097	320.53	-22.77
65/ 2/21	2438812.5	0.32053	-0.20177	-0.14098	19.72477	37.25765	17.92564	0.40414	45.80969	327.81	-20.42
65/ 2/23	2438814.5	0.34030	-0.15701	-0.11905	14.37093	40.15819	20.02900	0.39323	47.12074	335.23	-17.62
65/ 2/25	2438816.5	0.35344	-0.10921	-0.09480	8.25121	42.49978	21.91172	0.38188	48.52255	342.83	-14.37
65/ 2/27	2438818.5	0.35907	-0.05911	-0.06854	1.37216	44.11717	23.48464	0.37030	49.99736	350.65	-10.67
65/ 3/ 1	2438820.5	0.35633	-0.00765	-0.04070	-6.21546	44.81651	24.63872	0.35873	51.51910	358.77	-6.52
65/ 3/ 3	2438822.5	0.34448	0.04399	-0.01183	-14.39434	44.38259	25.24667	0.34748	53.05097	7.28	-1.95
65/ 3/ 5	2438824.5	0.32293	0.09437	0.01736	-22.95556	42.59690	25.17000	0.33688	54.54340	16.29	2.95
65/ 3/ 7	2438826.5	0.29142	0.14180	0.04600	-31.57716	39.27058	24.27449	0.32734	55.93341	25.95	8.08
65/ 3/ 9	2438828.5	0.25013	0.18445	0.07308	-39.81778	34.29322	22.45568	0.31926	57.14664	36.41	13.23
65/ 3/11	2438830.5	0.19979	0.22040	0.09750	-47.14090	27.69065	19.67226	0.31305	58.10365	47.81	18.15
65/ 3/13	2438832.5	0.14180	0.24787	0.11817	-52.98089	19.67294	15.97864	0.30905	58.73088	60.23	22.48
65/ 3/15	2438834.5	0.07816	0.26546	0.13413	-56.84557	10.64614	11.54167	0.30751	58.97431	73.59	25.86
65/ 3/17	2438836.5	0.01136	0.27229	0.14465	-58.42537	1.16725	6.62784	0.30854	58.81169	87.61	27.96
65/ 3/19	2438838.5	-0.05591	0.26821	0.14938	-57.66377	-8.15183	1.55905	0.31206	58.25799	101.78	28.60
65/ 3/21	2438840.5	-0.12103	0.25374	0.14832	-54.75723	-16.75709	-3.34787	0.31785	57.36168	115.50	27.82
65/ 3/23	2438842.5	-0.18173	0.22994	0.14181	-50.08841	-24.23826	-7.83387	0.32559	56.19352	128.32	25.82
65/ 3/25	2438844.5	-0.23625	0.19827	0.13045	-44.12781	-30.36235	-11.72585	0.33487	54.83276	140.00	22.93
65/ 3/27	2438846.5	-0.28336	0.16035	0.11498	-37.34363	-35.05872	-14.93788	0.34529	53.35542	150.50	19.45
65/ 3/29	2438848.5	-0.32236	0.11781	0.09621	-30.14298	-38.37684	-17.45461	0.35644	51.82706	159.92	15.66

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
65/ 3/31	2438850.5	-0.35296	0.07217	0.07491	-22.84667	-40.43881	-19.30847	0.36797	50.29995	168.44	11.75
65/ 4/ 2	2438852.5	-0.37519	0.02481	0.05183	-15.68851	-41.39992	-20.55861	0.37957	48.81331	176.22	7.85
65/ 4/ 4	2438854.5	-0.38932	-0.02311	0.02763	-8.82739	-41.42160	-21.27515	0.39098	47.39518	183.40	4.05
65/ 4/ 6	2438856.5	-0.39574	-0.07058	0.00286	-2.36385	-40.65562	-21.52903	0.40199	46.06481	190.11	0.41
65/ 4/ 8	2438858.5	-0.39495	-0.11678	-0.02196	3.64407	-39.23657	-21.38637	0.41244	44.83486	196.47	-3.05
65/ 4/10	2438860.5	-0.38751	-0.16101	-0.04641	9.16757	-37.27947	-20.90580	0.42219	43.71333	202.56	-6.31
65/ 4/12	2438862.5	-0.37396	-0.20273	-0.07014	14.19692	-34.88036	-20.13775	0.43112	42.70505	208.46	-9.36
65/ 4/14	2438864.5	-0.35490	-0.24145	-0.09284	18.73403	-32.11825	-19.12474	0.43917	41.81269	214.23	-12.20
65/ 4/16	2438866.5	-0.33087	-0.27681	-0.11424	22.78726	-29.05756	-17.90212	0.44627	41.03762	219.92	-14.83
65/ 4/18	2438868.5	-0.30244	-0.30849	-0.13413	26.36783	-25.75062	-16.49906	0.45235	40.38039	225.57	-17.25
65/ 4/20	2438870.5	-0.27013	-0.33622	-0.15230	29.48739	-22.23996	-14.93954	0.45740	39.84108	231.22	-19.45
65/ 4/22	2438872.5	-0.23449	-0.35980	-0.16859	32.15639	-18.56029	-13.24323	0.46137	39.41955	236.91	-21.43
65/ 4/24	2438874.5	-0.19602	-0.37905	-0.18285	34.38301	-14.74031	-11.42632	0.46425	39.11558	242.65	-23.19
65/ 4/26	2438876.5	-0.15523	-0.39381	-0.19494	36.17237	-10.80416	-9.50227	0.46603	38.92895	248.49	-24.73
65/ 4/28	2438878.5	-0.11262	-0.40397	-0.20476	37.52603	-6.77282	-7.48248	0.46669	38.85951	254.42	-26.02
65/ 4/30	2438880.5	-0.06870	-0.40943	-0.21220	38.44159	-2.66524	-5.37686	0.46624	38.90720	260.47	-27.07
65/ 5/ 2	2438882.5	-0.02399	-0.41010	-0.21715	38.91233	1.50042	-3.19443	0.46467	39.07205	266.65	-27.86
65/ 5/ 4	2438884.5	0.02101	-0.40594	-0.21955	38.92696	5.70574	-0.94390	0.46199	39.35422	272.96	-28.37
65/ 5/ 6	2438886.5	0.06576	-0.39692	-0.21931	38.46931	9.93075	1.36570	0.45822	39.75390	279.41	-28.60
65/ 5/ 8	2438888.5	0.10970	-0.38300	-0.21638	37.51816	14.15262	3.72432	0.45337	40.27132	285.98	-28.51
65/ 5/10	2438890.5	0.15223	-0.36423	-0.21069	36.04710	18.34408	6.12007	0.44747	40.90665	292.68	-28.09
65/ 5/12	2438892.5	0.19276	-0.34065	-0.20223	34.02462	22.47151	8.53819	0.44056	41.65986	299.50	-27.32
65/ 5/14	2438894.5	0.23061	-0.31236	-0.19097	31.41440	26.49270	10.95980	0.43269	42.53052	306.44	-26.19
65/ 5/16	2438896.5	0.26509	-0.27951	-0.17692	28.17632	30.35401	13.36030	0.42391	43.51745	313.48	-24.67
65/ 5/18	2438898.5	0.29545	-0.24232	-0.16012	24.26814	33.98711	15.70743	0.41430	44.61826	320.64	-22.74
65/ 5/20	2438900.5	0.32088	-0.20111	-0.14067	19.64875	37.30506	17.95886	0.40398	45.82861	327.92	-20.38
65/ 5/22	2438902.5	0.34055	-0.15631	-0.11869	14.28341	40.19818	20.05943	0.39306	47.14117	335.35	-17.58
65/ 5/24	2438904.5	0.35358	-0.10847	-0.09441	8.15206	42.53008	21.93816	0.38170	48.54428	342.95	-14.32
65/ 5/26	2438906.5	0.35909	-0.05833	-0.06813	1.26176	44.13506	23.50558	0.37012	50.02007	350.77	-10.61
65/ 5/28	2438908.5	0.35622	-0.00686	-0.04027	-6.33590	44.81884	24.65236	0.35856	51.54233	358.90	-6.45
65/ 5/30	2438910.5	0.34422	0.04477	-0.01139	-14.52242	44.36603	25.25096	0.34731	53.07406	7.41	-1.88
65/ 6/ 1	2438912.5	0.32253	0.09511	0.01780	-23.08730	42.55824	25.16283	0.33673	54.56552	16.43	3.03
65/ 6/ 3	2438914.5	0.29087	0.14249	0.04642	-31.70675	39.20740	24.25397	0.32720	55.95350	26.10	8.16
65/ 6/ 5	2438916.5	0.24943	0.18505	0.07347	-39.93770	34.20472	22.42059	0.31915	57.16350	36.57	13.31
65/ 6/ 7	2438918.5	0.19896	0.22088	0.09785	-47.24255	27.57850	19.62263	0.31297	58.11609	47.99	18.22
65/ 6/ 9	2438920.5	0.14086	0.24822	0.11845	-53.05593	19.54186	15.91612	0.30900	58.73788	60.42	22.54
65/ 6/11	2438922.5	0.07716	0.26564	0.13433	-56.88765	10.50359	11.46962	0.30751	58.97527	73.80	25.90
65/ 6/13	2438924.5	0.01033	0.27231	0.14477	-58.43157	1.02239	6.55087	0.30857	58.80653	87.83	27.98
65/ 6/15	2438926.5	-0.05693	0.26807	0.14940	-57.63521	-8.28984	1.48216	0.31213	58.24720	101.99	28.60
65/ 6/17	2438928.5	-0.12199	0.25344	0.14825	-54.69850	-16.88076	-3.42017	0.31795	57.34618	115.70	27.79
65/ 6/19	2438930.5	-0.18261	0.22951	0.14167	-50.00623	-24.34264	-7.89826	0.32572	56.17446	128.51	25.78
65/ 6/21	2438932.5	-0.23702	0.19773	0.13024	-44.02949	-30.44517	-11.78034	0.33502	54.81132	140.16	22.88
65/ 6/23	2438934.5	-0.28401	0.15972	0.11472	-37.23594	-35.11988	-14.98173	0.34545	53.33267	150.65	19.39
65/ 6/25	2438936.5	-0.32289	0.11713	0.09590	-30.03151	-38.41773	-17.48799	0.35661	51.80389	160.06	15.60
65/ 6/27	2438938.5	-0.35336	0.07146	0.07457	-22.73566	-40.46159	-19.33211	0.36814	50.27704	168.57	11.69

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

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65/ 6/29	2438940.5	-0.37547	0.02408	0.05147	-15.58093	-41.40706	-20.57351	0.37974	48.79118	176.33	7.79
65/ 7/ 1	2438942.5	-0.38947	-0.02384	0.02725	-8.72522	-41.41551	-21.28241	0.39115	47.37420	183.50	3.99
65/ 7/ 3	2438944.5	-0.39578	-0.07130	0.00248	-2.26828	-40.63851	-21.52971	0.40216	46.04522	190.21	0.35
65/ 7/ 5	2438946.5	-0.39489	-0.11747	-0.02234	3.73240	-39.21036	-21.38142	0.41259	44.81683	196.57	-3.10
65/ 7/ 7	2438948.5	-0.38734	-0.16168	-0.04678	9.24838	-37.24577	-20.89606	0.42233	43.69697	202.66	-6.36
65/ 7/ 9	2438950.5	-0.37371	-0.20335	-0.07050	14.27016	-34.84051	-20.12394	0.43125	42.69041	208.55	-9.41
65/ 7/11	2438952.5	-0.35456	-0.24202	-0.09318	18.79978	-32.07334	-19.10745	0.43929	41.79983	214.32	-12.25
65/ 7/13	2438954.5	-0.33047	-0.27733	-0.11456	22.84568	-29.00848	-17.88184	0.44637	41.02654	220.00	-14.87
65/ 7/15	2438956.5	-0.30197	-0.30895	-0.13442	26.41909	-25.69811	-16.47620	0.45244	40.37110	225.65	-17.28
65/ 7/17	2438958.5	-0.26961	-0.33662	-0.15257	29.53165	-22.18458	-14.91442	0.45747	39.83358	231.31	-19.48
65/ 7/19	2438960.5	-0.23392	-0.36013	-0.16882	32.19379	-18.50255	-13.21613	0.46143	39.41384	236.99	-21.46
65/ 7/21	2438962.5	-0.19541	-0.37931	-0.18305	34.41366	-14.68061	-11.39747	0.46429	39.11167	242.74	-23.22
65/ 7/23	2438964.5	-0.15459	-0.39400	-0.19511	36.19632	-10.74285	-9.47188	0.46605	38.92684	248.58	-24.75
65/ 7/25	2438966.5	-0.11196	-0.40409	-0.20490	37.54329	-6.71020	-7.45070	0.46669	38.85921	254.51	-26.04
65/ 7/27	2438968.5	-0.06802	-0.40947	-0.21229	38.45210	-2.60161	-5.34383	0.46622	38.90872	260.57	-27.09
65/ 7/29	2438970.5	-0.02330	-0.41008	-0.21721	38.91596	1.56481	-3.16029	0.46464	39.07541	266.75	-27.87
65/ 7/31	2438972.5	0.02170	-0.40584	-0.21957	38.92348	5.77058	-0.90879	0.46194	39.35941	273.06	-28.38
65/ 8/ 2	2438974.5	0.06644	-0.39674	-0.21929	38.45844	9.99572	1.40164	0.45815	39.76092	279.51	-28.60
65/ 8/ 4	2438976.5	0.11036	-0.38275	-0.21631	37.49953	14.21735	3.76093	0.45329	40.28017	286.08	-28.50
65/ 8/ 6	2438978.5	0.15287	-0.36391	-0.21059	36.02026	18.40810	6.15715	0.44737	40.91733	292.79	-28.08
65/ 8/ 8	2438980.5	0.19336	-0.34025	-0.20208	33.98904	22.53426	8.57548	0.44045	41.67237	299.61	-27.31
65/ 8/10	2438982.5	0.23117	-0.31189	-0.19077	31.36951	26.55344	10.99697	0.43256	42.54485	306.55	-26.17
65/ 8/12	2438984.5	0.26559	-0.27897	-0.17668	28.12146	30.41183	13.39693	0.42377	43.53359	313.59	-24.64
65/ 8/14	2438986.5	0.29587	-0.24172	-0.15984	24.20266	34.04082	15.74295	0.41415	44.63616	320.75	-22.70
65/ 8/16	2438988.5	0.32123	-0.20045	-0.14035	19.57204	37.35317	17.99254	0.40381	45.84818	328.04	-20.34
65/ 8/18	2438990.5	0.34080	-0.15559	-0.11834	14.19500	40.23880	20.09029	0.39288	47.16226	335.46	-17.53
65/ 8/20	2438992.5	0.35372	-0.10771	-0.09402	8.05180	42.56088	21.96497	0.38153	48.56665	343.06	-14.27
65/ 8/22	2438994.5	0.35911	-0.05755	-0.06771	1.15005	44.15323	23.52681	0.36994	50.04339	350.90	-10.55
65/ 8/24	2438996.5	0.35611	-0.00606	-0.03983	-6.45783	44.82120	24.66616	0.35838	51.56610	359.02	-6.38
65/ 8/26	2438998.5	0.34396	0.04556	-0.01094	-14.65208	44.34915	25.25525	0.34714	53.09763	7.54	-1.81
65/ 8/28	2439000.5	0.32211	0.09587	0.01824	-23.22062	42.51889	25.15545	0.33657	54.58800	16.57	3.11
65/ 8/30	2439002.5	0.29030	0.14319	0.04685	-31.83780	39.14313	24.23301	0.32707	55.97382	26.25	8.24
65/ 9/ 1	2439004.5	0.24871	0.18566	0.07387	-40.05878	34.11478	22.38485	0.31904	57.18046	36.74	13.39
65/ 9/ 3	2439006.5	0.19812	0.22137	0.09819	-47.34493	27.46466	19.57216	0.31289	58.12847	48.17	18.29
65/ 9/ 5	2439008.5	0.13992	0.24856	0.11873	-53.13116	19.40896	15.85265	0.30896	58.74465	60.62	22.60
65/ 9/ 7	2439010.5	0.07614	0.26582	0.13453	-56.92934	10.35931	11.39660	0.30750	58.97582	74.02	25.94
65/ 9/ 9	2439012.5	0.00929	0.27233	0.14488	-58.43687	0.87607	6.47302	0.30861	58.80081	88.05	28.00
65/ 9/11	2439014.5	-0.05795	0.26792	0.14943	-57.60538	-8.42895	1.40455	0.31220	58.23572	102.21	28.60
65/ 9/13	2439016.5	-0.12297	0.25314	0.14819	-54.63830	-17.00510	-3.49299	0.31806	57.32990	115.91	27.77
65/ 9/15	2439018.5	-0.18350	0.22907	0.14153	-49.92254	-24.44729	-7.96294	0.32585	56.15459	128.70	25.74
65/ 9/17	2439020.5	-0.23781	0.19718	0.13003	-43.92976	-30.52793	-11.83496	0.33517	54.78909	140.34	22.83
65/ 9/19	2439022.5	-0.28468	0.15910	0.11445	-37.12702	-35.18079	-15.02558	0.34562	53.30921	150.80	19.34
65/ 9/21	2439024.5	-0.32342	0.11644	0.09559	-29.91902	-38.45826	-17.52129	0.35679	51.78012	160.20	15.54
65/ 9/23	2439026.5	-0.35376	0.07074	0.07423	-22.62381	-40.48399	-19.35563	0.36832	50.25367	168.69	11.63
65/ 9/25	2439028.5	-0.37574	0.02334	0.05110	-15.47268	-41.41383	-20.58829	0.37992	48.76870	176.45	7.73

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65/ 9/27	2439030.5	-0.38962	-0.02458	0.02687	-8.62250	-41.40908	-21.28954	0.39132	47.35297	183.61	3.94
65/ 9/29	2439032.5	-0.39582	-0.07202	0.00210	-2.17225	-40.62109	-21.53026	0.40232	46.02546	190.31	0.30
65/10/ 1	2439034.5	-0.39482	-0.11817	-0.02272	3.82111	-39.18384	-21.37635	0.41275	44.79869	196.66	-3.16
65/10/ 3	2439036.5	-0.38718	-0.16234	-0.04716	9.32950	-37.21178	-20.88621	0.42247	43.68054	202.75	-6.41
65/10/ 5	2439038.5	-0.37346	-0.20397	-0.07086	14.34365	-34.80040	-20.11002	0.43139	42.67576	208.64	-9.45
65/10/ 7	2439040.5	-0.35423	-0.24259	-0.09352	18.86575	-32.02821	-19.09005	0.43941	41.78699	214.41	-12.29
65/10/ 9	2439042.5	-0.33006	-0.27784	-0.11488	22.90428	-28.95922	-17.86147	0.44647	41.01554	220.09	-14.91
65/10/11	2439044.5	-0.30150	-0.30940	-0.13471	26.47051	-25.64543	-16.45326	0.45252	40.36194	225.74	-17.32
65/10/13	2439046.5	-0.26909	-0.33701	-0.15283	29.57607	-22.12908	-14.88925	0.45754	39.82625	231.39	-19.51
65/10/15	2439048.5	-0.23335	-0.36046	-0.16906	32.23136	-18.44470	-13.18900	0.46148	39.40833	237.08	-21.49
65/10/17	2439050.5	-0.19480	-0.37957	-0.18325	34.44446	-14.62080	-11.36859	0.46433	39.10797	242.83	-23.25
65/10/19	2439052.5	-0.15394	-0.39419	-0.19528	36.22040	-10.68142	-9.44144	0.46607	38.92494	248.67	-24.77
65/10/21	2439054.5	-0.11129	-0.40421	-0.20503	37.56065	-6.64746	-7.41886	0.46670	38.85911	254.61	-26.06
65/10/23	2439056.5	-0.06734	-0.40952	-0.21239	38.46265	-2.53783	-5.31074	0.46621	38.91041	260.66	-27.10
65/10/25	2439058.5	-0.02260	-0.41005	-0.21727	38.91957	1.62933	-3.12608	0.46460	39.07890	266.84	-27.88
65/10/27	2439060.5	0.02240	-0.40574	-0.21958	38.91995	5.83556	-0.87360	0.46189	39.36470	273.16	-28.39
65/10/29	2439062.5	0.06713	-0.39656	-0.21926	38.44748	10.06084	1.43767	0.45808	39.76803	279.61	-28.60
65/10/31	2439064.5	0.11103	-0.38250	-0.21624	37.48077	14.28222	3.79763	0.45320	40.28910	286.19	-28.50
65/11/ 2	2439066.5	0.15351	-0.36358	-0.21048	35.99326	18.47227	6.19432	0.44727	40.92810	292.89	-28.07
65/11/ 4	2439068.5	0.19397	-0.33985	-0.20192	33.95327	22.59714	8.61286	0.44033	41.68497	299.72	-27.29
65/11/ 6	2439070.5	0.23172	-0.31142	-0.19058	31.32436	26.61430	11.03423	0.43243	42.55926	306.65	-26.15
65/11/ 8	2439072.5	0.26609	-0.27843	-0.17644	28.06629	30.46973	13.43363	0.42362	43.54978	313.70	-24.61
65/11/10	2439074.5	0.29630	-0.24111	-0.15956	24.13681	34.09456	15.77852	0.41400	44.65408	320.86	-22.67
65/11/12	2439076.5	0.32157	-0.19979	-0.14003	19.49490	37.40123	18.02623	0.40365	45.86772	328.15	-20.30
65/11/14	2439078.5	0.34105	-0.15487	-0.11798	14.10613	40.27928	20.12113	0.39271	47.18330	335.58	-17.48
65/11/16	2439080.5	0.35387	-0.10695	-0.09363	7.95108	42.59146	21.99172	0.38135	48.58897	343.18	-14.21
65/11/18	2439082.5	0.35913	-0.05676	-0.06729	1.03787	44.17112	23.54793	0.36976	50.06666	351.02	-10.49
65/11/20	2439084.5	0.35599	-0.00526	-0.03939	-6.58018	44.82321	24.67982	0.35820	51.58985	359.15	-6.31
65/11/22	2439086.5	0.34370	0.04635	-0.01049	-14.78210	44.33186	25.25936	0.34697	53.12118	7.68	-1.73
65/11/24	2439088.5	0.32170	0.09662	0.01869	-23.35419	42.47905	25.14784	0.33642	54.61046	16.72	3.19
65/11/26	2439090.5	0.28973	0.14388	0.04729	-31.96894	39.07833	24.21177	0.32693	55.99409	26.41	8.32
65/11/28	2439092.5	0.24800	0.18626	0.07427	-40.17977	34.02427	22.34880	0.31893	57.19732	36.91	13.47
65/11/30	2439094.5	0.19727	0.22186	0.09854	-47.44701	27.35029	19.52138	0.31281	58.14070	48.36	18.36
65/12/ 2	2439096.5	0.13897	0.24891	0.11902	-53.20591	19.27565	15.78891	0.30892	58.75124	60.82	22.66
65/12/ 4	2439098.5	0.07513	0.26601	0.13473	-56.97041	10.21478	11.32339	0.30750	58.97617	74.23	25.99
65/12/ 6	2439100.5	0.00824	0.27234	0.14500	-58.44151	0.72969	6.39506	0.30864	58.79490	88.27	28.02
65/12/ 8	2439102.5	-0.05898	0.26777	0.14945	-57.57493	-8.56794	1.32695	0.31227	58.22408	102.42	28.59
65/12/10	2439104.5	-0.12394	0.25283	0.14813	-54.57760	-17.12919	-3.56572	0.31816	57.31350	116.11	27.75
65/12/12	2439106.5	-0.18439	0.22864	0.14138	-49.83849	-24.55161	-8.02749	0.32598	56.13463	128.89	25.70
65/12/14	2439108.5	-0.23859	0.19664	0.12982	-43.82981	-30.61034	-11.88940	0.33533	54.76681	140.51	22.78
65/12/16	2439110.5	-0.28534	0.15847	0.11418	-37.01800	-35.24133	-15.06924	0.34579	53.28570	150.95	19.28
65/12/18	2439112.5	-0.32395	0.11576	0.09527	-29.80651	-38.49843	-17.55440	0.35696	51.75629	160.34	15.48
65/12/20	2439114.5	-0.35417	0.07002	0.07388	-22.51202	-40.50605	-19.37896	0.36850	50.23022	168.82	11.57
65/12/22	2439116.5	-0.37602	0.02260	0.05074	-15.36455	-41.42028	-20.60288	0.38010	48.74616	176.56	7.67
65/12/24	2439118.5	-0.38978	-0.02531	0.02649	-8.51994	-41.40239	-21.29652	0.39150	47.33169	183.72	3.88

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65/12/26	2439120.5	-0.39586	-0.07274	0.00171	-2.07641	-40.60346	-21.53068	0.40249	46.00568	190.41	0.24
65/12/28	2439122.5	-0.39475	-0.11887	-0.02310	3.90962	-39.15720	-21.37118	0.41291	44.78056	196.76	-3.21
65/12/30	2439124.5	-0.38701	-0.16300	-0.04753	9.41042	-37.17773	-20.87629	0.42262	43.66416	202.84	-6.46
66/ 1/ 1	2439126.5	-0.37320	-0.20458	-0.07122	14.41696	-34.76026	-20.09606	0.43152	42.66118	208.73	-9.50
66/ 1/ 3	2439128.5	-0.35389	-0.24316	-0.09386	18.93154	-31.98307	-19.07264	0.43952	41.77422	214.49	-12.33
66/ 1/ 5	2439130.5	-0.32965	-0.27836	-0.11520	22.96272	-28.90996	-17.84109	0.44657	41.00459	220.18	-14.95
66/ 1/ 7	2439132.5	-0.30103	-0.30986	-0.13501	26.52178	-25.59276	-16.43032	0.45261	40.35281	225.83	-17.35
66/ 1/ 9	2439134.5	-0.26856	-0.33740	-0.15309	29.62034	-22.07359	-14.86407	0.45761	39.81895	231.48	-19.55
66/ 1/11	2439136.5	-0.23277	-0.36079	-0.16929	32.26877	-18.38686	-13.16185	0.46153	39.40285	237.17	-21.52
66/ 1/13	2439138.5	-0.19418	-0.37983	-0.18345	34.47514	-14.56103	-11.33972	0.46436	39.10432	242.92	-23.27
66/ 1/15	2439140.5	-0.15330	-0.39438	-0.19545	36.24440	-10.62005	-9.41102	0.46609	38.92312	248.76	-24.79
66/ 1/17	2439142.5	-0.11062	-0.40432	-0.20516	37.57796	-6.58479	-7.38706	0.46670	38.85912	254.70	-26.08
66/ 1/19	2439144.5	-0.06665	-0.40956	-0.21248	38.47320	-2.47416	-5.27770	0.46619	38.91225	260.76	-27.12
66/ 1/21	2439146.5	-0.02191	-0.41002	-0.21732	38.92321	1.69375	-3.09193	0.46457	39.08254	266.94	-27.89
66/ 1/23	2439148.5	0.02309	-0.40564	-0.21960	38.91645	5.90043	-0.83847	0.46184	39.37015	273.26	-28.39
66/ 1/25	2439150.5	0.06781	-0.39638	-0.21924	38.43654	10.12583	1.47363	0.45802	39.77527	279.71	-28.60
66/ 1/27	2439152.5	0.11169	-0.38224	-0.21618	37.46202	14.34695	3.83425	0.45312	40.29814	286.29	-28.49
66/ 1/29	2439154.5	0.15415	-0.36325	-0.21036	35.96626	18.53626	6.23139	0.44718	40.93892	293.00	-28.06
66/ 1/31	2439156.5	0.19457	-0.33945	-0.20177	33.91749	22.65981	8.65013	0.44022	41.69757	299.82	-27.28
66/ 2/ 2	2439158.5	0.23228	-0.31094	-0.19038	31.27922	26.67490	11.07136	0.43230	42.57364	306.76	-26.13
66/ 2/ 4	2439160.5	0.26659	-0.27789	-0.17620	28.01114	30.52732	13.47017	0.42348	43.56589	313.81	-24.59
66/ 2/ 6	2439162.5	0.29673	-0.24051	-0.15928	24.07103	34.14794	15.81390	0.41384	44.67187	320.97	-22.64
66/ 2/ 8	2439164.5	0.32192	-0.19912	-0.13971	19.41791	37.44890	18.05969	0.40349	45.88711	328.26	-20.26
66/ 2/10	2439166.5	0.34130	-0.15416	-0.11762	14.01749	40.31934	20.15171	0.39254	47.20414	335.69	-17.44
66/ 2/12	2439168.5	0.35401	-0.10619	-0.09324	7.85068	42.62157	22.01818	0.38117	48.61102	343.30	-14.16
66/ 2/14	2439170.5	0.35915	-0.05598	-0.06688	0.92616	44.18850	23.56873	0.36959	50.08958	351.14	-10.43
66/ 2/16	2439172.5	0.35588	-0.00447	-0.03896	-6.70189	44.82467	24.69312	0.35803	51.61314	359.28	-6.25
66/ 2/18	2439174.5	0.34344	0.04713	-0.01004	-14.91128	44.31402	25.26309	0.34681	53.14416	7.81	-1.66
66/ 2/20	2439176.5	0.32129	0.09738	0.01914	-23.48669	42.43875	25.13987	0.33626	54.63227	16.86	3.26
66/ 2/22	2439178.5	0.28917	0.14458	0.04771	-32.09877	39.01324	24.19024	0.32680	56.01368	26.56	8.40
66/ 2/24	2439180.5	0.24729	0.18687	0.07466	-40.29927	33.93378	22.31260	0.31882	57.21350	37.08	13.54
66/ 2/26	2439182.5	0.19643	0.22234	0.09889	-47.54752	27.23632	19.47065	0.31273	58.15230	48.54	18.43
66/ 2/28	2439184.5	0.13803	0.24925	0.11930	-53.27917	19.14315	15.72545	0.30888	58.75730	61.02	22.72
66/ 3/ 2	2439186.5	0.07412	0.26619	0.13493	-57.01028	10.07145	11.25069	0.30750	58.97613	74.44	26.03
66/ 3/ 4	2439188.5	0.00721	0.27235	0.14511	-58.44536	0.58476	6.31780	0.30868	58.78875	88.48	28.04
66/ 3/ 6	2439190.5	-0.05999	0.26762	0.14948	-57.54418	-8.70539	1.25015	0.31235	58.21237	102.64	28.59
66/ 3/ 8	2439192.5	-0.12490	0.25253	0.14807	-54.51708	-17.25179	-3.63764	0.31827	57.29720	116.32	27.72
66/ 3/10	2439194.5	-0.18527	0.22820	0.14124	-49.75505	-24.65464	-8.09128	0.32611	56.11493	129.07	25.66
66/ 3/12	2439196.5	-0.23936	0.19610	0.12961	-43.73078	-30.69174	-11.94320	0.33548	54.74489	140.67	22.73
66/ 3/14	2439198.5	-0.28599	0.15785	0.11392	-36.91007	-35.30116	-15.11241	0.34595	53.26265	151.10	19.23
66/ 3/16	2439200.5	-0.32448	0.11508	0.09496	-29.69517	-38.53818	-17.58716	0.35714	51.73299	160.47	15.42
66/ 3/18	2439202.5	-0.35456	0.06930	0.07354	-22.40139	-40.52795	-19.40208	0.36868	50.20735	168.94	11.51
66/ 3/20	2439204.5	-0.37629	0.02187	0.05037	-15.25751	-41.42679	-20.61739	0.38027	48.72419	176.67	7.61
66/ 3/22	2439206.5	-0.38993	-0.02604	0.02611	-8.41836	-41.39589	-21.30350	0.39167	47.31097	183.82	3.82
66/ 3/24	2439208.5	-0.39589	-0.07346	0.00133	-1.98144	-40.58614	-21.53118	0.40265	45.98643	190.51	0.19

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66/ 3/26	2439210.5	-0.39468	-0.11956	-0.02348	3.99736	-39.13092	-21.36614	0.41306	44.76293	196.85	-3.26
66/ 3/28	2439212.5	-0.38684	-0.16365	-0.04790	9.49067	-37.14409	-20.86653	0.42276	43.64824	202.93	-6.51
66/ 3/30	2439214.5	-0.37295	-0.20520	-0.07157	14.48967	-34.72057	-20.08228	0.43164	42.64699	208.82	-9.54
66/ 4/ 1	2439216.5	-0.35356	-0.24373	-0.09420	18.99679	-31.93840	-19.05543	0.43964	41.76181	214.58	-12.37
66/ 4/ 3	2439218.5	-0.32925	-0.27887	-0.11551	23.02067	-28.86120	-17.82093	0.44667	40.99397	220.26	-14.99
66/ 4/ 5	2439220.5	-0.30056	-0.31031	-0.13530	26.57261	-25.54062	-16.40761	0.45269	40.34398	225.91	-17.39
66/ 4/ 7	2439222.5	-0.26804	-0.33779	-0.15336	29.66421	-22.01866	-14.83915	0.45767	39.81189	231.57	-19.58
66/ 4/ 9	2439224.5	-0.23220	-0.36111	-0.16953	32.30582	-18.32961	-13.13498	0.46158	39.39757	237.26	-21.55
66/ 4/11	2439226.5	-0.19357	-0.38008	-0.18366	34.50545	-14.50185	-11.31112	0.46440	39.10079	243.01	-23.30
66/ 4/13	2439228.5	-0.15266	-0.39457	-0.19562	36.26802	-10.55931	-9.38089	0.46610	38.92132	248.85	-24.81
66/ 4/15	2439230.5	-0.10996	-0.40444	-0.20529	37.59486	-6.52279	-7.35557	0.46670	38.85903	254.79	-26.10
66/ 4/17	2439232.5	-0.06597	-0.40961	-0.21258	38.48331	-2.41118	-5.24499	0.46618	38.91387	260.85	-27.13
66/ 4/19	2439234.5	-0.02122	-0.40999	-0.21738	38.92640	1.75740	-3.05815	0.46454	39.08587	267.04	-27.90
66/ 4/21	2439236.5	0.02378	-0.40553	-0.21961	38.91253	5.96445	-0.80375	0.46179	39.37519	273.36	-28.40
66/ 4/23	2439238.5	0.06849	-0.39620	-0.21921	38.42523	10.18990	1.50913	0.45795	39.78203	279.81	-28.60
66/ 4/25	2439240.5	0.11236	-0.38199	-0.21611	37.44298	14.41067	3.87036	0.45304	40.30662	286.39	-28.49
66/ 4/27	2439242.5	0.15479	-0.36293	-0.21026	35.93905	18.59915	6.26790	0.44708	40.94912	293.10	-28.05
66/ 4/29	2439244.5	0.19517	-0.33905	-0.20162	33.88161	22.72128	8.68677	0.44011	41.70947	299.93	-27.27
66/ 5/ 1	2439246.5	0.23283	-0.31048	-0.19019	31.23411	26.73424	11.10780	0.43218	42.58723	306.87	-26.11
66/ 5/ 3	2439248.5	0.26708	-0.27735	-0.17597	27.95621	30.58358	13.50598	0.42335	43.58115	313.92	-24.56
66/ 5/ 5	2439250.5	0.29716	-0.23991	-0.15901	24.00568	34.19996	15.84850	0.41370	44.68875	321.08	-22.60
66/ 5/ 7	2439252.5	0.32226	-0.19847	-0.13939	19.34161	37.49518	18.09235	0.40333	45.90555	328.37	-20.22
66/ 5/ 9	2439254.5	0.34155	-0.15346	-0.11727	13.92986	40.35805	20.18147	0.39238	47.22399	335.81	-17.39
66/ 5/11	2439256.5	0.35415	-0.10545	-0.09286	7.75165	42.65044	22.04384	0.38100	48.63208	343.42	-14.11
66/ 5/13	2439258.5	0.35917	-0.05521	-0.06647	0.81620	44.20485	23.58880	0.36942	50.11154	351.26	-10.37
66/ 5/15	2439260.5	0.35576	-0.00369	-0.03853	-6.82150	44.82542	24.70583	0.35786	51.63554	359.41	-6.18
66/ 5/17	2439262.5	0.34319	0.04790	-0.00961	-15.03806	44.29592	25.26643	0.34665	53.16638	7.95	-1.59
66/ 5/19	2439264.5	0.32088	0.09811	0.01957	-23.61661	42.39873	25.13179	0.33612	54.65348	17.00	3.34
66/ 5/21	2439266.5	0.28861	0.14525	0.04813	-32.22603	38.94904	24.16893	0.32667	56.03286	26.71	8.47
66/ 5/23	2439268.5	0.24659	0.18745	0.07505	-40.41638	33.84478	22.27696	0.31871	57.22950	37.24	13.62
66/ 5/25	2439270.5	0.19561	0.22281	0.09922	-47.64606	27.12437	19.42080	0.31266	58.16396	48.72	18.50
66/ 5/27	2439272.5	0.13711	0.24958	0.11957	-53.35107	19.01305	15.66313	0.30884	58.76365	61.22	22.78
66/ 5/29	2439274.5	0.07314	0.26636	0.13513	-57.04950	9.93066	11.17929	0.30750	58.97660	74.65	26.07
66/ 5/31	2439276.5	0.00621	0.27236	0.14522	-58.44930	0.44229	6.24187	0.30872	58.78331	88.69	28.06
66/ 6/ 2	2439278.5	-0.06099	0.26746	0.14950	-57.51419	-8.84066	1.17458	0.31242	58.20154	102.85	28.59
66/ 6/ 4	2439280.5	-0.12584	0.25223	0.14800	-54.45781	-17.37267	-3.70851	0.31837	57.28190	116.52	27.70
66/ 6/ 6	2439282.5	-0.18613	0.22777	0.14110	-49.67313	-24.75645	-8.15426	0.32624	56.09629	129.25	25.63
66/ 6/ 8	2439284.5	-0.24011	0.19556	0.12940	-43.63335	-30.77237	-11.99644	0.33563	54.72406	140.84	22.68
66/ 6/10	2439286.5	-0.28663	0.15723	0.11365	-36.80370	-35.36061	-15.15522	0.34611	53.24064	151.25	19.17
66/ 6/12	2439288.5	-0.32499	0.11440	0.09465	-29.58522	-38.57784	-17.61973	0.35730	51.71063	160.61	15.36
66/ 6/14	2439290.5	-0.35494	0.06859	0.07320	-22.29195	-40.54993	-19.42513	0.36885	50.18529	169.06	11.45
66/ 6/16	2439292.5	-0.37655	0.02115	0.05001	-15.15144	-41.43349	-20.63190	0.38044	48.70293	176.79	7.55
66/ 6/18	2439294.5	-0.39007	-0.02677	0.02574	-8.31757	-41.38965	-21.31053	0.39183	47.29084	183.93	3.77
66/ 6/20	2439296.5	-0.39592	-0.07417	0.00095	-1.88708	-40.56907	-21.53175	0.40281	45.96768	190.61	0.14
66/ 6/22	2439298.5	-0.39460	-0.12024	-0.02385	4.08465	-39.10489	-21.36118	0.41321	44.74569	196.95	-3.31

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66/ 6/24	2439300.5	-0.38667	-0.16431	-0.04826	9.57059	-37.11065	-20.85684	0.42289	43.63261	203.02	-6.55
66/ 6/26	2439302.5	-0.37268	-0.20581	-0.07193	14.56216	-34.68102	-20.06855	0.43177	42.63303	208.91	-9.59
66/ 6/28	2439304.5	-0.35322	-0.24429	-0.09453	19.06190	-31.89380	-19.03823	0.43975	41.74955	214.67	-12.41
66/ 6/30	2439306.5	-0.32883	-0.27938	-0.11583	23.07854	-28.81241	-17.80074	0.44676	40.98341	220.35	-15.03
66/ 7/ 2	2439308.5	-0.30008	-0.31076	-0.13559	26.62339	-25.48836	-16.38483	0.45277	40.33515	226.00	-17.43
66/ 7/ 4	2439310.5	-0.26751	-0.33818	-0.15362	29.70805	-21.96351	-14.81411	0.45774	39.80480	231.66	-19.61
66/ 7/ 6	2439312.5	-0.23163	-0.36143	-0.16976	32.34286	-18.27206	-13.10795	0.46163	39.39222	237.35	-21.58
66/ 7/ 8	2439314.5	-0.19296	-0.38034	-0.18386	34.53575	-14.44230	-11.28233	0.46443	39.09718	243.10	-23.32
66/ 7/10	2439316.5	-0.15201	-0.39475	-0.19578	36.29163	-10.49811	-9.35052	0.46612	38.91947	248.94	-24.84
66/ 7/12	2439318.5	-0.10929	-0.40456	-0.20542	37.61176	-6.46025	-7.32379	0.46670	38.85894	254.88	-26.11
66/ 7/14	2439320.5	-0.06529	-0.40965	-0.21267	38.49343	-2.34759	-5.21195	0.46616	38.91555	260.94	-27.14
66/ 7/16	2439322.5	-0.02053	-0.40996	-0.21743	38.92960	1.82175	-3.02398	0.46450	39.08934	267.13	-27.91
66/ 7/18	2439324.5	0.02447	-0.40543	-0.21963	38.90859	6.02927	-0.76861	0.46174	39.38046	273.45	-28.40
66/ 7/20	2439326.5	0.06917	-0.39602	-0.21919	38.41386	10.25482	1.54510	0.45789	39.78911	279.91	-28.60
66/ 7/22	2439328.5	0.11302	-0.38174	-0.21604	37.42380	14.47532	3.90699	0.45296	40.31551	286.49	-28.49
66/ 7/24	2439330.5	0.15543	-0.36259	-0.21015	35.91161	18.66305	6.30497	0.44698	40.95981	293.20	-28.04
66/ 7/26	2439332.5	0.19577	-0.33865	-0.20147	33.84539	22.78385	8.72403	0.44000	41.72197	300.03	-27.25
66/ 7/28	2439334.5	0.23339	-0.31000	-0.18999	31.18851	26.79472	11.14490	0.43205	42.60151	306.97	-26.09
66/ 7/30	2439336.5	0.26758	-0.27681	-0.17573	27.90061	30.64104	13.54249	0.42321	43.59720	314.03	-24.53
66/ 8/ 1	2439338.5	0.29759	-0.23931	-0.15873	23.93943	34.25319	15.88384	0.41354	44.70652	321.20	-22.57
66/ 8/ 3	2439340.5	0.32261	-0.19780	-0.13907	19.26412	37.54266	18.12576	0.40317	45.92495	328.49	-20.18
66/ 8/ 5	2439342.5	0.34180	-0.15274	-0.11691	13.84073	40.39787	20.21198	0.39221	47.24487	335.92	-17.34
66/ 8/ 7	2439344.5	0.35429	-0.10470	-0.09247	7.65076	42.68025	22.07019	0.38083	48.65420	343.54	-14.05
66/ 8/ 9	2439346.5	0.35918	-0.05443	-0.06605	0.70401	44.22184	23.60945	0.36924	50.13454	351.38	-10.30
66/ 8/11	2439348.5	0.35564	-0.00290	-0.03809	-6.94367	44.82640	24.71891	0.35769	51.65893	359.53	-6.11
66/ 8/13	2439350.5	0.34292	0.04868	-0.00916	-15.16764	44.27751	25.26989	0.34648	53.18949	8.08	-1.51
66/ 8/15	2439352.5	0.32046	0.09886	0.02002	-23.74941	42.35775	25.12349	0.33596	54.67544	17.14	3.42
66/ 8/17	2439354.5	0.28804	0.14594	0.04856	-32.35604	38.88320	24.14702	0.32653	56.05261	26.87	8.55
66/ 8/19	2439356.5	0.24588	0.18805	0.07544	-40.53588	33.75348	22.24033	0.31861	57.24585	37.41	13.70
66/ 8/21	2439358.5	0.19477	0.22329	0.09957	-47.74637	27.00959	19.36962	0.31258	58.17573	48.90	18.57
66/ 8/23	2439360.5	0.13617	0.24991	0.11984	-53.42391	18.87979	15.59923	0.30880	58.76986	61.42	22.84
66/ 8/25	2439362.5	0.07213	0.26653	0.13532	-57.08873	9.78669	11.10618	0.30750	58.97668	74.86	26.11
66/ 8/27	2439364.5	0.00517	0.27237	0.14533	-58.45236	0.29689	6.16428	0.30876	58.77725	88.91	28.08
66/ 8/29	2439366.5	-0.06200	0.26730	0.14952	-57.48257	-8.97838	1.09754	0.31249	58.18987	103.06	28.59
66/ 8/31	2439368.5	-0.12681	0.25192	0.14794	-54.39641	-17.49535	-3.78056	0.31848	57.26561	116.72	27.68
66/ 9/ 2	2439370.5	-0.18701	0.22733	0.14095	-49.58884	-24.85938	-8.21809	0.32637	56.07654	129.44	25.59
66/ 9/ 4	2439372.5	-0.24089	0.19502	0.12918	-43.53354	-30.85353	-12.05020	0.33578	54.70207	141.01	22.63
66/ 9/ 6	2439374.5	-0.28728	0.15661	0.11338	-36.69508	-35.42011	-15.19827	0.34628	53.21748	151.40	19.11
66/ 9/ 8	2439376.5	-0.32551	0.11372	0.09434	-29.47330	-38.61718	-17.65233	0.35748	51.68720	160.74	15.30
66/ 9/10	2439378.5	-0.35534	0.06787	0.07285	-22.18083	-40.57138	-19.44806	0.36902	50.16227	169.19	11.39
66/ 9/12	2439380.5	-0.37681	0.02041	0.04964	-15.04400	-41.43951	-20.64619	0.38062	48.68080	176.90	7.49
66/ 9/14	2439382.5	-0.39021	-0.02750	0.02536	-8.21566	-41.38265	-21.31728	0.39200	47.26994	184.03	3.71
66/ 9/16	2439384.5	-0.39595	-0.07489	0.00057	-1.79184	-40.55124	-21.53200	0.40297	45.94824	190.71	0.08
66/ 9/18	2439386.5	-0.39453	-0.12094	-0.02423	4.17261	-39.07809	-21.35588	0.41336	44.72786	197.04	-3.36
66/ 9/20	2439388.5	-0.38650	-0.16497	-0.04863	9.65103	-37.07647	-20.84681	0.42304	43.61647	203.11	-6.60

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66/ 9/22	2439390.5	-0.37242	-0.20642	-0.07228	14.63502	-34.64077	-20.05448	0.43190	42.61864	209.00	-9.63
66/ 9/24	2439392.5	-0.35288	-0.24485	-0.09487	19.12729	-31.84856	-19.02072	0.43986	41.73694	214.76	-12.46
66/ 9/26	2439394.5	-0.32842	-0.27989	-0.11614	23.13660	-28.76307	-17.78028	0.44686	40.97261	220.44	-15.06
66/ 9/28	2439396.5	-0.29961	-0.31121	-0.13588	26.67430	-25.43563	-16.36181	0.45286	40.32615	226.09	-17.46
66/ 9/30	2439398.5	-0.26698	-0.33857	-0.15388	29.75198	-21.90796	-14.78886	0.45781	39.79760	231.74	-19.64
66/10/ 2	2439400.5	-0.23105	-0.36176	-0.16999	32.37993	-18.21416	-13.08074	0.46168	39.38682	237.43	-21.60
66/10/ 4	2439402.5	-0.19234	-0.38060	-0.18406	34.56609	-14.38245	-11.25338	0.46446	39.09358	243.19	-23.35
66/10/ 6	2439404.5	-0.15136	-0.39494	-0.19595	36.31526	-10.43665	-9.32001	0.46614	38.91766	249.03	-24.86
66/10/ 8	2439406.5	-0.10862	-0.40467	-0.20555	37.62869	-6.39747	-7.29188	0.46670	38.85894	254.98	-26.13
66/10/10	2439408.5	-0.06460	-0.40969	-0.21276	38.50358	-2.28378	-5.17879	0.46614	38.91736	261.04	-27.16
66/10/12	2439410.5	-0.01984	-0.40992	-0.21749	38.93281	1.88632	-2.98971	0.46447	39.09297	267.23	-27.92
66/10/14	2439412.5	0.02516	-0.40532	-0.21964	38.90465	6.09429	-0.73335	0.46169	39.38591	273.55	-28.41
66/10/16	2439414.5	0.06986	-0.39584	-0.21916	38.40248	10.31998	1.58119	0.45782	39.79639	280.01	-28.60
66/10/18	2439416.5	0.11369	-0.38148	-0.21597	37.40459	14.54022	3.94375	0.45287	40.32461	286.59	-28.48
66/10/20	2439418.5	0.15607	-0.36226	-0.21003	35.88411	18.72724	6.34220	0.44688	40.97075	293.31	-28.03
66/10/22	2439420.5	0.19637	-0.33824	-0.20131	33.80906	22.84672	8.76147	0.43988	41.73474	300.14	-27.24
66/10/24	2439422.5	0.23394	-0.30952	-0.18979	31.14274	26.85553	11.18221	0.43192	42.61610	307.08	-26.07
66/10/26	2439424.5	0.26807	-0.27626	-0.17549	27.84476	30.69885	13.57922	0.42306	43.61358	314.14	-24.51
66/10/28	2439426.5	0.29801	-0.23869	-0.15844	23.87283	34.30677	15.91941	0.41339	44.72465	321.31	-22.54
66/10/30	2439428.5	0.32295	-0.19713	-0.13875	19.18617	37.59048	18.15941	0.40300	45.94472	328.60	-20.14
66/11/ 1	2439430.5	0.34205	-0.15202	-0.11655	13.75098	40.43800	20.24272	0.39203	47.26615	336.04	-17.30
66/11/ 3	2439432.5	0.35442	-0.10394	-0.09207	7.54911	42.71032	22.09676	0.38065	48.67676	343.66	-14.00
66/11/ 5	2439434.5	0.35919	-0.05364	-0.06563	0.59091	44.23901	23.63028	0.36906	50.15804	351.51	-10.24
66/11/ 7	2439436.5	0.35552	-0.00210	-0.03765	-7.06689	44.82744	24.73214	0.35751	51.68287	359.66	-6.04
66/11/ 9	2439438.5	0.34265	0.04948	-0.00871	-15.29839	44.25896	25.27339	0.34631	53.21316	8.22	-1.44
66/11/11	2439440.5	0.32004	0.09962	0.02047	-23.88345	42.31639	25.11511	0.33581	54.69795	17.29	3.49
66/11/13	2439442.5	0.28746	0.14663	0.04899	-32.48724	38.81667	24.12487	0.32640	56.07284	27.03	8.63
66/11/15	2439444.5	0.24515	0.18865	0.07584	-40.65639	33.66118	22.20326	0.31850	57.26257	37.58	13.78
66/11/17	2439446.5	0.19391	0.22377	0.09991	-47.84737	26.89353	19.31782	0.31251	58.18772	49.09	18.65
66/11/19	2439448.5	0.13521	0.25025	0.12012	-53.49701	18.74511	15.53458	0.30876	58.77612	61.62	22.89
66/11/21	2439450.5	0.07111	0.26671	0.13552	-57.12776	9.64128	11.03229	0.30750	58.97666	75.07	26.15
66/11/23	2439452.5	0.00413	0.27237	0.14544	-58.45478	0.15021	6.08594	0.30880	58.77093	89.13	28.10
66/11/25	2439454.5	-0.06303	0.26714	0.14954	-57.44997	-9.11711	1.01985	0.31257	58.17784	103.28	28.58
66/11/27	2439456.5	-0.12778	0.25161	0.14787	-54.33382	-17.61875	-3.85312	0.31859	57.24885	116.92	27.65
66/11/29	2439458.5	-0.18789	0.22689	0.14081	-49.50326	-24.96273	-8.28227	0.32651	56.05628	129.63	25.55
66/12/ 1	2439460.5	-0.24166	0.19447	0.12897	-43.43246	-30.93482	-12.10416	0.33593	54.67954	141.18	22.58
66/12/ 3	2439462.5	-0.28793	0.15597	0.11311	-36.58529	-35.47952	-15.24141	0.34645	53.19379	151.56	19.06
66/12/ 5	2439464.5	-0.32604	0.11303	0.09403	-29.36032	-38.65628	-17.68491	0.35766	51.66326	160.88	15.24
66/12/ 7	2439466.5	-0.35573	0.06715	0.07251	-22.06880	-40.59246	-19.47090	0.36921	50.13876	169.31	11.33
66/12/ 9	2439468.5	-0.37708	0.01967	0.04928	-14.93579	-41.44511	-20.66034	0.38080	48.65824	177.01	7.43
66/12/11	2439470.5	-0.39036	-0.02824	0.02498	-8.11315	-41.37520	-21.32384	0.39218	47.24867	184.14	3.65
66/12/13	2439472.5	-0.39598	-0.07561	0.00019	-1.69612	-40.53294	-21.53206	0.40314	45.92848	190.81	0.03
66/12/15	2439474.5	-0.39445	-0.12163	-0.02461	4.26095	-39.05084	-21.35038	0.41351	44.70976	197.14	-3.41
66/12/17	2439476.5	-0.38633	-0.16563	-0.04901	9.73174	-37.04187	-20.83658	0.42318	43.60011	203.21	-6.65
66/12/19	2439478.5	-0.37216	-0.20704	-0.07264	14.70810	-34.60013	-20.04023	0.43203	42.60409	209.09	-9.68

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66/12/21	2439480.5	-0.35254	-0.24542	-0.09521	19.19284	-31.80297	-19.00304	0.43998	41.72421	214.84	-12.50
66/12/23	2439482.5	-0.32801	-0.28040	-0.11646	23.19479	-28.71340	-17.75965	0.44696	40.96172	220.53	-15.10
66/12/25	2439484.5	-0.29913	-0.31166	-0.13617	26.72532	-25.38258	-16.33864	0.45294	40.31711	226.18	-17.50
66/12/27	2439486.5	-0.26645	-0.33896	-0.15415	29.79600	-21.85211	-14.76347	0.45787	39.79040	231.83	-19.67
66/12/29	2439488.5	-0.23047	-0.36208	-0.17022	32.41710	-18.15599	-13.05339	0.46173	39.38146	237.52	-21.63
66/12/31	2439490.5	-0.19173	-0.38085	-0.18426	34.59650	-14.32235	-11.22430	0.46450	39.09006	243.28	-23.37
67/ 1/ 2	2439492.5	-0.15072	-0.39512	-0.19611	36.33897	-10.37495	-9.28939	0.46615	38.91597	249.12	-24.88
67/ 1/ 4	2439494.5	-0.10795	-0.40478	-0.20568	37.64567	-6.33447	-7.25987	0.46670	38.85908	255.07	-26.15
67/ 1/ 6	2439496.5	-0.06392	-0.40973	-0.21285	38.51376	-2.21976	-5.14553	0.46612	38.91932	261.13	-27.17
67/ 1/ 8	2439498.5	-0.01914	-0.40989	-0.21754	38.93604	1.95108	-2.95533	0.46443	39.09675	267.33	-27.93
67/ 1/10	2439500.5	0.02586	-0.40521	-0.21965	38.90070	6.15951	-0.69799	0.46164	39.39151	273.65	-28.41
67/ 1/12	2439502.5	0.07054	-0.39565	-0.21913	38.39105	10.38533	1.61739	0.45775	39.80381	280.11	-28.60
67/ 1/14	2439504.5	0.11435	-0.38122	-0.21590	37.38530	14.60530	3.98062	0.45279	40.33387	286.70	-28.48
67/ 1/16	2439506.5	0.15671	-0.36192	-0.20992	35.85651	18.79158	6.37953	0.44678	40.98184	293.41	-28.02
67/ 1/18	2439508.5	0.19698	-0.33783	-0.20115	33.77261	22.90974	8.79899	0.43976	41.74766	300.24	-27.22
67/ 1/20	2439510.5	0.23450	-0.30904	-0.18959	31.09684	26.91646	11.21958	0.43179	42.63084	307.19	-26.05
67/ 1/22	2439512.5	0.26857	-0.27571	-0.17524	27.78874	30.75673	13.61600	0.42292	43.63010	314.25	-24.48
67/ 1/24	2439514.5	0.29844	-0.23808	-0.15816	23.80604	34.36038	15.95501	0.41323	44.74289	321.42	-22.50
67/ 1/26	2439516.5	0.32329	-0.19646	-0.13842	19.10801	37.63827	18.19305	0.40283	45.96458	328.71	-20.10
67/ 1/28	2439518.5	0.34229	-0.15130	-0.11619	13.66103	40.47801	20.27341	0.39186	47.28746	336.15	-17.25
67/ 1/30	2439520.5	0.35456	-0.10317	-0.09168	7.44727	42.74017	22.12323	0.38047	48.69930	343.78	-13.94
67/ 2/ 1	2439522.5	0.35920	-0.05285	-0.06520	0.47767	44.25586	23.65095	0.36888	50.18144	351.63	-10.18
67/ 2/ 3	2439524.5	0.35539	-0.00130	-0.03721	-7.19016	44.82804	24.74514	0.35733	51.70661	359.79	-5.98
67/ 2/ 5	2439526.5	0.34237	0.05027	-0.00825	-15.42902	44.23990	25.27661	0.34614	53.23655	8.35	-1.37
67/ 2/ 7	2439528.5	0.31961	0.10038	0.02092	-24.01715	42.27447	25.10640	0.33565	54.72006	17.44	3.57
67/ 2/ 9	2439530.5	0.28688	0.14733	0.04942	-32.61784	38.74960	24.10236	0.32627	56.09259	27.18	8.71
67/ 2/11	2439532.5	0.24443	0.18925	0.07624	-40.77603	33.56845	22.16588	0.31839	57.27873	37.75	13.85
67/ 2/13	2439534.5	0.19306	0.22425	0.10026	-47.94726	26.77729	19.26581	0.31243	58.19910	49.27	18.72
67/ 2/15	2439536.5	0.13426	0.25058	0.12040	-53.56888	18.61058	15.46989	0.30873	58.78176	61.82	22.95
67/ 2/17	2439538.5	0.07009	0.26688	0.13572	-57.16556	9.49640	10.95855	0.30750	58.97604	75.28	26.19
67/ 2/19	2439540.5	0.00309	0.27238	0.14555	-58.45617	0.00439	6.00795	0.30884	58.76410	89.35	28.12
67/ 2/21	2439542.5	-0.06405	0.26698	0.14956	-57.41666	-9.25474	0.94268	0.31265	58.16539	103.49	28.58
67/ 2/23	2439544.5	-0.12874	0.25129	0.14780	-54.27092	-17.74092	-3.92505	0.31870	57.23180	117.13	27.63
67/ 2/25	2439546.5	-0.18877	0.22645	0.14066	-49.41780	-25.06487	-8.34579	0.32665	56.03587	129.82	25.51
67/ 2/27	2439548.5	-0.24243	0.19392	0.12876	-43.33184	-31.01504	-12.15750	0.33609	54.65699	141.34	22.53
67/ 3/ 1	2439550.5	-0.28858	0.15535	0.11284	-36.47623	-35.53804	-15.28399	0.34662	53.17019	151.71	19.00
67/ 3/ 3	2439552.5	-0.32656	0.11235	0.09372	-29.24827	-38.69472	-17.71704	0.35783	51.63948	161.01	15.18
67/ 3/ 5	2439554.5	-0.35612	0.06643	0.07216	-21.95780	-40.61310	-19.49338	0.36939	50.11547	169.43	11.27
67/ 3/ 7	2439556.5	-0.37735	0.01894	0.04891	-14.82865	-41.45045	-20.67423	0.38097	48.63591	177.13	7.38
67/ 3/ 9	2439558.5	-0.39050	-0.02897	0.02460	-8.01169	-41.36766	-21.33025	0.39235	47.22764	184.24	3.60
67/ 3/11	2439560.5	-0.39601	-0.07633	-0.00019	-1.60143	-40.51470	-21.53204	0.40330	45.90897	190.91	-0.03
67/ 3/13	2439562.5	-0.39438	-0.12232	-0.02499	4.34832	-39.02379	-21.34488	0.41367	44.69192	197.23	-3.46
67/ 3/15	2439564.5	-0.38615	-0.16628	-0.04937	9.81157	-37.00757	-20.82642	0.42332	43.58402	203.30	-6.70
67/ 3/17	2439566.5	-0.37190	-0.20765	-0.07299	14.78036	-34.55990	-20.02611	0.43216	42.58980	209.18	-9.72
67/ 3/19	2439568.5	-0.35220	-0.24598	-0.09554	19.25766	-31.75785	-18.98554	0.44009	41.71174	214.93	-12.54

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67/ 3/21	2439570.5	-0.32760	-0.28090	-0.11677	23.25234	-28.66425	-17.73924	0.44706	40.95108	220.61	-15.14
67/ 3/23	2439572.5	-0.29866	-0.31211	-0.13646	26.77577	-25.33010	-16.31571	0.45302	40.30829	226.26	-17.53
67/ 3/25	2439574.5	-0.26592	-0.33934	-0.15441	29.83953	-21.79687	-14.73834	0.45794	39.78341	231.92	-19.70
67/ 3/27	2439576.5	-0.22990	-0.36240	-0.17045	32.45385	-18.09844	-13.02633	0.46178	39.37628	237.61	-21.66
67/ 3/29	2439578.5	-0.19112	-0.38110	-0.18445	34.62656	-14.26288	-11.19552	0.46453	39.08667	243.37	-23.40
67/ 3/31	2439580.5	-0.15008	-0.39531	-0.19628	36.36238	-10.31389	-9.25908	0.46617	38.91439	249.21	-24.90
67/ 4/ 2	2439582.5	-0.10728	-0.40489	-0.20581	37.66242	-6.27213	-7.22818	0.46669	38.85929	255.16	-26.17
67/ 4/ 4	2439584.5	-0.06324	-0.40977	-0.21294	38.52376	-2.15641	-5.11261	0.46610	38.92132	261.23	-27.18
67/ 4/ 6	2439586.5	-0.01846	-0.40985	-0.21759	38.93915	2.01515	-2.92131	0.46440	39.10054	267.42	-27.94
67/ 4/ 8	2439588.5	0.02654	-0.40510	-0.21967	38.89669	6.22402	-0.66300	0.46159	39.39709	273.75	-28.42
67/ 4/10	2439590.5	0.07122	-0.39547	-0.21910	38.37963	10.44995	1.65320	0.45768	39.81118	280.21	-28.60
67/ 4/12	2439592.5	0.11501	-0.38096	-0.21583	37.36609	14.66966	4.01708	0.45270	40.34304	286.80	-28.47
67/ 4/14	2439594.5	0.15734	-0.36159	-0.20980	35.82905	18.85518	6.41644	0.44668	40.99280	293.52	-28.01
67/ 4/16	2439596.5	0.19757	-0.33743	-0.20100	33.73637	22.97200	8.83609	0.43965	41.76041	300.35	-27.21
67/ 4/18	2439598.5	0.23505	-0.30856	-0.18939	31.05122	26.97664	11.25652	0.43166	42.64536	307.30	-26.02
67/ 4/20	2439600.5	0.26906	-0.27517	-0.17500	27.73310	30.81384	13.65233	0.42277	43.64635	314.36	-24.45
67/ 4/22	2439602.5	0.29886	-0.23747	-0.15787	23.73972	34.41323	15.99015	0.41308	44.76080	321.53	-22.47
67/ 4/24	2439604.5	0.32363	-0.19579	-0.13810	19.03044	37.68530	18.22624	0.40267	45.98408	328.83	-20.06
67/ 4/26	2439606.5	0.34253	-0.15058	-0.11583	13.57179	40.51731	20.30365	0.39169	47.30840	336.27	-17.20
67/ 4/28	2439608.5	0.35469	-0.10241	-0.09128	7.34628	42.76939	22.14928	0.38030	48.72144	343.89	-13.89
67/ 4/30	2439610.5	0.35921	-0.05206	-0.06479	0.36541	44.27217	23.67124	0.36870	50.20445	351.75	-10.12
67/ 5/ 2	2439612.5	0.35526	-0.00050	-0.03677	-7.31231	44.82826	24.75782	0.35716	51.73000	359.92	-5.91
67/ 5/ 4	2439614.5	0.34210	0.05105	-0.00781	-15.55843	44.22064	25.27960	0.34598	53.25963	8.49	-1.29
67/ 5/ 6	2439616.5	0.31918	0.10112	0.02136	-24.14957	42.23258	25.09757	0.33550	54.74195	17.58	3.65
67/ 5/ 8	2439618.5	0.28631	0.14801	0.04985	-32.74716	38.68283	24.07988	0.32613	56.11220	27.34	8.79
67/ 5/10	2439620.5	0.24371	0.18985	0.07663	-40.89448	33.47631	22.12869	0.31829	57.29486	37.92	13.93
67/ 5/12	2439622.5	0.19221	0.22473	0.10060	-48.04615	26.66188	19.21414	0.31236	58.21058	49.46	18.79
67/ 5/14	2439624.5	0.13331	0.25091	0.12067	-53.64000	18.47705	15.40566	0.30869	58.78763	62.02	23.01
67/ 5/16	2439626.5	0.06908	0.26705	0.13591	-57.20295	9.35261	10.88535	0.30751	58.97575	75.50	26.23
67/ 5/18	2439628.5	0.00205	0.27237	0.14565	-58.45746	-0.14034	5.93054	0.30888	58.75769	89.57	28.13
67/ 5/20	2439630.5	-0.06507	0.26682	0.14957	-57.38356	-9.39140	0.86605	0.31273	58.15342	103.70	28.57
67/ 5/22	2439632.5	-0.12970	0.25098	0.14773	-54.20843	-17.86229	-3.99651	0.31881	57.21528	117.33	27.61
67/ 5/24	2439634.5	-0.18964	0.22600	0.14051	-49.33286	-25.16640	-8.40893	0.32678	56.01597	130.00	25.47
67/ 5/26	2439636.5	-0.24320	0.19337	0.12854	-43.23178	-31.09482	-12.21054	0.33625	54.63490	141.51	22.48
67/ 5/28	2439638.5	-0.28922	0.15472	0.11257	-36.36771	-35.59627	-15.32636	0.34678	53.14699	151.86	18.94
67/ 5/30	2439640.5	-0.32707	0.11167	0.09340	-29.13669	-38.73295	-17.74902	0.35801	51.61604	161.15	15.12
67/ 6/ 1	2439642.5	-0.35651	0.06572	0.07182	-21.84721	-40.63362	-19.51576	0.36956	50.09248	169.56	11.21
67/ 6/ 3	2439644.5	-0.37761	0.01821	0.04855	-14.72186	-41.45573	-20.68806	0.38115	48.61385	177.24	7.32
67/ 6/ 5	2439646.5	-0.39064	-0.02970	0.02423	-7.91052	-41.36012	-21.33662	0.39252	47.20686	184.35	3.54
67/ 6/ 7	2439648.5	-0.39604	-0.07704	-0.00057	-1.50697	-40.49649	-21.53200	0.40346	45.88969	191.01	-0.08
67/ 6/ 9	2439650.5	-0.39430	-0.12301	-0.02537	4.43549	-38.99677	-21.33938	0.41382	44.67427	197.33	-3.51
67/ 6/11	2439652.5	-0.38598	-0.16693	-0.04974	9.89122	-36.97332	-20.81627	0.42346	43.56810	203.39	-6.75
67/ 6/13	2439654.5	-0.37164	-0.20826	-0.07335	14.85246	-34.51969	-20.01199	0.43228	42.57563	209.27	-9.77
67/ 6/15	2439656.5	-0.35186	-0.24654	-0.09588	19.32230	-31.71276	-18.96803	0.44020	41.69936	215.02	-12.58
67/ 6/17	2439658.5	-0.32719	-0.28141	-0.11709	23.30967	-28.61513	-17.71882	0.44716	40.94048	220.70	-15.18

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67/ 6/19	2439660.5	-0.29819	-0.31255	-0.13675	26.82597	-25.27766	-16.29278	0.45311	40.29947	226.35	-17.57
67/ 6/21	2439662.5	-0.26539	-0.33973	-0.15467	29.88277	-21.74168	-14.71322	0.45801	39.77637	232.00	-19.74
67/ 6/23	2439664.5	-0.22933	-0.36272	-0.17068	32.49026	-18.04098	-12.99929	0.46183	39.37100	237.70	-21.69
67/ 6/25	2439666.5	-0.19051	-0.38135	-0.18465	34.65624	-14.20354	-11.16677	0.46456	39.08314	243.46	-23.42
67/ 6/27	2439668.5	-0.14943	-0.39549	-0.19644	36.38537	-10.25301	-9.22881	0.46619	38.91260	249.30	-24.92
67/ 6/29	2439670.5	-0.10662	-0.40500	-0.20594	37.67870	-6.21001	-7.19656	0.46670	38.85923	255.25	-26.18
67/ 7/ 1	2439672.5	-0.06256	-0.40981	-0.21303	38.53327	-2.09334	-5.07978	0.46609	38.92299	261.32	-27.20
67/ 7/ 3	2439674.5	-0.01777	-0.40982	-0.21764	38.94174	2.07889	-2.88742	0.46437	39.10394	267.52	-27.95
67/ 7/ 5	2439676.5	0.02723	-0.40499	-0.21968	38.89217	6.28812	-0.62818	0.46154	39.40223	273.85	-28.42
67/ 7/ 7	2439678.5	0.07190	-0.39529	-0.21907	38.36771	10.51407	1.68880	0.45761	39.81807	280.31	-28.60
67/ 7/ 9	2439680.5	0.11567	-0.38070	-0.21576	37.34642	14.73341	4.05327	0.45262	40.35167	286.90	-28.47
67/ 7/11	2439682.5	0.15797	-0.36126	-0.20969	35.80119	18.91810	6.45303	0.44658	41.00319	293.62	-28.01
67/ 7/13	2439684.5	0.19817	-0.33702	-0.20084	33.69981	23.03349	8.87280	0.43954	41.77255	300.45	-27.19
67/ 7/15	2439686.5	0.23559	-0.30809	-0.18920	31.00540	27.03596	11.29304	0.43153	42.65924	307.40	-26.00
67/ 7/17	2439688.5	0.26955	-0.27463	-0.17476	27.67740	30.87007	13.68820	0.42264	43.66196	314.46	-24.43
67/ 7/19	2439690.5	0.29927	-0.23687	-0.15760	23.67354	34.46517	16.02480	0.41293	44.77810	321.64	-22.44
67/ 7/21	2439692.5	0.32396	-0.19514	-0.13778	18.95321	37.73144	18.25891	0.40251	46.00297	328.94	-20.02
67/ 7/23	2439694.5	0.34277	-0.14987	-0.11548	13.48312	40.55576	20.33337	0.39152	47.32874	336.38	-17.15
67/ 7/25	2439696.5	0.35482	-0.10167	-0.09090	7.24612	42.79782	22.17481	0.38012	48.74302	344.01	-13.84
67/ 7/27	2439698.5	0.35922	-0.05129	-0.06437	0.25422	44.28783	23.69107	0.36853	50.22692	351.87	-10.06
67/ 7/29	2439700.5	0.35513	0.00028	-0.03634	-7.43317	44.82801	24.77012	0.35699	51.75289	0.04	-5.84
67/ 7/31	2439702.5	0.34183	0.05182	-0.00737	-15.68640	44.20118	25.28233	0.34581	53.28230	8.62	-1.22
67/ 8/ 2	2439704.5	0.31876	0.10186	0.02180	-24.28046	42.19082	25.08865	0.33535	54.76355	17.72	3.73
67/ 8/ 4	2439706.5	0.28573	0.14868	0.05027	-32.87498	38.61654	24.05751	0.32600	56.13168	27.49	8.87
67/ 8/ 6	2439708.5	0.24299	0.19043	0.07701	-41.01159	33.38499	22.09180	0.31818	57.31104	38.09	14.01
67/ 8/ 8	2439710.5	0.19138	0.22519	0.10093	-48.14396	26.54757	19.16295	0.31229	58.22227	49.64	18.86
67/ 8/10	2439712.5	0.13238	0.25123	0.12094	-53.71042	18.34479	15.34204	0.30865	58.79386	62.21	23.07
67/ 8/12	2439714.5	0.06808	0.26721	0.13610	-57.24005	9.21011	10.81282	0.30750	58.97598	75.71	26.27
67/ 8/14	2439716.5	0.00103	0.27237	0.14575	-58.45887	-0.28392	5.85375	0.30892	58.75191	89.78	28.15
67/ 8/16	2439718.5	-0.06607	0.26665	0.14958	-57.35088	-9.52712	0.78997	0.31280	58.14219	103.92	28.57
67/ 8/18	2439720.5	-0.13065	0.25066	0.14766	-54.14659	-17.98302	-4.06756	0.31891	57.19954	117.53	27.58
67/ 8/20	2439722.5	-0.19050	0.22556	0.14036	-49.24864	-25.26758	-8.47181	0.32691	55.99688	130.18	25.43
67/ 8/22	2439724.5	-0.24395	0.19282	0.12832	-43.13242	-31.17451	-12.26347	0.33639	54.61363	141.68	22.42
67/ 8/24	2439726.5	-0.28986	0.15409	0.11230	-36.25977	-35.65460	-15.36873	0.34695	53.12456	152.00	18.89
67/ 8/26	2439728.5	-0.32758	0.11098	0.09309	-29.02553	-38.77140	-17.78107	0.35818	51.59331	161.28	15.06
67/ 8/28	2439730.5	-0.35689	0.06500	0.07147	-21.73686	-40.65439	-19.53825	0.36974	50.07009	169.68	11.15
67/ 8/30	2439732.5	-0.37786	0.01748	0.04818	-14.61514	-41.46125	-20.70200	0.38132	48.59228	177.35	7.26
67/ 9/ 1	2439734.5	-0.39078	-0.03043	0.02385	-7.80928	-41.35273	-21.34309	0.39268	47.18645	184.45	3.48
67/ 9/ 3	2439736.5	-0.39606	-0.07776	-0.00095	-1.41233	-40.47833	-21.53202	0.40362	45.87067	191.11	-0.14
67/ 9/ 5	2439738.5	-0.39422	-0.12370	-0.02575	4.52291	-38.96970	-21.33387	0.41397	44.65678	197.42	-3.57
67/ 9/ 7	2439740.5	-0.38580	-0.16759	-0.05011	9.97115	-36.93889	-20.80605	0.42360	43.55224	203.48	-6.79
67/ 9/ 9	2439742.5	-0.37137	-0.20887	-0.07370	14.92486	-34.47921	-19.99775	0.43241	42.56145	209.35	-9.81
67/ 9/11	2439744.5	-0.35151	-0.24711	-0.09622	19.38725	-31.66728	-18.95035	0.44032	41.68690	215.11	-12.62
67/ 9/13	2439746.5	-0.32677	-0.28192	-0.11740	23.36731	-28.56553	-17.69818	0.44726	40.92977	220.79	-15.22
67/ 9/15	2439748.5	-0.29771	-0.31300	-0.13704	26.87647	-25.22465	-16.26957	0.45319	40.29053	226.43	-17.60

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67/ 9/17	2439750.5	-0.26486	-0.34011	-0.15493	29.92628	-21.68584	-14.68777	0.45807	39.76919	232.09	-19.77
67/ 9/19	2439752.5	-0.22875	-0.36304	-0.17092	32.52692	-17.98278	-12.97187	0.46188	39.36559	237.79	-21.72
67/ 9/21	2439754.5	-0.18989	-0.38161	-0.18485	34.68612	-14.14339	-11.13761	0.46460	39.07952	243.55	-23.45
67/ 9/23	2439756.5	-0.14878	-0.39567	-0.19661	36.40852	-10.19125	-9.19809	0.46620	38.91075	249.39	-24.94
67/ 9/25	2439758.5	-0.10594	-0.40511	-0.20606	37.69511	-6.14695	-7.16445	0.46669	38.85917	255.34	-26.20
67/ 9/27	2439760.5	-0.06187	-0.40984	-0.21312	38.54285	-2.02926	-5.04643	0.46607	38.92475	261.42	-27.21
67/ 9/29	2439762.5	-0.01707	-0.40978	-0.21769	38.94437	2.14370	-2.85295	0.46433	39.10752	267.61	-27.96
67/10/ 1	2439764.5	0.02792	-0.40488	-0.21969	38.88761	6.35336	-0.59275	0.46148	39.40765	273.95	-28.43
67/10/ 3	2439766.5	0.07258	-0.39510	-0.21904	38.35567	10.57940	1.72505	0.45755	39.82533	280.41	-28.60
67/10/ 5	2439768.5	0.11634	-0.38044	-0.21569	37.32651	14.79844	4.09018	0.45254	40.36076	287.00	-28.46
67/10/ 7	2439770.5	0.15861	-0.36092	-0.20958	35.77294	18.98235	6.49037	0.44648	41.01411	293.72	-28.00
67/10/ 9	2439772.5	0.19877	-0.33661	-0.20068	33.66267	23.09637	8.91033	0.43942	41.78530	300.56	-27.17
67/10/11	2439774.5	0.23615	-0.30761	-0.18899	30.95877	27.09671	11.33039	0.43140	42.67382	307.51	-25.98
67/10/13	2439776.5	0.27004	-0.27408	-0.17452	27.62064	30.92773	13.72494	0.42249	43.67835	314.57	-24.40
67/10/15	2439778.5	0.29970	-0.23625	-0.15731	23.60599	34.51850	16.06033	0.41277	44.79625	321.75	-22.40
67/10/17	2439780.5	0.32430	-0.19446	-0.13746	18.87428	37.77889	18.29246	0.40234	46.02279	329.05	-19.98
67/10/19	2439782.5	0.34301	-0.14915	-0.11511	13.39239	40.59538	20.36394	0.39135	47.35009	336.50	-17.11
67/10/21	2439784.5	0.35494	-0.10090	-0.09050	7.14349	42.82720	22.20111	0.37994	48.76564	344.13	-13.78
67/10/23	2439786.5	0.35922	-0.05050	-0.06395	0.14019	44.30411	23.71152	0.36835	50.25048	352.00	-10.00
67/10/25	2439788.5	0.35500	0.00108	-0.03589	-7.55723	44.82793	24.78283	0.35681	51.77687	0.17	-5.77
67/10/27	2439790.5	0.34154	0.05261	-0.00691	-15.81780	44.18128	25.28518	0.34564	53.30599	8.76	-1.15
67/10/29	2439792.5	0.31833	0.10261	0.02225	-24.41486	42.14789	25.07947	0.33520	54.78604	17.87	3.81
67/10/31	2439794.5	0.28514	0.14937	0.05070	-33.00615	38.54830	24.03443	0.32587	56.15186	27.65	8.95
67/11/ 2	2439796.5	0.24225	0.19102	0.07741	-41.13158	33.29094	22.05375	0.31807	57.32766	38.26	14.09
67/11/ 4	2439798.5	0.19051	0.22566	0.10128	-48.24391	26.42990	19.11018	0.31221	58.23413	49.83	18.93
67/11/ 6	2439800.5	0.13141	0.25156	0.12121	-53.78200	18.20880	15.27654	0.30861	58.79997	62.42	23.13
67/11/ 8	2439802.5	0.06705	0.26737	0.13629	-57.27723	9.06385	10.73827	0.30750	58.97580	75.92	26.31
67/11/10	2439804.5	-0.00002	0.27236	0.14586	-58.45932	-0.43096	5.77502	0.30896	58.74546	90.00	28.17
67/11/12	2439806.5	-0.06710	0.26648	0.14960	-57.31639	-9.66575	0.71214	0.31288	58.13005	104.13	28.56
67/11/14	2439808.5	-0.13162	0.25034	0.14758	-54.08231	-18.10594	-4.14004	0.31902	57.18271	117.73	27.56
67/11/16	2439810.5	-0.19139	0.22510	0.14021	-49.16167	-25.37021	-8.53575	0.32705	55.97657	130.37	25.39
67/11/18	2439812.5	-0.24473	0.19226	0.12810	-43.03024	-31.25495	-12.31709	0.33655	54.59106	141.85	22.37
67/11/20	2439814.5	-0.29051	0.15345	0.11202	-36.14914	-35.71310	-15.41146	0.34712	53.10083	152.16	18.83
67/11/22	2439816.5	-0.32810	0.11028	0.09277	-28.91193	-38.80959	-17.81322	0.35836	51.56932	161.42	15.00
67/11/24	2439818.5	-0.35728	0.06427	0.07112	-21.62439	-40.67459	-19.56066	0.36992	50.04653	169.80	11.08
67/11/26	2439820.5	-0.37812	0.01673	0.04781	-14.50663	-41.46600	-20.71572	0.38150	48.56967	177.47	7.20
67/11/28	2439822.5	-0.39092	-0.03118	0.02347	-7.70657	-41.34449	-21.34925	0.39286	47.16512	184.56	3.42
67/11/30	2439824.5	-0.39609	-0.07849	-0.00134	-1.31650	-40.45928	-21.53168	0.40379	45.85084	191.21	-0.19
67/12/ 2	2439826.5	-0.39414	-0.12440	-0.02613	4.61129	-38.94174	-21.32799	0.41413	44.63862	197.52	-3.62
67/12/ 4	2439828.5	-0.38562	-0.16825	-0.05049	10.05185	-36.90360	-20.79545	0.42375	43.53581	203.57	-6.84
67/12/ 6	2439830.5	-0.37111	-0.20949	-0.07406	14.99788	-34.43792	-19.98314	0.43254	42.54682	209.44	-9.86
67/12/ 8	2439832.5	-0.35116	-0.24767	-0.09656	19.45268	-31.62106	-18.93231	0.44043	41.67410	215.20	-12.66
67/12/10	2439834.5	-0.32635	-0.28243	-0.11772	23.42533	-28.51525	-17.67721	0.44736	40.91881	220.87	-15.26
67/12/12	2439836.5	-0.29723	-0.31346	-0.13733	26.92727	-25.17103	-16.24606	0.45327	40.28142	226.52	-17.64
67/12/14	2439838.5	-0.26432	-0.34050	-0.15519	29.97004	-21.62945	-14.66206	0.45814	39.76195	232.18	-19.80

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67/12/16	2439840.5	-0.22816	-0.36336	-0.17115	32.56378	-17.92410	-12.94422	0.46193	39.36021	237.87	-21.75
67/12/18	2439842.5	-0.18926	-0.38186	-0.18505	34.71620	-14.08280	-11.10823	0.46463	39.07598	243.64	-23.47
67/12/20	2439844.5	-0.14813	-0.39585	-0.19677	36.43187	-10.12907	-9.16718	0.46622	38.90908	249.48	-24.96
67/12/22	2439846.5	-0.10527	-0.40522	-0.20619	37.71171	-6.08348	-7.13215	0.46669	38.85935	255.44	-26.22
67/12/24	2439848.5	-0.06118	-0.40988	-0.21321	38.55261	-1.96479	-5.01287	0.46605	38.92677	261.51	-27.23
67/12/26	2439850.5	-0.01638	-0.40974	-0.21774	38.94713	2.20891	-2.81829	0.46429	39.11139	267.71	-27.97
67/12/28	2439852.5	0.02862	-0.40476	-0.21970	38.88314	6.41899	-0.55711	0.46143	39.41335	274.04	-28.43
67/12/30	2439854.5	0.07327	-0.39491	-0.21901	38.34364	10.64513	1.76152	0.45747	39.83286	280.51	-28.60
68/ 1/ 1	2439856.5	0.11701	-0.38017	-0.21561	37.30655	14.86386	4.12730	0.45245	40.37014	287.11	-28.46
68/ 1/ 3	2439858.5	0.15925	-0.36058	-0.20946	35.74459	19.04699	6.52793	0.44638	41.02533	293.83	-27.99
68/ 1/ 5	2439860.5	0.19937	-0.33620	-0.20052	33.62540	23.15962	8.94806	0.43930	41.79837	300.67	-27.16
68/ 1/ 7	2439862.5	0.23670	-0.30712	-0.18879	30.91196	27.15782	11.36796	0.43127	42.68872	307.62	-25.96
68/ 1/ 9	2439864.5	0.27054	-0.27352	-0.17427	27.56363	30.98572	13.76188	0.42235	43.69506	314.69	-24.37
68/ 1/11	2439866.5	0.30012	-0.23563	-0.15702	23.53812	34.57212	16.09605	0.41261	44.81470	321.86	-22.37
68/ 1/13	2439868.5	0.32464	-0.19378	-0.13713	18.79493	37.82656	18.32617	0.40218	46.04288	329.17	-19.94
68/ 1/15	2439870.5	0.34325	-0.14842	-0.11474	13.30114	40.63511	20.39462	0.39117	47.37165	336.62	-17.06
68/ 1/17	2439872.5	0.35507	-0.10013	-0.09010	7.04027	42.85657	22.22747	0.37976	48.78843	344.25	-13.72
68/ 1/19	2439874.5	0.35922	-0.04970	-0.06352	0.02552	44.32022	23.73194	0.36817	50.27412	352.12	-9.94
68/ 1/21	2439876.5	0.35486	0.00189	-0.03545	-7.68190	44.82750	24.79542	0.35663	51.80086	0.30	-5.70
68/ 1/23	2439878.5	0.34126	0.05340	-0.00646	-15.94973	44.16085	25.28780	0.34547	53.32961	8.89	-1.07
68/ 1/25	2439880.5	0.31789	0.10337	0.02270	-24.54963	42.10427	25.06996	0.33504	54.80836	18.01	3.88
68/ 1/27	2439882.5	0.28455	0.15007	0.05113	-33.13744	38.47924	24.01093	0.32573	56.17176	27.81	9.03
68/ 1/29	2439884.5	0.24151	0.19162	0.07781	-41.25140	33.19604	22.01522	0.31797	57.34392	38.43	14.16
68/ 1/31	2439886.5	0.18964	0.22614	0.10162	-48.34337	26.31146	19.05695	0.31214	58.24553	50.02	19.00
68/ 2/ 2	2439888.5	0.13044	0.25188	0.12149	-53.85281	18.07224	15.21065	0.30858	58.80557	62.62	23.19
68/ 2/ 4	2439890.5	0.06603	0.26753	0.13649	-57.31344	8.91729	10.66347	0.30751	58.97507	76.14	26.35
68/ 2/ 6	2439892.5	-0.00107	0.27235	0.14596	-58.45875	-0.57798	5.69618	0.30900	58.73846	90.22	28.19
68/ 2/ 8	2439894.5	-0.06813	0.26630	0.14961	-57.28098	-9.80409	0.63438	0.31296	58.11741	104.35	28.56
68/ 2/10	2439896.5	-0.13259	0.25001	0.14751	-54.01733	-18.22838	-4.21233	0.31913	57.16546	117.94	27.53
68/ 2/12	2439898.5	-0.19227	0.22465	0.14006	-49.07426	-25.47225	-8.59942	0.32719	55.95595	130.56	25.34
68/ 2/14	2439900.5	-0.24550	0.19170	0.12788	-42.92788	-31.33482	-12.37041	0.33671	54.56831	142.01	22.32
68/ 2/16	2439902.5	-0.29116	0.15281	0.11175	-36.03855	-35.77109	-15.45392	0.34729	53.07703	152.31	18.77
68/ 2/18	2439904.5	-0.32862	0.10959	0.09245	-28.79854	-38.84738	-17.84514	0.35853	51.54535	161.56	14.94
68/ 2/20	2439906.5	-0.35767	0.06354	0.07077	-21.51222	-40.69450	-19.58287	0.37010	50.02306	169.93	11.02
68/ 2/22	2439908.5	-0.37838	0.01599	0.04744	-14.39849	-41.47056	-20.72930	0.38168	48.54716	177.58	7.14
68/ 2/24	2439910.5	-0.39105	-0.03191	0.02308	-7.60424	-41.33612	-21.35530	0.39303	47.14391	184.67	3.37
68/ 2/26	2439912.5	-0.39611	-0.07921	-0.00173	-1.22106	-40.44018	-21.53128	0.40396	45.83116	191.31	-0.24
68/ 2/28	2439914.5	-0.39405	-0.12510	-0.02651	4.69928	-38.91380	-21.32208	0.41428	44.62060	197.61	-3.67
68/ 3/ 1	2439916.5	-0.38544	-0.16891	-0.05086	10.13219	-36.86841	-20.78487	0.42389	43.51955	203.66	-6.89
68/ 3/ 3	2439918.5	-0.37084	-0.21010	-0.07442	15.07056	-34.39677	-19.96858	0.43267	42.53238	209.53	-9.90
68/ 3/ 5	2439920.5	-0.35081	-0.24824	-0.09690	19.51782	-31.57502	-18.91435	0.44055	41.66149	215.28	-12.71
68/ 3/ 7	2439922.5	-0.32593	-0.28294	-0.11804	23.48311	-28.46519	-17.65632	0.44746	40.90806	220.96	-15.30
68/ 3/ 9	2439924.5	-0.29675	-0.31390	-0.13762	26.97787	-25.11762	-16.22265	0.45336	40.27251	226.61	-17.67
68/ 3/11	2439926.5	-0.26379	-0.34089	-0.15545	30.01364	-21.57326	-14.63644	0.45821	39.75487	232.27	-19.83
68/ 3/13	2439928.5	-0.22758	-0.36368	-0.17138	32.60052	-17.86561	-12.91665	0.46198	39.35497	237.96	-21.78

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68/ 3/15	2439930.5	-0.18864	-0.38211	-0.18525	34.74616	-14.02238	-11.07894	0.46466	39.07257	243.72	-23.50
68/ 3/17	2439932.5	-0.14748	-0.39603	-0.19693	36.45510	-10.06708	-9.13634	0.46623	38.90749	249.57	-24.99
68/ 3/19	2439934.5	-0.10459	-0.40533	-0.20632	37.72820	-6.02021	-7.09993	0.46669	38.85960	255.53	-26.24
68/ 3/21	2439936.5	-0.06049	-0.40991	-0.21330	38.56228	-1.90051	-4.97942	0.46603	38.92885	261.61	-27.24
68/ 3/23	2439938.5	-0.01568	-0.40970	-0.21779	38.94981	2.27392	-2.78372	0.46426	39.11531	267.81	-27.98
68/ 3/25	2439940.5	0.02931	-0.40464	-0.21971	38.87861	6.48444	-0.52156	0.46138	39.41912	274.14	-28.44
68/ 3/27	2439942.5	0.07395	-0.39471	-0.21898	38.33161	10.71069	1.79789	0.45740	39.84048	280.61	-28.60
68/ 3/29	2439944.5	0.11768	-0.37990	-0.21554	37.28662	14.92915	4.16434	0.45236	40.37962	287.21	-28.46
68/ 3/31	2439946.5	0.15989	-0.36024	-0.20934	35.71629	19.11150	6.56542	0.44627	41.03666	293.93	-27.98
68/ 4/ 2	2439948.5	0.19997	-0.33578	-0.20036	33.58817	23.22276	8.98573	0.43918	41.81154	300.78	-27.14
68/ 4/ 4	2439950.5	0.23726	-0.30663	-0.18858	30.86519	27.21880	11.40545	0.43114	42.70371	307.73	-25.94
68/ 4/ 6	2439952.5	0.27103	-0.27296	-0.17402	27.50665	31.04356	13.79874	0.42220	43.71182	314.80	-24.34
68/ 4/ 8	2439954.5	0.30054	-0.23501	-0.15673	23.47026	34.62556	16.13167	0.41245	44.83317	321.98	-22.33
68/ 4/10	2439956.5	0.32497	-0.19310	-0.13680	18.71562	37.87401	18.35975	0.40201	46.06295	329.28	-19.89
68/ 4/12	2439958.5	0.34349	-0.14769	-0.11438	13.20997	40.67459	20.42515	0.39099	47.39317	336.73	-17.01
68/ 4/14	2439960.5	0.35520	-0.09936	-0.08970	6.93717	42.88565	22.25366	0.37958	48.81115	344.37	-13.67
68/ 4/16	2439962.5	0.35922	-0.04891	-0.06309	-0.08895	44.33602	23.75218	0.36799	50.29768	352.25	-9.87
68/ 4/18	2439964.5	0.35472	0.00269	-0.03500	-7.80628	44.82673	24.80780	0.35646	51.82471	0.43	-5.63
68/ 4/20	2439966.5	0.34097	0.05420	-0.00600	-16.08123	44.14008	25.29019	0.34530	53.35304	9.03	-1.00
68/ 4/22	2439968.5	0.31745	0.10413	0.02315	-24.68380	42.06033	25.06021	0.33489	54.83042	18.16	3.96
68/ 4/24	2439970.5	0.28395	0.15076	0.05156	-33.26794	38.40994	23.98721	0.32560	56.19133	27.97	9.11
68/ 4/26	2439972.5	0.24078	0.19222	0.07820	-41.37021	33.10106	21.97655	0.31786	57.35977	38.60	14.24
68/ 4/28	2439974.5	0.18878	0.22661	0.10196	-48.44168	26.19318	19.00368	0.31207	58.25649	50.20	19.07
68/ 4/30	2439976.5	0.12948	0.25221	0.12176	-53.92240	17.93615	15.14489	0.30855	58.81070	62.82	23.24
68/ 5/ 2	2439978.5	0.06500	0.26769	0.13668	-57.34853	8.77154	10.58899	0.30752	58.97390	76.35	26.39
68/ 5/ 4	2439980.5	-0.00211	0.27234	0.14606	-58.45729	-0.72390	5.61785	0.30905	58.73107	90.44	28.20
68/ 5/ 6	2439982.5	-0.06915	0.26613	0.14962	-57.24500	-9.94111	0.55726	0.31304	58.10445	104.57	28.55
68/ 5/ 8	2439984.5	-0.13355	0.24969	0.14744	-53.95218	-18.34941	-4.28388	0.31925	57.14797	118.14	27.50
68/ 5/10	2439986.5	-0.19314	0.22420	0.13991	-48.98706	-25.57292	-8.66234	0.32733	55.93516	130.74	25.30
68/ 5/12	2439988.5	-0.24626	0.19115	0.12766	-42.82606	-31.41342	-12.42301	0.33687	54.54545	142.18	22.27
68/ 5/14	2439990.5	-0.29180	0.15218	0.11147	-35.92876	-35.82801	-15.49572	0.34746	53.05318	152.46	18.71
68/ 5/16	2439992.5	-0.32913	0.10890	0.09213	-28.68614	-38.88429	-17.87649	0.35871	51.52137	161.69	14.88
68/ 5/18	2439994.5	-0.35805	0.06282	0.07043	-21.40117	-40.71376	-19.60463	0.37028	49.99962	170.05	10.96
68/ 5/20	2439996.5	-0.37864	0.01526	0.04707	-14.29152	-41.47471	-20.74253	0.38186	48.52475	177.69	7.08
68/ 5/22	2439998.5	-0.39119	-0.03264	0.02271	-7.50309	-41.32758	-21.36114	0.39321	47.12286	184.77	3.31
68/ 5/24	2440000.5	-0.39613	-0.07992	-0.00210	-1.12676	-40.42112	-21.53077	0.40412	45.81169	191.41	-0.30
68/ 5/26	2440002.5	-0.39397	-0.12578	-0.02688	4.78622	-38.88607	-21.31618	0.41444	44.60285	197.71	-3.72
68/ 5/28	2440004.5	-0.38526	-0.16956	-0.05122	10.21157	-36.83357	-20.77437	0.42403	43.50360	203.75	-6.94
68/ 5/30	2440006.5	-0.37057	-0.21071	-0.07477	15.14239	-34.35609	-19.95418	0.43280	42.51826	209.62	-9.95
68/ 6/ 1	2440008.5	-0.35047	-0.24879	-0.09723	19.58221	-31.52954	-18.89661	0.44066	41.64921	215.37	-12.75
68/ 6/ 3	2440010.5	-0.32552	-0.28344	-0.11835	23.54023	-28.41574	-17.63571	0.44756	40.89761	221.05	-15.33
68/ 6/ 5	2440012.5	-0.29627	-0.31435	-0.13790	27.02790	-25.06489	-16.19954	0.45344	40.26390	226.70	-17.71
68/ 6/ 7	2440014.5	-0.26326	-0.34127	-0.15571	30.05675	-21.51781	-14.61116	0.45827	39.74809	232.35	-19.86
68/ 6/ 9	2440016.5	-0.22701	-0.36399	-0.17161	32.63685	-17.80789	-12.88946	0.46203	39.35001	238.05	-21.80
68/ 6/11	2440018.5	-0.18803	-0.38235	-0.18544	34.77582	-13.96279	-11.05005	0.46469	39.06943	243.81	-23.52

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68/ 6/13	2440020.5	-0.14684	-0.39621	-0.19709	36.47811	-10.00593	-9.10594	0.46625	38.90616	249.67	-25.01
68/ 6/15	2440022.5	-0.10393	-0.40543	-0.20644	37.74453	-5.95780	-7.06816	0.46669	38.86005	255.62	-26.25
68/ 6/17	2440024.5	-0.05981	-0.40994	-0.21339	38.57184	-1.83711	-4.94642	0.46601	38.93108	261.70	-27.25
68/ 6/19	2440026.5	-0.01499	-0.40966	-0.21784	38.95245	2.33803	-2.74963	0.46422	39.11931	267.90	-27.99
68/ 6/21	2440028.5	0.03000	-0.40453	-0.21972	38.87409	6.54896	-0.48652	0.46132	39.42487	274.24	-28.44
68/ 6/23	2440030.5	0.07463	-0.39452	-0.21894	38.31962	10.77529	1.83375	0.45733	39.84799	280.71	-28.60
68/ 6/25	2440032.5	0.11834	-0.37964	-0.21546	37.26678	14.99341	4.20082	0.45227	40.38889	287.31	-28.45
68/ 6/27	2440034.5	0.16052	-0.35990	-0.20923	35.68815	19.17496	6.60233	0.44617	41.04770	294.04	-27.97
68/ 6/29	2440036.5	0.20057	-0.33537	-0.20020	33.55120	23.28480	9.02279	0.43907	41.82434	300.88	-27.13
68/ 7/ 1	2440038.5	0.23780	-0.30615	-0.18838	30.81878	27.27866	11.44231	0.43101	42.71825	307.84	-25.92
68/ 7/ 3	2440040.5	0.27152	-0.27242	-0.17378	27.45017	31.10026	13.83494	0.42206	43.72807	314.91	-24.31
68/ 7/ 5	2440042.5	0.30096	-0.23440	-0.15644	23.40307	34.67787	16.16661	0.41230	44.85106	322.09	-22.30
68/ 7/ 7	2440044.5	0.32531	-0.19243	-0.13647	18.63715	37.92036	18.39266	0.40184	46.08240	329.39	-19.85
68/ 7/ 9	2440046.5	0.34372	-0.14697	-0.11402	13.11984	40.71302	20.45502	0.39082	47.41401	336.85	-16.96
68/ 7/11	2440048.5	0.35532	-0.09861	-0.08931	6.83536	42.91378	22.27920	0.37941	48.83316	344.49	-13.61
68/ 7/13	2440050.5	0.35922	-0.04812	-0.06268	-0.20190	44.35101	23.77183	0.36781	50.32050	352.37	-9.81
68/ 7/15	2440052.5	0.35459	0.00348	-0.03456	-7.92890	44.82540	24.81969	0.35628	51.84786	0.56	-5.57
68/ 7/17	2440054.5	0.34069	0.05498	-0.00556	-16.21079	44.11907	25.29226	0.34514	53.37584	9.17	-0.92
68/ 7/19	2440056.5	0.31701	0.10487	0.02359	-24.81591	42.01657	25.05034	0.33474	54.85199	18.30	4.04
68/ 7/21	2440058.5	0.28337	0.15144	0.05199	-33.39641	38.34129	23.96364	0.32547	56.21059	28.12	9.19
68/ 7/23	2440060.5	0.24005	0.19280	0.07859	-41.48718	33.00720	21.93829	0.31776	57.37551	38.77	14.32
68/ 7/25	2440062.5	0.18793	0.22707	0.10230	-48.53847	26.07643	18.95108	0.31200	58.26754	50.39	19.14
68/ 7/27	2440064.5	0.12853	0.25252	0.12203	-53.99095	17.80186	15.07999	0.30851	58.81611	63.02	23.30
68/ 7/29	2440066.5	0.06399	0.26785	0.13687	-57.38311	8.62769	10.51547	0.30752	58.97316	76.56	26.43
68/ 7/31	2440068.5	-0.00314	0.27233	0.14616	-58.45586	-0.86798	5.54050	0.30909	58.72426	90.66	28.22
68/ 8/ 2	2440070.5	-0.07015	0.26595	0.14963	-57.20955	-10.07652	0.48105	0.31312	58.09217	104.78	28.55
68/ 8/ 4	2440072.5	-0.13450	0.24937	0.14736	-53.88791	-18.46916	-4.35466	0.31936	57.13125	118.34	27.48
68/ 8/ 6	2440074.5	-0.19400	0.22375	0.13975	-48.90096	-25.67268	-8.72465	0.32746	55.91521	130.93	25.26
68/ 8/ 8	2440076.5	-0.24701	0.19060	0.12744	-42.72543	-31.49148	-12.47520	0.33702	54.52344	142.35	22.22
68/ 8/10	2440078.5	-0.29243	0.15155	0.11120	-35.82013	-35.88469	-15.53727	0.34763	53.03018	152.60	18.66
68/ 8/12	2440080.5	-0.32963	0.10822	0.09182	-28.57479	-38.92122	-17.90774	0.35889	51.49823	161.83	14.82
68/ 8/14	2440082.5	-0.35843	0.06210	0.07008	-21.29102	-40.73320	-19.62639	0.37045	49.97696	170.17	10.90
68/ 8/16	2440084.5	-0.37889	0.01453	0.04670	-14.18529	-41.47911	-20.75583	0.38203	48.50303	177.80	7.02
68/ 8/18	2440086.5	-0.39132	-0.03337	0.02233	-7.40255	-41.31931	-21.36706	0.39338	47.10238	184.87	3.25
68/ 8/20	2440088.5	-0.39615	-0.08064	-0.00248	-1.03296	-40.40230	-21.53035	0.40428	45.79267	191.51	-0.35
68/ 8/22	2440090.5	-0.39389	-0.12647	-0.02726	4.87272	-38.85854	-21.31033	0.41459	44.58541	197.80	-3.77
68/ 8/24	2440092.5	-0.38508	-0.17021	-0.05159	10.29054	-36.79886	-20.76391	0.42417	43.48783	203.85	-6.99
68/ 8/26	2440094.5	-0.37030	-0.21132	-0.07512	15.21380	-34.31549	-19.93978	0.43292	42.50420	209.71	-9.99
68/ 8/28	2440096.5	-0.35012	-0.24935	-0.09756	19.64617	-31.48410	-18.87884	0.44077	41.63690	215.46	-12.79
68/ 8/30	2440098.5	-0.32510	-0.28394	-0.11866	23.59689	-28.36631	-17.61505	0.44765	40.88705	221.13	-15.37
68/ 9/ 1	2440100.5	-0.29579	-0.31479	-0.13819	27.07744	-25.01217	-16.17639	0.45352	40.25508	226.78	-17.74
68/ 9/ 3	2440102.5	-0.26273	-0.34165	-0.15597	30.09932	-21.46236	-14.58582	0.45834	39.74101	232.44	-19.89
68/ 9/ 5	2440104.5	-0.22643	-0.36431	-0.17183	32.67260	-17.75017	-12.86221	0.46208	39.34468	238.14	-21.83
68/ 9/ 7	2440106.5	-0.18742	-0.38260	-0.18564	34.80483	-13.90320	-11.02110	0.46473	39.06584	243.90	-23.54
68/ 9/ 9	2440108.5	-0.14619	-0.39638	-0.19726	36.50043	-9.94481	-9.07548	0.46626	38.90431	249.76	-25.03

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68/ 9/11	2440110.5	-0.10326	-0.40554	-0.20657	37.76016	-5.89545	-7.03636	0.46669	38.85996	255.71	-26.27
68/ 9/13	2440112.5	-0.05913	-0.40998	-0.21348	38.58072	-1.77381	-4.91341	0.46599	38.93276	261.79	-27.27
68/ 9/15	2440114.5	-0.01431	-0.40962	-0.21789	38.95443	2.40199	-2.71555	0.46418	39.12277	268.00	-28.00
68/ 9/17	2440116.5	0.03069	-0.40441	-0.21973	38.86896	6.61331	-0.45150	0.46127	39.43014	274.34	-28.45
68/ 9/19	2440118.5	0.07531	-0.39433	-0.21891	38.30709	10.83968	1.86955	0.45727	39.85507	280.81	-28.60
68/ 9/21	2440120.5	0.11899	-0.37937	-0.21539	37.24647	15.05746	4.23724	0.45219	40.39778	287.41	-28.45
68/ 9/23	2440122.5	0.16115	-0.35956	-0.20911	35.65959	19.23820	6.63916	0.44607	41.05841	294.14	-27.96
68/ 9/25	2440124.5	0.20115	-0.33496	-0.20004	33.51387	23.34663	9.05977	0.43895	41.83688	300.99	-27.11
68/ 9/27	2440126.5	0.23834	-0.30567	-0.18818	30.77209	27.33835	11.47910	0.43088	42.73261	307.94	-25.90
68/ 9/29	2440128.5	0.27200	-0.27187	-0.17354	27.39348	31.15684	13.87109	0.42191	43.74424	315.01	-24.29
68/10/ 1	2440130.5	0.30136	-0.23379	-0.15616	23.33574	34.73012	16.20154	0.41214	44.86901	322.20	-22.27
68/10/ 3	2440132.5	0.32563	-0.19177	-0.13615	18.55859	37.96674	18.42560	0.40168	46.10203	329.51	-19.81
68/10/ 5	2440134.5	0.34395	-0.14625	-0.11366	13.02963	40.75159	20.48496	0.39065	47.43518	336.96	-16.91
68/10/ 7	2440136.5	0.35544	-0.09785	-0.08892	6.73341	42.94213	22.30488	0.37923	48.85563	344.61	-13.56
68/10/ 9	2440138.5	0.35921	-0.04734	-0.06226	-0.31509	44.36630	23.79167	0.36763	50.34393	352.49	-9.75
68/10/11	2440140.5	0.35444	0.00427	-0.03412	-8.05194	44.82438	24.83180	0.35611	51.87174	0.69	-5.50
68/10/13	2440142.5	0.34040	0.05575	-0.00511	-16.34098	44.09833	25.29453	0.34497	53.39947	9.30	-0.85
68/10/15	2440144.5	0.31657	0.10561	0.02403	-24.94887	41.97292	25.04063	0.33458	54.87445	18.45	4.12
68/10/17	2440146.5	0.28277	0.15211	0.05241	-33.52590	38.27252	23.94010	0.32534	56.23077	28.28	9.27
68/10/19	2440148.5	0.23931	0.19338	0.07898	-41.60528	32.91289	21.89990	0.31765	57.39218	38.94	14.40
68/10/21	2440150.5	0.18706	0.22753	0.10263	-48.63637	25.95885	18.89815	0.31192	58.27948	50.58	19.21
68/10/23	2440152.5	0.12757	0.25283	0.12229	-54.06044	17.66637	15.01453	0.30847	58.82234	63.23	23.36
68/10/25	2440154.5	0.06297	0.26800	0.13705	-57.41832	8.48234	10.44121	0.30752	58.97315	76.78	26.47
68/10/27	2440156.5	-0.00418	0.27231	0.14626	-58.45463	-1.01376	5.46227	0.30913	58.71803	90.88	28.24
68/10/29	2440158.5	-0.07118	0.26577	0.14964	-57.17378	-10.21365	0.40390	0.31319	58.08032	104.99	28.54
68/10/31	2440160.5	-0.13546	0.24903	0.14728	-53.82283	-18.59049	-4.42636	0.31947	57.11476	118.54	27.45
68/11/ 2	2440162.5	-0.19488	0.22328	0.13959	-48.81362	-25.77375	-8.78779	0.32760	55.89527	131.11	25.22
68/11/ 4	2440164.5	-0.24778	0.19003	0.12722	-42.62322	-31.57049	-12.52805	0.33718	54.50125	142.51	22.17
68/11/ 6	2440166.5	-0.29307	0.15090	0.11092	-35.70972	-35.94193	-15.57931	0.34780	53.00681	152.76	18.60
68/11/ 8	2440168.5	-0.33014	0.10752	0.09149	-28.46158	-38.95832	-17.93928	0.35906	51.47456	161.96	14.76
68/11/10	2440170.5	-0.35881	0.06137	0.06973	-21.17904	-40.75249	-19.64825	0.37063	49.95368	170.29	10.84
68/11/12	2440172.5	-0.37914	0.01378	0.04633	-14.07731	-41.48310	-20.76908	0.38221	48.48064	177.92	6.96
68/11/14	2440174.5	-0.39145	-0.03411	0.02195	-7.30039	-41.31041	-21.37281	0.39355	47.08124	184.98	3.20
68/11/16	2440176.5	-0.39617	-0.08136	-0.00287	-0.93770	-40.38269	-21.52965	0.40445	45.77299	191.61	-0.41
68/11/18	2440178.5	-0.39380	-0.12717	-0.02764	4.96054	-38.83009	-21.30413	0.41474	44.56735	197.90	-3.82
68/11/20	2440180.5	-0.38490	-0.17087	-0.05196	10.37068	-36.76316	-20.75303	0.42431	43.47148	203.94	-7.03
68/11/22	2440182.5	-0.37003	-0.21193	-0.07548	15.28625	-34.27383	-19.92491	0.43305	42.48961	209.80	-10.04
68/11/24	2440184.5	-0.34977	-0.24991	-0.09790	19.71105	-31.43755	-18.86058	0.44089	41.62411	215.55	-12.83
68/11/26	2440186.5	-0.32468	-0.28445	-0.11897	23.65436	-28.31574	-17.59387	0.44775	40.87609	221.22	-15.41
68/11/28	2440188.5	-0.29531	-0.31524	-0.13848	27.12769	-24.95830	-16.15269	0.45360	40.24597	226.87	-17.78
68/11/30	2440190.5	-0.26219	-0.34203	-0.15623	30.14253	-21.40576	-14.55994	0.45841	39.73375	232.53	-19.93
68/12/ 2	2440192.5	-0.22584	-0.36463	-0.17207	32.70891	-17.69132	-12.83440	0.46213	39.33926	238.23	-21.86
68/12/ 4	2440194.5	-0.18679	-0.38285	-0.18584	34.83434	-13.84248	-10.99160	0.46476	39.06227	243.99	-23.57
68/12/ 6	2440196.5	-0.14554	-0.39656	-0.19742	36.52320	-9.88255	-9.04446	0.46628	38.90258	249.85	-25.05
68/12/ 8	2440198.5	-0.10259	-0.40565	-0.20670	37.77617	-5.83194	-7.00397	0.46669	38.86008	255.81	-26.29

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68/12/10	2440200.5	-0.05844	-0.41001	-0.21357	38.58988	-1.70934	-4.87980	0.46597	38.93473	261.89	-27.28
68/12/12	2440202.5	-0.01361	-0.40957	-0.21794	38.95658	2.46715	-2.68085	0.46415	39.12658	268.10	-28.00
68/12/14	2440204.5	0.03138	-0.40429	-0.21973	38.86387	6.67885	-0.41585	0.46122	39.43578	274.44	-28.45
68/12/16	2440206.5	0.07599	-0.39414	-0.21888	38.29445	10.90526	1.90600	0.45720	39.86254	280.91	-28.60
68/12/18	2440208.5	0.11966	-0.37910	-0.21531	37.22589	15.12269	4.27432	0.45210	40.40708	287.52	-28.44
68/12/20	2440210.5	0.16179	-0.35922	-0.20899	35.63062	19.30259	6.67665	0.44597	41.06956	294.25	-27.94
68/12/22	2440212.5	0.20175	-0.33454	-0.19988	33.47596	23.40958	9.09740	0.43883	41.84986	301.09	-27.10
68/12/24	2440214.5	0.23889	-0.30518	-0.18797	30.72463	27.39908	11.51653	0.43074	42.74744	308.05	-25.87
68/12/26	2440216.5	0.27249	-0.27131	-0.17329	27.33582	31.21439	13.90787	0.42177	43.76088	315.12	-24.26
68/12/28	2440218.5	0.30178	-0.23317	-0.15587	23.26722	34.78324	16.23705	0.41199	44.88741	322.31	-22.23
68/12/30	2440220.5	0.32596	-0.19108	-0.13582	18.47862	38.01382	18.45906	0.40151	46.12208	329.62	-19.77
69/ 1/ 1	2440222.5	0.34418	-0.14552	-0.11329	12.93778	40.79064	20.51533	0.39047	47.45673	337.08	-16.87
69/ 1/ 3	2440224.5	0.35555	-0.09708	-0.08852	6.62963	42.97070	22.33086	0.37905	48.87842	344.73	-13.50
69/ 1/ 5	2440226.5	0.35921	-0.04655	-0.06183	-0.43025	44.38148	23.81164	0.36745	50.36760	352.62	-9.69
69/ 1/ 7	2440228.5	0.35430	0.00508	-0.03368	-8.17699	44.82288	24.84386	0.35593	51.89577	0.82	-5.43
69/ 1/ 9	2440230.5	0.34010	0.05654	-0.00466	-16.47313	44.07669	25.29653	0.34480	53.42315	9.44	-0.77
69/ 1/11	2440232.5	0.31612	0.10636	0.02448	-25.08362	41.92799	25.03041	0.33443	54.89686	18.60	4.20
69/ 1/13	2440234.5	0.28217	0.15280	0.05284	-33.65685	38.20209	23.91583	0.32520	56.25078	28.44	9.35
69/ 1/15	2440236.5	0.23856	0.19397	0.07937	-41.72437	32.81666	21.86058	0.31754	57.40854	39.11	14.47
69/ 1/17	2440238.5	0.18618	0.22799	0.10297	-48.73470	25.83923	18.84417	0.31185	58.29099	50.76	19.28
69/ 1/19	2440240.5	0.12659	0.25315	0.12256	-54.12976	17.52891	14.94801	0.30844	58.82802	63.43	23.41
69/ 1/21	2440242.5	0.06193	0.26815	0.13724	-57.45282	8.33527	10.36596	0.30753	58.97250	76.99	26.50
69/ 1/23	2440244.5	-0.00523	0.27229	0.14636	-58.45228	-1.16087	5.38320	0.30917	58.71112	91.10	28.25
69/ 1/25	2440246.5	-0.07221	0.26558	0.14964	-57.13669	-10.35170	0.32612	0.31328	58.06777	105.21	28.53
69/ 1/27	2440248.5	-0.13643	0.24870	0.14720	-53.75638	-18.71233	-4.49848	0.31958	57.09760	118.75	27.43
69/ 1/29	2440250.5	-0.19576	0.22282	0.13943	-48.72500	-25.87502	-8.85117	0.32773	55.87473	131.30	25.18
69/ 1/31	2440252.5	-0.24854	0.18946	0.12699	-42.51990	-31.64947	-12.58100	0.33734	54.47855	142.68	22.11
69/ 2/ 2	2440254.5	-0.29371	0.15025	0.11064	-35.59840	-35.99901	-15.62135	0.34797	52.98303	152.91	18.54
69/ 2/ 4	2440256.5	-0.33066	0.10681	0.09117	-28.34764	-38.99519	-17.97076	0.35924	51.45058	162.10	14.70
69/ 2/ 6	2440258.5	-0.35919	0.06064	0.06937	-21.06648	-40.77150	-19.67003	0.37082	49.93017	170.42	10.78
69/ 2/ 8	2440260.5	-0.37940	0.01303	0.04596	-13.96890	-41.48679	-20.78223	0.38239	48.45807	178.03	6.90
69/ 2/10	2440262.5	-0.39158	-0.03486	0.02156	-7.19790	-41.30123	-21.37845	0.39372	47.05995	185.09	3.14
69/ 2/12	2440264.5	-0.39618	-0.08209	-0.00326	-0.84217	-40.36281	-21.52883	0.40461	45.75321	191.71	-0.46
69/ 2/14	2440266.5	-0.39371	-0.12786	-0.02803	5.04855	-38.80141	-21.29782	0.41490	44.54923	197.99	-3.87
69/ 2/16	2440268.5	-0.38471	-0.17153	-0.05234	10.45098	-36.72725	-20.74205	0.42446	43.45511	204.03	-7.08
69/ 2/18	2440270.5	-0.36976	-0.21255	-0.07584	15.35884	-34.23201	-19.90997	0.43318	42.47507	209.89	-10.08
69/ 2/20	2440272.5	-0.34942	-0.25048	-0.09824	19.77605	-31.39086	-18.84225	0.44100	41.61140	215.63	-12.87
69/ 2/22	2440274.5	-0.32425	-0.28496	-0.11929	23.71195	-28.26506	-17.57264	0.44785	40.86524	221.31	-15.45
69/ 2/24	2440276.5	-0.29482	-0.31569	-0.13877	27.17805	-24.90430	-16.12894	0.45369	40.23697	226.96	-17.81
69/ 2/26	2440278.5	-0.26165	-0.34242	-0.15649	30.18584	-21.34902	-14.53399	0.45847	39.72659	232.62	-19.96
69/ 2/28	2440280.5	-0.22526	-0.36494	-0.17230	32.74530	-17.63229	-12.80652	0.46218	39.33394	238.32	-21.89
69/ 3/ 2	2440282.5	-0.18617	-0.38310	-0.18603	34.86391	-13.78156	-10.96200	0.46479	39.05879	244.08	-23.59
69/ 3/ 4	2440284.5	-0.14488	-0.39674	-0.19758	36.54600	-9.82009	-9.01332	0.46630	38.90095	249.94	-25.07
69/ 3/ 6	2440286.5	-0.10191	-0.40575	-0.20682	37.79218	-5.76823	-6.97147	0.46668	38.86030	255.90	-26.31
69/ 3/ 8	2440288.5	-0.05775	-0.41004	-0.21365	38.59902	-1.64466	-4.84607	0.46595	38.93679	261.98	-27.29

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69/ 3/10	2440290.5	-0.01291	-0.40953	-0.21799	38.95871	2.53252	-2.64603	0.46411	39.13050	268.19	-28.01
69/ 3/12	2440292.5	0.03208	-0.40417	-0.21974	38.85875	6.74461	-0.38008	0.46116	39.44156	274.54	-28.46
69/ 3/14	2440294.5	0.07668	-0.39394	-0.21884	38.28177	10.97109	1.94259	0.45712	39.87019	281.01	-28.60
69/ 3/16	2440296.5	0.12032	-0.37883	-0.21524	37.20526	15.18819	4.31155	0.45202	40.41661	287.62	-28.44
69/ 3/18	2440298.5	0.16243	-0.35887	-0.20887	35.60156	19.36727	6.71431	0.44587	41.08094	294.35	-27.93
69/ 3/20	2440300.5	0.20235	-0.33412	-0.19972	33.43791	23.47283	9.13522	0.43871	41.86311	301.20	-27.08
69/ 3/22	2440302.5	0.23944	-0.30469	-0.18777	30.67697	27.46012	11.55415	0.43061	42.76252	308.16	-25.85
69/ 3/24	2440304.5	0.27298	-0.27075	-0.17304	27.27788	31.27222	13.94482	0.42162	43.77776	315.24	-24.23
69/ 3/26	2440306.5	0.30220	-0.23254	-0.15558	23.19834	34.83657	16.27272	0.41183	44.90603	322.42	-22.20
69/ 3/28	2440308.5	0.32629	-0.19040	-0.13548	18.39820	38.06106	18.49264	0.40134	46.14234	329.74	-19.73
69/ 3/30	2440310.5	0.34441	-0.14479	-0.11292	12.84542	40.82976	20.54580	0.39030	47.47846	337.20	-16.82
69/ 4/ 1	2440312.5	0.35567	-0.09631	-0.08811	6.52529	42.99925	22.35689	0.37887	48.90139	344.85	-13.45
69/ 4/ 3	2440314.5	0.35920	-0.04575	-0.06140	-0.54599	44.39653	23.83161	0.36727	50.39142	352.74	-9.62
69/ 4/ 5	2440316.5	0.35415	0.00588	-0.03323	-8.30262	44.82110	24.85583	0.35575	51.91991	0.95	-5.36
69/ 4/ 7	2440318.5	0.33980	0.05734	-0.00420	-16.60578	44.05462	25.29834	0.34463	53.44687	9.58	-0.70
69/ 4/ 9	2440320.5	0.31566	0.10712	0.02494	-25.21873	41.88245	25.01990	0.33427	54.91921	18.74	4.28
69/ 4/11	2440322.5	0.28156	0.15349	0.05327	-33.78795	38.13093	23.89118	0.32507	56.27061	28.60	9.43
69/ 4/13	2440324.5	0.23780	0.19456	0.07976	-41.84331	32.71964	21.82083	0.31744	57.42461	39.29	14.55
69/ 4/15	2440326.5	0.18530	0.22846	0.10331	-48.83256	25.71888	18.78975	0.31177	58.30209	50.95	19.35
69/ 4/17	2440328.5	0.12562	0.25347	0.12283	-54.19833	17.39089	14.88112	0.30840	58.83324	63.64	23.47
69/ 4/19	2440330.5	0.06090	0.26830	0.13742	-57.48639	8.18790	10.29045	0.30753	58.97135	77.21	26.54
69/ 4/21	2440332.5	-0.00629	0.27227	0.14645	-58.44896	-1.30798	5.30404	0.30922	58.70370	91.32	28.27
69/ 4/23	2440334.5	-0.07323	0.26540	0.14965	-57.09870	-10.48946	0.24840	0.31336	58.05473	105.43	28.53
69/ 4/25	2440336.5	-0.13740	0.24836	0.14712	-53.68921	-18.83369	-4.57042	0.31970	57.08001	118.95	27.40
69/ 4/27	2440338.5	-0.19663	0.22235	0.13928	-48.63589	-25.97568	-8.91428	0.32788	55.85383	131.49	25.14
69/ 4/29	2440340.5	-0.24931	0.18889	0.12677	-42.41633	-31.72783	-12.63365	0.33750	54.45557	142.85	22.06
69/ 5/ 1	2440342.5	-0.29435	0.14961	0.11036	-35.48703	-36.05549	-15.66308	0.34814	52.95904	153.06	18.48
69/ 5/ 3	2440344.5	-0.33117	0.10612	0.09085	-28.23382	-39.03155	-18.00196	0.35942	51.42646	162.23	14.64
69/ 5/ 5	2440346.5	-0.35957	0.05990	0.06902	-20.95416	-40.79012	-19.69157	0.37100	49.90660	170.54	10.72
69/ 5/ 7	2440348.5	-0.37965	0.01229	0.04558	-13.86079	-41.49022	-20.79520	0.38257	48.43552	178.15	6.84
69/ 5/ 9	2440350.5	-0.39171	-0.03560	0.02118	-7.09574	-41.29190	-21.38397	0.39390	47.03875	185.19	3.08
69/ 5/11	2440352.5	-0.39620	-0.08281	-0.00365	-0.74698	-40.34291	-21.52797	0.40478	45.73359	191.81	-0.52
69/ 5/13	2440354.5	-0.39362	-0.12856	-0.02841	5.13625	-38.77279	-21.29151	0.41505	44.53132	198.09	-3.92
69/ 5/15	2440356.5	-0.38452	-0.17219	-0.05271	10.53099	-36.69148	-20.73112	0.42460	43.43899	204.12	-7.13
69/ 5/17	2440358.5	-0.36948	-0.21316	-0.07620	15.43117	-34.19036	-19.89510	0.43331	42.46077	209.98	-10.13
69/ 5/19	2440360.5	-0.34906	-0.25104	-0.09858	19.84082	-31.34439	-18.82402	0.44112	41.59895	215.72	-12.91
69/ 5/21	2440362.5	-0.32383	-0.28546	-0.11961	23.76934	-28.21460	-17.55151	0.44795	40.85463	221.40	-15.49
69/ 5/23	2440364.5	-0.29433	-0.31613	-0.13906	27.22825	-24.85055	-16.10531	0.45377	40.22820	227.05	-17.85
69/ 5/25	2440366.5	-0.26110	-0.34280	-0.15675	30.22902	-21.29254	-14.50817	0.45854	39.71968	232.70	-19.99
69/ 5/27	2440368.5	-0.22467	-0.36526	-0.17253	32.78160	-17.57356	-12.77878	0.46223	39.32888	238.40	-21.92
69/ 5/29	2440370.5	-0.18554	-0.38334	-0.18623	34.89344	-13.72096	-10.93256	0.46482	39.05557	244.17	-23.62
69/ 5/31	2440372.5	-0.14423	-0.39691	-0.19774	36.56879	-9.75794	-8.98236	0.46631	38.89957	250.03	-25.09
69/ 6/ 2	2440374.5	-0.10123	-0.40585	-0.20695	37.80820	-5.70485	-6.93915	0.46668	38.86074	255.99	-26.32
69/ 6/ 4	2440376.5	-0.05705	-0.41007	-0.21374	38.60818	-1.58032	-4.81253	0.46593	38.93904	262.08	-27.31
69/ 6/ 6	2440378.5	-0.01221	-0.40948	-0.21803	38.96083	2.59753	-2.61141	0.46407	39.13455	268.29	-28.02

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
69/ 6/ 8	2440380.5	0.03278	-0.40405	-0.21975	38.85362	6.80999	-0.34451	0.46111	39.44741	274.64	-28.46
69/ 6/10	2440382.5	0.07736	-0.39375	-0.21881	38.26907	11.03649	1.97895	0.45705	39.87784	281.12	-28.60
69/ 6/12	2440384.5	0.12099	-0.37856	-0.21516	37.18462	15.25320	4.34852	0.45193	40.42605	287.72	-28.43
69/ 6/14	2440386.5	0.16306	-0.35852	-0.20875	35.57251	19.43140	6.75166	0.44576	41.09218	294.46	-27.92
69/ 6/16	2440388.5	0.20295	-0.33370	-0.19955	33.39992	23.53545	9.17268	0.43860	41.87613	301.31	-27.06
69/ 6/18	2440390.5	0.23999	-0.30420	-0.18756	30.62944	27.52044	11.59137	0.43048	42.77729	308.27	-25.83
69/ 6/20	2440392.5	0.27347	-0.27019	-0.17279	27.22017	31.32923	13.98132	0.42148	43.79424	315.35	-24.20
69/ 6/22	2440394.5	0.30261	-0.23192	-0.15529	23.12981	34.88902	16.30788	0.41167	44.92415	322.53	-22.16
69/ 6/24	2440396.5	0.32662	-0.18972	-0.13515	18.31830	38.10734	18.52566	0.40118	46.16199	329.85	-19.69
69/ 6/26	2440398.5	0.34464	-0.14406	-0.11255	12.75380	40.86788	20.57565	0.39013	47.49948	337.32	-16.77
69/ 6/28	2440400.5	0.35579	-0.09554	-0.08771	6.42197	43.02677	22.38226	0.37869	48.92351	344.97	-13.39
69/ 6/30	2440402.5	0.35919	-0.04496	-0.06097	-0.66038	44.41057	23.85090	0.36709	50.41429	352.87	-9.56
69/ 7/ 2	2440404.5	0.35400	0.00668	-0.03279	-8.42651	44.81845	24.86714	0.35558	51.94299	1.08	-5.29
69/ 7/ 4	2440406.5	0.33951	0.05812	-0.00375	-16.73629	44.03192	25.29960	0.34447	53.46946	9.71	-0.62
69/ 7/ 6	2440408.5	0.31522	0.10786	0.02538	-25.35131	41.83668	25.00901	0.33413	54.94040	18.89	4.36
69/ 7/ 8	2440410.5	0.28096	0.15416	0.05369	-33.91623	38.06010	23.86642	0.32495	56.28932	28.75	9.51
69/ 7/10	2440412.5	0.23707	0.19514	0.08015	-41.95933	32.62364	21.78132	0.31734	57.43964	39.46	14.63
69/ 7/12	2440414.5	0.18444	0.22891	0.10364	-48.92762	25.60030	18.73599	0.31171	58.31231	51.14	19.42
69/ 7/14	2440416.5	0.12466	0.25377	0.12310	-54.26453	17.25536	14.81530	0.30838	58.83774	63.84	23.53
69/ 7/16	2440418.5	0.05989	0.26844	0.13761	-57.51827	8.04357	10.21640	0.30754	58.96970	77.42	26.58
69/ 7/18	2440420.5	-0.00731	0.27225	0.14655	-58.44484	-1.45175	5.22658	0.30927	58.69603	91.54	28.28
69/ 7/20	2440422.5	-0.07424	0.26521	0.14966	-57.06088	-10.62388	0.17248	0.31344	58.04171	105.64	28.52
69/ 7/22	2440424.5	-0.13834	0.24803	0.14704	-53.62311	-18.95198	-4.64060	0.31981	57.06269	119.15	27.37
69/ 7/24	2440426.5	-0.19748	0.22190	0.13912	-48.54859	-26.07375	-8.97581	0.32801	55.83342	131.67	25.10
69/ 7/26	2440428.5	-0.25005	0.18833	0.12655	-42.31510	-31.80417	-12.68497	0.33765	54.43327	143.01	22.01
69/ 7/28	2440430.5	-0.29497	0.14897	0.11008	-35.37831	-36.11057	-15.70378	0.34831	52.93587	153.20	18.42
69/ 7/30	2440432.5	-0.33166	0.10543	0.09053	-28.12276	-39.06708	-18.03243	0.35960	51.40325	162.36	14.58
69/ 8/ 1	2440434.5	-0.35993	0.05919	0.06867	-20.84455	-40.80839	-19.71264	0.37117	49.88395	170.66	10.66
69/ 8/ 3	2440436.5	-0.37989	0.01156	0.04522	-13.75525	-41.49371	-20.80793	0.38274	48.41389	178.26	6.78
69/ 8/ 5	2440438.5	-0.39184	-0.03632	0.02080	-6.99595	-41.28294	-21.38944	0.39407	47.01843	185.30	3.03
69/ 8/ 7	2440440.5	-0.39621	-0.08352	-0.00402	-0.65393	-40.32361	-21.52721	0.40494	45.71479	191.90	-0.57
69/ 8/ 9	2440442.5	-0.39353	-0.12924	-0.02878	5.22205	-38.74496	-21.28544	0.41520	44.51418	198.18	-3.98
69/ 8/11	2440444.5	-0.38434	-0.17283	-0.05307	10.60934	-36.65663	-20.72052	0.42474	43.42357	204.21	-7.18
69/ 8/13	2440446.5	-0.36921	-0.21376	-0.07655	15.50207	-34.14973	-19.88063	0.43344	42.44712	210.07	-10.17
69/ 8/15	2440448.5	-0.34871	-0.25159	-0.09891	19.90436	-31.29899	-18.80623	0.44123	41.58707	215.81	-12.95
69/ 8/17	2440450.5	-0.32341	-0.28596	-0.11991	23.82567	-28.16525	-17.53086	0.44805	40.84452	221.48	-15.52
69/ 8/19	2440452.5	-0.29385	-0.31657	-0.13934	27.27754	-24.79792	-16.08218	0.45385	40.21987	227.13	-17.88
69/ 8/21	2440454.5	-0.26057	-0.34317	-0.15701	30.27143	-21.23718	-14.48286	0.45860	39.71310	232.79	-20.02
69/ 8/23	2440456.5	-0.22409	-0.36557	-0.17275	32.81725	-17.51592	-12.75156	0.46228	39.32406	238.49	-21.94
69/ 8/25	2440458.5	-0.18493	-0.38358	-0.18642	34.92241	-13.66144	-10.90364	0.46485	39.05252	244.26	-23.64
69/ 8/27	2440460.5	-0.14358	-0.39708	-0.19790	36.59110	-9.69687	-8.95193	0.46632	38.89826	250.12	-25.11
69/ 8/29	2440462.5	-0.10056	-0.40595	-0.20707	37.82383	-5.64252	-6.90735	0.46668	38.86118	256.09	-26.34
69/ 8/31	2440464.5	-0.05637	-0.41009	-0.21382	38.61703	-1.51701	-4.77951	0.46591	38.94124	262.17	-27.32
69/ 9/ 2	2440466.5	-0.01152	-0.40944	-0.21808	38.96275	2.66155	-2.57730	0.46404	39.13850	268.39	-28.03
69/ 9/ 4	2440468.5	0.03346	-0.40393	-0.21975	38.84837	6.87441	-0.30944	0.46105	39.45312	274.74	-28.47

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69/ 9/ 6	2440470.5	0.07804	-0.39355	-0.21877	38.25634	11.10098	2.01482	0.45698	39.88532	281.22	-28.60
69/ 9/ 8	2440472.5	0.12165	-0.37829	-0.21508	37.16402	15.31735	4.38502	0.45184	40.43531	287.83	-28.43
69/ 9/10	2440474.5	0.16369	-0.35818	-0.20863	35.54358	19.49471	6.78857	0.44566	41.10322	294.56	-27.91
69/ 9/12	2440476.5	0.20354	-0.33328	-0.19939	33.36213	23.59731	9.20973	0.43848	41.88894	301.41	-27.05
69/ 9/14	2440478.5	0.24053	-0.30371	-0.18736	30.58218	27.58008	11.62819	0.43035	42.79188	308.38	-25.81
69/ 9/16	2440480.5	0.27395	-0.26963	-0.17254	27.16280	31.38566	14.01746	0.42133	43.81058	315.45	-24.17
69/ 9/18	2440482.5	0.30302	-0.23130	-0.15500	23.06170	34.94099	16.34274	0.41152	44.94218	322.65	-22.13
69/ 9/20	2440484.5	0.32695	-0.18905	-0.13483	18.23889	38.15326	18.55844	0.40101	46.18164	329.96	-19.65
69/ 9/22	2440486.5	0.34487	-0.14334	-0.11219	12.66271	40.90578	20.60533	0.38995	47.52059	337.43	-16.72
69/ 9/24	2440488.5	0.35590	-0.09478	-0.08732	6.31917	43.05422	22.40754	0.37852	48.94584	345.09	-13.34
69/ 9/26	2440490.5	0.35918	-0.04417	-0.06055	-0.77431	44.42469	23.87018	0.36691	50.43747	352.99	-9.50
69/ 9/28	2440492.5	0.35385	0.00747	-0.03235	-8.55003	44.81599	24.87853	0.35541	51.96650	1.21	-5.22
69/ 9/30	2440494.5	0.33921	0.05890	-0.00331	-16.86657	44.00949	25.30097	0.34431	53.49257	9.85	-0.55
69/10/ 2	2440496.5	0.31477	0.10860	0.02582	-25.48383	41.79120	24.99827	0.33398	54.96220	19.03	4.43
69/10/ 4	2440498.5	0.28036	0.15483	0.05412	-34.04462	37.98950	23.84180	0.32482	56.30870	28.91	9.59
69/10/ 6	2440500.5	0.23632	0.19572	0.08054	-42.07560	32.52775	21.74190	0.31724	57.45538	39.63	14.71
69/10/ 8	2440502.5	0.18358	0.22937	0.10397	-49.02304	25.48165	18.68222	0.31164	58.32323	51.33	19.49
69/10/10	2440504.5	0.12370	0.25408	0.12336	-54.33108	17.11955	14.74938	0.30834	58.84292	64.04	23.58
69/10/12	2440506.5	0.05887	0.26858	0.13779	-57.55043	7.89877	10.14212	0.30755	58.96868	77.64	26.62
69/10/14	2440508.5	-0.00835	0.27222	0.14664	-58.44082	-1.59614	5.14880	0.30931	58.68891	91.76	28.30
69/10/16	2440510.5	-0.07525	0.26502	0.14966	-57.02293	-10.75898	0.09619	0.31352	58.02913	105.85	28.51
69/10/18	2440512.5	-0.13929	0.24769	0.14696	-53.55664	-19.07092	-4.71117	0.31992	57.04567	119.35	27.35
69/10/20	2440514.5	-0.19834	0.22144	0.13896	-48.46070	-26.17237	-9.03769	0.32815	55.81319	131.85	25.05
69/10/22	2440516.5	-0.25080	0.18777	0.12632	-42.21309	-31.88090	-12.73658	0.33781	54.41100	143.18	21.96
69/10/24	2440518.5	-0.29560	0.14833	0.10980	-35.26870	-36.16585	-15.74468	0.34848	52.91262	153.35	18.37
69/10/26	2440520.5	-0.33216	0.10474	0.09021	-28.01077	-39.10260	-18.06300	0.35977	51.37985	162.50	14.52
69/10/28	2440522.5	-0.36030	0.05847	0.06832	-20.73405	-40.82650	-19.73372	0.37135	49.86104	170.78	10.60
69/10/30	2440524.5	-0.38013	0.01083	0.04485	-13.64890	-41.49686	-20.82057	0.38292	48.39192	178.37	6.73
69/11/ 1	2440526.5	-0.39196	-0.03705	0.02042	-6.89546	-41.27353	-21.39474	0.39424	46.99773	185.40	2.97
69/11/ 3	2440528.5	-0.39622	-0.08423	-0.00441	-0.56032	-40.30375	-21.52621	0.40510	45.69556	192.00	-0.62
69/11/ 5	2440530.5	-0.39343	-0.12992	-0.02916	5.30825	-38.71649	-21.27906	0.41536	44.49654	198.27	-4.03
69/11/ 7	2440532.5	-0.38415	-0.17348	-0.05344	10.68794	-36.62108	-20.70956	0.42488	43.40762	204.30	-7.23
69/11/ 9	2440534.5	-0.36893	-0.21437	-0.07690	15.57306	-34.10839	-19.86579	0.43356	42.43291	210.16	-10.22
69/11/11	2440536.5	-0.34836	-0.25214	-0.09924	19.96787	-31.25289	-18.78806	0.44134	41.57463	215.90	-13.00
69/11/13	2440538.5	-0.32299	-0.28646	-0.12022	23.88187	-28.11525	-17.50985	0.44814	40.83388	221.57	-15.56
69/11/15	2440540.5	-0.29337	-0.31701	-0.13963	27.32662	-24.74469	-16.05870	0.45393	40.21102	227.22	-17.91
69/11/17	2440542.5	-0.26004	-0.34355	-0.15727	30.31355	-21.18130	-14.45725	0.45867	39.70605	232.88	-20.05
69/11/19	2440544.5	-0.22351	-0.36588	-0.17298	32.85256	-17.45783	-12.72406	0.46232	39.31881	238.58	-21.97
69/11/21	2440546.5	-0.18431	-0.38383	-0.18662	34.95101	-13.60152	-10.87447	0.46489	39.04905	244.35	-23.67
69/11/23	2440548.5	-0.14294	-0.39726	-0.19806	36.61303	-9.63546	-8.92127	0.46634	38.89659	250.21	-25.13
69/11/25	2440550.5	-0.09990	-0.40605	-0.20719	37.83907	-5.57990	-6.87536	0.46667	38.86131	256.18	-26.36
69/11/27	2440552.5	-0.05569	-0.41012	-0.21391	38.62551	-1.45347	-4.74633	0.46589	38.94316	262.27	-27.33
69/11/29	2440554.5	-0.01084	-0.40939	-0.21813	38.96430	2.72573	-2.54305	0.46400	39.14222	268.48	-28.04
69/12/ 1	2440556.5	0.03415	-0.40381	-0.21976	38.84277	6.93895	-0.27427	0.46100	39.45865	274.83	-28.47
69/12/ 3	2440558.5	0.07871	-0.39335	-0.21874	38.24329	11.16553	2.05076	0.45691	39.89266	281.32	-28.60

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
69/12/ 5	2440560.5	0.12230	-0.37802	-0.21500	37.14314	15.38153	4.42156	0.45176	40.44446	287.93	-28.42
69/12/ 7	2440562.5	0.16432	-0.35783	-0.20851	35.51440	19.55803	6.82551	0.44556	41.11419	294.66	-27.90
69/12/ 9	2440564.5	0.20413	-0.33287	-0.19923	33.32411	23.65917	9.24680	0.43836	41.90175	301.52	-27.03
69/12/11	2440566.5	0.24107	-0.30322	-0.18715	30.53474	27.63972	11.66504	0.43022	42.80651	308.49	-25.79
69/12/13	2440568.5	0.27442	-0.26908	-0.17229	27.10529	31.44211	14.05363	0.42119	43.82702	315.56	-24.15
69/12/15	2440570.5	0.30343	-0.23068	-0.15471	22.99346	34.99299	16.37763	0.41136	44.96037	322.76	-22.09
69/12/17	2440572.5	0.32727	-0.18837	-0.13450	18.15933	38.19923	18.59126	0.40085	46.20149	330.08	-19.61
69/12/19	2440574.5	0.34509	-0.14261	-0.11182	12.57142	40.94373	20.63506	0.38978	47.54193	337.55	-16.67
69/12/21	2440576.5	0.35601	-0.09402	-0.08692	6.21612	43.08171	22.43288	0.37834	48.96844	345.21	-13.28
69/12/23	2440578.5	0.35916	-0.04339	-0.06013	-0.88856	44.43883	23.88951	0.36673	50.46096	353.11	-9.44
69/12/25	2440580.5	0.35370	0.00826	-0.03191	-8.67398	44.81351	24.88994	0.35523	51.99036	1.34	-5.15
69/12/27	2440582.5	0.33891	0.05968	-0.00286	-16.99739	43.98697	25.30236	0.34414	53.51611	9.99	-0.48

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
69/12/17	2440572.5	0.32727	-0.18837	-0.13450	18.15933	38.19923	18.59126	0.40085	46.20149	330.08	-19.61
69/12/19	2440574.5	0.34509	-0.14261	-0.11182	12.57142	40.94373	20.63506	0.38978	47.54193	337.55	-16.67
69/12/21	2440576.5	0.35601	-0.09402	-0.08692	6.21612	43.08171	22.43288	0.37834	48.96844	345.21	-13.28
69/12/23	2440578.5	0.35916	-0.04339	-0.06013	-0.88856	44.43883	23.88951	0.36673	50.46096	353.11	-9.44
69/12/25	2440580.5	0.35370	0.00826	-0.03191	-8.67398	44.81351	24.88994	0.35523	51.99036	1.34	-5.15
69/12/27	2440582.5	0.33891	0.05968	-0.00286	-16.99739	43.98697	25.30236	0.34414	53.51611	9.99	-0.48
69/12/29	2440584.5	0.31431	0.10934	0.02626	-25.61699	41.74552	24.98748	0.33382	54.98448	19.18	4.51
69/12/31	2440586.5	0.27975	0.15550	0.05454	-34.17373	37.91854	23.81705	0.32468	56.32860	29.07	9.67
70/ 1/ 2	2440588.5	0.23557	0.19629	0.08092	-42.19260	32.43130	21.70225	0.31713	57.47167	39.80	14.78
70/ 1/ 4	2440590.5	0.18270	0.22981	0.10430	-49.11911	25.36223	18.62811	0.31157	58.33469	51.52	19.56
70/ 1/ 6	2440592.5	0.12273	0.25438	0.12362	-54.39811	16.98275	14.68298	0.30831	58.84860	64.24	23.64
70/ 1/ 8	2440594.5	0.05784	0.26872	0.13796	-57.58280	7.75285	10.06726	0.30755	58.96808	77.85	26.65
70/ 1/10	2440596.5	-0.00939	0.27219	0.14673	-58.43670	-1.74170	5.07039	0.30936	58.68211	91.98	28.31
70/ 1/12	2440598.5	-0.07627	0.26483	0.14966	-56.98454	-10.89521	0.01925	0.31360	58.01676	106.07	28.50
70/ 1/14	2440600.5	-0.14025	0.24735	0.14687	-53.48943	-19.19085	-4.78234	0.32003	57.02875	119.55	27.32
70/ 1/16	2440602.5	-0.19921	0.22096	0.13880	-48.37182	-26.27176	-9.10009	0.32829	55.79292	132.04	25.01
70/ 1/18	2440604.5	-0.25155	0.18719	0.12609	-42.10992	-31.95816	-12.78859	0.33796	54.38858	143.35	21.91
70/ 1/20	2440606.5	-0.29623	0.14768	0.10952	-35.15784	-36.22142	-15.78587	0.34865	52.88911	153.50	18.31
70/ 1/22	2440608.5	-0.33266	0.10404	0.08989	-27.89750	-39.13820	-18.09373	0.35995	51.35613	162.63	14.46
70/ 1/24	2440610.5	-0.36067	0.05773	0.06797	-20.62228	-40.84446	-19.75485	0.37153	49.83777	170.91	10.54
70/ 1/26	2440612.5	-0.38037	0.01008	0.04447	-13.54134	-41.49972	-20.83318	0.38310	48.36958	178.48	6.67
70/ 1/28	2440614.5	-0.39208	-0.03779	0.02004	-6.79385	-41.26369	-21.39994	0.39441	46.97665	185.51	2.91
70/ 1/30	2440616.5	-0.39623	-0.08496	-0.00479	-0.46567	-40.28337	-21.52503	0.40527	45.67596	192.10	-0.68
70/ 2/ 1	2440618.5	-0.39334	-0.13062	-0.02954	5.39541	-38.68742	-21.27246	0.41551	44.47858	198.37	-4.08
70/ 2/ 3	2440620.5	-0.38396	-0.17414	-0.05381	10.76741	-36.58489	-20.69835	0.42502	43.39139	204.40	-7.27
70/ 2/ 5	2440622.5	-0.36865	-0.21498	-0.07726	15.64485	-34.06635	-19.85065	0.43369	42.41846	210.25	-10.26
70/ 2/ 7	2440624.5	-0.34800	-0.25270	-0.09958	20.03211	-31.20607	-18.76959	0.44145	41.56202	215.99	-13.04
70/ 2/ 9	2440626.5	-0.32256	-0.28696	-0.12054	23.93872	-28.06448	-17.48850	0.44824	40.82309	221.66	-15.60
70/ 2/11	2440628.5	-0.29288	-0.31745	-0.13992	27.37626	-24.69068	-16.03487	0.45401	40.20207	227.31	-17.95
70/ 2/13	2440630.5	-0.25949	-0.34393	-0.15752	30.35616	-21.12459	-14.43125	0.45873	39.69894	232.97	-20.08
70/ 2/15	2440632.5	-0.22292	-0.36619	-0.17320	32.88828	-17.39889	-12.69615	0.46237	39.31352	238.67	-22.00
70/ 2/17	2440634.5	-0.18369	-0.38407	-0.18681	34.97992	-13.54074	-10.84488	0.46492	39.04559	244.44	-23.69
70/ 2/19	2440636.5	-0.14228	-0.39743	-0.19822	36.63519	-9.57317	-8.89017	0.46635	38.89496	250.30	-25.15
70/ 2/21	2440638.5	-0.09922	-0.40615	-0.20731	37.85447	-5.51641	-6.84291	0.46667	38.86151	256.27	-26.37
70/ 2/23	2440640.5	-0.05500	-0.41015	-0.21399	38.63405	-1.38904	-4.71268	0.46587	38.94520	262.36	-27.34
70/ 2/25	2440642.5	-0.01014	-0.40934	-0.21817	38.96585	2.79082	-2.50833	0.46396	39.14611	268.58	-28.05
70/ 2/27	2440644.5	0.03484	-0.40369	-0.21976	38.83709	7.00439	-0.23861	0.46095	39.46439	274.93	-28.47
70/ 3/ 1	2440646.5	0.07940	-0.39315	-0.21870	38.23006	11.23100	2.08721	0.45684	39.90025	281.42	-28.60
70/ 3/ 3	2440648.5	0.12296	-0.37774	-0.21492	37.12197	15.44663	4.45863	0.45167	40.45391	288.03	-28.41
70/ 3/ 5	2440650.5	0.16495	-0.35748	-0.20839	35.48482	19.62227	6.86298	0.44545	41.12550	294.77	-27.89
70/ 3/ 7	2440652.5	0.20472	-0.33244	-0.19906	33.28557	23.72193	9.28439	0.43824	41.91490	301.63	-27.02
70/ 3/ 9	2440654.5	0.24162	-0.30273	-0.18694	30.48661	27.70021	11.70241	0.43008	42.82150	308.59	-25.76
70/ 3/11	2440656.5	0.27491	-0.26852	-0.17204	27.04691	31.49933	14.09030	0.42104	43.84381	315.67	-24.12
70/ 3/13	2440658.5	0.30384	-0.23006	-0.15441	22.92418	35.04567	16.41298	0.41120	44.97892	322.87	-22.06
70/ 3/15	2440660.5	0.32759	-0.18769	-0.13417	18.07856	38.24575	18.62450	0.40068	46.22168	330.19	-19.56

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70/ 3/17	2440662.5	0.34531	-0.14188	-0.11145	12.47878	40.98207	20.66513	0.38960	47.56361	337.66	-16.62
70/ 3/19	2440664.5	0.35612	-0.09325	-0.08652	6.11156	43.10939	22.45846	0.37816	48.99136	345.33	-13.23
70/ 3/21	2440666.5	0.35914	-0.04259	-0.05970	-1.00442	44.45291	23.90897	0.36655	50.48474	353.24	-9.37
70/ 3/23	2440668.5	0.35354	0.00907	-0.03146	-8.79958	44.81067	24.90133	0.35505	52.01447	1.47	-5.08
70/ 3/25	2440670.5	0.33860	0.06046	-0.00240	-17.12980	43.96375	25.30353	0.34397	53.53980	10.12	-0.40
70/ 3/27	2440672.5	0.31385	0.11008	0.02671	-25.75158	41.69880	24.97628	0.33367	55.00680	19.33	4.59
70/ 3/29	2440674.5	0.27914	0.15618	0.05497	-34.30394	37.84623	23.79170	0.32455	56.34840	29.23	9.75
70/ 3/31	2440676.5	0.23481	0.19687	0.08131	-42.31028	32.33327	21.66182	0.31703	57.48769	39.98	14.86
70/ 4/ 2	2440678.5	0.18182	0.23027	0.10464	-49.21533	25.24115	18.57313	0.31150	58.34574	51.71	19.63
70/ 4/ 4	2440680.5	0.12175	0.25468	0.12388	-54.46477	16.84441	14.61570	0.30827	58.85375	64.45	23.69
70/ 4/ 6	2440682.5	0.05681	0.26886	0.13814	-57.61434	7.60563	9.99162	0.30756	58.96686	78.07	26.69
70/ 4/ 8	2440684.5	-0.01044	0.27215	0.14682	-58.43145	-1.88819	4.99135	0.30941	58.67464	92.20	28.33
70/ 4/10	2440686.5	-0.07729	0.26463	0.14966	-56.94490	-11.03197	-0.05811	0.31369	58.00370	106.28	28.50
70/ 4/12	2440688.5	-0.14121	0.24700	0.14678	-53.42098	-19.31096	-4.85374	0.32015	57.01117	119.76	27.29
70/ 4/14	2440690.5	-0.20008	0.22049	0.13863	-48.28183	-26.37106	-9.16256	0.32843	55.77204	132.22	24.97
70/ 4/16	2440692.5	-0.25231	0.18662	0.12586	-42.00586	-32.03515	-12.84056	0.33813	54.36564	143.51	21.85
70/ 4/18	2440694.5	-0.29686	0.14703	0.10924	-35.04629	-36.27663	-15.82693	0.34882	52.86519	153.65	18.25
70/ 4/20	2440696.5	-0.33316	0.10333	0.08956	-27.78374	-39.17342	-18.12431	0.36013	51.33209	162.77	14.40
70/ 4/22	2440698.5	-0.36104	0.05700	0.06761	-20.51019	-40.86208	-19.77584	0.37171	49.81427	171.03	10.48
70/ 4/24	2440700.5	-0.38062	0.00934	0.04410	-13.43358	-41.50229	-20.84565	0.38328	48.34710	178.59	6.61
70/ 4/26	2440702.5	-0.39220	-0.03854	0.01965	-6.69212	-41.25361	-21.40501	0.39458	46.95550	185.61	2.85
70/ 4/28	2440704.5	-0.39624	-0.08568	-0.00518	-0.37096	-40.26281	-21.52377	0.40543	45.65637	192.20	-0.73
70/ 4/30	2440706.5	-0.39324	-0.13131	-0.02993	5.48260	-38.65823	-21.26579	0.41567	44.46068	198.47	-4.13
70/ 5/ 2	2440708.5	-0.38376	-0.17479	-0.05418	10.84689	-36.54863	-20.68710	0.42516	43.37526	204.49	-7.32
70/ 5/ 4	2440710.5	-0.36837	-0.21559	-0.07761	15.71664	-34.02429	-19.83551	0.43382	42.40415	210.34	-10.31
70/ 5/ 6	2440712.5	-0.34764	-0.25326	-0.09992	20.09632	-31.15925	-18.75111	0.44157	41.54955	216.07	-13.08
70/ 5/ 8	2440714.5	-0.32213	-0.28746	-0.12085	23.99554	-28.01375	-17.46716	0.44834	40.81247	221.74	-15.64
70/ 5/10	2440716.5	-0.29239	-0.31789	-0.14020	27.42588	-24.63672	-16.01106	0.45410	40.19330	227.39	-17.98
70/ 5/12	2440718.5	-0.25895	-0.34430	-0.15778	30.39876	-21.06795	-14.40528	0.45880	39.69200	233.05	-20.11
70/ 5/14	2440720.5	-0.22234	-0.36650	-0.17343	32.92399	-17.34004	-12.66829	0.46242	39.30842	238.76	-22.03
70/ 5/16	2440722.5	-0.18306	-0.38431	-0.18700	35.00884	-13.48006	-10.81533	0.46495	39.04232	244.53	-23.72
70/ 5/18	2440724.5	-0.14163	-0.39760	-0.19838	36.65736	-9.51099	-8.85913	0.46637	38.89351	250.39	-25.17
70/ 5/20	2440726.5	-0.09854	-0.40625	-0.20744	37.86986	-5.45302	-6.81053	0.46667	38.86187	256.37	-26.39
70/ 5/22	2440728.5	-0.05431	-0.41017	-0.21408	38.64259	-1.32474	-4.67910	0.46585	38.94738	262.46	-27.36
70/ 5/24	2440730.5	-0.00944	-0.40929	-0.21822	38.96737	2.85575	-2.47369	0.46393	39.15010	268.68	-28.06
70/ 5/26	2440732.5	0.03553	-0.40356	-0.21977	38.83135	7.06966	-0.20304	0.46089	39.47018	275.03	-28.48
70/ 5/28	2440734.5	0.08008	-0.39295	-0.21866	38.21677	11.29627	2.12356	0.45677	39.90785	281.52	-28.60
70/ 5/30	2440736.5	0.12363	-0.37747	-0.21485	37.10073	15.51149	4.49558	0.45158	40.46333	288.13	-28.41
70/ 6/ 1	2440738.5	0.16558	-0.35713	-0.20827	35.45517	19.68624	6.90032	0.44535	41.13674	294.87	-27.88
70/ 6/ 3	2440740.5	0.20532	-0.33202	-0.19890	33.24696	23.78438	9.32184	0.43812	41.92796	301.73	-27.00
70/ 6/ 5	2440742.5	0.24216	-0.30224	-0.18673	30.43843	27.76034	11.73959	0.42995	42.83634	308.70	-25.74
70/ 6/ 7	2440744.5	0.27539	-0.26796	-0.17179	26.98852	31.55613	14.12675	0.42089	43.86040	315.78	-24.09
70/ 6/ 9	2440746.5	0.30424	-0.22943	-0.15412	22.85493	35.09786	16.44808	0.41104	44.99719	322.98	-22.02
70/ 6/11	2440748.5	0.32791	-0.18701	-0.13383	17.99791	38.29171	18.65742	0.40051	46.24153	330.30	-19.52
70/ 6/13	2440750.5	0.34553	-0.14115	-0.11109	12.38636	41.01979	20.69485	0.38943	47.58489	337.78	-16.57

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70/ 6/15	2440752.5	0.35623	-0.09248	-0.08612	6.00740	43.13641	22.48365	0.37798	49.01381	345.45	-13.17
70/ 6/17	2440754.5	0.35912	-0.04180	-0.05928	-1.11970	44.46634	23.92801	0.36637	50.50800	353.36	-9.31
70/ 6/19	2440756.5	0.35338	0.00986	-0.03102	-8.92438	44.80722	24.91232	0.35488	52.03802	1.60	-5.01
70/ 6/21	2440758.5	0.33830	0.06125	-0.00195	-17.26119	43.94004	25.30434	0.34380	53.56291	10.26	-0.33
70/ 6/23	2440760.5	0.31339	0.11083	0.02716	-25.88492	41.65176	24.96479	0.33352	55.02853	19.48	4.67
70/ 6/25	2440762.5	0.27853	0.15686	0.05539	-34.43274	37.77387	23.76617	0.32442	56.36763	29.39	9.83
70/ 6/27	2440764.5	0.23406	0.19745	0.08169	-42.42644	32.23553	21.62140	0.31693	57.50319	40.15	14.94
70/ 6/29	2440766.5	0.18094	0.23072	0.10497	-49.31006	25.12072	18.51835	0.31143	58.35634	51.89	19.70
70/ 7/ 1	2440768.5	0.12079	0.25498	0.12414	-54.53012	16.70709	14.54885	0.30824	58.85855	64.65	23.75
70/ 7/ 3	2440770.5	0.05578	0.26899	0.13832	-57.64491	7.45974	9.91660	0.30757	58.96543	78.28	26.73
70/ 7/ 5	2440772.5	-0.01148	0.27212	0.14691	-58.42566	-2.03320	4.91307	0.30945	58.66712	92.42	28.34
70/ 7/ 7	2440774.5	-0.07830	0.26443	0.14965	-56.90522	-11.16723	-0.13466	0.31377	57.99076	106.49	28.49
70/ 7/ 9	2440776.5	-0.14216	0.24666	0.14670	-53.35296	-19.42970	-4.92437	0.32026	56.99387	119.96	27.26
70/ 7/11	2440778.5	-0.20094	0.22002	0.13847	-48.19265	-26.46925	-9.22435	0.32857	55.75160	132.40	24.92
70/ 7/13	2440780.5	-0.25306	0.18605	0.12563	-41.90282	-32.11133	-12.89198	0.33828	54.34323	143.68	21.80
70/ 7/15	2440782.5	-0.29748	0.14639	0.10895	-34.93587	-36.33132	-15.86760	0.34899	52.84184	153.80	18.19
70/ 7/17	2440784.5	-0.33365	0.10263	0.08924	-27.67112	-39.20836	-18.15463	0.36031	51.30864	162.90	14.34
70/ 7/19	2440786.5	-0.36140	0.05627	0.06726	-20.39918	-40.87962	-19.79666	0.37189	49.79134	171.15	10.42
70/ 7/21	2440788.5	-0.38086	0.00860	0.04373	-13.32679	-41.50492	-20.85805	0.38345	48.32515	178.71	6.55
70/ 7/23	2440790.5	-0.39232	-0.03927	0.01927	-6.59123	-41.24372	-21.41010	0.39475	46.93486	185.72	2.80
70/ 7/25	2440792.5	-0.39625	-0.08640	-0.00556	-0.27697	-40.24251	-21.52257	0.40559	45.63724	192.30	-0.79
70/ 7/27	2440794.5	-0.39314	-0.13200	-0.03031	5.56918	-38.62935	-21.25923	0.41582	44.44320	198.56	-4.18
70/ 7/29	2440796.5	-0.38357	-0.17544	-0.05455	10.92587	-36.51270	-20.67598	0.42530	43.35952	204.58	-7.37
70/ 7/31	2440798.5	-0.36809	-0.21619	-0.07797	15.78801	-33.98256	-19.82049	0.43395	42.39018	210.43	-10.35
70/ 8/ 2	2440800.5	-0.34728	-0.25382	-0.10025	20.16020	-31.11274	-18.73277	0.44168	41.53737	216.16	-13.12
70/ 8/ 4	2440802.5	-0.32170	-0.28796	-0.12116	24.05210	-27.96330	-17.44595	0.44844	40.80210	221.83	-15.68
70/ 8/ 6	2440804.5	-0.29190	-0.31833	-0.14049	27.47530	-24.58301	-15.98737	0.45418	40.18473	227.48	-18.02
70/ 8/ 8	2440806.5	-0.25841	-0.34468	-0.15804	30.44119	-21.01155	-14.37942	0.45886	39.68525	233.14	-20.15
70/ 8/10	2440808.5	-0.22175	-0.36681	-0.17366	32.95958	-17.28141	-12.64053	0.46247	39.30349	238.85	-22.06
70/ 8/12	2440810.5	-0.18243	-0.38455	-0.18720	35.03767	-13.41959	-10.78589	0.46498	39.03920	244.62	-23.74
70/ 8/14	2440812.5	-0.14097	-0.39777	-0.19854	36.67946	-9.44901	-8.82819	0.46638	38.89220	250.49	-25.19
70/ 8/16	2440814.5	-0.09787	-0.40635	-0.20756	37.88520	-5.38986	-6.77825	0.46667	38.86237	256.46	-26.41
70/ 8/18	2440816.5	-0.05362	-0.41019	-0.21416	38.65107	-1.26066	-4.64562	0.46583	38.94966	262.55	-27.37
70/ 8/20	2440818.5	-0.00875	-0.40924	-0.21826	38.96883	2.92045	-2.43916	0.46389	39.15416	268.78	-28.07
70/ 8/22	2440820.5	0.03623	-0.40344	-0.21977	38.82557	7.13468	-0.16760	0.46084	39.47602	275.13	-28.48
70/ 8/24	2440822.5	0.08076	-0.39275	-0.21863	38.20343	11.36126	2.15976	0.45670	39.91547	281.62	-28.60
70/ 8/26	2440824.5	0.12429	-0.37719	-0.21477	37.07945	15.57603	4.53236	0.45149	40.47271	288.24	-28.40
70/ 8/28	2440826.5	0.16622	-0.35679	-0.20814	35.42549	19.74981	6.93745	0.44525	41.14788	294.98	-27.87
70/ 8/30	2440828.5	0.20591	-0.33160	-0.19873	33.20834	23.84635	9.35902	0.43801	41.94083	301.84	-26.98
70/ 9/ 1	2440830.5	0.24270	-0.30174	-0.18652	30.39029	27.81992	11.77648	0.42982	42.85094	308.81	-25.72
70/ 9/ 3	2440832.5	0.27587	-0.26740	-0.17154	26.93024	31.61232	14.16285	0.42075	43.87668	315.89	-24.06
70/ 9/ 5	2440834.5	0.30465	-0.22881	-0.15383	22.78590	35.14937	16.48278	0.41089	45.01508	323.09	-21.99
70/ 9/ 7	2440836.5	0.32823	-0.18633	-0.13350	17.91760	38.33693	18.68992	0.40035	46.26093	330.42	-19.48
70/ 9/ 9	2440838.5	0.34576	-0.14043	-0.11072	12.29446	41.05672	20.72409	0.38926	47.60563	337.90	-16.53
70/ 9/11	2440840.5	0.35634	-0.09172	-0.08572	5.90398	43.16261	22.50833	0.37781	49.03562	345.57	-13.11

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70/ 9/13	2440842.5	0.35911	-0.04102	-0.05886	-1.23395	44.47892	23.94650	0.36620	50.53050	353.48	-9.25
70/ 9/15	2440844.5	0.35323	0.01065	-0.03058	-9.04782	44.80298	24.92274	0.35471	52.06067	1.73	-4.95
70/ 9/17	2440846.5	0.33800	0.06202	-0.00151	-17.39083	43.91569	25.30462	0.34365	53.58501	10.40	-0.25
70/ 9/19	2440848.5	0.31294	0.11156	0.02759	-26.01614	41.60440	24.95291	0.33338	55.04918	19.62	4.75
70/ 9/21	2440850.5	0.27793	0.15752	0.05581	-34.55910	37.70165	23.74046	0.32430	56.38577	29.54	9.91
70/ 9/23	2440852.5	0.23332	0.19801	0.08207	-42.53999	32.13854	21.58110	0.31683	57.51765	40.32	15.01
70/ 9/25	2440854.5	0.18008	0.23116	0.10529	-49.40225	25.00175	18.46408	0.31137	58.36602	52.08	19.76
70/ 9/27	2440856.5	0.11984	0.25527	0.12440	-54.59326	16.57190	14.48291	0.30822	58.86260	64.85	23.80
70/ 9/29	2440858.5	0.05478	0.26912	0.13849	-57.67387	7.31652	9.84284	0.30758	58.96345	78.49	26.76
70/10/ 1	2440860.5	-0.01250	0.27208	0.14699	-58.41907	-2.17520	4.83630	0.30950	58.65926	92.63	28.35
70/10/ 3	2440862.5	-0.07929	0.26424	0.14965	-56.86558	-11.29946	-0.20959	0.31386	57.97772	106.70	28.48
70/10/ 5	2440864.5	-0.14308	0.24632	0.14661	-53.28580	-19.54563	-4.99339	0.32038	56.97668	120.15	27.23
70/10/ 7	2440866.5	-0.20177	0.21956	0.13831	-48.10499	-26.56502	-9.28468	0.32871	55.73146	132.58	24.88
70/10/ 9	2440868.5	-0.25378	0.18549	0.12541	-41.80181	-32.18560	-12.94217	0.33844	54.32130	143.84	21.75
70/10/11	2440870.5	-0.29809	0.14575	0.10868	-34.82779	-36.38464	-15.90730	0.34916	52.81911	153.94	18.13
70/10/13	2440872.5	-0.33413	0.10195	0.08892	-27.56095	-39.24247	-18.18424	0.36048	51.28590	163.03	14.28
70/10/15	2440874.5	-0.36176	0.05556	0.06692	-20.29060	-40.89681	-19.81705	0.37206	49.76920	171.27	10.36
70/10/17	2440876.5	-0.38108	0.00788	0.04336	-13.22232	-41.50761	-20.87025	0.38362	48.30402	178.82	6.49
70/10/19	2440878.5	-0.39243	-0.03999	0.01890	-6.49249	-41.23420	-21.41516	0.39492	46.91504	185.82	2.74
70/10/21	2440880.5	-0.39625	-0.08710	-0.00594	-0.18491	-40.22283	-21.52150	0.40575	45.61892	192.40	-0.84
70/10/23	2440882.5	-0.39304	-0.13268	-0.03068	5.65405	-38.60127	-21.25292	0.41596	44.42649	198.65	-4.23
70/10/25	2440884.5	-0.38337	-0.17608	-0.05491	11.00335	-36.47768	-20.66519	0.42543	43.34449	204.67	-7.42
70/10/27	2440886.5	-0.36781	-0.21679	-0.07831	15.85809	-33.94183	-19.80588	0.43407	42.37687	210.52	-10.39
70/10/29	2440888.5	-0.34693	-0.25436	-0.10058	20.22296	-31.06729	-18.71487	0.44179	41.52579	216.25	-13.16
70/10/31	2440890.5	-0.32128	-0.28845	-0.12147	24.10770	-27.91395	-17.42523	0.44853	40.79226	221.92	-15.71
70/11/ 2	2440892.5	-0.29141	-0.31876	-0.14077	27.52390	-24.53042	-15.96418	0.45425	40.17663	227.57	-18.05
70/11/ 4	2440894.5	-0.25787	-0.34505	-0.15829	30.48295	-20.95626	-14.35409	0.45892	39.67890	233.23	-20.18
70/11/ 6	2440896.5	-0.22117	-0.36711	-0.17388	32.99460	-17.22387	-12.61330	0.46251	39.29887	238.93	-22.08
70/11/ 8	2440898.5	-0.18181	-0.38479	-0.18739	35.06604	-13.36018	-10.75697	0.46501	39.03631	244.71	-23.76
70/11/10	2440900.5	-0.14032	-0.39793	-0.19869	36.70117	-9.38806	-8.79775	0.46639	38.89103	250.58	-25.22
70/11/12	2440902.5	-0.09720	-0.40644	-0.20768	37.90022	-5.32765	-6.74646	0.46666	38.86290	256.55	-26.43
70/11/14	2440904.5	-0.05294	-0.41022	-0.21424	38.65929	-1.19749	-4.61261	0.46581	38.95190	262.65	-27.38
70/11/16	2440906.5	-0.00806	-0.40919	-0.21830	38.97009	2.98430	-2.40507	0.46385	39.15812	268.87	-28.08
70/11/18	2440908.5	0.03691	-0.40331	-0.21978	38.81964	7.19890	-0.13257	0.46078	39.48172	275.23	-28.49
70/11/20	2440910.5	0.08144	-0.39255	-0.21859	38.19001	11.42548	2.19557	0.45663	39.92291	281.72	-28.60
70/11/22	2440912.5	0.12495	-0.37692	-0.21469	37.05816	15.63986	4.56876	0.45141	40.48193	288.34	-28.40
70/11/24	2440914.5	0.16684	-0.35644	-0.20802	35.39587	19.81275	6.97423	0.44515	41.15887	295.08	-27.86
70/11/26	2440916.5	0.20650	-0.33118	-0.19857	33.16986	23.90777	9.39590	0.43789	41.95359	301.94	-26.97
70/11/28	2440918.5	0.24324	-0.30125	-0.18632	30.34234	27.87904	11.81309	0.42969	42.86546	308.92	-25.70
70/11/30	2440920.5	0.27635	-0.26684	-0.17129	26.87219	31.66813	14.19874	0.42061	43.89293	316.00	-24.03
70/12/ 2	2440922.5	0.30506	-0.22819	-0.15354	22.71712	35.20061	16.51732	0.41074	45.03301	323.20	-21.95
70/12/ 4	2440924.5	0.32855	-0.18566	-0.13318	17.83756	38.38200	18.72230	0.40019	46.28045	330.53	-19.44
70/12/ 6	2440926.5	0.34597	-0.13970	-0.11036	12.20280	41.09360	20.75328	0.38909	47.62657	338.01	-16.48
70/12/ 8	2440928.5	0.35644	-0.09096	-0.08533	5.80072	43.18887	22.53302	0.37763	49.05776	345.68	-13.06
70/12/10	2440930.5	0.35908	-0.04024	-0.05843	-1.34815	44.49167	23.96508	0.36603	50.55345	353.61	-9.19

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70/12/12	2440932.5	0.35307	0.01144	-0.03014	-9.17138	44.79900	24.93331	0.35454	52.08392	1.86	-4.88
70/12/14	2440934.5	0.33769	0.06279	-0.00106	-17.52081	43.89161	25.30509	0.34348	53.60783	10.53	-0.18
70/12/16	2440936.5	0.31248	0.11229	0.02803	-26.14793	41.55722	24.94118	0.33323	55.07067	19.77	4.83
70/12/18	2440938.5	0.27732	0.15818	0.05622	-34.68624	37.62943	23.71483	0.32417	56.40481	29.70	9.99
70/12/20	2440940.5	0.23257	0.19858	0.08245	-42.65447	32.04127	21.54076	0.31673	57.53305	40.49	15.09
70/12/22	2440942.5	0.17921	0.23159	0.10562	-49.49539	24.88216	18.40958	0.31130	58.37661	52.27	19.83
70/12/24	2440944.5	0.11888	0.25556	0.12465	-54.65721	16.43574	14.41653	0.30819	58.86748	65.05	23.86
70/12/26	2440946.5	0.05376	0.26925	0.13867	-57.70336	7.17204	9.76846	0.30759	58.96218	78.71	26.80
70/12/28	2440948.5	-0.01353	0.27204	0.14708	-58.41262	-2.31864	4.75878	0.30955	58.65199	92.85	28.37
70/12/30	2440950.5	-0.08029	0.26404	0.14965	-56.82565	-11.43313	-0.28532	0.31394	57.96510	106.91	28.47
71/ 1/ 1	2440952.5	-0.14402	0.24597	0.14652	-53.21793	-19.66288	-5.06320	0.32049	56.95974	120.35	27.21
71/ 1/ 3	2440954.5	-0.20262	0.21909	0.13814	-48.01626	-26.66187	-9.34571	0.32884	55.71138	132.76	24.84
71/ 1/ 5	2440956.5	-0.25452	0.18492	0.12518	-41.69944	-32.26063	-12.99291	0.33859	54.29924	144.00	21.70
71/ 1/ 7	2440958.5	-0.29870	0.14511	0.10839	-34.71820	-36.43837	-15.94737	0.34932	52.79609	154.09	18.08
71/ 1/ 9	2440960.5	-0.33462	0.10126	0.08860	-27.44925	-39.27664	-18.21406	0.36065	51.26273	163.16	14.22
71/ 1/11	2440962.5	-0.36211	0.05484	0.06656	-20.18054	-40.91375	-19.83746	0.37224	49.74650	171.39	10.30
71/ 1/13	2440964.5	-0.38132	0.00714	0.04299	-13.11652	-41.50979	-20.88231	0.38380	48.28226	178.93	6.43
71/ 1/15	2440966.5	-0.39255	-0.04072	0.01852	-6.39259	-41.22397	-21.41997	0.39509	46.89452	185.92	2.69
71/ 1/17	2440968.5	-0.39625	-0.08781	-0.00632	-0.09190	-40.20231	-21.52008	0.40591	45.59987	192.50	-0.89
71/ 1/19	2440970.5	-0.39294	-0.13336	-0.03105	5.73968	-38.57226	-21.24619	0.41611	44.40905	198.75	-4.28
71/ 1/21	2440972.5	-0.38318	-0.17673	-0.05528	11.08141	-36.44169	-20.65395	0.42557	43.32874	204.76	-7.46
71/ 1/23	2440974.5	-0.36753	-0.21739	-0.07866	15.92859	-33.90011	-19.79079	0.43419	42.36287	210.60	-10.44
71/ 1/25	2440976.5	-0.34657	-0.25491	-0.10091	20.28602	-31.02087	-18.69648	0.44190	41.51356	216.34	-13.20
71/ 1/27	2440978.5	-0.32085	-0.28895	-0.12178	24.16349	-27.86364	-17.40401	0.44863	40.78181	222.01	-15.75
71/ 1/29	2440980.5	-0.29093	-0.31920	-0.14105	27.57258	-24.47690	-15.94051	0.45433	40.16796	227.65	-18.09
71/ 1/31	2440982.5	-0.25733	-0.34542	-0.15855	30.52467	-20.90007	-14.32827	0.45899	39.67201	233.31	-20.21
71/ 2/ 2	2440984.5	-0.22058	-0.36742	-0.17410	33.02951	-17.16548	-12.58559	0.46256	39.29376	239.02	-22.11
71/ 2/ 4	2440986.5	-0.18119	-0.38502	-0.18758	35.09421	-13.29996	-10.72759	0.46504	39.03299	244.80	-23.79
71/ 2/ 6	2440988.5	-0.13967	-0.39810	-0.19885	36.72267	-9.32635	-8.76689	0.46640	38.88950	250.67	-25.24
71/ 2/ 8	2440990.5	-0.09653	-0.40654	-0.20780	37.91501	-5.26475	-6.71427	0.46666	38.86319	256.64	-26.44
71/ 2/10	2440992.5	-0.05225	-0.41024	-0.21433	38.66731	-1.13368	-4.57924	0.46579	38.95402	262.74	-27.40
71/ 2/12	2440994.5	-0.00737	-0.40913	-0.21835	38.97117	3.04875	-2.37064	0.46381	39.16206	268.97	-28.08
71/ 2/14	2440996.5	0.03760	-0.40318	-0.21978	38.81354	7.26368	-0.09722	0.46073	39.48749	275.33	-28.49
71/ 2/16	2440998.5	0.08211	-0.39235	-0.21855	38.17642	11.49028	2.23170	0.45656	39.93051	281.82	-28.60
71/ 2/18	2441000.5	0.12560	-0.37664	-0.21460	37.03667	15.70426	4.60549	0.45132	40.49135	288.44	-28.39
71/ 2/20	2441002.5	0.16747	-0.35609	-0.20790	35.36600	19.87625	7.01134	0.44504	41.17012	295.19	-27.85
71/ 2/22	2441004.5	0.20708	-0.33075	-0.19840	33.13107	23.96977	9.43312	0.43777	41.96667	302.05	-26.95
71/ 2/24	2441006.5	0.24378	-0.30076	-0.18611	30.29403	27.93874	11.85006	0.42956	42.88035	309.03	-25.67
71/ 2/26	2441008.5	0.27682	-0.26628	-0.17104	26.81370	31.72453	14.23498	0.42046	43.90962	316.11	-24.00
71/ 2/28	2441010.5	0.30546	-0.22757	-0.15325	22.64782	35.25242	16.55222	0.41058	45.05145	323.31	-21.92
71/ 3/ 2	2441012.5	0.32886	-0.18498	-0.13284	17.75686	38.42761	18.75505	0.40002	46.30053	330.64	-19.40
71/ 3/ 4	2441014.5	0.34619	-0.13898	-0.10999	12.11032	41.13098	20.78283	0.38892	47.64812	338.13	-16.43
71/ 3/ 6	2441016.5	0.35654	-0.09020	-0.08493	5.69647	43.21554	22.55803	0.37745	49.08052	345.80	-13.00
71/ 3/ 8	2441018.5	0.35906	-0.03945	-0.05801	-1.46354	44.50469	23.98392	0.36585	50.57705	353.73	-9.12
71/ 3/10	2441020.5	0.35290	0.01223	-0.02970	-9.29628	44.79505	24.94404	0.35436	52.10779	1.99	-4.81

1.1 1 A.U.=149,599,000 KM.

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71/ 3/12	2441022.5	0.33738	0.06357	-0.00061	-17.65225	43.86728	25.30556	0.34332	53.63125	10.67	-0.10
71/ 3/14	2441024.5	0.31202	0.11302	0.02848	-26.28120	41.50944	24.92928	0.33308	55.09268	19.91	4.90
71/ 3/16	2441026.5	0.27670	0.15885	0.05664	-34.81476	37.55623	23.68883	0.32404	56.42427	29.86	10.07
71/ 3/18	2441028.5	0.23181	0.19914	0.08284	-42.77007	31.94266	21.49981	0.31663	57.54871	40.67	15.17
71/ 3/20	2441030.5	0.17833	0.23203	0.10594	-49.58923	24.76096	18.35429	0.31123	58.38730	52.46	19.90
71/ 3/22	2441032.5	0.11790	0.25585	0.12490	-54.72136	16.29784	14.34924	0.30816	58.87230	65.26	23.91
71/ 3/24	2441034.5	0.05273	0.26937	0.13884	-57.73251	7.02587	9.69314	0.30760	58.96069	78.92	26.83
71/ 3/26	2441036.5	-0.01457	0.27200	0.14716	-58.40532	-2.46356	4.68038	0.30960	58.64432	93.07	28.38
71/ 3/28	2441038.5	-0.08131	0.26383	0.14964	-56.78450	-11.56796	-0.36180	0.31402	57.95194	107.13	28.46
71/ 3/30	2441040.5	-0.14497	0.24562	0.14643	-53.14859	-19.78090	-5.13357	0.32060	56.94217	120.55	27.18
71/ 4/ 1	2441042.5	-0.20348	0.21861	0.13797	-47.92599	-26.75913	-9.40711	0.32898	55.69062	132.95	24.80
71/ 4/ 3	2441044.5	-0.25526	0.18434	0.12494	-41.59560	-32.33576	-13.04386	0.33875	54.27649	144.16	21.64
71/ 4/ 5	2441046.5	-0.29932	0.14446	0.10811	-34.60724	-36.49200	-15.98752	0.34949	52.77242	154.24	18.02
71/ 4/ 7	2441048.5	-0.33510	0.10056	0.08827	-27.33634	-39.31057	-18.24386	0.36083	51.23899	163.30	14.16
71/ 4/ 9	2441050.5	-0.36247	0.05410	0.06621	-20.06946	-40.93037	-19.85780	0.37242	49.72334	171.51	10.24
71/ 4/11	2441052.5	-0.38155	0.00640	0.04262	-13.00982	-41.51160	-20.89427	0.38398	48.26012	179.04	6.37
71/ 4/13	2441054.5	-0.39266	-0.04146	0.01814	-6.29194	-41.21336	-21.42465	0.39526	46.87371	186.03	2.63
71/ 4/15	2441056.5	-0.39625	-0.08853	-0.00671	0.00176	-40.18138	-21.51851	0.40607	45.58059	192.59	-0.95
71/ 4/17	2441058.5	-0.39284	-0.13405	-0.03143	5.82586	-38.54283	-21.23930	0.41627	44.39142	198.84	-4.33
71/ 4/19	2441060.5	-0.38298	-0.17738	-0.05565	11.15993	-36.40529	-20.64253	0.42571	43.31285	204.85	-7.51
71/ 4/21	2441062.5	-0.36725	-0.21799	-0.07902	15.99947	-33.85800	-19.77551	0.43432	42.34876	210.69	-10.48
71/ 4/23	2441064.5	-0.34621	-0.25547	-0.10125	20.34939	-30.97406	-18.67793	0.44201	41.50127	216.42	-13.24
71/ 4/25	2441066.5	-0.32042	-0.28944	-0.12209	24.21952	-27.81298	-17.38263	0.44872	40.77135	222.09	-15.79
71/ 4/27	2441068.5	-0.29043	-0.31963	-0.14134	27.62147	-24.42307	-15.91669	0.45441	40.15934	227.74	-18.12
71/ 4/29	2441070.5	-0.25678	-0.34579	-0.15880	30.56659	-20.84361	-14.30233	0.45905	39.66521	233.40	-20.24
71/ 5/ 1	2441072.5	-0.21999	-0.36772	-0.17433	33.06459	-17.10682	-12.55777	0.46261	39.28877	239.11	-22.14
71/ 5/ 3	2441074.5	-0.18057	-0.38526	-0.18777	35.12254	-13.23949	-10.69810	0.46507	39.02981	244.89	-23.81
71/ 5/ 5	2441076.5	-0.13902	-0.39827	-0.19900	36.74426	-9.26440	-8.73591	0.46642	38.88812	250.76	-25.26
71/ 5/ 7	2441078.5	-0.09585	-0.40663	-0.20792	37.92985	-5.20161	-6.68196	0.46665	38.86360	256.74	-26.46
71/ 5/ 9	2441080.5	-0.05157	-0.41026	-0.21441	38.67530	-1.06963	-4.54573	0.46577	38.95621	262.84	-27.41
71/ 5/11	2441082.5	-0.00668	-0.40908	-0.21839	38.97216	3.11342	-2.33608	0.46377	39.16605	269.06	-28.09
71/ 5/13	2441084.5	0.03829	-0.40305	-0.21978	38.80729	7.32868	-0.06174	0.46067	39.49328	275.43	-28.50
71/ 5/15	2441086.5	0.08279	-0.39215	-0.21851	38.16262	11.55525	2.26794	0.45649	39.93812	281.92	-28.60
71/ 5/17	2441088.5	0.12626	-0.37636	-0.21452	37.01495	15.76881	4.64232	0.45123	40.50078	288.54	-28.39
71/ 5/19	2441090.5	0.16810	-0.35573	-0.20777	35.33589	19.93989	7.04854	0.44494	41.18138	295.29	-27.84
71/ 5/21	2441092.5	0.20767	-0.33033	-0.19823	33.09202	24.03186	9.47042	0.43765	41.97976	302.16	-26.93
71/ 5/23	2441094.5	0.24431	-0.30026	-0.18590	30.24541	27.99849	11.88708	0.42942	42.89525	309.13	-25.65
71/ 5/25	2441096.5	0.27730	-0.26572	-0.17078	26.75487	31.78092	14.27125	0.42032	43.92628	316.22	-23.97
71/ 5/27	2441098.5	0.30586	-0.22694	-0.15295	22.57813	35.30416	16.58711	0.41042	45.06980	323.42	-21.88
71/ 5/29	2441100.5	0.32918	-0.18429	-0.13251	17.67575	38.47305	18.78774	0.39985	46.32048	330.76	-19.35
71/ 5/31	2441102.5	0.34640	-0.13825	-0.10962	12.01746	41.16810	20.81227	0.38874	47.66952	338.24	-16.38
71/ 6/ 2	2441104.5	0.35664	-0.08943	-0.08453	5.59187	43.24186	22.58290	0.37728	49.10311	345.92	-12.95
71/ 6/ 4	2441106.5	0.35903	-0.03866	-0.05758	-1.57920	44.51729	24.00257	0.36567	50.60046	353.85	-9.06
71/ 6/ 6	2441108.5	0.35274	0.01303	-0.02926	-9.42136	44.79065	24.95454	0.35419	52.13150	2.12	-4.74
71/ 6/ 8	2441110.5	0.33706	0.06435	-0.00017	-17.78375	43.84247	25.30579	0.34315	53.65452	10.81	-0.03

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71/ 6/10	2441112.5	0.31155	0.11376	0.02892	-26.41439	41.46118	24.91711	0.33293	55.11454	20.06	4.98
71/ 6/12	2441114.5	0.27608	0.15951	0.05706	-34.94305	37.48257	23.66255	0.32391	56.44356	30.02	10.15
71/ 6/14	2441116.5	0.23105	0.19971	0.08322	-42.88526	31.84367	21.45861	0.31653	57.56420	40.84	15.24
71/ 6/16	2441118.5	0.17745	0.23247	0.10627	-49.68252	24.63949	18.29879	0.31117	58.39780	52.65	19.97
71/ 6/18	2441120.5	0.11693	0.25614	0.12516	-54.78485	16.15985	14.28182	0.30813	58.87691	65.46	23.97
71/ 6/20	2441122.5	0.05171	0.26949	0.13901	-57.76098	6.87980	9.61780	0.30761	58.95901	79.14	26.87
71/ 6/22	2441124.5	-0.01561	0.27195	0.14724	-58.39742	-2.60821	4.60207	0.30965	58.63652	93.28	28.39
71/ 6/24	2441126.5	-0.08232	0.26362	0.14963	-56.74290	-11.70239	-0.43810	0.31411	57.93872	107.34	28.45
71/ 6/26	2441128.5	-0.14592	0.24527	0.14634	-53.07901	-19.89846	-5.20372	0.32072	56.92459	120.75	27.15
71/ 6/28	2441130.5	-0.20433	0.21813	0.13781	-47.83565	-26.85593	-9.46828	0.32912	55.66991	133.13	24.75
71/ 6/30	2441132.5	-0.25600	0.18377	0.12471	-41.49183	-32.41050	-13.09458	0.33891	54.25385	144.33	21.59
71/ 7/ 2	2441134.5	-0.29993	0.14381	0.10782	-34.49647	-36.54527	-16.02747	0.34967	52.74887	154.38	17.96
71/ 7/ 4	2441136.5	-0.33559	0.09985	0.08795	-27.22366	-39.34420	-18.27348	0.36101	51.21537	163.43	14.10
71/ 7/ 6	2441138.5	-0.36283	0.05338	0.06586	-19.95863	-40.94673	-19.87798	0.37260	49.70026	171.63	10.18
71/ 7/ 8	2441140.5	-0.38178	0.00566	0.04225	-12.90340	-41.51321	-20.90609	0.38415	48.23804	179.15	6.31
71/ 7/10	2441142.5	-0.39277	-0.04219	0.01775	-6.19154	-41.20258	-21.42921	0.39543	46.85295	186.13	2.57
71/ 7/12	2441144.5	-0.39625	-0.08924	-0.00709	0.09516	-40.16034	-21.51686	0.40624	45.56136	192.69	-1.00
71/ 7/14	2441146.5	-0.39273	-0.13473	-0.03181	5.91180	-38.51334	-21.23235	0.41642	44.37386	198.94	-4.38
71/ 7/16	2441148.5	-0.38278	-0.17803	-0.05602	11.23824	-36.36886	-20.63107	0.42585	43.29704	204.94	-7.56
71/ 7/18	2441150.5	-0.36696	-0.21860	-0.07937	16.07018	-33.81588	-19.76023	0.43445	42.33475	210.78	-10.53
71/ 7/20	2441152.5	-0.34584	-0.25602	-0.10158	20.41263	-30.92727	-18.65936	0.44212	41.48907	216.51	-13.28
71/ 7/22	2441154.5	-0.31999	-0.28994	-0.12240	24.27544	-27.76233	-17.36125	0.44882	40.76097	222.18	-15.83
71/ 7/24	2441156.5	-0.28994	-0.32007	-0.14162	27.67027	-24.36921	-15.89286	0.45449	40.15078	227.83	-18.16
71/ 7/26	2441158.5	-0.25624	-0.34616	-0.15906	30.60844	-20.78711	-14.27635	0.45912	39.65847	233.49	-20.27
71/ 7/28	2441160.5	-0.21940	-0.36803	-0.17455	33.09961	-17.04813	-12.52992	0.46266	39.28386	239.20	-22.17
71/ 7/30	2441162.5	-0.17994	-0.38550	-0.18796	35.15083	-13.17899	-10.66859	0.46510	39.02673	244.98	-23.84
71/ 8/ 1	2441164.5	-0.13837	-0.39843	-0.19916	36.76586	-9.20242	-8.70491	0.46643	38.88687	250.85	-25.28
71/ 8/ 3	2441166.5	-0.09518	-0.40672	-0.20803	37.94473	-5.13844	-6.64963	0.46665	38.86416	256.83	-26.48
71/ 8/ 5	2441168.5	-0.05088	-0.41028	-0.21449	38.68335	-1.00555	-4.51221	0.46575	38.95860	262.93	-27.42
71/ 8/ 7	2441170.5	-0.00598	-0.40903	-0.21843	38.97321	3.17813	-2.30150	0.46373	39.17025	269.16	-28.10
71/ 8/ 9	2441172.5	0.03898	-0.40292	-0.21978	38.80111	7.39372	-0.02625	0.46062	39.49929	275.53	-28.50
71/ 8/11	2441174.5	0.08347	-0.39194	-0.21847	38.14889	11.62028	2.30421	0.45641	39.94594	282.02	-28.60
71/ 8/13	2441176.5	0.12692	-0.37608	-0.21444	36.99327	15.83342	4.67918	0.45114	40.51041	288.65	-28.38
71/ 8/15	2441178.5	0.16872	-0.35538	-0.20765	35.30577	20.00356	7.08576	0.44484	41.19282	295.40	-27.83
71/ 8/17	2441180.5	0.20826	-0.32990	-0.19807	33.05292	24.09396	9.50772	0.43753	41.99299	302.26	-26.92
71/ 8/19	2441182.5	0.24485	-0.29977	-0.18569	30.19674	28.05821	11.92410	0.42929	42.91026	309.24	-25.63
71/ 8/21	2441184.5	0.27777	-0.26515	-0.17053	26.69597	31.83724	14.30749	0.42017	43.94302	316.33	-23.95
71/ 8/23	2441186.5	0.30626	-0.22632	-0.15266	22.50838	35.35577	16.62194	0.41027	45.08821	323.54	-21.85
71/ 8/25	2441188.5	0.32949	-0.18361	-0.13218	17.59460	38.51832	18.82035	0.39968	46.34045	330.87	-19.31
71/ 8/27	2441190.5	0.34661	-0.13751	-0.10925	11.92457	41.20499	20.84159	0.38857	47.69086	338.36	-16.33
71/ 8/29	2441192.5	0.35674	-0.08866	-0.08413	5.48729	43.26786	22.60758	0.37710	49.12556	346.04	-12.89
71/ 8/31	2441194.5	0.35900	-0.03787	-0.05716	-1.69476	44.52946	24.02097	0.36549	50.62363	353.98	-9.00
71/ 9/ 2	2441196.5	0.35257	0.01382	-0.02881	-9.54620	44.78569	24.96473	0.35401	52.15482	2.25	-4.67
71/ 9/ 4	2441198.5	0.33675	0.06512	0.00028	-17.91481	43.81703	25.30563	0.34299	53.67725	10.95	0.05
71/ 9/ 6	2441200.5	0.31108	0.11450	0.02936	-26.54688	41.41229	24.90454	0.33278	55.13575	20.21	5.06

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71/ 9/ 8	2441202.5	0.27546	0.16018	0.05748	-35.07033	37.40841	23.63590	0.32379	56.46214	30.18	10.23
71/ 9/10	2441204.5	0.23029	0.20027	0.08360	-42.99921	31.74442	21.41715	0.31644	57.57894	41.01	15.32
71/ 9/12	2441206.5	0.17657	0.23291	0.10659	-49.77441	24.51812	18.24322	0.31110	58.40758	52.83	20.04
71/ 9/14	2441208.5	0.11596	0.25642	0.12541	-54.84697	16.02237	14.21455	0.30810	58.88089	65.67	24.02
71/ 9/16	2441210.5	0.05069	0.26962	0.13918	-57.78828	6.73463	9.54283	0.30763	58.95681	79.35	26.90
71/ 9/18	2441212.5	-0.01664	0.27191	0.14732	-58.38871	-2.75165	4.52431	0.30970	58.62834	93.50	28.40
71/ 9/20	2441214.5	-0.08332	0.26342	0.14963	-56.70091	-11.83548	-0.51373	0.31419	57.92526	107.55	28.44
71/ 9/22	2441216.5	-0.14685	0.24491	0.14624	-53.00947	-20.01470	-5.27316	0.32084	56.90693	120.95	27.12
71/ 9/24	2441218.5	-0.20517	0.21766	0.13764	-47.74575	-26.95155	-9.52876	0.32927	55.64926	133.31	24.71
71/ 9/26	2441220.5	-0.25673	0.18319	0.12448	-41.38880	-32.48425	-13.14470	0.33907	54.23137	144.49	21.54
71/ 9/28	2441222.5	-0.30054	0.14316	0.10754	-34.38663	-36.59782	-16.06694	0.34984	52.72558	154.53	17.90
71/ 9/30	2441224.5	-0.33607	0.09916	0.08763	-27.11201	-39.37737	-18.30275	0.36118	51.19208	163.56	14.04
71/10/ 2	2441226.5	-0.36318	0.05265	0.06550	-19.84884	-40.96289	-19.89794	0.37278	49.67759	171.75	10.12
71/10/ 4	2441228.5	-0.38201	0.00493	0.04188	-12.79797	-41.51482	-20.91781	0.38433	48.21642	179.26	6.26
71/10/ 6	2441230.5	-0.39288	-0.04292	0.01737	-6.09207	-41.19199	-21.43378	0.39560	46.83268	186.23	2.52
71/10/ 8	2441232.5	-0.39624	-0.08995	-0.00747	0.18776	-40.13961	-21.51528	0.40640	45.54263	192.79	-1.05
71/10/10	2441234.5	-0.39263	-0.13541	-0.03219	5.99704	-38.48424	-21.22553	0.41657	44.35679	199.03	-4.43
71/10/12	2441236.5	-0.38258	-0.17867	-0.05638	11.31594	-36.33289	-20.61979	0.42599	43.28169	205.03	-7.61
71/10/14	2441238.5	-0.36667	-0.21919	-0.07972	16.14035	-33.77425	-19.74514	0.43457	42.32117	210.87	-10.57
71/10/16	2441240.5	-0.34548	-0.25656	-0.10191	20.47538	-30.88099	-18.64102	0.44223	41.47727	216.60	-13.32
71/10/18	2441242.5	-0.31956	-0.29043	-0.12271	24.33095	-27.71222	-17.34011	0.44891	40.75097	222.27	-15.86
71/10/20	2441244.5	-0.28945	-0.32050	-0.14190	27.71870	-24.31595	-15.86930	0.45457	40.14258	227.91	-18.19
71/10/22	2441246.5	-0.25570	-0.34653	-0.15931	30.64996	-20.73123	-14.25068	0.45918	39.65206	233.58	-20.30
71/10/24	2441248.5	-0.21882	-0.36833	-0.17477	33.13435	-16.99009	-12.50239	0.46270	39.27924	239.29	-22.19
71/10/26	2441250.5	-0.17932	-0.38573	-0.18815	35.17885	-13.11916	-10.63941	0.46513	39.02385	245.07	-23.86
71/10/28	2441252.5	-0.13772	-0.39859	-0.19931	36.78718	-9.14113	-8.67426	0.46644	38.88573	250.94	-25.30
71/10/30	2441254.5	-0.09450	-0.40681	-0.20815	37.95931	-5.07600	-6.61766	0.46664	38.86475	256.92	-26.49
71/11/ 1	2441256.5	-0.05019	-0.41029	-0.21457	38.69109	-0.94225	-4.47908	0.46573	38.96089	263.03	-27.43
71/11/ 3	2441258.5	-0.00529	-0.40897	-0.21847	38.97396	3.24201	-2.26734	0.46370	39.17424	269.26	-28.11
71/11/ 5	2441260.5	0.03967	-0.40279	-0.21978	38.79463	7.45785	0.00879	0.46056	39.50498	275.62	-28.50
71/11/ 7	2441262.5	0.08414	-0.39174	-0.21843	38.13489	11.68431	2.33996	0.45634	39.95333	282.12	-28.60
71/11/ 9	2441264.5	0.12757	-0.37581	-0.21436	36.97138	15.89692	4.71547	0.45106	40.51951	288.75	-28.37
71/11/11	2441266.5	0.16935	-0.35503	-0.20753	35.27554	20.06604	7.12236	0.44474	41.20361	295.50	-27.82
71/11/13	2441268.5	0.20885	-0.32948	-0.19790	33.01383	24.15478	9.54434	0.43742	42.00548	302.37	-26.90
71/11/15	2441270.5	0.24538	-0.29928	-0.18548	30.14820	28.11656	11.96037	0.42916	42.92442	309.35	-25.61
71/11/17	2441272.5	0.27824	-0.26460	-0.17028	26.63740	31.89212	14.34293	0.42003	43.95882	316.44	-23.92
71/11/19	2441274.5	0.30666	-0.22570	-0.15237	22.43918	35.40590	16.65593	0.41012	45.10560	323.65	-21.81
71/11/21	2441276.5	0.32980	-0.18294	-0.13185	17.51430	38.56209	18.85207	0.39953	46.35932	330.98	-19.27
71/11/23	2441278.5	0.34683	-0.13680	-0.10889	11.83288	41.24041	20.87000	0.38841	47.71106	338.47	-16.28
71/11/25	2441280.5	0.35684	-0.08791	-0.08373	5.38432	43.29252	22.63138	0.37693	49.14685	346.16	-12.84
71/11/27	2441282.5	0.35898	-0.03709	-0.05674	-1.80829	44.54053	24.03858	0.36532	50.64565	354.10	-8.94
71/11/29	2441284.5	0.35241	0.01460	-0.02838	-9.66862	44.78002	24.97427	0.35385	52.17707	2.37	-4.60
71/12/ 1	2441286.5	0.33644	0.06588	0.00072	-18.04311	43.79139	25.30509	0.34283	53.69904	11.08	0.12
71/12/ 3	2441288.5	0.31062	0.11521	0.02979	-26.67642	41.36385	24.89190	0.33264	55.15620	20.35	5.14
71/12/ 5	2441290.5	0.27486	0.16082	0.05789	-35.19471	37.33540	23.60957	0.32367	56.48019	30.33	10.30

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

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71/12/ 7	2441292.5	0.22955	0.20082	0.08397	-43.11051	31.64703	21.37641	0.31634	57.59341	41.18	15.39
71/12/ 9	2441294.5	0.17571	0.23333	0.10691	-49.86419	24.39921	18.18873	0.31104	58.41737	53.02	20.10
71/12/11	2441296.5	0.11501	0.25670	0.12566	-54.90770	15.88775	14.14867	0.30808	58.88515	65.87	24.07
71/12/13	2441298.5	0.04969	0.26973	0.13934	-57.81504	6.59246	9.46940	0.30764	58.95514	79.56	26.93
71/12/15	2441300.5	-0.01764	0.27185	0.14740	-58.38031	-2.89225	4.44811	0.30975	58.62091	93.71	28.42
71/12/17	2441302.5	-0.08429	0.26321	0.14961	-56.65999	-11.96611	-0.58794	0.31427	57.91276	107.76	28.43
71/12/19	2441304.5	-0.14777	0.24456	0.14615	-52.94154	-20.12901	-5.34140	0.32095	56.89037	121.14	27.09
71/12/21	2441306.5	-0.20600	0.21719	0.13747	-47.65775	-27.04582	-9.58833	0.32940	55.62979	133.48	24.67
71/12/23	2441308.5	-0.25745	0.18263	0.12425	-41.28774	-32.55720	-13.19419	0.33922	54.21010	144.65	21.49
71/12/25	2441310.5	-0.30113	0.14252	0.10726	-34.27868	-36.65002	-16.10602	0.35000	52.70347	154.67	17.85
71/12/27	2441312.5	-0.33653	0.09847	0.08730	-27.00207	-39.41052	-18.33183	0.36135	51.16988	163.69	13.98
71/12/29	2441314.5	-0.36352	0.05194	0.06516	-19.74052	-40.97924	-19.91785	0.37295	49.65589	171.87	10.06
71/12/31	2441316.5	-0.38222	0.00420	0.04151	-12.69377	-41.51677	-20.92958	0.38449	48.19565	179.37	6.20
72/ 1/ 2	2441318.5	-0.39298	-0.04364	0.01700	-5.99360	-41.18179	-21.43845	0.39576	46.81315	186.34	2.46
72/ 1/ 4	2441320.5	-0.39623	-0.09066	-0.00785	0.27954	-40.11930	-21.51385	0.40655	45.52452	192.89	-1.11
72/ 1/ 6	2441322.5	-0.39251	-0.13609	-0.03256	6.08163	-38.45556	-21.21887	0.41671	44.34023	199.12	-4.48
72/ 1/ 8	2441324.5	-0.38237	-0.17931	-0.05675	11.39314	-36.29728	-20.60866	0.42612	43.26676	205.12	-7.65
72/ 1/10	2441326.5	-0.36638	-0.21979	-0.08007	16.21014	-33.73292	-19.73018	0.43469	42.30790	210.96	-10.61
72/ 1/12	2441328.5	-0.34511	-0.25711	-0.10224	20.53784	-30.83493	-18.62277	0.44233	41.46568	216.69	-13.36
72/ 1/14	2441330.5	-0.31912	-0.29092	-0.12301	24.38622	-27.66224	-17.31901	0.44900	40.74108	222.35	-15.90
72/ 1/16	2441332.5	-0.28896	-0.32092	-0.14218	27.76694	-24.26271	-15.84573	0.45465	40.13439	228.00	-18.22
72/ 1/18	2441334.5	-0.25515	-0.34689	-0.15956	30.69131	-20.67528	-14.22495	0.45924	39.64559	233.66	-20.33
72/ 1/20	2441336.5	-0.21823	-0.36863	-0.17499	33.16891	-16.93188	-12.47476	0.46274	39.27448	239.37	-22.22
72/ 1/22	2441338.5	-0.17869	-0.38596	-0.18834	35.20670	-13.05909	-10.61008	0.46515	39.02083	245.16	-23.88
72/ 1/24	2441340.5	-0.13706	-0.39876	-0.19947	36.80834	-9.07953	-8.64342	0.46645	38.88445	251.03	-25.32
72/ 1/26	2441342.5	-0.09383	-0.40690	-0.20827	37.97374	-5.01316	-6.58547	0.46664	38.86522	257.01	-26.51
72/ 1/28	2441344.5	-0.04950	-0.41031	-0.21465	38.69871	-0.87847	-4.44568	0.46570	38.96313	263.12	-27.45
72/ 1/30	2441346.5	-0.00460	-0.40891	-0.21851	38.97459	3.30643	-2.23288	0.46366	39.17827	269.36	-28.12
72/ 2/ 1	2441348.5	0.04036	-0.40266	-0.21978	38.78804	7.52261	0.04418	0.46051	39.51081	275.72	-28.51
72/ 2/ 3	2441350.5	0.08482	-0.39153	-0.21839	38.12075	11.74905	2.37612	0.45627	39.96096	282.22	-28.60
72/ 2/ 5	2441352.5	0.12823	-0.37552	-0.21428	36.94929	15.96123	4.75221	0.45097	40.52893	288.85	-28.37
72/ 2/ 7	2441354.5	0.16998	-0.35467	-0.20740	35.24503	20.12939	7.15945	0.44463	41.21483	295.61	-27.80
72/ 2/ 9	2441356.5	0.20943	-0.32905	-0.19773	32.97435	24.21654	9.58150	0.43730	42.01849	302.48	-26.88
72/ 2/11	2441358.5	0.24592	-0.29878	-0.18527	30.09915	28.17594	11.99723	0.42903	42.93921	309.46	-25.58
72/ 2/13	2441360.5	0.27872	-0.26403	-0.17003	26.57814	31.94808	14.37902	0.41989	43.97537	316.55	-23.89
72/ 2/15	2441362.5	0.30705	-0.22507	-0.15208	22.36909	35.45715	16.69060	0.40996	45.12385	323.76	-21.77
72/ 2/17	2441364.5	0.33011	-0.18226	-0.13152	17.43284	38.60698	18.88450	0.39936	46.37917	331.10	-19.23
72/ 2/19	2441366.5	0.34704	-0.13607	-0.10852	11.73972	41.27689	20.89913	0.38823	47.73233	338.59	-16.23
72/ 2/21	2441368.5	0.35694	-0.08714	-0.08333	5.27952	43.31808	22.65586	0.37675	49.16927	346.28	-12.78
72/ 2/23	2441370.5	0.35895	-0.03631	-0.05632	-1.92402	44.55223	24.05675	0.36515	50.66883	354.22	-8.87
72/ 2/25	2441372.5	0.35224	0.01539	-0.02794	-9.79357	44.77458	24.98421	0.35368	52.20046	2.50	-4.53
72/ 2/27	2441374.5	0.33612	0.06666	0.00117	-18.17420	43.76544	25.30466	0.34267	53.72189	11.22	0.20
72/ 2/29	2441376.5	0.31015	0.11594	0.03023	-26.80885	41.31443	24.87904	0.33249	55.17756	20.50	5.22
72/ 3/ 2	2441378.5	0.27423	0.16148	0.05831	-35.32183	37.26070	23.58262	0.32354	56.49895	30.49	10.38
72/ 3/ 4	2441380.5	0.22879	0.20138	0.08434	-43.22417	31.54726	21.33463	0.31624	57.60838	41.35	15.47

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72/ 3/ 6	2441382.5	0.17483	0.23376	0.10723	-49.95567	24.27737	18.13286	0.31098	58.42739	53.21	20.17
72/ 3/ 8	2441384.5	0.11404	0.25698	0.12590	-54.96927	15.74987	14.08112	0.30805	58.88937	66.07	24.12
72/ 3/10	2441386.5	0.04867	0.26984	0.13951	-57.84170	6.44700	9.39420	0.30765	58.95318	79.78	26.97
72/ 3/12	2441388.5	-0.01868	0.27180	0.14748	-58.37090	-3.03587	4.37019	0.30980	58.61294	93.93	28.43
72/ 3/14	2441390.5	-0.08530	0.26299	0.14960	-56.61731	-12.09924	-0.66366	0.31436	57.89949	107.97	28.42
72/ 3/16	2441392.5	-0.14870	0.24421	0.14605	-52.87133	-20.24518	-5.41087	0.32106	56.87286	121.34	27.06
72/ 3/18	2441394.5	-0.20684	0.21671	0.13730	-47.56723	-27.14127	-9.64879	0.32954	55.60926	133.67	24.62
72/ 3/20	2441396.5	-0.25818	0.18205	0.12401	-41.18413	-32.63073	-13.24425	0.33938	54.18770	144.81	21.43
72/ 3/22	2441398.5	-0.30174	0.14187	0.10697	-34.16831	-36.70228	-16.14538	0.35017	52.68021	154.82	17.79
72/ 3/24	2441400.5	-0.33701	0.09777	0.08698	-26.88997	-39.44335	-18.36096	0.36153	51.14659	163.82	13.92
72/ 3/26	2441402.5	-0.36387	0.05121	0.06480	-19.63035	-40.99501	-19.93765	0.37312	49.63317	171.99	10.00
72/ 3/28	2441404.5	-0.38245	0.00346	0.04114	-12.58802	-41.51795	-20.94110	0.38467	48.17394	179.48	6.14
72/ 3/30	2441406.5	-0.39308	-0.04437	0.01662	-5.89387	-41.17073	-21.44279	0.39593	46.79274	186.44	2.41
72/ 4/ 1	2441408.5	-0.39623	-0.09137	-0.00823	0.37233	-40.09807	-21.51203	0.40671	45.50562	192.99	-1.16
72/ 4/ 3	2441410.5	-0.39240	-0.13677	-0.03294	6.16700	-38.42594	-21.21179	0.41686	44.32296	199.22	-4.53
72/ 4/ 5	2441412.5	-0.38217	-0.17995	-0.05711	11.47093	-36.26076	-20.59710	0.42626	43.25119	205.21	-7.70
72/ 4/ 7	2441414.5	-0.36609	-0.22039	-0.08042	16.28035	-33.69074	-19.71480	0.43481	42.29408	211.05	-10.66
72/ 4/ 9	2441416.5	-0.34475	-0.25765	-0.10257	20.60060	-30.78809	-18.60413	0.44244	41.45364	216.77	-13.40
72/ 4/11	2441418.5	-0.31869	-0.29141	-0.12332	24.44169	-27.61156	-17.29756	0.44910	40.73083	222.44	-15.94
72/ 4/13	2441420.5	-0.28846	-0.32136	-0.14246	27.81530	-24.20886	-15.82186	0.45473	40.12594	228.09	-18.26
72/ 4/15	2441422.5	-0.25460	-0.34726	-0.15982	30.73272	-20.61881	-14.19895	0.45930	39.63894	233.75	-20.36
72/ 4/17	2441424.5	-0.21764	-0.36893	-0.17522	33.20350	-16.87322	-12.44688	0.46279	39.26962	239.46	-22.25
72/ 4/19	2441426.5	-0.17807	-0.38619	-0.18853	35.23456	-12.99862	-10.58054	0.46518	39.01777	245.25	-23.91
72/ 4/21	2441428.5	-0.13641	-0.39892	-0.19962	36.82950	-9.01758	-8.61240	0.46646	38.88318	251.12	-25.34
72/ 4/23	2441430.5	-0.09315	-0.40699	-0.20839	37.98817	-4.95001	-6.55311	0.46663	38.86576	257.11	-26.52
72/ 4/25	2441432.5	-0.04882	-0.41033	-0.21473	38.70631	-0.81440	-4.41213	0.46568	38.96548	263.22	-27.46
72/ 4/27	2441434.5	-0.00391	-0.40885	-0.21855	38.97520	3.37113	-2.19826	0.46362	39.18243	269.45	-28.13
72/ 4/29	2441436.5	0.04105	-0.40253	-0.21978	38.78141	7.58763	0.07971	0.46045	39.51678	275.82	-28.51
72/ 5/ 1	2441438.5	0.08550	-0.39132	-0.21835	38.10656	11.81405	2.41242	0.45620	39.96875	282.32	-28.60
72/ 5/ 3	2441440.5	0.12888	-0.37524	-0.21419	36.92713	16.02579	4.78909	0.45088	40.53855	288.96	-28.36
72/ 5/ 5	2441442.5	0.17060	-0.35432	-0.20727	35.21442	20.19302	7.19671	0.44453	41.22628	295.71	-27.79
72/ 5/ 7	2441444.5	0.21002	-0.32862	-0.19756	32.93473	24.27860	9.61884	0.43718	42.03176	302.58	-26.87
72/ 5/ 9	2441446.5	0.24645	-0.29828	-0.18505	30.04991	28.23561	12.03428	0.42890	42.95429	309.57	-25.56
72/ 5/11	2441448.5	0.27919	-0.26346	-0.16977	26.51863	32.00433	14.41529	0.41974	43.99222	316.66	-23.86
72/ 5/13	2441450.5	0.30745	-0.22444	-0.15178	22.29866	35.50867	16.72546	0.40980	45.14241	323.87	-21.74
72/ 5/15	2441452.5	0.33042	-0.18157	-0.13118	17.35094	38.65211	18.91711	0.39919	46.39933	331.21	-19.18
72/ 5/17	2441454.5	0.34724	-0.13533	-0.10815	11.64601	41.31356	20.92842	0.38806	47.75393	338.71	-16.18
72/ 5/19	2441456.5	0.35703	-0.08637	-0.08293	5.17405	43.34377	22.68048	0.37657	49.19205	346.40	-12.72
72/ 5/21	2441458.5	0.35891	-0.03551	-0.05589	-2.04053	44.56398	24.07503	0.36497	50.69240	354.35	-8.81
72/ 5/23	2441460.5	0.35206	0.01619	-0.02750	-9.91940	44.76907	24.99419	0.35350	52.22426	2.63	-4.46
72/ 5/25	2441462.5	0.33580	0.06743	0.00162	-18.30625	43.73925	25.30420	0.34250	53.74517	11.36	0.27
72/ 5/27	2441464.5	0.30967	0.11668	0.03067	-26.94225	41.26456	24.86603	0.33234	55.19935	20.65	5.30
72/ 5/29	2441466.5	0.27360	0.16214	0.05873	-35.44985	37.18530	23.55537	0.32342	56.51809	30.65	10.46
72/ 5/31	2441468.5	0.22801	0.20194	0.08472	-43.33853	31.44654	21.29242	0.31615	57.62361	41.53	15.54
72/ 6/ 2	2441470.5	0.17394	0.23419	0.10755	-50.04754	24.15439	18.07641	0.31091	58.43755	53.40	20.24

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72/ 6/ 4	2441472.5	0.11306	0.25726	0.12615	-55.03087	15.61079	14.01293	0.30802	58.89359	66.28	24.18
72/ 6/ 6	2441474.5	0.04764	0.26996	0.13968	-57.86798	6.30040	9.31835	0.30766	58.95108	79.99	27.00
72/ 6/ 8	2441476.5	-0.01972	0.27175	0.14755	-58.36078	-3.18045	4.29168	0.30985	58.60473	94.15	28.44
72/ 6/10	2441478.5	-0.08631	0.26278	0.14959	-56.57368	-12.23310	-0.73987	0.31445	57.88590	108.18	28.41
72/ 6/12	2441480.5	-0.14965	0.24384	0.14596	-52.80007	-20.36181	-5.48069	0.32118	56.85498	121.54	27.03
72/ 6/14	2441482.5	-0.20769	0.21622	0.13713	-47.47563	-27.23694	-9.70948	0.32968	55.58831	133.85	24.58
72/ 6/16	2441484.5	-0.25891	0.18146	0.12378	-41.07949	-32.70425	-13.29442	0.33954	54.16488	144.97	21.38
72/ 6/18	2441486.5	-0.30235	0.14122	0.10668	-34.05701	-36.75440	-16.18476	0.35034	52.65655	154.96	17.73
72/ 6/20	2441488.5	-0.33749	0.09707	0.08665	-26.77704	-39.47592	-18.39003	0.36171	51.12291	163.95	13.86
72/ 6/22	2441490.5	-0.36422	0.05048	0.06444	-19.51945	-41.01044	-19.95733	0.37330	49.61008	172.11	9.94
72/ 6/24	2441492.5	-0.38267	0.00272	0.04077	-12.48167	-41.51875	-20.95248	0.38484	48.15190	179.59	6.08
72/ 6/26	2441494.5	-0.39319	-0.04511	0.01623	-5.79364	-41.15926	-21.44697	0.39610	46.77204	186.54	2.35
72/ 6/28	2441496.5	-0.39622	-0.09209	-0.00861	0.46553	-40.07643	-21.51002	0.40687	45.48646	193.08	-1.21
72/ 6/30	2441498.5	-0.39229	-0.13746	-0.03332	6.25271	-38.39592	-21.20453	0.41701	44.30548	199.31	-4.58
72/ 7/ 2	2441500.5	-0.38196	-0.18060	-0.05748	11.54900	-36.22387	-20.58537	0.42640	43.23547	205.31	-7.75
72/ 7/ 4	2441502.5	-0.36580	-0.22099	-0.08077	16.35082	-33.64820	-19.69927	0.43494	42.28016	211.14	-10.70
72/ 7/ 6	2441504.5	-0.34438	-0.25820	-0.10290	20.66360	-30.74091	-18.58533	0.44255	41.44156	216.86	-13.45
72/ 7/ 8	2441506.5	-0.31825	-0.29190	-0.12363	24.49740	-27.56056	-17.27597	0.44919	40.72058	222.53	-15.98
72/ 7/10	2441508.5	-0.28797	-0.32179	-0.14275	27.86389	-24.15469	-15.79782	0.45480	40.11754	228.17	-18.29
72/ 7/12	2441510.5	-0.25406	-0.34763	-0.16007	30.77435	-20.56200	-14.17279	0.45936	39.63237	233.84	-20.39
72/ 7/14	2441512.5	-0.21704	-0.36923	-0.17544	33.23831	-16.81423	-12.41884	0.46284	39.26488	239.55	-22.27
72/ 7/16	2441514.5	-0.17744	-0.38642	-0.18872	35.26262	-12.93781	-10.55083	0.46521	39.01486	245.34	-23.93
72/ 7/18	2441516.5	-0.13575	-0.39908	-0.19977	36.85083	-8.95527	-8.58120	0.46648	38.88210	251.21	-25.36
72/ 7/20	2441518.5	-0.09248	-0.40708	-0.20850	38.00275	-4.88651	-6.52058	0.46662	38.86650	257.20	-26.54
72/ 7/22	2441520.5	-0.04813	-0.41034	-0.21481	38.71402	-0.74999	-4.37840	0.46566	38.96804	263.31	-27.47
72/ 7/24	2441522.5	-0.00321	-0.40879	-0.21859	38.97587	3.43618	-2.16347	0.46358	39.18681	269.55	-28.13
72/ 7/26	2441524.5	0.04174	-0.40239	-0.21978	38.77480	7.65302	0.11544	0.46039	39.52299	275.92	-28.51
72/ 7/28	2441526.5	0.08618	-0.39111	-0.21830	38.09233	11.87943	2.44892	0.45612	39.97679	282.43	-28.59
72/ 7/30	2441528.5	0.12954	-0.37495	-0.21411	36.90490	16.09073	4.82619	0.45079	40.54843	289.06	-28.36
72/ 8/ 1	2441530.5	0.17123	-0.35395	-0.20714	35.18370	20.25702	7.23417	0.44442	41.23800	295.82	-27.78
72/ 8/ 3	2441532.5	0.21061	-0.32819	-0.19739	32.89495	24.34101	9.65638	0.43706	42.04531	302.69	-26.85
72/ 8/ 5	2441534.5	0.24699	-0.29777	-0.18484	30.00045	28.29561	12.07152	0.42876	42.96964	309.67	-25.54
72/ 8/ 7	2441536.5	0.27966	-0.26289	-0.16951	26.45882	32.06087	14.45174	0.41959	44.00933	316.77	-23.83
72/ 8/ 9	2441538.5	0.30785	-0.22381	-0.15148	22.22786	35.56040	16.76047	0.40964	45.16119	323.98	-21.70
72/ 8/11	2441540.5	0.33073	-0.18088	-0.13084	17.26860	38.69736	18.94983	0.39902	46.41967	331.33	-19.14
72/ 8/13	2441542.5	0.34745	-0.13459	-0.10777	11.55180	41.35022	20.95776	0.38788	47.77565	338.82	-16.13
72/ 8/15	2441544.5	0.35712	-0.08560	-0.08252	5.06807	43.36931	22.70506	0.37640	49.21486	346.52	-12.66
72/ 8/17	2441546.5	0.35887	-0.03472	-0.05546	-2.15752	44.57539	24.09317	0.36479	50.71589	354.47	-8.74
72/ 8/19	2441548.5	0.35188	0.01699	-0.02705	-10.04561	44.76302	25.00393	0.35333	52.24786	2.76	-4.39
72/ 8/21	2441550.5	0.33547	0.06822	0.00207	-18.43848	43.71237	25.30339	0.34234	53.76811	11.49	0.35
72/ 8/23	2441552.5	0.30919	0.11741	0.03112	-27.07555	41.21388	24.85258	0.33220	55.22065	20.79	5.38
72/ 8/25	2441554.5	0.27297	0.16281	0.05915	-35.57742	37.10909	23.52765	0.32329	56.53661	30.81	10.54
72/ 8/27	2441556.5	0.22724	0.20250	0.08510	-43.45208	31.34514	21.24976	0.31605	57.63812	41.71	15.62
72/ 8/29	2441558.5	0.17305	0.23462	0.10787	-50.13827	24.03101	18.01963	0.31085	58.44693	53.59	20.31
72/ 8/31	2441560.5	0.11208	0.25754	0.12641	-55.09112	15.47170	13.94461	0.30800	58.89701	66.48	24.23

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
72/ 9/ 2	2441562.5	0.04661	0.27007	0.13984	-57.89292	6.15423	9.24260	0.30768	58.94820	80.21	27.03
72/ 9/ 4	2441564.5	-0.02075	0.27169	0.14763	-58.34950	-3.32419	4.21351	0.30991	58.59580	94.37	28.45
72/ 9/ 6	2441566.5	-0.08731	0.26256	0.14958	-56.52924	-12.36580	-0.81555	0.31454	57.87169	108.39	28.40
72/ 9/ 8	2441568.5	-0.15058	0.24348	0.14586	-52.72842	-20.47714	-5.54986	0.32130	56.83661	121.73	27.00
72/ 9/10	2441570.5	-0.20853	0.21574	0.13696	-47.38408	-27.33132	-9.76947	0.32983	55.56703	134.03	24.53
72/ 9/12	2441572.5	-0.25964	0.18089	0.12354	-40.97531	-32.77662	-13.34392	0.33970	54.14188	145.14	21.33
72/ 9/14	2441574.5	-0.30295	0.14057	0.10640	-33.94648	-36.80556	-16.22355	0.35051	52.63284	155.11	17.67
72/ 9/16	2441576.5	-0.33796	0.09637	0.08633	-26.66508	-39.50779	-18.41864	0.36188	51.09930	164.08	13.80
72/ 9/18	2441578.5	-0.36456	0.04975	0.06409	-19.40965	-41.02543	-19.97666	0.37348	49.58717	172.23	9.88
72/ 9/20	2441580.5	-0.38289	0.00199	0.04040	-12.37644	-41.51934	-20.96363	0.38502	48.13009	179.70	6.02
72/ 9/22	2441582.5	-0.39329	-0.04583	0.01586	-5.69452	-41.14779	-21.45103	0.39627	46.75163	186.65	2.29
72/ 9/24	2441584.5	-0.39621	-0.09279	-0.00899	0.55767	-40.05497	-21.50801	0.40703	45.46764	193.18	-1.27
72/ 9/26	2441586.5	-0.39218	-0.13813	-0.03369	6.33745	-38.36623	-21.19734	0.41716	44.28836	199.40	-4.63
72/ 9/28	2441588.5	-0.38176	-0.18123	-0.05784	11.62619	-36.18742	-20.57379	0.42654	43.22012	205.40	-7.79
72/ 9/30	2441590.5	-0.36551	-0.22158	-0.08112	16.42050	-33.60620	-19.68393	0.43506	42.26662	211.22	-10.75
72/10/ 2	2441592.5	-0.34401	-0.25874	-0.10323	20.72590	-30.69434	-18.56679	0.44266	41.42983	216.95	-13.49
72/10/ 4	2441594.5	-0.31782	-0.29238	-0.12393	24.55249	-27.51021	-17.25466	0.44928	40.71068	222.61	-16.01
72/10/ 6	2441596.5	-0.28747	-0.32221	-0.14302	27.91195	-24.10121	-15.77411	0.45488	40.10946	228.26	-18.33
72/10/ 8	2441598.5	-0.25351	-0.34799	-0.16032	30.81555	-20.50592	-14.14698	0.45942	39.62610	233.93	-20.42
72/10/10	2441600.5	-0.21646	-0.36952	-0.17566	33.27276	-16.75598	-12.39117	0.46288	39.26042	239.64	-22.30
72/10/12	2441602.5	-0.17682	-0.38665	-0.18890	35.29040	-12.87776	-10.52151	0.46524	39.01219	245.43	-23.96
72/10/14	2441604.5	-0.13510	-0.39923	-0.19992	36.87196	-8.89373	-8.55039	0.46648	38.88122	251.30	-25.38
72/10/16	2441606.5	-0.09180	-0.40716	-0.20862	38.01718	-4.82378	-6.48844	0.46662	38.86739	257.29	-26.56
72/10/18	2441608.5	-0.04744	-0.41035	-0.21488	38.72164	-0.68634	-4.34507	0.46563	38.97071	263.41	-27.48
72/10/20	2441610.5	-0.00252	-0.40873	-0.21863	38.97650	3.50046	-2.12908	0.46353	39.19125	269.65	-28.14
72/10/22	2441612.5	0.04242	-0.40225	-0.21978	38.76819	7.71762	0.15074	0.46034	39.52919	276.02	-28.52
72/10/24	2441614.5	0.08685	-0.39090	-0.21826	38.07818	11.94399	2.48498	0.45605	39.98477	282.53	-28.59
72/10/26	2441616.5	0.13020	-0.37467	-0.21402	36.88278	16.15486	4.86283	0.45070	40.55818	289.16	-28.35
72/10/28	2441618.5	0.17185	-0.35359	-0.20701	35.15315	20.32018	7.27117	0.44432	41.24953	295.92	-27.77
72/10/30	2441620.5	0.21119	-0.32775	-0.19722	32.85541	24.40256	9.69344	0.43694	42.05860	302.80	-26.83
72/11/ 1	2441622.5	0.24752	-0.29727	-0.18462	29.95131	28.35474	12.10827	0.42863	42.98468	309.78	-25.51
72/11/ 3	2441624.5	0.28013	-0.26232	-0.16926	26.39943	32.11653	14.48768	0.41945	44.02606	316.88	-23.80
72/11/ 5	2441626.5	0.30824	-0.22318	-0.15118	22.15759	35.61127	16.79496	0.40948	45.17955	324.09	-21.67
72/11/ 7	2441628.5	0.33104	-0.18019	-0.13050	17.18692	38.74177	18.98203	0.39886	46.43955	331.44	-19.10
72/11/ 9	2441630.5	0.34766	-0.13386	-0.10740	11.45840	41.38610	20.98659	0.38771	47.79688	338.94	-16.08
72/11/11	2441632.5	0.35721	-0.08483	-0.08212	4.96306	43.39415	22.72917	0.37622	49.23717	346.64	-12.61
72/11/13	2441634.5	0.35884	-0.03393	-0.05503	-2.27338	44.58624	24.11090	0.36461	50.73890	354.60	-8.68
72/11/15	2441636.5	0.35171	0.01778	-0.02661	-10.17053	44.75660	25.01333	0.35316	52.27102	2.89	-4.32
72/11/17	2441638.5	0.33515	0.06899	0.00252	-18.56929	43.68534	25.30236	0.34218	53.79068	11.63	0.42
72/11/19	2441640.5	0.30871	0.11814	0.03156	-27.20738	41.16336	24.83907	0.33205	55.24168	20.94	5.45
72/11/21	2441642.5	0.27235	0.16346	0.05956	-35.70355	37.03335	23.50004	0.32317	56.55496	30.97	10.62
72/11/23	2441644.5	0.22648	0.20305	0.08548	-43.56430	31.24453	21.20740	0.31596	57.65261	41.88	15.70
72/11/25	2441646.5	0.17216	0.23504	0.10819	-50.22794	23.90871	17.96332	0.31079	58.45642	53.78	20.37
72/11/27	2441648.5	0.11111	0.25781	0.12665	-55.15066	15.33387	13.87688	0.30798	58.90068	66.68	24.28
72/11/29	2441650.5	0.04559	0.27018	0.14001	-57.91754	6.00938	9.16752	0.30770	58.94571	80.42	27.07

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72/12/ 1	2441652.5	-0.02178	0.27163	0.14770	-58.33829	-3.46668	4.13600	0.30996	58.58737	94.58	28.46
72/12/ 3	2441654.5	-0.08830	0.26234	0.14956	-56.48519	-12.49745	-0.89062	0.31463	57.85807	108.60	28.38
72/12/ 5	2441656.5	-0.15151	0.24312	0.14576	-52.65738	-20.59164	-5.61852	0.32142	56.81886	121.93	26.97
72/12/ 7	2441658.5	-0.20936	0.21526	0.13678	-47.29326	-27.42510	-9.82906	0.32997	55.54636	134.20	24.49
72/12/ 9	2441660.5	-0.26036	0.18031	0.12331	-40.87185	-32.84860	-13.39314	0.33986	54.11945	145.30	21.27
72/12/11	2441662.5	-0.30354	0.13992	0.10611	-33.83661	-36.85649	-16.26215	0.35068	52.60965	155.25	17.61
72/12/13	2441664.5	-0.33843	0.09568	0.08600	-26.55371	-39.53955	-18.44712	0.36206	51.07613	164.21	13.74
72/12/15	2441666.5	-0.36490	0.04903	0.06374	-19.30035	-41.04037	-19.99593	0.37366	49.56463	172.35	9.82
72/12/17	2441668.5	-0.38311	0.00126	0.04003	-12.27164	-41.51995	-20.97474	0.38519	48.10862	179.81	5.96
72/12/19	2441670.5	-0.39339	-0.04655	0.01548	-5.59575	-41.13638	-21.45508	0.39643	46.73152	186.75	2.24
72/12/21	2441672.5	-0.39620	-0.09350	-0.00937	0.64951	-40.03358	-21.50601	0.40719	45.44907	193.28	-1.32
72/12/23	2441674.5	-0.39207	-0.13881	-0.03406	6.42192	-38.33663	-21.19018	0.41731	44.27145	199.50	-4.68
72/12/25	2441676.5	-0.38155	-0.18187	-0.05821	11.70314	-36.15105	-20.56222	0.42667	43.20493	205.49	-7.84
72/12/27	2441678.5	-0.36522	-0.22217	-0.08146	16.48993	-33.56426	-19.66861	0.43518	42.25318	211.31	-10.79
72/12/29	2441680.5	-0.34365	-0.25929	-0.10356	20.78793	-30.64781	-18.54824	0.44277	41.41816	217.03	-13.53
72/12/31	2441682.5	-0.31738	-0.29287	-0.12424	24.60729	-27.45990	-17.23334	0.44938	40.70077	222.70	-16.05
73/ 1/ 2	2441684.5	-0.28698	-0.32264	-0.14330	27.95968	-24.04778	-15.75039	0.45496	40.10130	228.35	-18.36
73/ 1/ 4	2441686.5	-0.25297	-0.34835	-0.16057	30.85636	-20.44990	-14.12116	0.45948	39.61970	234.01	-20.45
73/ 1/ 6	2441688.5	-0.21587	-0.36982	-0.17588	33.30678	-16.69783	-12.36350	0.46292	39.25576	239.73	-22.33
73/ 1/ 8	2441690.5	-0.17619	-0.38688	-0.18909	35.31769	-12.81784	-10.49221	0.46527	39.00927	245.51	-23.98
73/ 1/10	2441692.5	-0.13445	-0.39939	-0.20008	36.89256	-8.83239	-8.51964	0.46650	38.88003	251.40	-25.40
73/ 1/12	2441694.5	-0.09113	-0.40725	-0.20873	38.03106	-4.76130	-6.45638	0.46661	38.86793	257.39	-26.57
73/ 1/14	2441696.5	-0.04676	-0.41036	-0.21496	38.72871	-0.62301	-4.31185	0.46561	38.97298	263.50	-27.50
73/ 1/16	2441698.5	-0.00183	-0.40867	-0.21867	38.97659	3.56435	-2.09484	0.46350	39.19525	269.74	-28.15
73/ 1/18	2441700.5	0.04311	-0.40212	-0.21978	38.76107	7.78176	0.18586	0.46028	39.53493	276.12	-28.52
73/ 1/20	2441702.5	0.08752	-0.39069	-0.21822	38.06353	12.00803	2.52081	0.45598	39.99224	282.63	-28.59
73/ 1/22	2441704.5	0.13085	-0.37438	-0.21394	36.86022	16.21837	4.89919	0.45061	40.56739	289.26	-28.34
73/ 1/24	2441706.5	0.17247	-0.35324	-0.20689	35.12222	20.38265	7.30783	0.44421	41.26048	296.02	-27.76
73/ 1/26	2441708.5	0.21177	-0.32733	-0.19705	32.81559	24.46336	9.73012	0.43683	42.07129	302.90	-26.81
73/ 1/28	2441710.5	0.24805	-0.29677	-0.18441	29.90201	28.41306	12.14460	0.42850	42.99911	309.89	-25.49
73/ 1/30	2441712.5	0.28060	-0.26176	-0.16901	26.34004	32.17135	14.52317	0.41930	44.04221	316.99	-23.77
73/ 2/ 1	2441714.5	0.30863	-0.22256	-0.15089	22.08752	35.66131	16.82898	0.40933	45.19737	324.20	-21.63
73/ 2/ 3	2441716.5	0.33134	-0.17952	-0.13017	17.10566	38.78538	19.01375	0.39870	46.45893	331.55	-19.06
73/ 2/ 5	2441718.5	0.34786	-0.13314	-0.10703	11.36566	41.42125	21.01496	0.38754	47.81764	339.06	-16.03
73/ 2/ 7	2441720.5	0.35730	-0.08407	-0.08173	4.85892	43.41836	22.75285	0.37605	49.25906	346.76	-12.55
73/ 2/ 9	2441722.5	0.35880	-0.03315	-0.05461	-2.38815	44.59661	24.12826	0.36444	50.76154	354.72	-8.62
73/ 2/11	2441724.5	0.35153	0.01856	-0.02617	-10.29421	44.74991	25.02246	0.35299	52.29387	3.02	-4.25
73/ 2/13	2441726.5	0.33482	0.06975	0.00296	-18.69877	43.65830	25.30118	0.34202	53.81302	11.77	0.50
73/ 2/15	2441728.5	0.30824	0.11886	0.03199	-27.33785	41.11311	24.82555	0.33191	55.26259	21.09	5.53
73/ 2/17	2441730.5	0.27172	0.16410	0.05997	-35.82839	36.95818	23.47260	0.32305	56.57334	31.13	10.70
73/ 2/19	2441732.5	0.22572	0.20359	0.08585	-43.67545	31.14475	21.16536	0.31586	57.66726	42.05	15.77
73/ 2/21	2441734.5	0.17129	0.23546	0.10850	-50.31681	23.78741	17.90746	0.31073	58.46623	53.97	20.44
73/ 2/23	2441736.5	0.11015	0.25807	0.12689	-55.20975	15.19711	13.80967	0.30795	58.90480	66.89	24.33
73/ 2/25	2441738.5	0.04458	0.27028	0.14016	-57.94206	5.86555	9.09298	0.30771	58.94378	80.63	27.10
73/ 2/27	2441740.5	-0.02280	0.27157	0.14777	-58.32730	-3.60833	4.05898	0.31001	58.57960	94.80	28.47

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

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73/ 3/ 1	2441742.5	-0.08929	0.26212	0.14954	-56.44158	-12.62848	-0.96532	0.31471	57.84516	108.81	28.37
73/ 3/ 3	2441744.5	-0.15243	0.24276	0.14566	-52.58690	-20.70579	-5.68694	0.32153	56.80187	122.12	26.94
73/ 3/ 5	2441746.5	-0.21018	0.21477	0.13661	-47.20298	-27.51878	-9.88855	0.33010	55.52646	134.38	24.45
73/ 3/ 7	2441748.5	-0.26107	0.17973	0.12307	-40.76886	-32.92067	-13.44235	0.34001	54.09776	145.46	21.22
73/ 3/ 9	2441750.5	-0.30413	0.13927	0.10582	-33.72708	-36.90762	-16.30082	0.35084	52.58712	155.40	17.56
73/ 3/11	2441752.5	-0.33889	0.09498	0.08567	-26.44251	-39.57153	-18.47570	0.36223	51.05354	164.34	13.68
73/ 3/13	2441754.5	-0.36524	0.04830	0.06339	-19.19107	-41.05553	-20.01530	0.37383	49.54256	172.47	9.76
73/ 3/15	2441756.5	-0.38332	0.00052	0.03965	-12.16673	-41.52069	-20.98594	0.38536	48.08749	179.92	5.91
73/ 3/17	2441758.5	-0.39348	-0.04728	0.01510	-5.49677	-41.12500	-21.45917	0.39660	46.71163	186.85	2.18
73/ 3/19	2441760.5	-0.39618	-0.09421	-0.00976	0.74162	-40.01211	-21.50399	0.40735	45.43061	193.38	-1.37
73/ 3/21	2441762.5	-0.39195	-0.13949	-0.03444	6.50669	-38.30682	-21.18293	0.41745	44.25455	199.59	-4.73
73/ 3/23	2441764.5	-0.38134	-0.18252	-0.05857	11.78038	-36.11436	-20.55051	0.42681	43.18968	205.58	-7.89
73/ 3/25	2441766.5	-0.36492	-0.22277	-0.08181	16.55966	-33.52192	-19.65309	0.43530	42.23962	211.40	-10.83
73/ 3/27	2441768.5	-0.34327	-0.25983	-0.10389	20.85026	-30.60080	-18.52947	0.44288	41.40632	217.12	-13.57
73/ 3/29	2441770.5	-0.31694	-0.29336	-0.12455	24.66236	-27.40904	-17.21175	0.44947	40.69068	222.79	-16.09
73/ 3/31	2441772.5	-0.28648	-0.32306	-0.14358	28.00768	-23.99372	-15.72636	0.45503	40.09298	228.43	-18.39
73/ 4/ 2	2441774.5	-0.25241	-0.34872	-0.16082	30.89741	-20.39318	-14.09499	0.45954	39.61314	234.10	-20.48
73/ 4/ 4	2441776.5	-0.21527	-0.37012	-0.17610	33.34100	-16.63891	-12.33545	0.46297	39.25097	239.82	-22.36
73/ 4/ 6	2441778.5	-0.17556	-0.38711	-0.18927	35.34517	-12.75710	-10.46248	0.46529	39.00625	245.60	-24.00
73/ 4/ 8	2441780.5	-0.13379	-0.39955	-0.20023	36.91331	-8.77014	-8.48841	0.46651	38.87879	251.49	-25.42
73/ 4/10	2441782.5	-0.09045	-0.40733	-0.20885	38.04504	-4.69786	-6.42382	0.46660	38.86850	257.48	-26.59
73/ 4/12	2441784.5	-0.04606	-0.41037	-0.21504	38.73583	-0.55866	-4.27809	0.46559	38.97536	263.60	-27.51
73/ 4/14	2441786.5	-0.00114	-0.40860	-0.21870	38.97668	3.62932	-2.06003	0.46346	39.19946	269.84	-28.16
73/ 4/16	2441788.5	0.04380	-0.40198	-0.21977	38.75388	7.84704	0.22158	0.46022	39.54097	276.22	-28.52
73/ 4/18	2441790.5	0.08820	-0.39047	-0.21817	38.04873	12.07326	2.55730	0.45590	40.00012	282.73	-28.59
73/ 4/20	2441792.5	0.13150	-0.37409	-0.21385	36.83740	16.28313	4.93625	0.45052	40.57710	289.37	-28.34
73/ 4/22	2441794.5	0.17310	-0.35287	-0.20676	35.09088	20.44643	7.34524	0.44411	41.27201	296.13	-27.75
73/ 4/24	2441796.5	0.21235	-0.32689	-0.19687	32.77516	24.52550	9.76758	0.43670	42.08464	303.01	-26.80
73/ 4/26	2441798.5	0.24858	-0.29627	-0.18419	29.85188	28.47274	12.18174	0.42836	43.01426	310.00	-25.47
73/ 4/28	2441800.5	0.28106	-0.26119	-0.16875	26.27957	32.22753	14.55950	0.41916	44.05914	317.10	-23.74
73/ 4/30	2441802.5	0.30903	-0.22192	-0.15059	22.01607	35.71263	16.86383	0.40917	45.21602	324.32	-21.59
73/ 5/ 2	2441804.5	0.33164	-0.17883	-0.12983	17.02268	38.83017	19.04629	0.39853	46.47919	331.67	-19.01
73/ 5/ 4	2441806.5	0.34806	-0.13240	-0.10666	11.27084	41.45741	21.04409	0.38737	47.83934	339.17	-15.98
73/ 5/ 6	2441808.5	0.35739	-0.08330	-0.08132	4.75234	43.44333	22.77719	0.37587	49.28192	346.88	-12.49
73/ 5/ 8	2441810.5	0.35875	-0.03236	-0.05418	-2.50573	44.60738	24.14612	0.36426	50.78516	354.85	-8.55
73/ 5/10	2441812.5	0.35134	0.01936	-0.02572	-10.42098	44.74314	25.03187	0.35282	52.31769	3.15	-4.18
73/ 5/12	2441814.5	0.33449	0.07053	0.00341	-18.83152	43.63058	25.29998	0.34186	53.83626	11.91	0.57
73/ 5/14	2441816.5	0.30775	0.11959	0.03243	-27.47160	41.06147	24.81164	0.33176	55.28427	21.24	5.61
73/ 5/16	2441818.5	0.27108	0.16476	0.06039	-35.95628	36.88087	23.44432	0.32292	56.59231	31.29	10.78
73/ 5/18	2441820.5	0.22493	0.20415	0.08622	-43.78911	31.04215	21.12208	0.31576	57.68227	42.23	15.85
73/ 5/20	2441822.5	0.17039	0.23588	0.10882	-50.40742	23.66277	17.85000	0.31067	58.47612	54.16	20.50
73/ 5/22	2441824.5	0.10916	0.25834	0.12714	-55.26959	15.05677	13.74063	0.30793	58.90873	67.09	24.39
73/ 5/24	2441826.5	0.04354	0.27038	0.14033	-57.96631	5.71821	9.01652	0.30772	58.94140	80.85	27.13
73/ 5/26	2441828.5	-0.02384	0.27150	0.14785	-58.31510	-3.75310	3.98015	0.31006	58.57114	95.02	28.48
73/ 5/28	2441830.5	-0.09030	0.26189	0.14953	-56.39602	-12.76205	-1.04157	0.31480	57.83136	109.02	28.36

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73/ 5/30	2441832.5	-0.15337	0.24238	0.14556	-52.51398	-20.82177	-5.75658	0.32165	56.78382	122.32	26.91
73/ 6/ 1	2441834.5	-0.21103	0.21428	0.13643	-47.11005	-27.61358	-9.94890	0.33025	55.50538	134.56	24.40
73/ 6/ 3	2441836.5	-0.26180	0.17914	0.12283	-40.66323	-32.99322	-13.49209	0.34017	54.07483	145.62	21.17
73/ 6/ 5	2441838.5	-0.30474	0.13860	0.10553	-33.61506	-36.95873	-16.33974	0.35102	52.56336	155.54	17.50
73/ 6/ 7	2441840.5	-0.33937	0.09427	0.08534	-26.32909	-39.60313	-18.50431	0.36241	51.02978	164.48	13.62
73/ 6/ 9	2441842.5	-0.36558	0.04757	0.06303	-19.07986	-41.07005	-20.03452	0.37401	49.51941	172.59	9.70
73/ 6/11	2441844.5	-0.38353	-0.00022	0.03928	-12.06019	-41.52065	-20.99689	0.38554	48.06539	180.03	5.85
73/ 6/13	2441846.5	-0.39358	-0.04802	0.01471	-5.39645	-41.11276	-21.46294	0.39677	46.69089	186.96	2.12
73/ 6/15	2441848.5	-0.39617	-0.09492	-0.01014	0.83484	-39.98977	-21.50161	0.40751	45.41143	193.47	-1.43
73/ 6/17	2441850.5	-0.39183	-0.14018	-0.03482	6.59238	-38.27615	-21.17532	0.41761	44.23705	199.68	-4.78
73/ 6/19	2441852.5	-0.38113	-0.18316	-0.05894	11.85839	-36.07687	-20.53845	0.42694	43.17394	205.67	-7.94
73/ 6/21	2441854.5	-0.36463	-0.22337	-0.08217	16.63003	-33.47881	-19.63724	0.43543	42.22570	211.49	-10.88
73/ 6/23	2441856.5	-0.34290	-0.26038	-0.10422	20.91312	-30.55309	-18.51037	0.44299	41.39424	217.21	-13.61
73/ 6/25	2441858.5	-0.31650	-0.29385	-0.12486	24.71790	-27.35752	-17.18986	0.44956	40.68046	222.87	-16.12
73/ 6/27	2441860.5	-0.28597	-0.32349	-0.14387	28.05606	-23.93906	-15.70205	0.45511	40.08460	228.52	-18.43
73/ 6/29	2441862.5	-0.25186	-0.34908	-0.16107	30.93882	-20.33592	-14.06856	0.45960	39.60662	234.19	-20.52
73/ 7/ 1	2441864.5	-0.21467	-0.37041	-0.17632	33.37556	-16.57946	-12.30715	0.46301	39.24630	239.91	-22.38
73/ 7/ 3	2441866.5	-0.17493	-0.38733	-0.18946	35.37295	-12.69585	-10.43251	0.46532	39.00343	245.70	-24.03
73/ 7/ 5	2441868.5	-0.13312	-0.39970	-0.20038	36.93435	-8.70741	-8.45695	0.46652	38.87782	251.58	-25.44
73/ 7/ 7	2441870.5	-0.08977	-0.40742	-0.20896	38.05929	-4.63392	-6.39102	0.46660	38.86937	257.57	-26.61
73/ 7/ 9	2441872.5	-0.04537	-0.41038	-0.21511	38.74318	-0.49380	-4.24409	0.46556	38.97807	263.69	-27.52
73/ 7/11	2441874.5	-0.00044	-0.40854	-0.21874	38.97695	3.69481	-2.02496	0.46341	39.20401	269.94	-28.17
73/ 7/13	2441876.5	0.04450	-0.40184	-0.21977	38.74680	7.91285	0.25758	0.46016	39.54736	276.32	-28.53
73/ 7/15	2441878.5	0.08889	-0.39025	-0.21812	38.03396	12.13903	2.59406	0.45583	40.00834	282.83	-28.59
73/ 7/17	2441880.5	0.13217	-0.37380	-0.21376	36.81453	16.34843	4.97360	0.45043	40.58716	289.47	-28.33
73/ 7/19	2441882.5	0.17373	-0.35251	-0.20662	35.05942	20.51074	7.38294	0.44400	41.28391	296.24	-27.73
73/ 7/21	2441884.5	0.21294	-0.32645	-0.19670	32.73455	24.58817	9.80535	0.43658	42.09838	303.12	-26.78
73/ 7/23	2441886.5	0.24912	-0.29575	-0.18397	29.80148	28.53293	12.21918	0.42822	43.02981	310.11	-25.44
73/ 7/25	2441888.5	0.28154	-0.26061	-0.16848	26.21872	32.28416	14.59611	0.41901	44.07647	317.21	-23.71
73/ 7/27	2441890.5	0.30942	-0.22128	-0.15028	21.94412	35.76436	16.89895	0.40901	45.23503	324.43	-21.56
73/ 7/29	2441892.5	0.33195	-0.17813	-0.12949	16.93908	38.87526	19.07906	0.39836	46.49977	331.78	-18.97
73/ 7/31	2441894.5	0.34826	-0.13166	-0.10628	11.17526	41.49372	21.07338	0.38719	47.86129	339.29	-15.93
73/ 8/ 2	2441896.5	0.35747	-0.08252	-0.08091	4.64492	43.46827	22.80160	0.37569	49.30495	347.00	-12.44
73/ 8/ 4	2441898.5	0.35871	-0.03155	-0.05374	-2.62417	44.61791	24.16394	0.36408	50.80885	354.97	-8.49
73/ 8/ 6	2441900.5	0.35116	0.02016	-0.02527	-10.54858	44.73588	25.04110	0.35264	52.34146	3.29	-4.11
73/ 8/ 8	2441902.5	0.33415	0.07131	0.00387	-18.96496	43.60214	25.29846	0.34169	53.85933	12.05	0.65
73/ 8/10	2441904.5	0.30726	0.12033	0.03288	-27.60579	41.00892	24.79727	0.33161	55.30566	21.39	5.69
73/ 8/12	2441906.5	0.27043	0.16543	0.06081	-36.08426	36.80254	23.41551	0.32280	56.61084	31.45	10.86
73/ 8/14	2441908.5	0.22415	0.20471	0.08660	-43.90247	30.93854	21.07821	0.31567	57.69671	42.40	15.92
73/ 8/16	2441910.5	0.16948	0.23631	0.10914	-50.49730	23.53727	17.79199	0.31061	58.48535	54.35	20.57
73/ 8/18	2441912.5	0.10817	0.25861	0.12738	-55.32839	14.91585	13.67117	0.30791	58.91192	67.30	24.44
73/ 8/20	2441914.5	0.04250	0.27048	0.14049	-57.98934	5.57069	8.93985	0.30774	58.93824	81.07	27.16
73/ 8/22	2441916.5	-0.02489	0.27143	0.14792	-58.30166	-3.89766	3.90131	0.31012	58.56190	95.24	28.49
73/ 8/24	2441918.5	-0.09131	0.26166	0.14951	-56.34941	-12.89506	-1.11763	0.31489	57.81684	109.24	28.35
73/ 8/26	2441920.5	-0.15431	0.24201	0.14546	-52.44031	-20.93699	-5.82590	0.32177	56.76517	122.52	26.87

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73/ 8/28	2441922.5	-0.21187	0.21379	0.13625	-47.01673	-27.70754	-10.00885	0.33039	55.48385	134.74	24.36
73/ 8/30	2441924.5	-0.26253	0.17855	0.12259	-40.55753	-33.06500	-13.54143	0.34033	54.05162	145.78	21.11
73/ 9/ 1	2441926.5	-0.30534	0.13795	0.10524	-33.50326	-37.00921	-16.37829	0.35119	52.53949	155.69	17.44
73/ 9/ 3	2441928.5	-0.33984	0.09356	0.08501	-26.21608	-39.63427	-18.53263	0.36259	51.00604	164.61	13.56
73/ 9/ 5	2441930.5	-0.36592	0.04684	0.06267	-18.96917	-41.08428	-20.05355	0.37419	49.49639	172.71	9.64
73/ 9/ 7	2441932.5	-0.38375	-0.00096	0.03890	-11.95422	-41.52049	-21.00771	0.38572	48.04350	180.14	5.79
73/ 9/ 9	2441934.5	-0.39367	-0.04875	0.01433	-5.29670	-41.10053	-21.46666	0.39694	46.67040	187.06	2.07
73/ 9/11	2441936.5	-0.39615	-0.09564	-0.01052	0.92751	-39.96754	-21.49924	0.40767	45.39253	193.57	-1.48
73/ 9/13	2441938.5	-0.39171	-0.14086	-0.03520	6.67755	-38.24568	-21.16776	0.41776	44.21986	199.78	-4.83
73/ 9/15	2441940.5	-0.38092	-0.18380	-0.05931	11.93593	-36.03964	-20.52648	0.42708	43.15853	205.76	-7.98
73/ 9/17	2441942.5	-0.36433	-0.22396	-0.08252	16.69999	-33.43603	-19.62151	0.43555	42.21210	211.58	-10.92
73/ 9/19	2441944.5	-0.34252	-0.26092	-0.10455	20.97563	-30.50573	-18.49143	0.44310	41.38248	217.30	-13.65
73/ 9/21	2441946.5	-0.31606	-0.29433	-0.12516	24.77314	-27.30638	-17.16814	0.44966	40.67053	222.96	-16.16
73/ 9/23	2441948.5	-0.28547	-0.32392	-0.14415	28.10421	-23.88477	-15.67792	0.45519	40.07651	228.61	-18.46
73/ 9/25	2441950.5	-0.25131	-0.34944	-0.16132	30.98004	-20.27902	-14.04231	0.45966	39.60035	234.28	-20.55
73/ 9/27	2441952.5	-0.21408	-0.37071	-0.17654	33.40996	-16.52038	-12.27902	0.46305	39.24185	239.99	-22.41
73/ 9/29	2441954.5	-0.17429	-0.38756	-0.18965	35.40061	-12.63495	-10.40272	0.46534	39.00079	245.79	-24.05
73/10/ 1	2441956.5	-0.13246	-0.39986	-0.20053	36.95527	-8.64502	-8.42567	0.46652	38.87699	251.67	-25.46
73/10/ 3	2441958.5	-0.08909	-0.40750	-0.20908	38.07344	-4.57033	-6.35839	0.46659	38.87035	257.67	-26.62
73/10/ 5	2441960.5	-0.04468	-0.41039	-0.21519	38.75044	-0.42929	-4.21026	0.46553	38.98086	263.79	-27.53
73/10/ 7	2441962.5	0.00026	-0.40847	-0.21878	38.97715	3.75997	-1.99006	0.46337	39.20862	270.04	-28.17
73/10/ 9	2441964.5	0.04519	-0.40169	-0.21976	38.73968	7.97834	0.29341	0.46010	39.55379	276.42	-28.53
73/10/11	2441966.5	0.08957	-0.39004	-0.21808	38.01919	12.20450	2.63068	0.45575	40.01661	282.93	-28.59
73/10/13	2441968.5	0.13283	-0.37350	-0.21367	36.79169	16.41346	5.01081	0.45034	40.59727	289.58	-28.32
73/10/15	2441970.5	0.17436	-0.35214	-0.20649	35.02801	20.57481	7.42051	0.44389	41.29586	296.34	-27.72
73/10/17	2441972.5	0.21353	-0.32601	-0.19652	32.69399	24.65060	9.84298	0.43646	42.11216	303.22	-26.76
73/10/19	2441974.5	0.24965	-0.29524	-0.18375	29.75115	28.59288	12.25649	0.42809	43.04538	310.22	-25.42
73/10/21	2441976.5	0.28201	-0.26003	-0.16822	26.15793	32.34056	14.63258	0.41885	44.09378	317.32	-23.68
73/10/23	2441978.5	0.30982	-0.22063	-0.14998	21.87224	35.81582	16.93393	0.40885	45.25401	324.54	-21.52
73/10/25	2441980.5	0.33225	-0.17743	-0.12915	16.85557	38.92008	19.11166	0.39819	46.52030	331.90	-18.93
73/10/27	2441982.5	0.34846	-0.13091	-0.10590	11.07984	41.52975	21.10250	0.38701	47.88318	339.41	-15.88
73/10/29	2441984.5	0.35756	-0.08173	-0.08050	4.53770	43.49292	22.82584	0.37551	49.32792	347.12	-12.38
73/10/31	2441986.5	0.35866	-0.03075	-0.05331	-2.74234	44.62815	24.18158	0.36390	50.83248	355.10	-8.42
73/11/ 2	2441988.5	0.35097	0.02097	-0.02482	-10.67580	44.72836	25.05015	0.35247	52.36515	3.42	-4.04
73/11/ 4	2441990.5	0.33381	0.07210	0.00432	-19.09790	43.57344	25.29675	0.34153	53.88228	12.19	0.73
73/11/ 6	2441992.5	0.30676	0.12106	0.03332	-27.73933	40.95616	24.78273	0.33147	55.32686	21.54	5.77
73/11/ 8	2441994.5	0.26979	0.16609	0.06123	-36.21145	36.72409	23.38655	0.32268	56.62913	31.62	10.94
73/11/10	2441996.5	0.22336	0.20526	0.08698	-44.01487	30.83496	21.03427	0.31558	57.71087	42.58	16.00
73/11/12	2441998.5	0.16858	0.23673	0.10946	-50.58615	23.41204	17.73403	0.31055	58.49426	54.54	20.64
73/11/14	2442000.5	0.10718	0.25888	0.12763	-55.38615	14.77549	13.60190	0.30789	58.91479	67.51	24.49
73/11/16	2442002.5	0.04147	0.27059	0.14065	-58.01145	5.42398	8.86351	0.30776	58.93479	81.29	27.19
73/11/18	2442004.5	-0.02592	0.27137	0.14799	-58.28757	-4.04118	3.82296	0.31018	58.55242	95.46	28.50
73/11/20	2442006.5	-0.09231	0.26144	0.14949	-56.30244	-13.02691	-1.19311	0.31499	57.80215	109.45	28.33
73/11/22	2442008.5	-0.15524	0.24164	0.14535	-52.36661	-21.05102	-5.89457	0.32190	56.74639	122.72	26.84
73/11/24	2442010.5	-0.21271	0.21330	0.13608	-46.92369	-27.80037	-10.06817	0.33054	55.46225	134.92	24.31

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73/11/26	2442012.5	-0.26325	0.17797	0.12235	-40.45237	-33.13574	-13.59016	0.34050	54.02837	145.94	21.06
73/11/28	2442014.5	-0.30593	0.13729	0.10495	-33.39219	-37.05880	-16.41630	0.35137	52.51559	155.83	17.38
73/11/30	2442016.5	-0.34030	0.09286	0.08469	-26.10394	-39.66468	-18.56046	0.36277	50.98229	164.74	13.50
73/12/ 2	2442018.5	-0.36626	0.04611	0.06232	-18.85947	-41.09797	-20.07217	0.37437	49.47338	172.82	9.58
73/12/ 4	2442020.5	-0.38396	-0.00169	0.03853	-11.84929	-41.51995	-21.01823	0.38589	48.02164	180.25	5.73
73/12/ 6	2442022.5	-0.39377	-0.04948	0.01395	-5.19800	-41.08812	-21.47017	0.39711	46.64998	187.16	2.01
73/12/ 8	2442024.5	-0.39614	-0.09634	-0.01090	1.01916	-39.94530	-21.49676	0.40783	45.37374	193.67	-1.53
73/12/10	2442026.5	-0.39160	-0.14153	-0.03557	6.76176	-38.21536	-21.16018	0.41791	44.20281	199.87	-4.88
73/12/12	2442028.5	-0.38071	-0.18444	-0.05967	12.01259	-36.00268	-20.51457	0.42722	43.14328	205.85	-8.03
73/12/14	2442030.5	-0.36404	-0.22455	-0.08286	16.76914	-33.39360	-19.60590	0.43567	42.19867	211.67	-10.96
73/12/16	2442032.5	-0.34215	-0.26146	-0.10487	21.03742	-30.45880	-18.47264	0.44320	41.37088	217.39	-13.69
73/12/18	2442034.5	-0.31562	-0.29481	-0.12546	24.82773	-27.25573	-17.14661	0.44975	40.66076	223.05	-16.20
73/12/20	2442036.5	-0.28498	-0.32434	-0.14442	28.15178	-23.83104	-15.65402	0.45526	40.06856	228.70	-18.50
73/12/22	2442038.5	-0.25076	-0.34980	-0.16157	31.02075	-20.22272	-14.01632	0.45972	39.59422	234.36	-20.58
73/12/24	2442040.5	-0.21349	-0.37100	-0.17675	33.44394	-16.46195	-12.25121	0.46310	39.23755	240.08	-22.44
73/12/26	2442042.5	-0.17367	-0.38778	-0.18983	35.42793	-12.57475	-10.37327	0.46537	38.99830	245.87	-24.07
73/12/28	2442044.5	-0.13181	-0.40001	-0.20068	36.97596	-8.58336	-8.39475	0.46653	38.87631	251.76	-25.48
73/12/30	2442046.5	-0.08841	-0.40758	-0.20919	38.08744	-4.50750	-6.32616	0.46658	38.87146	257.76	-26.64
74/ 1/ 1	2442048.5	-0.04399	-0.41039	-0.21526	38.75763	-0.36555	-4.17684	0.46551	38.98376	263.88	-27.54
74/ 1/ 3	2442050.5	0.00095	-0.40840	-0.21881	38.97733	3.82433	-1.95558	0.46333	39.21329	270.13	-28.18
74/ 1/ 5	2442052.5	0.04588	-0.40155	-0.21976	38.73260	8.04301	0.32881	0.46004	39.56024	276.52	-28.53
74/ 1/ 7	2442054.5	0.09024	-0.38982	-0.21803	38.00451	12.26914	2.66683	0.45567	40.02482	283.03	-28.59
74/ 1/ 9	2442056.5	0.13348	-0.37321	-0.21358	36.76900	16.47763	5.04753	0.45024	40.60725	289.68	-28.32
74/ 1/11	2442058.5	0.17498	-0.35177	-0.20636	34.99681	20.63798	7.45758	0.44378	41.30761	296.45	-27.71
74/ 1/13	2442060.5	0.21411	-0.32557	-0.19634	32.65374	24.71211	9.88009	0.43633	42.12567	303.33	-26.74
74/ 1/15	2442062.5	0.25018	-0.29473	-0.18354	29.70122	28.65190	12.29326	0.42795	43.06063	310.33	-25.40
74/ 1/17	2442064.5	0.28247	-0.25945	-0.16796	26.09768	32.39603	14.66851	0.41871	44.11073	317.43	-23.65
74/ 1/19	2442066.5	0.31020	-0.22000	-0.14968	21.80103	35.86640	16.96835	0.40869	45.27260	324.66	-21.48
74/ 1/21	2442068.5	0.33255	-0.17674	-0.12881	16.77289	38.96404	19.14372	0.39802	46.54040	332.01	-18.88
74/ 1/23	2442070.5	0.34866	-0.13017	-0.10553	10.98539	41.56500	21.13110	0.38684	47.90461	339.53	-15.83
74/ 1/25	2442072.5	0.35764	-0.08096	-0.08009	4.43164	43.51689	22.84958	0.37533	49.35040	347.24	-12.32
74/ 1/27	2442074.5	0.35861	-0.02996	-0.05288	-2.85918	44.63784	24.19879	0.36373	50.85561	355.22	-8.36
74/ 1/29	2442076.5	0.35078	0.02176	-0.02438	-10.80155	44.72047	25.05885	0.35230	52.38836	3.55	-3.97
74/ 1/31	2442078.5	0.33347	0.07287	0.00477	-19.22924	43.54465	25.29483	0.34137	53.90481	12.33	0.80
74/ 2/ 2	2442080.5	0.30627	0.12179	0.03376	-27.87123	40.90363	24.76815	0.33132	55.34775	21.69	5.85
74/ 2/ 4	2442082.5	0.26915	0.16674	0.06165	-36.33704	36.64624	23.35775	0.32256	56.64725	31.78	11.02
74/ 2/ 6	2442084.5	0.22259	0.20581	0.08735	-44.12586	30.73232	20.99068	0.31549	57.72501	42.76	16.07
74/ 2/ 8	2442086.5	0.16769	0.23714	0.10977	-50.67388	23.28802	17.67660	0.31049	58.50330	54.73	20.70
74/ 2/10	2442088.5	0.10621	0.25914	0.12787	-55.44318	14.63650	13.53330	0.30787	58.91794	67.71	24.54
74/ 2/12	2442090.5	0.04045	0.27068	0.14080	-58.03325	5.27869	8.78791	0.30778	58.93174	81.50	27.22
74/ 2/14	2442092.5	-0.02695	0.27129	0.14806	-58.27356	-4.18337	3.74533	0.31024	58.54346	95.67	28.50
74/ 2/16	2442094.5	-0.09330	0.26121	0.14947	-56.25591	-13.15763	-1.26794	0.31508	57.78804	109.66	28.32
74/ 2/18	2442096.5	-0.15616	0.24127	0.14525	-52.29360	-21.16416	-5.96271	0.32202	56.72827	122.91	26.81
74/ 2/20	2442098.5	-0.21353	0.21281	0.13590	-46.83146	-27.89259	-10.12707	0.33068	55.44132	135.10	24.27
74/ 2/22	2442100.5	-0.26396	0.17738	0.12211	-40.34807	-33.20614	-13.63862	0.34066	54.00580	146.10	21.00

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74/ 2/24	2442102.5	-0.30652	0.13664	0.10466	-33.28193	-37.10825	-16.45414	0.35154	52.49236	155.97	17.32
74/ 2/26	2442104.5	-0.34076	0.09216	0.08436	-25.99254	-39.69511	-18.58824	0.36294	50.95916	164.87	13.44
74/ 2/28	2442106.5	-0.36659	0.04539	0.06196	-18.75038	-41.11176	-20.09079	0.37455	49.45092	172.94	9.52
74/ 3/ 2	2442108.5	-0.38417	-0.00242	0.03816	-11.74487	-41.51956	-21.02877	0.38607	48.00026	180.36	5.67
74/ 3/ 4	2442110.5	-0.39386	-0.05020	0.01357	-5.09972	-41.07583	-21.47370	0.39728	46.62994	187.26	1.96
74/ 3/ 6	2442112.5	-0.39612	-0.09704	-0.01128	1.11043	-39.92315	-21.49429	0.40799	45.35522	193.77	-1.58
74/ 3/ 8	2442114.5	-0.39148	-0.14221	-0.03594	6.84560	-38.18508	-21.15259	0.41805	44.18591	199.96	-4.93
74/ 3/10	2442116.5	-0.38049	-0.18507	-0.06003	12.08887	-35.96572	-20.50262	0.42735	43.12808	205.94	-8.07
74/ 3/12	2442118.5	-0.36374	-0.22514	-0.08321	16.83789	-33.35117	-19.59024	0.43580	42.18521	211.76	-11.01
74/ 3/14	2442120.5	-0.34178	-0.26199	-0.10520	21.09876	-30.41187	-18.45380	0.44331	41.35918	217.47	-13.73
74/ 3/16	2442122.5	-0.31518	-0.29529	-0.12577	24.88184	-27.20508	-17.12504	0.44984	40.65083	223.13	-16.24
74/ 3/18	2442124.5	-0.28448	-0.32476	-0.14470	28.19884	-23.77732	-15.63007	0.45534	40.06039	228.78	-18.53
74/ 3/20	2442126.5	-0.25021	-0.35015	-0.16182	31.06091	-20.16645	-13.99030	0.45978	39.58780	234.45	-20.61
74/ 3/22	2442128.5	-0.21290	-0.37129	-0.17697	33.47732	-16.40357	-12.22336	0.46314	39.23287	240.17	-22.46
74/ 3/24	2442130.5	-0.17304	-0.38800	-0.19001	35.45460	-12.51463	-10.34379	0.46540	38.99537	245.96	-24.10
74/ 3/26	2442132.5	-0.13116	-0.40016	-0.20083	36.99595	-8.52181	-8.36382	0.46654	38.87512	251.85	-25.50
74/ 3/28	2442134.5	-0.08774	-0.40766	-0.20930	38.10073	-4.44483	-6.29393	0.46657	38.87204	257.85	-26.65
74/ 3/30	2442136.5	-0.04331	-0.41040	-0.21534	38.76413	-0.30202	-4.14346	0.46548	38.98612	263.98	-27.56
74/ 4/ 1	2442138.5	0.00163	-0.40833	-0.21885	38.97688	3.88843	-1.92118	0.46328	39.21744	270.23	-28.19
74/ 4/ 3	2442140.5	0.04656	-0.40141	-0.21975	38.72495	8.10738	0.36410	0.45998	39.56620	276.62	-28.54
74/ 4/ 5	2442142.5	0.09091	-0.38960	-0.21798	37.98933	12.33343	2.70285	0.45560	40.03259	283.13	-28.58
74/ 4/ 7	2442144.5	0.13412	-0.37292	-0.21349	36.74588	16.54143	5.08410	0.45015	40.61683	289.78	-28.31
74/ 4/ 9	2442146.5	0.17559	-0.35141	-0.20623	34.96528	20.70077	7.49448	0.44368	41.31900	296.55	-27.70
74/ 4/11	2442148.5	0.21468	-0.32513	-0.19617	32.61322	24.77326	9.91703	0.43621	42.13887	303.44	-26.73
74/ 4/13	2442150.5	0.25070	-0.29423	-0.18332	29.65111	28.71058	12.32986	0.42782	43.07564	310.43	-25.37
74/ 4/15	2442152.5	0.28293	-0.25888	-0.16770	26.03733	32.45119	14.70428	0.41856	44.12752	317.54	-23.62
74/ 4/17	2442154.5	0.31058	-0.21937	-0.14938	21.72983	35.91672	17.00264	0.40853	45.29112	324.77	-21.45
74/ 4/19	2442156.5	0.33285	-0.17605	-0.12847	16.69029	39.00784	19.17569	0.39785	46.56055	332.12	-18.84
74/ 4/21	2442158.5	0.34885	-0.12944	-0.10515	10.89107	41.60018	21.15966	0.38666	47.92621	339.64	-15.78
74/ 4/23	2442160.5	0.35771	-0.08020	-0.07969	4.32569	43.54090	22.87335	0.37515	49.37319	347.36	-12.26
74/ 4/25	2442162.5	0.35856	-0.02918	-0.05245	-2.97598	44.64770	24.21608	0.36355	50.87919	355.35	-8.30
74/ 4/27	2442164.5	0.35058	0.02254	-0.02394	-10.92739	44.71283	25.06770	0.35212	52.41216	3.68	-3.90
74/ 4/29	2442166.5	0.33313	0.07363	0.00522	-19.36088	43.51612	25.29307	0.34121	53.92807	12.46	0.88
74/ 5/ 1	2442168.5	0.30577	0.12251	0.03420	-28.00365	40.85129	24.75372	0.33117	55.36947	21.83	5.93
74/ 5/ 3	2442170.5	0.26850	0.16738	0.06206	-36.46335	36.56840	23.32902	0.32243	56.66627	31.94	11.10
74/ 5/ 5	2442172.5	0.22180	0.20635	0.08772	-44.23771	30.62943	20.94706	0.31539	57.74007	42.93	16.15
74/ 5/ 7	2442174.5	0.16679	0.23755	0.11008	-50.76248	23.16344	17.61895	0.31043	58.51327	54.93	20.77
74/ 5/ 9	2442176.5	0.10522	0.25939	0.12811	-55.50098	14.49663	13.46429	0.30784	58.92197	67.92	24.59
74/ 5/11	2442178.5	0.03941	0.27077	0.14096	-58.05558	5.13223	8.71173	0.30780	58.92949	81.72	27.26
74/ 5/13	2442180.5	-0.02799	0.27121	0.14812	-58.25973	-4.32692	3.66700	0.31029	58.53516	95.89	28.51
74/ 5/15	2442182.5	-0.09431	0.26097	0.14944	-56.20912	-13.28974	-1.34354	0.31517	57.77445	109.87	28.31
74/ 5/17	2442184.5	-0.15709	0.24089	0.14514	-52.21989	-21.27860	-6.03162	0.32214	56.71046	123.11	26.78
74/ 5/19	2442186.5	-0.21437	0.21231	0.13572	-46.73815	-27.98588	-10.18666	0.33083	55.42051	135.28	24.22
74/ 5/21	2442188.5	-0.26468	0.17678	0.12186	-40.24237	-33.27730	-13.68762	0.34082	53.98312	146.26	20.95
74/ 5/23	2442190.5	-0.30711	0.13597	0.10436	-33.17010	-37.15812	-16.49237	0.35171	52.46884	156.12	17.26

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74/ 5/25	2442192.5	-0.34122	0.09145	0.08402	-25.87946	-39.72563	-18.61623	0.36312	50.93561	165.00	13.38
74/ 5/27	2442194.5	-0.36692	0.04465	0.06160	-18.63962	-41.12536	-20.10948	0.37472	49.42795	173.06	9.46
74/ 5/29	2442196.5	-0.38438	-0.00317	0.03778	-11.63884	-41.51874	-21.03925	0.38624	47.97831	180.47	5.61
74/ 5/31	2442198.5	-0.39395	-0.05094	0.01318	-4.99995	-41.06294	-21.47707	0.39745	46.60932	187.37	1.90
74/ 6/ 2	2442200.5	-0.39610	-0.09776	-0.01167	1.20309	-39.90026	-21.49156	0.40815	45.33613	193.86	-1.64
74/ 6/ 4	2442202.5	-0.39135	-0.14289	-0.03633	6.93072	-38.15395	-21.14467	0.41820	44.16850	200.06	-4.98
74/ 6/ 6	2442204.5	-0.38028	-0.18572	-0.06040	12.16631	-35.92782	-20.49028	0.42749	43.11240	206.03	-8.12
74/ 6/ 8	2442206.5	-0.36344	-0.22574	-0.08356	16.90770	-33.30772	-19.57414	0.43592	42.17133	211.85	-11.05
74/ 6/10	2442208.5	-0.34140	-0.26254	-0.10553	21.16107	-30.36385	-18.43448	0.44342	41.34712	217.56	-13.77
74/ 6/12	2442210.5	-0.31473	-0.29578	-0.12607	24.93683	-27.15331	-17.10296	0.44993	40.64060	223.22	-16.27
74/ 6/14	2442212.5	-0.28397	-0.32519	-0.14498	28.24669	-23.72244	-15.60558	0.45542	40.05201	228.87	-18.56
74/ 6/16	2442214.5	-0.24965	-0.35052	-0.16207	31.10177	-20.10900	-13.96372	0.45984	39.58128	234.54	-20.64
74/ 6/18	2442216.5	-0.21230	-0.37158	-0.17719	33.51132	-16.34399	-12.19493	0.46318	39.22819	240.26	-22.49
74/ 6/20	2442218.5	-0.17241	-0.38822	-0.19020	35.48183	-12.45329	-10.31372	0.46542	38.99253	246.05	-24.12
74/ 6/22	2442220.5	-0.13049	-0.40031	-0.20098	37.01642	-8.45903	-8.33228	0.46655	38.87412	251.95	-25.52
74/ 6/24	2442222.5	-0.08706	-0.40773	-0.20941	38.11440	-4.38089	-6.26107	0.46656	38.87288	257.95	-26.67
74/ 6/26	2442224.5	-0.04261	-0.41041	-0.21541	38.77090	-0.23721	-4.10942	0.46546	38.98880	264.07	-27.57
74/ 6/28	2442226.5	0.00233	-0.40826	-0.21888	38.97656	3.95382	-1.88609	0.46324	39.22196	270.33	-28.20
74/ 6/30	2442228.5	0.04725	-0.40126	-0.21974	38.71727	8.17305	0.40008	0.45993	39.57254	276.72	-28.54
74/ 7/ 2	2442230.5	0.09159	-0.38938	-0.21793	37.97397	12.39901	2.73958	0.45552	40.04076	283.24	-28.58
74/ 7/ 4	2442232.5	0.13478	-0.37263	-0.21340	36.72241	16.60649	5.12139	0.45006	40.62683	289.89	-28.30
74/ 7/ 6	2442234.5	0.17622	-0.35104	-0.20609	34.93320	20.76479	7.53209	0.44357	41.33083	296.66	-27.69
74/ 7/ 8	2442236.5	0.21526	-0.32469	-0.19599	32.57198	24.83558	9.95467	0.43609	42.15253	303.54	-26.71
74/ 7/10	2442238.5	0.25123	-0.29371	-0.18310	29.60008	28.77036	12.36715	0.42768	43.09112	310.54	-25.35
74/ 7/12	2442240.5	0.28339	-0.25830	-0.16744	25.97585	32.50736	14.74071	0.41841	44.14478	317.65	-23.59
74/ 7/14	2442242.5	0.31097	-0.21872	-0.14907	21.65725	35.96790	17.03754	0.40837	45.31009	324.88	-21.41
74/ 7/16	2442244.5	0.33314	-0.17535	-0.12813	16.60608	39.05231	19.20818	0.39768	46.58110	332.24	-18.80
74/ 7/18	2442246.5	0.34904	-0.12870	-0.10477	10.79492	41.63578	21.18862	0.38649	47.94816	339.76	-15.73
74/ 7/20	2442248.5	0.35779	-0.07942	-0.07928	4.21774	43.56501	22.89737	0.37497	49.39625	347.48	-12.21
74/ 7/22	2442250.5	0.35850	-0.02838	-0.05202	-3.09489	44.65726	24.23343	0.36337	50.90293	355.47	-8.23
74/ 7/24	2442252.5	0.35039	0.02335	-0.02349	-11.05533	44.70448	25.07638	0.35195	52.43601	3.81	-3.83
74/ 7/26	2442254.5	0.33278	0.07441	0.00567	-19.49447	43.48646	25.29092	0.34104	53.95125	12.60	0.95
74/ 7/28	2442256.5	0.30527	0.12324	0.03464	-28.13773	40.79742	24.73863	0.33103	55.39098	21.98	6.01
74/ 7/30	2442258.5	0.26785	0.16804	0.06248	-36.59088	36.48871	23.29944	0.32231	56.68493	32.10	11.18
74/ 8/ 1	2442260.5	0.22101	0.20690	0.08810	-44.35021	30.52452	20.90241	0.31530	57.75464	43.11	16.23
74/ 8/ 3	2442262.5	0.16587	0.23796	0.11040	-50.85112	23.03684	17.56023	0.31037	58.52259	55.12	20.84
74/ 8/ 5	2442264.5	0.10422	0.25965	0.12835	-55.55820	14.35493	13.39426	0.30782	58.92524	68.13	24.64
74/ 8/ 7	2442266.5	0.03837	0.27086	0.14111	-58.07684	4.98433	8.63467	0.30782	58.92640	81.94	27.29
74/ 8/ 9	2442268.5	-0.02904	0.27114	0.14818	-58.24452	-4.47144	3.58800	0.31035	58.52599	96.11	28.52
74/ 8/11	2442270.5	-0.09531	0.26073	0.14942	-56.16087	-13.42236	-1.41956	0.31526	57.76000	110.08	28.29
74/ 8/13	2442272.5	-0.15803	0.24051	0.14503	-52.14481	-21.39316	-6.10072	0.32226	56.69187	123.31	26.75
74/ 8/15	2442274.5	-0.21521	0.21180	0.13553	-46.64368	-28.07903	-10.24629	0.33097	55.39902	135.46	24.17
74/ 8/17	2442276.5	-0.26540	0.17619	0.12161	-40.13578	-33.34817	-13.73657	0.34098	53.95994	146.42	20.90
74/ 8/19	2442278.5	-0.30771	0.13531	0.10407	-33.05762	-37.20767	-16.53050	0.35188	52.44497	156.26	17.20
74/ 8/21	2442280.5	-0.34169	0.09074	0.08369	-25.76596	-39.75585	-18.64411	0.36330	50.91184	165.13	13.32

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
74/ 8/23	2442282.5	-0.36725	0.04391	0.06124	-18.52859	-41.13871	-20.12807	0.37491	49.40487	173.18	9.40
74/ 8/25	2442284.5	-0.38459	-0.00392	0.03741	-11.53265	-41.51773	-21.04963	0.38642	47.95634	180.58	5.56
74/ 8/27	2442286.5	-0.39404	-0.05168	0.01280	-4.90008	-41.04990	-21.48036	0.39762	46.58874	187.47	1.84
74/ 8/29	2442288.5	-0.39607	-0.09848	-0.01205	1.29580	-39.87725	-21.48878	0.40831	45.31712	193.96	-1.69
74/ 8/31	2442290.5	-0.39123	-0.14358	-0.03670	7.01586	-38.12274	-21.13671	0.41835	44.15118	200.15	-5.03
74/ 9/ 2	2442292.5	-0.38006	-0.18636	-0.06077	12.24375	-35.88988	-20.47793	0.42763	43.09685	206.12	-8.17
74/ 9/ 4	2442294.5	-0.36313	-0.22634	-0.08391	16.97749	-33.26426	-19.55804	0.43604	42.15760	211.93	-11.10
74/ 9/ 6	2442296.5	-0.34102	-0.26309	-0.10586	21.22337	-30.31585	-18.41518	0.44353	41.33523	217.65	-13.81
74/ 9/ 8	2442298.5	-0.31429	-0.29627	-0.12638	24.99181	-27.10156	-17.08089	0.45003	40.63056	223.31	-16.31
74/ 9/10	2442300.5	-0.28347	-0.32561	-0.14526	28.29453	-23.66759	-15.58112	0.45550	40.04381	228.96	-18.60
74/ 9/12	2442302.5	-0.24910	-0.35088	-0.16232	31.14263	-20.05157	-13.93715	0.45990	39.57490	234.63	-20.67
74/ 9/14	2442304.5	-0.21169	-0.37187	-0.17741	33.54532	-16.28440	-12.16649	0.46323	39.22364	240.35	-22.52
74/ 9/16	2442306.5	-0.17177	-0.38845	-0.19038	35.50905	-12.39191	-10.28362	0.46545	38.98980	246.15	-24.14
74/ 9/18	2442308.5	-0.12983	-0.40046	-0.20113	37.03687	-8.39619	-8.30070	0.46656	38.87322	252.04	-25.54
74/ 9/20	2442310.5	-0.08638	-0.40781	-0.20953	38.12804	-4.31688	-6.22817	0.46655	38.87381	258.04	-26.69
74/ 9/22	2442312.5	-0.04192	-0.41041	-0.21548	38.77762	-0.17231	-4.07533	0.46543	38.99156	264.17	-27.58
74/ 9/24	2442314.5	0.00303	-0.40819	-0.21891	38.97618	4.01932	-1.85095	0.46320	39.22656	270.43	-28.20
74/ 9/26	2442316.5	0.04795	-0.40111	-0.21974	38.70954	8.23884	0.43614	0.45986	39.57900	276.82	-28.54
74/ 9/28	2442318.5	0.09227	-0.38916	-0.21788	37.95853	12.46474	2.77640	0.45545	40.04908	283.34	-28.58
74/ 9/30	2442320.5	0.13544	-0.37233	-0.21331	36.69886	16.67174	5.15879	0.44997	40.63701	289.99	-28.30
74/10/ 2	2442322.5	0.17685	-0.35066	-0.20596	34.90103	20.82903	7.56983	0.44346	41.34287	296.76	-27.67
74/10/ 4	2442324.5	0.21585	-0.32424	-0.19581	32.53060	24.89815	9.99246	0.43596	42.16642	303.65	-26.69
74/10/ 6	2442326.5	0.25176	-0.29319	-0.18288	29.54884	28.83039	12.40459	0.42754	43.10684	310.65	-25.32
74/10/ 8	2442328.5	0.28386	-0.25771	-0.16717	25.91410	32.56377	14.77729	0.41826	44.16229	317.76	-23.56
74/10/10	2442330.5	0.31136	-0.21807	-0.14877	21.58432	36.01930	17.07259	0.40821	45.32931	324.99	-21.37
74/10/12	2442332.5	0.33344	-0.17465	-0.12778	16.52143	39.09695	19.24081	0.39751	46.60191	332.36	-18.75
74/10/14	2442334.5	0.34924	-0.12795	-0.10439	10.69826	41.67149	21.21770	0.38631	47.97037	339.88	-15.68
74/10/16	2442336.5	0.35786	-0.07863	-0.07887	4.10920	43.58916	22.92147	0.37479	49.41958	347.61	-12.15
74/10/18	2442338.5	0.35844	-0.02757	-0.05158	-3.21442	44.66677	24.25081	0.36319	50.92695	355.60	-8.17
74/10/20	2442340.5	0.35018	0.02415	-0.02303	-11.18391	44.69592	25.08501	0.35177	52.46011	3.95	-3.75
74/10/22	2442342.5	0.33242	0.07520	0.00613	-19.62867	43.45641	25.28861	0.34088	53.97461	12.75	1.03
74/10/24	2442344.5	0.30476	0.12398	0.03509	-28.27230	40.74297	24.72330	0.33088	55.41258	22.14	6.09
74/10/26	2442346.5	0.26718	0.16870	0.06290	-36.71871	36.40828	23.26948	0.32218	56.70357	32.27	11.26
74/10/28	2442348.5	0.22020	0.20745	0.08848	-44.46274	30.41877	20.85732	0.31520	57.76907	43.29	16.30
74/10/30	2442350.5	0.16496	0.23838	0.11072	-50.93947	22.90941	17.50104	0.31031	58.53168	55.32	20.90
74/11/ 1	2442352.5	0.10322	0.25991	0.12859	-55.61486	14.21253	13.32378	0.30781	58.92819	68.34	24.69
74/11/ 3	2442354.5	0.03732	0.27095	0.14127	-58.09734	4.83593	8.55726	0.30784	58.92294	82.16	27.32
74/11/ 5	2442356.5	-0.03009	0.27105	0.14825	-58.22845	-4.61621	3.50877	0.31041	58.51644	96.33	28.53
74/11/ 7	2442358.5	-0.09633	0.26049	0.14939	-56.11177	-13.55499	-1.49568	0.31536	57.74518	110.29	28.28
74/11/ 9	2442360.5	-0.15897	0.24012	0.14492	-52.06898	-21.50753	-6.16980	0.32239	56.67292	123.51	26.71
74/11/11	2442362.5	-0.21605	0.21130	0.13535	-46.54861	-28.17184	-10.30580	0.33112	55.37720	135.64	24.13
74/11/13	2442364.5	-0.26612	0.17559	0.12137	-40.02874	-33.41863	-13.78533	0.34115	53.93645	146.58	20.84
74/11/15	2442366.5	-0.30830	0.13464	0.10377	-32.94486	-37.25676	-16.56841	0.35206	52.42082	156.41	17.14
74/11/17	2442368.5	-0.34215	0.09002	0.08335	-25.65231	-39.78563	-18.67176	0.36348	50.88783	165.26	13.26
74/11/19	2442370.5	-0.36759	0.04317	0.06088	-18.41754	-41.15165	-20.14643	0.37509	49.38160	173.30	9.34

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74/11/21	2442372.5	-0.38479	-0.00466	0.03703	-11.42653	-41.51636	-21.05983	0.38660	47.93423	180.69	5.50
74/11/23	2442374.5	-0.39413	-0.05241	0.01241	-4.80035	-41.03658	-21.48349	0.39779	46.56807	187.57	1.79
74/11/25	2442376.5	-0.39605	-0.09919	-0.01244	1.38832	-39.85405	-21.48587	0.40847	45.29808	194.06	-1.75
74/11/27	2442378.5	-0.39110	-0.14426	-0.03708	7.10079	-38.09142	-21.12868	0.41851	44.13387	200.25	-5.08
74/11/29	2442380.5	-0.37984	-0.18700	-0.06113	12.32100	-35.85189	-20.46552	0.42777	43.08135	206.21	-8.22
74/12/ 1	2442382.5	-0.36283	-0.22693	-0.08426	17.04710	-33.22079	-19.54191	0.43617	42.14392	212.02	-11.14
74/12/ 3	2442384.5	-0.34064	-0.26363	-0.10619	21.28548	-30.26787	-18.39586	0.44364	41.32339	217.74	-13.85
74/12/ 5	2442386.5	-0.31384	-0.29675	-0.12669	25.04661	-27.04986	-17.05882	0.45012	40.62057	223.40	-16.35
74/12/ 7	2442388.5	-0.28296	-0.32603	-0.14554	28.34221	-23.61281	-15.55666	0.45557	40.03568	229.05	-18.63
74/12/ 9	2442390.5	-0.24854	-0.35123	-0.16257	31.18337	-19.99423	-13.91061	0.45996	39.56863	234.72	-20.70
74/12/11	2442392.5	-0.21109	-0.37216	-0.17763	33.57924	-16.22495	-12.13812	0.46327	39.21923	240.44	-22.55
74/12/13	2442394.5	-0.17113	-0.38867	-0.19057	35.53622	-12.33071	-10.25362	0.46547	38.98725	246.24	-24.17
74/12/15	2442396.5	-0.12917	-0.40061	-0.20127	37.05732	-8.33355	-8.26923	0.46657	38.87252	252.13	-25.56
74/12/17	2442398.5	-0.08569	-0.40789	-0.20964	38.14171	-4.25308	-6.19538	0.46654	38.87495	258.14	-26.70
74/12/19	2442400.5	-0.04122	-0.41041	-0.21556	38.78439	-0.10764	-4.04136	0.46540	38.99452	264.26	-27.59
74/12/21	2442402.5	0.00373	-0.40812	-0.21895	38.97585	4.08459	-1.81594	0.46315	39.23135	270.52	-28.21
74/12/23	2442404.5	0.04864	-0.40096	-0.21973	38.70186	8.30438	0.47206	0.45980	39.58559	276.92	-28.55
74/12/25	2442406.5	0.09295	-0.38893	-0.21783	37.94316	12.53020	2.81307	0.45537	40.05749	283.44	-28.58
74/12/27	2442408.5	0.13610	-0.37203	-0.21321	36.67537	16.73668	5.19601	0.44987	40.64723	290.09	-28.29
74/12/29	2442410.5	0.17747	-0.35029	-0.20582	34.86893	20.89290	7.60736	0.44335	41.35490	296.87	-27.66
74/12/31	2442412.5	0.21643	-0.32379	-0.19563	32.48934	24.96027	10.03000	0.43584	42.18024	303.76	-26.67
75/ 1/ 2	2442414.5	0.25229	-0.29268	-0.18265	29.49778	28.88992	12.44175	0.42740	43.12243	310.76	-25.30
75/ 1/ 4	2442416.5	0.28433	-0.25713	-0.16691	25.85258	32.61961	14.81354	0.41811	44.17959	317.88	-23.53
75/ 1/ 6	2442418.5	0.31175	-0.21743	-0.14846	21.51173	36.07006	17.10725	0.40805	45.34823	325.11	-21.34
75/ 1/ 8	2442420.5	0.33374	-0.17395	-0.12743	16.43725	39.14089	19.27301	0.39734	46.62233	332.47	-18.71
75/ 1/10	2442422.5	0.34943	-0.12720	-0.10401	10.60223	41.70644	21.24630	0.38613	47.99208	340.00	-15.63
75/ 1/12	2442424.5	0.35794	-0.07785	-0.07846	4.00153	43.61251	22.94505	0.37461	49.44227	347.73	-12.09
75/ 1/14	2442426.5	0.35839	-0.02677	-0.05115	-3.33282	44.67546	24.26765	0.36301	50.95020	355.73	-8.10
75/ 1/16	2442428.5	0.34999	0.02495	-0.02259	-11.31103	44.68663	25.09310	0.35160	52.48332	4.08	-3.68
75/ 1/18	2442430.5	0.33208	0.07597	0.00658	-19.76105	43.42581	25.28583	0.34072	53.99698	12.89	1.11
75/ 1/20	2442432.5	0.30426	0.12470	0.03553	-28.40472	40.68830	24.70761	0.33074	55.43313	22.29	6.17
75/ 1/22	2442434.5	0.26653	0.16934	0.06331	-36.84412	36.32810	23.23941	0.32207	56.72116	32.43	11.34
75/ 1/24	2442436.5	0.21942	0.20799	0.08885	-44.57274	30.31388	20.81242	0.31511	57.78250	43.47	16.38
75/ 1/26	2442438.5	0.16405	0.23879	0.11103	-51.02541	22.78350	17.44241	0.31026	58.53989	55.51	20.97
75/ 1/28	2442440.5	0.10224	0.26017	0.12883	-55.66948	14.07227	13.25425	0.30779	58.93042	68.55	24.74
75/ 1/30	2442442.5	0.03630	0.27104	0.14142	-58.11642	4.69016	8.48112	0.30786	58.91897	82.37	27.35
75/ 2/ 1	2442444.5	-0.03111	0.27098	0.14831	-58.21176	-4.75809	3.43103	0.31047	58.50659	96.55	28.54
75/ 2/ 3	2442446.5	-0.09732	0.26025	0.14937	-56.06290	-13.68473	-1.57022	0.31545	57.73029	110.50	28.26
75/ 2/ 5	2442448.5	-0.15989	0.23975	0.14482	-51.99417	-21.61926	-6.23737	0.32251	56.65413	123.70	26.68
75/ 2/ 7	2442450.5	-0.21686	0.21080	0.13517	-46.45519	-28.26242	-10.36395	0.33127	55.35576	135.81	24.08
75/ 2/ 9	2442452.5	-0.26683	0.17500	0.12113	-39.92381	-33.48736	-13.83296	0.34131	53.91349	146.74	20.79
75/ 2/11	2442454.5	-0.30[illegible]8	0.13399	0.10348	-32.83446	-37.30465	-16.60543	0.35223	52.39732	156.55	17.08
75/ 2/13	2442456.5	-0.34260	0.08933	0.08303	-25.54112	-39.81467	-18.69877	0.36366	50.86453	165.39	13.20
75/ 2/15	2442458.5	-0.36791	0.04245	0.06053	-18.30892	-41.16428	-20.16438	0.37527	49.35906	173.42	9.28
75/ 2/17	2442460.5	-0.38499	-0.00539	0.03666	-11.32273	-41.51505	-21.06981	0.38677	47.91284	180.80	5.44

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

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75/ 2/19	2442462.5	-0.39421	-0.05313	0.01204	-4.70276	-41.02360	-21.48659	0.39796	46.54810	187.68	1.73
75/ 2/21	2442464.5	-0.39603	-0.09989	-0.01282	1.47891	-39.83142	-21.48307	0.40863	45.27970	194.16	-1.80
75/ 2/23	2442466.5	-0.39098	-0.14492	-0.03745	7.18400	-38.06084	-21.12085	0.41865	44.11720	200.34	-5.13
75/ 2/25	2442468.5	-0.37962	-0.18763	-0.06149	12.39671	-35.81478	-20.45342	0.42790	43.06645	206.30	-8.26
75/ 2/27	2442470.5	-0.36253	-0.22751	-0.08460	17.11536	-33.17829	-19.52616	0.43629	42.13082	212.11	-11.18
75/ 3/ 1	2442472.5	-0.34027	-0.26416	-0.10651	21.34643	-30.22094	-18.37698	0.44374	41.31209	217.82	-13.89
75/ 3/ 3	2442474.5	-0.31340	-0.29723	-0.12699	25.10042	-26.99925	-17.03724	0.45021	40.61106	223.48	-16.38
75/ 3/ 5	2442476.5	-0.28246	-0.32645	-0.14581	28.38904	-23.55915	-15.53273	0.45564	40.02795	229.13	-18.66
75/ 3/ 7	2442478.5	-0.24799	-0.35158	-0.16281	31.22337	-19.93803	-13.88461	0.46002	39.56269	234.80	-20.73
75/ 3/ 9	2442480.5	-0.21050	-0.37245	-0.17784	33.61252	-16.16664	-12.11029	0.46331	39.21506	240.53	-22.57
75/ 3/11	2442482.5	-0.17051	-0.38888	-0.19075	35.56285	-12.27064	-10.22417	0.46550	38.98485	246.32	-24.19
75/ 3/13	2442484.5	-0.12851	-0.40076	-0.20142	37.07731	-8.27204	-8.23833	0.46657	38.87189	252.22	-25.58
75/ 3/15	2442486.5	-0.08502	-0.40796	-0.20974	38.15501	-4.19042	-6.16316	0.46653	38.87607	258.23	-26.72
75/ 3/17	2442488.5	-0.04054	-0.41041	-0.21563	38.79087	-0.04409	-4.00797	0.46538	38.99740	264.36	-27.60
75/ 3/19	2442490.5	0.00442	-0.40804	-0.21898	38.97534	4.14874	-1.78150	0.46311	39.23599	270.62	-28.22
75/ 3/21	2442492.5	0.04932	-0.40082	-0.21972	38.69409	8.36884	0.50741	0.45974	39.59201	277.02	-28.55
75/ 3/23	2442494.5	0.09362	-0.38871	-0.21778	37.92779	12.59459	2.84916	0.45529	40.06568	283.54	-28.58
75/ 3/25	2442496.5	0.13675	-0.37173	-0.21312	36.65199	16.80059	5.23266	0.44978	40.65721	290.20	-28.28
75/ 3/27	2442498.5	0.17809	-0.34992	-0.20568	34.83704	20.95578	7.64435	0.44324	41.36665	296.97	-27.65
75/ 3/29	2442500.5	0.21700	-0.32335	-0.19546	32.44836	25.02146	10.06701	0.43572	42.19377	303.87	-26.65
75/ 3/31	2442502.5	0.25281	-0.29217	-0.18243	29.44710	28.94857	12.47839	0.42727	43.13770	310.87	-25.28
75/ 4/ 2	2442504.5	0.28478	-0.25655	-0.16664	25.79155	32.67463	14.84931	0.41796	44.19658	317.99	-23.50
75/ 4/ 4	2442506.5	0.31213	-0.21679	-0.14816	21.43972	36.12011	17.14148	0.40789	45.36689	325.22	-21.30
75/ 4/ 6	2442508.5	0.33403	-0.17325	-0.12709	16.35376	39.18424	19.30483	0.39717	46.64254	332.58	-18.66
75/ 4/ 8	2442510.5	0.34961	-0.12646	-0.10363	10.50698	41.74096	21.27460	0.38596	48.01368	340.11	-15.58
75/ 4/10	2442512.5	0.35801	-0.07708	-0.07805	3.89468	43.63561	22.96842	0.37443	49.46497	347.85	-12.03
75/ 4/12	2442514.5	0.35833	-0.02598	-0.05072	-3.45039	44.68413	24.28438	0.36283	50.97359	355.85	-8.04
75/ 4/14	2442516.5	0.34979	0.02574	-0.02214	-11.43739	44.67752	25.10121	0.35143	52.50681	4.21	-3.61
75/ 4/16	2442518.5	0.33173	0.07674	0.00702	-19.89281	43.39556	25.28316	0.34056	54.01978	13.03	1.18
75/ 4/18	2442520.5	0.30376	0.12542	0.03597	-28.53669	40.63410	24.69214	0.33059	55.45425	22.44	6.25
75/ 4/20	2442522.5	0.26588	0.16999	0.06372	-36.96929	36.24843	23.20960	0.32194	56.73943	32.59	11.42
75/ 4/22	2442524.5	0.21863	0.20852	0.08922	-44.68273	30.20945	20.76777	0.31502	57.79669	43.65	16.45
75/ 4/24	2442526.5	0.16315	0.23919	0.11134	-51.11153	22.65792	17.38397	0.31020	58.54888	55.70	21.03
75/ 4/26	2442528.5	0.10125	0.26041	0.12906	-55.72438	13.93216	13.18482	0.30777	58.93345	68.75	24.79
75/ 4/28	2442530.5	0.03527	0.27112	0.14157	-58.13579	4.54432	8.40497	0.30788	58.91574	82.59	27.38
75/ 4/30	2442532.5	-0.03214	0.27089	0.14837	-58.19528	-4.90022	3.35318	0.31053	58.49741	96.77	28.54
75/ 5/ 2	2442534.5	-0.09831	0.26000	0.14934	-56.01408	-13.81485	-1.64497	0.31555	57.71597	110.71	28.25
75/ 5/ 4	2442536.5	-0.16081	0.23936	0.14470	-51.91921	-21.73140	-6.30517	0.32263	56.63579	123.89	26.65
75/ 5/ 6	2442538.5	-0.21769	0.21030	0.13498	-46.36140	-28.35339	-10.42235	0.33141	55.33462	135.99	24.04
75/ 5/ 8	2442540.5	-0.26753	0.17441	0.12088	-39.81834	-33.55638	-13.88080	0.34147	53.89070	146.90	20.73
75/ 5/10	2442542.5	-0.30946	0.13332	0.10319	-32.72339	-37.35269	-16.64261	0.35241	52.37385	156.69	17.03
75/ 5/12	2442544.5	-0.34305	0.08862	0.08270	-25.42919	-39.84373	-18.72586	0.36384	50.84117	165.52	13.14
75/ 5/14	2442546.5	-0.36823	0.04172	0.06017	-18.19956	-41.17678	-20.18233	0.37544	49.33637	173.54	9.22
75/ 5/16	2442548.5	-0.38519	-0.00612	0.03629	-11.21823	-41.51346	-21.07971	0.38695	47.89123	180.91	5.38
75/ 5/18	2442550.5	-0.39429	-0.05386	0.01166	-4.60457	-41.01023	-21.48953	0.39812	46.52785	187.78	1.68

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75/ 5/20	2442552.5	-0.39600	-0.10059	-0.01320	1.56999	-39.80829	-21.48006	0.40879	45.26100	194.25	-1.85
75/ 5/22	2442554.5	-0.39085	-0.14560	-0.03783	7.26756	-38.02969	-21.11276	0.41880	44.10015	200.43	-5.18
75/ 5/24	2442556.5	-0.37940	-0.18827	-0.06185	12.47265	-35.77704	-20.44102	0.42804	43.05112	206.39	-8.31
75/ 5/26	2442558.5	-0.36223	-0.22810	-0.08495	17.18374	-33.13517	-19.51009	0.43641	42.11726	212.20	-11.22
75/ 5/28	2442560.5	-0.33989	-0.26469	-0.10684	21.40738	-30.17338	-18.35777	0.44385	41.30032	217.91	-13.93
75/ 5/30	2442562.5	-0.31295	-0.29770	-0.12729	25.15412	-26.94805	-17.01533	0.45030	40.60109	223.57	-16.42
75/ 6/ 1	2442564.5	-0.28196	-0.32686	-0.14609	28.43568	-23.50494	-15.50847	0.45572	40.01978	229.22	-18.70
75/ 6/ 3	2442566.5	-0.24744	-0.35194	-0.16306	31.26311	-19.88133	-13.85831	0.46008	39.55631	234.89	-20.76
75/ 6/ 5	2442568.5	-0.20991	-0.37273	-0.17805	33.64549	-16.10787	-12.08218	0.46335	39.21048	240.61	-22.60
75/ 6/ 7	2442570.5	-0.16988	-0.38910	-0.19093	35.58912	-12.21016	-10.19446	0.46552	38.98205	246.41	-24.21
75/ 6/ 9	2442572.5	-0.12786	-0.40090	-0.20157	37.09690	-8.21017	-8.20718	0.46658	38.87087	252.31	-25.59
75/ 6/11	2442574.5	-0.08435	-0.40804	-0.20985	38.16789	-4.12745	-6.13074	0.46653	38.87685	258.32	-26.73
75/ 6/13	2442576.5	-0.03985	-0.41041	-0.21570	38.79693	0.01970	-3.97440	0.46535	38.99998	264.45	-27.61
75/ 6/15	2442578.5	0.00511	-0.40797	-0.21901	38.97440	4.21307	-1.74692	0.46307	39.24036	270.72	-28.23
75/ 6/17	2442580.5	0.05000	-0.40067	-0.21971	38.68590	8.43340	0.54285	0.45968	39.59818	277.11	-28.55
75/ 6/19	2442582.5	0.09429	-0.38849	-0.21773	37.91201	12.65903	2.88532	0.45522	40.07364	283.64	-28.58
75/ 6/21	2442584.5	0.13739	-0.37143	-0.21303	36.62822	16.86448	5.26935	0.44969	40.66698	290.30	-28.28
75/ 6/23	2442586.5	0.17870	-0.34955	-0.20555	34.80479	21.01861	7.68134	0.44313	41.37824	297.08	-27.64
75/ 6/25	2442588.5	0.21758	-0.32291	-0.19528	32.40708	25.08257	10.10401	0.43560	42.20716	303.97	-26.63
75/ 6/27	2442590.5	0.25333	-0.29166	-0.18221	29.39617	29.00713	12.51502	0.42713	43.15291	310.98	-25.25
75/ 6/29	2442592.5	0.28523	-0.25598	-0.16638	25.73032	32.72958	14.88506	0.41781	44.21357	318.09	-23.47
75/ 7/ 1	2442594.5	0.31250	-0.21615	-0.14786	21.36757	36.17008	17.17568	0.40773	45.38559	325.33	-21.26
75/ 7/ 3	2442596.5	0.33431	-0.17256	-0.12675	16.27014	39.22752	19.33663	0.39700	46.66284	332.70	-18.62
75/ 7/ 5	2442598.5	0.34980	-0.12573	-0.10326	10.41161	41.77541	21.30286	0.38578	48.03539	340.23	-15.53
75/ 7/ 7	2442600.5	0.35807	-0.07631	-0.07765	3.78769	43.65864	22.99176	0.37426	49.48782	347.97	-11.97
75/ 7/ 9	2442602.5	0.35826	-0.02519	-0.05029	-3.56814	44.69270	24.30108	0.36265	50.99717	355.98	-7.97
75/ 7/11	2442604.5	0.34958	0.02653	-0.02170	-11.56397	44.66829	25.10928	0.35126	52.53054	4.34	-3.54
75/ 7/13	2442606.5	0.33137	0.07751	0.00747	-20.02482	43.36518	25.28045	0.34040	54.04288	13.16	1.26
75/ 7/15	2442608.5	0.30325	0.12614	0.03640	-28.66897	40.57970	24.67659	0.33045	55.47573	22.59	6.32
75/ 7/17	2442610.5	0.26522	0.17062	0.06413	-37.09482	36.16849	23.17967	0.32182	56.75811	32.75	11.50
75/ 7/19	2442612.5	0.21783	0.20906	0.08958	-44.79307	30.10463	20.72295	0.31493	57.81132	43.82	16.53
75/ 7/21	2442614.5	0.16224	0.23959	0.11164	-51.19793	22.53182	17.32529	0.31014	58.55831	55.90	21.10
75/ 7/23	2442616.5	0.10026	0.26066	0.12929	-55.77944	13.79142	13.11507	0.30775	58.93687	68.96	24.84
75/ 7/25	2442618.5	0.03423	0.27120	0.14172	-58.15515	4.39778	8.32844	0.30790	58.91286	82.81	27.40
75/ 7/27	2442620.5	-0.03318	0.27080	0.14843	-58.17859	-5.04307	3.27492	0.31059	58.48851	96.99	28.55
75/ 7/29	2442622.5	-0.09931	0.25975	0.14931	-55.96484	-13.94564	-1.72011	0.31564	57.70185	110.92	28.23
75/ 7/31	2442624.5	-0.16173	0.23897	0.14459	-51.84364	-21.84412	-6.37334	0.32275	56.61756	124.09	26.61
75/ 8/ 2	2442626.5	-0.21851	0.20979	0.13480	-46.26688	-28.44481	-10.48105	0.33156	55.31350	136.17	23.99
75/ 8/ 4	2442628.5	-0.26824	0.17381	0.12063	-39.71203	-33.62570	-13.92888	0.34163	53.86787	147.06	20.68
75/ 8/ 6	2442630.5	-0.31005	0.13265	0.10289	-32.61143	-37.40090	-16.67996	0.35258	52.35030	156.84	16.97
75/ 8/ 8	2442632.5	-0.34351	0.08791	0.08236	-25.31635	-39.87282	-18.75306	0.36402	50.81768	165.65	13.08
75/ 8/10	2442634.5	-0.36856	0.04099	0.05980	-18.08929	-41.18919	-20.20034	0.37562	49.31354	173.65	9.16
75/ 8/12	2442636.5	-0.38539	-0.00687	0.03591	-11.11284	-41.51167	-21.08961	0.38712	47.86947	181.02	5.32
75/ 8/14	2442638.5	-0.39437	-0.05459	0.01127	-4.50551	-40.99656	-21.49240	0.39829	46.50743	187.88	1.62
75/ 8/16	2442640.5	-0.39597	-0.10131	-0.01358	1.66188	-39.78478	-21.47692	0.40895	45.24211	194.35	-1.90

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75/ 8/18	2442642.5	-0.39072	-0.14628	-0.03821	7.35189	-37.99807	-21.10450	0.41895	44.08292	200.53	-5.23
75/ 8/20	2442644.5	-0.37918	-0.18891	-0.06222	12.54930	-35.73878	-20.42841	0.42817	43.03563	206.48	-8.36
75/ 8/22	2442646.5	-0.36192	-0.22869	-0.08530	17.25276	-33.09145	-19.49377	0.43653	42.10355	212.29	-11.27
75/ 8/24	2442648.5	-0.33951	-0.26523	-0.10717	21.46891	-30.12519	-18.33828	0.44396	41.28842	218.00	-13.97
75/ 8/26	2442650.5	-0.31250	-0.29819	-0.12759	25.20835	-26.89617	-16.99311	0.45039	40.59102	223.66	-16.46
75/ 8/28	2442652.5	-0.28145	-0.32728	-0.14636	28.48278	-23.45001	-15.48389	0.45580	40.01153	229.31	-18.73
75/ 8/30	2442654.5	-0.24688	-0.35229	-0.16331	31.30324	-19.82387	-13.83165	0.46014	39.54988	234.98	-20.79
75/ 9/ 1	2442656.5	-0.20931	-0.37302	-0.17827	33.67877	-16.04832	-12.05370	0.46340	39.20586	240.70	-22.63
75/ 9/ 3	2442658.5	-0.16924	-0.38932	-0.19111	35.61563	-12.14888	-10.16434	0.46555	38.97925	246.50	-24.24
75/ 9/ 5	2442660.5	-0.12720	-0.40105	-0.20171	37.11666	-8.14749	-8.17562	0.46659	38.86989	252.40	-25.61
75/ 9/ 7	2442662.5	-0.08367	-0.40811	-0.20996	38.18085	-4.06364	-6.09788	0.46652	38.87769	258.41	-26.75
75/ 9/ 9	2442664.5	-0.03916	-0.41041	-0.21577	38.80301	0.08435	-3.94037	0.46533	39.00265	264.55	-27.63
75/ 9/11	2442666.5	0.00580	-0.40790	-0.21904	38.97340	4.27828	-1.71187	0.46302	39.24488	270.81	-28.23
75/ 9/13	2442668.5	0.05069	-0.40052	-0.21970	38.67756	8.49886	0.57879	0.45962	39.60454	277.21	-28.55
75/ 9/15	2442670.5	0.09497	-0.38826	-0.21768	37.89601	12.72439	2.92200	0.45514	40.08187	283.74	-28.57
75/ 9/17	2442672.5	0.13804	-0.37113	-0.21293	36.60412	16.92930	5.30658	0.44959	40.67706	290.40	-28.27
75/ 9/19	2442674.5	0.17932	-0.34917	-0.20541	34.77210	21.08238	7.71888	0.44302	41.39018	297.18	-27.62
75/ 9/21	2442676.5	0.21815	-0.32246	-0.19510	32.36521	25.14462	10.14157	0.43547	42.22097	304.08	-26.62
75/ 9/23	2442678.5	0.25385	-0.29114	-0.18199	29.34449	29.06659	12.55220	0.42699	43.16855	311.09	-25.23
75/ 9/25	2442680.5	0.28569	-0.25539	-0.16612	25.66816	32.78538	14.92136	0.41766	44.23102	318.21	-23.44
75/ 9/27	2442682.5	0.31288	-0.21551	-0.14755	21.29428	36.22083	17.21042	0.40756	45.40477	325.44	-21.22
75/ 9/29	2442684.5	0.33460	-0.17186	-0.12641	16.18518	39.27145	19.36890	0.39683	46.68363	332.81	-18.57
75/10/ 1	2442686.5	0.34998	-0.12498	-0.10288	10.31469	41.81035	21.33155	0.38560	48.05760	340.35	-15.47
75/10/ 3	2442688.5	0.35814	-0.07553	-0.07723	3.67898	43.68193	23.01542	0.37407	49.51117	348.09	-11.92
75/10/ 5	2442690.5	0.35820	-0.02439	-0.04985	-3.68775	44.70125	24.31796	0.36247	51.02121	356.10	-7.91
75/10/ 7	2442692.5	0.34937	0.02733	-0.02125	-11.69248	44.65869	25.11735	0.35108	52.55468	4.47	-3.47
75/10/ 9	2442694.5	0.33101	0.07828	0.00793	-20.15875	43.33401	25.27752	0.34023	54.06630	13.31	1.33
75/10/11	2442696.5	0.30273	0.12687	0.03685	-28.80299	40.52411	24.66058	0.33030	55.49738	22.74	6.41
75/10/13	2442698.5	0.26455	0.17127	0.06455	-37.22176	36.08695	23.14903	0.32170	56.77680	32.92	11.58
75/10/15	2442700.5	0.21702	0.20959	0.08996	-44.90433	29.99792	20.67722	0.31483	57.82578	44.00	16.60
75/10/17	2442702.5	0.16132	0.23999	0.11195	-51.28467	22.40371	17.26557	0.31009	58.56742	56.09	21.16
75/10/19	2442704.5	0.09925	0.26090	0.12953	-55.83425	13.64873	13.04425	0.30773	58.93983	69.17	24.89
75/10/21	2442706.5	0.03318	0.27127	0.14187	-58.17372	4.24954	8.25092	0.30792	58.90941	83.03	27.43
75/10/23	2442708.5	-0.03423	0.27071	0.14849	-58.16072	-5.18725	3.19583	0.31065	58.47897	97.21	28.55
75/10/25	2442710.5	-0.10031	0.25950	0.14928	-55.91420	-14.07733	-1.79588	0.31573	57.68704	111.13	28.22
75/10/27	2442712.5	-0.16267	0.23858	0.14447	-51.76661	-21.95734	-6.44193	0.32288	56.59863	124.29	26.58
75/10/29	2442714.5	-0.21935	0.20928	0.13461	-46.17097	-28.53637	-10.53998	0.33171	55.29172	136.35	23.94
75/10/31	2442716.5	-0.26896	0.17320	0.12038	-39.60449	-33.69491	-13.97703	0.34180	53.84441	147.22	20.62
75/11/ 2	2442718.5	-0.31063	0.13198	0.10259	-32.49843	-37.44881	-16.71726	0.35275	52.32617	156.98	16.91
75/11/ 4	2442720.5	-0.34396	0.08719	0.08202	-25.20268	-39.90151	-18.78013	0.36420	50.79369	165.78	13.02
75/11/ 6	2442722.5	-0.36888	0.04024	0.05944	-17.97837	-41.20115	-20.21816	0.37580	49.29027	173.77	9.10
75/11/ 8	2442724.5	-0.38559	-0.00761	0.03553	-11.00697	-41.50944	-21.09931	0.38730	47.84734	181.13	5.26
75/11/10	2442726.5	-0.39446	-0.05533	0.01089	-4.40611	-40.98247	-21.49509	0.39847	46.48673	187.98	1.57
75/11/12	2442728.5	-0.39594	-0.10202	-0.01397	1.75402	-39.76089	-21.47360	0.40911	45.22301	194.45	-1.96
75/11/14	2442730.5	-0.39059	-0.14696	-0.03859	7.43640	-37.96614	-21.09609	0.41910	44.06555	200.62	-5.28

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75/11/16	2442732.5	-0.37895	-0.18955	-0.06259	12.62608	-35.70025	-20.41566	0.42831	43.02005	206.57	-8.40
75/11/18	2442734.5	-0.36161	-0.22929	-0.08565	17.32187	-33.04751	-19.47734	0.43666	42.08980	212.38	-11.31
75/11/20	2442736.5	-0.33912	-0.26577	-0.10750	21.53051	-30.07681	-18.31869	0.44407	41.27653	218.09	-14.01
75/11/22	2442738.5	-0.31205	-0.29867	-0.12790	25.26262	-26.84414	-16.97081	0.45049	40.58098	223.74	-16.49
75/11/24	2442740.5	-0.28094	-0.32770	-0.14664	28.52992	-23.39496	-15.45924	0.45587	40.00336	229.39	-18.76
75/11/26	2442742.5	-0.24632	-0.35265	-0.16356	31.34341	-19.76632	-13.80494	0.46020	39.54356	235.07	-20.82
75/11/28	2442744.5	-0.20870	-0.37331	-0.17849	33.71211	-15.98870	-12.02517	0.46344	39.20140	240.79	-22.65
75/11/30	2442746.5	-0.16861	-0.38954	-0.19129	35.64221	-12.08756	-10.13421	0.46557	38.97664	246.60	-24.26
75/12/ 2	2442748.5	-0.12653	-0.40120	-0.20186	37.13650	-8.08477	-8.14405	0.46660	38.86912	252.50	-25.63
75/12/ 4	2442750.5	-0.08298	-0.40818	-0.21007	38.19391	-3.99982	-6.06501	0.46651	38.87876	258.51	-26.76
75/12/ 6	2442752.5	-0.03847	-0.41041	-0.21584	38.80916	0.14900	-3.90635	0.46530	39.00555	264.65	-27.64
75/12/ 8	2442754.5	0.00650	-0.40782	-0.21907	38.97247	4.34348	-1.67683	0.46298	39.24960	270.91	-28.24
75/12/10	2442756.5	0.05139	-0.40037	-0.21969	38.66928	8.56430	0.61472	0.45956	39.61109	277.31	-28.56
75/12/12	2442758.5	0.09564	-0.38803	-0.21763	37.88003	12.78971	2.95865	0.45506	40.09024	283.85	-28.57
75/12/14	2442760.5	0.13870	-0.37083	-0.21284	36.58003	16.99408	5.34377	0.44950	40.68726	290.51	-28.26
75/12/16	2442762.5	0.17994	-0.34879	-0.20527	34.73940	21.14607	7.75638	0.44292	41.40222	297.29	-27.61
75/12/18	2442764.5	0.21873	-0.32201	-0.19492	32.32332	25.20654	10.17907	0.43535	42.23482	304.19	-26.60
75/12/20	2442766.5	0.25438	-0.29062	-0.18176	29.29278	29.12589	12.58930	0.42685	43.18420	311.20	-25.20
75/12/22	2442768.5	0.28615	-0.25480	-0.16585	25.60597	32.84094	14.95753	0.41751	44.24840	318.32	-23.41
75/12/24	2442770.5	0.31326	-0.21486	-0.14724	21.22097	36.27125	17.24498	0.40740	45.42381	325.56	-21.19
75/12/26	2442772.5	0.33489	-0.17116	-0.12606	16.10026	39.31498	19.40097	0.39666	46.70421	332.93	-18.53
75/12/28	2442774.5	0.35016	-0.12423	-0.10250	10.21788	41.84480	21.35997	0.38543	48.07952	340.47	-15.42
75/12/30	2442776.5	0.35820	-0.07475	-0.07682	3.57049	43.70466	23.03876	0.37389	49.53413	348.21	-11.86
76/ 1/ 1	2442778.5	0.35813	-0.02359	-0.04942	-3.80698	44.70919	24.33447	0.36229	51.04480	356.23	-7.84
76/ 1/ 3	2442780.5	0.34916	0.02813	-0.02080	-11.82042	44.64848	25.12503	0.35091	52.57828	4.61	-3.40
76/ 1/ 5	2442782.5	0.33065	0.07906	0.00838	-20.29187	43.30228	25.27420	0.34007	54.08912	13.45	1.41
76/ 1/ 7	2442784.5	0.30221	0.12759	0.03729	-28.93597	40.46807	24.64422	0.33016	55.51840	22.89	6.48
76/ 1/ 9	2442786.5	0.26389	0.17192	0.06496	-37.34744	36.00520	23.11814	0.32158	56.79485	33.08	11.65
76/ 1/11	2442788.5	0.21622	0.21013	0.09032	-45.01420	29.89132	20.63139	0.31475	57.83964	44.18	16.68
76/ 1/13	2442790.5	0.16040	0.24039	0.11226	-51.37001	22.27607	17.20595	0.31003	58.57598	56.29	21.23
76/ 1/15	2442792.5	0.09826	0.26114	0.12976	-55.88780	13.50690	12.97376	0.30772	58.94235	69.38	24.94
76/ 1/17	2442794.5	0.03215	0.27135	0.14202	-58.19134	4.10247	8.17393	0.30795	58.90565	83.24	27.46
76/ 1/19	2442796.5	-0.03527	0.27061	0.14855	-58.14232	-5.33008	3.11741	0.31071	58.46928	97.42	28.56
76/ 1/21	2442798.5	-0.10131	0.25925	0.14924	-55.86351	-14.20765	-1.87093	0.31583	57.67226	111.34	28.20
76/ 1/23	2442800.5	-0.16359	0.23818	0.14436	-51.68998	-22.06931	-6.50981	0.32300	56.57991	124.48	26.55
76/ 1/25	2442802.5	-0.22017	0.20877	0.13442	-46.07579	-28.62691	-10.59829	0.33185	55.27027	136.52	23.89
76/ 1/27	2442804.5	-0.26966	0.17260	0.12013	-39.49790	-33.76336	-14.02468	0.34196	53.82138	147.38	20.57
76/ 1/29	2442806.5	-0.31121	0.13131	0.10229	-32.38649	-37.49622	-16.75419	0.35293	52.30253	157.12	16.85
76/ 1/31	2442808.5	-0.34441	0.08648	0.08169	-25.09007	-39.92993	-18.80695	0.36438	50.77019	165.91	12.95
76/ 2/ 2	2442810.5	-0.36920	0.03951	0.05908	-17.86847	-41.21304	-20.23585	0.37598	49.26750	173.89	9.04
76/ 2/ 4	2442812.5	-0.38579	-0.00835	0.03515	-10.90202	-41.50728	-21.10896	0.38748	47.82569	181.24	5.21
76/ 2/ 6	2442814.5	-0.39453	-0.05606	0.01050	-4.30752	-40.96858	-21.49779	0.39863	46.46648	188.09	1.51
76/ 2/ 8	2442816.5	-0.39591	-0.10273	-0.01435	1.84545	-39.73729	-21.47037	0.40927	45.20436	194.55	-2.01
76/ 2/10	2442818.5	-0.39045	-0.14764	-0.03896	7.52031	-37.93454	-21.08780	0.41925	44.04861	200.71	-5.33
76/ 2/12	2442820.5	-0.37873	-0.19018	-0.06295	12.70235	-35.66209	-20.40307	0.42845	43.00488	206.66	-8.45

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76/ 2/14	2442822.5	-0.36130	-0.22988	-0.08600	17.39056	-33.00396	-19.46107	0.43678	42.07643	212.47	-11.36
76/ 2/16	2442824.5	-0.33874	-0.26631	-0.10783	21.59177	-30.02882	-18.29928	0.44417	41.26497	218.17	-14.05
76/ 2/18	2442826.5	-0.31160	-0.29915	-0.12820	25.31661	-26.79248	-16.94868	0.45058	40.57124	223.83	-16.53
76/ 2/20	2442828.5	-0.28043	-0.32812	-0.14692	28.57683	-23.34026	-15.43475	0.45595	39.99543	229.48	-18.80
76/ 2/22	2442830.5	-0.24576	-0.35300	-0.16380	31.38340	-19.70911	-13.77839	0.46026	39.53746	235.15	-20.85
76/ 2/24	2442832.5	-0.20810	-0.37359	-0.17870	33.74529	-15.92940	-11.99681	0.46348	39.19712	240.88	-22.68
76/ 2/26	2442834.5	-0.16797	-0.38975	-0.19147	35.66866	-12.02655	-10.10424	0.46560	38.97418	246.69	-24.28
76/ 2/28	2442836.5	-0.12587	-0.40134	-0.20200	37.15623	-8.02238	-8.11264	0.46661	38.86848	252.59	-25.65
76/ 3/ 1	2442838.5	-0.08230	-0.40825	-0.21018	38.20686	-3.93633	-6.03232	0.46650	38.87992	258.60	-26.78
76/ 3/ 3	2442840.5	-0.03778	-0.41041	-0.21591	38.81522	0.21331	-3.87251	0.46527	39.00850	264.74	-27.65
76/ 3/ 5	2442842.5	0.00719	-0.40774	-0.21910	38.97145	4.40831	-1.64197	0.46294	39.25434	271.01	-28.25
76/ 3/ 7	2442844.5	0.05208	-0.40021	-0.21968	38.66092	8.62934	0.65044	0.45950	39.61761	277.41	-28.56
76/ 3/ 9	2442846.5	0.09632	-0.38781	-0.21758	37.86400	12.85459	2.99507	0.45498	40.09855	283.95	-28.57
76/ 3/11	2442848.5	0.13935	-0.37053	-0.21274	36.55590	17.05835	5.38070	0.44941	40.69734	290.61	-28.25
76/ 3/13	2442850.5	0.18056	-0.34842	-0.20514	34.70668	21.20918	7.79357	0.44281	41.41404	297.39	-27.60
76/ 3/15	2442852.5	0.21931	-0.32156	-0.19474	32.28146	25.26780	10.21621	0.43523	42.24838	304.29	-26.58
76/ 3/17	2442854.5	0.25490	-0.29010	-0.18154	29.24117	29.18444	12.62599	0.42672	43.19946	311.30	-25.18
76/ 3/19	2442856.5	0.28661	-0.25422	-0.16558	25.54398	32.89568	14.99324	0.41736	44.26531	318.43	-23.37
76/ 3/21	2442858.5	0.31364	-0.21421	-0.14693	21.14802	36.32079	17.27903	0.40725	45.44230	325.67	-21.15
76/ 3/23	2442860.5	0.33518	-0.17046	-0.12572	16.01586	39.35757	19.43247	0.39649	46.72416	333.04	-18.49
76/ 3/25	2442862.5	0.35035	-0.12349	-0.10212	10.12185	41.87829	21.38779	0.38526	48.10074	340.58	-15.37
76/ 3/27	2442864.5	0.35827	-0.07398	-0.07642	3.46306	43.72646	23.06148	0.37372	49.55631	348.33	-11.80
76/ 3/29	2442866.5	0.35807	-0.02280	-0.04899	-3.92483	44.71627	24.35038	0.36212	51.06751	356.36	-7.78
76/ 3/31	2442868.5	0.34896	0.02891	-0.02036	-11.94660	44.63755	25.13215	0.35074	52.60093	4.74	-3.33
76/ 4/ 2	2442870.5	0.33029	0.07982	0.00882	-20.42286	43.27012	25.27044	0.33992	54.11092	13.59	1.49
76/ 4/ 4	2442872.5	0.30171	0.12830	0.03772	-29.06649	40.41204	24.62762	0.33002	55.53840	23.04	6.56
76/ 4/ 6	2442874.5	0.26324	0.17255	0.06537	-37.47044	35.92403	23.08730	0.32146	56.81191	33.24	11.73
76/ 4/ 8	2442876.5	0.21544	0.21065	0.09069	-45.12137	29.78598	20.58597	0.31466	57.85261	44.36	16.75
76/ 4/10	2442878.5	0.15951	0.24078	0.11256	-51.45287	22.15041	17.14714	0.30998	58.58381	56.48	21.29
76/ 4/12	2442880.5	0.09728	0.26138	0.12999	-55.93937	13.36765	12.90445	0.30770	58.94431	69.59	24.99
76/ 4/14	2442882.5	0.03113	0.27142	0.14216	-58.20772	3.95841	8.09842	0.30797	58.90155	83.46	27.49
76/ 4/16	2442884.5	-0.03628	0.27052	0.14860	-58.12354	-5.46974	3.04065	0.31077	58.45947	97.64	28.57
76/ 4/18	2442886.5	-0.10228	0.25900	0.14921	-55.81331	-14.33491	-1.94428	0.31592	57.65757	111.55	28.18
76/ 4/20	2442888.5	-0.16449	0.23780	0.14425	-51.61459	-22.17855	-6.57610	0.32313	56.56146	124.67	26.51
76/ 4/22	2442890.5	-0.22097	0.20827	0.13423	-45.98245	-28.71520	-10.65521	0.33200	55.24927	136.69	23.85
76/ 4/24	2442892.5	-0.27035	0.17201	0.11989	-39.39354	-33.83013	-14.07119	0.34212	53.79895	147.53	20.51
76/ 4/26	2442894.5	-0.31177	0.13066	0.10200	-32.27697	-37.54252	-16.79027	0.35310	52.27960	157.26	16.79
76/ 4/28	2442896.5	-0.34485	0.08578	0.08136	-24.97994	-39.95775	-18.83320	0.36455	50.74749	166.03	12.90
76/ 4/30	2442898.5	-0.36951	0.03879	0.05873	-17.76095	-41.22477	-20.25320	0.37616	49.24556	174.01	8.98
76/ 5/ 2	2442900.5	-0.38598	-0.00908	0.03478	-10.79931	-41.50533	-21.11849	0.38765	47.80490	181.35	5.15
76/ 5/ 4	2442902.5	-0.39461	-0.05677	0.01013	-4.21096	-40.95518	-21.50055	0.39880	46.44709	188.19	1.45
76/ 5/ 6	2442904.5	-0.39587	-0.10342	-0.01473	1.93509	-39.71439	-21.46733	0.40943	45.18654	194.64	-2.06
76/ 5/ 8	2442906.5	-0.39032	-0.14830	-0.03933	7.60265	-37.90380	-21.07981	0.41939	44.03245	200.80	-5.38
76/ 5/10	2442908.5	-0.37850	-0.19081	-0.06331	12.77726	-35.62489	-20.39085	0.42858	42.99044	206.75	-8.49
76/ 5/12	2442910.5	-0.36099	-0.23045	-0.08634	17.45808	-32.96143	-19.44523	0.43690	42.06373	212.55	-11.40

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76/ 5/14	2442912.5	-0.33836	-0.26683	-0.10815	21.65201	-29.98188	-18.28033	0.44428	41.25401	218.26	-14.09
76/ 5/16	2442914.5	-0.31116	-0.29962	-0.12850	25.36974	-26.74190	-16.92704	0.45066	40.56202	223.92	-16.57
76/ 5/18	2442916.5	-0.27993	-0.32853	-0.14719	28.62301	-23.28665	-15.41077	0.45602	39.98796	229.57	-18.83
76/ 5/20	2442918.5	-0.24521	-0.35334	-0.16404	31.42276	-19.65298	-13.75237	0.46031	39.53172	235.24	-20.88
76/ 5/22	2442920.5	-0.20751	-0.37387	-0.17891	33.77795	-15.87118	-11.96896	0.46352	39.19311	240.97	-22.70
76/ 5/24	2442922.5	-0.16734	-0.38996	-0.19165	35.69466	-11.96658	-10.07477	0.46562	38.97190	246.77	-24.31
76/ 5/26	2442924.5	-0.12521	-0.40148	-0.20215	37.17556	-7.96097	-8.08172	0.46661	38.86790	252.68	-25.67
76/ 5/28	2442926.5	-0.08163	-0.40832	-0.21029	38.21947	-3.87379	-6.00009	0.46649	38.88104	258.70	-26.79
76/ 5/30	2442928.5	-0.03709	-0.41040	-0.21598	38.82098	0.27670	-3.83913	0.46525	39.01133	264.84	-27.66
76/ 6/ 1	2442930.5	0.00788	-0.40766	-0.21913	38.97017	4.47226	-1.60757	0.46289	39.25888	271.11	-28.25
76/ 6/ 3	2442932.5	0.05276	-0.40006	-0.21967	38.65235	8.69352	0.68572	0.45944	39.62388	277.51	-28.56
76/ 6/ 5	2442934.5	0.09699	-0.38758	-0.21753	37.84782	12.91863	3.03107	0.45491	40.10655	284.05	-28.57
76/ 6/ 7	2442936.5	0.14000	-0.37023	-0.21265	36.53170	17.12182	5.41721	0.44932	40.70710	290.71	-28.25
76/ 6/ 9	2442938.5	0.18117	-0.34805	-0.20500	34.67398	21.27153	7.83035	0.44270	41.42556	297.50	-27.59
76/ 6/11	2442940.5	0.21988	-0.32112	-0.19456	32.23970	25.32837	10.25297	0.43511	42.26166	304.40	-26.56
76/ 6/13	2442942.5	0.25542	-0.28959	-0.18132	29.18974	29.24236	12.66232	0.42659	43.21448	311.41	-25.15
76/ 6/15	2442944.5	0.28706	-0.25365	-0.16532	25.48226	32.94987	15.02864	0.41722	44.28205	318.54	-23.34
76/ 6/17	2442946.5	0.31402	-0.21358	-0.14663	21.07541	36.36988	17.31281	0.40709	45.46069	325.78	-21.11
76/ 6/19	2442948.5	0.33546	-0.16977	-0.12538	15.93188	39.39983	19.46376	0.39633	46.74408	333.16	-18.44
76/ 6/21	2442950.5	0.35053	-0.12276	-0.10174	10.02624	41.91157	21.41546	0.38509	48.12201	340.70	-15.32
76/ 6/23	2442952.5	0.35833	-0.07321	-0.07601	3.35605	43.74818	23.08413	0.37355	49.57865	348.45	-11.74
76/ 6/25	2442954.5	0.35800	-0.02202	-0.04856	-4.04229	44.72341	24.36629	0.36195	51.09051	356.48	-7.71
76/ 6/27	2442956.5	0.34875	0.02970	-0.01992	-12.07251	44.62682	25.13934	0.35057	52.62400	4.87	-3.26
76/ 6/29	2442958.5	0.32993	0.08058	0.00926	-20.55373	43.23824	25.26681	0.33976	54.13329	13.72	1.56
76/ 7/ 1	2442960.5	0.30120	0.12901	0.03815	-29.19709	40.35630	24.61118	0.32988	55.55908	23.19	6.64
76/ 7/ 3	2442962.5	0.26258	0.17318	0.06577	-37.59373	35.84307	23.05659	0.32135	56.82975	33.41	11.81
76/ 7/ 5	2442964.5	0.21464	0.21117	0.09105	-45.22898	29.68066	20.54060	0.31457	57.86638	44.53	16.82
76/ 7/ 7	2442966.5	0.15860	0.24117	0.11286	-51.53625	22.02453	17.08826	0.30993	58.59243	56.67	21.36
76/ 7/ 9	2442968.5	0.09630	0.26161	0.13021	-55.99143	13.22793	12.83493	0.30769	58.94704	69.79	25.04
76/ 7/11	2442970.5	0.03011	0.27149	0.14230	-58.22443	3.81364	8.02258	0.30799	58.89813	83.67	27.52
76/ 7/13	2442972.5	-0.03730	0.27042	0.14865	-58.10485	-5.61025	2.96344	0.31083	58.45024	97.85	28.57
76/ 7/15	2442974.5	-0.10326	0.25875	0.14918	-55.76292	-14.46307	-2.01813	0.31602	57.64335	111.76	28.17
76/ 7/17	2442976.5	-0.16539	0.23741	0.14413	-51.53873	-22.28864	-6.64289	0.32325	56.54336	124.86	26.48
76/ 7/19	2442978.5	-0.22178	0.20776	0.13404	-45.88839	-28.80421	-10.71258	0.33214	55.22849	136.87	23.80
76/ 7/21	2442980.5	-0.27104	0.17141	0.11964	-39.28826	-33.89741	-14.11808	0.34228	53.77659	147.69	20.46
76/ 7/23	2442982.5	-0.31234	0.12999	0.10170	-32.16643	-37.58909	-16.82660	0.35327	52.25661	157.40	16.73
76/ 7/25	2442984.5	-0.34528	0.08507	0.08102	-24.86874	-39.98560	-18.85957	0.36472	50.72460	166.16	12.84
76/ 7/27	2442986.5	-0.36982	0.03806	0.05837	-17.65240	-41.23629	-20.27055	0.37633	49.22331	174.12	8.92
76/ 7/29	2442988.5	-0.38616	-0.00981	0.03441	-10.69566	-41.50297	-21.12789	0.38782	47.78370	181.46	5.09
76/ 7/31	2442990.5	-0.39468	-0.05750	0.00974	-4.11360	-40.94120	-21.50308	0.39896	46.42721	188.29	1.40
76/ 8/ 2	2442992.5	-0.39584	-0.10413	-0.01511	2.02537	-39.69078	-21.46397	0.40958	45.16816	194.74	-2.11
76/ 8/ 4	2442994.5	-0.39018	-0.14897	-0.03970	7.68547	-37.87227	-21.07143	0.41954	44.01568	200.90	-5.43
76/ 8/ 6	2442996.5	-0.37827	-0.19144	-0.06367	12.85252	-35.58684	-20.37821	0.42871	42.97537	206.84	-8.54
76/ 8/ 8	2442998.5	-0.36068	-0.23104	-0.08668	17.52583	-32.91803	-19.42895	0.43702	42.05040	212.64	-11.44
76/ 8/10	2443000.5	-0.33797	-0.26736	-0.10847	21.71239	-29.93408	-18.26093	0.44438	41.24244	218.35	-14.13

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
76/ 8/12	2443002.5	-0.31070	-0.30009	-0.12880	25.42291	-26.69046	-16.90495	0.45076	40.55222	224.00	-16.60
76/ 8/14	2443004.5	-0.27942	-0.32894	-0.14746	28.66914	-23.23220	-15.38634	0.45610	39.97992	229.65	-18.86
76/ 8/16	2443006.5	-0.24465	-0.35369	-0.16429	31.46201	-19.59603	-13.72588	0.46037	39.52546	235.33	-20.91
76/ 8/18	2443008.5	-0.20691	-0.37415	-0.17912	33.81041	-15.81215	-11.94067	0.46356	39.18862	241.06	-22.73
76/ 8/20	2443010.5	-0.16671	-0.39017	-0.19183	35.72042	-11.90585	-10.04488	0.46565	38.96918	246.86	-24.33
76/ 8/22	2443012.5	-0.12456	-0.40162	-0.20229	37.19464	-7.89886	-8.05039	0.46662	38.86698	252.77	-25.69
76/ 8/24	2443014.5	-0.08095	-0.40839	-0.21039	38.23183	-3.81059	-5.96749	0.46648	38.88193	258.79	-26.81
76/ 8/26	2443016.5	-0.03640	-0.41040	-0.21605	38.82651	0.34072	-3.80538	0.46522	39.01404	264.93	-27.67
76/ 8/28	2443018.5	0.00857	-0.40759	-0.21916	38.96870	4.53682	-1.57282	0.46285	39.26342	271.20	-28.26
76/ 8/30	2443020.5	0.05344	-0.39991	-0.21966	38.64360	8.75831	0.72135	0.45938	39.63025	277.61	-28.56
76/ 9/ 1	2443022.5	0.09766	-0.38735	-0.21747	37.83145	12.98330	3.06741	0.45483	40.11476	284.15	-28.56
76/ 9/ 3	2443024.5	0.14064	-0.36992	-0.21255	36.50729	17.18592	5.45408	0.44922	40.71714	290.82	-28.24
76/ 9/ 5	2443026.5	0.18179	-0.34767	-0.20486	34.64102	21.33455	7.86752	0.44259	41.43744	297.60	-27.57
76/ 9/ 7	2443028.5	0.22045	-0.32067	-0.19437	32.19763	25.38963	10.29013	0.43498	42.27537	304.51	-26.54
76/ 9/ 9	2443030.5	0.25593	-0.28907	-0.18109	29.13793	29.30101	12.69909	0.42645	43.23003	311.52	-25.13
76/ 9/11	2443032.5	0.28751	-0.25306	-0.16505	25.42005	33.00483	15.06448	0.41706	44.29939	318.65	-23.31
76/ 9/13	2443034.5	0.31439	-0.21293	-0.14632	21.00216	36.41973	17.34706	0.40693	45.47976	325.89	-21.07
76/ 9/15	2443036.5	0.33574	-0.16908	-0.12503	15.84707	39.44284	19.49552	0.39616	46.76476	333.27	-18.40
76/ 9/17	2443038.5	0.35070	-0.12201	-0.10136	9.92960	41.94554	21.44360	0.38491	48.14409	340.82	-15.27
76/ 9/19	2443040.5	0.35839	-0.07244	-0.07560	3.24776	43.77044	23.10719	0.37337	49.60183	348.57	-11.68
76/ 9/21	2443042.5	0.35792	-0.02123	-0.04813	-4.16129	44.73089	24.38253	0.36177	51.11435	356.61	-7.65
76/ 9/23	2443044.5	0.34853	0.03049	-0.01947	-12.20018	44.61612	25.14673	0.35040	52.64789	5.00	-3.19
76/ 9/25	2443046.5	0.32957	0.08134	0.00971	-20.68651	43.20599	25.26318	0.33959	54.15641	13.86	1.64
76/ 9/27	2443048.5	0.30068	0.12972	0.03859	-29.32961	40.29971	24.59448	0.32973	55.58040	23.34	6.72
76/ 9/29	2443050.5	0.26191	0.17381	0.06618	-37.71878	35.76076	23.02534	0.32122	56.84809	33.57	11.89
76/10/ 1	2443052.5	0.21384	0.21170	0.09141	-45.33800	29.57356	20.49442	0.31448	57.88049	44.71	16.90
76/10/ 3	2443054.5	0.15768	0.24156	0.11317	-51.62052	21.89653	17.02835	0.30987	58.60120	56.86	21.42
76/10/ 5	2443056.5	0.09530	0.26185	0.13044	-56.04372	13.08595	12.76424	0.30767	58.94970	70.00	25.09
76/10/ 7	2443058.5	0.02907	0.27155	0.14244	-58.24070	3.66670	7.94551	0.30802	58.89444	83.89	27.54
76/10/ 9	2443060.5	-0.03834	0.27032	0.14870	-58.08512	-5.75265	2.88510	0.31089	58.44055	98.07	28.58
76/10/11	2443062.5	-0.10426	0.25849	0.14914	-55.71101	-14.59271	-2.09294	0.31611	57.62850	111.97	28.15
76/10/13	2443064.5	-0.16631	0.23701	0.14401	-51.46107	-22.39972	-6.71040	0.32337	56.52449	125.06	26.44
76/10/15	2443066.5	-0.22260	0.20725	0.13385	-45.79241	-28.89375	-10.77043	0.33229	55.20684	137.05	23.75
76/10/17	2443068.5	-0.27174	0.17081	0.11938	-39.18111	-33.96481	-14.16522	0.34245	53.75334	147.85	20.40
76/10/19	2443070.5	-0.31291	0.12932	0.10140	-32.05416	-37.63548	-16.86301	0.35344	52.23275	157.55	16.67
76/10/21	2443072.5	-0.34573	0.08436	0.08069	-24.75601	-40.01307	-18.88589	0.36490	50.70092	166.29	12.77
76/10/23	2443074.5	-0.37014	0.03733	0.05801	-17.54255	-41.24733	-20.28777	0.37651	49.20038	174.24	8.86
76/10/25	2443076.5	-0.38635	-0.01055	0.03403	-10.59089	-41.50006	-21.13712	0.38799	47.76191	181.56	5.03
76/10/27	2443078.5	-0.39475	-0.05823	0.00936	-4.01528	-40.92663	-21.50540	0.39913	46.40683	188.39	1.34
76/10/29	2443080.5	-0.39580	-0.10483	-0.01549	2.11646	-39.66658	-21.46038	0.40974	45.14936	194.84	-2.17
76/10/31	2443082.5	-0.39005	-0.14965	-0.04008	7.76897	-37.84013	-21.06281	0.41969	43.99858	200.99	-5.48
76/11/ 2	2443084.5	-0.37804	-0.19207	-0.06403	12.92836	-35.54821	-20.36531	0.42885	42.96002	206.93	-8.59
76/11/ 4	2443086.5	-0.36037	-0.23162	-0.08703	17.59406	-32.87407	-19.41242	0.43714	42.03686	212.73	-11.48
76/11/ 6	2443088.5	-0.33759	-0.26790	-0.10880	21.77316	-29.88576	-18.24129	0.44449	41.23073	218.43	-14.17
76/11/ 8	2443090.5	-0.31025	-0.30057	-0.12910	25.47642	-26.63854	-16.88264	0.45085	40.54236	224.09	-16.64

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76/11/10	2443092.5	-0.27891	-0.32935	-0.14774	28.71557	-23.17732	-15.36171	0.45617	39.97192	229.74	-18.90
76/11/12	2443094.5	-0.24409	-0.35404	-0.16453	31.50152	-19.53869	-13.69922	0.46043	39.51930	235.42	-20.94
76/11/14	2443096.5	-0.20631	-0.37444	-0.17934	33.84314	-15.75277	-11.91222	0.46360	39.18429	241.15	-22.76
76/11/16	2443098.5	-0.16607	-0.39039	-0.19201	35.74641	-11.84478	-10.01482	0.46567	38.96667	246.95	-24.35
76/11/18	2443100.5	-0.12389	-0.40176	-0.20243	37.21392	-7.83641	-8.01890	0.46663	38.86629	252.86	-25.71
76/11/20	2443102.5	-0.08027	-0.40846	-0.21050	38.24434	-3.74704	-5.93472	0.46647	38.88304	258.88	-26.82
76/11/22	2443104.5	-0.03571	-0.41039	-0.21611	38.83214	0.40508	-3.77147	0.46519	39.01696	265.03	-27.68
76/11/24	2443106.5	0.00926	-0.40750	-0.21919	38.96724	4.60171	-1.53788	0.46280	39.26814	271.30	-28.27
76/11/26	2443108.5	0.05413	-0.39975	-0.21964	38.63481	8.82341	0.75715	0.45932	39.63678	277.71	-28.57
76/11/28	2443110.5	0.09833	-0.38712	-0.21742	37.81498	13.04826	3.10392	0.45475	40.12311	284.25	-28.56
76/11/30	2443112.5	0.14129	-0.36962	-0.21246	36.48273	17.25031	5.49112	0.44913	40.72733	290.92	-28.23
76/12/ 2	2443114.5	0.18240	-0.34729	-0.20472	34.60787	21.39783	7.90484	0.44248	41.44947	297.71	-27.56
76/12/ 4	2443116.5	0.22102	-0.32022	-0.19419	32.15530	25.45111	10.32744	0.43486	42.28923	304.61	-26.52
76/12/ 6	2443118.5	0.25645	-0.28855	-0.18087	29.08580	29.35983	12.73597	0.42631	43.24567	311.63	-25.10
76/12/ 8	2443120.5	0.28796	-0.25247	-0.16479	25.35745	33.05986	15.10042	0.41691	44.31679	318.76	-23.28
76/12/10	2443122.5	0.31476	-0.21229	-0.14602	20.92846	36.46958	17.38135	0.40677	45.49881	326.00	-21.04
76/12/12	2443124.5	0.33602	-0.16837	-0.12468	15.76176	39.48571	19.52727	0.39599	46.78535	333.39	-18.35
76/12/14	2443126.5	0.35088	-0.12127	-0.10098	9.83244	41.97924	21.47165	0.38473	48.16602	340.93	-15.22
76/12/16	2443128.5	0.35844	-0.07166	-0.07519	3.13898	43.79233	23.13011	0.37319	49.62482	348.69	-11.62
76/12/18	2443130.5	0.35785	-0.02043	-0.04770	-4.28072	44.73788	24.39855	0.36159	51.13797	356.73	-7.58
76/12/20	2443132.5	0.34831	0.03128	-0.01902	-12.32815	44.60484	25.15384	0.35023	52.67154	5.13	-3.11
76/12/22	2443134.5	0.32920	0.08211	0.01016	-20.81944	43.17309	25.25922	0.33943	54.17927	14.01	1.72
76/12/24	2443136.5	0.30015	0.13044	0.03903	-29.46208	40.24246	24.57742	0.32959	55.60144	23.49	6.80
76/12/26	2443138.5	0.26123	0.17445	0.06659	-37.84356	35.67783	22.99373	0.32111	56.86611	33.73	11.97
76/12/28	2443140.5	0.21303	0.21223	0.09178	-45.44653	29.46594	20.44791	0.31439	57.89426	44.89	16.97
76/12/30	2443142.5	0.15676	0.24194	0.11347	-51.70410	21.76819	16.96817	0.30982	58.60962	57.06	21.48
77/ 1/ 1	2443144.5	0.09430	0.26208	0.13067	-56.09523	12.94386	12.69340	0.30765	58.95202	70.21	25.13
77/ 1/ 3	2443146.5	0.02803	0.27162	0.14258	-58.25619	3.51990	7.86845	0.30804	58.89046	84.11	27.57
77/ 1/ 5	2443148.5	-0.03937	0.27021	0.14875	-58.06472	-5.89471	2.80689	0.31095	58.43063	98.29	28.58
77/ 1/ 7	2443150.5	-0.10525	0.25823	0.14910	-55.65864	-14.72186	-2.16752	0.31621	57.61349	112.18	28.13
77/ 1/ 9	2443152.5	-0.16723	0.23661	0.14389	-51.38317	-22.51027	-6.77765	0.32350	56.50557	125.25	26.41
77/ 1/11	2443154.5	-0.22341	0.20673	0.13366	-45.69642	-28.98277	-10.82800	0.33244	55.18523	137.22	23.71
77/ 1/13	2443156.5	-0.27244	0.17020	0.11913	-39.07412	-34.03177	-14.21211	0.34261	53.73018	148.01	20.35
77/ 1/15	2443158.5	-0.31348	0.12865	0.10110	-31.94215	-37.68151	-16.89920	0.35362	52.20901	157.69	16.61
77/ 1/17	2443160.5	-0.34617	0.08365	0.08035	-24.64360	-40.04026	-18.91203	0.36508	50.67735	166.42	12.71
77/ 1/19	2443162.5	-0.37045	0.03659	0.05764	-17.43303	-41.25815	-20.30484	0.37669	49.17756	174.36	8.80
77/ 1/21	2443164.5	-0.38654	-0.01129	0.03365	-10.48646	-41.49700	-21.14623	0.38817	47.74023	181.67	4.97
77/ 1/23	2443166.5	-0.39482	-0.05896	0.00898	-3.91730	-40.91198	-21.50764	0.39930	46.38657	188.49	1.29
77/ 1/25	2443168.5	-0.39576	-0.10554	-0.01587	2.20724	-39.64236	-21.45674	0.40990	45.13070	194.93	-2.22
77/ 1/27	2443170.5	-0.38991	-0.15032	-0.04046	7.85220	-37.80804	-21.05418	0.41983	43.98163	201.08	-5.53
77/ 1/29	2443172.5	-0.37781	-0.19271	-0.06440	13.00394	-35.50967	-20.35244	0.42898	42.94486	207.02	-8.63
77/ 1/31	2443174.5	-0.36006	-0.23221	-0.08738	17.66207	-32.83023	-19.39593	0.43726	42.02351	212.82	-11.53
77/ 2/ 2	2443176.5	-0.33720	-0.26843	-0.10912	21.83376	-29.83756	-18.22169	0.44459	41.21920	218.52	-14.21
77/ 2/ 4	2443178.5	-0.30980	-0.30104	-0.12940	25.52978	-26.58674	-16.86036	0.45094	40.53265	224.18	-16.68
77/ 2/ 6	2443180.5	-0.27840	-0.32977	-0.14801	28.76187	-23.12253	-15.33711	0.45624	39.96402	229.83	-18.93

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77/ 2/ 8	2443182.5	-0.24353	-0.35439	-0.16478	31.54091	-19.48142	-13.67258	0.46049	39.51321	235.50	-20.97
77/ 2/10	2443184.5	-0.20571	-0.37472	-0.17955	33.87574	-15.69346	-11.88378	0.46364	39.18003	241.23	-22.78
77/ 2/12	2443186.5	-0.16544	-0.39060	-0.19219	35.77231	-11.78378	-9.98479	0.46569	38.96423	247.04	-24.37
77/ 2/14	2443188.5	-0.12323	-0.40190	-0.20258	37.23312	-7.77404	-7.98745	0.46663	38.86567	252.95	-25.73
77/ 2/16	2443190.5	-0.07959	-0.40852	-0.21061	38.25680	-3.68358	-5.90199	0.46646	38.88426	258.98	-26.84
77/ 2/18	2443192.5	-0.03502	-0.41039	-0.21618	38.83774	0.46935	-3.73760	0.46516	39.01999	265.12	-27.69
77/ 2/20	2443194.5	0.00996	-0.40742	-0.21921	38.96578	4.66652	-1.50300	0.46276	39.27299	271.40	-28.28
77/ 2/22	2443196.5	0.05481	-0.39960	-0.21963	38.62602	8.88844	0.79291	0.45926	39.64345	277.81	-28.57
77/ 2/24	2443198.5	0.09900	-0.38689	-0.21736	37.79851	13.11315	3.14040	0.45467	40.13159	284.35	-28.56
77/ 2/26	2443200.5	0.14194	-0.36931	-0.21236	36.45815	17.31462	5.52811	0.44904	40.73760	291.02	-28.22
77/ 2/28	2443202.5	0.18302	-0.34691	-0.20458	34.57467	21.46100	7.94211	0.44237	41.46154	297.81	-27.55
77/ 3/ 2	2443204.5	0.22159	-0.31977	-0.19401	32.11292	25.51245	10.36467	0.43473	42.30309	304.72	-26.50
77/ 3/ 4	2443206.5	0.25697	-0.28803	-0.18064	29.03361	29.41845	12.77276	0.42617	43.26129	311.74	-25.08
77/ 3/ 6	2443208.5	0.28841	-0.25189	-0.16452	25.29480	33.11466	15.13623	0.41676	44.33411	318.87	-23.25
77/ 3/ 8	2443210.5	0.31513	-0.21164	-0.14571	20.85475	36.51915	17.41550	0.40661	45.51778	326.12	-21.00
77/ 3/10	2443212.5	0.33630	-0.16767	-0.12434	15.67650	39.52827	19.55885	0.39582	46.80583	333.50	-18.31
77/ 3/12	2443214.5	0.35105	-0.12052	-0.10060	9.73540	42.01261	21.49951	0.38456	48.18782	341.05	-15.17
77/ 3/14	2443216.5	0.35850	-0.07088	-0.07478	3.03040	43.81383	23.15279	0.37301	49.64762	348.82	-11.56
77/ 3/16	2443218.5	0.35777	-0.01964	-0.04726	-4.39983	44.74443	24.41431	0.36142	51.16133	356.86	-7.51
77/ 3/18	2443220.5	0.34809	0.03207	-0.01858	-12.45566	44.59308	25.16065	0.35006	52.69483	5.26	-3.04
77/ 3/20	2443222.5	0.32883	0.08288	0.01061	-20.95171	43.13973	25.25494	0.33928	54.20168	14.15	1.79
77/ 3/22	2443224.5	0.29963	0.13115	0.03946	-29.59368	40.18482	24.56006	0.32945	55.62196	23.64	6.88
77/ 3/24	2443226.5	0.26056	0.17508	0.06700	-37.96724	35.59467	22.96189	0.32099	56.88357	33.90	12.05
77/ 3/26	2443228.5	0.21222	0.21275	0.09214	-45.55380	29.35836	20.40129	0.31431	57.90747	45.07	17.05
77/ 3/28	2443230.5	0.15585	0.24233	0.11377	-51.78639	21.64024	16.90807	0.30977	58.61751	57.25	21.55
77/ 3/30	2443232.5	0.09331	0.26231	0.13089	-56.14555	12.80251	12.62284	0.30764	58.95390	70.42	25.18
77/ 4/ 1	2443234.5	0.02700	0.27168	0.14272	-58.27076	3.37413	7.79184	0.30807	58.88615	84.32	27.60
77/ 4/ 3	2443236.5	-0.04040	0.27011	0.14880	-58.04377	-6.03555	2.72927	0.31102	58.42051	98.51	28.58
77/ 4/ 5	2443238.5	-0.10623	0.25797	0.14906	-55.60612	-14.84975	-2.24145	0.31631	57.59844	112.38	28.12
77/ 4/ 7	2443240.5	-0.16814	0.23621	0.14377	-51.30551	-22.61965	-6.84424	0.32363	56.48670	125.44	26.37
77/ 4/ 9	2443242.5	-0.22422	0.20622	0.13347	-45.60096	-29.07080	-10.88499	0.33259	55.16378	137.39	23.66
77/ 4/11	2443244.5	-0.27313	0.16960	0.11888	-38.96787	-34.09796	-14.25851	0.34277	53.70727	148.16	20.29
77/ 4/13	2443246.5	-0.31405	0.12799	0.10080	-31.83101	-37.72701	-16.93502	0.35379	52.18558	157.83	16.55
77/ 4/15	2443248.5	-0.34660	0.08294	0.08002	-24.53209	-40.06715	-18.93792	0.36526	50.65416	166.54	12.65
77/ 4/17	2443250.5	-0.37076	0.03586	0.05729	-17.32439	-41.26888	-20.32177	0.37687	49.15515	174.48	8.74
77/ 4/19	2443252.5	-0.38673	-0.01202	0.03328	-10.38284	-41.49401	-21.15529	0.38834	47.71900	181.78	4.92
77/ 4/21	2443254.5	-0.39489	-0.05968	0.00860	-3.82005	-40.89754	-21.50991	0.39947	46.36677	188.59	1.23
77/ 4/23	2443256.5	-0.39572	-0.10624	-0.01625	2.29737	-39.61843	-21.45320	0.41006	45.11250	195.03	-2.27
77/ 4/25	2443258.5	-0.38977	-0.15099	-0.04083	7.93487	-37.77631	-21.04569	0.41998	43.96513	201.18	-5.58
77/ 4/27	2443260.5	-0.37758	-0.19333	-0.06476	13.07904	-35.47151	-20.33972	0.42911	42.93010	207.11	-8.68
77/ 4/29	2443262.5	-0.35974	-0.23279	-0.08772	17.72966	-32.78681	-19.37961	0.43738	42.01053	212.91	-11.57
77/ 5/ 1	2443264.5	-0.33681	-0.26896	-0.10944	21.89396	-29.78979	-18.20229	0.44470	41.20802	218.61	-14.25
77/ 5/ 3	2443266.5	-0.30935	-0.30151	-0.12970	25.58278	-26.53539	-16.83831	0.45103	40.52326	224.26	-16.71
77/ 5/ 5	2443268.5	-0.27789	-0.33018	-0.14828	28.80785	-23.06824	-15.31274	0.45632	39.95642	229.91	-18.96
77/ 5/ 7	2443270.5	-0.24297	-0.35473	-0.16502	31.58002	-19.42469	-13.64620	0.46054	39.50741	235.59	-21.00

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77/ 5/ 9	2443272.5	-0.20510	-0.37499	-0.17976	33.90809	-15.63471	-11.85562	0.46368	39.17599	241.32	-22.81
77/ 5/11	2443274.5	-0.16480	-0.39080	-0.19236	35.79795	-11.72338	-9.95505	0.46572	38.96195	247.13	-24.40
77/ 5/13	2443276.5	-0.12257	-0.40204	-0.20272	37.25205	-7.71229	-7.95631	0.46664	38.86512	253.04	-25.75
77/ 5/15	2443278.5	-0.07891	-0.40859	-0.21071	38.26896	-3.62080	-5.86959	0.46645	38.88541	259.07	-26.86
77/ 5/17	2443280.5	-0.03434	-0.41038	-0.21625	38.84299	0.53289	-3.70408	0.46514	39.02284	265.22	-27.70
77/ 5/19	2443282.5	0.01065	-0.40734	-0.21924	38.96397	4.73051	-1.46852	0.46272	39.27754	271.50	-28.28
77/ 5/21	2443284.5	0.05550	-0.39944	-0.21962	38.61689	8.95255	0.82821	0.45920	39.64969	277.91	-28.57
77/ 5/23	2443286.5	0.09967	-0.38666	-0.21731	37.78173	13.17700	3.17635	0.45460	40.13953	284.45	-28.56
77/ 5/25	2443288.5	0.14258	-0.36901	-0.21226	36.43333	17.37776	5.56451	0.44895	40.74724	291.13	-28.22
77/ 5/27	2443290.5	0.18363	-0.34653	-0.20444	34.54134	21.52290	7.97872	0.44227	41.47287	297.92	-27.53
77/ 5/29	2443292.5	0.22216	-0.31932	-0.19383	32.07054	25.57241	10.40116	0.43462	42.31610	304.83	-26.49
77/ 5/31	2443294.5	0.25748	-0.28751	-0.18042	28.98160	29.47561	12.80874	0.42604	43.27595	311.85	-25.05
77/ 6/ 2	2443296.5	0.28886	-0.25131	-0.16425	25.23257	33.16792	15.17117	0.41662	44.35040	318.98	-23.22
77/ 6/ 4	2443298.5	0.31550	-0.21100	-0.14540	20.78174	36.56712	17.44872	0.40645	45.53562	326.23	-20.96
77/ 6/ 6	2443300.5	0.33658	-0.16699	-0.12400	15.59229	39.56923	19.58946	0.39566	46.82510	333.61	-18.26
77/ 6/ 8	2443302.5	0.35123	-0.11979	-0.10023	9.63982	42.04442	21.52638	0.38439	48.20834	341.17	-15.11
77/ 6/10	2443304.5	0.35856	-0.07012	-0.07438	2.92376	43.83394	23.17454	0.37284	49.66913	348.93	-11.51
77/ 6/12	2443306.5	0.35770	-0.01887	-0.04684	-4.51653	44.74990	24.42924	0.36125	51.18340	356.98	-7.45
77/ 6/14	2443308.5	0.34788	0.03284	-0.01814	-12.58032	44.58070	25.16684	0.34990	52.71691	5.39	-2.97
77/ 6/16	2443310.5	0.32847	0.08362	0.01105	-21.08078	43.10635	25.25032	0.33913	54.22302	14.28	1.87
77/ 6/18	2443312.5	0.29912	0.13184	0.03989	-29.72192	40.12792	24.54276	0.32932	55.64161	23.79	6.96
77/ 6/20	2443314.5	0.25991	0.17569	0.06740	-38.08766	35.51307	22.93055	0.32088	56.90042	34.06	12.12
77/ 6/22	2443316.5	0.21144	0.21325	0.09249	-45.65819	29.25312	20.35564	0.31422	57.92035	45.24	17.12
77/ 6/24	2443318.5	0.15496	0.24270	0.11406	-51.86645	21.51527	16.84934	0.30972	58.62538	57.44	21.61
77/ 6/26	2443320.5	0.09235	0.26252	0.13111	-56.19452	12.66453	12.55394	0.30763	58.95605	70.62	25.23
77/ 6/28	2443322.5	0.02600	0.27173	0.14285	-58.28498	3.23181	7.71704	0.30809	58.88239	84.53	27.62
77/ 6/30	2443324.5	-0.04139	0.27000	0.14885	-58.02345	-6.17318	2.65343	0.31108	58.41121	98.72	28.59
77/ 7/ 2	2443326.5	-0.10719	0.25770	0.14902	-55.55504	-14.97492	-2.31378	0.31640	57.58441	112.58	28.10
77/ 7/ 4	2443328.5	-0.16902	0.23581	0.14365	-51.22986	-22.72694	-6.90952	0.32374	56.46905	125.63	26.34
77/ 7/ 6	2443330.5	-0.22500	0.20571	0.13328	-45.50783	-29.15741	-10.94099	0.33272	55.14365	137.56	23.61
77/ 7/ 8	2443332.5	-0.27380	0.16900	0.11863	-38.86401	-34.16334	-14.30423	0.34293	53.68572	148.31	20.24
77/ 7/10	2443334.5	-0.31459	0.12733	0.10050	-31.72214	-37.77222	-16.97045	0.35395	52.16350	157.96	16.50
77/ 7/12	2443336.5	-0.34702	0.08224	0.07968	-24.42263	-40.09411	-18.96363	0.36543	50.63222	166.67	12.60
77/ 7/14	2443338.5	-0.37105	0.03514	0.05693	-17.21754	-41.27992	-20.33869	0.37703	49.13387	174.59	8.68
77/ 7/16	2443340.5	-0.38690	-0.01275	0.03291	-10.28074	-41.49148	-21.16445	0.38851	47.69875	181.89	4.86
77/ 7/18	2443342.5	-0.39495	-0.06040	0.00822	-3.72405	-40.88363	-21.51234	0.39962	46.34782	188.69	1.18
77/ 7/20	2443344.5	-0.39568	-0.10694	-0.01663	2.38650	-39.59505	-21.44985	0.41021	45.09500	195.12	-2.32
77/ 7/22	2443346.5	-0.38962	-0.15165	-0.04120	8.01673	-37.74510	-21.03739	0.42012	43.94920	201.27	-5.63
77/ 7/24	2443348.5	-0.37735	-0.19396	-0.06512	13.15350	-35.43383	-20.32720	0.42924	42.91580	207.20	-8.73
77/ 7/26	2443350.5	-0.35942	-0.23336	-0.08806	17.79674	-32.74378	-19.36346	0.43749	41.99789	212.99	-11.61
77/ 7/28	2443352.5	-0.33642	-0.26948	-0.10976	21.95378	-29.74234	-18.18302	0.44480	41.19706	218.70	-14.29
77/ 7/30	2443354.5	-0.30889	-0.30198	-0.13000	25.63548	-26.48427	-16.81633	0.45111	40.51400	224.35	-16.75
77/ 8/ 1	2443356.5	-0.27738	-0.33058	-0.14855	28.85358	-23.01406	-15.28841	0.45639	39.94886	230.00	-19.00
77/ 8/ 3	2443358.5	-0.24241	-0.35507	-0.16526	31.61891	-19.36797	-13.61980	0.46060	39.50156	235.68	-21.03
77/ 8/ 5	2443360.5	-0.20450	-0.37527	-0.17997	33.94023	-15.57586	-11.82740	0.46372	39.17186	241.41	-22.84

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77/ 8/ 7	2443362.5	-0.16417	-0.39101	-0.19254	35.82340	-11.66278	-9.92520	0.46574	38.95954	247.22	-24.42
77/ 8/ 9	2443364.5	-0.12191	-0.40217	-0.20286	37.27081	-7.65027	-7.92499	0.46665	38.86445	253.14	-25.77
77/ 8/11	2443366.5	-0.07823	-0.40865	-0.21082	38.28097	-3.55764	-5.83697	0.46643	38.88649	259.16	-26.87
77/ 8/13	2443368.5	-0.03364	-0.41037	-0.21631	38.84814	0.59689	-3.67031	0.46511	39.02570	265.31	-27.72
77/ 8/15	2443370.5	0.01134	-0.40726	-0.21927	38.96206	4.79505	-1.43373	0.46267	39.28219	271.59	-28.29
77/ 8/17	2443372.5	0.05618	-0.39928	-0.21960	38.60766	9.01732	0.86387	0.45914	39.65614	278.01	-28.57
77/ 8/19	2443374.5	0.10034	-0.38643	-0.21725	37.76484	13.24162	3.21272	0.45452	40.14779	284.56	-28.55
77/ 8/21	2443376.5	0.14323	-0.36870	-0.21216	36.40834	17.44178	5.60140	0.44885	40.75732	291.23	-28.21
77/ 8/23	2443378.5	0.18424	-0.34615	-0.20430	34.50775	21.58577	8.01587	0.44216	41.48475	298.02	-27.52
77/ 8/25	2443380.5	0.22273	-0.31887	-0.19364	32.02779	25.63344	10.43827	0.43449	42.32978	304.93	-26.47
77/ 8/27	2443382.5	0.25799	-0.28699	-0.18019	28.92905	29.53393	12.84540	0.42590	43.29142	311.95	-25.03
77/ 8/29	2443384.5	0.28930	-0.25072	-0.16399	25.16960	33.22242	15.20686	0.41647	44.36762	319.09	-23.19
77/ 8/31	2443386.5	0.31587	-0.21036	-0.14510	20.70772	36.61638	17.48273	0.40629	45.55452	326.34	-20.92
77/ 9/ 2	2443388.5	0.33686	-0.16629	-0.12365	15.50674	39.61147	19.62089	0.39549	46.84556	333.73	-18.22
77/ 9/ 4	2443390.5	0.35140	-0.11905	-0.09985	9.54253	42.07742	21.55407	0.38422	48.23015	341.28	-15.06
77/ 9/ 6	2443392.5	0.35861	-0.06934	-0.07397	2.81496	43.85504	23.19703	0.37266	49.69195	349.06	-11.45
77/ 9/ 8	2443394.5	0.35762	-0.01807	-0.04641	-4.63580	44.75600	24.44477	0.36107	51.20680	357.11	-7.38
77/ 9/10	2443396.5	0.34766	0.03363	-0.01770	-12.70791	44.56843	25.17338	0.34973	52.74026	5.53	-2.90
77/ 9/12	2443398.5	0.32810	0.08438	0.01149	-21.21303	43.07243	25.24574	0.33897	54.24550	14.42	1.94
77/ 9/14	2443400.5	0.29860	0.13255	0.04032	-29.85337	40.06969	24.52507	0.32918	55.66222	23.94	7.04
77/ 9/16	2443402.5	0.25924	0.17632	0.06780	-38.21107	35.42934	22.89836	0.32076	56.91800	34.22	12.20
77/ 9/18	2443404.5	0.21063	0.21377	0.09285	-45.76503	29.14500	20.30869	0.31414	57.93368	45.42	17.19
77/ 9/20	2443406.5	0.15404	0.24308	0.11436	-51.94816	21.38687	16.78894	0.30967	58.63342	57.64	21.67
77/ 9/22	2443408.5	0.09135	0.26275	0.13133	-56.24414	12.52287	12.48314	0.30762	58.95808	70.83	25.27
77/ 9/24	2443410.5	0.02497	0.27179	0.14299	-58.29878	3.08589	7.64028	0.30812	58.87821	84.75	27.65
77/ 9/26	2443412.5	-0.04242	0.26989	0.14889	-58.00173	-6.31401	2.57574	0.31114	58.40121	98.93	28.59
77/ 9/28	2443414.5	-0.10817	0.25744	0.14898	-55.50180	-15.10265	-2.38769	0.31650	57.56945	112.79	28.08
77/ 9/30	2443416.5	-0.16993	0.23541	0.14352	-51.15156	-22.83603	-6.97603	0.32387	56.45026	125.82	26.31
77/10/ 2	2443418.5	-0.22581	0.20519	0.13308	-45.41184	-29.24507	-10.99784	0.33287	55.12224	137.74	23.57
77/10/ 4	2443420.5	-0.27448	0.16840	0.11838	-38.75733	-34.22911	-14.35045	0.34309	53.66282	148.47	20.18
77/10/ 6	2443422.5	-0.31515	0.12666	0.10020	-31.61066	-37.81726	-17.00606	0.35412	52.14006	158.11	16.44
77/10/ 8	2443424.5	-0.34745	0.08153	0.07935	-24.31089	-40.12053	-18.98929	0.36560	50.60899	166.79	12.53
77/10/10	2443426.5	-0.37135	0.03441	0.05657	-17.10875	-41.29017	-20.35538	0.37721	49.11139	174.71	8.62
77/10/12	2443428.5	-0.38708	-0.01348	0.03253	-10.17704	-41.48802	-21.17327	0.38868	47.67741	182.00	4.80
77/10/14	2443430.5	-0.39501	-0.06112	0.00784	-3.62677	-40.86870	-21.51435	0.39979	46.32787	188.80	1.12
77/10/16	2443432.5	-0.39563	-0.10764	-0.01701	2.47662	-39.57064	-21.44605	0.41037	45.07662	195.22	-2.38
77/10/18	2443434.5	-0.38948	-0.15232	-0.04157	8.09935	-37.71287	-21.02863	0.42026	43.93248	201.36	-5.68
77/10/20	2443436.5	-0.37711	-0.19458	-0.06548	13.22854	-35.39518	-20.31421	0.42937	42.90082	207.29	-8.77
77/10/22	2443438.5	-0.35911	-0.23394	-0.08840	17.86425	-32.69986	-19.34687	0.43761	41.98468	213.08	-11.65
77/10/24	2443440.5	-0.33603	-0.27001	-0.11009	22.01390	-29.69408	-18.16335	0.44490	41.18565	218.78	-14.33
77/10/26	2443442.5	-0.30843	-0.30245	-0.13029	25.68840	-26.43244	-16.79400	0.45120	40.50440	224.44	-16.78
77/10/28	2443444.5	-0.27686	-0.33099	-0.14882	28.89946	-22.95927	-15.26377	0.45646	39.94108	230.09	-19.03
77/10/30	2443446.5	-0.24184	-0.35542	-0.16550	31.65791	-19.31072	-13.59314	0.46065	39.49558	235.77	-21.06
77/11/ 1	2443448.5	-0.20390	-0.37554	-0.18018	33.97247	-15.51658	-11.79894	0.46376	39.16769	241.50	-22.86
77/11/ 3	2443450.5	-0.16353	-0.39122	-0.19272	35.84894	-11.60181	-9.89515	0.46576	38.95718	247.31	-24.44

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

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77/11/ 5	2443452.5	-0.12125	-0.40231	-0.20300	37.28966	-7.58792	-7.89351	0.46665	38.86390	253.23	-25.79
77/11/ 7	2443454.5	-0.07755	-0.40872	-0.21092	38.29307	-3.49419	-5.80421	0.46642	38.88775	259.26	-26.89
77/11/ 9	2443456.5	-0.03295	-0.41036	-0.21638	38.85337	0.66117	-3.63640	0.46508	39.02877	265.41	-27.73
77/11/11	2443458.5	0.01203	-0.40717	-0.21929	38.96023	4.85986	-1.39880	0.46263	39.28707	271.69	-28.30
77/11/13	2443460.5	0.05687	-0.39912	-0.21959	38.59848	9.08235	0.89967	0.45907	39.66284	278.11	-28.58
77/11/15	2443462.5	0.10101	-0.38619	-0.21719	37.74796	13.30649	3.24922	0.45444	40.15631	284.66	-28.55
77/11/17	2443464.5	0.14388	-0.36839	-0.21206	36.38334	17.50607	5.63843	0.44876	40.76765	291.33	-28.20
77/11/19	2443466.5	0.18485	-0.34577	-0.20416	34.47411	21.64891	8.05318	0.44205	41.49691	298.13	-27.51
77/11/21	2443468.5	0.22329	-0.31841	-0.19346	31.98492	25.69476	10.47554	0.43437	42.34375	305.04	-26.45
77/11/23	2443470.5	0.25851	-0.28647	-0.17996	28.87633	29.59254	12.88224	0.42576	43.30719	312.06	-25.00
77/11/25	2443472.5	0.28975	-0.25013	-0.16371	25.10636	33.27718	15.24271	0.41632	44.38514	319.20	-23.16
77/11/27	2443474.5	0.31624	-0.20970	-0.14478	20.63335	36.66587	17.51690	0.40613	45.57371	326.45	-20.89
77/11/29	2443476.5	0.33713	-0.16558	-0.12330	15.42073	39.65388	19.65247	0.39532	46.86628	333.84	-18.17
77/12/ 1	2443478.5	0.35157	-0.11830	-0.09946	9.44465	42.11052	21.58188	0.38404	48.25220	341.40	-15.01
77/12/ 3	2443480.5	0.35866	-0.06856	-0.07356	2.70548	43.87615	23.21960	0.37248	49.71505	349.18	-11.39
77/12/ 5	2443482.5	0.35754	-0.01728	-0.04597	-4.75585	44.76201	24.46033	0.36089	51.23049	357.23	-7.32
77/12/ 7	2443484.5	0.34743	0.03442	-0.01725	-12.83636	44.55595	25.17989	0.34956	52.76392	5.66	-2.83
77/12/ 9	2443486.5	0.32772	0.08515	0.01194	-21.34618	43.03812	25.24104	0.33881	54.26831	14.56	2.02
77/12/11	2443488.5	0.29806	0.13327	0.04076	-29.98568	40.01087	24.50715	0.32903	55.68313	24.09	7.12
77/12/13	2443490.5	0.25855	0.17695	0.06821	-38.33519	35.34480	22.86582	0.32065	56.93582	34.39	12.28
77/12/15	2443492.5	0.20981	0.21428	0.09321	-45.87235	29.03590	20.26126	0.31405	57.94717	45.60	17.27
77/12/17	2443494.5	0.15311	0.24346	0.11466	-52.03002	21.25738	16.72797	0.30962	58.64149	57.83	21.74
77/12/19	2443496.5	0.09035	0.26297	0.13155	-56.29356	12.38013	12.41174	0.30760	58.96002	71.04	25.32
77/12/21	2443498.5	0.02393	0.27184	0.14312	-58.31204	2.93902	7.56294	0.30815	58.87384	84.97	27.68
77/12/23	2443500.5	-0.04345	0.26978	0.14894	-57.97921	-6.45558	2.49757	0.31121	58.39094	99.15	28.59
77/12/25	2443502.5	-0.10916	0.25717	0.14893	-55.44762	-15.23088	-2.46197	0.31660	57.55415	113.00	28.06
77/12/27	2443504.5	-0.17084	0.23500	0.14340	-51.07227	-22.94539	-7.04278	0.32400	56.43110	126.02	26.27
77/12/29	2443506.5	-0.22661	0.20467	0.13289	-45.31488	-29.33279	-11.05481	0.33302	55.10046	137.91	23.52
77/12/31	2443508.5	-0.27517	0.16779	0.11812	-38.64976	-34.29479	-14.39671	0.34326	53.63956	148.63	20.13
78/ 1/ 2	2443510.5	-0.31572	0.12598	0.09990	-31.49840	-37.86212	-17.04165	0.35430	52.11628	158.25	16.38
78/ 1/ 4	2443512.5	-0.34788	0.08081	0.07901	-24.19846	-40.14669	-19.01488	0.36578	50.58545	166.92	12.47
78/ 1/ 6	2443514.5	-0.37166	0.03367	0.05620	-16.99938	-41.30011	-20.37197	0.37739	49.08865	174.82	8.56
78/ 1/ 8	2443516.5	-0.38726	-0.01422	0.03216	-10.07286	-41.48422	-21.18196	0.38885	47.65584	182.10	4.74
78/ 1/10	2443518.5	-0.39508	-0.06185	0.00745	-3.52909	-40.85344	-21.51623	0.39996	46.30774	188.90	1.07
78/ 1/12	2443520.5	-0.39559	-0.10834	-0.01739	2.56706	-39.54590	-21.44210	0.41052	45.05809	195.32	-2.43
78/ 1/14	2443522.5	-0.38933	-0.15299	-0.04195	8.18224	-37.68034	-21.01972	0.42041	43.91567	201.45	-5.73
78/ 1/16	2443524.5	-0.37687	-0.19521	-0.06584	13.30379	-35.35625	-20.30109	0.42951	42.88578	207.38	-8.82
78/ 1/18	2443526.5	-0.35879	-0.23453	-0.08875	17.93195	-32.65567	-19.33016	0.43773	41.97145	213.17	-11.70
78/ 1/20	2443528.5	-0.33564	-0.27054	-0.11041	22.07420	-29.64557	-18.14356	0.44501	41.17425	218.87	-14.37
78/ 1/22	2443530.5	-0.30798	-0.30292	-0.13059	25.74147	-26.38035	-16.77155	0.45129	40.49483	224.53	-16.82
78/ 1/24	2443532.5	-0.27635	-0.33140	-0.14909	28.94548	-22.90421	-15.23900	0.45653	39.93333	230.18	-19.06
78/ 1/26	2443534.5	-0.24128	-0.35576	-0.16574	31.69703	-19.25320	-13.56634	0.46071	39.48966	235.85	-21.09
78/ 1/28	2443536.5	-0.20329	-0.37582	-0.18039	34.00480	-15.45702	-11.77034	0.46380	39.16359	241.59	-22.89
78/ 1/30	2443538.5	-0.16289	-0.39142	-0.19289	35.87454	-11.54055	-9.86495	0.46578	38.95490	247.41	-24.46
78/ 2/ 1	2443540.5	-0.12058	-0.40244	-0.20314	37.30855	-7.52528	-7.86188	0.46665	38.86343	253.32	-25.81

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

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78/ 2/ 3	2443542.5	-0.07687	-0.40878	-0.21102	38.30518	-3.43046	-5.77130	0.46641	38.88911	259.35	-26.90
78/ 2/ 5	2443544.5	-0.03226	-0.41034	-0.21644	38.85859	0.72572	-3.60233	0.46505	39.03195	265.50	-27.74
78/ 2/ 7	2443546.5	0.01272	-0.40708	-0.21932	38.95834	4.92495	-1.36372	0.46258	39.29208	271.79	-28.30
78/ 2/ 9	2443548.5	0.05756	-0.39896	-0.21957	38.58922	9.14765	0.93562	0.45901	39.66968	278.21	-28.58
78/ 2/11	2443550.5	0.10168	-0.38595	-0.21714	37.73098	13.37166	3.28590	0.45436	40.16497	284.76	-28.55
78/ 2/13	2443552.5	0.14452	-0.36808	-0.21196	36.35819	17.57065	5.67562	0.44866	40.77816	291.44	-28.19
78/ 2/15	2443554.5	0.18547	-0.34538	-0.20401	34.44029	21.71235	8.09065	0.44194	41.50925	298.24	-27.49
78/ 2/17	2443556.5	0.22386	-0.31795	-0.19327	31.94184	25.75634	10.51298	0.43424	42.35791	305.15	-26.43
78/ 2/19	2443558.5	0.25902	-0.28594	-0.17973	28.82334	29.65137	12.91922	0.42562	43.32315	312.17	-24.98
78/ 2/21	2443560.5	0.29020	-0.24954	-0.16344	25.04280	33.33213	15.27870	0.41617	44.40283	319.31	-23.12
78/ 2/23	2443562.5	0.31660	-0.20905	-0.14447	20.55860	36.71549	17.55118	0.40597	45.59306	326.56	-20.85
78/ 2/25	2443564.5	0.33741	-0.16487	-0.12295	15.33429	39.69635	19.68412	0.39515	46.88716	333.96	-18.13
78/ 2/27	2443566.5	0.35173	-0.11755	-0.09908	9.34632	42.14361	21.60972	0.38386	48.27440	341.52	-14.96
78/ 3/ 1	2443568.5	0.35870	-0.06778	-0.07314	2.59554	43.89713	23.24214	0.37231	49.73824	349.30	-11.33
78/ 3/ 3	2443570.5	0.35745	-0.01648	-0.04554	-4.87633	44.76775	24.47579	0.36072	51.25421	357.36	-7.25
78/ 3/ 5	2443572.5	0.34720	0.03522	-0.01680	-12.96515	44.54305	25.18622	0.34938	52.78753	5.79	-2.76
78/ 3/ 7	2443574.5	0.32733	0.08592	0.01239	-21.47950	43.00325	25.23606	0.33865	54.29095	14.71	2.10
78/ 3/ 9	2443576.5	0.29753	0.13398	0.04120	-30.11792	39.95139	24.48888	0.32889	55.70375	24.24	7.20
78/ 3/11	2443578.5	0.25787	0.17758	0.06862	-38.45894	35.25958	22.83288	0.32053	56.95322	34.55	12.36
78/ 3/13	2443580.5	0.20900	0.21480	0.09357	-45.97898	28.92622	20.21346	0.31397	57.96013	45.78	17.34
78/ 3/15	2443582.5	0.15219	0.24384	0.11496	-52.11092	21.12754	16.66672	0.30957	58.64896	58.03	21.80
78/ 3/17	2443584.5	0.08935	0.26319	0.13177	-56.34186	12.23737	12.34020	0.30760	58.96133	71.25	25.37
78/ 3/19	2443586.5	0.02289	0.27189	0.14326	-58.32418	2.79247	7.48567	0.30818	58.86886	85.19	27.70
78/ 3/21	2443588.5	-0.04448	0.26966	0.14898	-57.95573	-6.59651	2.41964	0.31128	58.38010	99.37	28.60
78/ 3/23	2443590.5	-0.11015	0.25690	0.14889	-55.39275	-15.35824	-2.53586	0.31670	57.53836	113.21	28.04
78/ 3/25	2443592.5	-0.17174	0.23460	0.14327	-50.99264	-23.05378	-7.10905	0.32413	56.41156	126.21	26.23
78/ 3/27	2443594.5	-0.22742	0.20415	0.13269	-45.21793	-29.41956	-11.11128	0.33317	55.07841	138.09	23.47
78/ 3/29	2443596.5	-0.27586	0.16718	0.11786	-38.54250	-34.35961	-14.44248	0.34342	53.61615	148.78	20.07
78/ 3/31	2443598.5	-0.31627	0.12532	0.09959	-31.38666	-37.90626	-17.07680	0.35447	52.09246	158.39	16.32
78/ 4/ 2	2443600.5	-0.34831	0.08010	0.07867	-24.08671	-40.17232	-19.04011	0.36596	50.56195	167.05	12.41
78/ 4/ 4	2443602.5	-0.37196	0.03294	0.05585	-16.89078	-41.30970	-20.38829	0.37757	49.06600	174.94	8.51
78/ 4/ 6	2443604.5	-0.38744	-0.01496	0.03178	-9.96950	-41.48024	-21.19047	0.38903	47.63441	182.21	4.69
78/ 4/ 8	2443606.5	-0.39514	-0.06257	0.00707	-3.43223	-40.83814	-21.51801	0.40013	46.28778	189.00	1.01
78/ 4/10	2443608.5	-0.39554	-0.10904	-0.01777	2.65672	-39.52125	-21.43812	0.41068	45.03977	195.41	-2.48
78/ 4/12	2443610.5	-0.38919	-0.15366	-0.04232	8.26438	-37.64801	-21.01086	0.42056	43.89907	201.54	-5.78
78/ 4/14	2443612.5	-0.37664	-0.19584	-0.06620	13.37835	-35.31762	-20.28807	0.42964	42.87097	207.47	-8.86
78/ 4/16	2443614.5	-0.35847	-0.23510	-0.08909	17.99900	-32.61186	-19.31359	0.43785	41.95846	213.26	-11.74
78/ 4/18	2443616.5	-0.33525	-0.27106	-0.11073	22.13391	-29.59750	-18.12394	0.44511	41.16308	218.96	-14.40
78/ 4/20	2443618.5	-0.30752	-0.30338	-0.13089	25.79401	-26.32876	-16.74931	0.45138	40.48548	224.61	-16.86
78/ 4/22	2443620.5	-0.27584	-0.33180	-0.14936	28.99104	-22.84970	-15.21448	0.45660	39.92580	230.26	-19.09
78/ 4/24	2443622.5	-0.24072	-0.35610	-0.16598	31.73576	-19.19627	-13.53981	0.46076	39.48394	235.94	-21.11
78/ 4/26	2443624.5	-0.20269	-0.37609	-0.18060	34.03681	-15.39806	-11.74204	0.46384	39.15967	241.68	-22.91
78/ 4/28	2443626.5	-0.16226	-0.39163	-0.19307	35.89989	-11.47993	-9.83506	0.46580	38.95278	247.49	-24.49
78/ 4/30	2443628.5	-0.11992	-0.40257	-0.20328	37.32723	-7.46329	-7.83059	0.46666	38.86310	253.41	-25.82
78/ 5/ 2	2443630.5	-0.07619	-0.40884	-0.21112	38.31714	-3.36739	-5.73873	0.46640	38.89056	259.44	-26.92

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78/ 5/ 4	2443632.5	-0.03158	-0.41033	-0.21651	38.86368	0.78958	-3.56863	0.46502	39.03517	265.60	-27.75
78/ 5/ 6	2443634.5	0.01341	-0.40700	-0.21934	38.95638	4.98931	-1.32902	0.46253	39.29706	271.89	-28.31
78/ 5/ 8	2443636.5	0.05824	-0.39880	-0.21955	38.57993	9.21221	0.97118	0.45895	39.67643	278.31	-28.58
78/ 5/10	2443638.5	0.10235	-0.38571	-0.21708	37.71401	13.43604	3.32215	0.45428	40.17350	284.86	-28.54
78/ 5/12	2443640.5	0.14517	-0.36777	-0.21186	36.33312	17.63440	5.71237	0.44857	40.78847	291.54	-28.18
78/ 5/14	2443642.5	0.18608	-0.34500	-0.20387	34.40661	21.77492	8.12766	0.44183	41.52133	298.34	-27.48
78/ 5/16	2443644.5	0.22443	-0.31750	-0.19308	31.89899	25.81704	10.54992	0.43411	42.37176	305.26	-26.41
78/ 5/18	2443646.5	0.25953	-0.28541	-0.17951	28.77069	29.70931	12.95568	0.42549	43.33873	312.28	-24.95
78/ 5/20	2443648.5	0.29064	-0.24895	-0.16317	24.97970	33.38616	15.31415	0.41602	44.42009	319.42	-23.09
78/ 5/22	2443650.5	0.31697	-0.20840	-0.14416	20.48445	36.76419	17.58490	0.40581	45.61192	326.68	-20.81
78/ 5/24	2443652.5	0.33768	-0.16417	-0.12260	15.24864	39.73793	19.71520	0.39498	46.90749	334.07	-18.08
78/ 5/26	2443654.5	0.35190	-0.11680	-0.09870	9.24896	42.17584	21.63700	0.38369	48.29601	341.64	-14.91
78/ 5/28	2443656.5	0.35875	-0.06701	-0.07273	2.48677	43.91736	23.26417	0.37213	49.76083	349.42	-11.27
78/ 5/30	2443658.5	0.35737	-0.01569	-0.04510	-4.99544	44.77289	24.49080	0.36054	51.27734	357.49	-7.19
78/ 6/ 1	2443660.5	0.34697	0.03600	-0.01635	-13.09238	44.52978	25.19219	0.34922	52.81059	5.92	-2.68
78/ 6/ 3	2443662.5	0.32696	0.08668	0.01284	-21.61113	42.96832	25.23088	0.33849	54.31312	14.85	2.17
78/ 6/ 5	2443664.5	0.29700	0.13468	0.04163	-30.24842	39.89221	24.47058	0.32876	55.72401	24.39	7.27
78/ 6/ 7	2443666.5	0.25719	0.17820	0.06902	-38.58102	35.17506	22.80015	0.32042	56.97040	34.72	12.44
78/ 6/ 9	2443668.5	0.20819	0.21531	0.09393	-46.08415	28.81762	20.16608	0.31388	57.97305	45.96	17.41
78/ 6/11	2443670.5	0.15127	0.24421	0.11525	-52.19070	20.99908	16.60609	0.30952	58.65656	58.22	21.86
78/ 6/13	2443672.5	0.08836	0.26340	0.13199	-56.38947	12.09615	12.26943	0.30759	58.96293	71.46	25.41
78/ 6/15	2443674.5	0.02187	0.27194	0.14339	-58.33612	2.64750	7.40921	0.30821	58.86432	85.40	27.73
78/ 6/17	2443676.5	-0.04550	0.26955	0.14903	-57.93251	-6.73599	2.34252	0.31134	58.36983	99.58	28.60
78/ 6/19	2443678.5	-0.11112	0.25663	0.14885	-55.33851	-15.48440	-2.60904	0.31680	57.52325	113.41	28.02
78/ 6/21	2443680.5	-0.17264	0.23419	0.14315	-50.91387	-23.16124	-7.17474	0.32425	56.39275	126.40	26.20
78/ 6/23	2443682.5	-0.22821	0.20364	0.13249	-45.12194	-29.50569	-11.16731	0.33332	55.05709	138.26	23.42
78/ 6/25	2443684.5	-0.27653	0.16658	0.11761	-38.43618	-34.42405	-14.48795	0.34359	53.59343	148.94	20.02
78/ 6/27	2443686.5	-0.31682	0.12465	0.09929	-31.27581	-37.95022	-17.11176	0.35465	52.06926	158.52	16.26
78/ 6/29	2443688.5	-0.34873	0.07940	0.07834	-23.97575	-40.19789	-19.06523	0.36614	50.53899	167.17	12.35
78/ 7/ 1	2443690.5	-0.37225	0.03222	0.05549	-16.78284	-41.31932	-20.40455	0.37774	49.04381	175.05	8.45
78/ 7/ 3	2443692.5	-0.38761	-0.01569	0.03141	-9.86667	-41.47634	-21.19896	0.38920	47.61338	182.32	4.63
78/ 7/ 5	2443694.5	-0.39520	-0.06329	0.00669	-3.33582	-40.82296	-21.51980	0.40029	46.26817	189.10	0.96
78/ 7/ 7	2443696.5	-0.39549	-0.10974	-0.01815	2.74601	-39.49674	-21.43418	0.41084	45.02174	195.51	-2.53
78/ 7/ 9	2443698.5	-0.38904	-0.15432	-0.04269	8.34621	-37.61581	-21.00202	0.42070	43.88272	201.64	-5.82
78/ 7/11	2443700.5	-0.37640	-0.19646	-0.06655	13.45263	-35.27910	-20.27507	0.42977	42.85635	207.56	-8.91
78/ 7/13	2443702.5	-0.35815	-0.23568	-0.08943	18.06581	-32.56814	-19.29703	0.43797	41.94559	213.35	-11.78
78/ 7/15	2443704.5	-0.33485	-0.27158	-0.11105	22.19337	-29.54950	-18.10434	0.44521	41.15198	219.04	-14.44
78/ 7/17	2443706.5	-0.30706	-0.30384	-0.13118	25.84631	-26.27723	-16.72707	0.45146	40.47616	224.70	-16.89
78/ 7/19	2443708.5	-0.27532	-0.33220	-0.14963	29.03633	-22.79525	-15.18996	0.45667	39.91825	230.35	-19.13
78/ 7/21	2443710.5	-0.24016	-0.35644	-0.16622	31.77418	-19.13939	-13.51328	0.46082	39.47814	236.03	-21.14
78/ 7/23	2443712.5	-0.20209	-0.37636	-0.18080	34.06846	-15.33919	-11.71374	0.46387	39.15562	241.77	-22.94
78/ 7/25	2443714.5	-0.16162	-0.39183	-0.19324	35.92483	-11.41941	-9.80520	0.46583	38.95046	247.58	-24.51
78/ 7/27	2443716.5	-0.11926	-0.40271	-0.20342	37.34547	-7.40145	-7.79932	0.46666	38.86251	253.50	-25.84
78/ 7/29	2443718.5	-0.07552	-0.40890	-0.21123	38.32862	-3.30452	-5.70621	0.46639	38.89169	259.54	-26.93
78/ 7/31	2443720.5	-0.03089	-0.41032	-0.21657	38.86830	0.85320	-3.53501	0.46499	39.03804	265.69	-27.76

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78/ 8/ 2	2443722.5	0.01410	-0.40691	-0.21937	38.95394	5.05339	-1.29442	0.46249	39.30167	271.98	-28.31
78/ 8/ 4	2443724.5	0.05892	-0.39863	-0.21954	38.57018	9.27641	1.00660	0.45889	39.68279	278.41	-28.58
78/ 8/ 6	2443726.5	0.10302	-0.38548	-0.21702	37.69662	13.49999	3.35822	0.45421	40.18162	284.96	-28.54
78/ 8/ 8	2443728.5	0.14581	-0.36746	-0.21176	36.30767	17.69766	5.74890	0.44847	40.79833	291.64	-28.18
78/ 8/10	2443730.5	0.18668	-0.34462	-0.20373	34.37261	21.83694	8.16439	0.44172	41.53295	298.44	-27.47
78/ 8/12	2443732.5	0.22499	-0.31705	-0.19290	31.85589	25.87712	10.58656	0.43399	42.38512	305.36	-26.39
78/ 8/14	2443734.5	0.26004	-0.28489	-0.17928	28.71790	29.76658	12.99181	0.42535	43.35382	312.39	-24.93
78/ 8/16	2443736.5	0.29108	-0.24837	-0.16290	24.91660	33.43952	15.34923	0.41587	44.43690	319.53	-23.06
78/ 8/18	2443738.5	0.31733	-0.20776	-0.14385	20.41046	36.81221	17.61825	0.40565	45.63035	326.79	-20.77
78/ 8/20	2443740.5	0.33795	-0.16348	-0.12226	15.16331	39.77885	19.74591	0.39482	46.92743	334.18	-18.04
78/ 8/22	2443742.5	0.35206	-0.11607	-0.09832	9.15212	42.20746	21.66391	0.38352	48.31724	341.75	-14.85
78/ 8/24	2443744.5	0.35879	-0.06624	-0.07232	2.37870	43.93706	23.28583	0.37196	49.78306	349.54	-11.21
78/ 8/26	2443746.5	0.35728	-0.01491	-0.04468	-5.11367	44.77762	24.50549	0.36037	51.30013	357.61	-7.12
78/ 8/28	2443748.5	0.34674	0.03678	-0.01591	-13.21859	44.51625	25.19791	0.34905	52.83334	6.05	-2.61
78/ 8/30	2443750.5	0.32658	0.08742	0.01328	-21.74163	42.93333	25.22554	0.33834	54.33505	14.99	2.25
78/ 9/ 1	2443752.5	0.29647	0.13538	0.04205	-30.37777	39.83322	24.45227	0.32862	55.74412	24.54	7.35
78/ 9/ 3	2443754.5	0.25652	0.17881	0.06941	-38.70199	35.09097	22.76752	0.32030	56.98755	34.88	12.52
78/ 9/ 5	2443756.5	0.20739	0.21581	0.09428	-46.18834	28.70968	20.11895	0.31380	57.98604	46.14	17.48
78/ 9/ 7	2443758.5	0.15036	0.24457	0.11554	-52.26973	20.87145	16.54583	0.30947	58.66436	58.42	21.92
78/ 9/ 9	2443760.5	0.08737	0.26361	0.13220	-56.43662	11.95585	12.19911	0.30757	58.96485	71.66	25.46
78/ 9/11	2443762.5	0.02085	0.27198	0.14352	-58.34791	2.50343	7.33323	0.30823	58.86019	85.62	27.75
78/ 9/13	2443764.5	-0.04651	0.26942	0.14906	-57.90942	-6.87468	2.26583	0.31140	58.36005	99.80	28.60
78/ 9/15	2443766.5	-0.11208	0.25635	0.14880	-55.28459	-15.60994	-2.68185	0.31689	57.50868	113.62	28.01
78/ 9/17	2443768.5	-0.17353	0.23378	0.14302	-50.83553	-23.26831	-7.24017	0.32437	56.37451	126.59	26.16
78/ 9/19	2443770.5	-0.22900	0.20311	0.13229	-45.02640	-29.59161	-11.22318	0.33346	55.03635	138.43	23.37
78/ 9/21	2443772.5	-0.27721	0.16597	0.11735	-38.33029	-34.48843	-14.53335	0.34374	53.57126	149.09	19.96
78/ 9/23	2443774.5	-0.31737	0.12398	0.09899	-31.16528	-37.99422	-17.14672	0.35481	52.04657	158.66	16.20
78/ 9/25	2443776.5	-0.34915	0.07869	0.07800	-23.86499	-40.22356	-19.09039	0.36631	50.51649	167.30	12.29
78/ 9/27	2443778.5	-0.37255	0.03149	0.05512	-16.67499	-41.32906	-20.42087	0.37791	49.02202	175.17	8.39
78/ 9/29	2443780.5	-0.38778	-0.01642	0.03103	-9.76384	-41.47254	-21.20751	0.38937	47.59267	182.42	4.57
78/10/ 1	2443782.5	-0.39525	-0.06401	0.00631	-3.23931	-40.80782	-21.52162	0.40045	46.24879	189.20	0.90
78/10/ 3	2443784.5	-0.39544	-0.11044	-0.01853	2.83546	-39.47218	-21.43023	0.41099	45.00386	195.60	-2.58
78/10/ 5	2443786.5	-0.38889	-0.15499	-0.04306	8.42824	-37.58347	-20.99314	0.42084	43.86644	201.73	-5.87
78/10/ 7	2443788.5	-0.37616	-0.19709	-0.06692	13.52715	-35.24036	-20.26198	0.42990	42.84174	207.65	-8.95
78/10/ 9	2443790.5	-0.35783	-0.23626	-0.08977	18.13285	-32.52412	-19.28035	0.43808	41.93269	213.43	-11.83
78/10/11	2443792.5	-0.33446	-0.27210	-0.11137	22.25308	-29.50112	-18.08456	0.44531	41.14082	219.13	-14.48
78/10/13	2443794.5	-0.30660	-0.30431	-0.13148	25.89883	-26.22525	-16.70463	0.45155	40.46675	224.79	-16.93
78/10/15	2443796.5	-0.27480	-0.33261	-0.14990	29.08184	-22.74029	-15.16519	0.45675	39.91062	230.44	-19.16
78/10/17	2443798.5	-0.23959	-0.35678	-0.16646	31.81282	-19.08195	-13.48648	0.46087	39.47229	236.12	-21.17
78/10/19	2443800.5	-0.20148	-0.37664	-0.18101	34.10032	-15.27968	-11.68513	0.46391	39.15153	241.86	-22.97
78/10/21	2443802.5	-0.16098	-0.39203	-0.19342	35.94996	-11.35820	-9.77498	0.46585	38.94815	247.68	-24.53
78/10/23	2443804.5	-0.11860	-0.40284	-0.20356	37.36387	-7.33884	-7.76765	0.46667	38.86198	253.60	-25.86
78/10/25	2443806.5	-0.07483	-0.40896	-0.21133	38.34024	-3.24081	-5.67326	0.46637	38.89296	259.63	-26.94
78/10/27	2443808.5	-0.03019	-0.41030	-0.21663	38.87300	0.91772	-3.50091	0.46496	39.04112	265.79	-27.77
78/10/29	2443810.5	0.01480	-0.40682	-0.21939	38.95153	5.11842	-1.25932	0.46244	39.30657	272.08	-28.32

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78/10/31	2443812.5	0.05961	-0.39847	-0.21952	38.56039	9.34164	1.04256	0.45882	39.68951	278.51	-28.58
78/11/ 2	2443814.5	0.10369	-0.38524	-0.21696	37.67908	13.56504	3.39489	0.45413	40.19015	285.06	-28.54
78/11/ 4	2443816.5	0.14646	-0.36714	-0.21166	36.28195	17.76207	5.78607	0.44838	40.80869	291.75	-28.17
78/11/ 6	2443818.5	0.18730	-0.34423	-0.20358	34.33819	21.90015	8.20181	0.44161	41.54512	298.55	-27.45
78/11/ 8	2443820.5	0.22556	-0.31659	-0.19271	31.81217	25.93843	10.62391	0.43387	42.39910	305.47	-26.37
78/11/10	2443822.5	0.26055	-0.28436	-0.17905	28.66425	29.82509	13.02868	0.42521	43.36960	312.50	-24.90
78/11/12	2443824.5	0.29152	-0.24777	-0.16263	24.85238	33.49408	15.38508	0.41572	44.45442	319.64	-23.03
78/11/14	2443826.5	0.31769	-0.20710	-0.14354	20.33506	36.86138	17.65235	0.40549	45.64955	326.90	-20.73
78/11/16	2443828.5	0.33821	-0.16277	-0.12191	15.07624	39.82079	19.77734	0.39464	46.94817	334.30	-17.99
78/11/18	2443830.5	0.35222	-0.11532	-0.09793	9.05318	42.23992	21.69147	0.38334	48.33933	341.87	-14.80
78/11/20	2443832.5	0.35884	-0.06546	-0.07191	2.26819	43.95731	23.30805	0.37178	49.80618	349.66	-11.15
78/11/22	2443834.5	0.35719	-0.01411	-0.04424	-5.23465	44.78254	24.52056	0.36019	51.32383	357.74	-7.06
78/11/24	2443836.5	0.34651	0.03757	-0.01547	-13.34780	44.50242	25.20379	0.34888	52.85698	6.19	-2.54
78/11/26	2443838.5	0.32619	0.08819	0.01373	-21.87526	42.89744	25.22005	0.33818	54.35778	15.13	2.33
78/11/28	2443840.5	0.29593	0.13609	0.04249	-30.51016	39.77265	24.43342	0.32848	55.76491	24.70	7.43
78/11/30	2443842.5	0.25583	0.17944	0.06982	-38.82570	35.00463	22.73398	0.32019	57.00520	35.05	12.60
78/12/ 2	2443844.5	0.20656	0.21632	0.09464	-46.29470	28.59888	20.07051	0.31372	57.99932	46.32	17.56
78/12/ 4	2443846.5	0.14942	0.24494	0.11583	-52.35011	20.74056	16.48396	0.30942	58.67219	58.62	21.98
78/12/ 6	2443848.5	0.08636	0.26382	0.13242	-56.48419	11.81215	12.12700	0.30756	58.96655	71.87	25.50
78/12/ 8	2443850.5	0.01981	0.27203	0.14365	-58.35914	2.35611	7.25545	0.30826	58.85561	85.84	27.77
78/12/10	2443852.5	-0.04755	0.26930	0.14910	-57.88493	-7.01619	2.18748	0.31147	58.34961	100.01	28.60
78/12/12	2443854.5	-0.11307	0.25607	0.14875	-55.22865	-15.73770	-2.75607	0.31699	57.49326	113.82	27.99
78/12/14	2443856.5	-0.17444	0.23336	0.14289	-50.75479	-23.37692	-7.30667	0.32450	56.35527	126.78	26.13
78/12/16	2443858.5	-0.22980	0.20258	0.13209	-44.92832	-29.67844	-11.27980	0.33361	55.01452	138.60	23.32
78/12/18	2443860.5	-0.27789	0.16535	0.11709	-38.22189	-34.55315	-14.57918	0.34391	53.54797	149.25	19.91
78/12/20	2443862.5	-0.31793	0.12329	0.09868	-31.05243	-38.03813	-17.18186	0.35499	52.02277	158.80	16.14
78/12/22	2443864.5	-0.34958	0.07796	0.07766	-23.75216	-40.24881	-19.11553	0.36649	50.49292	167.43	12.23
78/12/24	2443866.5	-0.37284	0.03074	0.05476	-16.56536	-41.33815	-20.43703	0.37809	48.99925	175.29	8.33
78/12/26	2443868.5	-0.38796	-0.01716	0.03065	-9.65952	-41.46796	-21.21580	0.38954	47.57108	182.53	4.51
78/12/28	2443870.5	-0.39531	-0.06474	0.00593	-3.14156	-40.79183	-21.52311	0.40062	46.22864	189.30	0.85
78/12/30	2443872.5	-0.39539	-0.11114	-0.01891	2.92592	-39.44677	-21.42592	0.41115	44.98531	195.70	-2.64
79/ 1/ 1	2443874.5	-0.38873	-0.15566	-0.04344	8.51110	-37.55030	-20.98390	0.42099	43.84961	201.82	-5.92
79/ 1/ 3	2443876.5	-0.37592	-0.19772	-0.06728	13.60233	-35.20082	-20.24853	0.43004	42.82668	207.74	-9.00
79/ 1/ 5	2443878.5	-0.35750	-0.23684	-0.09012	18.20044	-32.47935	-19.26331	0.43820	41.91944	213.52	-11.87
79/ 1/ 7	2443880.5	-0.33406	-0.27263	-0.11170	22.31322	-29.45205	-18.06445	0.44542	41.12940	219.22	-14.52
79/ 1/ 9	2443882.5	-0.30614	-0.30478	-0.13178	25.95171	-26.17262	-16.68187	0.45164	40.45716	224.87	-16.96
79/ 1/11	2443884.5	-0.27428	-0.33302	-0.15017	29.12763	-22.68472	-15.14012	0.45682	39.90286	230.52	-19.19
79/ 1/13	2443886.5	-0.23902	-0.35712	-0.16670	31.85167	-19.02394	-13.45938	0.46093	39.46637	236.21	-21.20
79/ 1/15	2443888.5	-0.20087	-0.37691	-0.18122	34.13236	-15.21964	-11.65625	0.46395	39.14746	241.95	-22.99
79/ 1/17	2443890.5	-0.16034	-0.39223	-0.19359	35.97527	-11.29647	-9.74450	0.46587	38.94593	247.77	-24.55
79/ 1/19	2443892.5	-0.11793	-0.40297	-0.20370	37.38244	-7.27574	-7.73575	0.46667	38.86161	253.69	-25.88
79/ 1/21	2443894.5	-0.07414	-0.40901	-0.21143	38.35200	-3.17661	-5.64006	0.46636	38.89444	259.73	-26.96
79/ 1/23	2443896.5	-0.02950	-0.41028	-0.21669	38.87783	0.98274	-3.46656	0.46493	39.04444	265.89	-27.78
79/ 1/25	2443898.5	0.01549	-0.40673	-0.21941	38.94921	5.18397	-1.22395	0.46239	39.31173	272.18	-28.33
79/ 1/27	2443900.5	0.06030	-0.39830	-0.21950	38.55062	9.40739	1.07881	0.45876	39.69651	278.61	-28.59

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79/ 1/29	2443902.5	0.10436	-0.38499	-0.21690	37.66150	13.63060	3.43184	0.45404	40.19900	285.17	-28.54
79/ 1/31	2443904.5	0.14711	-0.36682	-0.21156	36.25611	17.82701	5.82353	0.44828	40.81937	291.85	-28.16
79/ 2/ 2	2443906.5	0.18791	-0.34383	-0.20344	34.30358	21.96389	8.23954	0.44149	41.55765	298.66	-27.44
79/ 2/ 4	2443908.5	0.22613	-0.31612	-0.19252	31.76820	26.00027	10.66158	0.43374	42.41346	305.58	-26.35
79/ 2/ 6	2443910.5	0.26106	-0.28383	-0.17881	28.61027	29.88411	13.06587	0.42507	43.38577	312.61	-24.88
79/ 2/ 8	2443912.5	0.29197	-0.24717	-0.16235	24.78773	33.54913	15.42123	0.41557	44.47235	319.75	-23.00
79/ 2/10	2443914.5	0.31805	-0.20644	-0.14322	20.25910	36.91098	17.68675	0.40532	45.66917	327.01	-20.69
79/ 2/12	2443916.5	0.33848	-0.16205	-0.12155	14.98848	39.86308	19.80903	0.39447	46.96932	334.42	-17.95
79/ 2/14	2443918.5	0.35239	-0.11456	-0.09754	8.95343	42.27261	21.71925	0.38316	48.36179	341.99	-14.75
79/ 2/16	2443920.5	0.35887	-0.06467	-0.07149	2.15677	43.97763	23.33040	0.37160	49.82962	349.79	-11.09
79/ 2/18	2443922.5	0.35709	-0.01330	-0.04380	-5.35662	44.78731	24.53565	0.36001	51.34778	357.87	-6.99
79/ 2/20	2443924.5	0.34626	0.03837	-0.01501	-13.47798	44.48820	25.20955	0.34871	52.88078	6.32	-2.47
79/ 2/22	2443926.5	0.32580	0.08896	0.01418	-22.00975	42.86090	25.21430	0.33802	54.38057	15.27	2.40
79/ 2/24	2443928.5	0.29538	0.13680	0.04293	-30.64320	39.71118	24.41416	0.32834	55.78561	24.85	7.51
79/ 2/26	2443930.5	0.25513	0.18007	0.07023	-38.94973	34.91720	22.69988	0.32007	57.02260	35.21	12.67
79/ 2/28	2443932.5	0.20573	0.21684	0.09500	-46.40098	28.48694	20.02146	0.31363	58.01220	46.51	17.63
79/ 3/ 2	2443934.5	0.14848	0.24532	0.11613	-52.42999	20.60861	16.42147	0.30937	58.67949	58.81	22.05
79/ 3/ 4	2443936.5	0.08535	0.26403	0.13264	-56.53087	11.66762	12.05436	0.30756	58.96762	72.09	25.55
79/ 3/ 6	2443938.5	0.01876	0.27207	0.14378	-58.36927	2.20831	7.17730	0.30829	58.85033	86.06	27.80
79/ 3/ 8	2443940.5	-0.04859	0.26917	0.14914	-57.85926	-7.15783	2.10895	0.31154	58.33846	100.23	28.60
79/ 3/10	2443942.5	-0.11406	0.25579	0.14870	-55.17163	-15.86528	-2.83029	0.31710	57.47718	114.03	27.97
79/ 3/12	2443944.5	-0.17535	0.23294	0.14276	-50.67317	-23.48513	-7.37305	0.32464	56.33546	126.97	26.09
79/ 3/14	2443946.5	-0.23061	0.20205	0.13189	-44.82963	-29.76476	-11.33620	0.33377	54.99224	138.78	23.28
79/ 3/16	2443948.5	-0.27857	0.16473	0.11683	-38.11314	-34.61736	-14.62478	0.34408	53.52436	149.40	19.85
79/ 3/18	2443950.5	-0.31848	0.12262	0.09837	-30.93945	-38.08157	-17.21676	0.35517	51.99878	158.94	16.08
79/ 3/20	2443952.5	-0.35000	0.07725	0.07731	-23.63938	-40.27369	-19.14047	0.36667	50.46928	167.55	12.17
79/ 3/22	2443954.5	-0.37314	0.03001	0.05439	-16.45590	-41.34697	-20.45302	0.37827	48.97647	175.40	8.27
79/ 3/24	2443956.5	-0.38813	-0.01790	0.03027	-9.55542	-41.46319	-21.22396	0.38972	47.54954	182.64	4.46
79/ 3/26	2443958.5	-0.39536	-0.06547	0.00554	-3.04410	-40.77574	-21.52452	0.40079	46.20857	189.40	0.79
79/ 3/28	2443960.5	-0.39533	-0.11185	-0.01930	3.01607	-39.42131	-21.42156	0.41130	44.96688	195.80	-2.69
79/ 3/30	2443962.5	-0.38858	-0.15633	-0.04381	8.59364	-37.51716	-20.97463	0.42114	43.83290	201.92	-5.97
79/ 4/ 1	2443964.5	-0.37567	-0.19834	-0.06764	13.67721	-35.16137	-20.23510	0.43017	42.81176	207.83	-9.05
79/ 4/ 3	2443966.5	-0.35718	-0.23742	-0.09046	18.26774	-32.43472	-19.24632	0.43832	41.90635	213.61	-11.91
79/ 4/ 5	2443968.5	-0.33366	-0.27316	-0.11202	22.37310	-29.40315	-18.04441	0.44552	41.11815	219.31	-14.56
79/ 4/ 7	2443970.5	-0.30567	-0.30525	-0.13208	26.00436	-26.12021	-16.65920	0.45173	40.44776	224.96	-17.00
79/ 4/ 9	2443972.5	-0.27376	-0.33342	-0.15044	29.17324	-22.62939	-15.11516	0.45689	39.89530	230.61	-19.23
79/ 4/11	2443974.5	-0.23845	-0.35746	-0.16694	31.89039	-18.96617	-13.43241	0.46098	39.46064	236.29	-21.23
79/ 4/13	2443976.5	-0.20026	-0.37718	-0.18143	34.16429	-15.15984	-11.62749	0.46399	39.14356	242.03	-23.02
79/ 4/15	2443978.5	-0.15969	-0.39243	-0.19376	36.00046	-11.23500	-9.71414	0.46589	38.94384	247.86	-24.58
79/ 4/17	2443980.5	-0.11726	-0.40310	-0.20383	37.40089	-7.21290	-7.70396	0.46667	38.86134	253.78	-25.90
79/ 4/19	2443982.5	-0.07346	-0.40907	-0.21153	38.36365	-3.11268	-5.60700	0.46634	38.89598	259.82	-26.97
79/ 4/21	2443984.5	-0.02880	-0.41026	-0.21676	38.88254	1.04747	-3.43235	0.46490	39.04780	265.98	-27.79
79/ 4/23	2443986.5	0.01619	-0.40663	-0.21943	38.94679	5.24922	-1.18872	0.46234	39.31691	272.28	-28.33
79/ 4/25	2443988.5	0.06099	-0.39813	-0.21948	38.54079	9.47285	1.11490	0.45869	39.70353	278.71	-28.59
79/ 4/27	2443990.5	0.10504	-0.38475	-0.21684	37.64390	13.69590	3.46864	0.45396	40.20786	285.27	-28.53

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79/ 4/29	2443992.5	0.14775	-0.36650	-0.21145	36.23029	17.89168	5.86085	0.44818	40.83009	291.96	-28.15
79/ 5/ 1	2443994.5	0.18853	-0.34344	-0.20329	34.26902	22.02738	8.27712	0.44138	41.57021	298.76	-27.42
79/ 5/ 3	2443996.5	0.22670	-0.31565	-0.19233	31.72430	26.06184	10.69910	0.43361	42.42784	305.69	-26.33
79/ 5/ 5	2443998.5	0.26157	-0.28329	-0.17858	28.55638	29.94285	13.10290	0.42493	43.40193	312.72	-24.85
79/ 5/ 7	2444000.5	0.29241	-0.24656	-0.16208	24.72318	33.60387	15.45721	0.41541	44.49024	319.86	-22.96
79/ 5/ 9	2444002.5	0.31842	-0.20578	-0.14290	20.18327	36.96023	17.72094	0.40516	45.68868	327.13	-20.65
79/ 5/11	2444004.5	0.33875	-0.16134	-0.12119	14.90091	39.90500	19.84049	0.39430	46.99033	334.53	-17.90
79/ 5/13	2444006.5	0.35255	-0.11380	-0.09715	8.85394	42.30490	21.74678	0.38298	48.38409	342.11	-14.69
79/ 5/15	2444008.5	0.35891	-0.06388	-0.07107	2.04571	43.99757	23.35250	0.37142	49.85288	349.91	-11.03
79/ 5/17	2444010.5	0.35700	-0.01250	-0.04336	-5.47810	44.79171	24.55050	0.35984	51.37153	357.99	-6.92
79/ 5/19	2444012.5	0.34602	0.03917	-0.01456	-13.60755	44.47366	25.21508	0.34854	52.90437	6.46	-2.39
79/ 5/21	2444014.5	0.32540	0.08973	0.01463	-22.14349	42.82411	25.20833	0.33786	54.40311	15.42	2.48
79/ 5/23	2444016.5	0.29483	0.13752	0.04337	-30.77534	39.64959	24.39474	0.32820	55.80604	25.01	7.59
79/ 5/25	2444018.5	0.25443	0.18069	0.07064	-39.07273	34.82982	22.66570	0.31996	57.03971	35.38	12.75
79/ 5/27	2444020.5	0.20490	0.21735	0.09536	-46.50612	28.37527	19.97243	0.31355	58.02476	46.69	17.70
79/ 5/29	2444022.5	0.14755	0.24568	0.11642	-52.50873	20.47721	16.35916	0.30933	58.68649	59.01	22.11
79/ 5/31	2444024.5	0.08434	0.26424	0.13285	-56.57653	11.52394	11.98206	0.30755	58.96842	72.30	25.59
79/ 6/ 2	2444026.5	0.01772	0.27211	0.14391	-58.37860	2.06159	7.09964	0.30833	58.84485	86.27	27.82
79/ 6/ 4	2444028.5	-0.04962	0.26905	0.14918	-57.83312	-7.29822	2.03104	0.31161	58.32717	100.45	28.60
79/ 6/ 6	2444030.5	-0.11504	0.25551	0.14865	-55.11451	-15.99156	-2.90383	0.31720	57.46104	114.24	27.95
79/ 6/ 8	2444032.5	-0.17625	0.23253	0.14263	-50.59181	-23.59209	-7.43873	0.32477	56.31565	127.16	26.05
79/ 6/10	2444034.5	-0.23141	0.20153	0.13169	-44.73149	-29.84994	-11.39194	0.33392	54.97001	138.95	23.23
79/ 6/12	2444036.5	-0.27925	0.16412	0.11657	-38.00517	-34.68059	-14.66977	0.34425	53.50082	149.56	19.79
79/ 6/14	2444038.5	-0.31903	0.12194	0.09807	-30.82740	-38.12422	-17.25115	0.35534	51.97487	159.08	16.02
79/ 6/16	2444040.5	-0.35042	0.07653	0.07698	-23.52762	-40.29795	-19.16497	0.36685	50.44571	167.68	12.11
79/ 6/18	2444042.5	-0.37343	0.02928	0.05403	-16.34750	-41.35535	-20.46867	0.37845	48.95377	175.52	8.21
79/ 6/20	2444044.5	-0.38830	-0.01864	0.02990	-9.45240	-41.45816	-21.23187	0.38989	47.52809	182.75	4.40
79/ 6/22	2444046.5	-0.39542	-0.06619	0.00516	-2.94767	-40.75956	-21.52578	0.40095	46.18863	189.50	0.74
79/ 6/24	2444048.5	-0.39528	-0.11254	-0.01968	3.10525	-39.39594	-21.41714	0.41146	44.94860	195.89	-2.74
79/ 6/26	2444050.5	-0.38843	-0.15699	-0.04418	8.67529	-37.48423	-20.96539	0.42128	43.81639	202.01	-6.02
79/ 6/28	2444052.5	-0.37543	-0.19896	-0.06800	13.75130	-35.12223	-20.22175	0.43030	42.79706	207.92	-9.09
79/ 6/30	2444054.5	-0.35685	-0.23799	-0.09080	18.33435	-32.39048	-19.22947	0.43844	41.89349	213.70	-11.95
79/ 7/ 2	2444056.5	-0.33326	-0.27367	-0.11234	22.43239	-29.35471	-18.02456	0.44562	41.10713	219.39	-14.60
79/ 7/ 4	2444058.5	-0.30521	-0.30571	-0.13237	26.05652	-26.06828	-16.63673	0.45181	40.43857	225.05	-17.04
79/ 7/ 6	2444060.5	-0.27325	-0.33382	-0.15071	29.21843	-22.57456	-15.09043	0.45696	39.88794	230.70	-19.26
79/ 7/ 8	2444062.5	-0.23789	-0.35779	-0.16718	31.92876	-18.90894	-13.40569	0.46104	39.45512	236.38	-21.26
79/ 7/10	2444064.5	-0.19965	-0.37745	-0.18163	34.19595	-15.10062	-11.59901	0.46402	39.13986	242.12	-23.04
79/ 7/12	2444066.5	-0.15906	-0.39263	-0.19394	36.02546	-11.17412	-9.68409	0.46591	38.94196	247.95	-24.60
79/ 7/14	2444068.5	-0.11660	-0.40322	-0.20397	37.41923	-7.15067	-7.67250	0.46668	38.86127	253.87	-25.92
79/ 7/16	2444070.5	-0.07278	-0.40912	-0.21163	38.37526	-3.04938	-5.57426	0.46633	38.89771	259.91	-26.99
79/ 7/18	2444072.5	-0.02811	-0.41024	-0.21682	38.88727	1.11158	-3.39847	0.46487	39.05131	266.08	-27.80
79/ 7/20	2444074.5	0.01688	-0.40654	-0.21945	38.94443	5.31384	-1.15385	0.46229	39.32221	272.38	-28.34
79/ 7/22	2444076.5	0.06167	-0.39796	-0.21946	38.53105	9.53766	1.15064	0.45863	39.71061	278.81	-28.59
79/ 7/24	2444078.5	0.10571	-0.38450	-0.21677	37.62642	13.76052	3.50508	0.45388	40.21672	285.37	-28.53
79/ 7/26	2444080.5	0.14840	-0.36618	-0.21135	36.20464	17.95566	5.89778	0.44808	40.84073	292.06	-28.14

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79/ 7/28	2444082.5	0.18913	-0.34305	-0.20314	34.23468	22.09014	8.31429	0.44127	41.58263	298.87	-27.41
79/ 7/30	2444084.5	0.22726	-0.31519	-0.19214	31.68068	26.12268	10.73619	0.43348	42.44203	305.79	-26.31
79/ 8/ 1	2444086.5	0.26208	-0.28276	-0.17834	28.50285	30.00085	13.13949	0.42479	43.41785	312.83	-24.82
79/ 8/ 3	2444088.5	0.29285	-0.24597	-0.16180	24.65908	33.65787	15.49274	0.41526	44.50783	319.97	-22.93
79/ 8/ 5	2444090.5	0.31878	-0.20512	-0.14259	20.10800	37.00876	17.75468	0.40500	45.70787	327.24	-20.61
79/ 8/ 7	2444092.5	0.33902	-0.16063	-0.12084	14.81402	39.94620	19.87151	0.39413	47.01096	334.65	-17.85
79/ 8/ 9	2444094.5	0.35270	-0.11305	-0.09676	8.75526	42.33651	21.77387	0.38281	48.40595	342.23	-14.64
79/ 8/11	2444096.5	0.35895	-0.06310	-0.07066	1.93559	44.01686	23.37415	0.37124	49.87566	350.03	-10.97
79/ 8/13	2444098.5	0.35690	-0.01171	-0.04292	-5.59848	44.79556	24.56494	0.35966	51.39476	358.12	-6.85
79/ 8/15	2444100.5	0.34578	0.03996	-0.01411	-13.73584	44.45871	25.22026	0.34837	52.92742	6.59	-2.32
79/ 8/17	2444102.5	0.32501	0.09049	0.01508	-22.27579	42.78715	25.20213	0.33771	54.42516	15.56	2.56
79/ 8/19	2444104.5	0.29429	0.13822	0.04380	-30.90595	39.58812	24.37523	0.32806	55.82605	25.16	7.67
79/ 8/21	2444106.5	0.25374	0.18131	0.07104	-39.19419	34.74292	22.63162	0.31985	57.05651	35.55	12.83
79/ 8/23	2444108.5	0.20408	0.21785	0.09571	-46.60986	28.26444	19.92371	0.31347	58.03716	46.87	17.78
79/ 8/25	2444110.5	0.14662	0.24605	0.11671	-52.58631	20.34696	16.29734	0.30929	58.69346	59.21	22.17
79/ 8/27	2444112.5	0.08334	0.26445	0.13306	-56.62138	11.38161	11.91042	0.30755	58.96931	72.51	25.64
79/ 8/29	2444114.5	0.01669	0.27215	0.14403	-58.38753	1.91633	7.02273	0.30836	58.83956	86.49	27.85
79/ 8/31	2444116.5	-0.05064	0.26892	0.14922	-57.80700	-7.43719	1.95389	0.31168	58.31619	100.66	28.60
79/ 9/ 2	2444118.5	-0.11601	0.25523	0.14860	-55.05776	-16.11657	-2.97665	0.31730	57.44529	114.44	27.93
79/ 9/ 4	2444120.5	-0.17714	0.23211	0.14250	-50.51110	-23.69801	-7.50379	0.32490	56.29631	127.35	26.01
79/ 9/ 6	2444122.5	-0.23219	0.20100	0.13149	-44.63418	-29.93436	-11.44719	0.33407	54.94829	139.12	23.18
79/ 9/ 8	2444124.5	-0.27992	0.16351	0.11631	-37.89812	-34.74333	-14.71440	0.34441	53.47784	149.71	19.74
79/ 9/10	2444126.5	-0.31957	0.12127	0.09777	-30.71628	-38.16662	-17.28530	0.35552	51.95154	159.22	15.96
79/ 9/12	2444128.5	-0.35083	0.07583	0.07664	-23.41673	-40.32217	-19.18936	0.36703	50.42273	167.80	12.05
79/ 9/14	2444130.5	-0.37372	0.02855	0.05367	-16.23989	-41.36384	-20.48429	0.37863	48.93166	175.63	8.15
79/ 9/16	2444132.5	-0.38846	-0.01937	0.02952	-9.35006	-41.45334	-21.23981	0.39006	47.50718	182.85	4.34
79/ 9/18	2444134.5	-0.39547	-0.06691	0.00478	-2.85184	-40.74361	-21.52710	0.40112	46.16916	189.60	0.68
79/ 9/20	2444136.5	-0.39523	-0.11324	-0.02005	3.19391	-39.37079	-21.41280	0.41162	44.93071	195.99	-2.79
79/ 9/22	2444138.5	-0.38828	-0.15765	-0.04455	8.75646	-37.45151	-20.95622	0.42142	43.80016	202.10	-6.07
79/ 9/24	2444140.5	-0.37519	-0.19958	-0.06835	13.82491	-35.08329	-20.20846	0.43043	42.78256	208.01	-9.14
79/ 9/26	2444142.5	-0.35653	-0.23856	-0.09114	18.40048	-32.34643	-19.21267	0.43855	41.88073	213.79	-11.99
79/ 9/28	2444144.5	-0.33287	-0.27419	-0.11266	22.49118	-29.30645	-18.00474	0.44573	41.09613	219.48	-14.64
79/ 9/30	2444146.5	-0.30475	-0.30617	-0.13267	26.10814	-26.01655	-16.61432	0.45190	40.42934	225.13	-17.07
79/10/ 2	2444148.5	-0.27273	-0.33422	-0.15098	29.26306	-22.51996	-15.06576	0.45703	39.88047	230.78	-19.29
79/10/ 4	2444150.5	-0.23732	-0.35812	-0.16742	31.96654	-18.85196	-13.37903	0.46109	39.44939	236.47	-21.29
79/10/ 6	2444152.5	-0.19905	-0.37771	-0.18184	34.22698	-15.04165	-11.57059	0.46406	39.13587	242.21	-23.07
79/10/ 8	2444154.5	-0.15842	-0.39283	-0.19411	36.04980	-11.11353	-9.65412	0.46593	38.93970	248.04	-24.62
79/10/10	2444156.5	-0.11594	-0.40335	-0.20410	37.43689	-7.08875	-7.64113	0.46668	38.86075	253.96	-25.94
79/10/12	2444158.5	-0.07210	-0.40917	-0.21173	38.38618	-2.98643	-5.54164	0.46632	38.89894	260.01	-27.00
79/10/14	2444160.5	-0.02743	-0.41023	-0.21688	38.89134	1.17528	-3.36474	0.46484	39.05431	266.17	-27.81
79/10/16	2444162.5	0.01757	-0.40644	-0.21947	38.94145	5.37801	-1.11915	0.46225	39.32698	272.47	-28.35
79/10/18	2444164.5	0.06235	-0.39779	-0.21944	38.52075	9.60197	1.18617	0.45856	39.71717	278.91	-28.59
79/10/20	2444166.5	0.10637	-0.38426	-0.21671	37.60846	13.82461	3.54128	0.45380	40.22507	285.47	-28.53
79/10/22	2444168.5	0.14903	-0.36587	-0.21124	36.17859	18.01908	5.93445	0.44799	40.85088	292.16	-28.13
79/10/24	2444170.5	0.18973	-0.34266	-0.20299	34.20002	22.15233	8.35119	0.44116	41.59459	298.97	-27.40

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
79/10/26	2444172.5	0.22782	-0.31473	-0.19195	31.63684	26.18295	10.77300	0.43336	42.45579	305.90	-26.29
79/10/28	2444174.5	0.26258	-0.28223	-0.17811	28.44921	30.05830	13.17579	0.42465	43.43340	312.93	-24.80
79/10/30	2444176.5	0.29328	-0.24538	-0.16153	24.59499	33.71137	15.52800	0.41511	44.52515	320.08	-22.90
79/11/ 1	2444178.5	0.31913	-0.20447	-0.14228	20.03287	37.05686	17.78819	0.40484	45.72687	327.35	-20.58
79/11/ 3	2444180.5	0.33928	-0.15993	-0.12049	14.72736	39.98709	19.90233	0.39396	47.03153	334.76	-17.81
79/11/ 5	2444182.5	0.35285	-0.11230	-0.09638	8.65689	42.36794	21.80083	0.38263	48.42789	342.35	-14.59
79/11/ 7	2444184.5	0.35898	-0.06232	-0.07024	1.82580	44.03613	23.39577	0.37106	49.89866	350.15	-10.91
79/11/ 9	2444186.5	0.35680	-0.01092	-0.04249	-5.71857	44.79955	24.57942	0.35948	51.41838	358.25	-6.79
79/11/11	2444188.5	0.34554	0.04074	-0.01367	-13.86398	44.44403	25.22556	0.34820	52.95102	6.72	-2.25
79/11/13	2444190.5	0.32461	0.09124	0.01552	-22.40814	42.75051	25.19610	0.33755	54.44791	15.70	2.64
79/11/15	2444192.5	0.29374	0.13891	0.04423	-31.03685	39.52695	24.35591	0.32792	55.84690	25.31	7.75
79/11/17	2444194.5	0.25305	0.18192	0.07144	-39.31618	34.65618	22.59769	0.31973	57.07424	35.71	12.91
79/11/19	2444196.5	0.20325	0.21834	0.09606	-46.71430	28.15355	19.87503	0.31339	58.05054	47.05	17.85
79/11/21	2444198.5	0.14569	0.24640	0.11700	-52.66467	20.21633	16.23541	0.30924	58.70142	59.41	22.23
79/11/23	2444200.5	0.08234	0.26464	0.13327	-56.66696	11.23859	11.83846	0.30753	58.97117	72.72	25.68
79/11/25	2444202.5	0.01565	0.27217	0.14415	-58.39699	1.77007	6.94533	0.30839	58.83519	86.71	27.87
79/11/27	2444204.5	-0.05166	0.26878	0.14925	-57.78109	-7.57738	1.87611	0.31175	58.30601	100.88	28.60
79/11/29	2444206.5	-0.11699	0.25493	0.14854	-55.00083	-16.24286	-3.05018	0.31740	57.43018	114.65	27.90
79/12/ 1	2444208.5	-0.17804	0.23168	0.14236	-50.42979	-23.80515	-7.56956	0.32502	56.27742	127.54	25.98
79/12/ 3	2444210.5	-0.23299	0.20046	0.13128	-44.53589	-30.01980	-11.50308	0.33422	54.92681	139.29	23.13
79/12/ 5	2444212.5	-0.28059	0.16288	0.11605	-37.78977	-34.80681	-14.75957	0.34457	53.45489	149.87	19.68
79/12/ 7	2444214.5	-0.32012	0.12058	0.09745	-30.60367	-38.20943	-17.31983	0.35569	51.92804	159.36	15.90
79/12/ 9	2444216.5	-0.35125	0.07510	0.07629	-23.30426	-40.34647	-19.21397	0.36720	50.39943	167.93	11.99
79/12/11	2444218.5	-0.37401	0.02781	0.05330	-16.13068	-41.37213	-20.49997	0.37881	48.90911	175.75	8.09
79/12/13	2444220.5	-0.38863	-0.02011	0.02914	-9.24619	-41.44806	-21.24768	0.39024	47.48577	182.96	4.28
79/12/15	2444222.5	-0.39552	-0.06764	0.00440	-2.75457	-40.72703	-21.52823	0.40128	46.14914	189.70	0.63
79/12/17	2444224.5	-0.39517	-0.11394	-0.02044	3.28388	-39.34486	-21.40816	0.41177	44.91226	196.08	-2.84
79/12/19	2444226.5	-0.38812	-0.15832	-0.04493	8.83883	-37.41788	-20.94667	0.42157	43.78340	202.19	-6.12
79/12/21	2444228.5	-0.37494	-0.20021	-0.06872	13.89961	-35.04333	-20.19474	0.43056	42.76753	208.10	-9.18
79/12/23	2444230.5	-0.35620	-0.23914	-0.09149	18.46758	-32.30128	-19.19538	0.43867	41.86749	213.88	-12.04
79/12/25	2444232.5	-0.33246	-0.27472	-0.11298	22.55084	-29.25701	-17.98439	0.44583	41.08469	219.57	-14.68
79/12/27	2444234.5	-0.30428	-0.30663	-0.13297	26.16054	-25.96359	-16.59134	0.45199	40.41973	225.22	-17.11
79/12/29	2444236.5	-0.27220	-0.33462	-0.15125	29.30836	-22.46409	-15.04048	0.45710	39.87269	230.87	-19.32
79/12/31	2444238.5	-0.23675	-0.35846	-0.16766	32.00490	-18.79368	-13.35175	0.46115	39.44344	236.56	-21.32
80/ 1/ 2	2444240.5	-0.19844	-0.37798	-0.18205	34.25852	-14.98140	-11.54155	0.46410	39.13177	242.30	-23.10
80/ 1/ 4	2444242.5	-0.15777	-0.39303	-0.19428	36.07458	-11.05163	-9.62349	0.46595	38.93745	248.13	-24.64
80/ 1/ 6	2444244.5	-0.11527	-0.40348	-0.20424	37.45491	-7.02551	-7.60909	0.46668	38.86034	254.06	-25.95
80/ 1/ 8	2444246.5	-0.07142	-0.40923	-0.21182	38.39738	-2.92213	-5.50834	0.46630	38.90038	260.10	-27.02
80/ 1/10	2444248.5	-0.02673	-0.41020	-0.21694	38.89559	1.24036	-3.33031	0.46480	39.05760	266.27	-27.82
80/ 1/12	2444250.5	0.01826	-0.40635	-0.21949	38.93853	5.44357	-1.08371	0.46220	39.33212	272.57	-28.35
80/ 1/14	2444252.5	0.06304	-0.39762	-0.21942	38.51038	9.66768	1.22246	0.45850	39.72415	279.01	-28.59
80/ 1/16	2444254.5	0.10704	-0.38401	-0.21665	37.59025	13.89010	3.57825	0.45372	40.23389	285.58	-28.52
80/ 1/18	2444256.5	0.14968	-0.36554	-0.21114	36.15210	18.08387	5.97190	0.44789	40.86153	292.27	-28.13
80/ 1/20	2444258.5	0.19035	-0.34226	-0.20284	34.16474	22.21589	8.38888	0.44104	41.60707	299.08	-27.38
80/ 1/22	2444260.5	0.22838	-0.31426	-0.19175	31.59218	26.24453	10.81060	0.43323	42.47011	306.01	-26.27

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80/ 1/24	2444262.5	0.26309	-0.28169	-0.17788	28.39452	30.11700	13.21288	0.42451	43.44955	313.04	-24.77
80/ 1/26	2444264.5	0.29372	-0.24477	-0.16125	24.52962	33.76602	15.56402	0.41495	44.54307	320.19	-22.87
80/ 1/28	2444266.5	0.31949	-0.20380	-0.14196	19.95619	37.10598	17.82240	0.40467	45.74649	327.47	-20.54
80/ 1/30	2444268.5	0.33954	-0.15921	-0.12013	14.63889	40.02880	19.93378	0.39378	47.05271	334.88	-17.76
80/ 2/ 1	2444270.5	0.35301	-0.11154	-0.09599	8.55644	42.39993	21.82829	0.38245	48.45039	342.46	-14.54
80/ 2/ 3	2444272.5	0.35901	-0.06153	-0.06982	1.71372	44.05559	23.41772	0.37088	49.92216	350.27	-10.85
80/ 2/ 5	2444274.5	0.35669	-0.01011	-0.04205	-5.84112	44.80329	24.59403	0.35930	51.44240	358.38	-6.72
80/ 2/ 7	2444276.5	0.34529	0.04154	-0.01321	-13.99459	44.42861	25.23073	0.34803	52.97490	6.86	-2.18
80/ 2/ 9	2444278.5	0.32421	0.09201	0.01598	-22.54285	42.71261	25.18964	0.33739	54.47077	15.84	2.71
80/ 2/11	2444280.5	0.29318	0.13962	0.04466	-31.16979	39.46401	24.33585	0.32778	55.86768	25.47	7.83
80/ 2/13	2444282.5	0.25234	0.18254	0.07184	-39.43971	34.56726	22.56274	0.31962	57.09171	35.88	12.99
80/ 2/15	2444284.5	0.20241	0.21885	0.09642	-46.81963	28.04020	19.82512	0.31330	58.06346	47.24	17.92
80/ 2/17	2444286.5	0.14474	0.24676	0.11729	-52.74318	20.08323	16.17216	0.30919	58.70875	59.61	22.29
80/ 2/19	2444288.5	0.08131	0.26484	0.13348	-56.71195	11.09328	11.76523	0.30753	58.97226	72.93	25.73
80/ 2/21	2444290.5	0.01460	0.27220	0.14428	-58.40528	1.62191	6.86680	0.30842	58.82993	86.93	27.89
80/ 2/23	2444292.5	-0.05271	0.26864	0.14928	-57.75362	-7.71894	1.79743	0.31182	58.29488	101.10	28.60
80/ 2/25	2444294.5	-0.11798	0.25464	0.14849	-54.94218	-16.37001	-3.12434	0.31751	57.41412	114.86	27.88
80/ 2/27	2444296.5	-0.17894	0.23125	0.14222	-50.34680	-23.91268	-7.63572	0.32516	56.25763	127.73	25.94
80/ 2/29	2444298.5	-0.23379	0.19992	0.13108	-44.43610	-30.10529	-11.55916	0.33437	54.90455	139.47	23.08
80/ 3/ 2	2444300.5	-0.28127	0.16226	0.11578	-37.68017	-34.87012	-14.80477	0.34474	53.43128	150.02	19.62
80/ 3/ 4	2444302.5	-0.32067	0.11990	0.09714	-30.49005	-38.25196	-17.35432	0.35587	51.90402	159.50	15.84
80/ 3/ 6	2444304.5	-0.35167	0.07437	0.07595	-23.19100	-40.37045	-19.23847	0.36738	50.37574	168.06	11.93
80/ 3/ 8	2444306.5	-0.37430	0.02706	0.05293	-16.02088	-41.38007	-20.51553	0.37899	48.88626	175.86	8.03
80/ 3/10	2444308.5	-0.38879	-0.02086	0.02876	-9.14188	-41.44245	-21.25541	0.39041	47.46413	183.07	4.22
80/ 3/12	2444310.5	-0.39557	-0.06837	0.00401	-2.65698	-40.71013	-21.52921	0.40145	46.12896	189.81	0.57
80/ 3/14	2444312.5	-0.39511	-0.11465	-0.02082	3.37408	-39.31863	-21.40339	0.41193	44.89370	196.18	-2.90
80/ 3/16	2444314.5	-0.38796	-0.15900	-0.04531	8.92135	-37.38399	-20.93701	0.42172	43.76656	202.29	-6.17
80/ 3/18	2444316.5	-0.37469	-0.20084	-0.06908	13.97440	-35.00317	-20.18092	0.43070	42.75249	208.19	-9.23
80/ 3/20	2444318.5	-0.35587	-0.23972	-0.09183	18.53474	-32.25597	-19.17801	0.43879	41.85427	213.97	-12.08
80/ 3/22	2444320.5	-0.33206	-0.27524	-0.11330	22.61054	-29.20748	-17.96399	0.44593	41.07333	219.66	-14.72
80/ 3/24	2444322.5	-0.30381	-0.30710	-0.13326	26.21297	-25.91057	-16.56832	0.45207	40.41022	225.31	-17.14
80/ 3/26	2444324.5	-0.27168	-0.33502	-0.15152	29.35370	-22.40817	-15.01518	0.45717	39.86504	230.96	-19.36
80/ 3/28	2444326.5	-0.23618	-0.35880	-0.16790	32.04329	-18.73536	-13.32444	0.46120	39.43764	236.65	-21.35
80/ 3/30	2444328.5	-0.19782	-0.37825	-0.18225	34.29008	-14.92106	-11.51246	0.46414	39.12780	242.39	-23.12
80/ 4/ 1	2444330.5	-0.15713	-0.39322	-0.19445	36.09937	-10.98964	-9.59282	0.46597	38.93532	248.22	-24.66
80/ 4/ 3	2444332.5	-0.11459	-0.40360	-0.20438	37.47293	-6.96218	-7.57700	0.46669	38.86004	254.15	-25.97
80/ 4/ 5	2444334.5	-0.07073	-0.40928	-0.21192	38.40856	-2.85774	-5.47498	0.46629	38.90192	260.20	-27.03
80/ 4/ 7	2444336.5	-0.02603	-0.41018	-0.21700	38.89980	1.30553	-3.29581	0.46477	39.06099	266.37	-27.83
80/ 4/ 9	2444338.5	0.01896	-0.40625	-0.21951	38.93556	5.50923	-1.04821	0.46215	39.33736	272.67	-28.36
80/ 4/11	2444340.5	0.06373	-0.39744	-0.21939	38.49995	9.73351	1.25882	0.45843	39.73124	279.11	-28.59
80/ 4/13	2444342.5	0.10772	-0.38376	-0.21658	37.57199	13.95572	3.61530	0.45363	40.24285	285.68	-28.52
80/ 4/15	2444344.5	0.15033	-0.36522	-0.21103	36.12556	18.14884	6.00945	0.44779	40.87236	292.37	-28.12
80/ 4/17	2444346.5	0.19096	-0.34186	-0.20269	34.12939	22.27961	8.42667	0.44093	41.61977	299.19	-27.37
80/ 4/19	2444348.5	0.22895	-0.31379	-0.19156	31.54741	26.30630	10.84831	0.43310	42.48466	306.12	-26.25
80/ 4/21	2444350.5	0.26360	-0.28115	-0.17764	28.33967	30.17588	13.25008	0.42436	43.46591	313.15	-24.75

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80/ 4/23	2444352.5	0.29416	-0.24416	-0.16097	24.46401	33.82082	15.60013	0.41480	44.56119	320.31	-22.83
80/ 4/25	2444354.5	0.31984	-0.20313	-0.14163	19.87919	37.15520	17.85669	0.40450	45.76628	327.58	-20.50
80/ 4/27	2444356.5	0.33980	-0.15849	-0.11977	14.55004	40.07054	19.96529	0.39361	47.07403	335.00	-17.72
80/ 4/29	2444358.5	0.35316	-0.11078	-0.09560	8.45557	42.43186	21.85578	0.38227	48.47303	342.58	-14.48
80/ 5/ 1	2444360.5	0.35904	-0.06074	-0.06940	1.60119	44.07493	23.43965	0.37070	49.94578	350.40	-10.79
80/ 5/ 3	2444362.5	0.35659	-0.00931	-0.04161	-5.96411	44.80682	24.60856	0.35912	51.46653	358.50	-6.65
80/ 5/ 5	2444364.5	0.34503	0.04234	-0.01276	-14.12563	44.41287	25.23576	0.34785	52.99886	7.00	-2.10
80/ 5/ 7	2444366.5	0.32380	0.09278	0.01643	-22.67789	42.67427	25.18297	0.33723	54.49368	15.99	2.79
80/ 5/ 9	2444368.5	0.29261	0.14033	0.04510	-31.30293	39.40051	24.31551	0.32764	55.88844	25.62	7.91
80/ 5/11	2444370.5	0.25162	0.18316	0.07225	-39.56325	34.47769	22.52744	0.31950	57.10908	36.05	13.07
80/ 5/13	2444372.5	0.20156	0.21935	0.09677	-46.92471	27.92621	19.77485	0.31322	58.07621	47.42	18.00
80/ 5/15	2444374.5	0.14378	0.24713	0.11758	-52.82120	19.94955	16.10855	0.30914	58.71583	59.81	22.35
80/ 5/17	2444376.5	0.08029	0.26504	0.13370	-56.75627	10.94757	11.69171	0.30752	58.97304	73.15	25.77
80/ 5/19	2444378.5	0.01355	0.27223	0.14440	-58.41279	1.47358	6.78809	0.30846	58.82435	87.15	27.91
80/ 5/21	2444380.5	-0.05375	0.26850	0.14931	-57.72537	-7.86044	1.71870	0.31189	58.28344	101.32	28.60
80/ 5/23	2444382.5	-0.11897	0.25434	0.14843	-54.88284	-16.49691	-3.19844	0.31761	57.39777	115.07	27.86
80/ 5/25	2444384.5	-0.17985	0.23082	0.14209	-50.26327	-24.01984	-7.70173	0.32529	56.23759	127.92	25.90
80/ 5/27	2444386.5	-0.23459	0.19938	0.13087	-44.33592	-30.19034	-11.61504	0.33453	54.88206	139.64	23.03
80/ 5/29	2444388.5	-0.28195	0.16163	0.11552	-37.57034	-34.93297	-14.84975	0.34491	53.40747	150.18	19.57
80/ 5/31	2444390.5	-0.32122	0.11921	0.09683	-30.37633	-38.29404	-17.38857	0.35605	51.87984	159.64	15.78
80/ 6/ 2	2444392.5	-0.35209	0.07365	0.07560	-23.07776	-40.39402	-19.26275	0.36757	50.35190	168.19	11.87
80/ 6/ 4	2444394.5	-0.37458	0.02632	0.05256	-15.91118	-41.38766	-20.53089	0.37917	48.86330	175.98	7.97
80/ 6/ 6	2444396.5	-0.38896	-0.02160	0.02838	-9.03772	-41.43657	-21.26298	0.39059	47.44243	183.18	4.17
80/ 6/ 8	2444398.5	-0.39562	-0.06910	0.00362	-2.55956	-40.69304	-21.53008	0.40162	46.10878	189.91	0.52
80/ 6/10	2444400.5	-0.39505	-0.11536	-0.02121	3.46411	-39.29230	-21.39855	0.41209	44.87520	196.28	-2.95
80/ 6/12	2444402.5	-0.38780	-0.15967	-0.04568	9.00372	-37.35008	-20.92731	0.42186	43.74983	202.38	-6.22
80/ 6/14	2444404.5	-0.37444	-0.20147	-0.06944	14.04906	-34.96303	-20.16709	0.43083	42.73758	208.28	-9.28
80/ 6/16	2444406.5	-0.35553	-0.24030	-0.09218	18.60181	-32.21071	-19.16066	0.43891	41.84122	214.05	-12.12
80/ 6/18	2444408.5	-0.33165	-0.27577	-0.11363	22.67017	-29.15800	-17.94361	0.44604	41.06213	219.74	-14.76
80/ 6/20	2444410.5	-0.30334	-0.30756	-0.13356	26.26534	-25.85759	-16.54532	0.45216	40.40088	225.40	-17.18
80/ 6/22	2444412.5	-0.27115	-0.33542	-0.15179	29.39901	-22.35231	-14.98990	0.45724	39.85755	231.05	-19.39
80/ 6/24	2444414.5	-0.23560	-0.35913	-0.16814	32.08170	-18.67710	-13.29717	0.46125	39.43202	236.73	-21.38
80/ 6/26	2444416.5	-0.19721	-0.37852	-0.18246	34.32168	-14.86082	-11.48342	0.46417	39.12404	242.48	-23.15
80/ 6/28	2444418.5	-0.15648	-0.39342	-0.19462	36.12422	-10.92775	-9.56221	0.46599	38.93342	248.31	-24.69
80/ 6/30	2444420.5	-0.11392	-0.40372	-0.20451	37.49103	-6.89895	-7.54497	0.46669	38.86000	254.24	-25.99
80/ 7/ 2	2444422.5	-0.07004	-0.40933	-0.21202	38.41984	-2.79346	-5.44168	0.46627	38.90372	260.29	-27.05
80/ 7/ 4	2444424.5	-0.02534	-0.41016	-0.21705	38.90410	1.37059	-3.26138	0.46474	39.06461	266.47	-27.84
80/ 7/ 6	2444426.5	0.01966	-0.40615	-0.21953	38.93267	5.57477	-1.01278	0.46210	39.34281	272.77	-28.36
80/ 7/ 8	2444428.5	0.06442	-0.39727	-0.21937	38.48958	9.79920	1.29510	0.45836	39.73851	279.21	-28.59
80/ 7/10	2444430.5	0.10839	-0.38351	-0.21652	37.55378	14.02118	3.65226	0.45355	40.25194	285.78	-28.51
80/ 7/12	2444432.5	0.15098	-0.36489	-0.21092	36.09906	18.21359	6.04688	0.44769	40.88327	292.48	-28.11
80/ 7/14	2444434.5	0.19157	-0.34146	-0.20254	34.09407	22.34308	8.46432	0.44081	41.63248	299.29	-27.35
80/ 7/16	2444436.5	0.22952	-0.31331	-0.19136	31.50269	26.36773	10.88583	0.43297	42.49915	306.22	-26.23
80/ 7/18	2444438.5	0.26411	-0.28060	-0.17740	28.28490	30.23435	13.28704	0.42422	43.48214	313.27	-24.72
80/ 7/20	2444440.5	0.29460	-0.24355	-0.16069	24.39854	33.87513	15.63597	0.41464	44.57910	320.42	-22.80

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80/ 7/22	2444442.5	0.32020	-0.20247	-0.14131	19.80243	37.20383	17.89065	0.40434	45.78577	327.69	-20.46
80/ 7/24	2444444.5	0.34006	-0.15777	-0.11942	14.46154	40.11161	19.99640	0.39344	47.09494	335.11	-17.67
80/ 7/26	2444446.5	0.35331	-0.11002	-0.09520	8.35522	42.46304	21.88281	0.38210	48.49512	342.70	-14.43
80/ 7/28	2444448.5	0.35907	-0.05995	-0.06898	1.48942	44.09345	23.46107	0.37052	49.96872	350.52	-10.73
80/ 7/30	2444450.5	0.35648	-0.00850	-0.04116	-6.08604	44.80951	24.62254	0.35895	51.48982	358.63	-6.59
80/ 8/ 1	2444452.5	0.34478	0.04314	-0.01231	-14.25522	44.39634	25.24023	0.34769	53.02184	7.13	-2.03
80/ 8/ 3	2444454.5	0.32340	0.09354	0.01688	-22.81109	42.63533	25.17580	0.33708	54.51549	16.13	2.87
80/ 8/ 5	2444456.5	0.29206	0.14104	0.04554	-31.43384	39.33678	24.29482	0.32751	55.90802	25.78	7.99
80/ 8/ 7	2444458.5	0.25092	0.18378	0.07265	-39.68425	34.38843	22.49205	0.31940	57.12527	36.22	13.15
80/ 8/ 9	2444460.5	0.20073	0.21985	0.09713	-47.02716	27.81320	19.72482	0.31315	58.08783	47.60	18.07
80/ 8/11	2444462.5	0.14285	0.24748	0.11787	-52.89672	19.81758	16.04560	0.30911	58.72190	60.01	22.42
80/ 8/13	2444464.5	0.07929	0.26524	0.13391	-56.79853	10.80424	11.61926	0.30752	58.97298	73.36	25.81
80/ 8/15	2444466.5	0.01252	0.27226	0.14452	-58.41894	1.32813	6.71078	0.30850	58.81811	87.37	27.94
80/ 8/17	2444468.5	-0.05476	0.26837	0.14935	-57.69662	-7.99885	1.64159	0.31197	58.27157	101.53	28.60
80/ 8/19	2444470.5	-0.11994	0.25406	0.14838	-54.82391	-16.62076	-3.27086	0.31772	57.38126	115.27	27.84
80/ 8/21	2444472.5	-0.18073	0.23040	0.14195	-50.18097	-24.12424	-7.76613	0.32542	56.21763	128.11	25.86
80/ 8/23	2444474.5	-0.23537	0.19885	0.13066	-44.23764	-30.27310	-11.66950	0.33468	54.85988	139.81	22.98
80/ 8/25	2444476.5	-0.28261	0.16102	0.11526	-37.46286	-34.99409	-14.89356	0.34508	53.38418	150.33	19.51
80/ 8/27	2444478.5	-0.32175	0.11854	0.09653	-30.26522	-38.33498	-17.42194	0.35622	51.85632	159.78	15.72
80/ 8/29	2444480.5	-0.35249	0.07294	0.07526	-22.96719	-40.41698	-19.28644	0.36774	50.32883	168.31	11.81
80/ 8/31	2444482.5	-0.37486	0.02559	0.05220	-15.80409	-41.39512	-20.54591	0.37934	48.84117	176.09	7.91
80/ 9/ 2	2444484.5	-0.38912	-0.02232	0.02801	-8.93602	-41.43094	-21.27043	0.39076	47.42158	183.28	4.11
80/ 9/ 4	2444486.5	-0.39566	-0.06981	0.00324	-2.46440	-40.67651	-21.53102	0.40178	46.08944	190.01	0.46
80/ 9/ 6	2444488.5	-0.39499	-0.11604	-0.02158	3.55210	-39.26676	-21.39392	0.41224	44.85751	196.37	-3.00
80/ 9/ 8	2444490.5	-0.38764	-0.16032	-0.04605	9.08428	-37.31712	-20.91794	0.42200	43.73388	202.47	-6.26
80/ 9/10	2444492.5	-0.37419	-0.20208	-0.06979	14.12215	-34.92397	-20.15368	0.43096	42.72341	208.37	-9.32
80/ 9/12	2444494.5	-0.35521	-0.24086	-0.09251	18.66750	-32.16662	-19.14380	0.43903	41.82884	214.14	-12.16
80/ 9/14	2444496.5	-0.33125	-0.27628	-0.11394	22.72861	-29.10975	-17.92377	0.44614	41.05154	219.83	-14.80
80/ 9/16	2444498.5	-0.30288	-0.30801	-0.13385	26.31670	-25.80591	-16.52290	0.45224	40.39208	225.48	-17.22
80/ 9/18	2444500.5	-0.27063	-0.33581	-0.15205	29.44344	-22.29776	-14.96524	0.45731	39.85053	231.13	-19.42
80/ 9/20	2444502.5	-0.23503	-0.35946	-0.16837	32.11935	-18.62015	-13.27053	0.46130	39.42676	236.82	-21.41
80/ 9/22	2444504.5	-0.19660	-0.37878	-0.18266	34.35265	-14.80188	-11.45502	0.46421	39.12056	242.57	-23.17
80/ 9/24	2444506.5	-0.15584	-0.39361	-0.19479	36.14855	-10.86717	-9.53224	0.46600	38.93169	248.40	-24.71
80/ 9/26	2444508.5	-0.11326	-0.40384	-0.20464	37.50869	-6.83703	-7.51360	0.46669	38.86002	254.33	-26.01
80/ 9/28	2444510.5	-0.06936	-0.40938	-0.21212	38.43076	-2.73046	-5.40904	0.46625	38.90548	260.38	-27.06
80/ 9/30	2444512.5	-0.02465	-0.41013	-0.21711	38.90814	1.43438	-3.22760	0.46470	39.06812	266.56	-27.85
80/10/ 2	2444514.5	0.02035	-0.40605	-0.21955	38.92962	5.63906	-0.97801	0.46205	39.34807	272.87	-28.37
80/10/ 4	2444516.5	0.06510	-0.39709	-0.21935	38.47914	9.86368	1.33073	0.45830	39.74553	279.31	-28.60
80/10/ 6	2444518.5	0.10905	-0.38326	-0.21645	37.53560	14.08545	3.68858	0.45347	40.26073	285.88	-28.51
80/10/ 8	2444520.5	0.15162	-0.36457	-0.21081	36.07269	18.27719	6.08368	0.44759	40.89384	292.58	-28.10
80/10/10	2444522.5	0.19218	-0.34106	-0.20239	34.05899	22.40543	8.50135	0.44070	41.64482	299.40	-27.34
80/10/12	2444524.5	0.23007	-0.31285	-0.19117	31.45831	26.42811	10.92276	0.43284	42.51326	306.33	-26.21
80/10/14	2444526.5	0.26461	-0.28007	-0.17716	28.23059	30.29184	13.32344	0.42408	43.49800	313.37	-24.69
80/10/16	2444528.5	0.29503	-0.24295	-0.16041	24.33366	33.92856	15.67127	0.41449	44.59667	320.53	-22.77
80/10/18	2444530.5	0.32055	-0.20181	-0.14100	19.72638	37.25171	17.92413	0.40418	45.80496	327.81	-20.42

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80/10/20	2444532.5	0.34032	-0.15706	-0.11906	14.37388	40.15208	20.02710	0.39327	47.11563	335.23	-17.62
80/10/22	2444534.5	0.35346	-0.10926	-0.09482	8.25579	42.49382	21.90952	0.38192	48.51711	342.82	-14.37
80/10/24	2444536.5	0.35910	-0.05917	-0.06857	1.37860	44.11179	23.48229	0.37034	49.99168	350.64	-10.67
80/10/26	2444538.5	0.35637	-0.00771	-0.04073	-6.20702	44.81225	24.63644	0.35878	51.51329	358.76	-6.52
80/10/28	2444540.5	0.34453	0.04392	-0.01186	-14.38397	44.38010	25.24476	0.34752	53.04517	7.26	-1.96
80/10/30	2444542.5	0.32299	0.09429	0.01733	-22.94360	42.59688	25.16882	0.33692	54.53781	16.27	2.95
80/11/ 1	2444544.5	0.29150	0.14173	0.04597	-31.56430	39.27366	24.27440	0.32737	55.92827	25.93	8.07
80/11/ 3	2444546.5	0.25022	0.18439	0.07305	-39.80506	34.29981	22.45698	0.31929	57.14224	36.39	13.23
80/11/ 5	2444548.5	0.19990	0.22034	0.09747	-47.12967	27.70073	19.67510	0.31307	58.10031	47.79	18.14
80/11/ 7	2444550.5	0.14191	0.24783	0.11815	-52.97253	19.68598	15.98288	0.30906	58.72886	60.20	22.48
80/11/ 9	2444552.5	0.07828	0.26543	0.13411	-56.84119	10.66103	11.54691	0.30752	58.97381	73.57	25.86
80/11/11	2444554.5	0.01148	0.27228	0.14464	-58.42548	1.18254	6.63345	0.30853	58.81274	87.58	27.96
80/11/13	2444556.5	-0.05579	0.26822	0.14938	-57.66816	-8.13759	1.56432	0.31204	58.26049	101.75	28.60
80/11/15	2444558.5	-0.12091	0.25376	0.14832	-54.76507	-16.74508	-3.34353	0.31782	57.36540	115.48	27.82
80/11/17	2444560.5	-0.18162	0.22997	0.14181	-50.09852	-24.22916	-7.83084	0.32556	56.19818	128.30	25.82
80/11/19	2444562.5	-0.23615	0.19831	0.13046	-44.13896	-30.35633	-11.72424	0.33483	54.83806	139.98	22.93
80/11/21	2444564.5	-0.28327	0.16040	0.11499	-37.35479	-35.05556	-14.93761	0.34525	53.36108	150.48	19.46
80/11/23	2444566.5	-0.32229	0.11786	0.09622	-30.15337	-38.37609	-17.45548	0.35639	51.83284	159.91	15.66
80/11/25	2444568.5	-0.35290	0.07223	0.07492	-22.85585	-40.43993	-19.31020	0.36792	50.30568	168.43	11.75
80/11/27	2444570.5	-0.37514	0.02486	0.05184	-15.69623	-41.40239	-20.56091	0.37952	48.81886	176.21	7.85
80/11/29	2444572.5	-0.38927	-0.02306	0.02763	-8.83361	-41.42496	-21.27777	0.39093	47.40046	183.39	4.05
80/12/ 1	2444574.5	-0.39570	-0.07054	0.00286	-2.36864	-40.65948	-21.53176	0.40195	46.06973	190.11	0.41
80/12/ 3	2444576.5	-0.39492	-0.11674	-0.02196	3.64056	-39.24062	-21.38902	0.41240	44.83938	196.47	-3.05
80/12/ 5	2444578.5	-0.38748	-0.16098	-0.04642	9.16517	-37.28348	-20.90825	0.42215	43.71742	202.56	-6.31
80/12/ 7	2444580.5	-0.37394	-0.20270	-0.07015	14.19541	-34.88418	-20.13991	0.43109	42.70869	208.46	-9.37
80/12/ 9	2444582.5	-0.35487	-0.24143	-0.09285	18.73323	-32.12179	-19.12654	0.43914	41.81588	214.23	-12.21
80/12/11	2444584.5	-0.33085	-0.27679	-0.11426	22.78697	-29.06078	-17.90354	0.44624	41.04036	219.92	-14.84
80/12/13	2444586.5	-0.30241	-0.30847	-0.13414	26.36787	-25.75352	-16.50009	0.45233	40.38269	225.57	-17.25
80/12/15	2444588.5	-0.27011	-0.33621	-0.15232	29.48761	-22.24255	-14.94020	0.45738	39.84294	231.22	-19.45
80/12/17	2444590.5	-0.23447	-0.35979	-0.16860	32.15666	-18.56262	-13.24353	0.46136	39.42097	236.91	-21.44
80/12/19	2444592.5	-0.19599	-0.37904	-0.18286	34.38322	-14.74242	-11.42630	0.46424	39.11655	242.66	-23.20
80/12/21	2444594.5	-0.15520	-0.39380	-0.19496	36.17244	-10.80612	-9.50198	0.46602	38.92949	248.49	-24.73
80/12/23	2444596.5	-0.11260	-0.40396	-0.20478	37.52591	-6.77469	-7.48196	0.46669	38.85962	254.43	-26.03
80/12/25	2444598.5	-0.06868	-0.40942	-0.21221	38.44125	-2.66711	-5.37617	0.46624	38.90689	260.48	-27.08
80/12/27	2444600.5	-0.02396	-0.41010	-0.21717	38.91176	1.49846	-3.19363	0.46467	39.07134	266.66	-27.86
80/12/29	2444602.5	0.02104	-0.40595	-0.21956	38.92617	5.70359	-0.94307	0.46200	39.35310	272.97	-28.38
80/12/31	2444604.5	0.06578	-0.39692	-0.21932	38.46833	9.92833	1.36649	0.45823	39.75237	279.41	-28.60
81/ 1/ 2	2444606.5	0.10972	-0.38301	-0.21639	37.51706	14.14985	3.72500	0.45339	40.26938	285.98	-28.51
81/ 1/ 4	2444608.5	0.15225	-0.36424	-0.21070	36.04598	18.34089	6.12057	0.44749	40.90431	292.68	-28.09
81/ 1/ 6	2444610.5	0.19278	-0.34067	-0.20224	34.02360	22.46786	8.53845	0.44059	41.65712	299.50	-27.32
81/ 1/ 8	2444612.5	0.23063	-0.31238	-0.19098	31.41367	26.48856	10.95975	0.43271	42.52739	306.44	-26.19
81/ 1/10	2444614.5	0.26510	-0.27953	-0.17693	28.17606	30.34941	13.35991	0.42394	43.51395	313.48	-24.67
81/ 1/12	2444616.5	0.29546	-0.24235	-0.16013	24.26858	33.98208	15.70665	0.41434	44.61440	320.64	-22.74
81/ 1/14	2444618.5	0.32090	-0.20115	-0.14068	19.65013	37.29972	17.95770	0.40401	45.82440	327.92	-20.38
81/ 1/16	2444620.5	0.34057	-0.15635	-0.11871	14.28599	40.19270	20.05791	0.39309	47.13663	335.34	-17.58

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

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81/ 1/18	2444622.5	0.35360	-0.10851	-0.09443	8.15609	42.52474	21.93634	0.38174	48.53945	342.94	-14.32
81/ 1/20	2444624.5	0.35912	-0.05839	-0.06815	1.26744	44.13023	23.50360	0.37016	50.01503	350.77	-10.61
81/ 1/22	2444626.5	0.35626	-0.00692	-0.04029	-6.32846	44.81503	24.65042	0.35860	51.53717	358.89	-6.45
81/ 1/24	2444628.5	0.34427	0.04470	-0.01141	-14.51328	44.36381	25.24932	0.34735	53.06893	7.40	-1.88
81/ 1/26	2444630.5	0.32258	0.09505	0.01777	-23.07677	42.55824	25.16180	0.33676	54.56059	16.42	3.03
81/ 1/28	2444632.5	0.29094	0.14243	0.04640	-31.69546	39.21017	24.25387	0.32723	55.94899	26.08	8.15
81/ 1/30	2444634.5	0.24951	0.18499	0.07345	-39.92659	34.21061	22.42168	0.31917	57.15969	36.55	13.30
81/ 2/ 1	2444636.5	0.19905	0.22083	0.09782	-47.23282	27.58748	19.62502	0.31298	58.11325	47.97	18.21
81/ 2/ 3	2444638.5	0.14097	0.24818	0.11843	-53.04879	19.55341	15.91968	0.30902	58.73624	60.40	22.54
81/ 2/ 5	2444640.5	0.07727	0.26562	0.13431	-56.88405	10.51672	11.47399	0.30751	58.97498	73.78	25.90
81/ 2/ 7	2444642.5	0.01044	0.27230	0.14476	-58.43192	1.03580	6.55549	0.30856	58.80763	87.80	27.98
81/ 2/ 9	2444644.5	-0.05682	0.26807	0.14940	-57.63928	-8.27745	1.48641	0.31211	58.24957	101.97	28.60
81/ 2/11	2444646.5	-0.12189	0.25346	0.14826	-54.70552	-16.87038	-3.41679	0.31793	57.34961	115.68	27.80
81/ 2/13	2444648.5	-0.18252	0.22954	0.14167	-50.01513	-24.33486	-7.89605	0.32569	56.17870	128.49	25.78
81/ 2/15	2444650.5	-0.23694	0.19777	0.13025	-44.03919	-30.44011	-11.77940	0.33499	54.81610	140.15	22.88
81/ 2/17	2444652.5	-0.28394	0.15977	0.11472	-37.24553	-35.11734	-14.98196	0.34541	53.33776	150.63	19.40
81/ 2/19	2444654.5	-0.32283	0.11717	0.09590	-30.04032	-38.41731	-17.48920	0.35657	51.80910	160.05	15.60
81/ 2/21	2444656.5	-0.35331	0.07150	0.07457	-22.74330	-40.46281	-19.33404	0.36810	50.28222	168.56	11.69
81/ 2/23	2444658.5	-0.37542	0.02412	0.05147	-15.58722	-41.40943	-20.57590	0.37970	48.79621	176.32	7.79
81/ 2/25	2444660.5	-0.38943	-0.02380	0.02725	-8.73013	-41.41861	-21.28502	0.39111	47.37899	183.50	3.99
81/ 2/27	2444662.5	-0.39574	-0.07127	0.00248	-2.27189	-40.64199	-21.53234	0.40212	46.04970	190.21	0.35
81/ 3/ 1	2444664.5	-0.39486	-0.11744	-0.02235	3.72993	-39.21393	-21.38392	0.41256	44.82094	196.56	-3.10
81/ 3/ 3	2444666.5	-0.38731	-0.16165	-0.04680	9.24687	-37.24923	-20.89830	0.42230	43.70068	202.65	-6.36
81/ 3/ 5	2444668.5	-0.37369	-0.20333	-0.07051	14.26942	-34.84374	-20.12585	0.43122	42.69371	208.55	-9.41
81/ 3/ 7	2444670.5	-0.35454	-0.24201	-0.09320	18.79962	-32.07628	-19.10898	0.43926	41.80271	214.32	-12.25
81/ 3/ 9	2444672.5	-0.33044	-0.27731	-0.11458	22.84592	-29.01110	-17.88298	0.44634	41.02903	220.00	-14.87
81/ 3/11	2444674.5	-0.30194	-0.30893	-0.13444	26.41958	-25.70041	-16.47695	0.45242	40.37320	225.66	-17.29
81/ 3/13	2444676.5	-0.26958	-0.33661	-0.15258	29.53224	-22.18660	-14.91480	0.45745	39.83529	231.31	-19.48
81/ 3/15	2444678.5	-0.23389	-0.36012	-0.16884	32.19437	-18.50431	-13.21616	0.46141	39.41515	237.00	-21.46
81/ 3/17	2444680.5	-0.19538	-0.37930	-0.18307	34.41411	-14.68216	-11.39718	0.46428	39.11256	242.75	-23.22
81/ 3/19	2444682.5	-0.15456	-0.39400	-0.19513	36.19657	-10.74426	-9.47131	0.46604	38.92732	248.58	-24.75
81/ 3/21	2444684.5	-0.11193	-0.40409	-0.20491	37.54329	-6.71153	-7.44990	0.46669	38.85928	254.52	-26.04
81/ 3/23	2444686.5	-0.06799	-0.40947	-0.21231	38.45181	-2.60294	-5.34286	0.46622	38.90839	260.57	-27.09
81/ 3/25	2444688.5	-0.02327	-0.41008	-0.21723	38.91538	1.56337	-3.15921	0.46464	39.07469	266.75	-27.87
81/ 3/27	2444690.5	0.02173	-0.40585	-0.21958	38.92263	5.76896	-0.90767	0.46195	39.35830	273.06	-28.38
81/ 3/29	2444692.5	0.06647	-0.39674	-0.21930	38.45736	9.99383	1.40273	0.45816	39.75943	279.51	-28.60
81/ 3/31	2444694.5	0.11038	-0.38276	-0.21632	37.49827	14.21511	3.76191	0.45330	40.27830	286.09	-28.50
81/ 4/ 2	2444696.5	0.15290	-0.36391	-0.21059	36.01893	18.40545	6.15796	0.44739	40.91509	292.79	-28.08
81/ 4/ 4	2444698.5	0.19338	-0.34026	-0.20209	33.98775	22.53115	8.57606	0.44047	41.66976	299.61	-27.31
81/ 4/ 6	2444700.5	0.23119	-0.31190	-0.19078	31.36842	26.54985	10.99725	0.43258	42.54188	306.55	-26.17
81/ 4/ 8	2444702.5	0.26561	-0.27899	-0.17669	28.12075	30.40776	13.39686	0.42379	43.53027	313.59	-24.64
81/ 4/10	2444704.5	0.29589	-0.24175	-0.15985	24.20254	34.03631	15.74251	0.41418	44.63250	320.75	-22.70
81/ 4/12	2444706.5	0.32124	-0.20048	-0.14036	19.57275	37.34830	17.99169	0.40385	45.84418	328.03	-20.34
81/ 4/14	2444708.5	0.34082	-0.15563	-0.11835	14.19678	40.23375	20.08908	0.39292	47.15797	335.46	-17.53
81/ 4/16	2444710.5	0.35375	-0.10775	-0.09403	8.05490	42.55591	21.96345	0.38156	48.56212	343.06	-14.27

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81/ 4/18	2444712.5	0.35914	-0.05760	-0.06773	1.15465	44.14871	23.52510	0.36998	50.03871	350.89	-10.55
81/ 4/20	2444714.5	0.35614	-0.00612	-0.03985	-6.45161	44.81759	24.66445	0.35842	51.56137	359.02	-6.38
81/ 4/22	2444716.5	0.34401	0.04550	-0.01096	-14.64430	44.34698	25.25377	0.34717	53.09297	7.53	-1.81
81/ 4/24	2444718.5	0.32216	0.09581	0.01823	-23.21158	42.51872	25.15448	0.33660	54.58357	16.56	3.10
81/ 4/26	2444720.5	0.29036	0.14313	0.04683	-31.82805	39.14545	24.23282	0.32709	55.96982	26.24	8.23
81/ 4/28	2444722.5	0.24879	0.18560	0.07385	-40.04919	34.11988	22.38567	0.31906	57.17711	36.72	13.38
81/ 4/30	2444724.5	0.19820	0.22133	0.09818	-47.33657	27.47250	19.57408	0.31290	58.12602	48.16	18.29
81/ 5/ 2	2444726.5	0.14001	0.24853	0.11872	-53.12513	19.41907	15.85555	0.30897	58.74332	60.60	22.60
81/ 5/ 4	2444728.5	0.07624	0.26580	0.13452	-56.92646	10.37076	11.40014	0.30751	58.97574	74.00	25.94
81/ 5/ 6	2444730.5	0.00938	0.27232	0.14487	-58.43749	0.88770	6.47670	0.30860	58.80201	88.03	28.00
81/ 5/ 8	2444732.5	-0.05786	0.26792	0.14943	-57.60924	-8.41830	1.40785	0.31218	58.23809	102.19	28.60
81/ 5/10	2444734.5	-0.12288	0.25315	0.14819	-54.64468	-16.99631	-3.49052	0.31804	57.33323	115.89	27.77
81/ 5/12	2444736.5	-0.18342	0.22910	0.14153	-49.93045	-24.44084	-7.96155	0.32582	56.15862	128.68	25.75
81/ 5/14	2444738.5	-0.23773	0.19722	0.13003	-43.93822	-30.52390	-11.83469	0.33514	54.79357	140.32	22.83
81/ 5/16	2444740.5	-0.28461	0.15913	0.11445	-37.13522	-35.17895	-15.02632	0.34558	53.31392	150.79	19.34
81/ 5/18	2444742.5	-0.32337	0.11648	0.09559	-29.92640	-38.45822	-17.52284	0.35675	51.78488	160.19	15.54
81/ 5/20	2444744.5	-0.35372	0.07077	0.07423	-22.63005	-40.48531	-19.35775	0.36829	50.25835	168.69	11.63
81/ 5/22	2444746.5	-0.37570	0.02337	0.05110	-15.47766	-41.41607	-20.59074	0.37988	48.77323	176.44	7.73
81/ 5/24	2444748.5	-0.38959	-0.02455	0.02686	-8.62621	-41.41189	-21.29211	0.39129	47.35726	183.61	3.94
81/ 5/26	2444750.5	-0.39579	-0.07200	0.00209	-2.17480	-40.62415	-21.53278	0.40229	46.02947	190.31	0.30
81/ 5/28	2444752.5	-0.39479	-0.11815	-0.02273	3.81958	-39.18694	-21.37868	0.41272	44.80238	196.66	-3.16
81/ 5/30	2444754.5	-0.38715	-0.16232	-0.04717	9.32881	-37.21474	-20.88825	0.42244	43.68389	202.75	-6.41
81/ 6/ 1	2444756.5	-0.37343	-0.20395	-0.07088	14.34362	-34.80310	-20.11171	0.43136	42.67875	208.64	-9.46
81/ 6/ 3	2444758.5	-0.35420	-0.24258	-0.09354	18.86620	-32.03059	-19.09135	0.43938	41.78961	214.41	-12.29
81/ 6/ 5	2444760.5	-0.33003	-0.27783	-0.11490	22.90504	-28.96127	-17.86236	0.44645	41.01780	220.09	-14.91
81/ 6/ 7	2444762.5	-0.30147	-0.30939	-0.13473	26.47143	-25.64715	-16.45375	0.45251	40.36383	225.74	-17.32
81/ 6/ 9	2444764.5	-0.26906	-0.33700	-0.15285	29.57701	-22.13051	-14.88935	0.45752	39.82778	231.40	-19.52
81/ 6/11	2444766.5	-0.23332	-0.36045	-0.16908	32.23221	-18.44588	-13.18874	0.46147	39.40949	237.09	-21.49
81/ 6/13	2444768.5	-0.19476	-0.37956	-0.18327	34.44513	-14.62178	-11.36801	0.46432	39.10876	242.84	-23.25
81/ 6/15	2444770.5	-0.15391	-0.39419	-0.19530	36.22083	-10.68228	-9.44059	0.46606	38.92537	248.67	-24.77
81/ 6/17	2444772.5	-0.11126	-0.40421	-0.20505	37.56078	-6.64827	-7.41779	0.46669	38.85917	254.61	-26.06
81/ 6/19	2444774.5	-0.06731	-0.40952	-0.21240	38.46247	-2.53867	-5.30951	0.46621	38.91012	260.67	-27.10
81/ 6/21	2444776.5	-0.02257	-0.41005	-0.21728	38.91907	1.62838	-3.12475	0.46461	39.07825	266.85	-27.88
81/ 6/23	2444778.5	0.02243	-0.40574	-0.21960	38.91913	5.83440	-0.87223	0.46190	39.36369	273.16	-28.39
81/ 6/25	2444780.5	0.06716	-0.39656	-0.21927	38.44637	10.05939	1.43900	0.45810	39.76664	279.61	-28.60
81/ 6/27	2444782.5	0.11106	-0.38250	-0.21625	37.47944	14.28040	3.79884	0.45322	40.28734	286.19	-28.50
81/ 6/29	2444784.5	0.15354	-0.36358	-0.21048	35.99181	18.47001	6.19535	0.44729	40.92595	292.89	-28.07
81/ 7/ 1	2444786.5	0.19399	-0.33986	-0.20193	33.95181	22.59438	8.61364	0.44036	41.68244	299.72	-27.29
81/ 7/ 3	2444788.5	0.23175	-0.31143	-0.19058	31.32305	26.61103	11.03471	0.43246	42.55637	306.65	-26.15
81/ 7/ 5	2444790.5	0.26611	-0.27845	-0.17645	28.06531	30.46593	13.43374	0.42365	43.54652	313.70	-24.61
81/ 7/ 7	2444792.5	0.29633	-0.24114	-0.15957	24.13638	34.09026	15.77823	0.41403	44.65046	320.86	-22.67
81/ 7/ 9	2444794.5	0.32160	-0.19981	-0.14004	19.49527	37.39653	18.02551	0.40368	45.86376	328.15	-20.30
81/ 7/11	2444796.5	0.34108	-0.15491	-0.11799	14.10756	40.27434	20.12000	0.39275	47.17902	335.57	-17.48
81/ 7/13	2444798.5	0.35389	-0.10699	-0.09364	7.95380	42.58652	21.99025	0.38138	48.58441	343.18	-14.21
81/ 7/15	2444800.5	0.35916	-0.05681	-0.06731	1.04212	44.16654	23.54622	0.36980	50.06190	351.01	-10.49

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81/ 7/17	2444802.5	0.35603	-0.00531	-0.03941	-6.57429	44.81945	24.67806	0.35824	51.58499	359.14	-6.32
81/ 7/19	2444804.5	0.34374	0.04629	-0.01051	-14.77461	44.32946	25.25778	0.34701	53.11634	7.67	-1.74
81/ 7/21	2444806.5	0.32175	0.09657	0.01868	-23.34537	42.47860	25.14673	0.33645	54.60582	16.71	3.18
81/ 7/23	2444808.5	0.28979	0.14383	0.04727	-31.95934	39.08033	24.21142	0.32696	55.98986	26.40	8.31
81/ 7/25	2444810.5	0.24807	0.18621	0.07425	-40.17025	34.02906	22.34945	0.31895	57.19374	36.89	13.46
81/ 7/27	2444812.5	0.19736	0.22182	0.09853	-47.43865	27.35785	19.52313	0.31282	58.13803	48.34	18.36
81/ 7/29	2444814.5	0.13906	0.24887	0.11900	-53.19983	19.28551	15.79166	0.30893	58.74972	60.81	22.66
81/ 7/31	2444816.5	0.07523	0.26599	0.13472	-56.96747	10.22604	11.32682	0.30750	58.97594	74.21	25.98
81/ 8/ 2	2444818.5	0.00834	0.27233	0.14499	-58.44207	0.74116	6.39865	0.30864	58.79599	88.25	28.02
81/ 8/ 4	2444820.5	-0.05888	0.26777	0.14945	-57.57875	-8.55743	1.33016	0.31226	58.22638	102.40	28.60
81/ 8/ 6	2444822.5	-0.12385	0.25285	0.14813	-54.58396	-17.12054	-3.56334	0.31814	57.31683	116.10	27.75
81/ 8/ 8	2444824.5	-0.18431	0.22866	0.14139	-49.84640	-24.54533	-8.02618	0.32595	56.13872	128.87	25.71
81/ 8/10	2444826.5	-0.23852	0.19667	0.12982	-43.83828	-30.60651	-11.88923	0.33530	54.77141	140.49	22.78
81/ 8/12	2444828.5	-0.28527	0.15851	0.11418	-37.02620	-35.23972	-15.07011	0.34575	53.29057	150.94	19.28
81/ 8/14	2444830.5	-0.32390	0.11579	0.09528	-29.81385	-38.49864	-17.55609	0.35693	51.76126	160.33	15.48
81/ 8/16	2444832.5	-0.35412	0.07005	0.07388	-22.51818	-40.50763	-19.38122	0.36846	50.23513	168.81	11.57
81/ 8/18	2444834.5	-0.37598	0.02263	0.05073	-15.36939	-41.42278	-20.60548	0.38006	48.75091	176.55	7.67
81/ 8/20	2444836.5	-0.38974	-0.02529	0.02648	-8.52347	-41.40542	-21.29922	0.39146	47.33619	183.71	3.88
81/ 8/22	2444838.5	-0.39582	-0.07272	0.00170	-2.07874	-40.60671	-21.53332	0.40245	46.00989	190.41	0.24
81/ 8/24	2444840.5	-0.39472	-0.11885	-0.02311	3.90833	-39.16043	-21.37361	0.41287	44.78443	196.76	-3.21
81/ 8/26	2444842.5	-0.38698	-0.16298	-0.04754	9.41000	-37.18077	-20.87840	0.42259	43.66767	202.84	-6.46
81/ 8/28	2444844.5	-0.37317	-0.20457	-0.07123	14.41719	-34.76300	-20.09779	0.43149	42.66430	208.73	-9.50
81/ 8/30	2444846.5	-0.35387	-0.24315	-0.09388	18.93224	-31.98544	-19.07395	0.43950	41.77696	214.49	-12.33
81/ 9/ 1	2444848.5	-0.32962	-0.27835	-0.11522	22.96371	-28.91196	-17.84197	0.44655	41.00695	220.18	-14.95
81/ 9/ 3	2444850.5	-0.30100	-0.30985	-0.13503	26.52291	-25.59440	-16.43078	0.45259	40.35479	225.83	-17.36
81/ 9/ 5	2444852.5	-0.26853	-0.33740	-0.15312	29.62148	-22.07491	-14.86413	0.45759	39.82054	231.48	-19.55
81/ 9/ 7	2444854.5	-0.23274	-0.36078	-0.16931	32.26979	-18.38791	-13.16154	0.46152	39.40408	237.17	-21.52
81/ 9/ 9	2444856.5	-0.19415	-0.37982	-0.18348	34.47594	-14.56186	-11.33907	0.46435	39.10515	242.93	-23.27
81/ 9/11	2444858.5	-0.15326	-0.39438	-0.19547	36.24492	-10.62076	-9.41009	0.46608	38.92357	248.76	-24.80
81/ 9/13	2444860.5	-0.11058	-0.40432	-0.20518	37.57812	-6.58545	-7.38590	0.46670	38.85917	254.70	-26.08
81/ 9/15	2444862.5	-0.06662	-0.40956	-0.21250	38.47300	-2.47485	-5.27638	0.46619	38.91191	260.76	-27.12
81/ 9/17	2444864.5	-0.02188	-0.41002	-0.21734	38.92263	1.69292	-3.09052	0.46458	39.08182	266.95	-27.89
81/ 9/19	2444866.5	0.02312	-0.40564	-0.21961	38.91553	5.89937	-0.83704	0.46185	39.36904	273.26	-28.39
81/ 9/21	2444868.5	0.06784	-0.39638	-0.21925	38.43532	10.12445	1.47501	0.45803	39.77378	279.71	-28.60
81/ 9/23	2444870.5	0.11173	-0.38225	-0.21619	37.46057	14.34516	3.83550	0.45314	40.29626	286.29	-28.50
81/ 9/25	2444872.5	0.15418	-0.36326	-0.21037	35.96467	18.53399	6.23243	0.44720	40.93665	293.00	-28.06
81/ 9/27	2444874.5	0.19460	-0.33946	-0.20178	33.91589	22.65700	8.65090	0.44024	41.69490	299.82	-27.28
81/ 9/29	2444876.5	0.23231	-0.31096	-0.19039	31.27776	26.67152	11.07179	0.43233	42.57056	306.76	-26.13
81/10/ 1	2444878.5	0.26661	-0.27790	-0.17621	28.01004	30.52336	13.47021	0.42351	43.56242	313.81	-24.59
81/10/ 3	2444880.5	0.29676	-0.24053	-0.15929	24.07050	34.14344	15.81350	0.41388	44.66800	320.97	-22.64
81/10/ 5	2444882.5	0.32194	-0.19915	-0.13972	19.41822	37.44394	18.05884	0.40352	45.88287	328.26	-20.26
81/10/ 7	2444884.5	0.34133	-0.15419	-0.11763	14.01893	40.31410	20.15042	0.39258	47.19954	335.69	-17.44
81/10/ 9	2444886.5	0.35404	-0.10624	-0.09325	7.85353	42.61631	22.01652	0.38121	48.60612	343.30	-14.16
81/10/11	2444888.5	0.35918	-0.05603	-0.06689	0.93066	44.18360	23.56682	0.36963	50.08445	351.13	-10.43
81/10/13	2444890.5	0.35591	-0.00452	-0.03897	-6.69561	44.82063	24.69116	0.35807	51.60789	359.27	-6.25

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
81/10/15	2444892.5	0.34349	0.04708	-0.01006	-14.90324	44.31144	25.26134	0.34684	53.13893	7.80	-1.66
81/10/17	2444894.5	0.32134	0.09732	0.01912	-23.47718	42.43824	25.13866	0.33630	54.62723	16.85	3.26
81/10/19	2444896.5	0.28923	0.14452	0.04769	-32.08839	39.01539	24.18989	0.32683	56.00907	26.55	8.39
81/10/21	2444898.5	0.24737	0.18681	0.07464	-40.28894	33.93895	22.31336	0.31885	57.20958	37.06	13.54
81/10/23	2444900.5	0.19653	0.22230	0.09887	-47.53841	27.24450	19.47265	0.31275	58.14935	48.52	18.43
81/10/25	2444902.5	0.13813	0.24921	0.11928	-53.27249	19.15385	15.72859	0.30889	58.75556	61.00	22.72
81/10/27	2444904.5	0.07423	0.26617	0.13492	-57.00696	10.08370	11.25461	0.30751	58.97576	74.42	26.03
81/10/29	2444906.5	0.00732	0.27235	0.14510	-58.44581	0.59730	6.32195	0.30868	58.78977	88.46	28.04
81/10/31	2444908.5	-0.05989	0.26762	0.14948	-57.54819	-8.69382	1.25394	0.31233	58.21468	102.61	28.59
81/11/ 2	2444910.5	-0.12480	0.25255	0.14807	-54.52389	-17.24219	-3.63469	0.31825	57.30059	116.30	27.73
81/11/ 4	2444912.5	-0.18518	0.22823	0.14125	-49.76361	-24.64755	-8.08947	0.32609	56.11915	129.05	25.67
81/11/ 6	2444914.5	-0.23928	0.19614	0.12961	-43.74005	-30.68728	-11.94262	0.33545	54.74968	140.66	22.73
81/11/ 8	2444916.5	-0.28592	0.15789	0.11392	-36.91917	-35.29912	-15.11295	0.34592	53.26775	151.09	19.23
81/11/10	2444918.5	-0.32442	0.11512	0.09497	-29.70344	-38.53814	-17.58861	0.35710	51.73821	160.46	15.42
81/11/12	2444920.5	-0.35451	0.06934	0.07354	-22.40847	-40.52943	-19.40420	0.36864	50.21252	168.93	11.51
81/11/14	2444922.5	-0.37624	0.02191	0.05037	-15.26322	-41.42933	-20.61991	0.38023	48.72921	176.67	7.61
81/11/16	2444924.5	-0.38989	-0.02601	0.02611	-8.42268	-41.39908	-21.30620	0.39163	47.31575	183.82	3.82
81/11/18	2444926.5	-0.39586	-0.07343	0.00133	-1.98447	-40.58964	-21.53387	0.40261	45.99092	190.51	0.19
81/11/20	2444928.5	-0.39465	-0.11953	-0.02348	3.99548	-39.13447	-21.36867	0.41302	44.76707	196.85	-3.26
81/11/22	2444930.5	-0.38681	-0.16363	-0.04791	9.48975	-37.14749	-20.86878	0.42272	43.65200	202.93	-6.51
81/11/24	2444932.5	-0.37292	-0.20518	-0.07159	14.48950	-34.72368	-20.08417	0.43161	42.65037	208.82	-9.55
81/11/26	2444934.5	-0.35353	-0.24371	-0.09421	18.99718	-31.94115	-19.05690	0.43961	41.76477	214.58	-12.38
81/11/28	2444936.5	-0.32922	-0.27885	-0.11553	23.02143	-28.86356	-17.82197	0.44664	40.99651	220.27	-14.99
81/11/30	2444938.5	-0.30053	-0.31030	-0.13532	26.57356	-25.54260	-16.40822	0.45267	40.34611	225.92	-17.39
81/12/ 2	2444940.5	-0.26800	-0.33778	-0.15338	29.66523	-22.02027	-14.83935	0.45766	39.81362	231.57	-19.58
81/12/ 4	2444942.5	-0.23217	-0.36110	-0.16955	32.30678	-18.33092	-13.13480	0.46157	39.39891	237.26	-21.55
81/12/ 6	2444944.5	-0.19354	-0.38008	-0.18367	34.50625	-14.50292	-11.31060	0.46439	39.10174	243.01	-23.30
81/12/ 8	2444946.5	-0.15262	-0.39456	-0.19563	36.26859	-10.56019	-9.38006	0.46610	38.92189	248.85	-24.82
81/12/10	2444948.5	-0.10992	-0.40444	-0.20531	37.59514	-6.52355	-7.35448	0.46670	38.85923	254.80	-26.10
81/12/12	2444950.5	-0.06594	-0.40961	-0.21259	38.48326	-2.41190	-5.24370	0.46618	38.91369	260.85	-27.13
81/12/14	2444952.5	-0.02119	-0.40999	-0.21739	38.92600	1.75663	-3.05672	0.46454	39.08533	267.04	-27.90
81/12/16	2444954.5	0.02381	-0.40553	-0.21963	38.91178	5.96354	-0.80226	0.46180	39.37428	273.36	-28.40
81/12/18	2444956.5	0.06852	-0.39620	-0.21922	38.42417	10.18874	1.51061	0.45797	39.78077	279.81	-28.60
81/12/20	2444958.5	0.11239	-0.38200	-0.21612	37.44166	14.40918	3.87176	0.45306	40.30500	286.39	-28.49
81/12/22	2444960.5	0.15482	-0.36293	-0.21026	35.93757	18.59727	6.26914	0.44710	40.94716	293.10	-28.05
81/12/24	2444962.5	0.19520	-0.33906	-0.20163	33.88008	22.71897	8.68779	0.44013	41.70718	299.93	-27.27
81/12/26	2444964.5	0.23286	-0.31049	-0.19019	31.23267	26.73144	11.10854	0.43220	42.58461	306.87	-26.11
81/12/28	2444966.5	0.26711	-0.27737	-0.17597	27.95504	30.58030	13.50638	0.42337	43.57822	313.92	-24.56
81/12/30	2444968.5	0.29718	-0.23993	-0.15901	24.00496	34.19623	15.84853	0.41372	44.68552	321.08	-22.60
82/ 1/ 1	2444970.5	0.32229	-0.19849	-0.13940	19.34155	37.49106	18.09198	0.40336	45.90202	328.37	-20.22
82/ 1/ 3	2444972.5	0.34158	-0.15349	-0.11728	13.93071	40.35368	20.18071	0.39241	47.22018	335.80	-17.39
82/ 1/ 5	2444974.5	0.35417	-0.10549	-0.09286	7.75363	42.64604	22.04272	0.38104	48.62803	343.41	-14.11
82/ 1/ 7	2444976.5	0.35920	-0.05525	-0.06648	0.81952	44.20071	23.58741	0.36945	50.10728	351.26	-10.37
82/ 1/ 9	2444978.5	0.35580	-0.00373	-0.03854	-6.81670	44.82195	24.70431	0.35790	51.63117	359.40	-6.18
82/ 1/11	2444980.5	0.34322	0.04785	-0.00962	-15.03178	44.29361	25.26500	0.34668	53.16200	7.94	-1.59

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
82/ 1/13	2444982.5	0.32093	0.09806	0.01956	-23.60907	42.39810	25.13070	0.33615	54.64924	16.99	3.34
82/ 1/15	2444984.5	0.28867	0.14520	0.04812	-32.21771	38.95059	24.16845	0.32669	56.02895	26.70	8.47
82/ 1/17	2444986.5	0.24666	0.18741	0.07504	-40.40805	33.84882	22.27732	0.31874	57.22615	37.23	13.62
82/ 1/19	2444988.5	0.19569	0.22278	0.09921	-47.63869	27.13093	19.42211	0.31268	58.16141	48.70	18.50
82/ 1/21	2444990.5	0.13719	0.24955	0.11956	-53.34566	19.02172	15.66531	0.30885	58.76212	61.20	22.77
82/ 1/23	2444992.5	0.07323	0.26634	0.13512	-57.04683	9.94066	11.18206	0.30750	58.97623	74.63	26.07
82/ 1/25	2444994.5	0.00629	0.27235	0.14521	-58.44973	0.45256	6.24480	0.30871	58.78412	88.68	28.06
82/ 1/27	2444996.5	-0.06090	0.26747	0.14950	-57.51752	-8.83116	1.17719	0.31241	58.20344	102.83	28.59
82/ 1/29	2444998.5	-0.12576	0.25224	0.14800	-54.46342	-17.36476	-3.70659	0.31835	57.28471	116.50	27.70
82/ 1/31	2445000.5	-0.18605	0.22780	0.14110	-49.68017	-24.75059	-8.15327	0.32622	56.09979	129.24	25.63
82/ 2/ 2	2445002.5	-0.24005	0.19559	0.12940	-43.64094	-30.76867	-11.99643	0.33560	54.72803	140.83	22.68
82/ 2/ 4	2445004.5	-0.28657	0.15727	0.11365	-36.81111	-35.35891	-15.15610	0.34608	53.24489	151.24	19.17
82/ 2/ 6	2445006.5	-0.32494	0.11444	0.09466	-29.59195	-38.57779	-17.62133	0.35727	51.71499	160.60	15.36
82/ 2/ 8	2445008.5	-0.35490	0.06863	0.07320	-22.29768	-40.55114	-19.42723	0.36881	50.18963	169.06	11.45
82/ 2/10	2445010.5	-0.37651	0.02118	0.05001	-15.15603	-41.43556	-20.63428	0.38041	48.70713	176.78	7.55
82/ 2/12	2445012.5	-0.39004	-0.02674	0.02573	-8.32102	-41.39224	-21.31300	0.39180	47.29483	183.92	3.77
82/ 2/14	2445014.5	-0.39589	-0.07415	0.00095	-1.88948	-40.57191	-21.53415	0.40278	45.97140	190.61	0.13
82/ 2/16	2445016.5	-0.39458	-0.12022	-0.02386	4.08318	-39.10776	-21.36339	0.41318	44.74912	196.95	-3.31
82/ 2/18	2445018.5	-0.38665	-0.16429	-0.04828	9.56991	-37.11340	-20.85877	0.42287	43.63572	203.02	-6.56
82/ 2/20	2445020.5	-0.37266	-0.20579	-0.07194	14.56207	-34.68355	-20.07013	0.43174	42.63581	208.91	-9.59
82/ 2/22	2445022.5	-0.35319	-0.24428	-0.09455	19.06227	-31.89605	-19.03943	0.43972	41.75198	214.67	-12.42
82/ 2/24	2445024.5	-0.32881	-0.27937	-0.11585	23.07919	-28.81436	-17.80155	0.44674	40.98551	220.35	-15.03
82/ 2/26	2445026.5	-0.30006	-0.31075	-0.13561	26.62418	-25.49002	-16.38526	0.45276	40.33689	226.00	-17.43
82/ 2/28	2445028.5	-0.26748	-0.33817	-0.15364	29.70886	-21.96490	-14.81416	0.45773	39.80619	231.66	-19.61
82/ 3/ 2	2445030.5	-0.23160	-0.36143	-0.16978	32.34357	-18.27322	-13.10766	0.46162	39.39325	237.35	-21.58
82/ 3/ 4	2445032.5	-0.19293	-0.38034	-0.18388	34.53630	-14.44330	-11.28173	0.46442	39.09786	243.10	-23.32
82/ 3/ 6	2445034.5	-0.15198	-0.39475	-0.19580	36.29195	-10.49899	-9.34967	0.46612	38.91980	248.94	-24.84
82/ 3/ 8	2445036.5	-0.10926	-0.40455	-0.20544	37.61182	-6.46109	-7.32272	0.46670	38.85893	254.89	-26.12
82/ 3/10	2445038.5	-0.06526	-0.40965	-0.21268	38.49321	-2.34845	-5.21072	0.46616	38.91521	260.95	-27.15
82/ 3/12	2445040.5	-0.02050	-0.40996	-0.21745	38.92908	1.82079	-3.02265	0.46451	39.08868	267.14	-27.91
82/ 3/14	2445042.5	0.02450	-0.40543	-0.21964	38.90778	6.02814	-0.76723	0.46175	39.37947	273.46	-28.40
82/ 3/16	2445044.5	0.06920	-0.39602	-0.21920	38.41281	10.25346	1.54647	0.45790	39.78779	279.91	-28.60
82/ 3/18	2445046.5	0.11305	-0.38174	-0.21605	37.42255	14.47364	3.90827	0.45297	40.31387	286.50	-28.49
82/ 3/20	2445048.5	0.15545	-0.36260	-0.21015	35.91025	18.66101	6.30611	0.44700	40.95786	293.21	-28.04
82/ 3/22	2445050.5	0.19579	-0.33866	-0.20147	33.84403	22.78140	8.72496	0.44002	41.71973	300.03	-27.25
82/ 3/24	2445052.5	0.23341	-0.31001	-0.19000	31.18730	26.79184	11.14558	0.43207	42.59899	306.98	-26.09
82/ 3/26	2445054.5	0.26760	-0.27683	-0.17573	27.89969	30.63774	13.54286	0.42323	43.59441	314.03	-24.53
82/ 3/28	2445056.5	0.29760	-0.23932	-0.15873	23.93898	34.24952	15.88388	0.41357	44.70349	321.19	-22.57
82/ 3/30	2445058.5	0.32263	-0.19783	-0.13908	19.26433	37.53870	18.12544	0.40319	45.92167	328.48	-20.18
82/ 4/ 1	2445060.5	0.34182	-0.15277	-0.11692	13.84180	40.39376	20.21133	0.39224	47.24139	335.92	-17.34
82/ 4/ 3	2445062.5	0.35431	-0.10473	-0.09247	7.65288	42.67621	22.06925	0.38086	48.65056	343.53	-14.05
82/ 4/ 5	2445064.5	0.35921	-0.05447	-0.06606	0.70734	44.21816	23.60830	0.36927	50.13081	351.38	-10.30
82/ 4/ 7	2445066.5	0.35567	-0.00294	-0.03810	-6.93905	44.82346	24.71770	0.35772	51.65518	359.53	-6.11
82/ 4/ 9	2445068.5	0.34295	0.04864	-0.00917	-15.16177	44.27574	25.26879	0.34651	53.18583	8.07	-1.52
82/ 4/11	2445070.5	0.32050	0.09882	0.02001	-23.74254	42.35760	25.12272	0.33599	54.67198	17.14	3.41

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82/ 4/13	2445072.5	0.28809	0.14589	0.04855	-32.34861	38.88505	24.14679	0.32656	56.04951	26.86	8.55
82/ 4/15	2445074.5	0.24594	0.18801	0.07543	-40.52861	33.75755	22.24080	0.31862	57.24328	37.40	13.69
82/ 4/17	2445076.5	0.19484	0.22326	0.09956	-47.74011	27.01582	19.37085	0.31260	58.17389	48.89	18.57
82/ 4/19	2445078.5	0.13624	0.24988	0.11983	-53.41951	18.88778	15.60113	0.30881	58.76893	61.40	22.83
82/ 4/21	2445080.5	0.07221	0.26652	0.13532	-57.08682	9.79569	11.10849	0.30750	58.97677	74.84	26.11
82/ 4/23	2445082.5	0.00525	0.27236	0.14532	-58.45317	0.30598	6.16661	0.30875	58.77835	88.90	28.08
82/ 4/25	2445084.5	-0.06193	0.26731	0.14952	-57.48585	-8.97010	1.09949	0.31248	58.19188	103.04	28.59
82/ 4/27	2445086.5	-0.12674	0.25193	0.14794	-54.40156	-17.48858	-3.77930	0.31846	57.26834	116.71	27.68
82/ 4/29	2445088.5	-0.18694	0.22735	0.14096	-49.59506	-24.85446	-8.21768	0.32635	56.07980	129.43	25.59
82/ 5/ 1	2445090.5	-0.24083	0.19504	0.12919	-43.54008	-30.85050	-12.05065	0.33575	54.70567	141.00	22.63
82/ 5/ 3	2445092.5	-0.28723	0.15663	0.11338	-36.70133	-35.41879	-15.19949	0.34625	53.22126	151.40	19.11
82/ 5/ 5	2445094.5	-0.32547	0.11375	0.09434	-29.47883	-38.61727	-17.65413	0.35745	51.69104	160.74	15.30
82/ 5/ 7	2445096.5	-0.35530	0.06790	0.07285	-22.18541	-40.57251	-19.45024	0.36900	50.16605	169.18	11.39
82/ 5/ 9	2445098.5	-0.37678	0.02044	0.04964	-15.04755	-41.44134	-20.64855	0.38059	48.68446	176.90	7.49
82/ 5/11	2445100.5	-0.39018	-0.02748	0.02535	-8.21821	-41.38489	-21.31964	0.39197	47.27341	184.03	3.71
82/ 5/13	2445102.5	-0.39592	-0.07487	0.00056	-1.79348	-40.55364	-21.53424	0.40294	45.95147	190.71	0.08
82/ 5/15	2445104.5	-0.39451	-0.12092	-0.02425	4.17176	-39.08049	-21.35789	0.41333	44.73083	197.04	-3.36
82/ 5/17	2445106.5	-0.38647	-0.16495	-0.04865	9.65082	-37.07873	-20.84852	0.42301	43.61916	203.11	-6.60
82/ 5/19	2445108.5	-0.37240	-0.20641	-0.07230	14.63530	-34.64282	-20.05584	0.43187	42.62105	209.00	-9.64
82/ 5/21	2445110.5	-0.35285	-0.24485	-0.09489	19.12792	-31.85037	-19.02171	0.43984	41.73905	214.76	-12.46
82/ 5/23	2445112.5	-0.32840	-0.27988	-0.11616	23.13744	-28.76461	-17.78089	0.44685	40.97443	220.44	-15.07
82/ 5/25	2445114.5	-0.29958	-0.31120	-0.13590	26.67521	-25.43692	-16.36205	0.45284	40.32766	226.09	-17.46
82/ 5/27	2445116.5	-0.26695	-0.33857	-0.15390	29.75285	-21.90902	-14.78875	0.45780	39.79880	231.75	-19.64
82/ 5/29	2445118.5	-0.23102	-0.36175	-0.17001	32.38068	-18.21505	-13.08031	0.46167	39.38770	237.44	-21.61
82/ 5/31	2445120.5	-0.19232	-0.38059	-0.18408	34.56663	-14.38322	-11.25266	0.46446	39.09414	243.19	-23.35
82/ 6/ 2	2445122.5	-0.15134	-0.39494	-0.19597	36.31555	-10.43735	-9.31906	0.46614	38.91789	249.03	-24.86
82/ 6/ 4	2445124.5	-0.10859	-0.40467	-0.20557	37.62868	-6.39818	-7.29073	0.46670	38.85883	254.98	-26.13
82/ 6/ 6	2445126.5	-0.06458	-0.40969	-0.21278	38.50325	-2.28456	-5.17751	0.46614	38.91691	261.04	-27.16
82/ 6/ 8	2445128.5	-0.01981	-0.40993	-0.21750	38.93217	1.88539	-2.98834	0.46448	39.09218	267.23	-27.92
82/ 6/10	2445130.5	0.02519	-0.40532	-0.21966	38.90370	6.09314	-0.73197	0.46170	39.38477	273.56	-28.41
82/ 6/12	2445132.5	0.06988	-0.39584	-0.21917	38.40127	10.31853	1.58253	0.45783	39.79490	280.01	-28.60
82/ 6/14	2445134.5	0.11371	-0.38148	-0.21598	37.40321	14.53841	3.94498	0.45289	40.32280	286.60	-28.48
82/ 6/16	2445136.5	0.15609	-0.36227	-0.21004	35.88265	18.72501	6.34325	0.44690	40.96862	293.31	-28.03
82/ 6/18	2445138.5	0.19639	-0.33825	-0.20132	33.80765	22.84405	8.76228	0.43990	41.73230	300.14	-27.24
82/ 6/20	2445140.5	0.23396	-0.30954	-0.18980	31.14153	26.85240	11.18274	0.43194	42.61338	307.08	-26.07
82/ 6/22	2445142.5	0.26809	-0.27628	-0.17549	27.84391	30.69526	13.57942	0.42309	43.61058	314.14	-24.51
82/ 6/24	2445144.5	0.29803	-0.23872	-0.15845	23.87252	34.30278	15.91926	0.41342	44.72137	321.31	-22.54
82/ 6/26	2445146.5	0.32297	-0.19716	-0.13876	19.18661	37.58618	18.15889	0.40303	45.94118	328.60	-20.14
82/ 6/28	2445148.5	0.34206	-0.15205	-0.11656	13.75237	40.43356	20.24185	0.39206	47.26238	336.03	-17.30
82/ 6/30	2445150.5	0.35444	-0.10397	-0.09208	7.55166	42.70597	22.09561	0.38068	48.67282	343.65	-14.00
82/ 7/ 2	2445152.5	0.35922	-0.05368	-0.06564	0.59477	44.23509	23.62894	0.36909	50.15400	351.50	-10.24
82/ 7/ 4	2445154.5	0.35555	-0.00214	-0.03766	-7.06163	44.82436	24.73078	0.35754	51.67883	359.65	-6.05
82/ 7/ 6	2445156.5	0.34268	0.04943	-0.00872	-15.29180	44.25721	25.27222	0.34634	53.20926	8.21	-1.44
82/ 7/ 8	2445158.5	0.32008	0.09957	0.02045	-23.87582	42.31643	25.11436	0.33583	54.69430	17.28	3.49
82/ 7/10	2445160.5	0.28752	0.14658	0.04898	-32.47909	38.81890	24.12476	0.32642	56.06962	27.01	8.63

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82/ 7/12	2445162.5	0.24521	0.18861	0.07583	-40.64851	33.66580	22.20396	0.31852	57.25996	37.57	13.77
82/ 7/14	2445164.5	0.19399	0.22373	0.09990	-47.84066	26.90046	19.31938	0.31252	58.18592	49.07	18.64
82/ 7/16	2445166.5	0.13529	0.25022	0.12011	-53.49237	18.75387	15.53687	0.30877	58.77530	61.60	22.89
82/ 7/18	2445168.5	0.07119	0.26669	0.13551	-57.12584	9.65105	11.03500	0.30750	58.97690	75.05	26.15
82/ 7/20	2445170.5	0.00421	0.27236	0.14543	-58.45579	0.16000	6.08866	0.30879	58.77224	89.11	28.10
82/ 7/22	2445172.5	-0.06295	0.26715	0.14953	-57.45362	-9.10826	1.02214	0.31255	58.18010	103.26	28.58
82/ 7/24	2445174.5	-0.12770	0.25162	0.14787	-54.33945	-17.61154	-3.85158	0.31857	57.25187	116.91	27.66
82/ 7/26	2445176.5	-0.18783	0.22691	0.14081	-49.51004	-24.95753	-8.28165	0.32649	56.05986	129.62	25.55
82/ 7/28	2445178.5	-0.24160	0.19449	0.12897	-43.43956	-30.93166	-12.10448	0.33591	54.68346	141.17	22.58
82/ 7/30	2445180.5	-0.28788	0.15600	0.11311	-36.59206	-35.47818	-15.24255	0.34642	53.19789	151.55	19.06
82/ 8/ 1	2445182.5	-0.32599	0.11306	0.09403	-29.36633	-38.65642	-17.68669	0.35762	51.66739	160.87	15.24
82/ 8/ 3	2445184.5	-0.35570	0.06718	0.07250	-22.07380	-40.59370	-19.47308	0.36917	50.14281	169.31	11.33
82/ 8/ 5	2445186.5	-0.37705	0.01970	0.04927	-14.93969	-41.44706	-20.66271	0.38077	48.66211	177.01	7.43
82/ 8/ 7	2445188.5	-0.39033	-0.02822	0.02497	-8.11599	-41.37756	-21.32624	0.39214	47.25230	184.13	3.65
82/ 8/ 9	2445190.5	-0.39596	-0.07559	0.00018	-1.69801	-40.53546	-21.53433	0.40311	45.93184	190.81	0.03
82/ 8/11	2445192.5	-0.39443	-0.12162	-0.02463	4.25987	-39.05335	-21.35242	0.41349	44.71282	197.14	-3.41
82/ 8/13	2445194.5	-0.38630	-0.16561	-0.04902	9.73133	-37.04425	-20.83832	0.42315	43.60288	203.21	-6.65
82/ 8/15	2445196.5	-0.37214	-0.20703	-0.07266	14.70818	-34.60231	-20.04163	0.43200	42.60654	209.09	-9.68
82/ 8/17	2445198.5	-0.35251	-0.24541	-0.09523	19.19327	-31.80490	-19.00407	0.43996	41.72635	214.84	-12.50
82/ 8/19	2445200.5	-0.32799	-0.28039	-0.11648	23.19543	-28.71506	-17.76030	0.44695	40.96353	220.53	-15.11
82/ 8/21	2445202.5	-0.29911	-0.31166	-0.13619	26.72602	-25.38399	-16.33892	0.45293	40.31857	226.18	-17.50
82/ 8/23	2445204.5	-0.26642	-0.33896	-0.15417	29.79666	-21.85330	-14.76339	0.45786	39.79152	231.83	-19.68
82/ 8/25	2445206.5	-0.23045	-0.36208	-0.17025	32.41762	-18.15701	-13.05300	0.46172	39.38223	237.52	-21.64
82/ 8/27	2445208.5	-0.19170	-0.38085	-0.18428	34.59681	-14.32326	-11.22363	0.46449	39.09047	243.28	-23.37
82/ 8/29	2445210.5	-0.15069	-0.39512	-0.19613	36.33902	-10.37582	-9.28849	0.46615	38.91604	249.12	-24.88
82/ 8/31	2445212.5	-0.10792	-0.40478	-0.20570	37.64544	-6.33538	-7.25880	0.46670	38.85880	255.07	-26.15
82/ 9/ 2	2445214.5	-0.06389	-0.40973	-0.21287	38.51323	-2.22078	-5.14434	0.46613	38.91869	261.14	-27.17
82/ 9/ 4	2445216.5	-0.01912	-0.40989	-0.21755	38.93521	1.94988	-2.95409	0.46444	39.09577	267.33	-27.93
82/ 9/ 6	2445218.5	0.02588	-0.40521	-0.21967	38.89961	6.15806	-0.69675	0.46165	39.39018	273.65	-28.41
82/ 9/ 8	2445220.5	0.07056	-0.39566	-0.21914	38.38974	10.38355	1.61857	0.45776	39.80213	280.11	-28.60
82/ 9/10	2445222.5	0.11438	-0.38123	-0.21591	37.38385	14.60314	3.98166	0.45280	40.33185	286.70	-28.48
82/ 9/12	2445224.5	0.15673	-0.36194	-0.20993	35.85503	18.78898	6.38038	0.44680	40.97948	293.41	-28.02
82/ 9/14	2445226.5	0.19699	-0.33785	-0.20116	33.77122	22.90666	8.79959	0.43979	41.74498	300.25	-27.22
82/ 9/16	2445228.5	0.23452	-0.30906	-0.18960	31.09571	26.91290	11.21988	0.43181	42.62785	307.19	-26.04
82/ 9/18	2445230.5	0.26859	-0.27574	-0.17525	27.78806	30.75270	13.61595	0.42295	43.62681	314.25	-24.48
82/ 9/20	2445232.5	0.29845	-0.23811	-0.15817	23.80600	34.35596	15.95460	0.41326	44.73932	321.42	-22.50
82/ 9/22	2445234.5	0.32331	-0.19649	-0.13843	19.10882	37.63356	18.19228	0.40287	45.96075	328.71	-20.10
82/ 9/24	2445236.5	0.34231	-0.15133	-0.11620	13.66290	40.47321	20.27230	0.39189	47.28342	336.15	-17.25
82/ 9/26	2445238.5	0.35458	-0.10322	-0.09169	7.45042	42.73555	22.12187	0.38050	48.69510	343.77	-13.94
82/ 9/28	2445240.5	0.35923	-0.05290	-0.06522	0.48222	44.25177	23.64945	0.36891	50.17717	351.62	-10.18
82/ 9/30	2445242.5	0.35542	-0.00135	-0.03722	-7.18414	44.82494	24.74369	0.35737	51.70238	359.78	-5.98
82/10/ 2	2445244.5	0.34241	0.05021	-0.00827	-15.42165	44.23827	25.27542	0.34617	53.23249	8.34	-1.37
82/10/ 4	2445246.5	0.31966	0.10032	0.02090	-24.00877	42.27480	25.10572	0.33568	54.71633	17.42	3.57
82/10/ 6	2445248.5	0.28694	0.14727	0.04941	-32.60904	38.75230	24.10242	0.32629	56.08936	27.17	8.71
82/10/ 8	2445250.5	0.24449	0.18920	0.07622	-40.76766	33.57370	22.16686	0.31841	57.27622	37.74	13.85

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82/10/10	2445252.5	0.19314	0.22421	0.10024	-47.94030	26.78492	19.26771	0.31244	58.19750	49.26	18.71
82/10/12	2445254.5	0.13434	0.25055	0.12039	-53.56426	18.62004	15.47255	0.30873	58.78126	61.80	22.95
82/10/14	2445256.5	0.07018	0.26686	0.13571	-57.16393	9.50678	10.96162	0.30750	58.97670	75.27	26.19
82/10/16	2445258.5	0.00317	0.27237	0.14554	-58.45766	0.01462	6.01096	0.30883	58.76589	89.33	28.12
82/10/18	2445260.5	-0.06397	0.26698	0.14955	-57.42090	-9.24566	0.94515	0.31263	58.16816	103.47	28.58
82/10/20	2445262.5	-0.12867	0.25131	0.14780	-54.27713	-17.73369	-3.92344	0.31868	57.23533	117.11	27.63
82/10/22	2445264.5	-0.18870	0.22647	0.14066	-49.42506	-25.05980	-8.34520	0.32662	56.03991	129.80	25.51
82/10/24	2445266.5	-0.24237	0.19394	0.12876	-43.33929	-31.01210	-12.15790	0.33606	54.66131	141.33	22.53
82/10/26	2445268.5	-0.28853	0.15537	0.11284	-36.48321	-35.53697	-15.28525	0.34659	53.17461	151.70	19.00
82/10/28	2445270.5	-0.32651	0.11237	0.09371	-29.25433	-38.69512	-17.71894	0.35780	51.64387	161.01	15.18
82/10/30	2445272.5	-0.35609	0.06646	0.07216	-21.96273	-40.61456	-19.49569	0.36935	50.11972	169.43	11.27
82/11/ 1	2445274.5	-0.37731	0.01896	0.04890	-14.83240	-41.45259	-20.67672	0.38094	48.63995	177.12	7.38
82/11/ 3	2445276.5	-0.39047	-0.02895	0.02459	-8.01431	-41.37017	-21.33274	0.39232	47.23141	184.24	3.59
82/11/ 5	2445278.5	-0.39599	-0.07631	-0.00020	-1.60305	-40.51732	-21.53438	0.40327	45.91245	190.91	-0.03
82/11/ 7	2445280.5	-0.39435	-0.12231	-0.02500	4.34753	-39.02634	-21.34697	0.41364	44.69507	197.23	-3.47
82/11/ 9	2445282.5	-0.38613	-0.16627	-0.04939	9.81143	-37.00994	-20.82818	0.42330	43.58685	203.30	-6.70
82/11/11	2445284.5	-0.37188	-0.20764	-0.07301	14.78070	-34.56201	-20.02750	0.43213	42.59228	209.18	-9.73
82/11/13	2445286.5	-0.35217	-0.24598	-0.09557	19.25829	-31.75967	-18.98652	0.44007	41.71387	214.93	-12.54
82/11/15	2445288.5	-0.32757	-0.28090	-0.11680	23.25311	-28.66579	-17.73983	0.44705	40.95285	220.61	-15.14
82/11/17	2445290.5	-0.29864	-0.31211	-0.13648	26.77655	-25.33139	-16.31593	0.45301	40.30971	226.26	-17.53
82/11/19	2445292.5	-0.26589	-0.33934	-0.15443	29.84022	-21.79795	-14.73821	0.45793	39.78447	231.92	-19.71
82/11/21	2445294.5	-0.22987	-0.36240	-0.17048	32.45436	-18.09939	-13.02590	0.46178	39.37699	237.61	-21.66
82/11/23	2445296.5	-0.19109	-0.38110	-0.18448	34.62682	-14.26377	-11.19483	0.46453	39.08703	243.37	-23.40
82/11/25	2445298.5	-0.15005	-0.39531	-0.19630	36.36234	-10.31479	-9.25818	0.46617	38.91437	249.21	-24.90
82/11/27	2445300.5	-0.10725	-0.40490	-0.20583	37.66204	-6.27313	-7.22714	0.46670	38.85888	255.16	-26.17
82/11/29	2445302.5	-0.06321	-0.40977	-0.21296	38.52302	-2.15758	-5.11148	0.46611	38.92050	261.23	-27.19
82/12/ 1	2445304.5	-0.01843	-0.40986	-0.21761	38.93806	2.01373	-2.92016	0.46441	39.09930	267.43	-27.94
82/12/ 3	2445306.5	0.02657	-0.40510	-0.21968	38.89530	6.22225	-0.66190	0.46160	39.39542	273.75	-28.42
82/12/ 5	2445308.5	0.07124	-0.39548	-0.21911	38.37800	10.44775	1.65419	0.45770	39.80908	280.21	-28.60
82/12/ 7	2445310.5	0.11504	-0.38097	-0.21584	37.36433	14.66694	4.01787	0.45273	40.34050	286.80	-28.47
82/12/ 9	2445312.5	0.15736	-0.36161	-0.20982	35.82730	18.85191	6.41696	0.44671	40.98984	293.52	-28.01
82/12/11	2445314.5	0.19759	-0.33745	-0.20101	33.73479	22.96812	8.83628	0.43968	41.75704	300.35	-27.20
82/12/13	2445316.5	0.23507	-0.30859	-0.18940	31.05001	26.97215	11.25633	0.43169	42.64159	307.30	-26.02
82/12/15	2445318.5	0.26908	-0.27520	-0.17502	27.73249	30.80879	13.65173	0.42281	43.64221	314.36	-24.45
82/12/17	2445320.5	0.29887	-0.23751	-0.15789	23.73997	34.40770	15.98912	0.41311	44.75631	321.53	-22.47
82/12/19	2445322.5	0.32365	-0.19584	-0.13812	19.03181	37.67944	18.22478	0.40271	45.97926	328.82	-20.06
82/12/21	2445324.5	0.34255	-0.15063	-0.11585	13.57455	40.51136	20.30183	0.39173	47.30331	336.26	-17.20
82/12/23	2445326.5	0.35471	-0.10247	-0.09130	7.35069	42.76367	22.14719	0.38034	48.71614	343.89	-13.89
82/12/25	2445328.5	0.35924	-0.05213	-0.06481	0.37164	44.26715	23.66906	0.36874	50.19903	351.74	-10.12
82/12/27	2445330.5	0.35530	-0.00057	-0.03679	-7.30421	44.82448	24.75579	0.35720	51.72461	359.91	-5.91
82/12/29	2445332.5	0.34215	0.05098	-0.00783	-15.54863	44.21876	25.27802	0.34601	53.25445	8.47	-1.30
82/12/31	2445334.5	0.31924	0.10105	0.02133	-24.13852	42.23322	25.09678	0.33553	54.73720	17.56	3.65
83/ 1/ 2	2445336.5	0.28638	0.14794	0.04982	-32.73564	38.68651	24.08019	0.32616	56.10814	27.32	8.79
83/ 1/ 4	2445338.5	0.24379	0.18978	0.07660	-40.88358	33.48324	22.13030	0.31831	57.29175	37.90	13.93
83/ 1/ 6	2445340.5	0.19231	0.22467	0.10057	-48.03713	26.67184	19.21707	0.31237	58.20866	49.44	18.78

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83/ 1/ 8	2445342.5	0.13342	0.25087	0.12065	-53.63403	18.48929	15.40967	0.30869	58.78708	61.99	23.01
83/ 1/10	2445344.5	0.06919	0.26702	0.13590	-57.20082	9.36596	10.88995	0.30750	58.97666	75.47	26.23
83/ 1/12	2445346.5	0.00217	0.27236	0.14564	-58.45935	-0.12726	5.93511	0.30887	58.75999	89.54	28.13
83/ 1/14	2445348.5	-0.06496	0.26682	0.14957	-57.38897	-9.37983	0.86998	0.31270	58.15696	103.68	28.57
83/ 1/16	2445350.5	-0.12960	0.25100	0.14773	-54.21641	-17.85312	-3.99368	0.31878	57.21977	117.31	27.61
83/ 1/18	2445352.5	-0.18955	0.22603	0.14051	-49.34224	-25.16000	-8.40741	0.32675	56.02113	129.98	25.47
83/ 1/20	2445354.5	-0.24312	0.19340	0.12854	-43.24148	-31.09116	-12.21033	0.33621	54.64044	141.50	22.48
83/ 1/22	2445356.5	-0.28915	0.15475	0.11257	-36.37686	-35.59499	-15.32728	0.34674	53.15265	151.84	18.94
83/ 1/24	2445358.5	-0.32701	0.11170	0.09340	-29.14473	-38.73354	-17.75081	0.35797	51.62164	161.14	15.12
83/ 1/26	2445360.5	-0.35646	0.06575	0.07182	-21.85385	-40.63553	-19.51813	0.36952	50.09785	169.55	11.21
83/ 1/28	2445362.5	-0.37756	0.01824	0.04854	-14.72701	-41.45849	-20.69073	0.38111	48.61890	177.23	7.32
83/ 1/30	2445364.5	-0.39061	-0.02967	0.02422	-7.91426	-41.36331	-21.33937	0.39248	47.21152	184.34	3.54
83/ 2/ 1	2445366.5	-0.39601	-0.07702	-0.00058	-1.50945	-40.49980	-21.53463	0.40343	45.89393	191.01	-0.08
83/ 2/ 3	2445368.5	-0.39427	-0.12299	-0.02538	4.43405	-38.99999	-21.34175	0.41379	44.67808	197.33	-3.52
83/ 2/ 5	2445370.5	-0.38595	-0.16692	-0.04976	9.89060	-36.97629	-20.81830	0.42343	43.57146	203.39	-6.75
83/ 2/ 7	2445372.5	-0.37161	-0.20825	-0.07337	14.85246	-34.52234	-20.01363	0.43226	42.57855	209.27	-9.77
83/ 2/ 9	2445374.5	-0.35183	-0.24653	-0.09590	19.32271	-31.71503	-18.96923	0.44018	41.70182	215.02	-12.58
83/ 2/11	2445376.5	-0.32716	-0.28140	-0.11711	23.31031	-28.61702	-17.71959	0.44714	40.94250	220.70	-15.18
83/ 2/13	2445378.5	-0.29816	-0.31255	-0.13677	26.82669	-25.27920	-16.29312	0.45309	40.30105	226.35	-17.57
83/ 2/15	2445380.5	-0.26536	-0.33973	-0.15469	29.88344	-21.74292	-14.71316	0.45800	39.77752	232.01	-19.74
83/ 2/17	2445382.5	-0.22930	-0.36272	-0.17071	32.49077	-18.04198	-12.99888	0.46182	39.37174	237.70	-21.69
83/ 2/19	2445384.5	-0.19047	-0.38135	-0.18467	34.65652	-14.20439	-11.16606	0.46456	39.08350	243.46	-23.42
83/ 2/21	2445386.5	-0.14940	-0.39549	-0.19646	36.38535	-10.25379	-9.22786	0.46619	38.91256	249.31	-24.92
83/ 2/23	2445388.5	-0.10658	-0.40501	-0.20596	37.67836	-6.21082	-7.19542	0.46670	38.85881	255.26	-26.19
83/ 2/25	2445390.5	-0.06253	-0.40981	-0.21305	38.53257	-2.09425	-5.07852	0.46609	38.92218	261.33	-27.20
83/ 2/27	2445392.5	-0.01774	-0.40982	-0.21766	38.94071	2.07779	-2.88609	0.46438	39.10275	267.52	-27.95
83/ 3/ 1	2445394.5	0.02726	-0.40499	-0.21969	38.89083	6.28674	-0.62687	0.46155	39.40066	273.85	-28.42
83/ 3/ 3	2445396.5	0.07192	-0.39529	-0.21908	38.36611	10.51234	1.69003	0.45763	39.81612	280.31	-28.60
83/ 3/ 5	2445398.5	0.11570	-0.38071	-0.21577	37.34466	14.73123	4.05435	0.45264	40.34935	286.90	-28.47
83/ 3/ 7	2445400.5	0.15799	-0.36127	-0.20970	35.79938	18.91541	6.45387	0.44661	41.00050	293.62	-28.01
83/ 3/ 9	2445402.5	0.19819	-0.33704	-0.20085	33.69809	23.03026	8.87336	0.43956	41.76949	300.46	-27.19
83/ 3/11	2445404.5	0.23561	-0.30811	-0.18921	31.00394	27.03216	11.29324	0.43156	42.65583	307.41	-26.00
83/ 3/13	2445406.5	0.26957	-0.27466	-0.17477	27.67643	30.86573	13.68801	0.42267	43.65822	314.46	-24.42
83/ 3/15	2445408.5	0.29929	-0.23690	-0.15761	23.67329	34.46036	16.02420	0.41296	44.77405	321.64	-22.44
83/ 3/17	2445410.5	0.32398	-0.19517	-0.13779	18.95392	37.72630	18.25790	0.40255	45.99865	328.93	-20.02
83/ 3/19	2445412.5	0.34279	-0.14992	-0.11549	13.48505	40.55049	20.33200	0.39156	47.32419	336.38	-17.15
83/ 3/21	2445414.5	0.35484	-0.10172	-0.09091	7.24949	42.79272	22.17316	0.38016	48.73829	344.00	-13.84
83/ 3/23	2445416.5	0.35925	-0.05135	-0.06439	0.25922	44.28329	23.68927	0.36857	50.22209	351.87	-10.06
83/ 3/25	2445418.5	0.35517	0.00022	-0.03636	-7.42649	44.82453	24.76838	0.35703	51.74808	0.04	-5.84
83/ 3/27	2445420.5	0.34187	0.05176	-0.00739	-15.67816	44.19931	25.28091	0.34585	53.27765	8.61	-1.22
83/ 3/29	2445422.5	0.31882	0.10179	0.02178	-24.27102	42.19113	25.08784	0.33538	54.75924	17.71	3.72
83/ 3/31	2445424.5	0.28580	0.14862	0.05025	-32.86503	38.61952	24.05759	0.32603	56.12793	27.48	8.87
83/ 4/ 2	2445426.5	0.24307	0.19037	0.07699	-41.00208	33.39085	22.09297	0.31820	57.30811	38.07	14.00
83/ 4/ 4	2445428.5	0.19146	0.22514	0.10091	-48.13604	26.55615	19.16525	0.31230	58.22039	49.62	18.85
83/ 4/ 6	2445430.5	0.13247	0.25119	0.12092	-53.70514	18.35546	15.34527	0.30866	58.79322	62.19	23.06

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83/ 4/ 8	2445432.5	0.06818	0.26718	0.13609	-57.23815	9.22185	10.81657	0.30750	58.97666	75.68	26.27
83/ 4/10	2445434.5	0.00113	0.27236	0.14575	-58.46051	-0.27235	5.85748	0.30890	58.75385	89.76	28.15
83/ 4/12	2445436.5	-0.06597	0.26665	0.14958	-57.35565	-9.51683	0.79315	0.31278	58.14524	103.90	28.57
83/ 4/14	2445438.5	-0.13056	0.25068	0.14766	-54.15362	-17.97480	-4.06534	0.31889	57.20345	117.51	27.58
83/ 4/16	2445440.5	-0.19042	0.22558	0.14036	-49.25691	-25.26179	-8.47072	0.32688	56.00138	130.17	25.43
83/ 4/18	2445442.5	-0.24388	0.19285	0.12833	-43.14097	-31.17111	-12.26351	0.33636	54.61845	141.66	22.43
83/ 4/20	2445444.5	-0.28980	0.15412	0.11230	-36.26785	-35.65330	-15.36975	0.34691	53.12950	151.99	18.89
83/ 4/22	2445446.5	-0.32753	0.11101	0.09309	-29.03264	-38.77178	-17.78284	0.35814	51.59820	161.28	15.07
83/ 4/24	2445448.5	-0.35685	0.06503	0.07147	-21.74275	-40.65597	-19.54052	0.36970	50.07482	169.67	11.15
83/ 4/26	2445450.5	-0.37782	0.01750	0.04817	-14.61974	-41.46362	-20.70452	0.38129	48.59676	177.35	7.26
83/ 4/28	2445452.5	-0.39074	-0.03041	0.02384	-7.81263	-41.35553	-21.34566	0.39265	47.19062	184.45	3.48
83/ 4/30	2445454.5	-0.39603	-0.07774	-0.00097	-1.41458	-40.48128	-21.53447	0.40359	45.87449	191.11	-0.14
83/ 5/ 2	2445456.5	-0.39419	-0.12368	-0.02576	4.52160	-38.97261	-21.33609	0.41394	44.66025	197.42	-3.57
83/ 5/ 4	2445458.5	-0.38577	-0.16757	-0.05013	9.97058	-36.94162	-20.80795	0.42357	43.55532	203.48	-6.80
83/ 5/ 6	2445460.5	-0.37135	-0.20886	-0.07372	14.92483	-34.48167	-19.99928	0.43238	42.56416	209.36	-9.82
83/ 5/ 8	2445462.5	-0.35148	-0.24710	-0.09624	19.38758	-31.66945	-18.95148	0.44029	41.68921	215.11	-12.63
83/ 5/10	2445464.5	-0.32674	-0.28191	-0.11742	23.36783	-28.56740	-17.69891	0.44724	40.93169	220.79	-15.22
83/ 5/12	2445466.5	-0.29768	-0.31300	-0.13706	26.87704	-25.22623	-16.26991	0.45318	40.29204	226.44	-17.60
83/ 5/14	2445468.5	-0.26483	-0.34011	-0.15495	29.92680	-21.68719	-14.68776	0.45806	39.77031	232.09	-19.77
83/ 5/16	2445470.5	-0.22872	-0.36304	-0.17094	32.52728	-17.98397	-12.97154	0.46187	39.36633	237.79	-21.72
83/ 5/18	2445472.5	-0.18986	-0.38161	-0.18487	34.68627	-14.14449	-11.13702	0.46459	39.07988	243.55	-23.45
83/ 5/20	2445474.5	-0.14875	-0.39567	-0.19663	36.40841	-10.19233	-9.19729	0.46620	38.91074	249.40	-24.95
83/ 5/22	2445476.5	-0.10591	-0.40512	-0.20608	37.69471	-6.14810	-7.16349	0.46670	38.85879	255.35	-26.20
83/ 5/24	2445478.5	-0.06184	-0.40985	-0.21314	38.54214	-2.03056	-5.04536	0.46608	38.92397	261.42	-27.21
83/ 5/26	2445480.5	-0.01705	-0.40979	-0.21771	38.94334	2.14218	-2.85185	0.46434	39.10634	267.62	-27.96
83/ 5/28	2445482.5	0.02795	-0.40488	-0.21970	38.88630	6.35153	-0.59168	0.46150	39.40605	273.95	-28.43
83/ 5/30	2445484.5	0.07260	-0.39511	-0.21905	38.35414	10.57719	1.72602	0.45756	39.82331	280.41	-28.60
83/ 6/ 1	2445486.5	0.11636	-0.38045	-0.21570	37.32486	14.79576	4.09097	0.45256	40.35834	287.01	-28.47
83/ 6/ 3	2445488.5	0.15863	-0.36094	-0.20959	35.77130	18.97914	6.49092	0.44651	41.01129	293.72	-28.00
83/ 6/ 5	2445490.5	0.19878	-0.33663	-0.20070	33.66122	23.09260	8.91056	0.43945	41.78210	300.56	-27.17
83/ 6/ 7	2445492.5	0.23616	-0.30763	-0.18901	30.95768	27.09237	11.33026	0.43143	42.67024	307.51	-25.98
83/ 6/ 9	2445494.5	0.27006	-0.27411	-0.17453	27.62013	30.92285	13.72441	0.42253	43.67440	314.57	-24.40
83/ 6/11	2445496.5	0.29971	-0.23629	-0.15732	23.60630	34.51316	16.05938	0.41281	44.79196	321.75	-22.40
83/ 6/13	2445498.5	0.32432	-0.19450	-0.13747	18.87568	37.77324	18.29111	0.40238	46.01819	329.05	-19.98
83/ 6/15	2445500.5	0.34303	-0.14920	-0.11513	13.39513	40.58965	20.36223	0.39139	47.34521	336.49	-17.11
83/ 6/17	2445502.5	0.35497	-0.10096	-0.09052	7.14781	42.82172	22.19915	0.37998	48.76057	344.12	-13.78
83/ 6/19	2445504.5	0.35925	-0.05056	-0.06397	0.14627	44.29932	23.70947	0.36839	50.24530	351.99	-10.00
83/ 6/21	2445506.5	0.35504	0.00101	-0.03592	-7.54933	44.82436	24.78092	0.35685	51.77171	0.16	-5.78
83/ 6/23	2445508.5	0.34159	0.05254	-0.00694	-15.80824	44.17955	25.28370	0.34568	53.30102	8.74	-1.15
83/ 6/25	2445510.5	0.31839	0.10254	0.02222	-24.40407	42.14862	25.07874	0.33523	54.78145	17.85	3.80
83/ 6/27	2445512.5	0.28521	0.14931	0.05067	-32.99488	38.55198	24.03475	0.32589	56.14790	27.63	8.95
83/ 6/29	2445514.5	0.24234	0.19096	0.07738	-41.12089	33.29779	22.05533	0.31809	57.32459	38.24	14.08
83/ 7/ 1	2445516.5	0.19061	0.22561	0.10125	-48.23504	26.43972	19.11304	0.31222	58.23217	49.81	18.92
83/ 7/ 3	2445518.5	0.13151	0.25152	0.12119	-53.77608	18.22089	15.28045	0.30862	58.79932	62.40	23.12
83/ 7/ 5	2445520.5	0.06716	0.26735	0.13628	-57.27504	9.07706	10.74278	0.30750	58.97653	75.90	26.31

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83/ 7/ 7	2445522.5	0.00009	0.27235	0.14585	-58.46104	-0.41794	5.77952	0.30894	58.74752	89.98	28.17
83/ 7/ 9	2445524.5	-0.06699	0.26648	0.14959	-57.32158	-9.65415	0.71606	0.31286	58.13328	104.11	28.56
83/ 7/11	2445526.5	-0.13152	0.25036	0.14758	-54.09005	-18.09662	-4.13715	0.31899	57.18687	117.71	27.56
83/ 7/13	2445528.5	-0.19130	0.22513	0.14021	-49.17087	-25.36356	-8.53411	0.32701	55.98138	130.36	25.39
83/ 7/15	2445530.5	-0.24465	0.19229	0.12811	-43.03984	-31.25097	-12.31671	0.33651	54.59626	141.83	22.38
83/ 7/17	2445532.5	-0.29044	0.15349	0.11202	-36.15831	-35.71147	-15.41219	0.34708	53.10619	152.15	18.83
83/ 7/19	2445534.5	-0.32805	0.11032	0.09277	-28.92012	-38.80985	-17.81482	0.35832	51.57466	161.41	15.00
83/ 7/21	2445536.5	-0.35723	0.06430	0.07112	-21.63128	-40.67622	-19.56284	0.36988	50.05170	169.80	11.09
83/ 7/23	2445538.5	-0.37808	0.01676	0.04780	-14.51214	-41.46854	-20.71823	0.38146	48.57455	177.46	7.20
83/ 7/25	2445540.5	-0.39088	-0.03115	0.02346	-7.71073	-41.34754	-21.35186	0.39282	47.16965	184.56	3.42
83/ 7/27	2445542.5	-0.39606	-0.07846	-0.00135	-1.31947	-40.46254	-21.53422	0.40375	45.85499	191.21	-0.19
83/ 7/29	2445544.5	-0.39411	-0.12438	-0.02614	4.60934	-38.94499	-21.33032	0.41410	44.64236	197.52	-3.62
83/ 7/31	2445546.5	-0.38559	-0.16823	-0.05050	10.05072	-36.90670	-20.79749	0.42372	43.53915	203.57	-6.84
83/ 8/ 2	2445548.5	-0.37108	-0.20947	-0.07408	14.99735	-34.44078	-19.98483	0.43251	42.54975	209.44	-9.86
83/ 8/ 4	2445550.5	-0.35114	-0.24766	-0.09658	19.45259	-31.62363	-18.93362	0.44041	41.67660	215.20	-12.67
83/ 8/ 6	2445552.5	-0.32633	-0.28242	-0.11774	23.42550	-28.51753	-17.67812	0.44734	40.92089	220.87	-15.26
83/ 8/ 8	2445554.5	-0.29720	-0.31345	-0.13735	26.92754	-25.17302	-16.24659	0.45326	40.28306	226.52	-17.64
83/ 8/10	2445556.5	-0.26430	-0.34050	-0.15521	29.97029	-21.63120	-14.66223	0.45813	39.76315	232.18	-19.80
83/ 8/12	2445558.5	-0.22814	-0.36336	-0.17117	32.56392	-17.92567	-12.94407	0.46193	39.36099	237.88	-21.75
83/ 8/14	2445560.5	-0.18924	-0.38186	-0.18507	34.71614	-14.08427	-11.10781	0.46463	39.07634	243.64	-23.47
83/ 8/16	2445562.5	-0.14811	-0.39585	-0.19679	36.43155	-10.13054	-9.16655	0.46622	38.90902	249.49	-24.97
83/ 8/18	2445564.5	-0.10524	-0.40523	-0.20621	37.71110	-6.08503	-7.13138	0.46670	38.85887	255.44	-26.22
83/ 8/20	2445566.5	-0.06116	-0.40988	-0.21323	38.55172	-1.96651	-5.01202	0.46606	38.92586	261.51	-27.23
83/ 8/22	2445568.5	-0.01635	-0.40975	-0.21776	38.94595	2.20693	-2.81742	0.46431	39.11005	267.71	-27.97
83/ 8/24	2445570.5	0.02864	-0.40477	-0.21972	38.88174	6.41669	-0.55628	0.46145	39.41158	274.05	-28.43
83/ 8/26	2445572.5	0.07329	-0.39492	-0.21902	38.34209	10.64244	1.76223	0.45750	39.83068	280.51	-28.60
83/ 8/28	2445574.5	0.11703	-0.38019	-0.21563	37.30496	14.86071	4.12783	0.45247	40.36756	287.11	-28.46
83/ 8/30	2445576.5	0.15927	-0.36060	-0.20947	35.74309	19.04332	6.52822	0.44641	41.02236	293.83	-27.99
83/ 9/ 1	2445578.5	0.19938	-0.33622	-0.20054	33.62415	23.15539	8.94803	0.43933	41.79501	300.67	-27.16
83/ 9/ 3	2445580.5	0.23672	-0.30715	-0.18880	30.91115	27.15303	11.36756	0.43130	42.68498	307.62	-25.96
83/ 9/ 5	2445582.5	0.27055	-0.27356	-0.17429	27.56348	30.98040	13.76108	0.42238	43.69094	314.68	-24.37
83/ 9/ 7	2445584.5	0.30013	-0.23567	-0.15704	23.53888	34.56636	16.09483	0.41265	44.81022	321.86	-22.37
83/ 9/ 9	2445586.5	0.32465	-0.19383	-0.13714	18.79689	37.82053	18.32455	0.40222	46.03808	329.16	-19.94
83/ 9/11	2445588.5	0.34327	-0.14847	-0.11476	13.30456	40.62906	20.39266	0.39121	47.36658	336.61	-17.06
83/ 9/13	2445590.5	0.35509	-0.10020	-0.09012	7.04539	42.85085	22.22530	0.37981	48.78316	344.24	-13.73
83/ 9/15	2445592.5	0.35925	-0.04977	-0.06355	0.03251	44.31531	23.72973	0.36821	50.26875	352.11	-9.94
83/ 9/17	2445594.5	0.35490	0.00181	-0.03547	-7.67299	44.82395	24.79341	0.35667	51.79551	0.29	-5.71
83/ 9/19	2445596.5	0.34131	0.05333	-0.00649	-15.93908	44.15932	25.28630	0.34551	53.32445	8.88	-1.08
83/ 9/21	2445598.5	0.31795	0.10329	0.02267	-24.53771	42.10539	25.06931	0.33507	54.80359	18.00	3.88
83/ 9/23	2445600.5	0.28462	0.14999	0.05110	-33.12506	38.48353	24.01145	0.32576	56.16762	27.79	9.03
83/ 9/25	2445602.5	0.24160	0.19156	0.07778	-41.23967	33.20373	22.01713	0.31799	57.34067	38.41	14.16
83/ 9/27	2445604.5	0.18975	0.22608	0.10159	-48.33361	26.32234	19.06027	0.31215	58.24343	49.99	18.99
83/ 9/29	2445606.5	0.13056	0.25184	0.12147	-53.84624	18.08555	15.21514	0.30858	58.80481	62.60	23.18
83/10/ 1	2445608.5	0.06614	0.26751	0.13647	-57.31091	8.93183	10.66865	0.30751	58.97574	76.11	26.35
83/10/ 3	2445610.5	-0.00095	0.27234	0.14595	-58.46045	-0.56361	5.70141	0.30899	58.74052	90.20	28.19

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
83/10/ 5	2445612.5	-0.06801	0.26631	0.14961	-57.28646	-9.79119	0.63902	0.31294	58.12069	104.33	28.56
83/10/ 7	2445614.5	-0.13248	0.25004	0.14751	-54.02565	-18.21788	-4.20875	0.31911	57.16971	117.92	27.53
83/10/ 9	2445616.5	-0.19217	0.22468	0.14006	-49.08424	-25.46461	-8.59716	0.32715	55.96088	130.54	25.35
83/10/11	2445618.5	-0.24541	0.19174	0.12789	-42.93842	-31.33002	-12.36950	0.33667	54.57364	142.00	22.33
83/10/13	2445620.5	-0.29108	0.15285	0.11175	-36.04876	-35.76885	-15.45421	0.34725	53.08254	152.30	18.77
83/10/15	2445622.5	-0.32856	0.10963	0.09245	-28.80781	-38.84721	-17.84639	0.35849	51.55085	161.55	14.95
83/10/17	2445624.5	-0.35762	0.06358	0.07078	-21.52022	-40.69589	-19.58481	0.37006	50.02839	169.92	11.03
83/10/19	2445626.5	-0.37834	0.01603	0.04744	-14.40507	-41.47303	-20.73166	0.38164	48.55224	177.57	7.14
83/10/21	2445628.5	-0.39102	-0.03188	0.02308	-7.60943	-41.33926	-21.35785	0.39300	47.14865	184.66	3.37
83/10/23	2445630.5	-0.39608	-0.07918	-0.00173	-1.22499	-40.44366	-21.53382	0.40392	45.83553	191.30	-0.25
83/10/25	2445632.5	-0.39403	-0.12507	-0.02652	4.69646	-38.91737	-21.32449	0.41425	44.62457	197.61	-3.67
83/10/27	2445634.5	-0.38542	-0.16888	-0.05087	10.13027	-36.87191	-20.78703	0.42386	43.52311	203.66	-6.89
83/10/29	2445636.5	-0.37082	-0.21008	-0.07443	15.06932	-34.40009	-19.97044	0.43264	42.53551	209.53	-9.91
83/10/31	2445638.5	-0.35079	-0.24822	-0.09691	19.51709	-31.57812	-18.91586	0.44052	41.66418	215.28	-12.71
83/11/ 2	2445640.5	-0.32591	-0.28292	-0.11805	23.48269	-28.46803	-17.65748	0.44744	40.91030	220.96	-15.30
83/11/ 4	2445642.5	-0.29673	-0.31389	-0.13764	26.97763	-25.12023	-16.22345	0.45334	40.27430	226.61	-17.67
83/11/ 6	2445644.5	-0.26377	-0.34088	-0.15547	30.01345	-21.57568	-14.63691	0.45820	39.75621	232.27	-19.84
83/11/ 8	2445646.5	-0.22756	-0.36367	-0.17140	32.60028	-17.86789	-12.91684	0.46197	39.35587	237.96	-21.78
83/11/10	2445648.5	-0.18862	-0.38211	-0.18527	34.74582	-14.02461	-11.07889	0.46466	39.07305	243.73	-23.50
83/11/12	2445650.5	-0.14746	-0.39603	-0.19695	36.45458	-10.06933	-9.13611	0.46623	38.90753	249.58	-24.99
83/11/14	2445652.5	-0.10458	-0.40533	-0.20634	37.72745	-6.02257	-7.09958	0.46670	38.85918	255.53	-26.24
83/11/16	2445654.5	-0.06047	-0.40992	-0.21332	38.56130	-1.90307	-4.97900	0.46604	38.92796	261.61	-27.24
83/11/18	2445656.5	-0.01566	-0.40971	-0.21781	38.94860	2.27107	-2.78331	0.46427	39.11391	267.81	-27.98
83/11/20	2445658.5	0.02933	-0.40465	-0.21972	38.87723	6.48123	-0.52123	0.46139	39.41722	274.15	-28.44
83/11/22	2445660.5	0.07397	-0.39473	-0.21899	38.33013	10.70703	1.79808	0.45743	39.83808	280.61	-28.60
83/11/24	2445662.5	0.11769	-0.37992	-0.21555	37.28518	14.92497	4.16431	0.45239	40.37673	287.21	-28.46
83/11/26	2445664.5	0.15990	-0.36026	-0.20936	35.71503	19.10676	6.56511	0.44630	41.03331	293.93	-27.98
83/11/28	2445666.5	0.19998	-0.33581	-0.20038	33.58729	23.21742	8.98507	0.43922	41.80773	300.77	-27.14
83/11/30	2445668.5	0.23726	-0.30667	-0.18860	30.86490	27.21288	11.40440	0.43117	42.69945	307.73	-25.94
83/12/ 2	2445670.5	0.27104	-0.27301	-0.17404	27.50720	31.03710	13.79726	0.42224	43.70712	314.79	-24.34
83/12/ 4	2445672.5	0.30055	-0.23506	-0.15675	23.47194	34.61869	16.12976	0.41250	44.82805	321.97	-22.33
83/12/ 6	2445674.5	0.32499	-0.19316	-0.13682	18.71871	37.86692	18.35745	0.40205	46.05746	329.27	-19.90
83/12/ 8	2445676.5	0.34350	-0.14776	-0.11440	13.21476	40.66758	20.42254	0.39104	47.38736	336.73	-17.01
83/12/10	2445678.5	0.35522	-0.09944	-0.08973	6.94392	42.87912	22.25087	0.37963	48.80510	344.36	-13.67
83/12/12	2445680.5	0.35925	-0.04899	-0.06313	-0.08007	44.33050	23.74945	0.36803	50.29151	352.23	-9.88
83/12/14	2445682.5	0.35477	0.00260	-0.03504	-7.79526	44.82290	24.80541	0.35650	51.81860	0.42	-5.64
83/12/16	2445684.5	0.34103	0.05411	-0.00604	-16.06833	44.13867	25.28852	0.34535	53.34719	9.02	-1.00
83/12/18	2445686.5	0.31752	0.10403	0.02311	-24.66958	42.06206	25.05964	0.33493	54.82510	18.14	3.96
83/12/20	2445688.5	0.28404	0.15067	0.05152	-33.25340	38.41538	23.98812	0.32563	56.18683	27.94	9.10
83/12/22	2445690.5	0.24088	0.19214	0.07817	-41.35667	33.11041	21.97915	0.31789	57.35640	38.58	14.23
83/12/24	2445692.5	0.18890	0.22654	0.10193	-48.43062	26.20611	19.00796	0.31208	58.25451	50.18	19.06
83/12/26	2445694.5	0.12961	0.25216	0.12173	-53.91521	17.95172	15.15052	0.30855	58.81030	62.80	23.24
83/12/28	2445696.5	0.06514	0.26766	0.13666	-57.34607	8.78831	10.59536	0.30751	58.97515	76.32	26.39
83/12/30	2445698.5	-0.00197	0.27233	0.14605	-58.45971	-0.70755	5.62421	0.30903	58.73389	90.42	28.20
84/ 1/ 1	2445700.5	-0.06902	0.26614	0.14962	-57.25169	-9.92663	0.56287	0.31301	58.10862	104.54	28.55

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
84/ 1/ 3	2445702.5	-0.13343	0.24971	0.14744	-53.96199	-18.33781	-4.27956	0.31922	57.15319	118.12	27.51
84/ 1/ 5	2445704.5	-0.19303	0.22423	0.13991	-48.99864	-25.56464	-8.65957	0.32729	55.94109	130.72	25.31
84/ 1/ 7	2445706.5	-0.24617	0.19119	0.12767	-42.83814	-31.40839	-12.42181	0.33682	54.55176	142.16	22.27
84/ 1/ 9	2445708.5	-0.29171	0.15222	0.11148	-35.94035	-35.82583	-15.49590	0.34741	53.05960	152.44	18.72
84/ 1/11	2445710.5	-0.32906	0.10895	0.09214	-28.69657	-38.88440	-17.87777	0.35867	51.52770	161.68	14.89
84/ 1/13	2445712.5	-0.35799	0.06287	0.07043	-21.41009	-40.71555	-19.60668	0.37023	50.00570	170.04	10.97
84/ 1/15	2445714.5	-0.37859	0.01530	0.04707	-14.29881	-41.47763	-20.74506	0.38181	48.53048	177.69	7.08
84/ 1/17	2445716.5	-0.39115	-0.03260	0.02271	-7.50882	-41.33117	-21.36387	0.39316	47.12816	184.76	3.31
84/ 1/19	2445718.5	-0.39610	-0.07989	-0.00211	-1.13108	-40.42502	-21.53350	0.40408	45.81652	191.40	-0.30
84/ 1/21	2445720.5	-0.39394	-0.12575	-0.02689	4.78310	-38.89002	-21.31875	0.41440	44.60718	197.70	-3.72
84/ 1/23	2445722.5	-0.38524	-0.16953	-0.05123	10.20940	-36.83739	-20.77668	0.42400	43.50742	203.75	-6.94
84/ 1/25	2445724.5	-0.37055	-0.21069	-0.07478	15.14093	-34.35968	-19.95615	0.43277	42.52156	209.62	-9.95
84/ 1/27	2445726.5	-0.35045	-0.24878	-0.09724	19.58126	-31.53285	-18.89821	0.44063	41.65199	215.37	-12.75
84/ 1/29	2445728.5	-0.32550	-0.28342	-0.11836	23.53959	-28.41876	-17.63693	0.44754	40.89987	221.05	-15.34
84/ 1/31	2445730.5	-0.29625	-0.31434	-0.13792	27.02740	-25.06766	-16.20040	0.45342	40.26563	226.70	-17.71
84/ 2/ 2	2445732.5	-0.26324	-0.34126	-0.15573	30.05625	-21.52037	-14.61168	0.45826	39.74929	232.35	-19.87
84/ 2/ 4	2445734.5	-0.22699	-0.36399	-0.17163	32.63625	-17.81032	-12.88969	0.46202	39.35069	238.05	-21.81
84/ 2/ 6	2445736.5	-0.18801	-0.38235	-0.18546	34.77504	-13.96518	-11.05005	0.46469	39.06959	243.82	-23.52
84/ 2/ 8	2445738.5	-0.14682	-0.39621	-0.19711	36.47709	-10.00838	-9.10576	0.46625	38.90580	249.67	-25.01
84/ 2/10	2445740.5	-0.10391	-0.40544	-0.20646	37.74326	-5.96041	-7.06789	0.46670	38.85917	255.63	-26.26
84/ 2/12	2445742.5	-0.05979	-0.40995	-0.21341	38.57031	-1.83999	-4.94612	0.46602	38.92966	261.70	-27.25
84/ 2/14	2445744.5	-0.01498	-0.40967	-0.21786	38.95070	2.33479	-2.74937	0.46424	39.11735	267.91	-27.99
84/ 2/16	2445746.5	0.03001	-0.40454	-0.21974	38.87220	6.54528	-0.48638	0.46135	39.42239	274.24	-28.44
84/ 2/18	2445748.5	0.07464	-0.39454	-0.21896	38.31769	10.77107	1.83369	0.45736	39.84499	280.71	-28.60
84/ 2/20	2445750.5	0.11834	-0.37966	-0.21548	37.26495	14.98860	4.20049	0.45231	40.38538	287.31	-28.45
84/ 2/22	2445752.5	0.16053	-0.35993	-0.20925	35.68659	19.16950	6.60166	0.44621	41.04369	294.04	-27.97
84/ 2/24	2445754.5	0.20057	-0.33541	-0.20022	33.55012	23.27868	9.02172	0.43911	41.81984	300.88	-27.13
84/ 2/26	2445756.5	0.23781	-0.30620	-0.18840	30.81844	27.27190	11.44081	0.43105	42.71329	307.83	-25.92
84/ 2/28	2445758.5	0.27152	-0.27247	-0.17380	27.45086	31.09294	13.83298	0.42210	43.72267	314.90	-24.32
84/ 3/ 1	2445760.5	0.30096	-0.23446	-0.15647	23.40510	34.67013	16.16420	0.41235	44.84527	322.08	-22.30
84/ 3/ 3	2445762.5	0.32531	-0.19250	-0.13650	18.64085	37.91245	18.38986	0.40190	46.07627	329.39	-19.86
84/ 3/ 5	2445764.5	0.34373	-0.14705	-0.11405	13.12551	40.70530	20.45193	0.39088	47.40761	336.84	-16.96
84/ 3/ 7	2445766.5	0.35534	-0.09869	-0.08934	6.84325	42.90669	22.27600	0.37946	48.82657	344.48	-13.62
84/ 3/ 9	2445768.5	0.35925	-0.04822	-0.06272	-0.19164	44.34516	23.76877	0.36786	50.31386	352.36	-9.82
84/ 3/11	2445770.5	0.35463	0.00338	-0.03461	-7.91633	44.82151	24.81711	0.35633	51.84134	0.55	-5.57
84/ 3/13	2445772.5	0.34075	0.05487	-0.00560	-16.19623	44.11793	25.29055	0.34519	53.36967	9.15	-0.93
84/ 3/15	2445774.5	0.31709	0.10476	0.02354	-24.80005	42.01894	25.04995	0.33478	54.84645	18.28	4.03
84/ 3/17	2445776.5	0.28347	0.15134	0.05194	-33.38036	38.34775	23.96493	0.32550	56.20601	28.10	9.18
84/ 3/19	2445778.5	0.24016	0.19271	0.07855	-41.47243	33.01790	21.94148	0.31778	57.37222	38.74	14.31
84/ 3/21	2445780.5	0.18806	0.22700	0.10226	-48.52665	26.09093	18.95611	0.31201	58.26583	50.36	19.13
84/ 3/23	2445782.5	0.12867	0.25247	0.12200	-53.98352	17.81905	15.08646	0.30851	58.81616	62.99	23.29
84/ 3/25	2445784.5	0.06414	0.26781	0.13684	-57.38096	8.64597	10.52268	0.30751	58.97503	76.53	26.42
84/ 3/27	2445786.5	-0.00299	0.27232	0.14615	-58.45904	-0.85042	5.54758	0.30907	58.72783	90.63	28.22
84/ 3/29	2445788.5	-0.07001	0.26596	0.14962	-57.21729	-10.06123	0.48721	0.31309	58.09720	104.75	28.55
84/ 3/31	2445790.5	-0.13437	0.24939	0.14736	-53.89888	-18.45715	-4.35000	0.31932	57.13736	118.32	27.48

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84/ 4/ 2	2445792.5	-0.19389	0.22378	0.13976	-48.91364	-25.66434	-8.72174	0.32742	55.92201	130.91	25.27
84/ 4/ 4	2445794.5	-0.24691	0.19063	0.12745	-42.73843	-31.48665	-12.47400	0.33697	54.53057	142.33	22.22
84/ 4/ 6	2445796.5	-0.29234	0.15159	0.11120	-35.83240	-35.88287	-15.53757	0.34758	53.03732	152.59	18.66
84/ 4/ 8	2445798.5	-0.32956	0.10826	0.09182	-28.58565	-38.92174	-17.90919	0.35883	51.50515	161.81	14.83
84/ 4/10	2445800.5	-0.35836	0.06215	0.07008	-21.30015	-40.73540	-19.62863	0.37040	49.98352	170.16	10.91
84/ 4/12	2445802.5	-0.37884	0.01457	0.04670	-14.19260	-41.48240	-20.75854	0.38198	48.50914	177.80	7.02
84/ 4/14	2445804.5	-0.39128	-0.03334	0.02233	-7.40814	-41.32319	-21.36996	0.39333	47.10798	184.87	3.25
84/ 4/16	2445806.5	-0.39611	-0.08061	-0.00249	-1.03702	-40.40641	-21.53321	0.40424	45.79773	191.50	-0.35
84/ 4/18	2445808.5	-0.39385	-0.12644	-0.02727	4.86994	-38.86260	-21.31299	0.41455	44.58993	197.80	-3.77
84/ 4/20	2445810.5	-0.38505	-0.17019	-0.05160	10.28877	-36.80270	-20.76626	0.42413	43.49178	203.84	-6.99
84/ 4/22	2445812.5	-0.37027	-0.21130	-0.07514	15.21278	-34.31900	-19.94175	0.43289	42.50759	209.71	-10.00
84/ 4/24	2445814.5	-0.35009	-0.24934	-0.09758	19.64567	-31.48723	-18.88039	0.44075	41.63973	215.46	-12.79
84/ 4/26	2445816.5	-0.32507	-0.28393	-0.11868	23.59669	-28.36907	-17.61617	0.44763	40.88933	221.14	-15.37
84/ 4/28	2445818.5	-0.29576	-0.31478	-0.13821	27.07738	-25.01459	-16.17710	0.45350	40.25683	226.78	-17.74
84/ 4/30	2445820.5	-0.26270	-0.34164	-0.15599	30.09926	-21.46451	-14.58616	0.45833	39.74225	232.44	-19.90
84/ 5/ 2	2445822.5	-0.22640	-0.36431	-0.17186	32.67240	-17.75213	-12.86222	0.46207	39.34540	238.14	-21.83
84/ 5/ 4	2445824.5	-0.18739	-0.38260	-0.18566	34.80442	-13.90507	-11.02085	0.46472	39.06606	243.91	-23.55
84/ 5/ 6	2445826.5	-0.14616	-0.39639	-0.19728	36.49974	-9.94669	-9.07502	0.46627	38.90403	249.76	-25.03
84/ 5/ 8	2445828.5	-0.10323	-0.40555	-0.20659	37.75915	-5.89744	-7.03577	0.46669	38.85917	255.72	-26.27
84/ 5/10	2445830.5	-0.05910	-0.40998	-0.21350	38.57938	-1.77604	-4.91278	0.46601	38.93146	261.80	-27.27
84/ 5/12	2445832.5	-0.01428	-0.40963	-0.21791	38.95279	2.39943	-2.71495	0.46420	39.12094	268.00	-28.00
84/ 5/14	2445834.5	0.03071	-0.40443	-0.21974	38.86709	6.61029	-0.45101	0.46129	39.42778	274.34	-28.45
84/ 5/16	2445836.5	0.07532	-0.39435	-0.21893	38.30508	10.83612	1.86985	0.45729	39.85219	280.81	-28.60
84/ 5/18	2445838.5	0.11901	-0.37940	-0.21541	37.24447	15.05329	4.23727	0.45222	40.39439	287.42	-28.45
84/ 5/20	2445840.5	0.16116	-0.35959	-0.20913	35.65777	19.23334	6.63884	0.44611	41.05451	294.14	-27.96
84/ 5/22	2445842.5	0.20117	-0.33499	-0.20006	33.51243	23.34107	9.05904	0.43899	41.83246	300.99	-27.11
84/ 5/24	2445844.5	0.23835	-0.30571	-0.18820	30.77129	27.33206	11.47791	0.43092	42.72770	307.94	-25.90
84/ 5/26	2445846.5	0.27201	-0.27192	-0.17356	27.39360	31.14991	13.86940	0.42196	43.73885	315.01	-24.29
84/ 5/28	2445848.5	0.30138	-0.23384	-0.15618	23.33711	34.72268	16.19935	0.41219	44.86317	322.19	-22.27
84/ 5/30	2445850.5	0.32565	-0.19183	-0.13617	18.56156	37.95900	18.42296	0.40173	46.09579	329.50	-19.81
84/ 6/ 1	2445852.5	0.34397	-0.14633	-0.11369	13.03453	40.74388	20.48196	0.39070	47.42862	336.95	-16.92
84/ 6/ 3	2445854.5	0.35546	-0.09793	-0.08895	6.74054	42.93492	22.30169	0.37928	48.84883	344.60	-13.56
84/ 6/ 5	2445856.5	0.35925	-0.04743	-0.06229	-0.30555	44.36019	23.78854	0.36768	50.33701	352.48	-9.75
84/ 6/ 7	2445858.5	0.35449	0.00418	-0.03417	-8.03998	44.82010	24.82907	0.35616	51.86488	0.67	-5.50
84/ 6/ 9	2445860.5	0.34046	0.05565	-0.00516	-16.32690	44.09670	25.29261	0.34502	53.39291	9.28	-0.86
84/ 6/11	2445862.5	0.31665	0.10551	0.02399	-24.93334	41.97475	25.03997	0.33462	54.86849	18.43	4.11
84/ 6/13	2445864.5	0.28287	0.15202	0.05236	-33.51000	38.27842	23.94111	0.32537	56.22574	28.25	9.26
84/ 6/15	2445866.5	0.23942	0.19330	0.07893	-41.59050	32.92309	21.90281	0.31768	57.38843	38.92	14.39
84/ 6/17	2445868.5	0.18719	0.22746	0.10259	-48.62438	25.97295	18.90294	0.31193	58.27731	50.55	19.20
84/ 6/19	2445870.5	0.12771	0.25278	0.12226	-54.05274	17.68331	15.02084	0.30847	58.82197	63.20	23.35
84/ 6/21	2445872.5	0.06312	0.26796	0.13703	-57.41587	8.50052	10.44833	0.30751	58.97464	76.75	26.46
84/ 6/23	2445874.5	-0.00403	0.27230	0.14624	-58.45755	-0.99614	5.46935	0.30911	58.72130	90.85	28.24
84/ 6/25	2445876.5	-0.07103	0.26578	0.14963	-57.18137	-10.19821	0.41011	0.31316	58.08511	104.96	28.54
84/ 6/27	2445878.5	-0.13533	0.24906	0.14728	-53.83376	-18.57830	-4.42161	0.31943	57.12073	118.52	27.46
84/ 6/29	2445880.5	-0.19476	0.22332	0.13960	-48.82639	-25.76525	-8.78478	0.32755	55.90203	131.09	25.23

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84/ 7/ 1	2445882.5	-0.24767	0.19007	0.12722	-42.63640	-31.56556	-12.52678	0.33713	54.50842	142.50	22.17
84/ 7/ 3	2445884.5	-0.29298	0.15095	0.11092	-35.72225	-35.94007	-15.57955	0.34774	53.01405	152.74	18.60
84/ 7/ 5	2445886.5	-0.33007	0.10756	0.09150	-28.47273	-38.95888	-17.94071	0.35901	51.48164	161.95	14.77
84/ 7/ 7	2445888.5	-0.35874	0.06142	0.06973	-21.18844	-40.75478	-19.65051	0.37058	49.96043	170.29	10.85
84/ 7/ 9	2445890.5	-0.37909	0.01382	0.04633	-14.08487	-41.48652	-20.77184	0.38216	48.48695	177.91	6.96
84/ 7/11	2445892.5	-0.39141	-0.03408	0.02194	-7.30618	-41.31447	-21.37578	0.39350	47.08704	184.98	3.20
84/ 7/13	2445894.5	-0.39613	-0.08133	-0.00288	-0.94191	-40.38699	-21.53260	0.40440	45.77826	191.60	-0.41
84/ 7/15	2445896.5	-0.39376	-0.12714	-0.02765	4.95765	-38.83436	-21.30689	0.41470	44.57207	197.89	-3.82
84/ 7/17	2445898.5	-0.38486	-0.17085	-0.05198	10.36886	-36.76721	-20.75548	0.42428	43.47563	203.94	-7.04
84/ 7/19	2445900.5	-0.37000	-0.21191	-0.07550	15.28523	-34.27755	-19.92699	0.43302	42.49321	209.80	-10.04
84/ 7/21	2445902.5	-0.34974	-0.24990	-0.09792	19.71058	-31.44088	-18.86223	0.44086	41.62715	215.55	-12.83
84/ 7/23	2445904.5	-0.32465	-0.28444	-0.11899	23.65423	-28.31868	-17.59509	0.44773	40.87857	221.22	-15.41
84/ 7/25	2445906.5	-0.29528	-0.31523	-0.13850	27.12772	-24.96087	-16.15349	0.45359	40.24789	226.87	-17.78
84/ 7/27	2445908.5	-0.26216	-0.34203	-0.15625	30.14256	-21.40802	-14.56034	0.45839	39.73513	232.53	-19.93
84/ 7/29	2445910.5	-0.22581	-0.36462	-0.17209	32.70882	-17.69334	-12.83446	0.46212	39.34011	238.23	-21.86
84/ 7/31	2445912.5	-0.18676	-0.38285	-0.18586	34.83405	-13.84436	-10.99137	0.46476	39.06261	244.00	-23.57
84/ 8/ 2	2445914.5	-0.14551	-0.39656	-0.19744	36.52263	-9.88441	-9.04400	0.46628	38.90241	249.85	-25.05
84/ 8/ 4	2445916.5	-0.10256	-0.40565	-0.20672	37.77527	-5.83389	-7.00337	0.46669	38.85940	255.81	-26.29
84/ 8/ 6	2445918.5	-0.05841	-0.41001	-0.21359	38.58865	-1.71149	-4.87913	0.46598	38.93353	261.89	-27.28
84/ 8/ 8	2445920.5	-0.01358	-0.40958	-0.21796	38.95506	2.46469	-2.68020	0.46416	39.12486	268.10	-28.01
84/ 8/10	2445922.5	0.03141	-0.40431	-0.21975	38.86211	6.67596	-0.41530	0.46124	39.43354	274.44	-28.45
84/ 8/12	2445924.5	0.07601	-0.39415	-0.21890	38.29254	10.90186	1.90638	0.45722	39.85979	280.92	-28.60
84/ 8/14	2445926.5	0.11968	-0.37912	-0.21533	37.22397	15.11869	4.27444	0.45213	40.40383	287.52	-28.44
84/ 8/16	2445928.5	0.16180	-0.35924	-0.20901	35.62885	19.29793	6.67643	0.44600	41.06580	294.25	-27.94
84/ 8/18	2445930.5	0.20177	-0.33457	-0.19990	33.47455	23.40421	9.09678	0.43887	41.84560	301.09	-27.10
84/ 8/20	2445932.5	0.23891	-0.30522	-0.18799	30.72383	27.39301	11.51545	0.43079	42.74267	308.05	-25.87
84/ 8/22	2445934.5	0.27250	-0.27136	-0.17331	27.33591	31.20766	13.90628	0.42181	43.75562	315.12	-24.26
84/ 8/24	2445936.5	0.30180	-0.23322	-0.15589	23.26853	34.77596	16.23496	0.41204	44.88169	322.30	-22.23
84/ 8/26	2445938.5	0.32598	-0.19115	-0.13584	18.48149	38.00622	18.45650	0.40156	46.11594	329.61	-19.77
84/ 8/28	2445940.5	0.34420	-0.14559	-0.11332	12.94256	40.78303	20.51240	0.39053	47.45022	337.07	-16.87
84/ 8/30	2445942.5	0.35558	-0.09716	-0.08855	6.63664	42.96353	22.32770	0.37910	48.87163	344.72	-13.51
84/ 9/ 1	2445944.5	0.35924	-0.04663	-0.06186	-0.42081	44.37535	23.80851	0.36750	50.36064	352.60	-9.69
84/ 9/ 3	2445946.5	0.35434	0.00498	-0.03372	-8.16510	44.81851	24.84108	0.35598	51.88879	0.81	-5.44
84/ 9/ 5	2445948.5	0.34017	0.05645	-0.00470	-16.45902	44.07491	25.29452	0.34485	53.41638	9.42	-0.78
84/ 9/ 7	2445950.5	0.31620	0.10626	0.02444	-25.06793	41.92963	25.02962	0.33447	54.89059	18.58	4.19
84/ 9/ 9	2445952.5	0.28227	0.15270	0.05280	-33.64066	38.20782	23.91670	0.32524	56.24535	28.41	9.34
84/ 9/11	2445954.5	0.23868	0.19389	0.07933	-41.70914	32.82675	21.86338	0.31757	57.40432	39.09	14.47
84/ 9/13	2445956.5	0.18632	0.22792	0.10293	-48.72213	25.85337	18.84891	0.31186	58.28829	50.74	19.27
84/ 9/15	2445958.5	0.12674	0.25310	0.12253	-54.12143	17.54608	14.95437	0.30844	58.82710	63.40	23.41
84/ 9/17	2445960.5	0.06209	0.26812	0.13721	-57.44977	8.35389	10.37324	0.30752	58.97345	76.96	26.50
84/ 9/19	2445962.5	-0.00508	0.27228	0.14634	-58.45474	-1.14264	5.39056	0.30916	58.71388	91.07	28.25
84/ 9/21	2445964.5	-0.07206	0.26559	0.14964	-57.14401	-10.33552	0.33270	0.31325	58.07212	105.18	28.54
84/ 9/23	2445966.5	-0.13629	0.24872	0.14720	-53.76729	-18.69936	-4.49331	0.31954	57.10322	118.72	27.43
84/ 9/25	2445968.5	-0.19563	0.22286	0.13944	-48.73799	-25.86577	-8.84774	0.32769	55.88124	131.28	25.18
84/ 9/27	2445970.5	-0.24844	0.18951	0.12700	-42.53353	-31.64390	-12.57934	0.33729	54.48558	142.66	22.12

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84/ 9/29	2445972.5	-0.29362	0.15031	0.11065	-35.61154	-35.99668	-15.62127	0.34792	52.99025	152.89	18.54
84/10/ 1	2445974.5	-0.33058	0.10687	0.09118	-28.35950	-38.99546	-17.97196	0.35919	51.45774	162.08	14.71
84/10/ 3	2445976.5	-0.35912	0.06069	0.06938	-21.07664	-40.77369	-19.67215	0.37076	49.93708	170.41	10.79
84/10/ 5	2445978.5	-0.37934	0.01308	0.04596	-13.97720	-41.49028	-20.78494	0.38234	48.46462	178.02	6.90
84/10/ 7	2445980.5	-0.39154	-0.03481	0.02156	-7.20439	-41.30548	-21.38144	0.39367	47.06604	185.08	3.14
84/10/ 9	2445982.5	-0.39614	-0.08205	-0.00326	-0.84702	-40.36742	-21.53188	0.40457	45.75880	191.70	-0.46
84/10/11	2445984.5	-0.39367	-0.12783	-0.02803	5.04511	-38.80606	-21.30073	0.41486	44.55429	197.99	-3.87
84/10/13	2445986.5	-0.38468	-0.17150	-0.05235	10.44868	-36.73174	-20.74469	0.42442	43.45961	204.03	-7.08
84/10/15	2445988.5	-0.36973	-0.21252	-0.07585	15.35742	-34.23619	-19.91226	0.43315	42.47900	209.89	-10.09
84/10/17	2445990.5	-0.34939	-0.25046	-0.09826	19.77527	-31.39469	-18.84413	0.44097	41.61477	215.63	-12.87
84/10/19	2445992.5	-0.32423	-0.28494	-0.11931	23.71159	-28.26850	-17.57410	0.44783	40.86804	221.31	-15.45
84/10/21	2445994.5	-0.29479	-0.31567	-0.13879	27.17792	-24.90739	-16.13000	0.45367	40.23921	226.96	-17.81
84/10/23	2445996.5	-0.26162	-0.34241	-0.15651	30.18578	-21.35179	-14.53466	0.45846	39.72829	232.62	-19.96
84/10/25	2445998.5	-0.22523	-0.36494	-0.17232	32.74519	-17.63483	-12.80685	0.46217	39.33510	238.32	-21.89
84/10/27	2446000.5	-0.18614	-0.38310	-0.18605	34.86366	-13.78396	-10.96204	0.46479	39.05942	244.09	-23.60
84/10/29	2446002.5	-0.14486	-0.39674	-0.19760	36.54551	-9.82243	-9.01314	0.46629	38.90104	249.94	-25.07
84/10/31	2446004.5	-0.10188	-0.40575	-0.20684	37.79141	-5.77064	-6.97113	0.46669	38.85984	255.90	-26.31
84/11/ 2	2446006.5	-0.05772	-0.41004	-0.21367	38.59794	-1.64725	-4.84565	0.46596	38.93578	261.99	-27.29
84/11/ 4	2446008.5	-0.01289	-0.40954	-0.21801	38.95733	2.52964	-2.64562	0.46413	39.12891	268.20	-28.02
84/11/ 6	2446010.5	0.03210	-0.40419	-0.21976	38.85714	6.74134	-0.37975	0.46118	39.43941	274.54	-28.46
84/11/ 8	2446012.5	0.07670	-0.39396	-0.21886	38.28003	10.96731	1.94274	0.45715	39.86749	281.02	-28.60
84/11/10	2446014.5	0.12034	-0.37885	-0.21525	37.20353	15.18382	4.31145	0.45205	40.41336	287.62	-28.44
84/11/12	2446016.5	0.16244	-0.35890	-0.20889	35.60001	19.36223	6.71387	0.44590	41.07716	294.35	-27.93
84/11/14	2446018.5	0.20237	-0.33415	-0.19974	33.43675	23.46709	9.13436	0.43875	41.85878	301.20	-27.08
84/11/16	2446020.5	0.23946	-0.30473	-0.18779	30.67646	27.45366	11.55283	0.43065	42.75765	308.16	-25.85
84/11/18	2446022.5	0.27299	-0.27079	-0.17306	27.27831	31.26508	13.94298	0.42167	43.77235	315.23	-24.23
84/11/20	2446024.5	0.30221	-0.23259	-0.15560	23.20005	34.82888	16.27036	0.41188	44.90009	322.42	-22.20
84/11/22	2446026.5	0.32631	-0.19046	-0.13551	18.40155	38.05302	18.48980	0.40140	46.13591	329.73	-19.73
84/11/24	2446028.5	0.34443	-0.14486	-0.11295	12.85079	40.82172	20.54256	0.39035	47.47160	337.19	-16.82
84/11/26	2446030.5	0.35570	-0.09639	-0.08815	6.53302	42.99166	22.35343	0.37893	48.89417	344.84	-13.45
84/11/28	2446032.5	0.35924	-0.04584	-0.06144	-0.53567	44.39003	23.82818	0.36732	50.38396	352.73	-9.63
84/11/30	2446034.5	0.35420	0.00579	-0.03327	-8.28967	44.81647	24.85279	0.35581	51.91238	0.94	-5.37
84/12/ 2	2446036.5	0.33987	0.05724	-0.00425	-16.59043	44.05274	25.29614	0.34469	53.43951	9.56	-0.71
84/12/ 4	2446038.5	0.31575	0.10701	0.02489	-25.20163	41.88423	25.01904	0.33432	54.91232	18.72	4.27
84/12/ 6	2446040.5	0.28167	0.15339	0.05322	-33.77024	38.13711	23.89213	0.32511	56.26457	28.57	9.42
84/12/ 8	2446042.5	0.23793	0.19448	0.07972	-41.82657	32.73055	21.82391	0.31747	57.41980	39.26	14.54
84/12/10	2446044.5	0.18545	0.22839	0.10327	-48.81861	25.73422	18.79499	0.31180	58.29887	50.92	19.34
84/12/12	2446046.5	0.12578	0.25341	0.12280	-54.18890	17.40962	14.88818	0.30841	58.83187	63.60	23.46
84/12/14	2446048.5	0.06107	0.26827	0.13740	-57.48264	8.20833	10.29863	0.30753	58.97197	77.18	26.54
84/12/16	2446050.5	-0.00612	0.27226	0.14644	-58.45122	-1.28782	5.31241	0.30921	58.70626	91.29	28.27
84/12/18	2446052.5	-0.07307	0.26541	0.14965	-57.10635	-10.47138	0.25603	0.31333	58.05902	105.39	28.53
84/12/20	2446054.5	-0.13725	0.24839	0.14712	-53.70093	-18.81900	-4.56425	0.31966	57.08570	118.92	27.40
84/12/22	2446056.5	-0.19650	0.22240	0.13929	-48.65008	-25.96499	-8.90995	0.32783	55.86053	131.46	25.14
84/12/24	2446058.5	-0.24919	0.18895	0.12678	-42.43143	-31.72114	-12.63123	0.33745	54.46288	142.83	22.07
84/12/26	2446060.5	-0.29425	0.14967	0.11037	-35.50180	-36.05237	-15.66241	0.34809	52.96661	153.04	18.49

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84/12/28	2446062.5	-0.33108	0.10618	0.09086	-28.24738	-39.03134	-18.00273	0.35937	51.43402	162.22	14.65
84/12/30	2446064.5	-0.35949	0.05997	0.06903	-20.96600	-40.79211	-19.69340	0.37094	49.91392	170.53	10.73
85/ 1/ 1	2446066.5	-0.37959	0.01235	0.04559	-13.87071	-41.49374	-20.79775	0.38252	48.44248	178.14	6.85
85/ 1/ 3	2446068.5	-0.39166	-0.03554	0.02118	-7.10375	-41.29639	-21.38692	0.39384	47.04525	185.18	3.08
85/ 1/ 5	2446070.5	-0.39616	-0.08276	-0.00364	-0.75322	-40.34791	-21.53108	0.40473	45.73957	191.80	-0.52
85/ 1/ 7	2446072.5	-0.39358	-0.12851	-0.02841	5.13156	-38.77797	-21.29457	0.41501	44.53676	198.08	-3.93
85/ 1/ 9	2446074.5	-0.38449	-0.17215	-0.05271	10.52760	-36.69661	-20.73399	0.42456	43.44387	204.12	-7.13
85/ 1/11	2446076.5	-0.36945	-0.21313	-0.07620	15.42882	-34.19527	-19.89767	0.43327	42.46507	209.98	-10.13
85/ 1/13	2446078.5	-0.34904	-0.25101	-0.09859	19.83925	-31.34898	-18.82623	0.44108	41.60266	215.72	-12.92
85/ 1/15	2446080.5	-0.32381	-0.28544	-0.11962	23.76831	-28.21884	-17.55333	0.44792	40.85774	221.40	-15.49
85/ 1/17	2446082.5	-0.29431	-0.31611	-0.13907	27.22757	-24.85445	-16.10674	0.45375	40.23072	227.05	-17.85
85/ 1/19	2446084.5	-0.26108	-0.34278	-0.15677	30.22852	-21.29614	-14.50923	0.45852	39.72161	232.70	-19.99
85/ 1/21	2446086.5	-0.22465	-0.36525	-0.17254	32.78115	-17.57691	-12.77950	0.46222	39.33023	238.41	-21.92
85/ 1/23	2446088.5	-0.18552	-0.38334	-0.18625	34.89292	-13.72416	-10.93300	0.46482	39.05636	244.17	-23.62
85/ 1/25	2446090.5	-0.14421	-0.39691	-0.19776	36.56813	-9.76109	-8.98259	0.46631	38.89979	250.03	-25.09
85/ 1/27	2446092.5	-0.10121	-0.40585	-0.20696	37.80734	-5.70804	-6.93921	0.46668	38.86038	256.00	-26.33
85/ 1/29	2446094.5	-0.05704	-0.41007	-0.21376	38.60710	-1.58366	-4.81252	0.46594	38.93811	262.08	-27.31
85/ 1/31	2446096.5	-0.01220	-0.40949	-0.21805	38.95956	2.59393	-2.61139	0.46409	39.13304	268.29	-28.02
85/ 2/ 2	2446098.5	0.03279	-0.40406	-0.21976	38.85219	6.80602	-0.34456	0.46113	39.44532	274.64	-28.46
85/ 2/ 4	2446100.5	0.07738	-0.39376	-0.21883	38.26757	11.03207	1.97873	0.45708	39.87517	281.12	-28.60
85/ 2/ 6	2446102.5	0.12100	-0.37858	-0.21518	37.18319	15.24823	4.34806	0.45196	40.42281	287.72	-28.43
85/ 2/ 8	2446104.5	0.16307	-0.35855	-0.20877	35.57131	19.42581	6.75090	0.44580	41.08838	294.46	-27.92
85/ 2/10	2446106.5	0.20296	-0.33373	-0.19957	33.39916	23.52921	9.17153	0.43863	41.87177	301.31	-27.06
85/ 2/12	2446108.5	0.24000	-0.30424	-0.18758	30.62938	27.51355	11.58977	0.43052	42.77238	308.27	-25.83
85/ 2/14	2446110.5	0.27348	-0.27024	-0.17281	27.22109	31.32174	13.97924	0.42152	43.78879	315.34	-24.20
85/ 2/16	2446112.5	0.30262	-0.23198	-0.15531	23.13205	34.88106	16.30532	0.41172	44.91819	322.53	-22.16
85/ 2/18	2446114.5	0.32664	-0.18979	-0.13518	18.32221	38.09912	18.52266	0.40123	46.15556	329.84	-19.69
85/ 2/20	2446116.5	0.34466	-0.14414	-0.11258	12.75975	40.85976	20.57231	0.39018	47.49264	337.31	-16.77
85/ 2/22	2446118.5	0.35582	-0.09563	-0.08775	6.43026	43.01921	22.37876	0.37875	48.91635	344.96	-13.40
85/ 2/24	2446120.5	0.35923	-0.04505	-0.06102	-0.64954	44.40421	23.84749	0.36715	50.40693	352.85	-9.57
85/ 2/26	2446122.5	0.35405	0.00658	-0.03283	-8.41309	44.81406	24.86418	0.35563	51.93561	1.06	-5.30
85/ 2/28	2446124.5	0.33958	0.05802	-0.00380	-16.72057	44.03038	25.29754	0.34452	53.46230	9.70	-0.63
85/ 3/ 2	2446126.5	0.31531	0.10775	0.02533	-25.33399	41.83887	25.00834	0.33417	54.93377	18.87	4.35
85/ 3/ 4	2446128.5	0.28107	0.15406	0.05365	-33.89845	38.06671	23.86759	0.32498	56.28358	28.73	9.50
85/ 3/ 6	2446130.5	0.23719	0.19505	0.08011	-41.94270	32.63495	21.78462	0.31737	57.43517	39.43	14.62
85/ 3/ 8	2446132.5	0.18459	0.22884	0.10360	-48.91395	25.61595	18.74142	0.31173	58.30946	51.11	19.41
85/ 3/10	2446134.5	0.12482	0.25372	0.12306	-54.25550	17.27424	14.82249	0.30838	58.83676	63.80	23.52
85/ 3/12	2446136.5	0.06006	0.26841	0.13758	-57.51498	8.06398	10.22461	0.30754	58.97069	77.39	26.57
85/ 3/14	2446138.5	-0.00715	0.27224	0.14653	-58.44750	-1.43179	5.23488	0.30925	58.69893	91.50	28.28
85/ 3/16	2446140.5	-0.07408	0.26523	0.14965	-57.06882	-10.60614	0.17996	0.31341	58.04630	105.60	28.52
85/ 3/18	2446142.5	-0.13819	0.24806	0.14704	-53.63497	-18.93770	-4.63463	0.31977	57.06861	119.12	27.38
85/ 3/20	2446144.5	-0.19735	0.22195	0.13913	-48.56274	-26.06348	-8.97171	0.32797	55.84028	131.64	25.10
85/ 3/22	2446146.5	-0.24993	0.18839	0.12656	-42.33001	-31.79786	-12.68278	0.33760	54.44067	142.99	22.02
85/ 3/24	2446148.5	-0.29487	0.14904	0.11010	-35.39276	-36.10777	-15.70331	0.34825	52.94348	153.19	18.43
85/ 3/26	2446150.5	-0.33158	0.10550	0.09055	-28.13593	-39.06710	-18.03336	0.35954	51.41081	162.35	14.59

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85/ 3/28	2446152.5	-0.35986	0.05925	0.06869	-20.85597	-40.81054	-19.71460	0.37112	49.89125	170.65	10.67
85/ 3/30	2446154.5	-0.37983	0.01162	0.04523	-13.76475	-41.49730	-20.81056	0.38269	48.42080	178.25	6.79
85/ 4/ 1	2446156.5	-0.39179	-0.03627	0.02081	-7.00357	-41.28743	-21.39244	0.39401	47.02487	185.29	3.03
85/ 4/ 3	2446158.5	-0.39617	-0.08347	-0.00402	-0.65984	-40.32854	-21.53031	0.40489	45.72068	191.90	-0.57
85/ 4/ 5	2446160.5	-0.39349	-0.12920	-0.02879	5.21762	-38.75000	-21.28844	0.41516	44.51948	198.18	-3.98
85/ 4/ 7	2446162.5	-0.38431	-0.17279	-0.05308	10.60612	-36.66156	-20.72329	0.42469	43.42827	204.21	-7.18
85/ 4/ 9	2446164.5	-0.36918	-0.21373	-0.07655	15.49979	-34.15441	-19.88308	0.43340	42.45120	210.07	-10.17
85/ 4/11	2446166.5	-0.34869	-0.25156	-0.09892	19.90278	-31.30335	-18.80831	0.44119	41.59053	215.81	-12.96
85/ 4/13	2446168.5	-0.32339	-0.28594	-0.11993	23.82456	-28.16928	-17.53256	0.44802	40.84738	221.48	-15.53
85/ 4/15	2446170.5	-0.29383	-0.31655	-0.13936	27.27670	-24.80164	-16.08349	0.45383	40.22212	227.13	-17.88
85/ 4/17	2446172.5	-0.26055	-0.34316	-0.15702	30.27070	-21.24064	-14.48382	0.45859	39.71475	232.79	-20.02
85/ 4/19	2446174.5	-0.22407	-0.36556	-0.17277	32.81651	-17.51918	-12.75220	0.46227	39.32510	238.49	-21.95
85/ 4/21	2446176.5	-0.18491	-0.38358	-0.18644	34.92156	-13.66458	-10.90402	0.46485	39.05296	244.26	-23.65
85/ 4/23	2446178.5	-0.14356	-0.39708	-0.19792	36.59007	-9.70000	-8.95210	0.46632	38.89811	250.12	-25.11
85/ 4/25	2446180.5	-0.10055	-0.40595	-0.20709	37.82258	-5.64574	-6.90739	0.46668	38.86044	256.09	-26.34
85/ 4/27	2446182.5	-0.05636	-0.41010	-0.21384	38.61556	-1.52044	-4.77950	0.46592	38.93991	262.18	-27.32
85/ 4/29	2446184.5	-0.01151	-0.40945	-0.21810	38.96110	2.65779	-2.57732	0.46405	39.13660	268.39	-28.03
85/ 5/ 1	2446186.5	0.03347	-0.40395	-0.21977	38.84660	6.87022	-0.30958	0.46108	39.45065	274.74	-28.47
85/ 5/ 3	2446188.5	0.07805	-0.39357	-0.21879	38.25456	11.09627	2.01449	0.45701	39.88228	281.22	-28.60
85/ 5/ 5	2446190.5	0.12166	-0.37831	-0.21510	37.16237	15.31204	4.38441	0.45187	40.43171	287.83	-28.43
85/ 5/ 7	2446192.5	0.16370	-0.35821	-0.20865	35.54223	19.48875	6.78762	0.44570	41.09907	294.56	-27.91
85/ 5/ 9	2446194.5	0.20355	-0.33332	-0.19941	33.36130	23.59068	9.20837	0.43852	41.88425	301.41	-27.05
85/ 5/11	2446196.5	0.24054	-0.30376	-0.18738	30.58214	27.57278	11.62637	0.43039	42.78665	308.37	-25.81
85/ 5/13	2446198.5	0.27395	-0.26969	-0.17256	27.16385	31.37776	14.01515	0.42138	43.80483	315.45	-24.17
85/ 5/15	2446200.5	0.30303	-0.23137	-0.15503	23.06419	34.93264	16.33994	0.41157	44.93595	322.64	-22.13
85/ 5/17	2446202.5	0.32696	-0.18912	-0.13486	18.24317	38.14470	18.55521	0.40107	46.17496	329.95	-19.65
85/ 5/19	2446204.5	0.34488	-0.14342	-0.11222	12.66914	40.89737	20.60178	0.39001	47.51353	337.42	-16.72
85/ 5/21	2446206.5	0.35593	-0.09487	-0.08736	6.32804	43.04648	22.40388	0.37857	48.93851	345.07	-13.34
85/ 5/23	2446208.5	0.35921	-0.04428	-0.06060	-0.76282	44.41829	23.86668	0.36697	50.43000	352.97	-9.50
85/ 5/25	2446210.5	0.35390	0.00736	-0.03240	-8.53597	44.81174	24.87557	0.35546	51.95910	1.19	-5.23
85/ 5/27	2446212.5	0.33928	0.05879	-0.00336	-16.85029	44.00827	25.29902	0.34436	53.48552	9.83	-0.56
85/ 5/29	2446214.5	0.31486	0.10849	0.02577	-25.46609	41.79388	24.99781	0.33402	54.95581	19.01	4.42
85/ 5/31	2446216.5	0.28047	0.15473	0.05406	-34.02666	37.99672	23.84326	0.32485	56.30333	28.88	9.58
85/ 6/ 2	2446218.5	0.23645	0.19562	0.08049	-42.05908	32.53969	21.74553	0.31727	57.45142	39.60	14.70
85/ 6/ 4	2446220.5	0.18373	0.22929	0.10393	-49.00977	25.49783	18.68797	0.31165	58.32098	51.30	19.48
85/ 6/ 6	2446222.5	0.12386	0.25402	0.12332	-54.32269	17.13874	14.75679	0.30834	58.84262	64.01	23.57
85/ 6/ 8	2446224.5	0.05904	0.26855	0.13776	-57.54792	7.91920	10.15041	0.30754	58.97040	77.60	26.61
85/ 6/10	2446226.5	-0.00818	0.27221	0.14662	-58.44428	-1.57648	5.15702	0.30929	58.69254	91.72	28.30
85/ 6/12	2446228.5	-0.07509	0.26503	0.14965	-57.03153	-10.74182	0.10342	0.31349	58.03441	105.82	28.51
85/ 6/14	2446230.5	-0.13914	0.24772	0.14696	-53.56891	-19.05742	-4.70558	0.31988	57.05222	119.32	27.35
85/ 6/16	2446232.5	-0.19821	0.22148	0.13897	-48.47496	-26.16296	-9.03404	0.32810	55.82057	131.83	25.06
85/ 6/18	2446234.5	-0.25069	0.18782	0.12633	-42.22780	-31.87542	-12.73485	0.33775	54.41880	143.16	21.96
85/ 6/20	2446236.5	-0.29550	0.14839	0.10981	-35.28267	-36.16376	-15.74464	0.34842	52.92049	153.34	18.37
85/ 6/22	2446238.5	-0.33207	0.10479	0.09022	-28.02323	-39.10318	-18.06429	0.35972	51.38753	162.49	14.53
85/ 6/24	2446240.5	-0.36023	0.05852	0.06833	-20.74459	-40.82900	-19.73596	0.37129	49.86836	170.77	10.60

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85/ 6/26	2446242.5	-0.38007	0.01088	0.04485	-13.65743	-41.50063	-20.82339	0.38286	48.39877	178.36	6.73
85/ 6/28	2446244.5	-0.39191	-0.03701	0.02042	-6.90206	-41.27802	-21.39784	0.39418	47.00405	185.39	2.97
85/ 6/30	2446246.5	-0.39618	-0.08419	-0.00441	-0.56518	-40.30854	-21.52933	0.40505	45.70131	192.00	-0.62
85/ 7/ 2	2446248.5	-0.39340	-0.12989	-0.02917	5.30487	-38.72126	-21.28202	0.41531	44.50170	198.27	-4.03
85/ 7/ 4	2446250.5	-0.38411	-0.17345	-0.05345	10.68575	-36.62562	-20.71222	0.42484	43.41218	204.30	-7.23
85/ 7/ 6	2446252.5	-0.36890	-0.21434	-0.07691	15.57179	-34.11256	-19.86806	0.43353	42.43686	210.16	-10.22
85/ 7/ 8	2446254.5	-0.34833	-0.25213	-0.09926	19.96725	-31.25664	-18.78991	0.44131	41.57799	215.90	-13.00
85/ 7/10	2446256.5	-0.32296	-0.28644	-0.12024	23.88168	-28.11856	-17.51125	0.44812	40.83665	221.57	-15.56
85/ 7/12	2446258.5	-0.29334	-0.31700	-0.13965	27.32663	-24.74760	-16.05967	0.45391	40.21320	227.22	-17.92
85/ 7/14	2446260.5	-0.26000	-0.34354	-0.15729	30.31361	-21.18386	-14.45781	0.45865	39.70767	232.88	-20.06
85/ 7/16	2446262.5	-0.22348	-0.36587	-0.17300	32.85252	-17.46013	-12.72426	0.46231	39.31985	238.58	-21.97
85/ 7/18	2446264.5	-0.18428	-0.38382	-0.18664	34.95076	-13.60365	-10.87436	0.46488	39.04954	244.35	-23.67
85/ 7/20	2446266.5	-0.14291	-0.39726	-0.19808	36.61250	-9.63752	-8.92092	0.46634	38.89653	250.21	-25.14
85/ 7/22	2446268.5	-0.09987	-0.40605	-0.20721	37.83823	-5.58201	-6.87485	0.46668	38.86070	256.18	-26.36
85/ 7/24	2446270.5	-0.05566	-0.41013	-0.21393	38.62435	-1.45575	-4.74573	0.46590	38.94203	262.27	-27.33
85/ 7/26	2446272.5	-0.01081	-0.40940	-0.21814	38.96286	2.72316	-2.54246	0.46401	39.14057	268.49	-28.04
85/ 7/28	2446274.5	0.03417	-0.40382	-0.21978	38.84109	6.93598	-0.27377	0.46102	39.45647	274.84	-28.47
85/ 7/30	2446276.5	0.07874	-0.39337	-0.21875	38.24146	11.16206	2.05110	0.45694	39.88994	281.32	-28.60
85/ 8/ 1	2446278.5	0.12232	-0.37804	-0.21502	37.14128	15.37746	4.42164	0.45179	40.44121	287.93	-28.42
85/ 8/ 3	2446280.5	0.16434	-0.35786	-0.20853	35.51268	19.55329	6.82525	0.44559	41.11041	294.67	-27.90
85/ 8/ 5	2446282.5	0.20415	-0.33290	-0.19925	33.32274	23.65373	9.24613	0.43840	41.89743	301.52	-27.03
85/ 8/ 7	2446284.5	0.24109	-0.30326	-0.18717	30.53395	27.63356	11.66390	0.43026	42.80166	308.48	-25.79
85/ 8/ 9	2446286.5	0.27444	-0.26913	-0.17231	27.10540	31.43527	14.05198	0.42123	43.82165	315.56	-24.15
85/ 8/11	2446288.5	0.30344	-0.23074	-0.15473	22.99480	34.98560	16.37546	0.41141	44.95451	322.75	-22.09
85/ 8/13	2446290.5	0.32728	-0.18844	-0.13452	18.16226	38.19148	18.58861	0.40090	46.19517	330.07	-19.61
85/ 8/15	2446292.5	0.34511	-0.14269	-0.11185	12.57631	40.93595	20.63200	0.38983	47.53520	337.54	-16.67
85/ 8/17	2446294.5	0.35604	-0.09410	-0.08695	6.22329	43.07436	22.42959	0.37839	48.96138	345.20	-13.29
85/ 8/19	2446296.5	0.35920	-0.04348	-0.06017	-0.87889	44.43253	23.88624	0.36679	50.45369	353.10	-9.44
85/ 8/21	2446298.5	0.35375	0.00817	-0.03195	-8.66180	44.80901	24.88704	0.35528	51.98306	1.32	-5.16
85/ 8/23	2446300.5	0.33898	0.05958	-0.00290	-16.98293	43.98514	25.30026	0.34419	53.50902	9.97	-0.48
85/ 8/25	2446302.5	0.31440	0.10924	0.02622	-25.60093	41.74722	24.98666	0.33387	54.97792	19.16	4.50
85/ 8/27	2446304.5	0.27986	0.15541	0.05449	-34.15716	37.92446	23.81795	0.32472	56.32292	29.04	9.66
85/ 8/29	2446306.5	0.23570	0.19621	0.08088	-42.17707	32.44171	21.70516	0.31716	57.46724	39.78	14.77
85/ 8/31	2446308.5	0.18284	0.22974	0.10427	-49.10637	25.37677	18.63303	0.31159	58.33186	51.49	19.55
85/ 9/ 2	2446310.5	0.12289	0.25433	0.12359	-54.38978	17.00037	14.68954	0.30831	58.84763	64.21	23.63
85/ 9/ 4	2446312.5	0.05800	0.26869	0.13794	-57.57992	7.77187	10.07477	0.30755	58.96906	77.82	26.65
85/ 9/ 6	2446314.5	-0.00923	0.27218	0.14671	-58.43948	-1.72316	5.07793	0.30934	58.68498	91.94	28.31
85/ 9/ 8	2446316.5	-0.07611	0.26484	0.14965	-56.99228	-10.87885	0.02596	0.31357	58.02129	106.03	28.51
85/ 9/10	2446318.5	-0.14011	0.24738	0.14687	-53.50080	-19.17785	-4.77711	0.31999	57.03461	119.53	27.32
85/ 9/12	2446320.5	-0.19908	0.22101	0.13880	-48.38524	-26.26262	-9.09667	0.32824	55.79970	132.01	25.02
85/ 9/14	2446322.5	-0.25144	0.18725	0.12610	-42.12391	-31.95281	-12.78701	0.33791	54.39589	143.33	21.91
85/ 9/16	2446324.5	-0.29613	0.14774	0.10953	-35.17122	-36.21938	-15.78591	0.34859	52.89663	153.49	18.31
85/ 9/18	2446326.5	-0.33258	0.10409	0.08990	-27.90950	-39.13880	-18.09508	0.35989	51.36358	162.62	14.46
85/ 9/20	2446328.5	-0.36060	0.05779	0.06798	-20.63246	-40.84700	-19.75714	0.37148	49.84496	170.90	10.54
85/ 9/22	2446330.5	-0.38032	0.01013	0.04448	-13.54956	-41.50354	-20.83605	0.38304	48.37640	178.47	6.67

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85/ 9/24	2446332.5	-0.39203	-0.03775	0.02004	-6.80017	-41.26825	-21.40309	0.39436	46.98301	185.50	2.91
85/ 9/26	2446334.5	-0.39619	-0.08492	-0.00480	-0.47026	-40.28823	-21.52822	0.40522	45.68180	192.10	-0.68
85/ 9/28	2446336.5	-0.39330	-0.13059	-0.02955	5.39229	-38.69227	-21.27548	0.41546	44.48387	198.37	-4.08
85/ 9/30	2446338.5	-0.38392	-0.17411	-0.05382	10.76550	-36.58950	-20.70108	0.42498	43.39611	204.39	-7.28
85/10/ 2	2446340.5	-0.36862	-0.21495	-0.07727	15.64386	-34.07059	-19.85299	0.43365	42.42260	210.25	-10.26
85/10/ 4	2446342.5	-0.34797	-0.25269	-0.09960	20.03178	-31.20987	-18.77149	0.44142	41.56557	215.99	-13.04
85/10/ 6	2446344.5	-0.32253	-0.28695	-0.12056	23.93883	-28.06784	-17.48995	0.44821	40.82609	221.66	-15.60
85/10/ 8	2446346.5	-0.29285	-0.31744	-0.13993	27.37660	-24.69361	-16.03587	0.45399	40.20450	227.31	-17.95
85/10/10	2446348.5	-0.25946	-0.34392	-0.15754	30.35656	-21.12714	-14.43183	0.45872	39.70082	232.97	-20.09
85/10/12	2446350.5	-0.22289	-0.36618	-0.17322	32.88859	-17.40114	-12.69635	0.46236	39.31484	238.67	-22.00
85/10/14	2446352.5	-0.18365	-0.38407	-0.18683	34.98004	-13.54277	-10.84475	0.46491	39.04636	244.44	-23.69
85/10/16	2446354.5	-0.14225	-0.39743	-0.19824	36.63502	-9.57508	-8.88977	0.46635	38.89517	250.31	-25.16
85/10/18	2446356.5	-0.09919	-0.40615	-0.20733	37.85395	-5.51831	-6.84232	0.46667	38.86117	256.28	-26.38
85/10/20	2446358.5	-0.05497	-0.41015	-0.21401	38.63318	-1.39107	-4.71197	0.46588	38.94433	262.37	-27.35
85/10/22	2446360.5	-0.01011	-0.40935	-0.21819	38.96464	2.78854	-2.50760	0.46398	39.14469	268.59	-28.05
85/10/24	2446362.5	0.03487	-0.40369	-0.21978	38.83558	7.00174	-0.23795	0.46096	39.46243	274.94	-28.48
85/10/26	2446364.5	0.07942	-0.39317	-0.21872	38.22835	11.22786	2.08772	0.45686	39.89775	281.42	-28.60
85/10/28	2446366.5	0.12299	-0.37776	-0.21494	37.12017	15.44291	4.45889	0.45170	40.45087	288.03	-28.41
85/10/30	2446368.5	0.16497	-0.35751	-0.20840	35.48310	19.61790	6.86292	0.44549	41.12192	294.77	-27.89
85/11/ 1	2446370.5	0.20475	-0.33247	-0.19908	33.28412	23.71686	9.28394	0.43828	41.91078	301.63	-27.02
85/11/ 3	2446372.5	0.24164	-0.30276	-0.18696	30.48567	27.69442	11.70149	0.43012	42.81684	308.59	-25.76
85/11/ 5	2446374.5	0.27493	-0.26856	-0.17206	27.04678	31.49285	14.08887	0.42108	43.83861	315.67	-24.12
85/11/ 7	2446376.5	0.30386	-0.23011	-0.15443	22.92518	35.03859	16.41102	0.41125	44.97319	322.86	-22.06
85/11/ 9	2446378.5	0.32761	-0.18775	-0.13419	18.08107	38.23825	18.62201	0.40073	46.21545	330.18	-19.56
85/11/11	2446380.5	0.34534	-0.14195	-0.11148	12.48316	40.97444	20.66221	0.38966	47.55693	337.66	-16.62
85/11/13	2446382.5	0.35615	-0.09332	-0.08655	6.11818	43.10209	22.45525	0.37821	48.98429	345.32	-13.23
85/11/15	2446384.5	0.35918	-0.04267	-0.05974	-0.99533	44.44655	23.90572	0.36661	50.47742	353.22	-9.38
85/11/17	2446386.5	0.35359	0.00898	-0.03150	-8.78795	44.80600	24.89839	0.35510	52.00707	1.45	-5.09
85/11/19	2446388.5	0.33867	0.06037	-0.00244	-17.11585	43.96164	25.30133	0.34402	53.53257	10.11	-0.41
85/11/21	2446390.5	0.31394	0.10999	0.02667	-25.73593	41.70012	24.97530	0.33371	55.00003	19.31	4.58
85/11/23	2446392.5	0.27924	0.15609	0.05492	-34.28768	37.85169	23.79238	0.32459	56.34246	29.20	9.74
85/11/25	2446394.5	0.23493	0.19679	0.08127	-42.29491	32.34319	21.66448	0.31706	57.48296	39.95	14.85
85/11/27	2446396.5	0.18196	0.23020	0.10460	-49.20260	25.25521	18.57779	0.31152	58.34257	51.68	19.62
85/11/29	2446398.5	0.12191	0.25463	0.12385	-54.45630	16.86161	14.62203	0.30828	58.85241	64.42	23.69
85/12/ 1	2446400.5	0.05696	0.26883	0.13812	-57.61123	7.62435	9.99894	0.30756	58.96748	78.04	26.69
85/12/ 3	2446402.5	-0.01028	0.27215	0.14681	-58.43395	-1.86984	4.99876	0.30939	58.67717	92.16	28.33
85/12/ 5	2446404.5	-0.07714	0.26464	0.14965	-56.95238	-11.01570	-0.05147	0.31366	58.00795	106.25	28.50
85/12/ 7	2446406.5	-0.14107	0.24703	0.14679	-53.43216	-19.29798	-4.84854	0.32011	57.01680	119.73	27.29
85/12/ 9	2446408.5	-0.19995	0.22053	0.13864	-48.29513	-26.36191	-9.15914	0.32839	55.77867	132.20	24.97
85/12/11	2446410.5	-0.25220	0.18667	0.12587	-42.01979	-32.02979	-12.83897	0.33808	54.37287	143.49	21.86
85/12/13	2446412.5	-0.29676	0.14709	0.10925	-35.05966	-36.27459	-15.82697	0.34877	52.87266	153.63	18.25
85/12/15	2446414.5	-0.33308	0.10339	0.08957	-27.79575	-39.17403	-18.12566	0.36008	51.33954	162.76	14.40
85/12/17	2446416.5	-0.36097	0.05706	0.06762	-20.52041	-40.86466	-19.77813	0.37166	49.82150	171.02	10.48
85/12/19	2446418.5	-0.38056	0.00939	0.04411	-13.44184	-41.50617	-20.84855	0.38322	48.35397	178.59	6.61
85/12/21	2446420.5	-0.39216	-0.03849	0.01966	-6.69846	-41.25826	-21.40821	0.39453	46.96195	185.61	2.86

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85/12/23	2446422.5	-0.39620	-0.08564	-0.00518	-0.37556	-40.26778	-21.52701	0.40538	45.66232	192.20	-0.73
85/12/25	2446424.5	-0.39320	-0.13128	-0.02993	5.47951	-38.66320	-21.26888	0.41562	44.46610	198.46	-4.13
85/12/27	2446426.5	-0.38373	-0.17476	-0.05419	10.84504	-36.55337	-20.68990	0.42512	43.38013	204.49	-7.32
85/12/29	2446428.5	-0.36834	-0.21556	-0.07762	15.71575	-34.02864	-19.83791	0.43378	42.40844	210.34	-10.31
85/12/31	2446430.5	-0.34761	-0.25324	-0.09993	20.09614	-31.16313	-18.75307	0.44153	41.55326	216.07	-13.08
86/ 1/ 2	2446432.5	-0.32210	-0.28745	-0.12087	23.99584	-28.01714	-17.46865	0.44831	40.81561	221.75	-15.64
86/ 1/ 4	2446434.5	-0.29236	-0.31788	-0.14022	27.42644	-24.63964	-16.01208	0.45407	40.19587	227.39	-17.99
86/ 1/ 6	2446436.5	-0.25892	-0.34430	-0.15780	30.39939	-21.07046	-14.40586	0.45878	39.69403	233.06	-20.12
86/ 1/ 8	2446438.5	-0.22230	-0.36649	-0.17345	32.92456	-17.34220	-12.66846	0.46241	39.30990	238.76	-22.03
86/ 1/10	2446440.5	-0.18302	-0.38431	-0.18702	35.00923	-13.48195	-10.81515	0.46494	39.04327	244.53	-23.72
86/ 1/12	2446442.5	-0.14159	-0.39760	-0.19840	36.65748	-9.51272	-8.85866	0.46636	38.89394	250.40	-25.18
86/ 1/14	2446444.5	-0.09851	-0.40625	-0.20745	37.86965	-5.45471	-6.80985	0.46667	38.86179	256.37	-26.39
86/ 1/16	2446446.5	-0.05428	-0.41017	-0.21410	38.64202	-1.32650	-4.67827	0.46586	38.94678	262.46	-27.36
86/ 1/18	2446448.5	-0.00941	-0.40929	-0.21823	38.96645	2.85380	-2.47281	0.46394	39.14898	268.68	-28.06
86/ 1/20	2446450.5	0.03557	-0.40357	-0.21978	38.83011	7.06740	-0.20220	0.46091	39.46855	275.04	-28.48
86/ 1/22	2446452.5	0.08011	-0.39296	-0.21868	38.21527	11.29357	2.12427	0.45679	39.90569	281.52	-28.60
86/ 1/24	2446454.5	0.12366	-0.37748	-0.21486	37.09909	15.50824	4.49607	0.45161	40.46064	288.14	-28.41
86/ 1/26	2446456.5	0.16561	-0.35715	-0.20828	35.45354	19.68234	6.90050	0.44538	41.13350	294.88	-27.88
86/ 1/28	2446458.5	0.20535	-0.33204	-0.19891	33.24553	23.77978	9.32163	0.43816	41.92417	301.73	-27.00
86/ 1/30	2446460.5	0.24218	-0.30226	-0.18675	30.43744	27.75502	11.73892	0.42999	42.83201	308.70	-25.74
86/ 2/ 1	2446462.5	0.27541	-0.26799	-0.17180	26.98824	31.55010	14.12557	0.42094	43.85551	315.78	-24.09
86/ 2/ 3	2446464.5	0.30427	-0.22947	-0.15414	22.85571	35.09119	16.44635	0.41109	44.99175	322.98	-22.02
86/ 2/ 5	2446466.5	0.32794	-0.18706	-0.13385	18.00009	38.28457	18.65517	0.40056	46.23556	330.30	-19.52
86/ 2/ 7	2446468.5	0.34556	-0.14121	-0.11111	12.39034	41.01245	20.69212	0.38948	47.57841	337.77	-16.57
86/ 2/ 9	2446470.5	0.35626	-0.09255	-0.08615	6.01354	43.12928	22.48058	0.37803	49.00688	345.44	-13.17
86/ 2/11	2446472.5	0.35917	-0.04187	-0.05931	-1.11110	44.45998	23.92481	0.36643	50.50070	353.35	-9.31
86/ 2/13	2446474.5	0.35344	0.00978	-0.03105	-8.91320	44.80237	24.90932	0.35493	52.03049	1.59	-5.02
86/ 2/15	2446476.5	0.33837	0.06116	-0.00199	-17.24757	43.93757	25.30197	0.34386	53.55538	10.25	-0.33
86/ 2/17	2446478.5	0.31348	0.11074	0.02712	-25.86941	41.65259	24.96355	0.33357	55.02130	19.46	4.66
86/ 2/19	2446480.5	0.27863	0.15677	0.05535	-34.41634	37.77879	23.76654	0.32447	56.36107	29.36	9.82
86/ 2/21	2446482.5	0.23418	0.19737	0.08166	-42.41063	32.24497	21.62375	0.31696	57.49771	40.12	14.93
86/ 2/23	2446484.5	0.18108	0.23066	0.10493	-49.29663	25.13451	18.52278	0.31146	58.35234	51.87	19.69
86/ 2/25	2446486.5	0.12094	0.25494	0.12411	-54.52078	16.72431	14.55509	0.30826	58.85634	64.62	23.74
86/ 2/27	2446488.5	0.05594	0.26897	0.13830	-57.64089	7.47882	9.92401	0.30757	58.96517	78.25	26.72
86/ 3/ 1	2446490.5	-0.01132	0.27212	0.14690	-58.42738	-2.01414	4.92077	0.30944	58.66881	92.38	28.34
86/ 3/ 3	2446492.5	-0.07814	0.26445	0.14965	-56.91215	-11.15000	-0.12757	0.31375	57.99424	106.46	28.49
86/ 3/ 5	2446494.5	-0.14201	0.24670	0.14670	-53.36392	-19.41562	-4.91860	0.32023	56.99884	119.93	27.27
86/ 3/ 7	2446496.5	-0.20080	0.22007	0.13848	-48.20610	-26.45898	-9.22031	0.32853	55.75769	132.38	24.93
86/ 3/ 9	2446498.5	-0.25294	0.18611	0.12565	-41.91726	-32.10494	-12.88978	0.33824	54.35007	143.65	21.81
86/ 3/11	2446500.5	-0.29738	0.14645	0.10897	-34.95006	-36.32843	-15.86710	0.34894	52.84909	153.78	18.20
86/ 3/13	2446502.5	-0.33357	0.10271	0.08926	-27.68418	-39.20836	-18.15553	0.36025	51.31600	162.89	14.34
86/ 3/15	2446504.5	-0.36133	0.05634	0.06728	-20.41057	-40.88182	-19.79864	0.37184	49.79861	171.14	10.42
86/ 3/17	2446506.5	-0.38080	0.00866	0.04374	-13.33629	-41.50867	-20.86075	0.38340	48.33216	178.70	6.55
86/ 3/19	2446508.5	-0.39227	-0.03921	0.01928	-6.59882	-41.24845	-21.41321	0.39470	46.94150	185.71	2.80
86/ 3/21	2446510.5	-0.39620	-0.08634	-0.00556	-0.28277	-40.24777	-21.52583	0.40554	45.64345	192.29	-0.79

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86/ 3/23	2446512.5	-0.39311	-0.13195	-0.03030	5.56498	-38.63477	-21.26244	0.41577	44.44892	198.56	-4.18
86/ 3/25	2446514.5	-0.38354	-0.17540	-0.05455	10.92301	-36.51802	-20.67898	0.42526	43.36471	204.58	-7.37
86/ 3/27	2446516.5	-0.36806	-0.21616	-0.07797	15.78624	-33.98760	-19.82317	0.43391	42.39482	210.43	-10.35
86/ 3/29	2446518.5	-0.34726	-0.25379	-0.10026	20.15926	-31.11740	-18.73506	0.44164	41.54144	216.16	-13.12
86/ 3/31	2446520.5	-0.32168	-0.28794	-0.12118	24.05175	-27.96754	-17.44782	0.44841	40.80560	221.83	-15.68
86/ 4/ 2	2446522.5	-0.29187	-0.31831	-0.14050	27.47533	-24.58682	-15.98880	0.45415	40.18765	227.48	-18.02
86/ 4/ 4	2446524.5	-0.25838	-0.34466	-0.15806	30.44142	-21.01496	-14.38044	0.45884	39.68760	233.14	-20.15
86/ 4/ 6	2446526.5	-0.22172	-0.36680	-0.17367	32.95985	-17.28446	-12.64115	0.46245	39.30526	238.85	-22.06
86/ 4/ 8	2446528.5	-0.18241	-0.38454	-0.18721	35.03786	-13.42237	-10.78616	0.46497	39.04040	244.62	-23.74
86/ 4/10	2446530.5	-0.14095	-0.39776	-0.19855	36.67946	-9.45161	-8.82816	0.46637	38.89283	250.49	-25.20
86/ 4/12	2446532.5	-0.09784	-0.40634	-0.20757	37.88496	-5.39235	-6.77799	0.46666	38.86244	256.46	-26.41
86/ 4/14	2446534.5	-0.05359	-0.41019	-0.21418	38.65055	-1.26317	-4.64521	0.46584	38.94918	262.56	-27.37
86/ 4/16	2446536.5	-0.00872	-0.40924	-0.21828	38.96803	2.91782	-2.43866	0.46390	39.15314	268.78	-28.07
86/ 4/18	2446538.5	0.03625	-0.40344	-0.21979	38.82451	7.13181	-0.16710	0.46085	39.47446	275.13	-28.48
86/ 4/20	2446540.5	0.08079	-0.39276	-0.21864	38.20218	11.35803	2.16017	0.45672	39.91338	281.62	-28.60
86/ 4/22	2446542.5	0.12431	-0.37721	-0.21478	37.07811	15.57235	4.53259	0.45152	40.47010	288.24	-28.40
86/ 4/24	2446544.5	0.16624	-0.35680	-0.20816	35.42419	19.74560	6.93742	0.44528	41.14474	294.98	-27.87
86/ 4/26	2446546.5	0.20593	-0.33162	-0.19875	33.20727	23.84156	9.35867	0.43804	41.93718	301.84	-26.98
86/ 4/28	2446548.5	0.24272	-0.30177	-0.18654	30.38965	27.81451	11.77573	0.42986	42.84677	308.81	-25.72
86/ 4/30	2446550.5	0.27589	-0.26743	-0.17155	26.93030	31.60631	14.16165	0.42079	43.87200	315.89	-24.06
86/ 5/ 2	2446552.5	0.30467	-0.22885	-0.15385	22.78695	35.14285	16.48111	0.41094	45.00991	323.09	-21.99
86/ 5/ 4	2446554.5	0.32825	-0.18638	-0.13352	17.91999	38.33006	18.68778	0.40040	46.25529	330.41	-19.48
86/ 5/ 6	2446556.5	0.34578	-0.14048	-0.11074	12.29853	41.04976	20.72155	0.38931	47.59957	337.89	-16.53
86/ 5/ 8	2446558.5	0.35637	-0.09178	-0.08575	5.91003	43.15597	22.50552	0.37786	49.02922	345.56	-13.12
86/ 5/10	2446560.5	0.35914	-0.04109	-0.05888	-1.22567	44.47315	23.94365	0.36625	50.52388	353.47	-9.25
86/ 5/12	2446562.5	0.35328	0.01057	-0.03061	-9.03725	44.79877	24.92014	0.35476	52.05397	1.71	-4.95
86/ 5/14	2446564.5	0.33806	0.06194	-0.00154	-17.37816	43.91381	25.30266	0.34369	53.57843	10.38	-0.26
86/ 5/16	2446566.5	0.31302	0.11148	0.02756	-26.00192	41.60563	24.95200	0.33342	55.04299	19.60	4.74
86/ 5/18	2446568.5	0.27802	0.15744	0.05577	-34.54430	37.70664	23.74103	0.32434	56.38028	29.52	9.90
86/ 5/20	2446570.5	0.23343	0.19794	0.08204	-42.52596	32.14759	21.58342	0.31686	57.51321	40.30	15.01
86/ 5/22	2446572.5	0.18021	0.23110	0.10526	-49.39059	25.01460	18.46819	0.31139	58.36295	52.05	19.76
86/ 5/24	2446574.5	0.11997	0.25523	0.12437	-54.58544	16.58765	14.48851	0.30823	58.86117	64.82	23.80
86/ 5/26	2446576.5	0.05492	0.26910	0.13848	-57.67092	7.33370	9.84933	0.30758	58.96378	78.46	26.76
86/ 5/28	2446578.5	-0.01235	0.27208	0.14698	-58.42123	-2.15829	4.84290	0.30949	58.66134	92.60	28.35
86/ 5/30	2446580.5	-0.07915	0.26425	0.14965	-56.87230	-11.28439	-0.20368	0.31383	57.98136	106.67	28.48
86/ 6/ 1	2446582.5	-0.14296	0.24635	0.14661	-53.29593	-19.53351	-4.98876	0.32034	56.98160	120.13	27.24
86/ 6/ 3	2446584.5	-0.20166	0.21960	0.13832	-48.11711	-26.55638	-9.28166	0.32867	55.73730	132.56	24.89
86/ 6/ 5	2446586.5	-0.25368	0.18554	0.12542	-41.81456	-32.18041	-12.94079	0.33839	54.32771	143.82	21.75
86/ 6/ 7	2446588.5	-0.29800	0.14581	0.10869	-34.84011	-36.38250	-15.90739	0.34911	52.82579	153.93	18.14
86/ 6/ 9	2446590.5	-0.33406	0.10201	0.08893	-27.57210	-39.24279	-18.18552	0.36043	51.29259	163.02	14.28
86/ 6/11	2446592.5	-0.36169	0.05562	0.06692	-20.30017	-40.89895	-19.81918	0.37201	49.77571	171.26	10.36
86/ 6/13	2446594.5	-0.38103	0.00793	0.04337	-13.23017	-41.51099	-20.87291	0.38357	48.31023	178.81	6.49
86/ 6/15	2446596.5	-0.39239	-0.03994	0.01890	-6.49864	-41.23832	-21.41809	0.39487	46.92085	185.81	2.74
86/ 6/17	2446598.5	-0.39621	-0.08706	-0.00594	-0.18951	-40.22731	-21.52447	0.40570	45.62428	192.39	-0.84
86/ 6/19	2446600.5	-0.39301	-0.13264	-0.03068	5.65081	-38.60580	-21.25575	0.41592	44.43137	198.65	-4.23

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86/ 6/21	2446602.5	-0.38334	-0.17605	-0.05492	11.00124	-36.48206	-20.66776	0.42540	43.34887	204.67	-7.42
86/ 6/23	2446604.5	-0.36778	-0.21676	-0.07832	15.85688	-33.94592	-19.80810	0.43403	42.38074	210.51	-10.40
86/ 6/25	2446606.5	-0.34690	-0.25434	-0.10059	20.22243	-31.07102	-18.71670	0.44175	41.52914	216.25	-13.16
86/ 6/27	2446608.5	-0.32125	-0.28843	-0.12148	24.10763	-27.91728	-17.42663	0.44850	40.79510	221.92	-15.72
86/ 6/29	2446610.5	-0.29139	-0.31875	-0.14079	27.52410	-24.53336	-15.96517	0.45423	40.17895	227.57	-18.06
86/ 7/ 1	2446612.5	-0.25784	-0.34504	-0.15831	30.48324	-20.95885	-14.35467	0.45891	39.68070	233.23	-20.18
86/ 7/ 3	2446614.5	-0.22114	-0.36710	-0.17390	32.99485	-17.22616	-12.61351	0.46250	39.30015	238.94	-22.09
86/ 7/ 5	2446616.5	-0.18179	-0.38478	-0.18740	35.06615	-13.36224	-10.75685	0.46500	39.03709	244.71	-23.77
86/ 7/ 7	2446618.5	-0.14030	-0.39793	-0.19871	36.70107	-9.39000	-8.79737	0.46639	38.89132	250.58	-25.22
86/ 7/ 9	2446620.5	-0.09717	-0.40644	-0.20769	37.89987	-5.32954	-6.74587	0.46666	38.86272	256.55	-26.43
86/ 7/11	2446622.5	-0.05291	-0.41022	-0.21426	38.65868	-1.19945	-4.61189	0.46582	38.95128	262.65	-27.39
86/ 7/13	2446624.5	-0.00803	-0.40919	-0.21832	38.96923	2.98218	-2.40428	0.46386	39.15705	268.88	-28.08
86/ 7/15	2446626.5	0.03694	-0.40331	-0.21979	38.81853	7.19651	-0.13180	0.46080	39.48019	275.23	-28.49
86/ 7/17	2446628.5	0.08146	-0.39256	-0.21860	38.18871	11.42274	2.19624	0.45665	39.92093	281.72	-28.60
86/ 7/19	2446630.5	0.12497	-0.37693	-0.21470	37.05676	15.63666	4.56926	0.45143	40.47946	288.34	-28.40
86/ 7/21	2446632.5	0.16686	-0.35645	-0.20803	35.39449	19.80902	6.97447	0.44517	41.15593	295.09	-27.86
86/ 7/23	2446634.5	0.20652	-0.33120	-0.19858	33.16867	23.90348	9.39583	0.43792	41.95020	301.95	-26.97
86/ 7/25	2446636.5	0.24326	-0.30128	-0.18633	30.34156	27.87416	11.81264	0.42972	42.86161	308.92	-25.70
86/ 7/27	2446638.5	0.27636	-0.26687	-0.17130	26.87205	31.66269	14.19786	0.42065	43.88864	316.00	-24.03
86/ 7/29	2446640.5	0.30507	-0.22823	-0.15356	22.71792	35.19469	16.51599	0.41078	45.02830	323.20	-21.95
86/ 7/31	2446642.5	0.32857	-0.18570	-0.13319	17.83958	38.37574	18.72053	0.40023	46.27533	330.53	-19.44
86/ 8/ 2	2446644.5	0.34599	-0.13976	-0.11037	12.20635	41.08726	20.75112	0.38914	47.62108	338.00	-16.48
86/ 8/ 4	2446646.5	0.35647	-0.09102	-0.08535	5.80608	43.18281	22.53059	0.37768	49.05194	345.68	-13.06
86/ 8/ 6	2446648.5	0.35912	-0.04030	-0.05846	-1.34078	44.48640	23.96258	0.36607	50.54743	353.60	-9.19
86/ 8/ 8	2446650.5	0.35311	0.01137	-0.03017	-9.16192	44.79513	24.93100	0.35458	52.07782	1.84	-4.88
86/ 8/10	2446652.5	0.33775	0.06272	-0.00109	-17.50945	43.88986	25.30332	0.34352	53.60186	10.52	-0.18
86/ 8/12	2446654.5	0.31255	0.11221	0.02800	-26.13517	41.55831	24.94034	0.33327	55.06506	19.75	4.82
86/ 8/14	2446656.5	0.27741	0.15811	0.05619	-34.67297	37.63394	23.71529	0.32421	56.39985	29.68	9.98
86/ 8/16	2446658.5	0.23267	0.19851	0.08242	-42.64192	32.04946	21.54275	0.31676	57.52905	40.47	15.08
86/ 8/18	2446660.5	0.17933	0.23154	0.10559	-49.48500	24.89377	18.41314	0.31132	58.37387	52.24	19.83
86/ 8/20	2446662.5	0.11900	0.25552	0.12463	-54.65032	16.44994	14.42139	0.30820	58.86624	65.03	23.85
86/ 8/22	2446664.5	0.05389	0.26923	0.13865	-57.70087	7.18751	9.77407	0.30759	58.96256	78.68	26.79
86/ 8/24	2446666.5	-0.01340	0.27204	0.14707	-58.41471	-2.30346	4.76444	0.30954	58.65394	92.82	28.37
86/ 8/26	2446668.5	-0.08017	0.26405	0.14964	-56.83180	-11.41966	-0.28033	0.31391	57.96845	106.89	28.47
86/ 8/28	2446670.5	-0.14391	0.24600	0.14652	-53.22707	-19.65210	-5.05939	0.32046	56.96423	120.33	27.21
86/ 8/30	2446672.5	-0.20252	0.21913	0.13815	-48.02711	-26.65425	-9.34336	0.32881	55.71670	132.74	24.84
86/ 9/ 1	2446674.5	-0.25443	0.18496	0.12518	-41.71079	-32.25615	-12.99205	0.33855	54.30509	143.98	21.70
86/ 9/ 3	2446676.5	-0.29862	0.14516	0.10840	-34.72907	-36.43666	-15.94783	0.34928	52.80220	154.08	18.08
86/ 9/ 5	2446678.5	-0.33455	0.10131	0.08861	-27.45898	-39.27717	-18.21558	0.36061	51.26888	163.15	14.22
86/ 9/ 7	2446680.5	-0.36206	0.05488	0.06657	-20.18877	-40.91593	-19.83974	0.37219	49.75253	171.38	10.30
86/ 9/ 9	2446682.5	-0.38127	0.00718	0.04300	-13.12311	-41.51306	-20.88504	0.38375	48.28804	178.92	6.43
86/ 9/11	2446684.5	-0.39250	-0.04068	0.01852	-6.39758	-41.22788	-21.42289	0.39504	46.89997	185.92	2.69
86/ 9/13	2446686.5	-0.39621	-0.08778	-0.00633	-0.09544	-40.20647	-21.52298	0.40587	45.60491	192.49	-0.89
86/ 9/15	2446688.5	-0.39291	-0.13333	-0.03106	5.73740	-38.57639	-21.24891	0.41607	44.41364	198.74	-4.28
86/ 9/17	2446690.5	-0.38315	-0.17670	-0.05529	11.08016	-36.44561	-20.65635	0.42554	43.33287	204.76	-7.47

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86/ 9/19	2446692.5	-0.36750	-0.21737	-0.07868	15.92815	-33.90370	-19.79282	0.43416	42.36653	210.60	-10.44
86/ 9/21	2446694.5	-0.34654	-0.25490	-0.10093	20.28617	-31.02407	-18.69810	0.44187	41.51675	216.34	-13.20
86/ 9/23	2446696.5	-0.32082	-0.28893	-0.12180	24.16402	-27.86644	-17.40519	0.44860	40.78454	222.01	-15.75
86/ 9/25	2446698.5	-0.29089	-0.31918	-0.14107	27.57332	-24.47931	-15.94127	0.45431	40.17024	227.65	-18.09
86/ 9/27	2446700.5	-0.25730	-0.34541	-0.15857	30.52546	-20.90213	-14.32862	0.45897	39.67382	233.32	-20.21
86/ 9/29	2446702.5	-0.22055	-0.36741	-0.17412	33.03021	-17.16723	-12.58556	0.46255	39.29510	239.02	-22.11
86/10/ 1	2446704.5	-0.18116	-0.38502	-0.18760	35.09471	-13.30148	-10.72722	0.46503	39.03385	244.80	-23.79
86/10/ 3	2446706.5	-0.13964	-0.39810	-0.19886	36.72289	-9.32772	-8.76623	0.46640	38.88989	250.67	-25.24
86/10/ 5	2446708.5	-0.09649	-0.40653	-0.20781	37.91492	-5.26606	-6.71339	0.46666	38.86312	256.65	-26.44
86/10/ 7	2446710.5	-0.05222	-0.41024	-0.21434	38.66687	-1.13502	-4.57820	0.46579	38.95349	262.75	-27.40
86/10/ 9	2446712.5	-0.00734	-0.40914	-0.21836	38.97039	3.04726	-2.36952	0.46382	39.16110	268.97	-28.09
86/10/11	2446714.5	0.03763	-0.40318	-0.21979	38.81244	7.26194	-0.09611	0.46074	39.48608	275.33	-28.49
86/10/13	2446716.5	0.08214	-0.39236	-0.21856	38.17505	11.48818	2.23273	0.45657	39.92866	281.82	-28.60
86/10/15	2446718.5	0.12563	-0.37665	-0.21462	37.03512	15.70172	4.60636	0.45134	40.48905	288.45	-28.39
86/10/17	2446720.5	0.16749	-0.35610	-0.20791	35.36440	19.87320	7.01197	0.44507	41.16737	295.19	-27.85
86/10/19	2446722.5	0.20711	-0.33077	-0.19841	33.12956	23.96615	9.43344	0.43780	41.96348	302.05	-26.95
86/10/21	2446724.5	0.24380	-0.30078	-0.18612	30.29281	27.93453	11.85001	0.42959	42.87674	309.03	-25.67
86/10/23	2446726.5	0.27684	-0.26631	-0.17105	26.81300	31.71973	14.23450	0.42050	43.90558	316.11	-24.00
86/10/25	2446728.5	0.30548	-0.22760	-0.15326	22.64790	35.24710	16.55128	0.41062	45.04698	323.31	-21.92
86/10/27	2446730.5	0.32888	-0.18501	-0.13286	17.75801	38.42189	18.75365	0.40006	46.29566	330.64	-19.40
86/10/29	2446732.5	0.34621	-0.13902	-0.11000	12.11285	41.12509	20.78101	0.38896	47.64289	338.12	-16.43
86/10/31	2446734.5	0.35657	-0.09025	-0.08494	5.70066	43.20981	22.55590	0.37750	49.07498	345.80	-13.00
86/11/ 2	2446736.5	0.35909	-0.03950	-0.05803	-1.45747	44.49960	23.98165	0.36589	50.57132	353.72	-9.13
86/11/ 4	2446738.5	0.35294	0.01217	-0.02972	-9.28825	44.79119	24.94188	0.35440	52.10201	1.98	-4.81
86/11/ 6	2446740.5	0.33743	0.06350	-0.00064	-17.64241	43.86532	25.30383	0.34336	53.62560	10.66	-0.11
86/11/ 8	2446742.5	0.31208	0.11296	0.02845	-26.26999	41.51006	24.92834	0.33311	55.08738	19.90	4.90
86/11/10	2446744.5	0.27678	0.15878	0.05662	-34.80299	37.55997	23.68902	0.32407	56.41958	29.84	10.06
86/11/12	2446746.5	0.23190	0.19909	0.08281	-42.75888	31.94978	21.50136	0.31666	57.54493	40.65	15.16
86/11/14	2446748.5	0.17843	0.23199	0.10592	-49.57995	24.77123	18.35724	0.31125	58.38470	52.43	19.90
86/11/16	2446750.5	0.11801	0.25582	0.12489	-54.71522	16.31050	14.35334	0.30817	58.87110	65.24	23.91
86/11/18	2446752.5	0.05285	0.26935	0.13883	-57.73035	7.03970	9.69791	0.30760	58.96101	78.90	26.83
86/11/20	2446754.5	-0.01445	0.27199	0.14715	-58.40733	-2.44999	4.68516	0.30959	58.64613	93.04	28.38
86/11/22	2446756.5	-0.08119	0.26384	0.14964	-56.79018	-11.55596	-0.35764	0.31400	57.95509	107.10	28.46
86/11/24	2446758.5	-0.14487	0.24564	0.14643	-53.15695	-19.77137	-5.13051	0.32058	56.94639	120.53	27.18
86/11/26	2446760.5	-0.20338	0.21864	0.13798	-47.93584	-26.75249	-9.40539	0.32895	55.69562	132.93	24.80
86/11/28	2446762.5	-0.25518	0.18438	0.12495	-41.60582	-32.33199	-13.04349	0.33871	54.28198	144.15	21.65
86/11/30	2446764.5	-0.29925	0.14450	0.10811	-34.61694	-36.49072	-15.98834	0.34945	52.77814	154.23	18.02
86/12/ 2	2446766.5	-0.33504	0.10060	0.08828	-27.34491	-39.31129	-18.24560	0.36079	51.24474	163.29	14.16
86/12/ 4	2446768.5	-0.36242	0.05415	0.06621	-20.07658	-40.93254	-19.86019	0.37238	49.72896	171.50	10.24
86/12/ 6	2446770.5	-0.38151	0.00644	0.04262	-13.01540	-41.51472	-20.89702	0.38393	48.26550	179.03	6.37
86/12/ 8	2446772.5	-0.39262	-0.04142	0.01813	-6.29601	-41.21700	-21.42752	0.39522	46.87878	186.02	2.63
86/12/10	2446774.5	-0.39621	-0.08850	-0.00671	-0.00096	-40.18521	-21.52131	0.40603	45.58529	192.59	-0.95
86/12/12	2446776.5	-0.39280	-0.13402	-0.03144	5.82431	-38.54660	-21.24188	0.41623	44.39572	198.84	-4.33
86/12/14	2446778.5	-0.38295	-0.17736	-0.05566	11.15934	-36.40882	-20.64478	0.42568	43.31674	204.85	-7.51
86/12/16	2446780.5	-0.36721	-0.21798	-0.07903	15.99961	-33.86117	-19.77738	0.43429	42.35222	210.69	-10.49

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
86/12/18	2446782.5	-0.34617	-0.25545	-0.10126	20.35007	-30.97682	-18.67935	0.44198	41.50430	216.42	-13.24
86/12/20	2446784.5	-0.32039	-0.28943	-0.12211	24.22053	-27.81531	-17.38361	0.44870	40.77396	222.09	-15.79
86/12/22	2446786.5	-0.29040	-0.31962	-0.14136	27.62263	-24.42497	-15.91722	0.45439	40.16151	227.74	-18.12
86/12/24	2446788.5	-0.25675	-0.34578	-0.15882	30.56775	-20.84514	-14.30242	0.45903	39.66695	233.41	-20.24
86/12/26	2446790.5	-0.21996	-0.36772	-0.17435	33.06562	-17.10804	-12.55748	0.46260	39.29008	239.11	-22.14
86/12/28	2446792.5	-0.18053	-0.38526	-0.18779	35.12334	-13.24047	-10.69747	0.46506	39.03069	244.89	-23.82
86/12/30	2446794.5	-0.13898	-0.39826	-0.19902	36.74477	-9.26522	-8.73499	0.46641	38.88859	250.76	-25.26

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
86/12/16	2446780.5	-0.36721	-0.21798	-0.07903	15.99961	-33.86117	-19.77738	0.43429	42.35222	210.69	-10.49
86/12/18	2446782.5	-0.34617	-0.25545	-0.10126	20.35007	-30.97682	-18.67935	0.44198	41.50430	216.42	-13.24
86/12/20	2446784.5	-0.32039	-0.28943	-0.12211	24.22053	-27.81531	-17.38361	0.44870	40.77396	222.09	-15.79
86/12/22	2446786.5	-0.29040	-0.31962	-0.14136	27.62263	-24.42497	-15.91722	0.45439	40.16151	227.74	-18.12
86/12/24	2446788.5	-0.25675	-0.34578	-0.15882	30.56775	-20.84514	-14.30242	0.45903	39.66695	233.41	-20.24
86/12/26	2446790.5	-0.21996	-0.36772	-0.17435	33.06562	-17.10804	-12.55748	0.46260	39.29008	239.11	-22.14
86/12/28	2446792.5	-0.18053	-0.38526	-0.18779	35.12334	-13.24047	-10.69747	0.46506	39.03069	244.89	-23.82
86/12/30	2446794.5	-0.13898	-0.39826	-0.19902	36.74477	-9.26522	-8.73499	0.46641	38.88859	250.76	-25.26
87/ 1/ 1	2446796.5	-0.09581	-0.40663	-0.20793	37.93002	-5.20236	-6.68080	0.46665	38.86366	256.74	-26.46
87/ 1/ 3	2446798.5	-0.05153	-0.41026	-0.21442	38.67511	-1.07041	-4.54441	0.46577	38.95589	262.84	-27.41
87/ 1/ 5	2446800.5	-0.00664	-0.40908	-0.21840	38.97159	3.11252	-2.33467	0.46378	39.16533	269.07	-28.09
87/ 1/ 7	2446802.5	0.03833	-0.40305	-0.21979	38.80636	7.32754	-0.06032	0.46068	39.49216	275.43	-28.50
87/ 1/ 9	2446804.5	0.08283	-0.39215	-0.21852	38.16137	11.55379	2.26930	0.45650	39.93657	281.93	-28.60
87/ 1/11	2446806.5	0.12629	-0.37637	-0.21453	37.01344	15.76692	4.64354	0.45125	40.49880	288.55	-28.39
87/ 1/13	2446808.5	0.16813	-0.35574	-0.20778	35.33422	19.93749	7.04953	0.44496	41.17896	295.30	-27.84
87/ 1/15	2446810.5	0.20770	-0.33034	-0.19824	33.09034	24.02890	9.47111	0.43768	41.97691	302.16	-26.93
87/ 1/17	2446812.5	0.24434	-0.30028	-0.18590	30.24392	27.99493	11.88741	0.42945	42.89198	309.14	-25.65
87/ 1/19	2446814.5	0.27732	-0.26574	-0.17079	26.75379	31.77676	14.27116	0.42035	43.92258	316.22	-23.97
87/ 1/21	2446816.5	0.30588	-0.22697	-0.15296	22.57771	35.29944	16.58655	0.41046	45.06570	323.42	-21.88
87/ 1/23	2446818.5	0.32920	-0.18432	-0.13252	17.67628	38.46788	18.78670	0.39989	46.31597	330.76	-19.35
87/ 1/25	2446820.5	0.34643	-0.13828	-0.10963	12.01922	41.16267	20.81077	0.38878	47.66461	338.24	-16.38
87/ 1/27	2446822.5	0.35667	-0.08947	-0.08454	5.59517	43.23646	22.58102	0.37732	49.09786	345.92	-12.95
87/ 1/29	2446824.5	0.35906	-0.03870	-0.05760	-1.57413	44.51235	24.00047	0.36571	50.59496	353.85	-9.06
87/ 1/31	2446826.5	0.35278	0.01298	-0.02927	-9.41439	44.78671	24.95244	0.35423	52.12585	2.11	-4.74
87/ 2/ 2	2446828.5	0.33711	0.06429	-0.00018	-17.77497	43.84018	25.30398	0.34319	53.64888	10.80	-0.03
87/ 2/ 4	2446830.5	0.31161	0.11370	0.02890	-26.40416	41.46122	24.91596	0.33296	55.10914	20.05	4.98
87/ 2/ 6	2446832.5	0.27615	0.15946	0.05704	-34.93210	37.48551	23.66239	0.32395	56.43868	30.00	10.14
87/ 2/ 8	2446834.5	0.23113	0.19966	0.08320	-42.87468	31.84983	21.45971	0.31656	57.56013	40.82	15.24
87/ 2/10	2446836.5	0.17755	0.23243	0.10625	-49.67358	24.64872	18.30122	0.31118	58.39485	52.62	19.96
87/ 2/12	2446838.5	0.11703	0.25611	0.12514	-54.77879	16.17147	14.28538	0.30814	58.87533	65.44	23.96
87/ 2/14	2446840.5	0.05182	0.26948	0.13900	-57.75866	6.89268	9.62204	0.30761	58.95893	79.12	26.86
87/ 2/16	2446842.5	-0.01550	0.27195	0.14724	-58.39907	-2.59544	4.60638	0.30964	58.63793	93.26	28.39
87/ 2/18	2446844.5	-0.08221	0.26364	0.14963	-56.74810	-11.69102	-0.43434	0.31409	57.94148	107.32	28.45
87/ 2/20	2446846.5	-0.14582	0.24529	0.14634	-53.08683	-19.88941	-5.20097	0.32069	56.92846	120.73	27.15
87/ 2/22	2446848.5	-0.20424	0.21817	0.13781	-47.84496	-26.84963	-9.46679	0.32909	55.67462	133.11	24.76
87/ 2/24	2446850.5	-0.25592	0.18381	0.12472	-41.50154	-32.40694	-13.09438	0.33887	54.25911	144.31	21.59
87/ 2/26	2446852.5	-0.29986	0.14385	0.10783	-34.50571	-36.54415	-16.02841	0.34963	52.75442	154.37	17.96
87/ 2/28	2446854.5	-0.33553	0.09990	0.08795	-27.23183	-39.34503	-18.27532	0.36097	51.22100	163.42	14.10
87/ 3/ 2	2446856.5	-0.36278	0.05342	0.06586	-19.96540	-40.94898	-19.88044	0.37256	49.70582	171.62	10.18
87/ 3/ 4	2446858.5	-0.38174	0.00570	0.04225	-12.90865	-41.51639	-20.90890	0.38411	48.24340	179.15	6.31
87/ 3/ 6	2446860.5	-0.39273	-0.04216	0.01775	-6.19533	-41.20627	-21.43213	0.39539	46.85803	186.13	2.57
87/ 3/ 8	2446862.5	-0.39621	-0.08922	-0.00710	0.09272	-40.16420	-21.51970	0.40620	45.56610	192.69	-1.00
87/ 3/10	2446864.5	-0.39270	-0.13471	-0.03182	5.91051	-38.51712	-21.23496	0.41638	44.37822	198.93	-4.38
87/ 3/12	2446866.5	-0.38275	-0.17801	-0.05603	11.23789	-36.37239	-20.63335	0.42582	43.30099	204.94	-7.56
87/ 3/14	2446868.5	-0.36693	-0.21858	-0.07939	16.07055	-33.81903	-19.76210	0.43441	42.33828	210.78	-10.53

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87/ 3/16	2446870.5	-0.34581	-0.25600	-0.10160	20.41351	-30.92999	-18.66078	0.44209	41.49218	216.51	-13.29
87/ 3/18	2446872.5	-0.31996	-0.28993	-0.12242	24.27665	-27.76461	-17.36221	0.44879	40.76365	222.18	-15.83
87/ 3/20	2446874.5	-0.28991	-0.32006	-0.14164	27.67161	-24.37107	-15.89337	0.45447	40.15304	227.83	-18.16
87/ 3/22	2446876.5	-0.25620	-0.34616	-0.15908	30.60977	-20.78858	-14.27644	0.45910	39.66031	233.49	-20.27
87/ 3/24	2446878.5	-0.21937	-0.36802	-0.17457	33.10081	-17.04928	-12.52961	0.46264	39.28527	239.20	-22.17
87/ 3/26	2446880.5	-0.17991	-0.38549	-0.18798	35.15178	-13.17990	-10.66793	0.46509	39.02771	244.98	-23.84
87/ 3/28	2446882.5	-0.13833	-0.39843	-0.19918	36.76649	-9.20316	-8.70396	0.46642	38.88743	250.85	-25.28
87/ 3/30	2446884.5	-0.09514	-0.40672	-0.20805	37.94499	-5.13911	-6.64844	0.46665	38.86431	256.83	-26.48
87/ 4/ 1	2446886.5	-0.05084	-0.41027	-0.21451	38.68322	-1.00625	-4.51086	0.46575	38.95834	262.94	-27.42
87/ 4/ 3	2446888.5	-0.00594	-0.40903	-0.21845	38.97269	3.17729	-2.30006	0.46374	39.16958	269.17	-28.10
87/ 4/ 5	2446890.5	0.03902	-0.40292	-0.21979	38.80021	7.39264	-0.02480	0.46063	39.49820	275.53	-28.50
87/ 4/ 7	2446892.5	0.08351	-0.39194	-0.21848	38.14764	11.61885	2.30558	0.45643	39.94441	282.03	-28.60
87/ 4/ 9	2446894.5	0.12695	-0.37609	-0.21445	36.99175	15.83154	4.68040	0.45116	40.50843	288.65	-28.38
87/ 4/11	2446896.5	0.16876	-0.35539	-0.20766	35.30409	20.00115	7.08675	0.44486	41.19037	295.40	-27.83
87/ 4/13	2446898.5	0.20829	-0.32991	-0.19807	33.05123	24.09095	9.50839	0.43756	41.99008	302.27	-26.92
87/ 4/15	2446900.5	0.24488	-0.29978	-0.18569	30.19521	28.05456	11.92437	0.42932	42.90687	309.24	-25.63
87/ 4/17	2446902.5	0.27780	-0.26517	-0.17054	26.69485	31.83294	14.30732	0.42021	43.93917	316.33	-23.94
87/ 4/19	2446904.5	0.30629	-0.22634	-0.15267	22.50792	35.35087	16.62128	0.41030	45.08389	323.54	-21.84
87/ 4/21	2446906.5	0.32952	-0.18364	-0.13218	17.59512	38.51292	18.81918	0.39972	46.33567	330.87	-19.31
87/ 4/23	2446908.5	0.34664	-0.13755	-0.10926	11.92639	41.19928	20.83994	0.38861	47.68567	338.36	-16.33
87/ 4/25	2446910.5	0.35678	-0.08870	-0.08414	5.49074	43.26217	22.60554	0.37714	49.11999	346.04	-12.89
87/ 4/27	2446912.5	0.35904	-0.03792	-0.05717	-1.68942	44.52424	24.01869	0.36554	50.61778	353.97	-9.00
87/ 4/29	2446914.5	0.35261	0.01377	-0.02883	-9.53884	44.78153	24.96246	0.35406	52.14881	2.24	-4.67
87/ 5/ 1	2446916.5	0.33680	0.06507	0.00026	-17.90550	43.81461	25.30370	0.34303	53.67126	10.93	0.04
87/ 5/ 3	2446918.5	0.31115	0.11444	0.02934	-26.53602	41.41233	24.90332	0.33282	55.13000	20.19	5.06
87/ 5/ 5	2446920.5	0.27554	0.16012	0.05746	-35.05870	37.41154	23.63576	0.32382	56.45693	30.16	10.22
87/ 5/ 7	2446922.5	0.23038	0.20022	0.08357	-42.98792	31.75097	21.41837	0.31646	57.57458	40.99	15.31
87/ 5/ 9	2446924.5	0.17667	0.23287	0.10657	-49.76484	24.52795	18.24589	0.31112	58.40439	52.81	20.03
87/ 5/11	2446926.5	0.11607	0.25639	0.12540	-54.84042	16.03478	14.21847	0.30811	58.87912	65.64	24.01
87/ 5/13	2446928.5	0.05081	0.26960	0.13917	-57.78567	6.74842	9.54752	0.30763	58.95659	79.33	26.90
87/ 5/15	2446930.5	-0.01652	0.27191	0.14732	-58.39031	-2.73793	4.52913	0.30969	58.62966	93.48	28.40
87/ 5/17	2446932.5	-0.08320	0.26343	0.14963	-56.70632	-11.82318	-0.50945	0.31418	57.92801	107.53	28.44
87/ 5/19	2446934.5	-0.14675	0.24494	0.14625	-53.01774	-20.00481	-5.26991	0.32081	56.91085	120.93	27.12
87/ 5/21	2446936.5	-0.20507	0.21770	0.13765	-47.75569	-26.94455	-9.52683	0.32923	55.65407	133.29	24.71
87/ 5/23	2446938.5	-0.25665	0.18324	0.12449	-41.39926	-32.48017	-13.14414	0.33903	54.23678	144.47	21.54
87/ 5/25	2446940.5	-0.30047	0.14321	0.10755	-34.39669	-36.59633	-16.06759	0.34979	52.73131	154.52	17.91
87/ 5/27	2446942.5	-0.33601	0.09921	0.08763	-27.12103	-39.37798	-18.30438	0.36114	51.19791	163.55	14.04
87/ 5/29	2446944.5	-0.36313	0.05270	0.06551	-19.85645	-40.96506	-19.90026	0.37273	49.68335	171.74	10.12
87/ 5/31	2446946.5	-0.38196	0.00497	0.04188	-12.80402	-41.51804	-20.92055	0.38428	48.22198	179.25	6.26
87/ 6/ 2	2446948.5	-0.39284	-0.04288	0.01737	-6.09659	-41.19581	-21.43669	0.39555	46.83796	186.23	2.52
87/ 6/ 4	2446950.5	-0.39621	-0.08992	-0.00747	0.18466	-40.14369	-21.51817	0.40635	45.54758	192.79	-1.05
87/ 6/ 6	2446952.5	-0.39259	-0.13538	-0.03219	5.99518	-38.48832	-21.22824	0.41653	44.36137	199.03	-4.43
87/ 6/ 8	2446954.5	-0.38255	-0.17864	-0.05639	11.31512	-36.33676	-20.62220	0.42595	43.28588	205.03	-7.61
87/ 6/10	2446956.5	-0.36664	-0.21917	-0.07973	16.14034	-33.77777	-19.74717	0.43454	42.32493	210.87	-10.57
87/ 6/12	2446958.5	-0.34545	-0.25655	-0.10192	20.47598	-30.88409	-18.64261	0.44220	41.48059	216.60	-13.33

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

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87/ 6/14	2446960.5	-0.31953	-0.29041	-0.12272	24.33194	-27.71486	-17.34124	0.44889	40.75384	222.27	-15.87
87/ 6/16	2446962.5	-0.28942	-0.32048	-0.14192	27.71991	-24.31814	-15.86997	0.45455	40.14500	227.92	-18.19
87/ 6/18	2446964.5	-0.25566	-0.34652	-0.15933	30.65121	-20.73300	-14.25091	0.45916	39.65403	233.58	-20.30
87/ 6/20	2446966.5	-0.21878	-0.36832	-0.17479	33.13551	-16.99149	-12.50221	0.46269	39.28076	239.29	-22.20
87/ 6/22	2446968.5	-0.17928	-0.38572	-0.18817	35.17982	-13.12027	-10.63885	0.46512	39.02495	245.07	-23.86
87/ 6/24	2446970.5	-0.13768	-0.39859	-0.19933	36.78788	-9.14202	-8.67339	0.46644	38.88641	250.94	-25.30
87/ 6/26	2446972.5	-0.09447	-0.40681	-0.20817	37.95969	-5.07674	-6.61652	0.46664	38.86502	256.93	-26.49
87/ 6/28	2446974.5	-0.05015	-0.41029	-0.21458	38.69112	-0.94294	-4.47774	0.46573	38.96077	263.03	-27.44
87/ 6/30	2446976.5	-0.00526	-0.40897	-0.21849	38.97361	3.24127	-2.26587	0.46370	39.17375	269.26	-28.11
87/ 7/ 2	2446978.5	0.03970	-0.40279	-0.21979	38.79391	7.45696	0.01033	0.46057	39.50410	275.63	-28.50
87/ 7/ 4	2446980.5	0.08418	-0.39174	-0.21844	38.13383	11.68316	2.34148	0.45636	39.95206	282.13	-28.60
87/ 7/ 6	2446982.5	0.12761	-0.37581	-0.21437	36.97002	15.89542	4.71688	0.45107	40.51784	288.75	-28.37
87/ 7/ 8	2446984.5	0.16938	-0.35503	-0.20753	35.27399	20.06410	7.12358	0.44476	41.20155	295.51	-27.82
87/ 7/10	2446986.5	0.20888	-0.32949	-0.19791	33.01221	24.15233	9.54530	0.43744	42.00302	302.37	-26.90
87/ 7/12	2446988.5	0.24541	-0.29929	-0.18548	30.14668	28.11358	11.96100	0.42919	42.92156	309.35	-25.61
87/ 7/14	2446990.5	0.27827	-0.26461	-0.17029	26.63616	31.88858	14.34318	0.42006	43.95559	316.44	-23.92
87/ 7/16	2446992.5	0.30668	-0.22572	-0.15237	22.43847	35.40184	16.65574	0.41015	45.10199	323.65	-21.81
87/ 7/18	2446994.5	0.32983	-0.18296	-0.13185	17.51436	38.55760	18.85143	0.39956	46.35534	330.98	-19.27
87/ 7/20	2446996.5	0.34685	-0.13683	-0.10889	11.83399	41.23564	20.86892	0.38844	47.70674	338.47	-16.28
87/ 7/22	2446998.5	0.35687	-0.08794	-0.08374	5.38675	43.28772	22.62992	0.37697	49.14221	346.16	-12.83
87/ 7/24	2447000.5	0.35901	-0.03713	-0.05675	-1.80430	44.53607	24.03684	0.36536	50.64076	354.09	-8.94
87/ 7/26	2447002.5	0.35245	0.01456	-0.02839	-9.66292	44.77638	24.97245	0.35389	52.17202	2.37	-4.60
87/ 7/28	2447004.5	0.33649	0.06584	0.00071	-18.03575	43.78915	25.30344	0.34287	53.69397	11.07	0.12
87/ 7/30	2447006.5	0.31068	0.11516	0.02978	-26.66770	41.36362	24.89074	0.33267	55.15128	20.34	5.14
87/ 8/ 1	2447008.5	0.27492	0.16078	0.05788	-35.18524	37.33772	23.60921	0.32370	56.47567	30.32	10.30
87/ 8/ 3	2447010.5	0.22963	0.20078	0.08395	-43.10123	31.65220	21.37709	0.31637	57.58957	41.17	15.39
87/ 8/ 5	2447012.5	0.17580	0.23329	0.10689	-49.85624	24.40717	18.19056	0.31106	58.41448	53.00	20.10
87/ 8/ 7	2447014.5	0.11511	0.25667	0.12564	-54.90219	15.89792	14.15149	0.30809	58.88344	65.85	24.07
87/ 8/ 9	2447016.5	0.04979	0.26972	0.13934	-57.81277	6.60387	9.47285	0.30764	58.95475	79.54	26.93
87/ 8/11	2447018.5	-0.01754	0.27186	0.14740	-58.38153	-2.88081	4.45166	0.30974	58.62184	93.69	28.42
87/ 8/13	2447020.5	-0.08420	0.26322	0.14962	-56.66438	-11.95578	-0.58481	0.31426	57.91489	107.74	28.43
87/ 8/15	2447022.5	-0.14768	0.24459	0.14615	-52.94833	-20.12064	-5.33912	0.32093	56.89351	121.12	27.09
87/ 8/17	2447024.5	-0.20591	0.21722	0.13748	-47.66597	-27.03984	-9.58712	0.32937	55.63372	133.47	24.67
87/ 8/19	2447026.5	-0.25738	0.18267	0.12425	-41.29643	-32.55366	-13.19410	0.33919	54.21457	144.64	21.49
87/ 8/21	2447028.5	-0.30107	0.14256	0.10726	-34.28705	-36.64868	-16.10692	0.34996	52.70826	154.66	17.85
87/ 8/23	2447030.5	-0.33648	0.09851	0.08731	-27.00959	-39.41097	-18.33352	0.36132	51.17480	163.68	13.98
87/ 8/25	2447032.5	-0.36347	0.05198	0.06516	-19.74686	-40.98103	-19.92010	0.37291	49.66079	171.86	10.06
87/ 8/27	2447034.5	-0.38218	0.00424	0.04151	-12.69881	-41.51945	-20.93213	0.38446	48.20040	179.36	6.20
87/ 8/29	2447036.5	-0.39294	-0.04360	0.01699	-5.99735	-41.18499	-21.44110	0.39572	46.81765	186.33	2.46
87/ 8/31	2447038.5	-0.39620	-0.09063	-0.00785	0.27698	-40.12272	-21.51643	0.40651	45.52874	192.88	-1.11
87/ 9/ 2	2447040.5	-0.39249	-0.13606	-0.03257	6.08011	-38.45897	-21.22125	0.41668	44.34413	199.12	-4.48
87/ 9/ 4	2447042.5	-0.38235	-0.17928	-0.05676	11.39250	-36.30053	-20.61075	0.42609	43.27032	205.12	-7.65
87/ 9/ 6	2447044.5	-0.36636	-0.21977	-0.08008	16.21018	-33.73591	-19.73192	0.43466	42.31111	210.96	-10.62
87/ 9/ 8	2447046.5	-0.34509	-0.25709	-0.10225	20.53839	-30.83758	-18.62412	0.44231	41.46854	216.69	-13.37
87/ 9/10	2447048.5	-0.31910	-0.29090	-0.12303	24.38711	-27.66453	-17.31994	0.44898	40.74357	222.35	-15.90

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

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87/ 9/12	2447050.5	-0.28893	-0.32091	-0.14220	27.76800	-24.26465	-15.84625	0.45463	40.13650	228.00	-18.23
87/ 9/14	2447052.5	-0.25512	-0.34689	-0.15958	30.69239	-20.67688	-14.22507	0.45922	39.64730	233.67	-20.33
87/ 9/16	2447054.5	-0.21820	-0.36862	-0.17501	33.16989	-16.93319	-12.47450	0.46273	39.27579	239.38	-22.22
87/ 9/18	2447056.5	-0.17866	-0.38595	-0.18836	35.20749	-13.06016	-10.60949	0.46514	39.02174	245.16	-23.89
87/ 9/20	2447058.5	-0.13703	-0.39875	-0.19948	36.80888	-9.08044	-8.64254	0.46645	38.88498	251.03	-25.32
87/ 9/22	2447060.5	-0.09380	-0.40690	-0.20829	37.97399	-5.01399	-6.58436	0.46663	38.86538	257.02	-26.51
87/ 9/24	2447062.5	-0.04947	-0.41031	-0.21466	38.69864	-0.87929	-4.44440	0.46570	38.96293	263.12	-27.45
87/ 9/26	2447064.5	-0.00457	-0.40891	-0.21853	38.97419	3.30553	-2.23148	0.46366	39.17772	269.36	-28.12
87/ 9/28	2447066.5	0.04039	-0.40266	-0.21979	38.78732	7.52155	0.04562	0.46052	39.50990	275.73	-28.51
87/ 9/30	2447068.5	0.08485	-0.39153	-0.21840	38.11974	11.74774	2.37754	0.45628	39.95969	282.23	-28.60
87/10/ 2	2447070.5	0.12826	-0.37553	-0.21428	36.94804	15.95959	4.75353	0.45098	40.52730	288.86	-28.37
87/10/ 4	2447072.5	0.17000	-0.35468	-0.20741	35.24364	20.12735	7.16061	0.44465	41.21285	295.61	-27.80
87/10/ 6	2447074.5	0.20946	-0.32906	-0.19774	32.97293	24.21406	9.58242	0.43732	42.01616	302.48	-26.88
87/10/ 8	2447076.5	0.24594	-0.29879	-0.18527	30.09786	28.17298	11.99786	0.42905	42.93654	309.46	-25.58
87/10/10	2447078.5	0.27874	-0.26405	-0.17003	26.57715	31.94464	14.37930	0.41991	43.97237	316.55	-23.89
87/10/12	2447080.5	0.30708	-0.22509	-0.15208	22.36861	35.45327	16.69049	0.40999	45.12052	323.76	-21.77
87/10/14	2447082.5	0.33014	-0.18228	-0.13152	17.43308	38.60276	18.88399	0.39939	46.37554	331.10	-19.23
87/10/16	2447084.5	0.34706	-0.13610	-0.10852	11.74093	41.27247	20.89823	0.38826	47.72842	338.59	-16.23
87/10/18	2447086.5	0.35696	-0.08718	-0.08334	5.28193	43.31373	22.65463	0.37679	49.16513	346.28	-12.78
87/10/20	2447088.5	0.35897	-0.03634	-0.05632	-1.92022	44.54828	24.05530	0.36518	50.66452	354.22	-8.87
87/10/22	2447090.5	0.35227	0.01535	-0.02795	-9.78829	44.77146	24.98270	0.35371	52.19607	2.49	-4.53
87/10/24	2447092.5	0.33616	0.06661	0.00116	-18.16749	43.76367	25.30333	0.34270	53.71755	11.21	0.19
87/10/26	2447094.5	0.31020	0.11590	0.03022	-26.80102	41.31453	24.87814	0.33252	55.17343	20.49	5.21
87/10/28	2447096.5	0.27429	0.16144	0.05829	-35.31345	37.26311	23.58241	0.32357	56.49521	30.48	10.38
87/10/30	2447098.5	0.22885	0.20134	0.08433	-43.21607	31.55220	21.33531	0.31626	57.60526	41.34	15.46
87/11/ 1	2447100.5	0.17491	0.23373	0.10721	-49.94886	24.28472	18.13447	0.31099	58.42512	53.19	20.17
87/11/ 3	2447102.5	0.11413	0.25695	0.12590	-54.96470	15.75911	14.08353	0.30806	58.88815	66.05	24.12
87/11/ 5	2447104.5	0.04876	0.26983	0.13950	-57.84002	6.45722	9.39707	0.30765	58.95310	79.76	26.97
87/11/ 7	2447106.5	-0.01859	0.27180	0.14747	-58.37227	-3.02572	4.37306	0.30979	58.61400	93.91	28.43
87/11/ 9	2447108.5	-0.08521	0.26300	0.14960	-56.62139	-12.09015	-0.66124	0.31435	57.90157	107.95	28.42
87/11/11	2447110.5	-0.14863	0.24423	0.14606	-52.87742	-20.23787	-5.40922	0.32104	56.87577	121.32	27.06
87/11/13	2447112.5	-0.20677	0.21673	0.13730	-47.57446	-27.13609	-9.64811	0.32951	55.61279	133.65	24.63
87/11/15	2447114.5	-0.25812	0.18208	0.12402	-41.19166	-32.62769	-13.24454	0.33935	54.19167	144.80	21.44
87/11/17	2447116.5	-0.30168	0.14191	0.10698	-34.17548	-36.70117	-16.14653	0.35014	52.68443	154.81	17.79
87/11/19	2447118.5	-0.33697	0.09781	0.08698	-26.89631	-39.44380	-18.36277	0.36149	51.15091	163.81	13.92
87/11/21	2447120.5	-0.36383	0.05124	0.06480	-19.63561	-40.99661	-19.93989	0.37309	49.63747	171.98	10.00
87/11/23	2447122.5	-0.38241	0.00349	0.04114	-12.59211	-41.52031	-20.94357	0.38463	48.17811	179.48	6.14
87/11/25	2447124.5	-0.39305	-0.04434	0.01661	-5.89681	-41.17352	-21.44530	0.39589	46.79671	186.44	2.40
87/11/27	2447126.5	-0.39620	-0.09134	-0.00824	0.37043	-40.10102	-21.51442	0.40668	45.50933	192.98	-1.16
87/11/29	2447128.5	-0.39238	-0.13675	-0.03295	6.16602	-38.42886	-21.21396	0.41683	44.32639	199.21	-4.53
87/12/ 1	2447130.5	-0.38215	-0.17993	-0.05713	11.47070	-36.26352	-20.59897	0.42623	43.25434	205.21	-7.70
87/12/ 3	2447132.5	-0.36607	-0.22037	-0.08043	16.28072	-33.69325	-19.71632	0.43479	42.29693	211.05	-10.66
87/12/ 5	2447134.5	-0.34472	-0.25764	-0.10259	20.60140	-30.79029	-18.60526	0.44242	41.45619	216.77	-13.41
87/12/ 7	2447136.5	-0.31866	-0.29140	-0.12334	24.44277	-27.61344	-17.29829	0.44908	40.73306	222.44	-15.94
87/12/ 9	2447138.5	-0.28844	-0.32135	-0.14248	27.81650	-24.21042	-15.82218	0.45471	40.12784	228.09	-18.26

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87/12/11	2447140.5	-0.25458	-0.34725	-0.15984	30.73391	-20.62007	-14.19889	0.45928	39.64050	233.75	-20.37
87/12/13	2447142.5	-0.21761	-0.36892	-0.17524	33.20458	-16.87424	-12.44647	0.46278	39.27083	239.47	-22.25
87/12/15	2447144.5	-0.17804	-0.38619	-0.18855	35.23543	-12.99943	-10.57981	0.46517	39.01863	245.25	-23.91
87/12/17	2447146.5	-0.13637	-0.39891	-0.19964	36.83010	-9.01825	-8.61140	0.46646	38.88369	251.13	-25.34
87/12/19	2447148.5	-0.09312	-0.40699	-0.20840	37.98846	-4.95063	-6.55189	0.46663	38.86592	257.11	-26.53
87/12/21	2447150.5	-0.04878	-0.41032	-0.21474	38.70627	-0.81504	-4.41075	0.46568	38.96529	263.22	-27.46
87/12/23	2447152.5	-0.00388	-0.40885	-0.21857	38.97481	3.37039	-2.19678	0.46362	39.18189	269.46	-28.13
87/12/25	2447154.5	0.04108	-0.40253	-0.21979	38.78068	7.58672	0.08124	0.46046	39.51589	275.83	-28.51
87/12/27	2447156.5	0.08553	-0.39132	-0.21836	38.10552	11.81287	2.41391	0.45621	39.96751	282.33	-28.60
87/12/29	2447158.5	0.12891	-0.37524	-0.21420	36.92586	16.02427	4.79048	0.45089	40.53696	288.96	-28.36
87/12/31	2447160.5	0.17063	-0.35432	-0.20728	35.21301	20.19109	7.19792	0.44455	41.22434	295.71	-27.79
88/ 1/ 2	2447162.5	0.21004	-0.32863	-0.19757	32.93330	24.27622	9.61981	0.43720	42.02949	302.58	-26.86
88/ 1/ 4	2447164.5	0.24648	-0.29829	-0.18506	30.04862	28.23275	12.03496	0.42892	42.95169	309.57	-25.56
88/ 1/ 6	2447166.5	0.27921	-0.26348	-0.16978	26.51763	32.00100	14.41562	0.41977	43.98930	316.66	-23.86
88/ 1/ 8	2447168.5	0.30747	-0.22446	-0.15178	22.29816	35.50490	16.72540	0.40983	45.13917	323.87	-21.74
88/ 1/10	2447170.5	0.33044	-0.18159	-0.13118	17.35115	38.64799	18.91665	0.39922	46.39578	331.21	-19.18
88/ 1/12	2447172.5	0.34727	-0.13536	-0.10815	11.64715	41.30923	20.92756	0.38809	47.75009	338.70	-16.18
88/ 1/14	2447174.5	0.35706	-0.08640	-0.08294	5.17637	43.33948	22.67928	0.37661	49.18796	346.40	-12.72
88/ 1/16	2447176.5	0.35894	-0.03555	-0.05589	-2.03683	44.56006	24.07360	0.36500	50.68812	354.34	-8.81
88/ 1/18	2447178.5	0.35209	0.01615	-0.02750	-9.91422	44.76596	24.99270	0.35353	52.21990	2.63	-4.46
88/ 1/20	2447180.5	0.33584	0.06739	0.00161	-18.29964	43.73747	25.30287	0.34254	53.74084	11.35	0.27
88/ 1/22	2447182.5	0.30972	0.11663	0.03066	-26.93452	41.26462	24.86512	0.33237	55.19521	20.63	5.29
88/ 1/24	2447184.5	0.27366	0.16210	0.05872	-35.44156	37.18765	23.55514	0.32344	56.51433	30.64	10.46
88/ 1/26	2447186.5	0.22808	0.20190	0.08471	-43.33051	31.45140	21.29306	0.31617	57.62047	41.52	15.54
88/ 1/28	2447188.5	0.17401	0.23416	0.10754	-50.04079	24.16166	18.07798	0.31093	58.43526	53.38	20.23
88/ 1/30	2447190.5	0.11314	0.25723	0.12615	-55.02633	15.61993	14.01529	0.30803	58.89234	66.26	24.17
88/ 2/ 1	2447192.5	0.04772	0.26995	0.13967	-57.86631	6.31053	9.32117	0.30766	58.95096	79.97	27.00
88/ 2/ 3	2447194.5	-0.01963	0.27175	0.14755	-58.36213	-3.17038	4.29450	0.30984	58.60573	94.13	28.44
88/ 2/ 5	2447196.5	-0.08622	0.26279	0.14959	-56.57772	-12.22407	-0.73748	0.31443	57.88791	108.17	28.41
88/ 2/ 7	2447198.5	-0.14957	0.24386	0.14596	-52.80610	-20.35453	-5.47907	0.32116	56.85782	121.52	27.03
88/ 2/ 9	2447200.5	-0.20762	0.21625	0.13713	-47.48280	-27.23176	-9.70880	0.32966	55.59178	133.83	24.58
88/ 2/11	2447202.5	-0.25885	0.18150	0.12378	-41.08699	-32.70119	-13.29470	0.33951	54.16879	144.96	21.38
88/ 2/13	2447204.5	-0.30229	0.14125	0.10669	-34.06417	-36.75324	-16.18588	0.35031	52.66071	154.96	17.73
88/ 2/15	2447206.5	-0.33745	0.09710	0.08665	-26.78341	-39.47631	-18.39180	0.36167	51.12718	163.95	13.86
88/ 2/17	2447208.5	-0.36418	0.05051	0.06444	-19.52477	-41.01197	-19.95953	0.37327	49.61433	172.10	9.94
88/ 2/19	2447210.5	-0.38264	0.00275	0.04076	-12.48584	-41.52104	-20.95490	0.38481	48.15600	179.59	6.08
88/ 2/21	2447212.5	-0.39316	-0.04508	0.01623	-5.79670	-41.16198	-21.44942	0.39607	46.77594	186.54	2.35
88/ 2/23	2447214.5	-0.39619	-0.09206	-0.00862	0.46349	-40.07933	-21.51238	0.40684	45.49011	193.08	-1.21
88/ 2/25	2447216.5	-0.39227	-0.13744	-0.03333	6.25156	-38.39882	-21.20666	0.41698	44.30885	199.31	-4.58
88/ 2/27	2447218.5	-0.38194	-0.18058	-0.05749	11.54858	-36.22664	-20.58721	0.42637	43.23855	205.30	-7.75
88/ 2/29	2447220.5	-0.36578	-0.22097	-0.08079	16.35097	-33.65075	-19.70077	0.43491	42.28295	211.14	-10.70
88/ 3/ 2	2447222.5	-0.34436	-0.25819	-0.10292	20.66416	-30.74319	-18.58647	0.44253	41.44404	216.86	-13.45
88/ 3/ 4	2447224.5	-0.31823	-0.29189	-0.12365	24.49822	-27.56254	-17.27672	0.44917	40.72273	222.53	-15.98
88/ 3/ 6	2447226.5	-0.28794	-0.32178	-0.14277	27.86482	-24.15638	-15.79819	0.45479	40.11934	228.18	-18.30
88/ 3/ 8	2447228.5	-0.25403	-0.34762	-0.16009	30.77527	-20.56342	-14.17279	0.45935	39.63382	233.84	-20.40

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88/ 3/10	2447230.5	-0.21702	-0.36922	-0.17546	33.23912	-16.81543	-12.41850	0.46283	39.26597	239.55	-22.28
88/ 3/12	2447232.5	-0.17741	-0.38642	-0.18873	35.26323	-12.93885	-10.55020	0.46520	39.01559	245.34	-23.94
88/ 3/14	2447234.5	-0.13572	-0.39907	-0.19979	36.85120	-8.95622	-8.58032	0.46647	38.88248	251.22	-25.36
88/ 3/16	2447236.5	-0.09245	-0.40708	-0.20852	38.00284	-4.88744	-6.51950	0.46662	38.86653	257.21	-26.54
88/ 3/18	2447238.5	-0.04810	-0.41034	-0.21482	38.71382	-0.75096	-4.37718	0.46566	38.96772	263.31	-27.47
88/ 3/20	2447240.5	-0.00318	-0.40879	-0.21860	38.97537	3.43508	-2.16216	0.46358	39.18615	269.55	-28.14
88/ 3/22	2447242.5	0.04177	-0.40239	-0.21979	38.77401	7.65172	0.11676	0.46040	39.52198	275.93	-28.52
88/ 3/24	2447244.5	0.08621	-0.39111	-0.21831	38.09130	11.87785	2.45020	0.45614	39.97542	282.43	-28.60
88/ 3/26	2447246.5	0.12957	-0.37496	-0.21411	36.90367	16.08881	4.82735	0.45080	40.54669	289.06	-28.36
88/ 3/28	2447248.5	0.17125	-0.35396	-0.20715	35.18237	20.25468	7.23515	0.44444	41.23589	295.82	-27.78
88/ 3/30	2447250.5	0.21063	-0.32820	-0.19739	32.89365	24.33820	9.65711	0.43708	42.04284	302.69	-26.85
88/ 4/ 1	2447252.5	0.24701	-0.29778	-0.18484	29.99934	28.29232	12.07195	0.42879	42.96682	309.68	-25.54
88/ 4/ 3	2447254.5	0.27968	-0.26291	-0.16952	26.45809	32.05710	14.45181	0.41962	44.00617	316.77	-23.83
88/ 4/ 5	2447256.5	0.30787	-0.22383	-0.15148	22.22772	35.55623	16.76015	0.40967	45.15772	323.98	-21.70
88/ 4/ 7	2447258.5	0.33075	-0.18091	-0.13085	17.26926	38.69288	18.94913	0.39905	46.41590	331.32	-19.14
88/ 4/ 9	2447260.5	0.34747	-0.13463	-0.10778	11.55349	41.34562	20.95670	0.38791	47.77161	338.82	-16.13
88/ 4/11	2447262.5	0.35715	-0.08563	-0.08253	5.07102	43.36486	22.70371	0.37643	49.21062	346.52	-12.67
88/ 4/13	2447264.5	0.35890	-0.03476	-0.05547	-2.15316	44.57145	24.09166	0.36482	50.71152	354.47	-8.74
88/ 4/15	2447266.5	0.35192	0.01694	-0.02706	-10.03977	44.76005	25.00243	0.35336	52.24347	2.76	-4.39
88/ 4/17	2447268.5	0.33551	0.06817	0.00206	-18.43126	43.71086	25.30214	0.34237	53.76382	11.48	0.34
88/ 4/19	2447270.5	0.30924	0.11736	0.03110	-27.06732	41.21436	24.85183	0.33222	55.21664	20.78	5.37
88/ 4/21	2447272.5	0.27303	0.16276	0.05913	-35.56880	37.11196	23.52766	0.32332	56.53307	30.80	10.54
88/ 4/23	2447274.5	0.22731	0.20246	0.08509	-43.44394	31.35057	21.25069	0.31607	57.63529	41.69	15.62
88/ 4/25	2447276.5	0.17313	0.23459	0.10786	-50.13166	24.03883	18.02150	0.31086	58.44504	53.57	20.30
88/ 4/27	2447278.5	0.11217	0.25751	0.12639	-55.08694	15.48127	13.94722	0.30801	58.89623	66.46	24.23
88/ 4/29	2447280.5	0.04670	0.27006	0.13984	-57.89176	6.16460	9.24559	0.30768	58.94862	80.19	27.03
88/ 5/ 1	2447282.5	-0.02067	0.27169	0.14763	-58.35144	-3.31411	4.21639	0.30990	58.59737	94.35	28.45
88/ 5/ 3	2447284.5	-0.08723	0.26257	0.14958	-56.53382	-12.35698	-0.81322	0.31452	57.87425	108.38	28.40
88/ 5/ 5	2447286.5	-0.15051	0.24350	0.14586	-52.73486	-20.47022	-5.54839	0.32128	56.83995	121.72	27.00
88/ 5/ 7	2447288.5	-0.20846	0.21577	0.13696	-47.39148	-27.32657	-9.76900	0.32980	55.57092	134.01	24.54
88/ 5/ 9	2447290.5	-0.25958	0.18092	0.12354	-40.98282	-32.77400	-13.34442	0.33967	54.14610	145.12	21.33
88/ 5/11	2447292.5	-0.30290	0.14060	0.10640	-33.95347	-36.80477	-16.22488	0.35048	52.63721	155.10	17.67
88/ 5/13	2447294.5	-0.33792	0.09640	0.08633	-26.67114	-39.50846	-18.42058	0.36185	51.10368	164.08	13.80
88/ 5/15	2447296.5	-0.36452	0.04978	0.06409	-19.41457	-41.02713	-19.97899	0.37345	49.59144	172.22	9.88
88/ 5/17	2447298.5	-0.38286	0.00202	0.04039	-12.38017	-41.52171	-20.96613	0.38499	48.13418	179.70	6.02
88/ 5/19	2447300.5	-0.39326	-0.04581	0.01585	-5.69711	-41.15051	-21.45353	0.39624	46.75549	186.64	2.29
88/ 5/21	2447302.5	-0.39619	-0.09277	-0.00900	0.55609	-40.05780	-21.51037	0.40700	45.47122	193.18	-1.27
88/ 5/23	2447304.5	-0.39216	-0.13812	-0.03370	6.33672	-38.36900	-21.19945	0.41713	44.29165	199.40	-4.63
88/ 5/25	2447306.5	-0.38174	-0.18122	-0.05786	11.62614	-36.19001	-20.57557	0.42651	43.22312	205.39	-7.80
88/ 5/27	2447308.5	-0.36549	-0.22157	-0.08114	16.42095	-33.60853	-19.68535	0.43504	42.26930	211.23	-10.75
88/ 5/29	2447310.5	-0.34399	-0.25873	-0.10325	20.72669	-30.69637	-18.56781	0.44264	41.43219	216.95	-13.49
88/ 5/31	2447312.5	-0.31779	-0.29238	-0.12395	24.55347	-27.51194	-17.25528	0.44927	40.71271	222.61	-16.02
88/ 6/ 2	2447314.5	-0.28745	-0.32221	-0.14305	27.91298	-24.10266	-15.77436	0.45487	40.11113	228.26	-18.33
88/ 6/ 4	2447316.5	-0.25348	-0.34799	-0.16034	30.81651	-20.50713	-14.14686	0.45941	39.62743	233.93	-20.43
88/ 6/ 6	2447318.5	-0.21643	-0.36952	-0.17568	33.27355	-16.75701	-12.39074	0.46287	39.26139	239.64	-22.31

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88/ 6/ 8	2447320.5	-0.17678	-0.38665	-0.18892	35.29094	-12.87868	-10.52080	0.46523	39.01279	245.43	-23.96
88/ 6/10	2447322.5	-0.13507	-0.39923	-0.19994	36.87220	-8.89462	-8.54947	0.46648	38.88145	251.31	-25.38
88/ 6/12	2447324.5	-0.09177	-0.40716	-0.20864	38.01709	-4.82472	-6.48735	0.46662	38.86724	257.30	-26.56
88/ 6/14	2447326.5	-0.04741	-0.41035	-0.21490	38.72121	-0.68741	-4.34387	0.46564	38.97016	263.41	-27.49
88/ 6/16	2447328.5	-0.00249	-0.40873	-0.21864	38.97573	3.49918	-2.12785	0.46354	39.19030	269.65	-28.14
88/ 6/18	2447330.5	0.04245	-0.40226	-0.21979	38.76712	7.71604	0.15195	0.46035	39.52783	276.02	-28.52
88/ 6/20	2447332.5	0.08688	-0.39090	-0.21827	38.07684	11.94202	2.48608	0.45607	39.98298	282.53	-28.59
88/ 6/22	2447334.5	0.13022	-0.37468	-0.21403	36.88127	16.15241	4.86375	0.45072	40.55595	289.17	-28.35
88/ 6/24	2447336.5	0.17188	-0.35361	-0.20702	35.15159	20.31719	7.27183	0.44434	41.24684	295.92	-27.77
88/ 6/26	2447338.5	0.21121	-0.32777	-0.19723	32.85396	24.39899	9.69378	0.43697	42.05547	302.80	-26.83
88/ 6/28	2447340.5	0.24754	-0.29729	-0.18463	29.95017	28.35056	12.10822	0.42866	42.98111	309.78	-25.51
88/ 6/30	2447342.5	0.28015	-0.26235	-0.16927	26.39884	32.11178	14.48721	0.41948	44.02209	316.88	-23.80
88/ 7/ 2	2447344.5	0.30826	-0.22321	-0.15119	22.15781	35.60604	16.79404	0.40952	45.17520	324.09	-21.67
88/ 7/ 4	2447346.5	0.33106	-0.18023	-0.13052	17.18823	38.73620	18.98067	0.39890	46.43484	331.44	-19.10
88/ 7/ 6	2447348.5	0.34768	-0.13391	-0.10741	11.46108	41.38042	20.98485	0.38775	47.79184	338.94	-16.08
88/ 7/ 8	2447350.5	0.35724	-0.08488	-0.08214	4.96736	43.38870	22.72714	0.37626	49.23187	346.63	-12.61
88/ 7/10	2447352.5	0.35887	-0.03399	-0.05505	-2.26725	44.58149	24.10877	0.36465	50.73344	354.59	-8.68
88/ 7/12	2447354.5	0.35175	0.01772	-0.02663	-10.16255	44.75312	25.01134	0.35320	52.26554	2.88	-4.32
88/ 7/14	2447356.5	0.33520	0.06892	0.00250	-18.55962	43.68379	25.30082	0.34222	53.78535	11.62	0.42
88/ 7/16	2447358.5	0.30878	0.11808	0.03153	-27.19650	41.16437	24.83832	0.33208	55.23674	20.93	5.45
88/ 7/18	2447360.5	0.27242	0.16340	0.05954	-35.69229	37.03742	23.50041	0.32320	56.55068	30.96	10.62
88/ 7/20	2447362.5	0.22657	0.20300	0.08545	-43.55380	31.25184	21.20908	0.31598	57.64925	41.86	15.69
88/ 7/22	2447364.5	0.17227	0.23500	0.10817	-50.21947	23.91896	17.96629	0.31081	58.45425	53.76	20.37
88/ 7/24	2447366.5	0.11122	0.25777	0.12663	-55.14535	15.34626	13.88088	0.30798	58.89988	66.66	24.28
88/ 7/26	2447368.5	0.04570	0.27016	0.13999	-57.91610	6.02269	9.17205	0.30769	58.94636	80.40	27.06
88/ 7/28	2447370.5	-0.02167	0.27163	0.14770	-58.34078	-3.45383	4.14043	0.30995	58.58941	94.56	28.46
88/ 7/30	2447372.5	-0.08820	0.26235	0.14956	-56.49105	-12.48624	-0.88688	0.31461	57.86131	108.58	28.38
88/ 8/ 1	2447374.5	-0.15141	0.24315	0.14577	-52.66564	-20.58288	-5.61588	0.32139	56.82308	121.91	26.97
88/ 8/ 3	2447376.5	-0.20927	0.21529	0.13679	-47.30278	-27.41912	-9.82771	0.32993	55.55128	134.19	24.49
88/ 8/ 5	2447378.5	-0.26028	0.18035	0.12331	-40.88160	-32.84532	-13.39305	0.33982	54.12480	145.28	21.28
88/ 8/ 7	2447380.5	-0.30348	0.13996	0.10612	-33.84576	-36.85554	-16.26317	0.35064	52.61518	155.24	17.62
88/ 8/ 9	2447382.5	-0.33838	0.09572	0.08600	-26.56173	-39.54042	-18.44897	0.36202	51.08165	164.21	13.74
88/ 8/11	2447384.5	-0.36485	0.04907	0.06374	-19.30697	-41.04255	-19.99833	0.37362	49.56999	172.34	9.82
88/ 8/13	2447386.5	-0.38307	0.00129	0.04002	-12.27679	-41.52295	-20.97744	0.38515	48.11369	179.81	5.96
88/ 8/15	2447388.5	-0.39335	-0.04652	0.01547	-5.59949	-41.13980	-21.45783	0.39640	46.73624	186.75	2.24
88/ 8/17	2447390.5	-0.39617	-0.09347	-0.00938	0.64703	-40.03713	-21.50865	0.40715	45.45340	193.28	-1.32
88/ 8/19	2447392.5	-0.39204	-0.13879	-0.03408	6.42049	-38.34008	-21.19257	0.41727	44.27538	199.49	-4.68
88/ 8/21	2447394.5	-0.38152	-0.18185	-0.05822	11.70256	-36.15427	-20.56428	0.42664	43.20846	205.48	-7.84
88/ 8/23	2447396.5	-0.36519	-0.22216	-0.08148	16.48999	-33.56717	-19.67029	0.43515	42.25630	211.31	-10.79
88/ 8/25	2447398.5	-0.34362	-0.25927	-0.10357	20.78844	-30.65035	-18.54951	0.44275	41.42086	217.04	-13.53
88/ 8/27	2447400.5	-0.31735	-0.29286	-0.12426	24.60808	-27.46206	-17.23417	0.44936	40.70306	222.70	-16.05
88/ 8/29	2447402.5	-0.28695	-0.32263	-0.14332	27.96060	-24.04956	-15.75080	0.45494	40.10317	228.35	-18.36
88/ 8/31	2447404.5	-0.25294	-0.34835	-0.16059	30.85726	-20.45135	-14.12116	0.45947	39.62115	234.02	-20.46
88/ 9/ 2	2447406.5	-0.21584	-0.36982	-0.17590	33.30755	-16.69900	-12.36314	0.46291	39.25681	239.73	-22.33
88/ 9/ 4	2447408.5	-0.17616	-0.38687	-0.18911	35.31825	-12.81882	-10.49153	0.46526	39.00991	245.52	-23.98

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88/ 9/ 6	2447410.5	-0.13441	-0.39939	-0.20010	36.89283	-8.83325	-8.51869	0.46649	38.88027	251.40	-25.40
88/ 9/ 8	2447412.5	-0.09110	-0.40725	-0.20875	38.03100	-4.76213	-6.45523	0.46661	38.86778	257.39	-26.58
88/ 9/10	2447414.5	-0.04672	-0.41036	-0.21498	38.72830	-0.62390	-4.31056	0.46561	38.97245	263.50	-27.50
88/ 9/12	2447416.5	-0.00180	-0.40867	-0.21868	38.97585	3.56332	-2.09348	0.46350	39.19435	269.75	-28.15
88/ 9/14	2447418.5	0.04314	-0.40212	-0.21979	38.76002	7.78049	0.18723	0.46029	39.53366	276.12	-28.52
88/ 9/16	2447420.5	0.08756	-0.39069	-0.21823	38.06222	12.00645	2.52212	0.45599	39.99060	282.63	-28.59
88/ 9/18	2447422.5	0.13088	-0.37439	-0.21395	36.85872	16.21639	4.90036	0.45063	40.56537	289.27	-28.34
88/ 9/20	2447424.5	0.17250	-0.35325	-0.20690	35.12062	20.38019	7.30878	0.44424	41.25807	296.03	-27.76
88/ 9/22	2447426.5	0.21179	-0.32734	-0.19706	32.81403	24.46038	9.73079	0.43685	42.06850	302.90	-26.81
88/ 9/24	2447428.5	0.24807	-0.29679	-0.18442	29.90067	28.40953	12.14492	0.42853	42.99593	309.89	-25.49
88/ 9/26	2447430.5	0.28062	-0.26178	-0.16901	26.33913	32.16729	14.52310	0.41933	44.03868	316.99	-23.77
88/ 9/28	2447432.5	0.30865	-0.22258	-0.15090	22.08728	35.65679	16.82849	0.40936	45.19350	324.20	-21.63
88/ 9/30	2447434.5	0.33136	-0.17955	-0.13018	17.10633	38.78052	19.01285	0.39873	46.45475	331.55	-19.06
88/10/ 2	2447436.5	0.34788	-0.13318	-0.10704	11.36751	41.41626	21.01367	0.38758	47.81319	339.05	-16.03
88/10/ 4	2447438.5	0.35733	-0.08412	-0.08174	4.86220	43.41353	22.75126	0.37608	49.25439	346.75	-12.55
88/10/ 6	2447440.5	0.35883	-0.03320	-0.05462	-2.38327	44.59233	24.12650	0.36448	50.75672	354.71	-8.62
88/10/ 8	2447442.5	0.35157	0.01851	-0.02619	-10.28766	44.74669	25.02075	0.35303	52.28901	3.01	-4.25
88/10/10	2447444.5	0.33487	0.06969	0.00294	-18.69067	43.65672	25.29978	0.34206	53.80826	11.76	0.49
88/10/12	2447446.5	0.30830	0.11880	0.03197	-27.32861	41.11374	24.82477	0.33194	55.25813	21.07	5.53
88/10/14	2447448.5	0.27179	0.16405	0.05995	-35.81872	36.96148	23.47271	0.32307	56.56942	31.12	10.69
88/10/16	2447450.5	0.22580	0.20355	0.08583	-43.66633	31.15092	21.16657	0.31588	57.66413	42.03	15.77
88/10/18	2447452.5	0.17138	0.23542	0.10848	-50.30940	23.79623	17.90977	0.31074	58.46414	53.95	20.43
88/10/20	2447454.5	0.11025	0.25804	0.12688	-55.20505	15.20788	13.81287	0.30796	58.90393	66.87	24.33
88/10/22	2447456.5	0.04468	0.27026	0.14016	-57.94073	5.87722	9.09663	0.30771	58.94420	80.61	27.10
88/10/24	2447458.5	-0.02270	0.27157	0.14777	-58.32942	-3.59696	4.06256	0.31000	58.58125	94.78	28.47
88/10/26	2447460.5	-0.08920	0.26213	0.14954	-56.44666	-12.61848	-0.96230	0.31469	57.84789	108.79	28.37
88/10/28	2447462.5	-0.15234	0.24278	0.14566	-52.59410	-20.69788	-5.68486	0.32151	56.80545	122.11	26.94
88/10/30	2447464.5	-0.21011	0.21480	0.13661	-47.21132	-27.51326	-9.88757	0.33007	55.53064	134.37	24.45
88/11/ 1	2447466.5	-0.26100	0.17976	0.12307	-40.77743	-32.91751	-13.44245	0.33998	54.10231	145.44	21.22
88/11/ 3	2447468.5	-0.30408	0.13930	0.10583	-33.73516	-36.90653	-16.30187	0.35081	52.59186	155.39	17.56
88/11/ 5	2447470.5	-0.33885	0.09501	0.08568	-26.44966	-39.57208	-18.47746	0.36219	51.05830	164.34	13.68
88/11/ 7	2447472.5	-0.36519	0.04834	0.06339	-19.19701	-41.05727	-20.01753	0.37379	49.54721	172.46	9.76
88/11/ 9	2447474.5	-0.38328	0.00056	0.03965	-12.17139	-41.52322	-20.98843	0.38533	48.09194	179.92	5.91
88/11/11	2447476.5	-0.39345	-0.04725	0.01509	-5.50021	-41.12796	-21.46171	0.39656	46.71580	186.85	2.18
88/11/13	2447478.5	-0.39616	-0.09418	-0.00976	0.73930	-40.01524	-21.50642	0.40731	45.43448	193.37	-1.37
88/11/15	2447480.5	-0.39192	-0.13947	-0.03445	6.50532	-38.30992	-21.18514	0.41742	44.25810	199.59	-4.73
88/11/17	2447482.5	-0.38132	-0.18250	-0.05859	11.77978	-36.11731	-20.55242	0.42678	43.19288	205.58	-7.89
88/11/19	2447484.5	-0.36490	-0.22275	-0.08183	16.55964	-33.52462	-19.65465	0.43528	42.24248	211.40	-10.84
88/11/21	2447486.5	-0.34325	-0.25982	-0.10390	20.85065	-30.60322	-18.53065	0.44286	41.40883	217.12	-13.57
88/11/23	2447488.5	-0.31692	-0.29335	-0.12456	24.66301	-27.41115	-17.21254	0.44945	40.69283	222.79	-16.09
88/11/25	2447490.5	-0.28645	-0.32306	-0.14360	28.00843	-23.99553	-15.72677	0.45502	40.09475	228.44	-18.40
88/11/27	2447492.5	-0.25239	-0.34871	-0.16084	30.89816	-20.39475	-14.09503	0.45953	39.61454	234.10	-20.49
88/11/29	2447494.5	-0.21524	-0.37011	-0.17612	33.34165	-16.64026	-12.33517	0.46296	39.25201	239.82	-22.36
88/12/ 1	2447496.5	-0.17553	-0.38710	-0.18929	35.34563	-12.75832	-10.46192	0.46529	39.00693	245.61	-24.01
88/12/ 3	2447498.5	-0.13376	-0.39955	-0.20025	36.91354	-8.77130	-8.48762	0.46650	38.87910	251.49	-25.42

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
88/12/ 5	2447500.5	-0.09042	-0.40733	-0.20887	38.04499	-4.69902	-6.42284	0.46661	38.86843	257.48	-26.59
88/12/ 7	2447502.5	-0.04604	-0.41038	-0.21505	38.73548	-0.55990	-4.27700	0.46559	38.97491	263.60	-27.51
88/12/ 9	2447504.5	-0.00111	-0.40861	-0.21872	38.97604	3.62792	-2.05887	0.46346	39.19863	269.84	-28.16
88/12/11	2447506.5	0.04383	-0.40198	-0.21979	38.75296	7.84539	0.22274	0.46024	39.53975	276.22	-28.53
88/12/13	2447508.5	0.08823	-0.39048	-0.21818	38.04759	12.07129	2.55838	0.45592	39.99851	282.73	-28.59
88/12/15	2447510.5	0.13153	-0.37410	-0.21386	36.83611	16.28076	4.93719	0.45054	40.57509	289.37	-28.34
88/12/17	2447512.5	0.17312	-0.35289	-0.20677	35.08956	20.44359	7.34596	0.44413	41.26961	296.13	-27.75
88/12/19	2447514.5	0.21237	-0.32691	-0.19688	32.77396	24.52216	9.76802	0.43673	42.08186	303.01	-26.80
88/12/21	2447516.5	0.24860	-0.29629	-0.18420	29.85098	28.46887	12.18183	0.42839	43.01110	310.00	-25.47
88/12/23	2447518.5	0.28108	-0.26121	-0.16875	26.27916	32.22317	14.55921	0.41919	44.05562	317.10	-23.74
88/12/25	2447520.5	0.30904	-0.22195	-0.15060	22.01639	35.70785	16.86314	0.40921	45.21214	324.32	-21.59
88/12/27	2447522.5	0.33166	-0.17886	-0.12984	17.02398	38.82510	19.04520	0.39856	46.47498	331.66	-19.01
88/12/29	2447524.5	0.34808	-0.13244	-0.10667	11.27336	41.45226	21.04264	0.38740	47.83483	339.17	-15.98
88/12/31	2447526.5	0.35741	-0.08335	-0.08133	4.75634	43.43840	22.77547	0.37591	49.27717	346.87	-12.50
89/ 1/ 2	2447528.5	0.35878	-0.03241	-0.05419	-2.50007	44.60309	24.14427	0.36430	50.78023	354.84	-8.56
89/ 1/ 4	2447530.5	0.35138	0.01930	-0.02574	-10.41362	44.74001	25.03011	0.35285	52.31270	3.14	-4.18
89/ 1/ 6	2447532.5	0.33453	0.07047	0.00339	-18.82258	43.62921	25.29860	0.34189	53.83137	11.90	0.57
89/ 1/ 8	2447534.5	0.30781	0.11953	0.03241	-27.46151	41.06246	24.81095	0.33179	55.27968	21.22	5.61
89/ 1/10	2447536.5	0.27115	0.16471	0.06037	-35.94579	36.88470	23.44463	0.32295	56.58827	31.28	10.77
89/ 1/12	2447538.5	0.22502	0.20410	0.08620	-43.77928	31.04901	21.12356	0.31579	57.67903	42.21	15.84
89/ 1/14	2447540.5	0.17048	0.23584	0.10880	-50.39941	23.67242	17.85268	0.31068	58.47395	54.14	20.50
89/ 1/16	2447542.5	0.10926	0.25831	0.12712	-55.26449	15.06847	13.74427	0.30793	58.90779	67.07	24.38
89/ 1/18	2447544.5	0.04365	0.27037	0.14032	-57.96479	5.73085	9.02068	0.30772	58.94177	80.83	27.13
89/ 1/20	2447546.5	-0.02374	0.27150	0.14784	-58.31723	-3.74076	3.98425	0.31005	58.57275	95.00	28.48
89/ 1/22	2447548.5	-0.09020	0.26190	0.14953	-56.40134	-12.75114	-1.03804	0.31478	57.83407	109.00	28.36
89/ 1/24	2447550.5	-0.15328	0.24241	0.14556	-52.52160	-20.81305	-5.75402	0.32163	56.78742	122.31	26.91
89/ 1/26	2447552.5	-0.21095	0.21431	0.13644	-47.11897	-27.60739	-9.94750	0.33022	55.50963	134.55	24.40
89/ 1/28	2447554.5	-0.26173	0.17918	0.12283	-40.67250	-32.98956	-13.49185	0.34014	54.07951	145.60	21.17
89/ 1/30	2447556.5	-0.30468	0.13865	0.10554	-33.62393	-36.95730	-16.34052	0.35098	52.56827	155.53	17.50
89/ 2/ 1	2447558.5	-0.33932	0.09431	0.08535	-26.33704	-39.60350	-18.50589	0.36237	51.03474	164.47	13.62
89/ 2/ 3	2447560.5	-0.36554	0.04761	0.06303	-19.08661	-41.07174	-20.03665	0.37397	49.52428	172.58	9.70
89/ 2/ 5	2447562.5	-0.38350	-0.00018	0.03928	-12.06564	-41.52324	-20.99932	0.38550	48.07006	180.03	5.85
89/ 2/ 7	2447564.5	-0.39355	-0.04799	0.01471	-5.40063	-41.11586	-21.46547	0.39673	46.69526	186.95	2.12
89/ 2/ 9	2447566.5	-0.39614	-0.09489	-0.01015	0.83181	-39.99310	-21.50408	0.40747	45.41548	193.47	-1.43
89/ 2/11	2447568.5	-0.39181	-0.14015	-0.03483	6.59034	-38.27952	-21.17760	0.41757	44.24076	199.68	-4.78
89/ 2/13	2447570.5	-0.38111	-0.18314	-0.05895	11.85717	-36.08013	-20.54046	0.42692	43.17729	205.67	-7.94
89/ 2/15	2447572.5	-0.36461	-0.22335	-0.08218	16.62944	-33.48188	-19.63893	0.43540	42.22868	211.49	-10.88
89/ 2/17	2447574.5	-0.34288	-0.26036	-0.10423	20.91299	-30.55591	-18.51171	0.44296	41.39685	217.21	-13.61
89/ 2/19	2447576.5	-0.31648	-0.29383	-0.12487	24.71807	-27.36007	-17.19083	0.44954	40.68268	222.88	-16.13
89/ 2/21	2447578.5	-0.28595	-0.32348	-0.14388	28.05639	-23.94133	-15.70265	0.45510	40.08642	228.52	-18.43
89/ 2/23	2447580.5	-0.25184	-0.34907	-0.16109	30.93917	-20.33795	-14.06881	0.45959	39.60803	234.19	-20.52
89/ 2/25	2447582.5	-0.21465	-0.37041	-0.17634	33.37584	-16.58132	-12.30709	0.46300	39.24731	239.91	-22.39
89/ 2/27	2447584.5	-0.17490	-0.38733	-0.18948	35.37309	-12.69759	-10.43219	0.46531	39.00404	245.70	-24.03
89/ 3/ 1	2447586.5	-0.13310	-0.39970	-0.20040	36.93428	-8.70911	-8.45642	0.46651	38.87802	251.58	-25.44
89/ 3/ 3	2447588.5	-0.08975	-0.40742	-0.20898	38.05898	-4.63567	-6.39033	0.46660	38.86916	257.58	-26.61

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89/ 3/ 5	2447590.5	-0.04535	-0.41038	-0.21513	38.74263	-0.49567	-4.24330	0.46557	38.97746	263.69	-27.52
89/ 3/ 7	2447592.5	-0.00042	-0.40854	-0.21876	38.97616	3.69276	-2.02413	0.46342	39.20300	269.94	-28.17
89/ 3/ 9	2447594.5	0.04452	-0.40184	-0.21978	38.74582	7.91054	0.25839	0.46018	39.54595	276.32	-28.53
89/ 3/11	2447596.5	0.08891	-0.39026	-0.21814	38.03285	12.13640	2.59480	0.45584	40.00654	282.83	-28.59
89/ 3/13	2447598.5	0.13218	-0.37381	-0.21377	36.81338	16.34542	4.97418	0.45045	40.58497	289.47	-28.33
89/ 3/15	2447600.5	0.17375	-0.35252	-0.20663	35.05833	20.50728	7.38330	0.44402	41.28133	296.24	-27.73
89/ 3/17	2447602.5	0.21296	-0.32647	-0.19671	32.73368	24.58422	9.80543	0.43661	42.09541	303.12	-26.78
89/ 3/19	2447604.5	0.24913	-0.29578	-0.18399	29.80100	28.52849	12.21892	0.42825	43.02646	310.11	-25.44
89/ 3/21	2447606.5	0.28155	-0.26064	-0.16849	26.21884	32.27926	14.59548	0.41904	44.07274	317.21	-23.71
89/ 3/23	2447608.5	0.30944	-0.22131	-0.15030	21.94508	35.75909	16.89794	0.40905	45.23095	324.43	-21.56
89/ 3/25	2447610.5	0.33197	-0.17817	-0.12950	16.94114	38.86979	19.07767	0.39839	46.49538	331.78	-18.97
89/ 3/27	2447612.5	0.34828	-0.13170	-0.10629	11.17867	41.48829	21.07169	0.38723	47.85663	339.29	-15.93
89/ 3/29	2447614.5	0.35750	-0.08257	-0.08093	4.64990	43.46321	22.79970	0.37573	49.30009	346.99	-12.44
89/ 3/31	2447616.5	0.35874	-0.03161	-0.05376	-2.61746	44.61368	24.16201	0.36412	50.80388	354.96	-8.49
89/ 4/ 2	2447618.5	0.35120	0.02010	-0.02529	-10.54012	44.73302	25.03937	0.35268	52.33648	3.28	-4.11
89/ 4/ 4	2447620.5	0.33420	0.07125	0.00384	-18.95494	43.60124	25.29721	0.34173	53.85449	12.03	0.64
89/ 4/ 6	2447622.5	0.30732	0.12026	0.03285	-27.59470	41.01058	24.79683	0.33164	55.30116	21.37	5.69
89/ 4/ 8	2447624.5	0.27051	0.16536	0.06079	-36.07291	36.80721	23.41617	0.32283	56.60692	31.44	10.85
89/ 4/10	2447626.5	0.22424	0.20465	0.08658	-43.89196	30.94637	21.08015	0.31569	57.69362	42.39	15.92
89/ 4/12	2447628.5	0.16958	0.23626	0.10912	-50.48886	23.54798	17.79519	0.31062	58.48334	54.33	20.57
89/ 4/14	2447630.5	0.10828	0.25858	0.12737	-55.32311	14.92864	13.67537	0.30791	58.91118	67.28	24.43
89/ 4/16	2447632.5	0.04261	0.27047	0.14048	-57.98789	5.58437	8.94456	0.30774	58.93883	81.05	27.16
89/ 4/18	2447634.5	-0.02478	0.27143	0.14791	-58.30410	-3.88439	3.90595	0.31011	58.56375	95.22	28.49
89/ 4/20	2447636.5	-0.09120	0.26168	0.14951	-56.35519	-12.88334	-1.11363	0.31487	57.81979	109.22	28.35
89/ 4/22	2447638.5	-0.15421	0.24204	0.14546	-52.44850	-20.92760	-5.82292	0.32175	56.76898	122.50	26.88
89/ 4/24	2447640.5	-0.21178	0.21382	0.13626	-47.02628	-27.70082	-10.00710	0.33036	55.48827	134.73	24.36
89/ 4/26	2447642.5	-0.26245	0.17859	0.12259	-40.56745	-33.06089	-13.54088	0.34030	54.05642	145.77	21.12
89/ 4/28	2447644.5	-0.30527	0.13799	0.10525	-33.51278	-37.00741	-16.37881	0.35116	52.54446	155.68	17.44
89/ 4/30	2447646.5	-0.33978	0.09361	0.08502	-26.22469	-39.63435	-18.53398	0.36255	51.01102	164.60	13.56
89/ 5/ 2	2447648.5	-0.36587	0.04688	0.06267	-18.97659	-41.08577	-20.05548	0.37415	49.50125	172.70	9.64
89/ 5/ 4	2447650.5	-0.38371	-0.00092	0.03891	-11.96034	-41.52294	-21.01000	0.38568	48.04814	180.14	5.79
89/ 5/ 6	2447652.5	-0.39364	-0.04871	0.01433	-5.30155	-41.10359	-21.46909	0.39690	46.67476	187.05	2.07
89/ 5/ 8	2447654.5	-0.39613	-0.09560	-0.01053	0.92383	-39.97091	-21.50165	0.40764	45.39657	193.57	-1.48
89/ 5/10	2447656.5	-0.39169	-0.14083	-0.03520	6.67488	-38.24917	-21.17004	0.41772	44.22356	199.78	-4.83
89/ 5/12	2447658.5	-0.38090	-0.18378	-0.05932	11.93410	-36.04309	-20.52853	0.42705	43.16188	205.76	-7.98
89/ 5/14	2447660.5	-0.36431	-0.22394	-0.08253	16.69881	-33.43935	-19.62328	0.43553	42.21509	211.58	-10.92
89/ 5/16	2447662.5	-0.34251	-0.26090	-0.10456	20.97494	-30.50886	-18.49287	0.44307	41.38509	217.30	-13.65
89/ 5/18	2447664.5	-0.31604	-0.29432	-0.12518	24.77278	-27.30930	-17.16925	0.44964	40.67274	222.96	-16.16
89/ 5/20	2447666.5	-0.28546	-0.32390	-0.14416	28.10404	-23.88749	-15.67870	0.45517	40.07831	228.61	-18.46
89/ 5/22	2447668.5	-0.25129	-0.34943	-0.16134	30.97994	-20.28156	-14.04278	0.45965	39.60174	234.28	-20.55
89/ 5/24	2447670.5	-0.21406	-0.37070	-0.17655	33.40984	-16.52280	-12.27923	0.46305	39.24284	240.00	-22.41
89/ 5/26	2447672.5	-0.17428	-0.38755	-0.18966	35.40040	-12.63732	-10.40270	0.46534	39.00137	245.79	-24.05
89/ 5/28	2447674.5	-0.13245	-0.39985	-0.20055	36.95493	-8.64741	-8.42547	0.46652	38.87715	251.67	-25.46
89/ 5/30	2447676.5	-0.08907	-0.40750	-0.20909	38.07292	-4.57282	-6.35807	0.46659	38.87008	257.67	-26.62
89/ 6/ 1	2447678.5	-0.04466	-0.41039	-0.21520	38.74973	-0.43195	-4.20988	0.46554	38.98014	263.79	-27.53

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89/ 6/ 3	2447680.5	0.00027	-0.40848	-0.21879	38.97626	3.75706	-1.98968	0.46338	39.20744	270.04	-28.17
89/ 6/ 5	2447682.5	0.04520	-0.40170	-0.21978	38.73866	7.97511	0.29374	0.46012	39.55215	276.42	-28.53
89/ 6/ 7	2447684.5	0.08958	-0.39005	-0.21809	38.01812	12.20088	2.63087	0.45577	40.01450	282.93	-28.59
89/ 6/ 9	2447686.5	0.13284	-0.37352	-0.21368	36.79067	16.40939	5.01080	0.45036	40.59469	289.58	-28.32
89/ 6/11	2447688.5	0.17437	-0.35216	-0.20650	35.02717	20.57022	7.42024	0.44392	41.29282	296.34	-27.72
89/ 6/13	2447690.5	0.21353	-0.32603	-0.19653	32.69353	24.64547	9.84239	0.43649	42.10865	303.22	-26.76
89/ 6/15	2447692.5	0.24966	-0.29527	-0.18377	29.75126	28.58723	12.25552	0.42812	43.04143	310.22	-25.42
89/ 6/17	2447694.5	0.28201	-0.26007	-0.16824	26.15886	32.33444	14.63122	0.41889	44.08940	317.32	-23.68
89/ 6/19	2447696.5	0.30982	-0.22068	-0.15000	21.87426	35.80937	16.93217	0.40889	45.24923	324.54	-21.52
89/ 6/21	2447698.5	0.33227	-0.17748	-0.12917	16.85896	38.91349	19.10954	0.39823	46.51515	331.89	-18.93
89/ 6/23	2447700.5	0.34848	-0.13097	-0.10592	11.08486	41.52334	21.10011	0.38706	47.87773	339.40	-15.88
89/ 6/25	2447702.5	0.35758	-0.08181	-0.08053	4.54458	43.48709	22.82332	0.37555	49.32225	347.11	-12.38
89/ 6/27	2447704.5	0.35869	-0.03083	-0.05334	-2.73346	44.62342	24.17915	0.36395	50.82669	355.09	-8.43
89/ 6/29	2447706.5	0.35101	0.02088	-0.02485	-10.66496	44.72537	25.04810	0.35251	52.35941	3.40	-4.04
89/ 7/ 1	2447708.5	0.33387	0.07201	0.00429	-19.08538	43.57291	25.29544	0.34157	53.87679	12.17	0.72
89/ 7/ 3	2447710.5	0.30684	0.12098	0.03329	-27.72578	40.95874	24.78253	0.33150	55.32188	21.52	5.76
89/ 7/ 5	2447712.5	0.26988	0.16601	0.06120	-36.19786	36.73026	23.38777	0.32271	56.62495	31.60	10.93
89/ 7/ 7	2447714.5	0.22347	0.20519	0.08695	-44.00256	30.84480	21.03709	0.31560	57.70777	42.56	15.99
89/ 7/ 9	2447716.5	0.16870	0.23667	0.10943	-50.57654	23.42510	17.73836	0.31056	58.49249	54.52	20.63
89/ 7/11	2447718.5	0.10731	0.25884	0.12761	-55.38045	14.79075	13.60738	0.30789	58.91452	67.48	24.48
89/ 7/13	2447720.5	0.04160	0.27057	0.14063	-58.01032	5.44002	8.86952	0.30776	58.93606	81.26	27.19
89/ 7/15	2447722.5	-0.02580	0.27136	0.14798	-58.29095	-4.02588	3.82877	0.31016	58.55512	95.43	28.50
89/ 7/17	2447724.5	-0.09219	0.26145	0.14949	-56.30963	-13.01364	-1.18814	0.31496	57.80606	109.42	28.33
89/ 7/19	2447726.5	-0.15513	0.24167	0.14536	-52.37647	-21.04059	-5.89087	0.32187	56.75124	122.70	26.85
89/ 7/21	2447728.5	-0.21261	0.21334	0.13608	-46.93495	-27.79309	-10.06594	0.33050	55.46772	134.90	24.31
89/ 7/23	2447730.5	-0.26316	0.17801	0.12235	-40.46391	-33.13148	-13.58936	0.34046	54.03419	145.92	21.06
89/ 7/25	2447732.5	-0.30586	0.13734	0.10496	-33.40314	-37.05715	-16.41674	0.35132	52.52153	155.82	17.38
89/ 7/27	2447734.5	-0.34024	0.09291	0.08469	-26.11374	-39.66511	-18.56188	0.36272	50.98815	164.73	13.50
89/ 7/29	2447736.5	-0.36620	0.04616	0.06232	-18.86783	-41.09991	-20.07426	0.37433	49.47902	172.82	9.58
89/ 7/31	2447738.5	-0.38392	-0.00165	0.03854	-11.85613	-41.52291	-21.02071	0.38585	48.02697	180.25	5.73
89/ 8/ 2	2447740.5	-0.39373	-0.04944	0.01395	-5.20338	-41.09166	-21.47280	0.39707	46.65492	187.16	2.01
89/ 8/ 4	2447742.5	-0.39611	-0.09630	-0.01091	1.01508	-39.94912	-21.49937	0.40779	45.37824	193.66	-1.53
89/ 8/ 6	2447744.5	-0.39157	-0.14150	-0.03558	6.75877	-38.21923	-21.16263	0.41787	44.20687	199.87	-4.88
89/ 8/ 8	2447746.5	-0.38068	-0.18441	-0.05968	12.01049	-36.00645	-20.51675	0.42719	43.14688	205.85	-8.03
89/ 8/10	2447748.5	-0.36402	-0.22453	-0.08287	16.76771	-33.39720	-19.60778	0.43565	42.20182	211.67	-10.97
89/ 8/12	2447750.5	-0.34213	-0.26144	-0.10489	21.03646	-30.46217	-18.47418	0.44318	41.37357	217.38	-13.69
89/ 8/14	2447752.5	-0.31560	-0.29480	-0.12548	24.82709	-27.25887	-17.14781	0.44973	40.66297	223.05	-16.20
89/ 8/16	2447754.5	-0.28496	-0.32433	-0.14444	28.15130	-23.83396	-15.65487	0.45525	40.07029	228.70	-18.50
89/ 8/18	2447756.5	-0.25074	-0.34979	-0.16159	31.02030	-20.22545	-14.01687	0.45971	39.59546	234.37	-20.58
89/ 8/20	2447758.5	-0.21347	-0.37099	-0.17677	33.44341	-16.46458	-12.25148	0.46309	39.23828	240.08	-22.44
89/ 8/22	2447760.5	-0.17365	-0.38778	-0.18985	35.42725	-12.57735	-10.37332	0.46537	38.99853	245.88	-24.08
89/ 8/24	2447762.5	-0.13179	-0.40001	-0.20070	36.97506	-8.58602	-8.39464	0.46653	38.87602	251.76	-25.48
89/ 8/26	2447764.5	-0.08840	-0.40758	-0.20921	38.08632	-4.51033	-6.32596	0.46659	38.87066	257.76	-26.64
89/ 8/28	2447766.5	-0.04398	-0.41040	-0.21528	38.75630	-0.36863	-4.17662	0.46552	38.98244	263.88	-27.55
89/ 8/30	2447768.5	0.00096	-0.40841	-0.21883	38.97584	3.82091	-1.95541	0.46334	39.21146	270.13	-28.18

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89/ 9/ 1	2447770.5	0.04589	-0.40156	-0.21977	38.73102	8.03917	0.32886	0.46006	39.55791	276.52	-28.54
89/ 9/ 3	2447772.5	0.09025	-0.38984	-0.21805	38.00294	12.26480	2.66669	0.45570	40.02199	283.03	-28.59
89/ 9/ 5	2447774.5	0.13348	-0.37324	-0.21360	36.76757	16.47274	5.04714	0.45027	40.60393	289.68	-28.32
89/ 9/ 7	2447776.5	0.17498	-0.35180	-0.20638	34.99569	20.63249	7.45686	0.44382	41.30379	296.45	-27.71
89/ 9/ 9	2447778.5	0.21411	-0.32561	-0.19636	32.65313	24.70602	9.87899	0.43637	42.12136	303.33	-26.74
89/ 9/11	2447780.5	0.25018	-0.29478	-0.18356	29.70137	28.64523	12.29174	0.42799	43.05586	310.32	-25.40
89/ 9/13	2447782.5	0.28247	-0.25950	-0.16798	26.09888	32.38887	14.66656	0.41875	44.10554	317.43	-23.65
89/ 9/15	2447784.5	0.31021	-0.22006	-0.14970	21.80359	35.85892	16.96599	0.40874	45.26703	324.65	-21.49
89/ 9/17	2447786.5	0.33256	-0.17681	-0.12884	16.77712	38.95651	19.14101	0.39807	46.53450	332.00	-18.88
89/ 9/19	2447788.5	0.34867	-0.13025	-0.10556	10.99157	41.55777	21.12815	0.38689	47.89845	339.52	-15.83
89/ 9/21	2447790.5	0.35766	-0.08105	-0.08013	4.43999	43.51044	22.84659	0.37538	49.34408	347.23	-12.33
89/ 9/23	2447792.5	0.35865	-0.03005	-0.05292	-2.84857	44.63278	24.19600	0.36377	50.84925	355.21	-8.36
89/ 9/25	2447794.5	0.35083	0.02166	-0.02442	-10.78878	44.71752	25.05662	0.35234	52.38214	3.53	-3.97
89/ 9/27	2447796.5	0.33353	0.07277	0.00473	-19.21472	43.54458	25.29355	0.34141	53.89897	12.31	0.79
89/ 9/29	2447798.5	0.30635	0.12169	0.03372	-27.85573	40.90713	24.76823	0.33136	55.34257	21.66	5.84
89/10/ 1	2447800.5	0.26925	0.16665	0.06160	-36.32174	36.65378	23.35952	0.32258	56.64305	31.75	11.01
89/10/ 3	2447802.5	0.22270	0.20573	0.08731	-44.11226	30.74390	20.99429	0.31551	57.72209	42.73	16.07
89/10/ 5	2447804.5	0.16782	0.23708	0.10974	-50.66354	23.30304	17.68190	0.31050	58.50193	54.71	20.70
89/10/ 7	2447806.5	0.10635	0.25909	0.12784	-55.43739	14.65374	13.53981	0.30787	58.91827	67.68	24.53
89/10/ 9	2447808.5	0.04059	0.27066	0.14078	-58.03264	5.29651	8.79491	0.30777	58.93378	81.47	27.22
89/10/11	2447810.5	-0.02681	0.27129	0.14804	-58.27795	-4.16667	3.75200	0.31021	58.54706	95.64	28.50
89/10/13	2447812.5	-0.09317	0.26122	0.14946	-56.26439	-13.14341	-1.26233	0.31505	57.79294	109.63	28.32
89/10/15	2447814.5	-0.15604	0.24130	0.14525	-52.30482	-21.15325	-5.95861	0.32198	56.73411	122.89	26.82
89/10/17	2447816.5	-0.21342	0.21285	0.13590	-46.84400	-27.88521	-10.12465	0.33064	55.44776	135.08	24.27
89/10/19	2447818.5	-0.26386	0.17743	0.12211	-40.36067	-33.20205	-13.63780	0.34061	54.01249	146.08	21.01
89/10/21	2447820.5	-0.30644	0.13669	0.10467	-33.29370	-37.10693	-16.45467	0.35149	52.49906	155.96	17.32
89/10/23	2447822.5	-0.34069	0.09221	0.08436	-26.00289	-39.69594	-18.58980	0.36289	50.96566	164.86	13.44
89/10/25	2447824.5	-0.36653	0.04543	0.06196	-18.75906	-41.11411	-20.09306	0.37450	49.45709	172.93	9.52
89/10/27	2447826.5	-0.38412	-0.00238	0.03816	-11.75182	-41.52289	-21.03143	0.38602	48.00600	180.36	5.67
89/10/29	2447828.5	-0.39382	-0.05016	0.01357	-5.10506	-41.07969	-21.47650	0.39723	46.63521	187.26	1.96
89/10/31	2447830.5	-0.39608	-0.09701	-0.01129	1.10653	-39.92720	-21.49703	0.40795	45.35998	193.76	-1.59
89/11/ 2	2447832.5	-0.39145	-0.14218	-0.03595	6.84289	-38.18909	-21.15513	0.41801	44.19017	199.96	-4.93
89/11/ 4	2447834.5	-0.38046	-0.18505	-0.06004	12.08711	-35.96952	-20.50485	0.42732	43.13182	205.94	-8.08
89/11/ 6	2447836.5	-0.36371	-0.22512	-0.08322	16.83684	-33.35468	-19.59211	0.43577	42.18844	211.76	-11.01
89/11/ 8	2447838.5	-0.34176	-0.26198	-0.10522	21.09822	-30.41505	-18.45528	0.44328	41.36191	217.47	-13.73
89/11/10	2447840.5	-0.31516	-0.29528	-0.12578	24.88161	-27.20794	-17.12613	0.44982	40.65305	223.14	-16.24
89/11/12	2447842.5	-0.28446	-0.32475	-0.14472	28.19877	-23.77988	-15.63077	0.45532	40.06213	228.78	-18.53
89/11/14	2447844.5	-0.25019	-0.35015	-0.16184	31.06086	-20.16876	-13.99065	0.45977	39.58907	234.45	-20.61
89/11/16	2447846.5	-0.21287	-0.37128	-0.17699	33.47717	-16.40571	-12.22340	0.46313	39.23366	240.17	-22.47
89/11/18	2447848.5	-0.17302	-0.38800	-0.19003	35.45428	-12.51669	-10.34358	0.46539	38.99568	245.97	-24.10
89/11/20	2447850.5	-0.13113	-0.40016	-0.20085	36.99538	-8.52388	-8.36343	0.46654	38.87495	251.86	-25.50
89/11/22	2447852.5	-0.08772	-0.40766	-0.20932	38.09988	-4.44701	-6.29341	0.46658	38.87137	257.86	-26.66
89/11/24	2447854.5	-0.04329	-0.41041	-0.21535	38.76300	-0.30443	-4.14289	0.46550	38.98495	263.98	-27.56
89/11/26	2447856.5	0.00166	-0.40834	-0.21886	38.97550	3.88571	-1.92064	0.46330	39.21578	270.23	-28.19
89/11/28	2447858.5	0.04658	-0.40142	-0.21977	38.72339	8.10425	0.36453	0.46001	39.56403	276.62	-28.54

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89/11/30	2447860.5	0.09093	-0.38962	-0.21800	37.98769	12.32980	2.70310	0.45563	40.02993	283.14	-28.59
89/12/ 2	2447862.5	0.13414	-0.37294	-0.21351	36.74429	16.53723	5.08410	0.45018	40.61367	289.78	-28.31
89/12/ 4	2447864.5	0.17561	-0.35143	-0.20624	34.96389	20.69594	7.49414	0.44371	41.31534	296.55	-27.70
89/12/ 6	2447866.5	0.21469	-0.32517	-0.19619	32.61224	24.76778	9.91630	0.43625	42.13472	303.43	-26.73
89/12/ 8	2447868.5	0.25071	-0.29427	-0.18334	29.65079	28.70447	12.32869	0.42786	43.07101	310.43	-25.37
89/12/10	2447870.5	0.28294	-0.25893	-0.16772	26.03795	32.44452	14.70265	0.41860	44.12244	317.54	-23.62
89/12/12	2447872.5	0.31060	-0.21942	-0.14940	21.73170	35.90963	17.00055	0.40858	45.28561	324.76	-21.45
89/12/14	2447874.5	0.33286	-0.17611	-0.12850	16.69374	39.00057	19.17319	0.39790	46.55466	332.12	-18.84
89/12/16	2447876.5	0.34887	-0.12951	-0.10518	10.89641	41.59306	21.15685	0.38671	47.92000	339.63	-15.78
89/12/18	2447878.5	0.35774	-0.08028	-0.07972	4.33317	43.53439	22.87041	0.37520	49.36674	347.35	-12.27
89/12/20	2447880.5	0.35860	-0.02926	-0.05249	-2.96621	44.64239	24.21324	0.36360	50.87261	355.33	-8.30
89/12/22	2447882.5	0.35063	0.02245	-0.02397	-10.91538	44.70946	25.06531	0.35217	52.40564	3.66	-3.90
89/12/24	2447884.5	0.33319	0.07354	0.00518	-19.34696	43.51548	25.29155	0.34125	53.92184	12.45	0.87
89/12/26	2447886.5	0.30586	0.12242	0.03416	-27.98856	40.85413	24.75348	0.33121	55.36384	21.81	5.92
89/12/28	2447888.5	0.26860	0.16729	0.06202	-36.44825	36.57525	23.33044	0.32246	56.66157	31.92	11.09
89/12/30	2447890.5	0.22192	0.20627	0.08769	-44.22409	30.64038	20.95032	0.31541	57.73664	42.91	16.14
90/ 1/ 1	2447892.5	0.16692	0.23749	0.11005	-50.75195	23.17795	17.62395	0.31044	58.51138	54.90	20.76
90/ 1/ 3	2447894.5	0.10536	0.25935	0.12808	-55.49486	14.51352	13.47058	0.30785	58.92180	67.89	24.59
90/ 1/ 5	2447896.5	0.03956	0.27075	0.14094	-58.05460	5.14989	8.71861	0.30779	58.93107	81.69	27.25
90/ 1/ 7	2447898.5	-0.02785	0.27121	0.14811	-58.26377	-4.31020	3.67363	0.31027	58.53837	95.86	28.51
90/ 1/ 9	2447900.5	-0.09417	0.26098	0.14944	-56.21735	-13.27538	-1.33787	0.31514	57.77903	109.84	28.31
90/ 1/11	2447902.5	-0.15697	0.24092	0.14514	-52.23100	-21.26747	-6.02741	0.32210	56.71607	123.09	26.78
90/ 1/13	2447904.5	-0.21426	0.21235	0.13572	-46.75072	-27.97827	-10.18411	0.33078	55.42680	135.26	24.22
90/ 1/15	2447906.5	-0.26458	0.17683	0.12187	-40.25514	-33.27302	-13.68668	0.34077	53.98977	146.24	20.95
90/ 1/17	2447908.5	-0.30703	0.13602	0.10437	-33.18212	-37.15668	-16.49281	0.35166	52.47557	156.11	17.27
90/ 1/19	2447910.5	-0.34116	0.09150	0.08403	-25.89013	-39.72642	-18.61774	0.36307	50.94220	164.99	13.38
90/ 1/21	2447912.5	-0.36686	0.04470	0.06161	-18.64864	-41.12775	-20.11173	0.37468	49.43425	173.05	9.46
90/ 1/23	2447914.5	-0.38433	-0.00312	0.03779	-11.64613	-41.52217	-21.04192	0.38620	47.98422	180.47	5.61
90/ 1/25	2447916.5	-0.39391	-0.05090	0.01318	-5.00560	-41.06695	-21.47991	0.39740	46.61477	187.36	1.90
90/ 1/27	2447918.5	-0.39606	-0.09772	-0.01167	1.19891	-39.90450	-21.49437	0.40811	45.34109	193.86	-1.64
90/ 1/29	2447920.5	-0.39132	-0.14286	-0.03633	6.92777	-38.15818	-21.14730	0.41816	44.17294	200.06	-4.98
90/ 1/31	2447922.5	-0.38025	-0.18569	-0.06041	12.16435	-35.93187	-20.49262	0.42746	43.11633	206.03	-8.12
90/ 2/ 2	2447924.5	-0.36341	-0.22572	-0.08357	16.90648	-33.31148	-19.57612	0.43589	42.17474	211.84	-11.05
90/ 2/ 4	2447926.5	-0.34138	-0.26252	-0.10555	21.16038	-30.36729	-18.43608	0.44339	41.35001	217.56	-13.77
90/ 2/ 6	2447928.5	-0.31471	-0.29577	-0.12609	24.93648	-27.15642	-17.10416	0.44991	40.64298	223.22	-16.28
90/ 2/ 8	2447930.5	-0.28395	-0.32517	-0.14500	28.24651	-23.72525	-15.60640	0.45540	40.05387	228.87	-18.57
90/ 2/10	2447932.5	-0.24963	-0.35051	-0.16209	31.10163	-20.11155	-13.96419	0.45983	39.58262	234.54	-20.64
90/ 2/12	2447934.5	-0.21227	-0.37158	-0.17721	33.51111	-16.34635	-12.19508	0.46317	39.22904	240.26	-22.49
90/ 2/14	2447936.5	-0.17238	-0.38822	-0.19022	35.48146	-12.45554	-10.31361	0.46542	38.99288	246.06	-24.12
90/ 2/16	2447938.5	-0.13047	-0.40031	-0.20100	37.01583	-8.46128	-8.33197	0.46655	38.87399	251.95	-25.52
90/ 2/18	2447940.5	-0.08704	-0.40774	-0.20943	38.11356	-4.38323	-6.26064	0.46657	38.87225	257.95	-26.67
90/ 2/20	2447942.5	-0.04259	-0.41041	-0.21543	38.76981	-0.23975	-4.10893	0.46547	38.98767	264.08	-27.57
90/ 2/22	2447944.5	0.00235	-0.40827	-0.21890	38.97524	3.95099	-1.88562	0.46326	39.22035	270.33	-28.20
90/ 2/24	2447946.5	0.04727	-0.40127	-0.21976	38.71580	8.16983	0.40046	0.45995	39.57044	276.72	-28.54
90/ 2/26	2447948.5	0.09161	-0.38940	-0.21795	37.97243	12.39532	2.73979	0.45555	40.03818	283.24	-28.58

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

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90/ 2/28	2447950.5	0.13480	-0.37265	-0.21341	36.72093	16.60227	5.12136	0.45009	40.62376	289.89	-28.30
90/ 3/ 2	2447952.5	0.17623	-0.35106	-0.20611	34.93193	20.75997	7.53174	0.44360	41.32727	296.66	-27.69
90/ 3/ 4	2447954.5	0.21528	-0.32472	-0.19601	32.57112	24.83013	9.95394	0.43613	42.14848	303.54	-26.71
90/ 3/ 6	2447956.5	0.25124	-0.29375	-0.18312	29.59987	28.76429	12.36599	0.42772	43.08659	310.54	-25.35
90/ 3/ 8	2447958.5	0.28341	-0.25835	-0.16746	25.97658	32.50074	14.73909	0.41845	44.13980	317.65	-23.59
90/ 3/10	2447960.5	0.31099	-0.21877	-0.14910	21.65922	35.96088	17.03547	0.40842	45.30467	324.87	-21.41
90/ 3/12	2447962.5	0.33316	-0.17541	-0.12815	16.60961	39.04511	19.20571	0.39773	46.57531	332.23	-18.80
90/ 3/14	2447964.5	0.34906	-0.12877	-0.10480	10.80034	41.62875	21.18585	0.38654	47.94205	339.75	-15.73
90/ 3/16	2447966.5	0.35781	-0.07950	-0.07931	4.22530	43.55860	22.89447	0.37502	49.38989	347.47	-12.21
90/ 3/18	2447968.5	0.35854	-0.02846	-0.05205	-3.08504	44.65206	24.23064	0.36342	50.89644	355.46	-8.24
90/ 3/20	2447970.5	0.35044	0.02326	-0.02352	-11.04324	44.70120	25.07402	0.35200	52.42954	3.80	-3.83
90/ 3/22	2447972.5	0.33284	0.07432	0.00563	-19.48047	43.48588	25.28941	0.34109	53.94502	12.59	0.95
90/ 3/24	2447974.5	0.30535	0.12315	0.03460	-28.12252	40.80030	24.73840	0.33107	55.38528	21.96	6.00
90/ 3/26	2447976.5	0.26795	0.16795	0.06244	-36.57561	36.49559	23.30085	0.32234	56.68009	32.08	11.17
90/ 3/28	2447978.5	0.22112	0.20682	0.08806	-44.33637	30.53552	20.90567	0.31532	57.75101	43.09	16.22
90/ 3/30	2447980.5	0.16601	0.23790	0.11037	-50.84032	23.05145	17.56525	0.31038	58.52047	55.09	20.83
90/ 4/ 1	2447982.5	0.10437	0.25961	0.12832	-55.55180	14.37200	13.40061	0.30783	58.92481	68.10	24.64
90/ 4/ 3	2447984.5	0.03852	0.27084	0.14110	-58.07561	5.00225	8.64165	0.30781	58.92772	81.91	27.28
90/ 4/ 5	2447986.5	-0.02889	0.27113	0.14818	-58.24838	-4.45439	3.59479	0.31033	58.52895	96.08	28.52
90/ 4/ 7	2447988.5	-0.09518	0.26074	0.14942	-56.16902	-13.40762	-1.41371	0.31523	57.76436	110.05	28.29
90/ 4/ 9	2447990.5	-0.15791	0.24054	0.14504	-52.15595	-21.38165	-6.09631	0.32223	56.69729	123.28	26.75
90/ 4/11	2447992.5	-0.21509	0.21185	0.13554	-46.65638	-28.07105	-10.24353	0.33093	55.40516	135.44	24.18
90/ 4/13	2447994.5	-0.26530	0.17624	0.12162	-40.14877	-33.34358	-13.73543	0.34094	53.96647	146.40	20.90
90/ 4/15	2447996.5	-0.30763	0.13536	0.10408	-33.06994	-37.20598	-16.53077	0.35184	52.45162	156.25	17.21
90/ 4/17	2447998.5	-0.34162	0.09079	0.08370	-25.77698	-39.75647	-18.64548	0.36325	50.91840	165.12	13.32
90/ 4/19	2448000.5	-0.36720	0.04397	0.06125	-18.53800	-41.14101	-20.13022	0.37486	49.41119	173.17	9.40
90/ 4/21	2448002.5	-0.38454	-0.00386	0.03741	-11.54034	-41.52115	-21.05226	0.38637	47.96231	180.58	5.56
90/ 4/23	2448004.5	-0.39400	-0.05163	0.01280	-4.90612	-41.05398	-21.48320	0.39757	46.59428	187.47	1.85
90/ 4/25	2448006.5	-0.39604	-0.09844	-0.01206	1.29123	-39.88163	-21.49162	0.40827	45.32219	193.96	-1.69
90/ 4/27	2448008.5	-0.39120	-0.14354	-0.03671	7.01255	-38.12716	-21.13940	0.41831	44.15576	200.15	-5.03
90/ 4/29	2448010.5	-0.38003	-0.18633	-0.06077	12.24147	-35.89417	-20.48035	0.42759	43.10092	206.12	-8.17
90/ 5/ 1	2448012.5	-0.36311	-0.22631	-0.08392	16.97599	-33.26830	-19.56014	0.43601	42.16115	211.93	-11.10
90/ 5/ 3	2448014.5	-0.34100	-0.26306	-0.10588	21.22243	-30.31960	-18.41691	0.44350	41.33826	217.65	-13.81
90/ 5/ 5	2448016.5	-0.31426	-0.29625	-0.12640	24.99124	-27.10501	-17.08224	0.45000	40.63307	223.31	-16.31
90/ 5/ 7	2448018.5	-0.28345	-0.32560	-0.14528	28.29418	-23.67075	-15.58210	0.45548	40.04581	228.96	-18.60
90/ 5/ 9	2448020.5	-0.24908	-0.35087	-0.16234	31.14236	-20.05449	-13.93780	0.45989	39.57640	234.63	-20.67
90/ 5/11	2448022.5	-0.21167	-0.37187	-0.17743	33.54502	-16.28716	-12.16684	0.46322	39.22464	240.35	-22.52
90/ 5/13	2448024.5	-0.17175	-0.38844	-0.19040	35.50863	-12.39458	-10.28373	0.46544	38.99030	246.15	-24.15
90/ 5/15	2448026.5	-0.12981	-0.40046	-0.20114	37.03627	-8.39887	-8.30063	0.46656	38.87321	252.04	-25.54
90/ 5/17	2448028.5	-0.08636	-0.40781	-0.20954	38.12721	-4.31966	-6.22797	0.46656	38.87327	258.04	-26.69
90/ 5/19	2448030.5	-0.04190	-0.41042	-0.21550	38.77656	-0.17530	-4.07508	0.46544	38.99049	264.17	-27.58
90/ 5/21	2448032.5	0.00305	-0.40820	-0.21893	38.97491	4.01603	-1.85073	0.46321	39.22496	270.43	-28.21
90/ 5/23	2448034.5	0.04796	-0.40113	-0.21975	38.70813	8.23516	0.43626	0.45988	39.57686	276.82	-28.54
90/ 5/25	2448036.5	0.09229	-0.38917	-0.21790	37.95710	12.46057	2.77634	0.45547	40.04641	283.34	-28.58
90/ 5/27	2448038.5	0.13545	-0.37235	-0.21332	36.69753	16.66702	5.15847	0.45000	40.63382	289.99	-28.30

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90/ 5/29	2448040.5	0.17686	-0.35069	-0.20597	34.89997	20.82369	7.56918	0.44349	41.33916	296.76	-27.67
90/ 5/31	2448042.5	0.21586	-0.32428	-0.19583	32.53002	24.89214	9.99141	0.43600	42.16218	303.65	-26.69
90/ 6/ 2	2448044.5	0.25177	-0.29324	-0.18290	29.54900	28.82375	12.40308	0.42758	43.10207	310.65	-25.32
90/ 6/ 4	2448046.5	0.28387	-0.25776	-0.16719	25.91528	32.55655	14.77531	0.41830	44.15700	317.76	-23.56
90/ 6/ 6	2448048.5	0.31137	-0.21813	-0.14879	21.58687	36.01166	17.07013	0.40826	45.32352	324.99	-21.37
90/ 6/ 8	2448050.5	0.33346	-0.17472	-0.12781	16.52569	39.08914	19.23793	0.39756	46.59568	332.35	-18.75
90/ 6/10	2448052.5	0.34926	-0.12802	-0.10442	10.70458	41.66387	21.21452	0.38636	47.96376	339.87	-15.68
90/ 6/12	2448054.5	0.35789	-0.07872	-0.07890	4.11787	43.58224	22.91818	0.37484	49.41266	347.60	-12.15
90/ 6/14	2448056.5	0.35849	-0.02766	-0.05162	-3.20325	44.66118	24.24768	0.36324	50.91986	355.59	-8.17
90/ 6/16	2448058.5	0.35024	0.02405	-0.02308	-11.17028	44.69246	25.08240	0.35182	52.45301	3.93	-3.76
90/ 6/18	2448060.5	0.33250	0.07510	0.00608	-19.61295	43.45594	25.28697	0.34093	53.96774	12.73	1.02
90/ 6/20	2448062.5	0.30485	0.12388	0.03504	-28.25526	40.74631	24.72311	0.33092	55.40626	22.11	6.08
90/ 6/22	2448064.5	0.26730	0.16860	0.06285	-36.70159	36.41603	23.27116	0.32222	56.69816	32.24	11.25
90/ 6/24	2448066.5	0.22034	0.20737	0.08844	-44.44718	30.43108	20.86109	0.31523	57.76493	43.26	16.29
90/ 6/26	2448068.5	0.16510	0.23832	0.11068	-50.92724	22.92573	17.50682	0.31033	58.52915	55.29	20.90
90/ 6/28	2448070.5	0.10338	0.25987	0.12856	-55.60747	14.23163	13.33111	0.30781	58.92748	68.31	24.69
90/ 6/30	2448072.5	0.03749	0.27093	0.14125	-58.09566	4.85605	8.56538	0.30783	58.92412	82.12	27.31
90/ 7/ 2	2448074.5	-0.02992	0.27106	0.14824	-58.23247	-4.59696	3.51675	0.31039	58.51940	96.30	28.53
90/ 7/ 4	2448076.5	-0.09617	0.26051	0.14939	-56.12065	-13.53822	-1.48866	0.31533	57.74969	110.26	28.28
90/ 7/ 6	2448078.5	-0.15883	0.24016	0.14493	-52.08133	-21.49428	-6.16434	0.32235	56.67864	123.48	26.72
90/ 7/ 8	2448080.5	-0.21592	0.21135	0.13536	-46.56285	-28.16251	-10.30216	0.33108	55.38376	135.61	24.13
90/ 7/10	2448082.5	-0.26601	0.17565	0.12138	-40.04349	-33.41307	-13.78350	0.34110	53.94348	146.56	20.85
90/ 7/12	2448084.5	-0.30821	0.13470	0.10379	-32.95902	-37.25447	-16.56817	0.35201	52.42802	156.39	17.15
90/ 7/14	2448086.5	-0.34207	0.09009	0.08337	-25.66516	-39.78596	-18.67279	0.36343	50.89495	165.25	13.26
90/ 7/16	2448088.5	-0.36752	0.04324	0.06089	-18.42870	-41.15392	-20.14839	0.37503	49.38846	173.29	9.34
90/ 7/18	2448090.5	-0.38474	-0.00460	0.03704	-11.43586	-41.51997	-21.06238	0.38655	47.94070	180.68	5.50
90/ 7/20	2448092.5	-0.39408	-0.05235	0.01242	-4.80789	-41.04102	-21.48637	0.39774	46.57408	187.57	1.79
90/ 7/22	2448094.5	-0.39602	-0.09914	-0.01244	1.38242	-39.85893	-21.48884	0.40843	45.30359	194.05	-1.74
90/ 7/24	2448096.5	-0.39107	-0.14421	-0.03708	7.09630	-38.09644	-21.13156	0.41846	44.13886	200.24	-5.08
90/ 7/26	2448098.5	-0.37981	-0.18696	-0.06114	12.31767	-35.85686	-20.46820	0.42773	43.08581	206.21	-8.22
90/ 7/28	2448100.5	-0.36281	-0.22690	-0.08427	17.04470	-33.22557	-19.54431	0.43613	42.14784	212.02	-11.14
90/ 7/30	2448102.5	-0.34063	-0.26360	-0.10620	21.28378	-30.27240	-18.39793	0.44361	41.32677	217.73	-13.85
90/ 8/ 1	2448104.5	-0.31382	-0.29673	-0.12670	25.04541	-27.05411	-17.06054	0.45009	40.62339	223.40	-16.35
90/ 8/ 3	2448106.5	-0.28295	-0.32601	-0.14555	28.34134	-23.61678	-15.55803	0.45555	40.03794	229.05	-18.63
90/ 8/ 5	2448108.5	-0.24852	-0.35122	-0.16258	31.18266	-19.99797	-13.91165	0.45995	39.57033	234.72	-20.70
90/ 8/ 7	2448110.5	-0.21108	-0.37215	-0.17764	33.57858	-16.22851	-12.13886	0.46326	39.22037	240.44	-22.55
90/ 8/ 9	2448112.5	-0.17112	-0.38866	-0.19058	35.53551	-12.33417	-10.25412	0.46547	38.98784	246.24	-24.17
90/ 8/11	2448114.5	-0.12915	-0.40061	-0.20129	37.05649	-8.33702	-8.26955	0.46657	38.87255	252.13	-25.56
90/ 8/13	2448116.5	-0.08568	-0.40789	-0.20965	38.14073	-4.25665	-6.19559	0.46655	38.87440	258.14	-26.70
90/ 8/15	2448118.5	-0.04121	-0.41042	-0.21557	38.78324	-0.11142	-4.04152	0.46542	38.99341	264.27	-27.59
90/ 8/17	2448120.5	0.00374	-0.40813	-0.21896	38.97458	4.08052	-1.81613	0.46317	39.22967	270.53	-28.21
90/ 8/19	2448122.5	0.04865	-0.40098	-0.21974	38.70053	8.29993	0.47176	0.45982	39.58336	276.92	-28.55
90/ 8/21	2448124.5	0.09296	-0.38895	-0.21785	37.94187	12.52528	2.81259	0.45539	40.05470	283.44	-28.58
90/ 8/23	2448126.5	0.13610	-0.37205	-0.21323	36.67427	16.73122	5.19528	0.44990	40.64390	290.09	-28.29
90/ 8/25	2448128.5	0.17748	-0.35032	-0.20584	34.86818	20.88686	7.60631	0.44338	41.35102	296.87	-27.66

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90/ 8/27	2448130.5	0.21643	-0.32383	-0.19565	32.48915	24.95362	10.02856	0.43588	42.17582	303.76	-26.67
90/ 8/29	2448132.5	0.25230	-0.29272	-0.18267	29.49841	28.88268	12.43987	0.42745	43.11746	310.76	-25.30
90/ 8/31	2448134.5	0.28433	-0.25719	-0.16693	25.85433	32.61186	14.81122	0.41815	44.17410	317.87	-23.53
90/ 9/ 2	2448136.5	0.31176	-0.21749	-0.14849	21.51492	36.06197	17.10449	0.40810	45.34226	325.10	-21.34
90/ 9/ 4	2448138.5	0.33375	-0.17402	-0.12747	16.44223	39.13272	19.26987	0.39739	46.61593	332.46	-18.71
90/ 9/ 6	2448140.5	0.34945	-0.12728	-0.10405	10.60934	41.69859	21.24291	0.38619	47.98533	339.99	-15.63
90/ 9/ 8	2448142.5	0.35796	-0.07794	-0.07850	4.01102	43.60549	22.94162	0.37467	49.43526	347.72	-12.09
90/ 9/10	2448144.5	0.35843	-0.02687	-0.05119	-3.32081	44.66995	24.26446	0.36306	50.94307	355.71	-8.11
90/ 9/12	2448146.5	0.35004	0.02485	-0.02263	-11.29659	44.68343	25.09054	0.35165	52.47625	4.06	-3.69
90/ 9/14	2448148.5	0.33215	0.07587	0.00653	-19.74461	43.42578	25.28434	0.34077	53.99024	12.87	1.10
90/ 9/16	2448150.5	0.30435	0.12460	0.03548	-28.38710	40.69224	24.70768	0.33078	55.42702	22.26	6.16
90/ 9/18	2448152.5	0.26665	0.16925	0.06327	-36.82663	36.33657	23.24143	0.32210	56.71606	32.40	11.33
90/ 9/20	2448154.5	0.21955	0.20790	0.08880	-44.55707	30.32693	20.81657	0.31514	57.77876	43.44	16.37
90/ 9/22	2448156.5	0.16420	0.23872	0.11099	-51.01333	22.80050	17.44857	0.31027	58.53781	55.48	20.96
90/ 9/24	2448158.5	0.10240	0.26012	0.12880	-55.66246	14.09191	13.26190	0.30779	58.93021	68.51	24.74
90/ 9/26	2448160.5	0.03646	0.27102	0.14140	-58.11525	4.71061	8.48946	0.30785	58.92065	82.34	27.34
90/ 9/28	2448162.5	-0.03095	0.27098	0.14830	-58.21633	-4.73874	3.43912	0.31045	58.51004	96.52	28.54
90/ 9/30	2448164.5	-0.09716	0.26027	0.14937	-56.07226	-13.66805	-1.56321	0.31542	57.73523	110.47	28.26
90/10/ 2	2448166.5	-0.15974	0.23978	0.14482	-52.00686	-21.60624	-6.23198	0.32247	56.66022	123.67	26.69
90/10/ 4	2448168.5	-0.21674	0.21085	0.13518	-46.46962	-28.25338	-10.36044	0.33122	55.36260	135.79	24.09
90/10/ 6	2448170.5	-0.26672	0.17506	0.12114	-39.93858	-33.48210	-13.83128	0.34126	53.92074	146.72	20.79
90/10/ 8	2448172.5	-0.30879	0.13405	0.10349	-32.84851	-37.30264	-16.60535	0.35218	52.40467	156.53	17.09
90/10/10	2448174.5	-0.34252	0.08939	0.08304	-25.55376	-39.81525	-18.69995	0.36361	50.87177	165.37	13.20
90/10/12	2448176.5	-0.36785	0.04252	0.06054	-18.31981	-41.16675	-20.16646	0.37521	49.36601	173.41	9.28
90/10/14	2448178.5	-0.38494	-0.00533	0.03667	-11.33176	-41.51878	-21.07246	0.38672	47.91938	180.79	5.44
90/10/16	2448180.5	-0.39417	-0.05308	0.01204	-4.71000	-41.02810	-21.48951	0.39791	46.55414	187.67	1.73
90/10/18	2448182.5	-0.39599	-0.09984	-0.01281	1.47327	-39.83627	-21.48605	0.40858	45.28520	194.15	-1.80
90/10/20	2448184.5	-0.39095	-0.14488	-0.03746	7.17972	-38.06577	-21.12371	0.41861	44.12213	200.33	-5.13
90/10/22	2448186.5	-0.37959	-0.18760	-0.06150	12.39353	-35.81959	-20.45604	0.42786	43.07078	206.30	-8.26
90/10/24	2448188.5	-0.36251	-0.22748	-0.08461	17.11304	-33.18289	-19.52847	0.43625	42.13456	212.11	-11.18
90/10/26	2448190.5	-0.34025	-0.26413	-0.10653	21.34473	-30.22527	-18.37894	0.44371	41.31525	217.82	-13.89
90/10/28	2448192.5	-0.31338	-0.29721	-0.12700	25.09914	-27.00331	-17.03885	0.45018	40.61365	223.48	-16.39
90/10/30	2448194.5	-0.28244	-0.32643	-0.14582	28.38803	-23.56296	-15.53399	0.45563	40.02996	229.13	-18.67
90/11/ 1	2448196.5	-0.24797	-0.35157	-0.16283	31.22246	-19.94163	-13.88555	0.46001	39.56412	234.80	-20.73
90/11/ 3	2448198.5	-0.21049	-0.37244	-0.17785	33.61161	-16.17010	-12.11095	0.46330	39.21591	240.53	-22.57
90/11/ 5	2448200.5	-0.17049	-0.38888	-0.19076	35.56184	-12.27404	-10.22460	0.46549	38.98511	246.33	-24.19
90/11/ 7	2448202.5	-0.12850	-0.40076	-0.20144	37.07614	-8.27548	-8.23859	0.46658	38.87156	252.22	-25.58
90/11/ 9	2448204.5	-0.08501	-0.40796	-0.20976	38.15365	-4.19401	-6.16334	0.46654	38.87516	258.23	-26.72
90/11/11	2448206.5	-0.04053	-0.41042	-0.21564	38.78935	-0.04794	-4.00813	0.46539	38.99591	264.36	-27.60
90/11/13	2448208.5	0.00443	-0.40806	-0.21899	38.97370	4.14453	-1.78173	0.46313	39.23393	270.62	-28.22
90/11/15	2448210.5	0.04933	-0.40083	-0.21974	38.69241	8.36416	0.50703	0.45977	39.58938	277.02	-28.55
90/11/17	2448212.5	0.09363	-0.38873	-0.21780	37.92620	12.58939	2.84856	0.45532	40.06250	283.54	-28.58
90/11/19	2448214.5	0.13675	-0.37176	-0.21314	36.65064	16.79478	5.23177	0.44981	40.65348	290.20	-28.28
90/11/21	2448216.5	0.17809	-0.34995	-0.20571	34.83611	20.94935	7.64310	0.44328	41.36239	296.97	-27.65
90/11/23	2448218.5	0.21701	-0.32340	-0.19548	32.44809	25.01438	10.06535	0.43576	42.18897	303.86	-26.65

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90/11/25	2448220.5	0.25281	-0.29222	-0.18246	29.44775	28.94089	12.47628	0.42731	43.13238	310.86	-25.28
90/11/27	2448222.5	0.28478	-0.25661	-0.16667	25.79344	32.66645	14.84674	0.41801	44.19077	317.98	-23.50
90/11/29	2448224.5	0.31213	-0.21686	-0.14819	21.44319	36.11160	17.13846	0.40794	45.36061	325.21	-21.30
90/12/ 1	2448226.5	0.33404	-0.17334	-0.12713	16.35916	39.17570	19.30144	0.39723	46.63585	332.57	-18.67
90/12/ 3	2448228.5	0.34963	-0.12655	-0.10367	10.51463	41.73280	21.27098	0.38601	48.00665	340.10	-15.58
90/12/ 5	2448230.5	0.35803	-0.07718	-0.07809	3.90483	43.62839	22.96480	0.37449	49.45772	347.83	-12.04
90/12/ 7	2448232.5	0.35837	-0.02609	-0.05077	-3.43766	44.67854	24.28107	0.36289	50.96626	355.84	-8.04
90/12/ 9	2448234.5	0.34984	0.02563	-0.02219	-11.42220	44.67441	25.09862	0.35148	52.49962	4.19	-3.62
90/12/11	2448236.5	0.33180	0.07663	0.00697	-19.87565	43.39583	25.28176	0.34061	54.01302	13.00	1.17
90/12/13	2448238.5	0.30385	0.12531	0.03592	-28.51850	40.63853	24.69240	0.33063	55.44826	22.41	6.24
90/12/15	2448240.5	0.26600	0.16988	0.06367	-36.95147	36.25755	23.21191	0.32198	56.73459	32.56	11.41
90/12/17	2448242.5	0.21876	0.20843	0.08917	-44.66700	30.22320	20.77229	0.31504	57.79335	43.61	16.44
90/12/19	2448244.5	0.16330	0.23912	0.11130	-51.09970	22.67557	17.39050	0.31021	58.54733	55.67	21.02
90/12/21	2448246.5	0.10141	0.26036	0.12903	-55.71789	13.95227	13.19277	0.30777	58.93385	68.72	24.79
90/12/23	2448248.5	0.03544	0.27109	0.14155	-58.13534	4.56498	8.41349	0.30787	58.91811	82.55	27.37
90/12/25	2448250.5	-0.03198	0.27089	0.14836	-58.20062	-4.88096	3.36130	0.31050	58.50158	96.73	28.54
90/12/27	2448252.5	-0.09815	0.26002	0.14933	-56.02413	-13.79854	-1.63807	0.31551	57.72162	110.68	28.25
90/12/29	2448254.5	-0.16067	0.23940	0.14471	-51.93238	-21.71895	-6.30004	0.32259	56.64253	123.87	26.65
90/12/31	2448256.5	-0.21756	0.21035	0.13499	-46.37607	-28.34502	-10.41917	0.33136	55.34202	135.97	24.04
91/ 1/ 2	2448258.5	-0.26742	0.17446	0.12089	-39.83308	-33.55180	-13.87948	0.34142	53.89840	146.88	20.74
91/ 1/ 4	2448260.5	-0.30937	0.13338	0.10320	-32.73715	-37.35129	-16.64287	0.35235	52.38154	156.68	17.03
91/ 1/ 6	2448262.5	-0.34298	0.08868	0.08270	-25.44135	-39.84478	-18.72734	0.36378	50.84862	165.50	13.14
91/ 1/ 8	2448264.5	-0.36817	0.04178	0.06017	-18.20980	-41.17958	-20.18466	0.37539	49.34344	173.53	9.22
91/ 1/10	2448266.5	-0.38514	-0.00607	0.03629	-11.22650	-41.51739	-21.08254	0.38689	47.89782	180.90	5.38
91/ 1/12	2448268.5	-0.39425	-0.05381	0.01166	-4.61098	-41.01478	-21.49257	0.39807	46.53390	187.77	1.68
91/ 1/14	2448270.5	-0.39596	-0.10055	-0.01320	1.56520	-39.81307	-21.48308	0.40874	45.26647	194.25	-1.85
91/ 1/16	2448272.5	-0.39082	-0.14556	-0.03783	7.26416	-38.03442	-21.11560	0.41876	44.10502	200.43	-5.18
91/ 1/18	2448274.5	-0.37937	-0.18824	-0.06186	12.47035	-35.78154	-20.44355	0.42800	43.05539	206.39	-8.31
91/ 1/20	2448276.5	-0.36220	-0.22808	-0.08496	17.18227	-33.13932	-19.51224	0.43638	42.12092	212.20	-11.23
91/ 1/22	2448278.5	-0.33986	-0.26467	-0.10686	21.40650	-30.17715	-18.35951	0.44382	41.30340	217.91	-13.93
91/ 1/24	2448280.5	-0.31293	-0.29769	-0.12730	25.15362	-26.95145	-17.01665	0.45028	40.60359	223.57	-16.42
91/ 1/26	2448282.5	-0.28193	-0.32685	-0.14610	28.43537	-23.50800	-15.50940	0.45570	40.02172	229.22	-18.70
91/ 1/28	2448284.5	-0.24741	-0.35193	-0.16308	31.26283	-19.88410	-13.85887	0.46007	39.55769	234.89	-20.76
91/ 1/30	2448286.5	-0.20988	-0.37273	-0.17807	33.64513	-16.11044	-12.08242	0.46334	39.21130	240.62	-22.60
91/ 2/ 1	2448288.5	-0.16986	-0.38910	-0.19095	35.58858	-12.21262	-10.19443	0.46552	38.98232	246.42	-24.22
91/ 2/ 3	2448290.5	-0.12783	-0.40090	-0.20158	37.09612	-8.21263	-8.20696	0.46658	38.87060	252.31	-25.60
91/ 2/ 5	2448292.5	-0.08432	-0.40804	-0.20987	38.16685	-4.13001	-6.13039	0.46653	38.87604	258.32	-26.73
91/ 2/ 7	2448294.5	-0.03983	-0.41042	-0.21572	38.79564	0.01692	-3.97401	0.46536	38.99865	264.46	-27.62
91/ 2/ 9	2448296.5	0.00513	-0.40798	-0.21903	38.97290	4.20997	-1.74657	0.46309	39.23852	270.72	-28.23
91/ 2/11	2448298.5	0.05002	-0.40068	-0.21973	38.68425	8.42987	0.54309	0.45971	39.59582	277.12	-28.55
91/ 2/13	2448300.5	0.09431	-0.38851	-0.21775	37.91033	12.65500	2.88536	0.45524	40.07078	283.64	-28.58
91/ 2/15	2448302.5	0.13741	-0.37146	-0.21304	36.62663	16.85986	5.26912	0.44972	40.66360	290.30	-28.28
91/ 2/17	2448304.5	0.17871	-0.34958	-0.20557	34.80346	21.01335	7.68076	0.44317	41.37434	297.08	-27.64
91/ 2/19	2448306.5	0.21759	-0.32295	-0.19530	32.40622	25.07664	10.10303	0.43564	42.20275	303.97	-26.63
91/ 2/21	2448308.5	0.25334	-0.29170	-0.18223	29.39604	29.00055	12.51358	0.42717	43.14799	310.97	-25.25

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91/ 2/23	2448310.5	0.28524	-0.25603	-0.16640	25.73123	32.72243	14.88313	0.41786	44.20816	318.09	-23.47
91/ 2/25	2448312.5	0.31252	-0.21621	-0.14788	21.36985	36.16251	17.17329	0.40778	45.37972	325.32	-21.26
91/ 2/27	2448314.5	0.33433	-0.17263	-0.12678	16.27414	39.21979	19.33381	0.39705	46.65657	332.69	-18.62
91/ 3/ 1	2448316.5	0.34982	-0.12580	-0.10329	10.41765	41.76788	21.29975	0.38584	48.02877	340.22	-15.53
91/ 3/ 3	2448318.5	0.35810	-0.07640	-0.07768	3.79605	43.65181	22.98854	0.37431	49.48094	347.96	-11.98
91/ 3/ 5	2448320.5	0.35831	-0.02529	-0.05033	-3.55733	44.68722	24.29802	0.36271	50.99016	355.96	-7.98
91/ 3/ 7	2448322.5	0.34964	0.02643	-0.02174	-11.55078	44.66494	25.10676	0.35131	52.52359	4.32	-3.55
91/ 3/ 9	2448324.5	0.33144	0.07741	0.00743	-20.00966	43.36481	25.27891	0.34044	54.03624	13.15	1.25
91/ 3/11	2448326.5	0.30334	0.12604	0.03636	-28.65263	40.58310	24.67648	0.33049	55.46972	22.56	6.32
91/ 3/13	2448328.5	0.26533	0.17053	0.06409	-37.07857	36.17619	23.18138	0.32185	56.75309	32.73	11.49
91/ 3/15	2448330.5	0.21796	0.20898	0.08954	-44.77852	30.11669	20.72667	0.31495	57.80766	43.79	16.52
91/ 3/17	2448332.5	0.16238	0.23952	0.11161	-51.18680	22.54762	17.33089	0.31016	58.55633	55.87	21.09
91/ 3/19	2448334.5	0.10041	0.26061	0.12927	-55.77316	13.80968	13.12204	0.30775	58.93675	68.93	24.84
91/ 3/21	2448336.5	0.03439	0.27117	0.14170	-58.15443	4.41673	8.33601	0.30789	58.91463	82.77	27.40
91/ 3/23	2448338.5	-0.03303	0.27080	0.14842	-58.18327	-5.02528	3.28219	0.31056	58.49205	96.95	28.55
91/ 3/25	2448340.5	-0.09916	0.25977	0.14930	-55.97397	-13.93048	-1.71393	0.31560	57.70686	110.89	28.23
91/ 3/27	2448342.5	-0.16160	0.23900	0.14459	-51.85577	-21.83251	-6.36877	0.32271	56.62367	124.06	26.62
91/ 3/29	2448344.5	-0.21839	0.20984	0.13480	-46.28047	-28.43700	-10.47829	0.33151	55.32033	136.14	23.99
91/ 3/31	2448346.5	-0.26814	0.17386	0.12064	-39.72573	-33.62145	-13.92785	0.34158	53.87505	147.04	20.68
91/ 4/ 2	2448348.5	-0.30996	0.13271	0.10290	-32.62425	-37.39966	-16.68041	0.35252	52.35754	156.82	16.97
91/ 4/ 4	2448350.5	-0.34343	0.08796	0.08237	-25.32767	-39.87392	-18.75465	0.36396	50.82477	165.63	13.08
91/ 4/ 6	2448352.5	-0.36850	0.04104	0.05981	-18.09879	-41.19197	-20.20272	0.37557	49.32033	173.65	9.16
91/ 4/ 8	2448354.5	-0.38534	-0.00682	0.03591	-11.12047	-41.51554	-21.09246	0.38707	47.87585	181.01	5.32
91/ 4/10	2448356.5	-0.39433	-0.05455	0.01127	-4.51136	-41.00103	-21.49545	0.39824	46.51334	187.88	1.62
91/ 4/12	2448358.5	-0.39593	-0.10127	-0.01359	1.65760	-39.78946	-21.47993	0.40890	45.24750	194.35	-1.90
91/ 4/14	2448360.5	-0.39068	-0.14625	-0.03821	7.34894	-38.00269	-21.10732	0.41891	44.08776	200.52	-5.23
91/ 4/16	2448362.5	-0.37915	-0.18888	-0.06223	12.54741	-35.74315	-20.43091	0.42814	43.03989	206.48	-8.36
91/ 4/18	2448364.5	-0.36189	-0.22867	-0.08531	17.25166	-33.09548	-19.49589	0.43650	42.10725	212.29	-11.27
91/ 4/20	2448366.5	-0.33948	-0.26521	-0.10718	21.46839	-30.12884	-18.33999	0.44393	41.29157	218.00	-13.97
91/ 4/22	2448368.5	-0.31248	-0.29817	-0.12761	25.20817	-26.89945	-16.99440	0.45037	40.59362	223.66	-16.46
91/ 4/24	2448370.5	-0.28142	-0.32727	-0.14638	28.48279	-23.45294	-15.48477	0.45578	40.01360	229.31	-18.73
91/ 4/26	2448372.5	-0.24685	-0.35228	-0.16333	31.30328	-19.82650	-13.83216	0.46012	39.55141	234.98	-20.79
91/ 4/28	2448374.5	-0.20928	-0.37302	-0.17829	33.67872	-16.05073	-12.05387	0.46339	39.20686	240.71	-22.63
91/ 4/30	2448376.5	-0.16922	-0.38932	-0.19113	35.61539	-12.15115	-10.16424	0.46555	38.97971	246.51	-24.24
91/ 5/ 2	2448378.5	-0.12717	-0.40105	-0.20173	37.11616	-8.14972	-8.17530	0.46659	38.86982	252.41	-25.62
91/ 5/ 4	2448380.5	-0.08364	-0.40811	-0.20998	38.18006	-4.06595	-6.09742	0.46652	38.87708	258.42	-26.75
91/ 5/ 6	2448382.5	-0.03914	-0.41042	-0.21579	38.80192	0.08184	-3.93986	0.46534	39.00151	264.55	-27.63
91/ 5/ 8	2448384.5	0.00583	-0.40791	-0.21906	38.97205	4.27546	-1.71138	0.46304	39.24321	270.82	-28.23
91/ 5/10	2448386.5	0.05072	-0.40053	-0.21972	38.67602	8.49562	0.57918	0.45964	39.60234	277.22	-28.56
91/ 5/12	2448388.5	0.09499	-0.38828	-0.21770	37.89438	12.72064	2.92219	0.45516	40.07914	283.75	-28.57
91/ 5/14	2448390.5	0.13806	-0.37115	-0.21295	36.60253	16.92497	5.30650	0.44963	40.67381	290.40	-28.27
91/ 5/16	2448392.5	0.17934	-0.34920	-0.20543	34.77072	21.07740	7.71846	0.44306	41.38640	297.18	-27.62
91/ 5/18	2448394.5	0.21817	-0.32249	-0.19511	32.36425	25.13895	10.14074	0.43551	42.21666	304.08	-26.62
91/ 5/20	2448396.5	0.25387	-0.29118	-0.18201	29.34421	29.06025	12.55090	0.42704	43.16371	311.08	-25.23
91/ 5/22	2448398.5	0.28571	-0.25544	-0.16614	25.66885	32.77841	14.91955	0.41771	44.22564	318.20	-23.44

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

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91/ 5/24	2448400.5	0.31290	-0.21556	-0.14757	21.29629	36.21337	17.20810	0.40761	45.39889	325.44	-21.23
91/ 5/26	2448402.5	0.33462	-0.17193	-0.12643	16.18889	39.26375	19.36614	0.39688	46.67729	332.81	-18.58
91/ 5/28	2448404.5	0.35001	-0.12505	-0.10291	10.32043	41.80277	21.32844	0.38566	48.05086	340.34	-15.48
91/ 5/30	2448406.5	0.35817	-0.07561	-0.07727	3.68705	43.67499	23.01216	0.37413	49.50412	348.08	-11.92
91/ 6/ 1	2448408.5	0.35824	-0.02448	-0.04989	-3.67719	44.69559	24.31482	0.36253	51.01400	356.09	-7.91
91/ 6/ 3	2448410.5	0.34943	0.02724	-0.02129	-11.67948	44.65512	25.11472	0.35113	52.54749	4.46	-3.48
91/ 6/ 5	2448412.5	0.33108	0.07819	0.00788	-20.14369	43.33338	25.27584	0.34028	54.05940	13.29	1.33
91/ 6/ 7	2448414.5	0.30282	0.12677	0.03680	-28.78666	40.52724	24.66032	0.33034	55.49108	22.72	6.40
91/ 6/ 9	2448416.5	0.26466	0.17118	0.06451	-37.20542	36.09441	23.15060	0.32173	56.77147	32.89	11.57
91/ 6/11	2448418.5	0.21715	0.20952	0.08992	-44.88961	30.00980	20.68081	0.31486	57.82180	43.97	16.59
91/ 6/13	2448420.5	0.16146	0.23993	0.11192	-51.27331	22.41941	17.27108	0.31010	58.56511	56.06	21.16
91/ 6/15	2448422.5	0.09941	0.26086	0.12950	-55.82771	13.66699	13.05119	0.30773	58.93941	69.14	24.89
91/ 6/17	2448424.5	0.03334	0.27125	0.14185	-58.17279	4.26858	8.25851	0.30791	58.91092	82.99	27.43
91/ 6/19	2448426.5	-0.03407	0.27071	0.14848	-58.16527	-5.16930	3.20316	0.31063	58.48231	97.17	28.55
91/ 6/21	2448428.5	-0.10017	0.25952	0.14927	-55.92332	-14.06201	-1.78962	0.31570	57.69194	111.10	28.22
91/ 6/23	2448430.5	-0.16253	0.23861	0.14448	-51.77884	-21.94560	-6.43728	0.32284	56.60473	124.26	26.58
91/ 6/25	2448432.5	-0.21923	0.20933	0.13461	-46.18473	-28.52850	-10.53716	0.33166	55.29861	136.32	23.95
91/ 6/27	2448434.5	-0.26885	0.17325	0.12039	-39.61841	-33.69068	-13.97598	0.34175	53.85172	147.20	20.63
91/ 6/29	2448436.5	-0.31054	0.13204	0.10260	-32.51147	-37.44765	-16.71772	0.35270	52.33359	156.97	16.91
91/ 7/ 1	2448438.5	-0.34389	0.08725	0.08203	-25.21419	-39.90274	-18.78177	0.36414	50.80097	165.76	13.02
91/ 7/ 3	2448440.5	-0.36882	0.04030	0.05945	-17.98803	-41.20409	-20.22061	0.37575	49.29725	173.76	9.10
91/ 7/ 5	2448442.5	-0.38554	-0.00756	0.03553	-11.01471	-41.51348	-21.10224	0.38725	47.85392	181.12	5.26
91/ 7/ 7	2448444.5	-0.39441	-0.05528	0.01089	-4.41202	-40.98712	-21.49822	0.39841	46.49283	187.98	1.57
91/ 7/ 9	2448446.5	-0.39590	-0.10198	-0.01397	1.74973	-39.76576	-21.47671	0.40907	45.22860	194.44	-1.96
91/ 7/11	2448448.5	-0.39055	-0.14693	-0.03859	7.43348	-37.97093	-21.09900	0.41906	44.07058	200.62	-5.28
91/ 7/13	2448450.5	-0.37892	-0.18952	-0.06260	12.62426	-35.70479	-20.41826	0.42827	43.02452	206.57	-8.40
91/ 7/15	2448452.5	-0.36158	-0.22926	-0.08566	17.32090	-33.05168	-19.47954	0.43662	42.09370	212.38	-11.31
91/ 7/17	2448454.5	-0.33909	-0.26575	-0.10751	21.53015	-30.08056	-18.32047	0.44404	41.27986	218.09	-14.01
91/ 7/19	2448456.5	-0.31202	-0.29865	-0.12791	25.26265	-26.84746	-16.97214	0.45046	40.58375	223.75	-16.50
91/ 7/21	2448458.5	-0.28091	-0.32769	-0.14666	28.53016	-23.39788	-15.46014	0.45585	40.00558	229.40	-18.77
91/ 7/23	2448460.5	-0.24629	-0.35264	-0.16357	31.34369	-19.76889	-13.80544	0.46018	39.54524	235.07	-20.82
91/ 7/25	2448462.5	-0.20867	-0.37330	-0.17850	33.71230	-15.99099	-12.02531	0.46343	39.20254	240.80	-22.66
91/ 7/27	2448464.5	-0.16858	-0.38953	-0.19131	35.64221	-12.08967	-10.13405	0.46557	38.97725	246.60	-24.26
91/ 7/29	2448466.5	-0.12650	-0.40119	-0.20188	37.13623	-8.08679	-8.14364	0.46660	38.86920	252.50	-25.64
91/ 7/31	2448468.5	-0.08295	-0.40818	-0.21009	38.19334	-4.00188	-6.06444	0.46651	38.87832	258.51	-26.77
91/ 8/ 2	2448470.5	-0.03844	-0.41041	-0.21586	38.80827	0.14679	-3.90570	0.46531	39.00459	264.65	-27.64
91/ 8/ 4	2448472.5	0.00653	-0.40783	-0.21909	38.97129	4.34100	-1.67617	0.46299	39.24812	270.92	-28.24
91/ 8/ 6	2448474.5	0.05141	-0.40038	-0.21971	38.66787	8.56143	0.61529	0.45958	39.60910	277.32	-28.56
91/ 8/ 8	2448476.5	0.09567	-0.38805	-0.21765	37.87849	12.78636	2.95905	0.45508	40.08774	283.85	-28.57
91/ 8/10	2448478.5	0.13872	-0.37085	-0.21285	36.57849	16.99015	5.34391	0.44953	40.68425	290.51	-28.26
91/ 8/12	2448480.5	0.17996	-0.34882	-0.20529	34.73801	21.14149	7.75617	0.44295	41.39867	297.29	-27.61
91/ 8/14	2448482.5	0.21875	-0.32204	-0.19493	32.32230	25.20127	10.17845	0.43539	42.23074	304.19	-26.60
91/ 8/16	2448484.5	0.25440	-0.29065	-0.18178	29.29237	29.11992	12.58821	0.42690	43.17958	311.19	-25.20
91/ 8/18	2448486.5	0.28617	-0.25485	-0.16587	25.60648	32.83432	14.95593	0.41755	44.24324	318.31	-23.41
91/ 8/20	2448488.5	0.31328	-0.21491	-0.14726	21.22274	36.26410	17.24285	0.40745	45.41811	325.55	-21.19

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92/ 2/18	2448670.5	0.35836	-0.07328	-0.07604	3.36259	43.74239	23.08163	0.37359	49.57283	348.44	-11.74
92/ 2/20	2448672.5	0.35804	-0.02209	-0.04859	-4.03371	44.71871	24.36385	0.36199	51.08455	356.47	-7.71
92/ 2/22	2448674.5	0.34879	0.02962	-0.01995	-12.06192	44.62386	25.13727	0.35062	52.61807	4.85	-3.26
92/ 2/24	2448676.5	0.33000	0.08050	0.00923	-20.54145	43.23773	25.26546	0.33980	54.12759	13.71	1.56
92/ 2/26	2448678.5	0.30128	0.12893	0.03812	-29.18378	40.35891	24.61093	0.32991	55.55386	23.17	6.63
92/ 2/28	2448680.5	0.26267	0.17310	0.06574	-37.58042	35.84925	23.05776	0.32138	56.82532	33.39	11.80
92/ 3/ 1	2448682.5	0.21475	0.21111	0.09102	-45.21702	29.69049	20.54336	0.31459	57.86306	44.51	16.82
92/ 3/ 3	2448684.5	0.15872	0.24112	0.11284	-51.52708	22.03750	17.09252	0.30994	58.59049	56.64	21.35
92/ 3/ 5	2448686.5	0.09643	0.26158	0.13019	-55.98624	13.24298	12.84028	0.30769	58.94666	69.76	25.03
92/ 3/ 7	2448688.5	0.03024	0.27147	0.14228	-58.22385	3.82931	8.02838	0.30799	58.89936	83.64	27.52
92/ 3/ 9	2448690.5	-0.03717	0.27042	0.14864	-58.10875	-5.59551	2.96897	0.31081	58.45298	97.83	28.57
92/ 3/11	2448692.5	-0.10314	0.25876	0.14917	-55.77049	-14.45052	-2.01351	0.31599	57.64737	111.73	28.17
92/ 3/13	2448694.5	-0.16528	0.23744	0.14413	-51.54877	-22.27905	-6.63961	0.32321	56.54835	124.84	26.48
92/ 3/15	2448696.5	-0.22168	0.20780	0.13405	-45.89959	-28.79781	-10.71080	0.33210	55.23412	136.85	23.81
92/ 3/17	2448698.5	-0.27095	0.17146	0.11964	-39.29951	-33.89399	-14.11773	0.34224	53.78257	147.67	20.46
92/ 3/19	2448700.5	-0.31227	0.13004	0.10170	-32.17689	-37.58821	-16.82747	0.35322	52.26270	157.39	16.73
92/ 3/21	2448702.5	-0.34522	0.08512	0.08103	-24.87790	-39.98671	-18.86136	0.36468	50.73064	166.15	12.84
92/ 3/23	2448704.5	-0.36977	0.03811	0.05837	-17.66001	-41.23883	-20.27298	0.37628	49.22916	174.12	8.92
92/ 3/25	2448706.5	-0.38612	-0.00977	0.03441	-10.70165	-41.50641	-21.13067	0.38777	47.78925	181.45	5.09
92/ 3/27	2448708.5	-0.39464	-0.05746	0.00974	-4.11806	-40.94511	-21.50596	0.39892	46.43239	188.28	1.40
92/ 3/29	2448710.5	-0.39580	-0.10409	-0.01511	2.02226	-39.69483	-21.46675	0.40954	45.17290	194.73	-2.11
92/ 3/31	2448712.5	-0.39015	-0.14894	-0.03971	7.68349	-37.87621	-21.07397	0.41950	44.01994	200.89	-5.43
92/ 4/ 2	2448714.5	-0.37824	-0.19142	-0.06368	12.85145	-35.59052	-20.38040	0.42868	42.97913	206.84	-8.54
92/ 4/ 4	2448716.5	-0.36065	-0.23102	-0.08670	17.52544	-32.92136	-19.43075	0.43698	42.05367	212.64	-11.44
92/ 4/ 6	2448718.5	-0.33794	-0.26735	-0.10849	21.71247	-29.93704	-18.26231	0.44435	41.24524	218.35	-14.13
92/ 4/ 8	2448720.5	-0.31068	-0.30008	-0.12882	25.42329	-26.69306	-16.90592	0.45073	40.55457	224.01	-16.61
92/ 4/10	2448722.5	-0.27939	-0.32893	-0.14748	28.66965	-23.23446	-15.38691	0.45608	39.98182	229.66	-18.87
92/ 4/12	2448724.5	-0.24462	-0.35368	-0.16431	31.46250	-19.59801	-13.72608	0.46036	39.52690	235.33	-20.91
92/ 4/14	2448726.5	-0.20688	-0.37415	-0.17914	33.81079	-15.81390	-11.94053	0.46355	39.18961	241.06	-22.73
92/ 4/16	2448728.5	-0.16668	-0.39017	-0.19185	35.72059	-11.90744	-10.04444	0.46564	38.96971	246.87	-24.33
92/ 4/18	2448730.5	-0.12453	-0.40162	-0.20231	37.19454	-7.90036	-8.04971	0.46662	38.86705	252.77	-25.69
92/ 4/20	2448732.5	-0.08092	-0.40839	-0.21041	38.23143	-3.81210	-5.96664	0.46648	38.88155	258.79	-26.81
92/ 4/22	2448734.5	-0.03637	-0.41040	-0.21606	38.82579	0.33910	-3.80442	0.46523	39.01321	264.94	-27.67
92/ 4/24	2448736.5	0.00860	-0.40759	-0.21917	38.96768	4.53498	-1.57182	0.46286	39.26215	271.21	-28.26
92/ 4/26	2448738.5	0.05347	-0.39991	-0.21967	38.64233	8.75615	0.72229	0.45940	39.62854	277.62	-28.57
92/ 4/28	2448740.5	0.09768	-0.38736	-0.21748	37.82999	12.98074	3.06822	0.45485	40.11261	284.15	-28.56
92/ 4/30	2448742.5	0.14067	-0.36994	-0.21257	36.50575	17.18289	5.45470	0.44925	40.71456	290.82	-28.24
92/ 5/ 2	2448744.5	0.18181	-0.34769	-0.20487	34.63954	21.33099	7.86787	0.44262	41.43443	297.61	-27.57
92/ 5/ 4	2448746.5	0.22047	-0.32069	-0.19439	32.19637	25.38549	10.29014	0.43501	42.27194	304.51	-26.54
92/ 5/ 6	2448748.5	0.25595	-0.28910	-0.18111	29.13711	29.29629	12.69870	0.42648	43.22616	311.52	-25.13
92/ 5/ 8	2448750.5	0.28753	-0.25309	-0.16507	25.41991	32.99955	15.06366	0.41710	44.29510	318.64	-23.31
92/ 5/10	2448752.5	0.31441	-0.21297	-0.14634	21.00296	36.41400	17.34578	0.40697	45.47505	325.89	-21.07
92/ 5/12	2448754.5	0.33576	-0.16912	-0.12505	15.84911	39.43682	19.49381	0.39620	46.75966	333.27	-18.40
92/ 5/14	2448756.5	0.35073	-0.12207	-0.10138	9.93318	41.93952	21.44153	0.38495	48.13867	340.81	-15.27
92/ 5/16	2448758.5	0.35841	-0.07249	-0.07562	3.25313	43.76484	23.10491	0.37341	49.59618	348.57	-11.68

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92/ 5/18	2448760.5	0.35796	-0.02129	-0.04815	-4.15399	44.72624	24.38024	0.36181	51.10859	356.60	-7.65
92/ 5/20	2448762.5	0.34857	0.03042	-0.01950	-12.19095	44.61304	25.14473	0.35044	52.64218	4.99	-3.19
92/ 5/22	2448764.5	0.32962	0.08127	0.00969	-20.67564	43.20516	25.26179	0.33963	54.15095	13.85	1.63
92/ 5/24	2448766.5	0.30075	0.12965	0.03856	-29.31771	40.30176	24.59407	0.32977	55.57543	23.32	6.72
92/ 5/26	2448768.5	0.26199	0.17375	0.06616	-37.70682	35.76613	23.02621	0.32125	56.84388	33.55	11.88
92/ 5/28	2448770.5	0.21393	0.21164	0.09138	-45.32723	29.58230	20.49671	0.31450	57.87734	44.69	16.89
92/ 5/30	2448772.5	0.15779	0.24151	0.11314	-51.61228	21.90819	17.03198	0.30988	58.59936	56.84	21.42
92/ 6/ 1	2448774.5	0.09542	0.26181	0.13042	-56.03914	13.09952	12.76885	0.30767	58.94935	69.98	25.08
92/ 6/ 3	2448776.5	0.02919	0.27154	0.14243	-58.24035	3.68082	7.95051	0.30801	58.89565	83.86	27.54
92/ 6/ 5	2448778.5	-0.03822	0.27032	0.14870	-58.08887	-5.73942	2.88981	0.31087	58.44321	98.05	28.58
92/ 6/ 7	2448780.5	-0.10415	0.25850	0.14914	-55.71810	-14.58154	-2.08910	0.31609	57.63239	111.94	28.15
92/ 6/ 9	2448782.5	-0.16621	0.23703	0.14401	-51.47036	-22.39131	-6.70783	0.32334	56.52931	125.04	26.45
92/ 6/11	2448784.5	-0.22251	0.20728	0.13386	-45.80268	-28.88830	-10.76926	0.33225	55.21228	137.03	23.76
92/ 6/13	2448786.5	-0.27166	0.17084	0.11939	-39.19130	-33.96211	-14.16536	0.34241	53.75910	147.83	20.41
92/ 6/15	2448788.5	-0.31285	0.12936	0.10140	-32.06350	-37.63509	-16.86425	0.35340	52.23859	157.53	16.67
92/ 6/17	2448790.5	-0.34567	0.08440	0.08069	-24.76403	-40.01444	-18.88794	0.36486	50.70667	166.28	12.78
92/ 6/19	2448792.5	-0.37009	0.03736	0.05801	-17.54904	-41.24991	-20.29034	0.37647	49.20591	174.24	8.86
92/ 6/21	2448794.5	-0.38631	-0.01052	0.03403	-10.59583	-41.50339	-21.13993	0.38795	47.76714	181.56	5.03
92/ 6/23	2448796.5	-0.39471	-0.05820	0.00935	-4.01878	-40.93032	-21.50824	0.39909	46.41170	188.39	1.34
92/ 6/25	2448798.5	-0.39577	-0.10481	-0.01550	2.11423	-39.67032	-21.46307	0.40970	45.15382	194.83	-2.17
92/ 6/27	2448800.5	-0.39001	-0.14963	-0.04009	7.76780	-37.84372	-21.06523	0.41965	44.00261	200.99	-5.48
92/ 6/29	2448802.5	-0.37801	-0.19206	-0.06405	12.92801	-35.55149	-20.36736	0.42881	42.96360	206.93	-8.59
92/ 7/ 1	2448804.5	-0.36034	-0.23161	-0.08705	17.59434	-32.87697	-19.41405	0.43711	42.03999	212.73	-11.49
92/ 7/ 3	2448806.5	-0.33755	-0.26789	-0.10882	21.77386	-29.88824	-18.24247	0.44446	41.23343	218.44	-14.17
92/ 7/ 5	2448808.5	-0.31022	-0.30056	-0.12912	25.47735	-26.64061	-16.88338	0.45082	40.54462	224.09	-16.64
92/ 7/ 7	2448810.5	-0.27888	-0.32935	-0.14776	28.71657	-23.17901	-15.36201	0.45615	39.97374	229.74	-18.90
92/ 7/ 9	2448812.5	-0.24405	-0.35404	-0.16455	31.50245	-19.54005	-13.69913	0.46042	39.52068	235.42	-20.94
92/ 7/11	2448814.5	-0.20627	-0.37443	-0.17936	33.84389	-15.75388	-11.91177	0.46359	39.18524	241.15	-22.76
92/ 7/13	2448816.5	-0.16604	-0.39038	-0.19203	35.74690	-11.84571	-10.01406	0.46566	38.96721	246.96	-24.35
92/ 7/15	2448818.5	-0.12386	-0.40176	-0.20245	37.21409	-7.83724	-8.01789	0.46663	38.86641	252.87	-25.71
92/ 7/17	2448820.5	-0.08023	-0.40846	-0.21052	38.24416	-3.74787	-5.93352	0.46647	38.88276	258.89	-26.83
92/ 7/19	2448822.5	-0.03568	-0.41039	-0.21613	38.83160	0.40416	-3.77015	0.46520	39.01628	265.03	-27.68
92/ 7/21	2448824.5	0.00930	-0.40751	-0.21920	38.96635	4.60058	-1.53653	0.46281	39.26707	271.31	-28.27
92/ 7/23	2448826.5	0.05416	-0.39976	-0.21966	38.63360	8.82199	0.75847	0.45933	39.63531	277.72	-28.57
92/ 7/25	2448828.5	0.09836	-0.38713	-0.21743	37.81351	13.04645	3.10514	0.45477	40.12123	284.26	-28.56
92/ 7/27	2448830.5	0.14132	-0.36963	-0.21247	36.48109	17.24803	5.49215	0.44915	40.72503	290.92	-28.23
92/ 7/29	2448832.5	0.18243	-0.34730	-0.20473	34.60619	21.39501	7.90561	0.44251	41.44675	297.71	-27.56
92/ 7/31	2448834.5	0.22104	-0.32024	-0.19420	32.15375	25.44771	10.32787	0.43489	42.28610	304.62	-26.52
92/ 8/ 2	2448836.5	0.25647	-0.28857	-0.18088	29.08456	29.35581	12.73601	0.42634	43.24212	311.63	-25.10
92/ 8/ 4	2448838.5	0.28798	-0.25250	-0.16479	25.35676	33.05526	15.10001	0.41695	44.31282	318.76	-23.28
92/ 8/ 6	2448840.5	0.31478	-0.21232	-0.14603	20.92859	36.46446	17.38047	0.40680	45.49443	326.00	-21.04
92/ 8/ 8	2448842.5	0.33605	-0.16841	-0.12469	15.76300	39.48022	19.52593	0.39603	46.78057	333.38	-18.35
92/ 8/10	2448844.5	0.35090	-0.12131	-0.10099	9.83510	41.97364	21.46990	0.38477	48.16090	340.93	-15.22
92/ 8/12	2448846.5	0.35847	-0.07171	-0.07520	3.14331	43.78698	23.12806	0.37323	49.61943	348.69	-11.62
92/ 8/14	2448848.5	0.35789	-0.02049	-0.04771	-4.27453	44.73327	24.39640	0.36163	51.13240	356.72	-7.58

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
91/ 8/22	2448490.5	0.33491	-0.17122	-0.12608	16.10364	39.30752	19.39835	0.39671	46.69801	332.92	-18.53
91/ 8/24	2448492.5	0.35019	-0.12430	-0.10252	10.22326	41.83737	21.35697	0.38548	48.07287	340.46	-15.42
91/ 8/26	2448494.5	0.35824	-0.07482	-0.07685	3.57818	43.69775	23.03555	0.37395	49.52710	348.20	-11.86
91/ 8/28	2448496.5	0.35818	-0.02368	-0.04945	-3.79677	44.70344	24.33132	0.36235	51.03749	356.22	-7.84
91/ 8/30	2448498.5	0.34922	0.02804	-0.02084	-11.80767	44.64466	25.12229	0.35096	52.57087	4.59	-3.40
91/ 9/ 1	2448500.5	0.33072	0.07897	0.00834	-20.27690	43.30130	25.27234	0.34012	54.08184	13.43	1.40
91/ 9/ 3	2448502.5	0.30231	0.12750	0.03725	-28.91952	40.47079	24.64373	0.33020	55.51159	22.87	6.48
91/ 9/ 5	2448504.5	0.26400	0.17183	0.06492	-37.33073	36.01229	23.11946	0.32162	56.78889	33.06	11.65
91/ 9/ 7	2448506.5	0.21635	0.21006	0.09029	-44.99886	29.90296	20.63479	0.31478	57.83493	44.15	16.67
91/ 9/ 9	2448508.5	0.16055	0.24033	0.11223	-51.35783	22.29179	17.21138	0.31005	58.57289	56.26	21.22
91/ 9/11	2448510.5	0.09842	0.26111	0.12974	-55.88037	13.52548	12.98078	0.30772	58.94111	69.35	24.94
91/ 9/13	2448512.5	0.03231	0.27133	0.14200	-58.18958	4.12216	8.18178	0.30794	58.90637	83.21	27.46
91/ 9/15	2448514.5	-0.03510	0.27062	0.14854	-58.14624	-5.31120	3.12517	0.31069	58.47188	97.39	28.56
91/ 9/17	2448516.5	-0.10115	0.25928	0.14924	-55.87229	-14.19122	-1.86410	0.31580	57.67650	111.31	28.20
91/ 9/19	2448518.5	-0.16345	0.23823	0.14437	-51.70222	-22.05639	-6.50452	0.32297	56.58545	124.45	26.55
91/ 9/21	2448520.5	-0.22004	0.20883	0.13443	-46.08994	-28.61791	-10.59482	0.33181	55.27674	136.50	23.90
91/ 9/23	2448522.5	-0.26955	0.17266	0.12015	-39.51253	-33.75815	-14.02303	0.34191	53.82841	147.36	20.57
91/ 9/25	2448524.5	-0.31112	0.13138	0.10230	-32.40049	-37.49431	-16.75415	0.35288	52.30982	157.11	16.85
91/ 9/27	2448526.5	-0.34433	0.08655	0.08170	-25.10272	-39.93066	-18.80820	0.36432	50.77749	165.89	12.96
91/ 9/29	2448528.5	-0.36914	0.03958	0.05909	-17.87936	-41.21574	-20.23804	0.37593	49.27460	173.88	9.04
91/10/ 1	2448530.5	-0.38573	-0.00829	0.03516	-10.91101	-41.51133	-21.11176	0.38742	47.83248	181.23	5.21
91/10/ 3	2448532.5	-0.39449	-0.05600	0.01051	-4.31464	-40.97344	-21.50091	0.39858	46.47287	188.08	1.51
91/10/ 5	2448534.5	-0.39587	-0.10268	-0.01435	1.84005	-39.74254	-21.47356	0.40922	45.21028	194.54	-2.01
91/10/ 7	2448536.5	-0.39042	-0.14759	-0.03896	7.51639	-37.93987	-21.09088	0.41920	44.05400	200.71	-5.33
91/10/ 9	2448538.5	-0.37870	-0.19014	-0.06295	12.69966	-35.66726	-20.40591	0.42840	43.00972	206.66	-8.45
91/10/11	2448540.5	-0.36127	-0.22984	-0.08600	17.38884	-33.00885	-19.46358	0.43674	42.08071	212.46	-11.36
91/10/13	2448542.5	-0.33871	-0.26628	-0.10783	21.59078	-30.03334	-18.30140	0.44414	41.26869	218.17	-14.05
91/10/15	2448544.5	-0.31158	-0.29912	-0.12821	25.31614	-26.79662	-16.95040	0.45055	40.57439	223.83	-16.53
91/10/17	2448546.5	-0.28041	-0.32810	-0.14693	28.57668	-23.34403	-15.43606	0.45593	39.99803	229.48	-18.80
91/10/19	2448548.5	-0.24574	-0.35298	-0.16382	31.38340	-19.71254	-13.77932	0.46024	39.53949	235.16	-20.85
91/10/21	2448550.5	-0.20808	-0.37358	-0.17871	33.74531	-15.93254	-11.99739	0.46347	39.19859	240.88	-22.68
91/10/23	2448552.5	-0.16795	-0.38974	-0.19149	35.66858	-12.02948	-10.10450	0.46559	38.97508	246.69	-24.29
91/10/25	2448554.5	-0.12585	-0.40133	-0.20202	37.15596	-8.02518	-8.11264	0.46660	38.86880	252.59	-25.66
91/10/27	2448556.5	-0.08228	-0.40825	-0.21020	38.20635	-3.93912	-6.03214	0.46650	38.87966	258.61	-26.78
91/10/29	2448558.5	-0.03775	-0.41041	-0.21592	38.81444	0.21043	-3.87222	0.46528	39.00768	264.74	-27.65
91/10/31	2448560.5	0.00722	-0.40775	-0.21912	38.97043	4.40523	-1.64165	0.46295	39.25297	271.01	-28.25
91/11/ 2	2448562.5	0.05210	-0.40022	-0.21969	38.65971	8.62594	0.65071	0.45952	39.61570	277.42	-28.56
91/11/ 4	2448564.5	0.09634	-0.38782	-0.21759	37.86269	12.85078	2.99520	0.45501	40.09610	283.95	-28.57
91/11/ 6	2448566.5	0.13937	-0.37054	-0.21276	36.55463	17.05405	5.38061	0.44944	40.69438	290.61	-28.25
91/11/ 8	2448568.5	0.18058	-0.34844	-0.20515	34.70559	21.20433	7.79319	0.44284	41.41057	297.40	-27.60
91/11/10	2448570.5	0.21932	-0.32159	-0.19475	32.28075	25.26236	10.21547	0.43526	42.24440	304.29	-26.58
91/11/12	2448572.5	0.25492	-0.29013	-0.18156	29.24106	29.17840	12.62483	0.42676	43.19497	311.30	-25.18
91/11/14	2448574.5	0.28662	-0.25426	-0.16560	25.54476	32.88909	14.99163	0.41740	44.26032	318.42	-23.37
91/11/16	2448576.5	0.31366	-0.21427	-0.14695	21.15000	36.31377	17.27695	0.40729	45.43682	325.66	-21.15
91/11/18	2448578.5	0.33520	-0.17052	-0.12574	16.01938	39.35034	19.42997	0.39654	46.71823	333.04	-18.49

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
91/11/20	2448580.5	0.35037	-0.12356	-0.10214	10.12724	41.87118	21.38496	0.38531	48.09442	340.58	-15.37
91/11/22	2448582.5	0.35830	-0.07405	-0.07644	3.47061	43.71995	23.05850	0.37377	49.54970	348.32	-11.80
91/11/24	2448584.5	0.35811	-0.02289	-0.04902	-3.91495	44.71098	24.34750	0.36217	51.06074	356.34	-7.78
91/11/26	2448586.5	0.34901	0.02883	-0.02039	-11.93445	44.63422	25.12972	0.35079	52.59418	4.72	-3.33
91/11/28	2448588.5	0.33036	0.07973	0.00878	-20.40876	43.26956	25.26888	0.33996	54.10442	13.57	1.48
91/11/30	2448590.5	0.30180	0.12821	0.03768	-29.05119	40.41500	24.62736	0.33006	55.53244	23.02	6.56
91/12/ 2	2448592.5	0.26334	0.17247	0.06533	-37.45511	35.93106	23.08872	0.32150	56.80682	33.22	11.72
91/12/ 4	2448594.5	0.21556	0.21058	0.09065	-45.10752	29.79715	20.58926	0.31469	57.84874	44.33	16.74
91/12/ 6	2448596.5	0.15964	0.24072	0.11253	-51.44214	22.16520	17.15221	0.31000	58.58146	56.45	21.29
91/12/ 8	2448598.5	0.09743	0.26134	0.12996	-55.93313	13.38488	12.91086	0.30771	58.94371	69.55	24.98
91/12/10	2448600.5	0.03128	0.27140	0.14214	-58.20673	3.97642	8.10545	0.30797	58.90274	83.42	27.49
91/12/12	2448602.5	-0.03613	0.27052	0.14859	-58.12770	-5.45269	3.04745	0.31075	58.46237	97.61	28.57
91/12/14	2448604.5	-0.10214	0.25902	0.14921	-55.82177	-14.32028	-1.93845	0.31590	57.66193	111.52	28.19
91/12/16	2448606.5	-0.16436	0.23784	0.14425	-51.62603	-22.16723	-6.57175	0.32309	56.56696	124.65	26.52
91/12/18	2448608.5	-0.22085	0.20832	0.13424	-45.99540	-28.70752	-10.65256	0.33196	55.25554	136.67	23.85
91/12/20	2448610.5	-0.27025	0.17207	0.11990	-39.40671	-33.82586	-14.07020	0.34208	53.80565	147.52	20.52
91/12/22	2448612.5	-0.31169	0.13072	0.10201	-32.28939	-37.54118	-16.79069	0.35305	52.28644	157.25	16.79
91/12/24	2448614.5	-0.34477	0.08584	0.08137	-24.99099	-39.95871	-18.83472	0.36450	50.75426	166.02	12.90
91/12/26	2448616.5	-0.36945	0.03885	0.05874	-17.77033	-41.22739	-20.25550	0.37610	49.25208	174.00	8.98
91/12/28	2448618.5	-0.38593	-0.00902	0.03479	-10.80693	-41.50905	-21.12124	0.38760	47.81106	181.34	5.15
91/12/30	2448620.5	-0.39456	-0.05673	0.01013	-4.21690	-40.95951	-21.50350	0.39875	46.45282	188.18	1.46
92/ 1/ 1	2448622.5	-0.39584	-0.10338	-0.01473	1.93065	-39.71897	-21.47025	0.40938	45.19177	194.64	-2.06
92/ 1/ 3	2448624.5	-0.39029	-0.14826	-0.03934	7.59949	-37.90836	-21.08255	0.41935	44.03714	200.80	-5.38
92/ 1/ 5	2448626.5	-0.37847	-0.19078	-0.06332	12.77516	-35.62924	-20.39330	0.42854	42.99458	206.75	-8.50
92/ 1/ 7	2448628.5	-0.36097	-0.23043	-0.08635	17.45679	-32.96547	-19.44732	0.43686	42.06732	212.55	-11.40
92/ 1/ 9	2448630.5	-0.33833	-0.26681	-0.10816	21.65132	-29.98556	-18.28202	0.44425	41.25707	218.26	-14.09
92/ 1/11	2448632.5	-0.31113	-0.29960	-0.12851	25.36944	-26.74521	-16.92833	0.45064	40.56455	223.92	-16.57
92/ 1/13	2448634.5	-0.27990	-0.32851	-0.14720	28.62292	-23.28962	-15.41166	0.45600	39.98997	229.57	-18.83
92/ 1/15	2448636.5	-0.24518	-0.35333	-0.16406	31.42274	-19.65565	-13.75288	0.46030	39.53321	235.24	-20.88
92/ 1/17	2448638.5	-0.20748	-0.37387	-0.17893	33.77787	-15.87360	-11.96914	0.46351	39.19408	240.97	-22.71
92/ 1/19	2448640.5	-0.16732	-0.38996	-0.19167	35.69444	-11.96884	-10.07466	0.46562	38.97237	246.78	-24.31
92/ 1/21	2448642.5	-0.12519	-0.40148	-0.20216	37.17515	-7.96316	-8.08138	0.46661	38.86789	252.68	-25.67
92/ 1/23	2448644.5	-0.08160	-0.40832	-0.21030	38.21883	-3.87600	-5.99959	0.46649	38.88056	258.70	-26.80
92/ 1/25	2448646.5	-0.03707	-0.41041	-0.21599	38.82011	0.27437	-3.83853	0.46525	39.01039	264.84	-27.66
92/ 1/27	2448648.5	0.00790	-0.40767	-0.21914	38.96909	4.46971	-1.60695	0.46291	39.25749	271.11	-28.26
92/ 1/29	2448650.5	0.05278	-0.40007	-0.21968	38.65110	8.69065	0.68628	0.45946	39.62204	277.52	-28.56
92/ 1/31	2448652.5	0.09701	-0.38759	-0.21754	37.84647	12.91537	3.03149	0.45493	40.10426	284.05	-28.57
92/ 2/ 2	2448654.5	0.14001	-0.37024	-0.21266	36.53036	17.11808	5.41743	0.44934	40.70435	290.71	-28.25
92/ 2/ 4	2448656.5	0.18119	-0.34807	-0.20501	34.67278	21.26728	7.83030	0.44273	41.42237	297.50	-27.59
92/ 2/ 6	2448658.5	0.21989	-0.32115	-0.19457	32.23884	25.32356	10.25258	0.43514	42.25803	304.40	-26.56
92/ 2/ 8	2448660.5	0.25543	-0.28962	-0.18133	29.18944	29.23700	12.66155	0.42662	43.21042	311.41	-25.15
92/ 2/10	2448662.5	0.28707	-0.25368	-0.16534	25.48276	32.94401	15.02744	0.41725	44.27757	318.53	-23.34
92/ 2/12	2448664.5	0.31403	-0.21362	-0.14665	21.07699	36.36363	17.31118	0.40713	45.45580	325.77	-21.11
92/ 2/14	2448666.5	0.33548	-0.16983	-0.12539	15.93484	39.39339	19.46173	0.39637	46.73882	333.15	-18.44
92/ 2/16	2448668.5	0.35055	-0.12282	-0.10177	10.03088	41.90525	21.41312	0.38513	48.11643	340.69	-15.32

1.1 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
92/ 8/16	2448850.5	0.34835	0.03122	-0.01904	-12.32008	44.60157	25.15185	0.35027	52.66592	5.12	-3.12
92/ 8/18	2448852.5	0.32925	0.08205	0.01014	-20.80969	43.17181	25.25770	0.33947	54.17380	13.99	1.71
92/ 8/20	2448854.5	0.30022	0.13038	0.03900	-29.45119	40.24382	24.57674	0.32962	55.59634	23.47	6.80
92/ 8/22	2448856.5	0.26131	0.17439	0.06657	-37.83241	35.68229	22.99419	0.32113	56.86167	33.72	11.96
92/ 8/24	2448858.5	0.21312	0.21217	0.09175	-45.43631	29.47363	20.44969	0.31441	57.89078	44.87	16.97
92/ 8/26	2448860.5	0.15687	0.24190	0.11345	-51.69612	21.77875	16.97124	0.30983	58.60739	57.04	21.48
92/ 8/28	2448862.5	0.09441	0.26205	0.13065	-56.09060	12.95639	12.69744	0.30766	58.95124	70.19	25.13
92/ 8/30	2448864.5	0.02815	0.27160	0.14257	-58.25554	3.53310	7.87292	0.30804	58.89120	84.08	27.57
92/ 9/ 1	2448866.5	-0.03926	0.27022	0.14875	-58.06800	-5.88223	2.81115	0.31094	58.43283	98.27	28.58
92/ 9/ 3	2448868.5	-0.10514	0.25824	0.14910	-55.66515	-14.71125	-2.16405	0.31619	57.61695	112.15	28.14
92/ 9/ 5	2448870.5	-0.16713	0.23663	0.14389	-51.39186	-22.50226	-6.77535	0.32347	56.51000	125.23	26.41
92/ 9/ 7	2448872.5	-0.22332	0.20677	0.13366	-45.70612	-28.97758	-10.82703	0.33240	55.19034	137.20	23.71
92/ 9/ 9	2448874.5	-0.27236	0.17024	0.11914	-39.08379	-34.02924	-14.21239	0.34257	53.73569	147.99	20.35
92/ 9/11	2448876.5	-0.31342	0.12869	0.10110	-31.95105	-37.68124	-16.90055	0.35357	52.21469	157.68	16.61
92/ 9/13	2448878.5	-0.34611	0.08369	0.08035	-24.65123	-40.04173	-18.91417	0.36504	50.68302	166.41	12.72
92/ 9/15	2448880.5	-0.37040	0.03663	0.05764	-17.43917	-41.26083	-20.30749	0.37665	49.18308	174.35	8.80
92/ 9/17	2448882.5	-0.38650	-0.01126	0.03365	-10.49107	-41.50042	-21.14912	0.38813	47.74550	181.67	4.97
92/ 9/19	2448884.5	-0.39478	-0.05893	0.00897	-3.92048	-40.91576	-21.51056	0.39926	46.39153	188.49	1.29
92/ 9/21	2448886.5	-0.39573	-0.10552	-0.01588	2.20533	-39.64618	-21.45951	0.40986	45.13528	194.93	-2.22
92/ 9/23	2448888.5	-0.38988	-0.15030	-0.04047	7.85135	-37.81168	-21.05666	0.41980	43.98579	201.08	-5.53
92/ 9/25	2448890.5	-0.37778	-0.19269	-0.06441	13.00393	-35.51297	-20.35453	0.42895	42.94857	207.02	-8.64
92/ 9/27	2448892.5	-0.36002	-0.23219	-0.08739	17.66267	-32.83312	-19.39758	0.43723	42.02677	212.82	-11.53
92/ 9/29	2448894.5	-0.33717	-0.26842	-0.10914	21.83476	-29.84000	-18.22289	0.44457	41.22203	218.52	-14.21
92/10/ 1	2448896.5	-0.30976	-0.30103	-0.12942	25.53101	-26.58875	-16.86110	0.45091	40.53505	224.18	-16.68
92/10/ 3	2448898.5	-0.27836	-0.32976	-0.14803	28.76317	-23.12414	-15.33740	0.45623	39.96600	229.83	-18.93
92/10/ 5	2448900.5	-0.24349	-0.35438	-0.16480	31.54214	-19.48269	-13.67247	0.46047	39.51478	235.51	-20.97
92/10/ 7	2448902.5	-0.20567	-0.37471	-0.17957	33.87678	-15.69444	-11.88330	0.46363	39.18118	241.24	-22.79
92/10/ 9	2448904.5	-0.16540	-0.39059	-0.19221	35.77307	-11.78457	-9.98398	0.46569	38.96496	247.05	-24.38
92/10/11	2448906.5	-0.12319	-0.40190	-0.20260	37.23353	-7.77471	-7.98637	0.46663	38.86597	252.96	-25.73
92/10/13	2448908.5	-0.07955	-0.40852	-0.21062	38.25681	-3.68423	-5.90071	0.46646	38.88413	258.98	-26.84
92/10/15	2448910.5	-0.03498	-0.41039	-0.21620	38.83732	0.46861	-3.73619	0.46517	39.01944	265.13	-27.70
92/10/17	2448912.5	0.01000	-0.40742	-0.21923	38.96497	4.66557	-1.50155	0.46277	39.27201	271.41	-28.28
92/10/19	2448914.5	0.05485	-0.39960	-0.21964	38.62484	8.88719	0.79432	0.45927	39.64204	277.82	-28.57
92/10/21	2448916.5	0.09904	-0.38689	-0.21737	37.79704	13.11148	3.14169	0.45469	40.12975	284.36	-28.56
92/10/23	2448918.5	0.14197	-0.36932	-0.21237	36.45648	17.31245	5.52921	0.44906	40.73534	291.03	-28.22
92/10/25	2448920.5	0.18305	-0.34692	-0.20459	34.57293	21.45826	7.94293	0.44240	41.45883	297.82	-27.55
92/10/27	2448922.5	0.22162	-0.31978	-0.19402	32.11127	25.50909	10.36514	0.43476	42.29992	304.72	-26.50
92/10/29	2448924.5	0.25699	-0.28804	-0.18065	29.03224	29.41444	12.77281	0.42620	43.25766	311.74	-25.08
92/10/31	2448926.5	0.28844	-0.25191	-0.16453	25.29397	33.11001	15.13581	0.41680	44.33002	318.87	-23.25
92/11/ 2	2448928.5	0.31516	-0.21167	-0.14572	20.85472	36.51392	17.41457	0.40665	45.51322	326.11	-21.00
92/11/ 4	2448930.5	0.33633	-0.16771	-0.12435	15.67761	39.52260	19.55742	0.39586	46.80081	333.50	-18.31
92/11/ 6	2448932.5	0.35108	-0.12056	-0.10061	9.73796	42.00675	21.49762	0.38460	48.18239	341.05	-15.17
92/11/ 8	2448934.5	0.35853	-0.07093	-0.07479	3.03473	43.80817	23.15058	0.37305	49.64187	348.81	-11.57
92/11/10	2448936.5	0.35781	-0.01969	-0.04728	-4.39351	44.73949	24.41197	0.36146	51.15534	356.85	-7.52
92/11/12	2448938.5	0.34814	0.03201	-0.01860	-12.44731	44.58949	25.15846	0.35010	52.68877	5.25	-3.04

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92/11/14	2448940.5	0.32889	0.08281	0.01059	-20.94152	43.13821	25.25324	0.33932	54.19574	14.13	1.79
92/11/16	2448942.5	0.29970	0.13109	0.03944	-29.58219	40.18607	24.55925	0.32949	55.61639	23.62	6.87
92/11/18	2448944.5	0.26065	0.17502	0.06698	-37.95539	35.59922	22.96231	0.32102	56.87868	33.88	12.04
92/11/20	2448946.5	0.21232	0.21270	0.09211	-45.54284	29.36637	20.40316	0.31433	57.90357	45.05	17.04
92/11/22	2448948.5	0.15596	0.24229	0.11375	-51.77771	21.65137	16.91136	0.30978	58.61491	57.23	21.54
92/11/24	2448950.5	0.09343	0.26228	0.13088	-56.14037	12.81582	12.62723	0.30765	58.95280	70.39	25.18
92/11/26	2448952.5	0.02713	0.27167	0.14271	-58.26977	3.38827	7.79677	0.30807	58.88664	84.30	27.60
92/11/28	2448954.5	-0.04028	0.27011	0.14880	-58.04698	-6.02205	2.73406	0.31101	58.42253	98.48	28.58
92/11/30	2448956.5	-0.10612	0.25799	0.14906	-55.61286	-14.83815	-2.23743	0.31629	57.60180	112.36	28.12
92/12/ 2	2448958.5	-0.16803	0.23624	0.14377	-51.31469	-22.61073	-6.84142	0.32360	56.49113	125.42	26.38
92/12/ 4	2448960.5	-0.22412	0.20626	0.13347	-45.61137	-29.06487	-10.88355	0.33255	55.16897	137.38	23.66
92/12/ 6	2448962.5	-0.27304	0.16965	0.11889	-38.97841	-34.09488	-14.25840	0.34273	53.71293	148.15	20.30
92/12/ 8	2448964.5	-0.31398	0.12803	0.10080	-31.84085	-37.72638	-16.93607	0.35375	52.19147	157.82	16.56
92/12/10	2448966.5	-0.34654	0.08299	0.08002	-24.54070	-40.06843	-18.93985	0.36521	50.66007	166.53	12.66
92/12/12	2448968.5	-0.37071	0.03591	0.05729	-17.33150	-41.27153	-20.32430	0.37682	49.16093	174.47	8.74
92/12/14	2448970.5	-0.38668	-0.01198	0.03328	-10.38837	-41.49754	-21.15815	0.38830	47.72453	181.77	4.92
92/12/16	2448972.5	-0.39485	-0.05964	0.00859	-3.82406	-40.90154	-21.51286	0.39942	46.37200	188.59	1.23
92/12/18	2448974.5	-0.39569	-0.10621	-0.01626	2.29474	-39.62256	-21.45606	0.41002	45.11735	195.02	-2.27
92/12/20	2448976.5	-0.38973	-0.15096	-0.04084	7.93340	-37.78032	-21.04830	0.41994	43.96956	201.17	-5.58
92/12/22	2448978.5	-0.37755	-0.19331	-0.06477	13.07852	-35.47523	-20.34198	0.42908	42.93409	207.11	-8.68
92/12/24	2448980.5	-0.35971	-0.23277	-0.08773	17.72986	-32.79012	-19.38145	0.43735	42.01405	212.91	-11.57
92/12/26	2448982.5	-0.33678	-0.26894	-0.10946	21.89467	-29.79265	-18.20368	0.44467	41.21107	218.61	-14.25
92/12/28	2448984.5	-0.30931	-0.30150	-0.12972	25.58380	-26.53779	-16.83922	0.45100	40.52585	224.27	-16.72
92/12/30	2448986.5	-0.27786	-0.33017	-0.14830	28.80901	-23.07020	-15.31321	0.45630	39.95857	229.92	-18.97
93/ 1/ 1	2448988.5	-0.24293	-0.35472	-0.16504	31.58117	-19.42626	-13.64624	0.46053	39.50911	235.59	-21.00
93/ 1/ 3	2448990.5	-0.20507	-0.37499	-0.17978	33.90911	-15.63594	-11.85527	0.46367	39.17726	241.33	-22.81
93/ 1/ 5	2448992.5	-0.16477	-0.39080	-0.19238	35.79876	-11.72435	-9.95435	0.46571	38.96281	247.14	-24.40
93/ 1/ 7	2448994.5	-0.12254	-0.40203	-0.20274	37.25257	-7.71308	-7.95530	0.46663	38.86557	253.05	-25.75
93/ 1/ 9	2448996.5	-0.07888	-0.40859	-0.21073	38.26914	-3.62147	-5.86834	0.46644	38.88546	259.07	-26.86
93/ 1/11	2448998.5	-0.03430	-0.41038	-0.21626	38.84280	0.53223	-3.70266	0.46514	39.02251	265.22	-27.71
93/ 1/13	2449000.5	0.01068	-0.40734	-0.21925	38.96340	4.72975	-1.46699	0.46272	39.27683	271.50	-28.28
93/ 1/15	2449002.5	0.05554	-0.39944	-0.21963	38.61596	8.95160	0.82976	0.45921	39.64861	277.92	-28.57
93/ 1/17	2449004.5	0.09971	-0.38666	-0.21732	37.78049	13.17577	3.17785	0.45461	40.13808	284.46	-28.56
93/ 1/19	2449006.5	0.14262	-0.36901	-0.21227	36.43185	17.37615	5.56589	0.44896	40.74542	291.13	-28.22
93/ 1/21	2449008.5	0.18366	-0.34654	-0.20445	34.53973	21.52084	7.97989	0.44229	41.47069	297.92	-27.53
93/ 1/23	2449010.5	0.22219	-0.31933	-0.19383	32.06893	25.56985	10.40206	0.43464	42.31355	304.83	-26.48
93/ 1/25	2449012.5	0.25751	-0.28752	-0.18042	28.98015	29.47253	12.80930	0.42607	43.27305	311.85	-25.05
93/ 1/27	2449014.5	0.28888	-0.25133	-0.16426	25.23149	33.16431	15.17134	0.41665	44.34714	318.98	-23.22
93/ 1/29	2449016.5	0.31553	-0.21102	-0.14541	20.78124	36.56303	17.44845	0.40649	45.53201	326.23	-20.96
93/ 1/31	2449018.5	0.33661	-0.16701	-0.12400	15.59263	39.56477	19.58875	0.39569	46.82115	333.61	-18.26
93/ 2/ 2	2449020.5	0.35125	-0.11982	-0.10023	9.64127	42.03977	21.52526	0.38443	48.20408	341.16	-15.11
93/ 2/ 4	2449022.5	0.35858	-0.07015	-0.07439	2.92656	43.82939	23.17307	0.37288	49.66459	348.93	-11.51
93/ 2/ 6	2449024.5	0.35774	-0.01890	-0.04685	-4.51217	44.74584	24.42756	0.36129	51.17866	356.97	-7.45
93/ 2/ 8	2449026.5	0.34792	0.03280	-0.01815	-12.57432	44.57762	25.16515	0.34993	52.71208	5.39	-2.97
93/ 2/10	2449028.5	0.32852	0.08357	0.01103	-21.07328	43.10483	25.24889	0.33916	54.21822	14.27	1.86

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93/ 2/12	2449030.5	0.29918	0.13180	0.03987	-29.71328	40.12851	24.54188	0.32935	55.63704	23.77	6.95
93/ 2/14	2449032.5	0.25998	0.17565	0.06738	-38.07861	35.51623	22.93051	0.32091	56.89632	34.04	12.12
93/ 2/16	2449034.5	0.21152	0.21321	0.09247	-45.64971	29.25903	20.35663	0.31425	57.91700	45.23	17.11
93/ 2/18	2449036.5	0.15504	0.24267	0.11405	-51.85966	21.52369	16.85137	0.30973	58.62305	57.43	21.61
93/ 2/20	2449038.5	0.09244	0.26250	0.13110	-56.19042	12.67477	12.55680	0.30764	58.95495	70.60	25.22
93/ 2/22	2449040.5	0.02610	0.27172	0.14285	-58.28413	3.24280	7.72030	0.30809	58.88258	84.51	27.62
93/ 2/24	2449042.5	-0.04130	0.27001	0.14885	-58.02589	-6.16261	2.65657	0.31107	58.41266	98.70	28.59
93/ 2/26	2449044.5	-0.10710	0.25772	0.14902	-55.56026	-14.96578	-2.31123	0.31638	57.58696	112.57	28.10
93/ 2/28	2449046.5	-0.16894	0.23584	0.14365	-51.23699	-22.71988	-6.90789	0.32372	56.47248	125.61	26.34
93/ 3/ 2	2449048.5	-0.22493	0.20575	0.13328	-45.51591	-29.15269	-10.94042	0.33270	55.14771	137.55	23.62
93/ 3/ 4	2449050.5	-0.27373	0.16904	0.11863	-38.87218	-34.16087	-14.30470	0.34290	53.69019	148.30	20.24
93/ 3/ 6	2449052.5	-0.31454	0.12737	0.10050	-31.72975	-37.77168	-16.97178	0.35392	52.16817	157.96	16.50
93/ 3/ 8	2449054.5	-0.34697	0.08228	0.07969	-24.42927	-40.09511	-18.96561	0.36539	50.63696	166.66	12.60
93/ 3/10	2449056.5	-0.37101	0.03518	0.05693	-17.22297	-41.28201	-20.34109	0.37700	49.13853	174.58	8.69
93/ 3/12	2449058.5	-0.38687	-0.01272	0.03291	-10.28492	-41.49428	-21.16705	0.38847	47.70323	181.88	4.86
93/ 3/14	2449060.5	-0.39492	-0.06037	0.00821	-3.72702	-40.88679	-21.51494	0.39959	46.35205	188.69	1.18
93/ 3/16	2449062.5	-0.39565	-0.10691	-0.01664	2.38460	-39.59831	-21.45231	0.41017	45.09893	195.12	-2.32
93/ 3/18	2449064.5	-0.38959	-0.15163	-0.04121	8.01575	-37.74826	-21.03959	0.42009	43.95279	201.27	-5.63
93/ 3/20	2449066.5	-0.37732	-0.19394	-0.06513	13.15326	-35.43676	-20.32906	0.42921	42.91903	207.20	-8.73
93/ 3/22	2449068.5	-0.35940	-0.23335	-0.08808	17.79707	-32.74639	-19.36493	0.43747	42.00074	212.99	-11.62
93/ 3/24	2449070.5	-0.33639	-0.26947	-0.10978	21.95450	-29.74461	-18.18408	0.44478	41.19955	218.70	-14.29
93/ 3/26	2449072.5	-0.30886	-0.30197	-0.13001	25.63643	-26.48619	-16.81698	0.45109	40.51612	224.35	-16.75
93/ 3/28	2449074.5	-0.27735	-0.33057	-0.14857	28.85461	-23.01565	-15.28866	0.45637	39.95062	230.00	-19.00
93/ 3/30	2449076.5	-0.24238	-0.35507	-0.16528	31.61991	-19.36926	-13.61967	0.46058	39.50294	235.68	-21.03
93/ 4/ 1	2449078.5	-0.20447	-0.37526	-0.17999	33.94109	-15.57692	-11.82692	0.46371	39.17288	241.42	-22.84
93/ 4/ 3	2449080.5	-0.16414	-0.39101	-0.19256	35.82404	-11.66366	-9.92442	0.46573	38.96020	247.23	-24.42
93/ 4/ 5	2449082.5	-0.12188	-0.40217	-0.20288	37.27119	-7.65103	-7.92396	0.46664	38.86475	253.14	-25.77
93/ 4/ 7	2449084.5	-0.07820	-0.40865	-0.21083	38.28104	-3.55836	-5.83574	0.46643	38.88645	259.17	-26.87
93/ 4/ 9	2449086.5	-0.03361	-0.41037	-0.21633	38.84789	0.59614	-3.66892	0.46511	39.02531	265.32	-27.72
93/ 4/11	2449088.5	0.01137	-0.40726	-0.21928	38.96148	4.79418	-1.43226	0.46268	39.28146	271.60	-28.29
93/ 4/13	2449090.5	0.05621	-0.39928	-0.21961	38.60677	9.01624	0.86535	0.45915	39.65507	278.01	-28.57
93/ 4/15	2449092.5	0.10037	-0.38643	-0.21726	37.76369	13.24026	3.21415	0.45454	40.14637	284.56	-28.55
93/ 4/17	2449094.5	0.14326	-0.36870	-0.21217	36.40700	17.44008	5.60271	0.44887	40.75556	291.23	-28.21
93/ 4/19	2449096.5	0.18427	-0.34616	-0.20431	34.50631	21.58365	8.01699	0.44218	41.48267	298.03	-27.52
93/ 4/21	2449098.5	0.22275	-0.31888	-0.19365	32.02638	25.63087	10.43914	0.43451	42.32737	304.94	-26.47
93/ 4/23	2449100.5	0.25802	-0.28700	-0.18020	28.92783	29.53089	12.84596	0.42593	43.28870	311.96	-25.03
93/ 4/25	2449102.5	0.28932	-0.25074	-0.16399	25.16874	33.21891	15.20706	0.41650	44.36458	319.09	-23.19
93/ 4/27	2449104.5	0.31589	-0.21038	-0.14510	20.70743	36.61247	17.48253	0.40632	45.55117	326.34	-20.92
93/ 4/29	2449106.5	0.33688	-0.16631	-0.12365	15.50723	39.60726	19.62030	0.39552	46.84192	333.73	-18.22
93/ 5/ 1	2449108.5	0.35142	-0.11908	-0.09985	9.54403	42.07311	21.55312	0.38425	48.22626	341.28	-15.06
93/ 5/ 3	2449110.5	0.35863	-0.06938	-0.07397	2.81768	43.85091	23.19579	0.37270	49.68789	349.05	-11.45
93/ 5/ 5	2449112.5	0.35765	-0.01811	-0.04642	-4.63171	44.75242	24.44337	0.36110	51.20264	357.10	-7.39
93/ 5/ 7	2449114.5	0.34769	0.03359	-0.01771	-12.70242	44.56586	25.17201	0.34976	52.73611	5.52	-2.90
93/ 5/ 9	2449116.5	0.32814	0.08434	0.01148	-21.20630	43.07135	25.24462	0.33900	54.24148	14.41	1.94
93/ 5/11	2449118.5	0.29865	0.13251	0.04031	-29.84576	40.07055	24.52443	0.32920	55.65848	23.93	7.03

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93/ 5/13	2449120.5	0.25930	0.17628	0.06779	-38.20324	35.43249	22.89844	0.32078	56.91473	34.21	12.20
93/ 5/15	2449122.5	0.21070	0.21373	0.09284	-45.75785	29.15054	20.30960	0.31415	57.93112	45.41	17.19
93/ 5/17	2449124.5	0.15411	0.24305	0.11435	-51.94258	21.39451	16.79067	0.30968	58.63176	57.62	21.67
93/ 5/19	2449126.5	0.09143	0.26273	0.13132	-56.24099	12.53197	12.48547	0.30762	58.95749	70.81	25.27
93/ 5/21	2449128.5	0.02505	0.27178	0.14298	-58.29848	3.09549	7.64284	0.30812	58.87876	84.73	27.65
93/ 5/23	2449130.5	-0.04234	0.26989	0.14889	-58.00424	-6.30492	2.57810	0.31113	58.40283	98.92	28.59
93/ 5/25	2449132.5	-0.10809	0.25745	0.14898	-55.50660	-15.09492	-2.38594	0.31648	57.57197	112.78	28.08
93/ 5/27	2449134.5	-0.16986	0.23543	0.14353	-51.15786	-22.83018	-6.97514	0.32385	56.45349	125.81	26.31
93/ 5/29	2449136.5	-0.22574	0.20522	0.13308	-45.41878	-29.24127	-10.99788	0.33285	55.12596	137.73	23.57
93/ 5/31	2449138.5	-0.27443	0.16843	0.11838	-38.76419	-34.22724	-14.35137	0.34306	53.66683	148.46	20.19
93/ 6/ 2	2449140.5	-0.31511	0.12669	0.10020	-31.61689	-37.81703	-17.00769	0.35409	52.14420	158.10	16.44
93/ 6/ 4	2449142.5	-0.34741	0.08156	0.07935	-24.31616	-40.12157	-18.99143	0.36557	50.61314	166.79	12.54
93/ 6/ 6	2449144.5	-0.37132	0.03444	0.05656	-17.11291	-41.29208	-20.35781	0.37718	49.11546	174.70	8.62
93/ 6/ 8	2449146.5	-0.38705	-0.01346	0.03253	-10.18008	-41.49047	-21.17579	0.38865	47.68131	181.99	4.80
93/ 6/10	2449148.5	-0.39498	-0.06110	0.00783	-3.62875	-40.87140	-21.51681	0.39976	46.33154	188.79	1.12
93/ 6/12	2449150.5	-0.39561	-0.10762	-0.01702	2.47557	-39.57336	-21.44830	0.41034	45.08003	195.22	-2.38
93/ 6/14	2449152.5	-0.38945	-0.15231	-0.04159	8.09908	-37.71546	-21.03059	0.42024	43.93560	201.36	-5.68
93/ 6/16	2449154.5	-0.37709	-0.19457	-0.06549	13.22888	-35.39753	-20.31581	0.42935	42.90362	207.29	-8.77
93/ 6/18	2449156.5	-0.35908	-0.23393	-0.08842	17.86505	-32.70190	-19.34808	0.43759	41.98717	213.08	-11.66
93/ 6/20	2449158.5	-0.33600	-0.27000	-0.11011	22.01501	-29.69579	-18.16415	0.44488	41.18782	218.78	-14.33
93/ 6/22	2449160.5	-0.30840	-0.30244	-0.13031	25.68966	-26.43382	-16.79439	0.45118	40.50626	224.44	-16.79
93/ 6/24	2449162.5	-0.27683	-0.33098	-0.14884	28.90075	-22.96034	-15.26377	0.45644	39.94262	230.09	-19.03
93/ 6/26	2449164.5	-0.24181	-0.35541	-0.16552	31.65910	-19.31153	-13.59276	0.46064	39.49680	235.77	-21.06
93/ 6/28	2449166.5	-0.20387	-0.37554	-0.18020	33.97347	-15.51717	-11.79823	0.46375	39.16858	241.50	-22.87
93/ 6/30	2449168.5	-0.16350	-0.39121	-0.19274	35.84968	-11.60224	-9.89414	0.46576	38.95774	247.32	-24.44
93/ 7/ 2	2449170.5	-0.12121	-0.40231	-0.20302	37.29009	-7.58826	-7.89226	0.46665	38.86413	253.23	-25.79
93/ 7/ 4	2449172.5	-0.07752	-0.40871	-0.21094	38.29316	-3.49451	-5.80276	0.46642	38.88766	259.26	-26.89
93/ 7/ 6	2449174.5	-0.03292	-0.41036	-0.21639	38.85310	0.66078	-3.63481	0.46508	39.02835	265.41	-27.73
93/ 7/ 8	2449176.5	0.01206	-0.40717	-0.21931	38.95959	4.85933	-1.39714	0.46263	39.28632	271.70	-28.30
93/ 7/10	2449178.5	0.05690	-0.39912	-0.21960	38.59751	9.08159	0.90133	0.45908	39.66176	278.11	-28.58
93/ 7/12	2449180.5	0.10104	-0.38619	-0.21720	37.74671	13.30544	3.25083	0.45446	40.15490	284.66	-28.55
93/ 7/14	2449182.5	0.14391	-0.36839	-0.21207	36.38187	17.50464	5.63990	0.44877	40.76594	291.34	-28.20
93/ 7/16	2449184.5	0.18488	-0.34577	-0.20416	34.47254	21.64706	8.05445	0.44207	41.49488	298.13	-27.51
93/ 7/18	2449186.5	0.22332	-0.31842	-0.19346	31.98338	25.69243	10.47656	0.43439	42.34142	305.04	-26.45
93/ 7/20	2449188.5	0.25853	-0.28648	-0.17997	28.87496	29.58973	12.88293	0.42579	43.30456	312.06	-25.00
93/ 7/22	2449190.5	0.28977	-0.25015	-0.16372	25.10533	33.27389	15.24304	0.41635	44.38220	319.20	-23.16
93/ 7/24	2449192.5	0.31626	-0.20972	-0.14479	20.63284	36.66215	17.51683	0.40616	45.57046	326.45	-20.88
93/ 7/26	2449194.5	0.33715	-0.16560	-0.12330	15.42097	39.64984	19.65199	0.39535	46.86274	333.84	-18.17
93/ 7/28	2449196.5	0.35159	-0.11833	-0.09947	9.44587	42.10635	21.58102	0.38407	48.24842	341.40	-15.01
93/ 7/30	2449198.5	0.35868	-0.06860	-0.07356	2.70789	43.87212	23.21843	0.37252	49.71107	349.17	-11.39
93/ 8/ 1	2449200.5	0.35757	-0.01731	-0.04598	-4.75209	44.75847	24.45898	0.36093	51.22641	357.23	-7.32
93/ 8/ 3	2449202.5	0.34746	0.03438	-0.01726	-12.83121	44.55335	25.17854	0.34959	52.75984	5.65	-2.83
93/ 8/ 5	2449204.5	0.32776	0.08511	0.01193	-21.33978	43.03695	25.23990	0.33884	54.26434	14.56	2.02
93/ 8/ 7	2449206.5	0.29811	0.13322	0.04075	-29.97838	40.01159	24.50646	0.32906	55.67942	24.08	7.11
93/ 8/ 9	2449208.5	0.25861	0.17691	0.06820	-38.32763	35.34774	22.86581	0.32067	56.93255	34.37	12.28

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93/ 8/11	2449210.5	0.20988	0.21425	0.09320	-45.86538	29.04118	20.26205	0.31407	57.94457	45.59	17.26
93/ 8/13	2449212.5	0.15319	0.24343	0.11465	-52.02457	21.26473	16.72956	0.30963	58.63977	57.82	21.73
93/ 8/15	2449214.5	0.09043	0.26295	0.13154	-56.29044	12.38892	12.41391	0.30761	58.95934	71.02	25.32
93/ 8/17	2449216.5	0.02401	0.27183	0.14312	-58.31168	2.94833	7.56535	0.30814	58.87426	84.95	27.68
93/ 8/19	2449218.5	-0.04338	0.26978	0.14894	-57.98158	-6.44673	2.49978	0.31120	58.39240	99.13	28.59
93/ 8/21	2449220.5	-0.10909	0.25718	0.14894	-55.45222	-15.22332	-2.46034	0.31658	57.55651	112.98	28.06
93/ 8/23	2449222.5	-0.17077	0.23502	0.14340	-51.07836	-22.93964	-7.04196	0.32398	56.43416	126.00	26.27
93/ 8/25	2449224.5	-0.22655	0.20470	0.13289	-45.32163	-29.32904	-11.05490	0.33300	55.10402	137.90	23.52
93/ 8/27	2449226.5	-0.27512	0.16782	0.11812	-38.65646	-34.29293	-14.39765	0.34323	53.64344	148.62	20.13
93/ 8/29	2449228.5	-0.31567	0.12601	0.09990	-31.50451	-37.86187	-17.04328	0.35427	52.12033	158.24	16.38
93/ 8/31	2449230.5	-0.34784	0.08084	0.07901	-24.20365	-40.14770	-19.01700	0.36575	50.58953	166.92	12.47
93/ 9/ 2	2449232.5	-0.37162	0.03370	0.05620	-17.00348	-41.30200	-20.37438	0.37736	49.09265	174.82	8.56
93/ 9/ 4	2449234.5	-0.38723	-0.01420	0.03215	-10.07587	-41.48664	-21.18446	0.38882	47.65969	182.10	4.74
93/ 9/ 6	2449236.5	-0.39505	-0.06183	0.00744	-3.53107	-40.85611	-21.51866	0.39993	46.31137	188.89	1.07
93/ 9/ 8	2449238.5	-0.39556	-0.10832	-0.01741	2.56600	-39.54860	-21.44433	0.41049	45.06146	195.31	-2.43
93/ 9/10	2449240.5	-0.38931	-0.15298	-0.04196	8.18193	-37.68291	-21.02167	0.42038	43.91875	201.45	-5.73
93/ 9/12	2449242.5	-0.37685	-0.19520	-0.06586	13.30407	-35.35860	-20.30269	0.42948	42.88856	207.38	-8.82
93/ 9/14	2449244.5	-0.35876	-0.23452	-0.08877	17.93266	-32.65774	-19.33137	0.43771	41.97392	213.17	-11.70
93/ 9/16	2449246.5	-0.33561	-0.27053	-0.11043	22.07519	-29.64733	-18.14437	0.44499	41.17640	218.87	-14.37
93/ 9/18	2449248.5	-0.30795	-0.30291	-0.13061	25.74261	-26.38180	-16.77196	0.45127	40.49666	224.53	-16.82
93/ 9/20	2449250.5	-0.27632	-0.33139	-0.14912	28.94663	-22.90538	-15.23903	0.45652	39.93485	230.18	-19.06
93/ 9/22	2449252.5	-0.24125	-0.35576	-0.16576	31.69809	-19.25412	-13.56600	0.46070	39.49084	235.86	-21.09
93/ 9/24	2449254.5	-0.20326	-0.37582	-0.18041	34.00567	-15.45773	-11.76969	0.46379	39.16443	241.59	-22.89
93/ 9/26	2449256.5	-0.16286	-0.39142	-0.19291	35.87516	-11.54114	-9.86401	0.46578	38.95541	247.41	-24.47
93/ 9/28	2449258.5	-0.12055	-0.40244	-0.20316	37.30887	-7.52580	-7.86071	0.46665	38.86361	253.32	-25.81
93/ 9/30	2449260.5	-0.07684	-0.40878	-0.21104	38.30517	-3.43098	-5.76994	0.46641	38.88894	259.35	-26.90
93/10/ 2	2449262.5	-0.03223	-0.41034	-0.21646	38.85823	0.72510	-3.60086	0.46505	39.03145	265.51	-27.74
93/10/ 4	2449264.5	0.01276	-0.40708	-0.21933	38.95764	4.92417	-1.36218	0.46259	39.29123	271.79	-28.30
93/10/ 6	2449266.5	0.05759	-0.39896	-0.21958	38.58821	9.14664	0.93715	0.45902	39.66849	278.21	-28.58
93/10/ 8	2449268.5	0.10171	-0.38595	-0.21715	37.72971	13.37033	3.28736	0.45438	40.16346	284.76	-28.55
93/10/10	2449270.5	0.14455	-0.36808	-0.21197	36.35674	17.56893	5.67694	0.44868	40.77631	291.44	-28.19
93/10/12	2449272.5	0.18549	-0.34539	-0.20402	34.43876	21.71019	8.09176	0.44196	41.50707	298.24	-27.49
93/10/14	2449274.5	0.22389	-0.31796	-0.19328	31.94036	25.75371	10.51382	0.43426	42.35541	305.15	-26.43
93/10/16	2449276.5	0.25904	-0.28595	-0.17974	28.82208	29.64825	12.91973	0.42565	43.32032	312.17	-24.98
93/10/18	2449278.5	0.29022	-0.24955	-0.16345	25.04193	33.32853	15.27884	0.41619	44.39969	319.31	-23.12
93/10/20	2449280.5	0.31662	-0.20907	-0.14448	20.55833	36.71148	17.55092	0.40600	45.58961	326.56	-20.85
93/10/22	2449282.5	0.33743	-0.16490	-0.12295	15.33484	39.69205	19.68346	0.39518	46.88342	333.96	-18.13
93/10/24	2449284.5	0.35176	-0.11758	-0.09908	9.34792	42.13922	21.60871	0.38389	48.27042	341.52	-14.96
93/10/26	2449286.5	0.35873	-0.06782	-0.07315	2.59839	43.89296	23.24086	0.37234	49.73410	349.29	-11.33
93/10/28	2449288.5	0.35748	-0.01652	-0.04555	-4.87210	44.76417	24.47437	0.36075	51.25001	357.35	-7.25
93/10/30	2449290.5	0.34723	0.03518	-0.01681	-12.95952	44.54052	25.18485	0.34942	52.78337	5.78	-2.76
93/11/ 1	2449292.5	0.32738	0.08587	0.01238	-21.47266	43.00227	25.23497	0.33868	54.28697	14.70	2.10
93/11/ 3	2449294.5	0.29758	0.13394	0.04118	-30.11028	39.95241	24.48831	0.32892	55.70010	24.23	7.19
93/11/ 5	2449296.5	0.25793	0.17754	0.06860	-38.45118	35.26291	22.83305	0.32055	56.95010	34.54	12.36
93/11/ 7	2449298.5	0.20906	0.21477	0.09356	-45.97199	28.93192	20.21446	0.31398	57.95778	45.77	17.34

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93/11/ 9	2449300.5	0.15226	0.24381	0.11494	-52.10565	21.13527	16.66852	0.30958	58.64757	58.01	21.80
93/11/11	2449302.5	0.08943	0.26317	0.13176	-56.33908	12.24642	12.34255	0.30760	58.96105	71.23	25.36
93/11/13	2449304.5	0.02298	0.27188	0.14325	-58.32428	2.80189	7.48817	0.30817	58.86973	85.17	27.70
93/11/15	2449306.5	-0.04441	0.26966	0.14898	-57.95859	-6.58773	2.42186	0.31126	58.38203	99.35	28.60
93/11/17	2449308.5	-0.11007	0.25691	0.14889	-55.39779	-15.35092	-2.53431	0.31668	57.54119	113.19	28.04
93/11/19	2449310.5	-0.17168	0.23461	0.14327	-50.99903	-23.04838	-7.10839	0.32410	56.41505	126.19	26.24
93/11/21	2449312.5	-0.22736	0.20418	0.13269	-45.22481	-29.41620	-11.11156	0.33315	55.08233	138.07	23.47
93/11/23	2449314.5	-0.27581	0.16721	0.11786	-38.54916	-34.35813	-14.44362	0.34339	53.62030	148.77	20.07
93/11/25	2449316.5	-0.31623	0.12534	0.09959	-31.39260	-37.90633	-17.07862	0.35444	52.09669	158.38	16.32
93/11/27	2449318.5	-0.34827	0.08013	0.07867	-24.09162	-40.17356	-19.04239	0.36593	50.56613	167.04	12.41
93/11/29	2449320.5	-0.37193	0.03297	0.05584	-16.89453	-41.31173	-20.39081	0.37754	49.07004	174.93	8.51
93/12/ 1	2449322.5	-0.38741	-0.01494	0.03177	-9.97211	-41.48272	-21.19304	0.38900	47.63826	182.21	4.69
93/12/ 3	2449324.5	-0.39511	-0.06255	0.00706	-3.43380	-40.84081	-21.52047	0.40009	46.29140	189.00	1.01
93/12/ 5	2449326.5	-0.39552	-0.10902	-0.01779	2.65606	-39.52389	-21.44036	0.41065	45.04311	195.41	-2.48
93/12/ 7	2449328.5	-0.38916	-0.15365	-0.04234	8.26445	-37.65046	-21.01277	0.42053	43.90211	201.54	-5.78
93/12/ 9	2449330.5	-0.37661	-0.19583	-0.06622	13.37898	-35.31979	-20.28960	0.42962	42.87368	207.47	-8.87
93/12/11	2449332.5	-0.35844	-0.23510	-0.08911	18.00001	-32.61371	-19.31470	0.43783	41.96084	213.26	-11.74
93/12/13	2449334.5	-0.33522	-0.27105	-0.11075	22.13515	-29.59899	-18.12463	0.44509	41.16512	218.96	-14.41
93/12/15	2449336.5	-0.30749	-0.30338	-0.13091	25.79533	-26.32993	-16.74959	0.45136	40.48720	224.61	-16.86
93/12/17	2449338.5	-0.27580	-0.33180	-0.14939	28.99232	-22.85059	-15.21437	0.45659	39.92720	230.27	-19.10
93/12/19	2449340.5	-0.24069	-0.35610	-0.16601	31.73690	-19.19693	-13.53935	0.46075	39.48502	235.95	-21.12
93/12/21	2449342.5	-0.20266	-0.37609	-0.18062	34.03772	-15.39857	-11.74127	0.46383	39.16044	241.68	-22.92
93/12/23	2449344.5	-0.16222	-0.39163	-0.19309	35.90051	-11.48034	-9.83403	0.46580	38.95321	247.50	-24.49
93/12/25	2449346.5	-0.11989	-0.40258	-0.20330	37.32751	-7.46368	-7.82933	0.46666	38.86319	253.42	-25.83
93/12/27	2449348.5	-0.07616	-0.40884	-0.21114	38.31704	-3.36783	-5.73732	0.46640	38.89029	259.45	-26.92
93/12/29	2449350.5	-0.03154	-0.41033	-0.21652	38.86320	0.78900	-3.56712	0.46503	39.03454	265.60	-27.75
93/12/31	2449352.5	0.01345	-0.40700	-0.21936	38.95552	4.98851	-1.32748	0.46254	39.29606	271.89	-28.31
94/ 1/ 2	2449354.5	0.05827	-0.39880	-0.21957	38.57873	9.21110	0.97268	0.45896	39.67504	278.31	-28.58
94/ 1/ 4	2449356.5	0.10238	-0.38572	-0.21709	37.71253	13.43452	3.32353	0.45430	40.17172	284.87	-28.55
94/ 1/ 6	2449358.5	0.14520	-0.36777	-0.21187	36.33146	17.63241	5.71356	0.44859	40.78629	291.54	-28.18
94/ 1/ 8	2449360.5	0.18611	-0.34501	-0.20388	34.40489	21.77239	8.12858	0.44185	41.51876	298.34	-27.48
94/ 1/10	2449362.5	0.22446	-0.31751	-0.19309	31.89737	25.81393	10.55052	0.43414	42.36880	305.26	-26.41
94/ 1/12	2449364.5	0.25956	-0.28543	-0.17951	28.76936	29.70562	12.95590	0.42552	43.33538	312.28	-24.95
94/ 1/14	2449366.5	0.29066	-0.24897	-0.16318	24.97889	33.38193	15.31394	0.41605	44.41638	319.42	-23.09
94/ 1/16	2449368.5	0.31699	-0.20843	-0.14417	20.48440	36.75949	17.58425	0.40584	45.60786	326.67	-20.81
94/ 1/18	2449370.5	0.33770	-0.16420	-0.12261	15.24961	39.73291	19.71412	0.39502	46.90310	334.07	-18.08
94/ 1/20	2449372.5	0.35192	-0.11684	-0.09871	9.25122	42.17074	21.63554	0.38373	48.29133	341.63	-14.91
94/ 1/22	2449374.5	0.35878	-0.06705	-0.07274	2.49055	43.91252	23.26242	0.37217	49.75593	349.41	-11.27
94/ 1/24	2449376.5	0.35740	-0.01574	-0.04512	-4.98998	44.76876	24.48895	0.36058	51.27232	357.48	-7.19
94/ 1/26	2449378.5	0.34701	0.03595	-0.01637	-13.08524	44.52691	25.19047	0.34925	52.80558	5.91	-2.69
94/ 1/28	2449380.5	0.32701	0.08662	0.01282	-21.60252	42.96732	25.22959	0.33853	54.30830	14.84	2.17
94/ 1/30	2449382.5	0.29706	0.13463	0.04161	-30.23887	39.89363	24.47002	0.32879	55.71959	24.38	7.27
94/ 2/ 1	2449384.5	0.25727	0.17815	0.06900	-38.57135	35.17929	22.80058	0.32044	56.96664	34.70	12.43
94/ 2/ 3	2449386.5	0.20827	0.21527	0.09391	-46.07545	28.82472	20.16765	0.31390	57.97021	45.95	17.41
94/ 2/ 5	2449388.5	0.15136	0.24417	0.11523	-52.18411	21.00864	16.60873	0.30953	58.65487	58.21	21.86

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

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94/ 2/ 7	2449390.5	0.08845	0.26338	0.13198	-56.38593	12.10732	12.27282	0.30759	58.96255	71.44	25.41
94/ 2/ 9	2449392.5	0.02197	0.27193	0.14338	-58.33609	2.65910	7.41287	0.30820	58.86528	85.38	27.72
94/ 2/11	2449394.5	-0.04540	0.26955	0.14902	-57.93586	-6.72515	2.34588	0.31133	58.37204	99.56	28.60
94/ 2/13	2449396.5	-0.11103	0.25664	0.14885	-55.34458	-15.47532	-2.60644	0.31678	57.52653	113.39	28.03
94/ 2/15	2449398.5	-0.17255	0.23421	0.14315	-50.92168	-23.15450	-7.17321	0.32423	56.39684	126.38	26.20
94/ 2/17	2449400.5	-0.22814	0.20367	0.13250	-45.13048	-29.50143	-11.16694	0.33329	55.06173	138.24	23.42
94/ 2/19	2449402.5	-0.27647	0.16661	0.11761	-38.44458	-34.42209	-14.48865	0.34355	53.59839	148.93	20.02
94/ 2/21	2449404.5	-0.31677	0.12468	0.09929	-31.28343	-37.95018	-17.11334	0.35461	52.07433	158.52	16.26
94/ 2/23	2449406.5	-0.34869	0.07943	0.07834	-23.98219	-40.19930	-19.06744	0.36610	50.54401	167.17	12.36
94/ 2/25	2449408.5	-0.37221	0.03225	0.05548	-16.78795	-41.32173	-20.40713	0.37771	49.04866	175.05	8.45
94/ 2/27	2449410.5	-0.38758	-0.01566	0.03140	-9.87044	-41.47933	-21.20168	0.38916	47.61797	182.31	4.63
94/ 3/ 1	2449412.5	-0.39517	-0.06327	0.00668	-3.33834	-40.82619	-21.52246	0.40025	46.27244	189.10	0.96
94/ 3/ 3	2449414.5	-0.39546	-0.10972	-0.01816	2.74458	-39.49996	-21.43664	0.41080	45.02565	195.51	-2.53
94/ 3/ 5	2449416.5	-0.38901	-0.15430	-0.04270	8.34566	-37.61884	-21.00418	0.42067	43.88624	201.64	-5.83
94/ 3/ 7	2449418.5	-0.37637	-0.19645	-0.06657	13.45277	-35.28182	-20.27684	0.42974	42.85947	207.56	-8.91
94/ 3/ 9	2449420.5	-0.35812	-0.23567	-0.08945	18.06644	-32.57050	-19.29838	0.43794	41.94831	213.35	-11.79
94/ 3/11	2449422.5	-0.33482	-0.27157	-0.11107	22.19431	-29.55146	-18.10525	0.44519	41.15430	219.05	-14.45
94/ 3/13	2449424.5	-0.30703	-0.30384	-0.13121	25.84741	-26.27881	-16.72755	0.45144	40.47808	224.70	-16.90
94/ 3/15	2449426.5	-0.27529	-0.33220	-0.14965	29.03746	-22.79648	-15.19001	0.45666	39.91979	230.35	-19.13
94/ 3/17	2449428.5	-0.24013	-0.35644	-0.16624	31.77522	-19.14033	-13.51295	0.46081	39.47932	236.03	-21.15
94/ 3/19	2449430.5	-0.20205	-0.37636	-0.18082	34.06932	-15.33990	-11.71307	0.46387	39.15644	241.77	-22.94
94/ 3/21	2449432.5	-0.16159	-0.39183	-0.19326	35.92544	-11.41996	-9.80423	0.46582	38.95093	247.59	-24.51
94/ 3/23	2449434.5	-0.11923	-0.40271	-0.20344	37.34576	-7.40191	-7.79810	0.46666	38.86263	253.51	-25.85
94/ 3/25	2449436.5	-0.07548	-0.40890	-0.21124	38.32856	-3.30496	-5.70480	0.46639	38.89146	259.54	-26.93
94/ 3/27	2449438.5	-0.03085	-0.41032	-0.21659	38.86787	0.85269	-3.53346	0.46500	39.03746	265.70	-27.76
94/ 3/29	2449440.5	0.01414	-0.40691	-0.21938	38.95315	5.05273	-1.29281	0.46250	39.30076	271.99	-28.32
94/ 3/31	2449442.5	0.05895	-0.39864	-0.21955	38.56906	9.27552	1.00820	0.45890	39.68153	278.41	-28.58
94/ 4/ 2	2449444.5	0.10305	-0.38548	-0.21703	37.69521	13.49877	3.35975	0.45422	40.18002	284.97	-28.54
94/ 4/ 4	2449446.5	0.14584	-0.36746	-0.21177	36.30606	17.69604	5.75028	0.44849	40.79639	291.65	-28.18
94/ 4/ 6	2449448.5	0.18671	-0.34462	-0.20374	34.37091	21.83486	8.16556	0.44174	41.53067	298.45	-27.47
94/ 4/ 8	2449450.5	0.22502	-0.31706	-0.19291	31.85422	25.87453	10.58744	0.43402	42.38250	305.36	-26.39
94/ 4/10	2449452.5	0.26006	-0.28491	-0.17928	28.71642	29.76346	12.99234	0.42538	43.35086	312.39	-24.93
94/ 4/12	2449454.5	0.29110	-0.24838	-0.16291	24.91552	33.43589	15.34938	0.41590	44.43361	319.53	-23.06
94/ 4/14	2449456.5	0.31735	-0.20778	-0.14386	20.41000	36.80815	17.61799	0.40568	45.62676	326.79	-20.77
94/ 4/16	2449458.5	0.33797	-0.16350	-0.12226	15.16370	39.77448	19.74523	0.39485	46.92357	334.18	-18.04
94/ 4/18	2449460.5	0.35209	-0.11610	-0.09832	9.15360	42.20300	21.66286	0.38355	48.31316	341.75	-14.85
94/ 4/20	2449462.5	0.35882	-0.06628	-0.07233	2.38149	43.93280	23.28450	0.37199	49.77881	349.54	-11.21
94/ 4/22	2449464.5	0.35731	-0.01495	-0.04469	-5.10942	44.77395	24.50400	0.36040	51.29580	357.60	-7.12
94/ 4/24	2449466.5	0.34678	0.03674	-0.01593	-13.21288	44.51364	25.19648	0.34908	52.82903	6.05	-2.61
94/ 4/26	2449468.5	0.32662	0.08738	0.01327	-21.73463	42.93229	25.22439	0.33837	54.33089	14.98	2.25
94/ 4/28	2449470.5	0.29652	0.13533	0.04204	-30.36990	39.83424	24.45166	0.32865	55.74030	24.53	7.35
94/ 4/30	2449472.5	0.25658	0.17877	0.06940	-38.69397	35.09440	22.76769	0.32033	56.98428	34.87	12.51
94/ 5/ 2	2449474.5	0.20746	0.21577	0.09426	-46.18110	28.71557	20.12002	0.31382	57.98356	46.13	17.48
94/ 5/ 4	2449476.5	0.15044	0.24454	0.11552	-52.26425	20.87947	16.54775	0.30948	58.66287	58.40	21.92
94/ 5/ 6	2449478.5	0.08745	0.26359	0.13219	-56.43373	11.96528	12.20163	0.30758	58.96451	71.64	25.45

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94/ 5/ 8	2449480.5	0.02094	0.27197	0.14351	-58.34798	2.51326	7.33594	0.30823	58.86102	85.60	27.75
94/ 5/10	2449482.5	-0.04643	0.26943	0.14906	-57.91235	-6.86548	2.26827	0.31139	58.36197	99.78	28.60
94/ 5/12	2449484.5	-0.11201	0.25636	0.14880	-55.28980	-15.60221	-2.68007	0.31687	57.51151	113.60	28.01
94/ 5/14	2449486.5	-0.17346	0.23380	0.14302	-50.84217	-23.26254	-7.23928	0.32435	56.37800	126.57	26.16
94/ 5/16	2449488.5	-0.22894	0.20314	0.13230	-45.03362	-29.58793	-11.22325	0.33344	55.04030	138.42	23.38
94/ 5/18	2449490.5	-0.27715	0.16600	0.11735	-38.33735	-34.48668	-14.53430	0.34371	53.57545	149.08	19.96
94/ 5/20	2449492.5	-0.31732	0.12401	0.09899	-31.17166	-37.99410	-17.14837	0.35478	52.05084	158.66	16.20
94/ 5/22	2449494.5	-0.34911	0.07871	0.07800	-23.87036	-40.22466	-19.09253	0.36628	50.52071	167.29	12.29
94/ 5/24	2449496.5	-0.37251	0.03151	0.05512	-16.67923	-41.33100	-20.42328	0.37788	49.02610	175.16	8.39
94/ 5/26	2449498.5	-0.38775	-0.01640	0.03102	-9.76695	-41.47498	-21.21000	0.38934	47.59655	182.42	4.57
94/ 5/28	2449500.5	-0.39522	-0.06399	0.00630	-3.24136	-40.81049	-21.52403	0.40042	46.25242	189.20	0.90
94/ 5/30	2449502.5	-0.39541	-0.11042	-0.01854	2.83433	-39.47487	-21.43244	0.41096	45.00721	195.60	-2.59
94/ 6/ 1	2449504.5	-0.38886	-0.15497	-0.04308	8.42787	-37.58604	-20.99506	0.42082	43.86949	201.73	-5.88
94/ 6/ 3	2449506.5	-0.37613	-0.19707	-0.06693	13.52736	-35.24269	-20.26355	0.42988	42.84446	207.65	-8.96
94/ 6/ 5	2449508.5	-0.35780	-0.23625	-0.08979	18.13348	-32.52617	-19.28152	0.43806	41.93509	213.44	-11.83
94/ 6/ 7	2449510.5	-0.33443	-0.27210	-0.11139	22.25396	-29.50285	-18.08534	0.44530	41.14288	219.13	-14.49
94/ 6/ 9	2449512.5	-0.30657	-0.30431	-0.13150	25.89983	-26.22668	-16.70500	0.45153	40.46847	224.79	-16.93
94/ 6/11	2449514.5	-0.27477	-0.33260	-0.14992	29.08284	-22.74145	-15.16519	0.45673	39.91200	230.44	-19.16
94/ 6/13	2449516.5	-0.23956	-0.35678	-0.16648	31.81371	-19.08289	-13.48613	0.46086	39.47334	236.12	-21.18
94/ 6/15	2449518.5	-0.20145	-0.37663	-0.18103	34.10104	-15.28046	-11.68448	0.46391	39.15227	241.86	-22.97
94/ 6/17	2449520.5	-0.16095	-0.39203	-0.19344	35.95045	-11.35888	-9.77406	0.46584	38.94858	247.68	-24.53
94/ 6/19	2449522.5	-0.11857	-0.40284	-0.20358	37.36408	-7.33949	-7.76653	0.46667	38.86209	253.60	-25.86
94/ 6/21	2449524.5	-0.07480	-0.40896	-0.21134	38.34014	-3.24149	-5.67197	0.46638	38.89274	259.63	-26.95
94/ 6/23	2449526.5	-0.03016	-0.41030	-0.21665	38.87258	0.91694	-3.49951	0.46497	39.04055	265.80	-27.77
94/ 6/25	2449528.5	0.01483	-0.40682	-0.21940	38.95079	5.11747	-1.25787	0.46245	39.30566	272.09	-28.32
94/ 6/27	2449530.5	0.05964	-0.39847	-0.21953	38.55935	9.34042	1.04399	0.45884	39.68825	278.51	-28.58
94/ 6/29	2449532.5	0.10372	-0.38524	-0.21697	37.67780	13.56348	3.39623	0.45414	40.18855	285.07	-28.54
94/ 7/ 1	2449534.5	0.14648	-0.36715	-0.21167	36.28052	17.76010	5.78725	0.44840	40.80673	291.75	-28.17
94/ 7/ 3	2449536.5	0.18732	-0.34424	-0.20359	34.33673	21.89772	8.20277	0.44163	41.54282	298.55	-27.45
94/ 7/ 5	2449538.5	0.22558	-0.31660	-0.19272	31.81082	25.93550	10.62458	0.43389	42.39646	305.47	-26.37
94/ 7/ 7	2449540.5	0.26057	-0.28438	-0.17905	28.66318	29.82165	13.02901	0.42524	43.36662	312.50	-24.90
94/ 7/ 9	2449542.5	0.29154	-0.24779	-0.16264	24.85178	33.49017	15.38502	0.41575	44.45111	319.64	-23.03
94/ 7/11	2449544.5	0.31771	-0.20713	-0.14355	20.33515	36.85707	17.65190	0.40552	45.64594	326.90	-20.73
94/ 7/13	2449546.5	0.33824	-0.16280	-0.12191	15.07725	39.81623	19.77649	0.39468	46.94428	334.30	-17.99
94/ 7/15	2449548.5	0.35225	-0.11535	-0.09794	9.05534	42.23533	21.69028	0.38337	48.33519	341.87	-14.80
94/ 7/17	2449550.5	0.35886	-0.06550	-0.07192	2.27172	43.95300	23.30660	0.37181	49.80185	349.66	-11.15
94/ 7/19	2449552.5	0.35722	-0.01416	-0.04425	-5.22962	44.77891	24.51901	0.36023	51.31940	357.73	-7.06
94/ 7/21	2449554.5	0.34654	0.03752	-0.01548	-13.34125	44.49997	25.20234	0.34891	52.85257	6.18	-2.54
94/ 7/23	2449556.5	0.32624	0.08814	0.01371	-21.86740	42.89671	25.21897	0.33821	54.35354	15.12	2.32
94/ 7/25	2449558.5	0.29598	0.13604	0.04247	-30.50146	39.77414	24.43297	0.32851	55.76101	24.68	7.43
94/ 7/27	2449560.5	0.25589	0.17939	0.06980	-38.81691	35.00867	22.73439	0.32021	57.00186	35.03	12.59
94/ 7/29	2449562.5	0.20663	0.21628	0.09462	-46.28679	28.60553	20.07191	0.31373	57.99677	46.31	17.55
94/ 7/31	2449564.5	0.14951	0.24491	0.11582	-52.34412	20.74945	16.48628	0.30943	58.67064	58.60	21.98
94/ 8/ 2	2449566.5	0.08645	0.26380	0.13241	-56.48094	11.82253	12.12998	0.30757	58.96614	71.86	25.50
94/ 8/ 4	2449568.5	0.01990	0.27202	0.14364	-58.35907	2.36692	7.25867	0.30826	58.85637	85.82	27.77

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94/ 8/ 6	2449570.5	-0.04746	0.26930	0.14910	-57.88791	-7.00603	2.19045	0.31146	58.35146	99.99	28.60
94/ 8/ 8	2449572.5	-0.11299	0.25608	0.14875	-55.23412	-15.72908	-2.75377	0.31697	57.49604	113.81	27.99
94/ 8/10	2449574.5	-0.17436	0.23338	0.14289	-50.76188	-23.37037	-7.30532	0.32448	56.35876	126.76	26.13
94/ 8/12	2449576.5	-0.22974	0.20261	0.13210	-44.93614	-29.67413	-11.27947	0.33359	55.01852	138.59	23.33
94/ 8/14	2449578.5	-0.27783	0.16538	0.11709	-38.22966	-34.55095	-14.57981	0.34388	53.55228	149.24	19.91
94/ 8/16	2449580.5	-0.31788	0.12333	0.09868	-31.05959	-38.03773	-17.18328	0.35496	52.02722	158.79	16.14
94/ 8/18	2449582.5	-0.34953	0.07800	0.07766	-23.75833	-40.24980	-19.11753	0.36645	50.49737	167.42	12.23
94/ 8/20	2449584.5	-0.37281	0.03078	0.05475	-16.57039	-41.34012	-20.43937	0.37806	49.00358	175.28	8.33
94/ 8/22	2449586.5	-0.38792	-0.01713	0.03065	-9.66337	-41.47053	-21.21827	0.38951	47.57521	182.53	4.51
94/ 8/24	2449588.5	-0.39528	-0.06472	0.00592	-3.14432	-40.79470	-21.52555	0.40059	46.23250	189.30	0.85
94/ 8/26	2449590.5	-0.39536	-0.11112	-0.01893	2.92413	-39.44971	-21.42819	0.41112	44.98886	195.70	-2.64
94/ 8/28	2449592.5	-0.38871	-0.15564	-0.04345	8.51011	-37.55317	-20.98591	0.42096	43.85283	201.82	-5.92
94/ 8/30	2449594.5	-0.37589	-0.19770	-0.06729	13.60198	-35.20350	-20.25022	0.43001	42.82956	207.74	-9.00
94/ 9/ 1	2449596.5	-0.35748	-0.23682	-0.09014	18.20055	-32.48179	-19.26464	0.43818	41.92199	213.52	-11.87
94/ 9/ 3	2449598.5	-0.33403	-0.27262	-0.11172	22.31364	-29.45421	-18.06540	0.44540	41.13159	219.22	-14.53
94/ 9/ 5	2449600.5	-0.30611	-0.30477	-0.13180	25.95229	-26.17452	-16.68244	0.45162	40.45900	224.87	-16.97
94/ 9/ 7	2449602.5	-0.27426	-0.33301	-0.15019	29.12826	-22.68636	-15.14033	0.45680	39.90434	230.53	-19.20
94/ 9/ 9	2449604.5	-0.23900	-0.35711	-0.16672	31.85225	-19.02537	-13.45926	0.46092	39.46748	236.21	-21.21
94/ 9/11	2449606.5	-0.20084	-0.37691	-0.18124	34.13279	-15.22092	-11.65584	0.46394	39.14821	241.95	-23.00
94/ 9/13	2449608.5	-0.16031	-0.39223	-0.19361	35.97548	-11.29768	-9.74384	0.46586	38.94631	247.77	-24.56
94/ 9/15	2449610.5	-0.11790	-0.40297	-0.20371	37.38238	-7.27694	-7.73488	0.46667	38.86161	253.69	-25.88
94/ 9/17	2449612.5	-0.07412	-0.40901	-0.21145	38.35166	-3.17787	-5.63906	0.46636	38.89406	259.73	-26.96
94/ 9/19	2449614.5	-0.02947	-0.41029	-0.21671	38.87719	0.98134	-3.46547	0.46494	39.04368	265.89	-27.78
94/ 9/21	2449616.5	0.01552	-0.40673	-0.21942	38.94831	5.18236	-1.22283	0.46240	39.31060	272.19	-28.33
94/ 9/23	2449618.5	0.06032	-0.39831	-0.21951	38.54951	9.40550	1.07989	0.45877	39.69501	278.61	-28.59
94/ 9/25	2449620.5	0.10439	-0.38500	-0.21691	37.66024	13.62838	3.43282	0.45406	40.19715	285.17	-28.54
94/ 9/27	2449622.5	0.14713	-0.36683	-0.21157	36.25481	17.82438	5.82434	0.44830	40.81718	291.85	-28.16
94/ 9/29	2449624.5	0.18793	-0.34385	-0.20345	34.30235	21.96082	8.24012	0.44152	41.55512	298.66	-27.44
94/10/ 1	2449626.5	0.22615	-0.31614	-0.19253	31.76718	25.99671	10.66187	0.43376	42.41059	305.58	-26.35
94/10/ 3	2449628.5	0.26108	-0.28385	-0.17882	28.60964	29.88007	13.06583	0.42510	43.38256	312.61	-24.88
94/10/ 5	2449630.5	0.29198	-0.24719	-0.16236	24.78768	33.54466	15.42081	0.41560	44.46881	319.75	-23.00
94/10/ 7	2449632.5	0.31807	-0.20647	-0.14323	20.25986	36.90617	17.68595	0.40536	45.66530	327.01	-20.69
94/10/ 9	2449634.5	0.33850	-0.16209	-0.12156	14.99030	39.85810	19.80787	0.39450	46.96519	334.41	-17.95
94/10/11	2449636.5	0.35241	-0.11460	-0.09755	8.95653	42.26772	21.71780	0.38320	48.35744	341.99	-14.75
94/10/13	2449638.5	0.35890	-0.06471	-0.07150	2.16135	43.97319	23.32877	0.37163	49.82513	349.78	-11.09
94/10/15	2449640.5	0.35712	-0.01336	-0.04382	-5.35045	44.78374	24.53402	0.36005	51.34325	357.86	-6.99
94/10/17	2449642.5	0.34630	0.03832	-0.01503	-13.47026	44.48604	25.20813	0.34874	52.87632	6.31	-2.47
94/10/19	2449644.5	0.32584	0.08890	0.01416	-22.00074	42.86069	25.21337	0.33805	54.37633	15.26	2.40
94/10/21	2449646.5	0.29544	0.13675	0.04291	-30.63344	39.71342	24.41400	0.32837	55.78177	24.84	7.51
94/10/23	2449648.5	0.25520	0.18001	0.07021	-38.94005	34.92219	22.70070	0.32010	57.01937	35.20	12.67
94/10/25	2449650.5	0.20581	0.21679	0.09498	-46.39240	28.49469	20.02337	0.31365	58.00980	46.49	17.63
94/10/27	2449652.5	0.14857	0.24528	0.11611	-52.42360	20.61869	16.42438	0.30938	58.67814	58.80	22.04
94/10/29	2449654.5	0.08544	0.26401	0.13262	-56.52753	11.67919	12.05796	0.30756	58.96745	72.07	25.54
94/10/31	2449656.5	0.01886	0.27206	0.14377	-58.36937	2.22023	7.18113	0.30829	58.85135	86.03	27.80
94/11/ 2	2449658.5	-0.04849	0.26918	0.14914	-57.86265	-7.14668	2.11249	0.31153	58.34058	100.21	28.60

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94/11/ 4	2449660.5	-0.11397	0.25580	0.14870	-55.17766	-15.85582	-2.82749	0.31708	57.48022	114.02	27.97
94/11/ 6	2449662.5	-0.17526	0.23297	0.14276	-50.68093	-23.47789	-7.37126	0.32461	56.33919	126.95	26.09
94/11/ 8	2449664.5	-0.23054	0.20208	0.13190	-44.83817	-29.75989	-11.33550	0.33374	54.99642	138.76	23.28
94/11/10	2449666.5	-0.27851	0.16477	0.11684	-38.12166	-34.61472	-14.62509	0.34405	53.52881	149.39	19.85
94/11/12	2449668.5	-0.31843	0.12265	0.09838	-30.94736	-38.08083	-17.21792	0.35513	52.00332	158.93	16.08
94/11/14	2449670.5	-0.34996	0.07728	0.07732	-23.64630	-40.27442	-19.14225	0.36664	50.47378	167.55	12.17
94/11/16	2449672.5	-0.37310	0.03004	0.05439	-16.46166	-41.34876	-20.45519	0.37824	48.98083	175.40	8.27
94/11/18	2449674.5	-0.38810	-0.01787	0.03027	-9.56000	-41.46567	-21.22631	0.38969	47.55367	182.64	4.46
94/11/20	2449676.5	-0.39534	-0.06544	0.00554	-3.04755	-40.77861	-21.52689	0.40075	46.21244	189.40	0.79
94/11/22	2449678.5	-0.39531	-0.11182	-0.01931	3.01362	-39.42434	-21.42381	0.41128	44.97044	195.79	-2.69
94/11/24	2449680.5	-0.38856	-0.15631	-0.04382	8.59203	-37.52018	-20.97666	0.42111	43.83614	201.91	-5.97
94/11/26	2449682.5	-0.37565	-0.19832	-0.06765	13.67626	-35.16426	-20.23684	0.43014	42.81466	207.83	-9.05
94/11/28	2449684.5	-0.35716	-0.23740	-0.09048	18.26729	-32.43743	-19.24773	0.43830	41.90890	213.61	-11.91
94/11/30	2449686.5	-0.33364	-0.27314	-0.11204	22.37300	-29.40563	-18.04548	0.44550	41.12033	219.31	-14.57
94/12/ 2	2449688.5	-0.30565	-0.30523	-0.13210	26.00446	-26.12246	-16.65991	0.45171	40.44957	224.96	-17.00
94/12/ 4	2449690.5	-0.27374	-0.33341	-0.15046	29.17342	-22.63143	-15.11554	0.45688	39.89674	230.61	-19.23
94/12/ 6	2449692.5	-0.23843	-0.35745	-0.16696	31.89056	-18.96807	-13.43249	0.46097	39.46172	236.30	-21.24
94/12/ 8	2449694.5	-0.20024	-0.37717	-0.18145	34.16438	-15.16165	-11.62732	0.46398	39.14429	242.04	-23.02
94/12/10	2449696.5	-0.15967	-0.39243	-0.19378	36.00040	-11.23678	-9.71376	0.46589	38.94421	247.86	-24.58
94/12/12	2449698.5	-0.11724	-0.40310	-0.20385	37.40065	-7.21472	-7.70341	0.46668	38.86133	253.78	-25.90
94/12/14	2449700.5	-0.07344	-0.40907	-0.21154	38.36319	-3.11461	-5.60634	0.46635	38.89558	259.82	-26.98
94/12/16	2449702.5	-0.02879	-0.41027	-0.21677	38.88185	1.04537	-3.43163	0.46491	39.04699	265.99	-27.79
94/12/18	2449704.5	0.01621	-0.40664	-0.21945	38.94588	5.24687	-1.18801	0.46236	39.31568	272.28	-28.33
94/12/20	2449706.5	0.06101	-0.39814	-0.21949	38.53972	9.47016	1.11556	0.45871	39.70187	278.71	-28.59
94/12/22	2449708.5	0.10505	-0.38476	-0.21685	37.64275	13.69283	3.46916	0.45398	40.20578	285.27	-28.53
94/12/24	2449710.5	0.14777	-0.36652	-0.21146	36.22918	17.88815	5.86116	0.44820	40.82760	291.96	-28.15
94/12/26	2449712.5	0.18854	-0.34346	-0.20330	34.26808	22.02336	8.27717	0.44141	41.56731	298.76	-27.42
94/12/28	2449714.5	0.22671	-0.31568	-0.19234	31.72372	26.05731	10.69882	0.43364	42.42455	305.68	-26.33
94/12/30	2449716.5	0.26158	-0.28332	-0.17859	28.55635	29.93784	13.10227	0.42496	43.39825	312.72	-24.85
95/ 1/ 1	2449718.5	0.29242	-0.24660	-0.16209	24.72392	33.59845	15.45620	0.41545	44.48620	319.86	-22.96
95/ 1/ 3	2449720.5	0.31843	-0.20582	-0.14292	20.18503	36.95452	17.71956	0.40520	45.68430	327.12	-20.65
95/ 1/ 5	2449722.5	0.33877	-0.16139	-0.12121	14.90393	39.89920	19.83877	0.39434	46.98564	334.53	-17.90
95/ 1/ 7	2449724.5	0.35257	-0.11385	-0.09717	8.85847	42.29932	21.74481	0.38302	48.37915	342.10	-14.70
95/ 1/ 9	2449726.5	0.35894	-0.06394	-0.07109	2.05192	43.99259	23.35041	0.37146	49.84777	349.90	-11.03
95/ 1/11	2449728.5	0.35703	-0.01257	-0.04338	-5.47010	44.78786	24.54852	0.35988	51.36637	357.98	-6.92
95/ 1/13	2449730.5	0.34607	0.03910	-0.01459	-13.59785	44.47152	25.21346	0.34857	52.89930	6.45	-2.40
95/ 1/15	2449732.5	0.32546	0.08966	0.01461	-22.13243	42.82431	25.20740	0.33790	54.39834	15.40	2.48
95/ 1/17	2449734.5	0.29490	0.13744	0.04334	-30.76359	39.65268	24.39482	0.32823	55.80180	24.99	7.59
95/ 1/19	2449736.5	0.25452	0.18063	0.07061	-39.06128	34.83613	22.66704	0.31998	57.03625	35.36	12.75
95/ 1/21	2449738.5	0.20499	0.21729	0.09533	-46.49619	28.38473	19.97512	0.31357	58.02236	46.67	17.70
95/ 1/23	2449740.5	0.14765	0.24564	0.11640	-52.50154	20.48925	16.36303	0.30934	58.68534	58.99	22.10
95/ 1/25	2449742.5	0.08445	0.26422	0.13284	-56.57301	11.53752	11.98673	0.30755	58.96864	72.27	25.59
95/ 1/27	2449744.5	0.01783	0.27210	0.14390	-58.37912	2.07539	7.10451	0.30832	58.84644	86.25	27.82
95/ 1/29	2449746.5	-0.04951	0.26905	0.14918	-57.83742	-7.28550	2.03550	0.31160	58.33000	100.43	28.60
95/ 1/31	2449748.5	-0.11494	0.25552	0.14865	-55.12177	-15.98091	-2.90027	0.31718	57.46486	114.22	27.95

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95/ 2/ 2	2449750.5	-0.17615	0.23255	0.14263	-50.60096	-23.58408	-7.43638	0.32474	56.32021	127.14	26.05
95/ 2/ 4	2449752.5	-0.23132	0.20156	0.13170	-44.74143	-29.84468	-11.39088	0.33389	54.97502	138.93	23.23
95/ 2/ 6	2449754.5	-0.27918	0.16416	0.11658	-38.01499	-34.67787	-14.66990	0.34421	53.50607	149.54	19.80
95/ 2/ 8	2449756.5	-0.31897	0.12198	0.09807	-30.83646	-38.12361	-17.25226	0.35530	51.98016	159.07	16.02
95/ 2/10	2449758.5	-0.35037	0.07658	0.07698	-23.53550	-40.29897	-19.16680	0.36681	50.45090	167.67	12.11
95/ 2/12	2449760.5	-0.37339	0.02932	0.05403	-16.35404	-41.35752	-20.47095	0.37841	48.95875	175.51	8.21
95/ 2/14	2449762.5	-0.38826	-0.01860	0.02990	-9.45759	-41.46106	-21.23437	0.38986	47.53276	182.74	4.40
95/ 2/16	2449764.5	-0.39539	-0.06616	0.00516	-2.95161	-40.76283	-21.52830	0.40092	46.19295	189.50	0.74
95/ 2/18	2449766.5	-0.39526	-0.11251	-0.01968	3.10240	-39.39934	-21.41954	0.41143	44.95253	195.89	-2.74
95/ 2/20	2449768.5	-0.38841	-0.15697	-0.04419	8.67333	-37.48758	-20.96756	0.42125	43.81990	202.01	-6.02
95/ 2/22	2449770.5	-0.37541	-0.19894	-0.06801	13.75003	-35.12543	-20.22362	0.43027	42.80016	207.92	-9.09
95/ 2/24	2449772.5	-0.35683	-0.23797	-0.09082	18.33357	-32.39346	-19.23099	0.43841	41.89615	213.70	-11.96
95/ 2/26	2449774.5	-0.33324	-0.27366	-0.11235	22.43194	-29.35745	-18.02572	0.44561	41.10934	219.39	-14.60
95/ 2/28	2449776.5	-0.30519	-0.30570	-0.13239	26.05624	-26.07080	-16.63755	0.45180	40.44035	225.05	-17.04
95/ 3/ 2	2449778.5	-0.27323	-0.33381	-0.15073	29.21820	-22.57689	-15.09092	0.45695	39.88928	230.70	-19.26
95/ 3/ 4	2449780.5	-0.23787	-0.35779	-0.16720	31.92848	-18.91115	-13.40589	0.46103	39.45601	236.38	-21.26
95/ 3/ 6	2449782.5	-0.19964	-0.37744	-0.18165	34.19553	-15.10277	-11.59896	0.46402	39.14031	242.12	-23.05
95/ 3/ 8	2449784.5	-0.15904	-0.39263	-0.19395	36.02485	-11.17629	-9.68385	0.46591	38.94196	247.95	-24.60
95/ 3/10	2449786.5	-0.11658	-0.40322	-0.20399	37.41838	-7.15295	-7.67213	0.46668	38.86079	253.87	-25.92
95/ 3/12	2449788.5	-0.07276	-0.40912	-0.21164	38.37417	-3.05184	-5.57382	0.46634	38.89676	259.92	-26.99
95/ 3/14	2449790.5	-0.02810	-0.41025	-0.21683	38.88595	1.10884	-3.39802	0.46488	39.04989	266.08	-27.80
95/ 3/16	2449792.5	0.01689	-0.40655	-0.21947	38.94293	5.31076	-1.15346	0.46231	39.32031	272.38	-28.34
95/ 3/18	2449794.5	0.06168	-0.39797	-0.21948	38.52946	9.53414	1.15090	0.45865	39.70823	278.81	-28.59
95/ 3/20	2449796.5	0.10571	-0.38452	-0.21679	37.62484	13.75651	3.50514	0.45391	40.21388	285.37	-28.53
95/ 3/22	2449798.5	0.14841	-0.36621	-0.21136	36.20321	17.95110	5.89757	0.44811	40.83743	292.06	-28.14
95/ 3/24	2449800.5	0.18914	-0.34308	-0.20316	34.23356	22.08500	8.31376	0.44130	41.57887	298.87	-27.41
95/ 3/26	2449802.5	0.22727	-0.31522	-0.19215	31.68009	26.11696	10.73528	0.43352	42.43784	305.79	-26.31
95/ 3/28	2449804.5	0.26209	-0.28280	-0.17836	28.50303	29.99460	13.13817	0.42483	43.41325	312.82	-24.83
95/ 3/30	2449806.5	0.29286	-0.24602	-0.16182	24.66030	33.65120	15.49101	0.41530	44.50287	319.97	-22.93
95/ 4/ 1	2449808.5	0.31878	-0.20518	-0.14261	20.11056	37.00185	17.75258	0.40504	45.70258	327.23	-20.62
95/ 4/ 3	2449810.5	0.33903	-0.16069	-0.12087	14.81819	39.93933	19.86909	0.39417	47.00542	334.64	-17.86
95/ 4/ 5	2449812.5	0.35272	-0.11312	-0.09679	8.76129	42.33005	21.77127	0.38285	48.40022	342.22	-14.64
95/ 4/ 7	2449814.5	0.35898	-0.06318	-0.07069	1.94364	44.01129	23.37156	0.37128	49.86985	350.02	-10.98
95/ 4/ 9	2449816.5	0.35694	-0.01179	-0.04296	-5.58837	44.79149	24.56262	0.35970	51.38901	358.11	-6.86
95/ 4/11	2449818.5	0.34583	0.03987	-0.01415	-13.72387	44.45682	25.21854	0.34841	52.92191	6.58	-2.33
95/ 4/13	2449820.5	0.32507	0.09040	0.01504	-22.26246	42.78812	25.20137	0.33774	54.42012	15.54	2.55
95/ 4/15	2449822.5	0.29437	0.13813	0.04376	-30.89210	39.59251	24.37578	0.32809	55.82175	25.14	7.66
95/ 4/17	2449824.5	0.25384	0.18123	0.07100	-39.18102	34.75100	22.63372	0.31987	57.05322	35.52	12.82
95/ 4/19	2449826.5	0.20419	0.21778	0.09567	-46.59877	28.27601	19.92740	0.31349	58.03515	46.85	17.77
95/ 4/21	2449828.5	0.14674	0.24599	0.11668	-52.57865	20.36124	16.30236	0.30929	58.69294	59.18	22.16
95/ 4/23	2449830.5	0.08347	0.26441	0.13304	-56.61810	11.39733	11.91624	0.30754	58.97038	72.48	25.63
95/ 4/25	2449832.5	0.01682	0.27213	0.14402	-58.38893	1.93192	7.02864	0.30835	58.84217	86.46	27.84
95/ 4/27	2449834.5	-0.05051	0.26892	0.14921	-57.81261	-7.42317	1.95918	0.31166	58.32015	100.64	28.60
95/ 4/29	2449836.5	-0.11590	0.25524	0.14860	-55.06655	-16.10516	-2.97253	0.31727	57.45030	114.42	27.93
95/ 5/ 1	2449838.5	-0.17703	0.23214	0.14250	-50.52176	-23.68974	-7.50114	0.32486	56.30203	127.33	26.02

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95/ 5/ 3	2449840.5	-0.23210	0.20103	0.13149	-44.64545	-29.92921	-11.44605	0.33403	54.95440	139.10	23.18
95/ 5/ 5	2449842.5	-0.27984	0.16355	0.11632	-37.90897	-34.74095	-14.71461	0.34437	53.48405	149.70	19.74
95/ 5/ 7	2449844.5	-0.31951	0.12131	0.09777	-30.72605	-38.16646	-17.28658	0.35547	51.95763	159.21	15.96
95/ 5/ 9	2449846.5	-0.35078	0.07586	0.07664	-23.42504	-40.32365	-19.19139	0.36698	50.42855	167.80	12.05
95/ 5/11	2449848.5	-0.37367	0.02858	0.05367	-16.24661	-41.36642	-20.48678	0.37859	48.93711	175.63	8.15
95/ 5/13	2449850.5	-0.38842	-0.01933	0.02952	-9.35524	-41.45656	-21.24249	0.39002	47.51221	182.85	4.34
95/ 5/15	2449852.5	-0.39543	-0.06688	0.00477	-2.85562	-40.74713	-21.52977	0.40108	46.17373	189.60	0.68
95/ 5/17	2449854.5	-0.39519	-0.11321	-0.02006	3.19132	-39.37434	-21.41529	0.41158	44.93482	195.99	-2.79
95/ 5/19	2449856.5	-0.38825	-0.15763	-0.04457	8.75483	-37.45490	-20.95843	0.42139	43.80379	202.10	-6.07
95/ 5/21	2449858.5	-0.37516	-0.19957	-0.06837	13.82401	-35.08641	-20.21032	0.43040	42.78570	208.01	-9.14
95/ 5/23	2449860.5	-0.35650	-0.23855	-0.09116	18.40009	-32.34923	-19.21413	0.43853	41.88340	213.79	-12.00
95/ 5/25	2449862.5	-0.33284	-0.27418	-0.11268	22.49112	-29.30891	-18.00580	0.44571	41.09831	219.48	-14.64
95/ 5/27	2449864.5	-0.30473	-0.30616	-0.13269	26.10824	-26.01870	-16.61498	0.45188	40.43106	225.13	-17.08
95/ 5/29	2449866.5	-0.27270	-0.33421	-0.15100	29.26319	-22.52185	-15.06604	0.45702	39.88174	230.79	-19.29
95/ 5/31	2449868.5	-0.23730	-0.35812	-0.16744	31.96658	-18.85366	-13.37899	0.46108	39.45023	236.47	-21.29
95/ 6/ 2	2449870.5	-0.19902	-0.37771	-0.18186	34.22686	-15.04325	-11.57028	0.46406	39.13629	242.21	-23.07
95/ 6/ 4	2449872.5	-0.15839	-0.39283	-0.19413	36.04945	-11.11510	-9.65359	0.46593	38.93969	248.04	-24.62
95/ 6/ 6	2449874.5	-0.11591	-0.40335	-0.20412	37.43625	-7.09040	-7.64044	0.46669	38.86030	253.97	-25.94
95/ 6/ 8	2449876.5	-0.07208	-0.40918	-0.21174	38.38524	-2.98824	-5.54087	0.46632	38.89804	260.01	-27.01
95/ 6/10	2449878.5	-0.02741	-0.41023	-0.21689	38.89011	1.17322	-3.36394	0.46485	39.05295	266.18	-27.81
95/ 6/12	2449880.5	0.01759	-0.40645	-0.21949	38.93997	5.37560	-1.11840	0.46227	39.32517	272.48	-28.35
95/ 6/14	2449882.5	0.06237	-0.39781	-0.21946	38.51910	9.59912	1.18680	0.45858	39.71489	278.91	-28.59
95/ 6/16	2449884.5	0.10639	-0.38428	-0.21673	37.60673	13.82124	3.54170	0.45383	40.22234	285.47	-28.53
95/ 6/18	2449886.5	0.14905	-0.36589	-0.21126	36.17691	18.01511	5.93459	0.44802	40.84768	292.16	-28.13
95/ 6/20	2449888.5	0.18975	-0.34268	-0.20301	34.19858	22.14775	8.35099	0.44119	41.59091	298.97	-27.40
95/ 6/22	2449890.5	0.22783	-0.31476	-0.19196	31.63584	26.17771	10.77239	0.43340	42.45166	305.90	-26.29
95/ 6/24	2449892.5	0.26259	-0.28227	-0.17813	28.44889	30.05246	13.17475	0.42469	43.42884	312.93	-24.80
95/ 6/26	2449894.5	0.29330	-0.24542	-0.16155	24.59565	33.70502	15.52651	0.41515	44.52018	320.08	-22.90
95/ 6/28	2449896.5	0.31914	-0.20452	-0.14230	20.03479	37.05017	17.78626	0.40488	45.72154	327.35	-20.58
95/ 6/30	2449898.5	0.33929	-0.15999	-0.12051	14.73087	39.98031	19.90003	0.39400	47.02590	334.75	-17.81
95/ 7/ 2	2449900.5	0.35288	-0.11237	-0.09641	8.66225	42.36144	21.79827	0.38268	48.42201	342.34	-14.59
95/ 7/ 4	2449902.5	0.35901	-0.06240	-0.07027	1.83322	44.03037	23.39313	0.37111	49.89262	350.14	-10.92
95/ 7/ 6	2449904.5	0.35684	-0.01100	-0.04252	-5.70902	44.79515	24.57698	0.35953	51.41231	358.23	-6.79
95/ 7/ 8	2449906.5	0.34559	0.04066	-0.01370	-13.85243	44.44169	25.22364	0.34824	52.94512	6.71	-2.26
95/ 7/10	2449908.5	0.32468	0.09115	0.01549	-22.39505	42.75097	25.19508	0.33759	54.44241	15.68	2.63
95/ 7/12	2449910.5	0.29382	0.13883	0.04419	-31.02305	39.53082	24.35618	0.32796	55.84209	25.29	7.74
95/ 7/14	2449912.5	0.25314	0.18184	0.07140	-39.30286	34.66381	22.59952	0.31976	57.07042	35.69	12.90
95/ 7/16	2449914.5	0.20336	0.21828	0.09603	-46.70289	28.16479	19.87850	0.31340	58.04800	47.03	17.84
95/ 7/18	2449916.5	0.14581	0.24635	0.11697	-52.65659	20.23047	16.24030	0.30924	58.70039	59.38	22.23
95/ 7/20	2449918.5	0.08247	0.26461	0.13325	-56.66324	11.25436	11.84427	0.30753	58.97177	72.69	25.68
95/ 7/22	2449920.5	0.01579	0.27216	0.14414	-58.39800	1.78591	6.95133	0.30838	58.83738	86.68	27.87
95/ 7/24	2449922.5	-0.05154	0.26878	0.14924	-57.78645	-7.56297	1.88158	0.31173	58.30962	100.85	28.60
95/ 7/26	2449924.5	-0.11687	0.25495	0.14854	-55.00954	-16.23101	-3.04582	0.31737	57.43494	114.63	27.91
95/ 7/28	2449926.5	-0.17793	0.23171	0.14236	-50.44057	-23.79643	-7.56666	0.32499	56.28300	127.52	25.98
95/ 7/30	2449928.5	-0.23289	0.20050	0.13129	-44.54745	-30.01428	-11.50172	0.33418	54.93288	139.27	23.13

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95/ 8/ 1	2449930.5	-0.28051	0.16293	0.11605	-37.80106	-34.80418	-14.75959	0.34453	53.46117	149.85	19.68
95/ 8/ 3	2449932.5	-0.32005	0.12063	0.09746	-30.61395	-38.20916	-17.32099	0.35564	51.93429	159.35	15.90
95/ 8/ 5	2449934.5	-0.35119	0.07514	0.07630	-23.31311	-40.34797	-19.21594	0.36716	50.40548	167.92	11.99
95/ 8/ 7	2449936.5	-0.37396	0.02785	0.05330	-16.13794	-41.37482	-20.50246	0.37876	48.91482	175.74	8.09
95/ 8/ 9	2449938.5	-0.38859	-0.02007	0.02914	-9.25186	-41.45148	-21.25041	0.39019	47.49108	182.96	4.28
95/ 8/11	2449940.5	-0.39548	-0.06761	0.00439	-2.75879	-40.73079	-21.53098	0.40124	46.15400	189.70	0.63
95/ 8/13	2449942.5	-0.39513	-0.11391	-0.02045	3.28091	-39.34869	-21.41077	0.41174	44.91664	196.08	-2.85
95/ 8/15	2449944.5	-0.38809	-0.15830	-0.04494	8.83687	-37.42158	-20.94902	0.42153	43.78728	202.19	-6.12
95/ 8/17	2449946.5	-0.37491	-0.20019	-0.06873	13.89843	-35.04679	-20.19674	0.43053	42.77093	208.10	-9.19
95/ 8/19	2449948.5	-0.35617	-0.23912	-0.09150	18.46696	-32.30442	-19.19700	0.43865	41.87038	213.88	-12.04
95/ 8/21	2449950.5	-0.33244	-0.27471	-0.11300	22.55058	-29.25984	-17.98562	0.44581	41.08709	219.57	-14.68
95/ 8/23	2449952.5	-0.30426	-0.30662	-0.13298	26.16047	-25.96611	-16.59216	0.45197	40.42164	225.22	-17.11
95/ 8/25	2449954.5	-0.27218	-0.33461	-0.15127	29.30835	-22.46634	-15.04094	0.45709	39.87412	230.87	-19.33
95/ 8/27	2449956.5	-0.23672	-0.35846	-0.16768	32.00483	-18.79572	-13.35187	0.46114	39.44441	236.56	-21.32
95/ 8/29	2449958.5	-0.19841	-0.37798	-0.18207	34.25830	-14.98330	-11.54139	0.46409	39.13227	242.30	-23.10
95/ 8/31	2449960.5	-0.15775	-0.39303	-0.19430	36.07415	-11.05349	-9.62310	0.46595	38.93749	248.13	-24.65
95/ 9/ 2	2449962.5	-0.11524	-0.40348	-0.20426	37.45421	-7.02743	-7.60854	0.46669	38.85991	254.06	-25.96
95/ 9/ 4	2449964.5	-0.07139	-0.40923	-0.21184	38.39640	-2.92420	-5.50769	0.46631	38.89948	260.10	-27.02
95/ 9/ 6	2449966.5	-0.02671	-0.41021	-0.21695	38.89434	1.23804	-3.32964	0.46482	39.05622	266.27	-27.82
95/ 9/ 8	2449968.5	0.01829	-0.40636	-0.21951	38.93705	5.44091	-1.08309	0.46222	39.33028	272.58	-28.35
95/ 9/10	2449970.5	0.06306	-0.39763	-0.21943	38.50875	9.66460	1.22296	0.45852	39.72183	279.01	-28.59
95/ 9/12	2449972.5	0.10706	-0.38403	-0.21666	37.58858	13.88651	3.57855	0.45374	40.23111	285.58	-28.52
95/ 9/14	2449974.5	0.14970	-0.36556	-0.21115	36.15052	18.07972	5.97193	0.44792	40.85830	292.27	-28.13
95/ 9/16	2449976.5	0.19036	-0.34229	-0.20286	34.16342	22.21112	8.38857	0.44108	41.60338	299.08	-27.38
95/ 9/18	2449978.5	0.22840	-0.31429	-0.19177	31.59133	26.23913	10.80989	0.43327	42.46597	306.01	-26.27
95/ 9/20	2449980.5	0.26310	-0.28173	-0.17789	28.39439	30.11102	13.21174	0.42455	43.44496	313.04	-24.77
95/ 9/22	2449982.5	0.29373	-0.24482	-0.16127	24.53048	33.75954	15.56242	0.41500	44.53807	320.19	-22.87
95/ 9/24	2449984.5	0.31950	-0.20386	-0.14198	19.95836	37.09916	17.82038	0.40472	45.74112	327.46	-20.54
95/ 9/26	2449986.5	0.33956	-0.15927	-0.12016	14.64268	40.02191	19.93139	0.39383	47.04702	334.87	-17.76
95/ 9/28	2449988.5	0.35303	-0.11161	-0.09602	8.56213	42.39334	21.82565	0.38250	48.44445	342.46	-14.54
95/ 9/30	2449990.5	0.35904	-0.06161	-0.06985	1.72153	44.04980	23.41502	0.37093	49.91605	350.26	-10.85
95/10/ 2	2449992.5	0.35673	-0.01020	-0.04208	-5.83113	44.79891	24.59154	0.35935	51.43625	358.36	-6.73
95/10/ 4	2449994.5	0.34534	0.04145	-0.01325	-13.98256	44.42635	25.22879	0.34807	52.96890	6.84	-2.18
95/10/ 6	2449996.5	0.32428	0.09192	0.01594	-22.52923	42.71322	25.18864	0.33743	54.46515	15.83	2.71
95/10/ 8	2449998.5	0.29326	0.13954	0.04463	-31.15543	39.46812	24.33618	0.32782	55.86272	25.45	7.82
95/10/10	2450000.5	0.25244	0.18246	0.07181	-39.42583	34.57523	22.56469	0.31965	57.08772	35.86	12.98
95/10/12	2450002.5	0.20252	0.21878	0.09638	-46.80769	28.05191	19.82878	0.31332	58.06075	47.21	17.92
95/10/14	2450004.5	0.14487	0.24671	0.11726	-52.73465	20.09794	16.17730	0.30920	58.70754	59.58	22.29
95/10/16	2450006.5	0.08145	0.26481	0.13346	-56.70791	11.10972	11.77135	0.30752	58.97268	72.90	25.72
95/10/18	2450008.5	0.01474	0.27219	0.14426	-58.40613	1.63848	6.87317	0.30841	58.83197	86.90	27.89
95/10/20	2450010.5	-0.05257	0.26865	0.14928	-57.75899	-7.70379	1.80330	0.31180	58.29838	101.07	28.60
95/10/22	2450012.5	-0.11786	0.25466	0.14849	-54.95108	-16.35745	-3.11959	0.31748	57.41881	114.84	27.89
95/10/24	2450014.5	-0.17883	0.23129	0.14223	-50.35792	-23.90334	-7.63245	0.32512	56.26317	127.71	25.94
95/10/26	2450016.5	-0.23369	0.19996	0.13108	-44.44813	-30.09925	-11.55746	0.33433	54.91062	139.45	23.08
95/10/28	2450018.5	-0.28119	0.16230	0.11579	-37.69202	-34.86709	-14.80452	0.34470	53.43759	150.01	19.63

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95/10/30	2450020.5	-0.32060	0.11995	0.09715	-30.50094	-38.25142	-17.35526	0.35582	51.91034	159.49	15.84
95/11/ 1	2450022.5	-0.35161	0.07442	0.07595	-23.20049	-40.37180	-19.24030	0.36734	50.38188	168.05	11.93
95/11/ 3	2450024.5	-0.37424	0.02711	0.05294	-16.02876	-41.38274	-20.51793	0.37894	48.89211	175.86	8.03
95/11/ 5	2450026.5	-0.38875	-0.02081	0.02876	-9.14815	-41.44595	-21.25811	0.39037	47.46960	183.06	4.22
95/11/ 7	2450028.5	-0.39553	-0.06833	0.00401	-2.66175	-40.71406	-21.53199	0.40141	46.13400	189.80	0.57
95/11/ 9	2450030.5	-0.39508	-0.11462	-0.02083	3.37061	-39.32270	-21.40607	0.41189	44.89828	196.18	-2.90
95/11/11	2450032.5	-0.38793	-0.15897	-0.04532	8.91896	-37.38798	-20.93946	0.42168	43.77065	202.28	-6.17
95/11/13	2450034.5	-0.37466	-0.20082	-0.06909	13.97285	-35.00695	-20.18305	0.43067	42.75608	208.19	-9.23
95/11/15	2450036.5	-0.35584	-0.23970	-0.09185	18.53381	-32.25946	-19.17978	0.43876	41.85737	213.96	-12.08
95/11/17	2450038.5	-0.33203	-0.27523	-0.11332	22.61002	-29.21066	-17.96538	0.44591	41.07591	219.66	-14.72
95/11/19	2450040.5	-0.30379	-0.30709	-0.13328	26.21269	-25.91345	-16.56932	0.45205	40.41230	225.31	-17.15
95/11/21	2450042.5	-0.27165	-0.33501	-0.15154	29.35352	-22.41081	-15.01582	0.45716	39.86664	230.96	-19.36
95/11/23	2450044.5	-0.23615	-0.35879	-0.16792	32.04312	-18.73780	-13.32477	0.46119	39.43876	236.65	-21.35
95/11/25	2450046.5	-0.19780	-0.37825	-0.18227	34.28981	-14.92339	-11.51252	0.46413	39.12846	242.39	-23.12
95/11/27	2450048.5	-0.15711	-0.39322	-0.19447	36.09893	-10.99194	-9.59266	0.46597	38.93551	248.22	-24.67
95/11/29	2450050.5	-0.11457	-0.40360	-0.20440	37.47226	-6.96454	-7.57668	0.46669	38.85976	254.15	-25.97
95/12/ 1	2450052.5	-0.07071	-0.40928	-0.21194	38.40764	-2.86025	-5.47457	0.46630	38.90114	260.20	-27.03
95/12/ 3	2450054.5	-0.02602	-0.41019	-0.21701	38.89862	1.30277	-3.29538	0.46479	39.05969	266.37	-27.83
95/12/ 5	2450056.5	0.01898	-0.40626	-0.21953	38.93418	5.50613	-1.04784	0.46217	39.33555	272.68	-28.36
95/12/ 7	2450058.5	0.06375	-0.39746	-0.21941	38.49843	9.72998	1.25906	0.45845	39.72892	279.11	-28.59
95/12/ 9	2450060.5	0.10773	-0.38378	-0.21660	37.57047	13.95167	3.61534	0.45366	40.24003	285.68	-28.52
95/12/11	2450062.5	0.15034	-0.36524	-0.21104	36.12417	18.14421	6.00920	0.44782	40.86904	292.37	-28.12
95/12/13	2450064.5	0.19097	-0.34189	-0.20271	34.12831	22.27436	8.42607	0.44096	41.61595	299.19	-27.37
95/12/15	2450066.5	0.22896	-0.31382	-0.19158	31.54688	26.30040	10.84729	0.43314	42.48035	306.11	-26.25
95/12/17	2450068.5	0.26361	-0.28119	-0.17766	28.33993	30.16937	13.24861	0.42441	43.46112	313.15	-24.75
95/12/19	2450070.5	0.29417	-0.24421	-0.16099	24.46537	33.81380	15.59820	0.41484	44.55594	320.30	-22.83
95/12/21	2450072.5	0.31986	-0.20319	-0.14166	19.88198	37.14784	17.85431	0.40455	45.76059	327.57	-20.50
95/12/23	2450074.5	0.33982	-0.15855	-0.11980	14.55458	40.06312	19.96253	0.39366	47.06795	334.99	-17.72
95/12/25	2450076.5	0.35318	-0.11085	-0.09563	8.46217	42.42477	21.85277	0.38232	48.46662	342.57	-14.48
95/12/27	2450078.5	0.35907	-0.06082	-0.06943	1.61011	44.06870	23.43660	0.37075	49.93914	350.39	-10.79
95/12/29	2450080.5	0.35663	-0.00940	-0.04164	-5.95279	44.80211	24.60576	0.35918	51.45978	358.49	-6.66
95/12/31	2450082.5	0.34509	0.04225	-0.01280	-14.11205	44.41047	25.23358	0.34790	52.99220	6.98	-2.11
96/ 1/ 2	2450084.5	0.32388	0.09268	0.01639	-22.66254	42.67500	25.18186	0.33727	54.48736	15.97	2.79
96/ 1/ 4	2450086.5	0.29271	0.14024	0.04506	-31.28672	39.40511	24.31591	0.32768	55.88278	25.60	7.90
96/ 1/ 6	2450088.5	0.25174	0.18308	0.07221	-39.54750	34.48658	22.52969	0.31954	57.10443	36.03	13.06
96/ 1/ 8	2450090.5	0.20169	0.21928	0.09674	-46.91106	27.93930	19.77906	0.31324	58.07291	47.39	17.99
96/ 1/10	2450092.5	0.14393	0.24707	0.11755	-52.81127	19.96607	16.11451	0.30915	58.71415	59.78	22.35
96/ 1/12	2450094.5	0.08044	0.26501	0.13367	-56.75131	10.96613	11.69887	0.30752	58.97313	73.11	25.76
96/ 1/14	2450096.5	0.01370	0.27222	0.14439	-58.41331	1.49243	6.79565	0.30845	58.82621	87.12	27.91
96/ 1/16	2450098.5	-0.05360	0.26851	0.14931	-57.73103	-7.84304	1.72581	0.31187	58.28691	101.29	28.60
96/ 1/18	2450100.5	-0.11883	0.25437	0.14843	-54.89261	-16.48230	-3.19250	0.31758	57.40259	115.04	27.86
96/ 1/20	2450102.5	-0.17972	0.23086	0.14209	-50.27574	-24.00876	-7.69739	0.32525	56.24340	127.90	25.90
96/ 1/22	2450104.5	-0.23447	0.19943	0.13088	-44.34963	-30.18295	-11.61244	0.33448	54.88851	139.62	23.03
96/ 1/24	2450106.5	-0.28185	0.16169	0.11553	-37.58407	-34.92898	-14.84879	0.34487	53.41425	150.16	19.57
96/ 1/26	2450108.5	-0.32114	0.11927	0.09684	-30.38919	-38.29292	-17.38900	0.35600	51.88668	159.62	15.79

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96/ 1/28	2450110.5	-0.35202	0.07371	0.07561	-23.08919	-40.39512	-19.26424	0.36752	50.35859	168.17	11.87
96/ 1/30	2450112.5	-0.37453	0.02638	0.05257	-15.92092	-41.39037	-20.53312	0.37912	48.86970	175.97	7.97
96/ 2/ 1	2450114.5	-0.38891	-0.02154	0.02838	-9.04573	-41.44033	-21.26564	0.39054	47.44843	183.17	4.17
96/ 2/ 3	2450116.5	-0.39558	-0.06905	0.00363	-2.56593	-40.69741	-21.53293	0.40158	46.11432	189.90	0.52
96/ 2/ 5	2450118.5	-0.39502	-0.11531	-0.02121	3.45919	-39.29696	-21.40139	0.41205	44.88025	196.27	-2.95
96/ 2/ 7	2450120.5	-0.38777	-0.15963	-0.04568	9.00003	-37.35477	-20.93000	0.42182	43.75437	202.37	-6.22
96/ 2/ 9	2450122.5	-0.37442	-0.20143	-0.06945	14.04638	-34.96760	-20.16953	0.43080	42.74159	208.28	-9.28
96/ 2/11	2450124.5	-0.35551	-0.24027	-0.09219	18.59988	-32.21506	-19.16278	0.43888	41.84469	214.05	-12.13
96/ 2/13	2450126.5	-0.33163	-0.27574	-0.11364	22.66879	-29.16209	-17.94539	0.44601	41.06506	219.74	-14.76
96/ 2/15	2450128.5	-0.30333	-0.30754	-0.13357	26.26433	-25.86143	-16.54675	0.45214	40.40325	225.40	-17.18
96/ 2/17	2450130.5	-0.27114	-0.33541	-0.15180	29.39820	-22.35591	-14.99100	0.45723	39.85939	231.05	-19.39
96/ 2/19	2450132.5	-0.23559	-0.35912	-0.16815	32.08097	-18.68051	-13.29796	0.46124	39.43331	236.73	-21.38
96/ 2/21	2450134.5	-0.19719	-0.37851	-0.18248	34.32095	-14.86412	-11.48395	0.46417	39.12481	242.48	-23.15
96/ 2/23	2450136.5	-0.15647	-0.39342	-0.19464	36.12340	-10.93103	-9.56253	0.46599	38.93366	248.31	-24.69
96/ 2/25	2450138.5	-0.11391	-0.40372	-0.20453	37.49007	-6.90231	-7.54516	0.46669	38.85970	254.24	-25.99
96/ 2/27	2450140.5	-0.07003	-0.40933	-0.21204	38.41872	-2.79697	-5.44179	0.46628	38.90288	260.29	-27.05
96/ 2/29	2450142.5	-0.02533	-0.41016	-0.21707	38.90282	1.36682	-3.26148	0.46475	39.06322	266.47	-27.84
96/ 3/ 2	2450144.5	0.01967	-0.40616	-0.21955	38.93129	5.57066	-1.01295	0.46212	39.34086	272.77	-28.37
96/ 3/ 4	2450146.5	0.06443	-0.39729	-0.21939	38.48816	9.79467	1.29480	0.45839	39.73601	279.21	-28.59
96/ 3/ 6	2450148.5	0.10840	-0.38353	-0.21654	37.55245	14.01615	3.65175	0.45358	40.24890	285.78	-28.52
96/ 3/ 8	2450150.5	0.15098	-0.36492	-0.21094	36.09796	18.20801	6.04609	0.44772	40.87970	292.48	-28.11
96/ 3/10	2450152.5	0.19158	-0.34149	-0.20256	34.09340	22.33689	8.46318	0.44085	41.62838	299.29	-27.35
96/ 3/12	2450154.5	0.22952	-0.31336	-0.19138	31.50267	26.36095	10.88430	0.43301	42.49453	306.22	-26.23
96/ 3/14	2450156.5	0.26411	-0.28066	-0.17742	28.28579	30.22702	13.28507	0.42427	43.47703	313.26	-24.72
96/ 3/16	2450158.5	0.29461	-0.24361	-0.16071	24.40066	33.86736	15.63356	0.41469	44.57352	320.41	-22.80
96/ 3/18	2450160.5	0.32021	-0.20254	-0.14134	19.80610	37.19584	17.88784	0.40439	45.77976	327.69	-20.46
96/ 3/20	2450162.5	0.34008	-0.15785	-0.11945	14.46710	40.10369	19.99327	0.39349	47.08857	335.10	-17.67
96/ 3/22	2450164.5	0.35334	-0.11010	-0.09524	8.36295	42.45564	21.87951	0.38215	48.48848	342.69	-14.43
96/ 3/24	2450166.5	0.35910	-0.06004	-0.06902	1.49953	44.08712	23.45784	0.37057	49.96191	350.51	-10.73
96/ 3/26	2450168.5	0.35653	-0.00860	-0.04121	-6.07351	44.80495	24.61968	0.35900	51.48300	358.62	-6.59
96/ 3/28	2450170.5	0.34484	0.04303	-0.01235	-14.24048	44.39436	25.23815	0.34774	53.01523	7.11	-2.04
96/ 3/30	2450172.5	0.32348	0.09343	0.01684	-22.79471	42.63675	25.17495	0.33712	54.50935	16.11	2.86
96/ 4/ 1	2450174.5	0.29215	0.14094	0.04549	-31.41683	39.34229	24.29562	0.32755	55.90268	25.75	7.98
96/ 4/ 3	2450176.5	0.25104	0.18369	0.07261	-39.66802	34.39838	22.49481	0.31943	57.12107	36.19	13.14
96/ 4/ 5	2450178.5	0.20086	0.21977	0.09709	-47.01340	27.82736	19.72959	0.31316	58.08510	47.57	18.06
96/ 4/ 7	2450180.5	0.14300	0.24742	0.11783	-52.88706	19.83508	16.05211	0.30911	58.72088	59.97	22.41
96/ 4/ 9	2450182.5	0.07944	0.26520	0.13388	-56.79415	10.82354	11.62687	0.30752	58.97379	73.32	25.81
96/ 4/11	2450184.5	0.01268	0.27225	0.14451	-58.42021	1.34742	6.71865	0.30848	58.82072	87.33	27.93
96/ 4/13	2450186.5	-0.05461	0.26837	0.14934	-57.70308	-7.98132	1.64883	0.31194	58.27577	101.50	28.60
96/ 4/15	2450188.5	-0.11980	0.25408	0.14838	-54.83437	-16.60629	-3.26493	0.31769	57.38673	115.24	27.84
96/ 4/17	2450190.5	-0.18061	0.23044	0.14196	-50.19393	-24.11348	-7.76192	0.32538	56.22400	128.09	25.87
96/ 4/19	2450192.5	-0.23525	0.19890	0.13067	-44.25161	-30.26612	-11.66709	0.33463	54.86678	139.79	22.99
96/ 4/21	2450194.5	-0.28251	0.16107	0.11527	-37.47663	-34.99052	-14.89281	0.34503	53.39129	150.31	19.52
96/ 4/23	2450196.5	-0.32167	0.11860	0.09654	-30.27793	-38.33421	-17.42257	0.35617	51.86339	159.76	15.73
96/ 4/25	2450198.5	-0.35242	0.07300	0.07527	-22.97836	-40.41836	-19.28810	0.36769	50.33566	168.30	11.81

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96/ 4/27	2450200.5	-0.37481	0.02565	0.05221	-15.81349	-41.39800	-20.54826	0.37929	48.84764	176.09	7.91
96/ 4/29	2450202.5	-0.38907	-0.02227	0.02801	-8.94366	-41.43478	-21.27317	0.39071	47.42761	183.28	4.11
96/ 5/ 1	2450204.5	-0.39562	-0.06977	0.00325	-2.47042	-40.68087	-21.53389	0.40174	46.09495	190.00	0.46
96/ 5/ 3	2450206.5	-0.39495	-0.11600	-0.02158	3.54750	-39.27132	-21.39674	0.41220	44.86248	196.37	-3.00
96/ 5/ 5	2450208.5	-0.38761	-0.16028	-0.04605	9.08084	-37.32165	-20.92056	0.42197	43.73828	202.47	-6.27
96/ 5/ 7	2450210.5	-0.37417	-0.20205	-0.06980	14.11963	-34.92832	-20.15601	0.43093	42.72723	208.37	-9.32
96/ 5/ 9	2450212.5	-0.35518	-0.24084	-0.09252	18.66564	-32.17073	-19.14579	0.43900	41.83208	214.14	-12.17
96/ 5/11	2450214.5	-0.33123	-0.27626	-0.11395	22.72721	-29.11359	-17.92541	0.44611	41.05420	219.83	-14.80
96/ 5/13	2450216.5	-0.30286	-0.30800	-0.13387	26.31558	-25.80950	-16.52419	0.45223	40.39416	225.48	-17.22
96/ 5/15	2450218.5	-0.27062	-0.33580	-0.15207	29.44244	-22.30114	-14.96620	0.45730	39.85205	231.14	-19.42
96/ 5/17	2450220.5	-0.23502	-0.35945	-0.16839	32.11835	-18.62340	-13.27119	0.46130	39.42771	236.82	-21.41
96/ 5/19	2450222.5	-0.19659	-0.37877	-0.18268	34.35157	-14.80507	-11.45545	0.46420	39.12094	242.57	-23.17
96/ 5/21	2450224.5	-0.15583	-0.39361	-0.19481	36.14732	-10.87039	-9.53249	0.46601	38.93151	248.40	-24.71
96/ 5/23	2450226.5	-0.11325	-0.40385	-0.20466	37.50728	-6.84038	-7.51374	0.46670	38.85927	254.34	-26.01
96/ 5/25	2450228.5	-0.06935	-0.40938	-0.21213	38.42916	-2.73405	-5.40914	0.46627	38.90417	260.39	-27.06
96/ 5/27	2450230.5	-0.02464	-0.41014	-0.21713	38.90639	1.43045	-3.22774	0.46472	39.06624	266.56	-27.85
96/ 5/29	2450232.5	0.02036	-0.40606	-0.21957	38.92777	5.63470	-0.97826	0.46207	39.34563	272.87	-28.37
96/ 5/31	2450234.5	0.06511	-0.39712	-0.21937	38.47730	9.85878	1.33028	0.45833	39.74252	279.31	-28.60
96/ 6/ 2	2450236.5	0.10906	-0.38329	-0.21647	37.53390	14.07996	3.68786	0.45350	40.25717	285.88	-28.51
96/ 6/ 4	2450238.5	0.15162	-0.36460	-0.21083	36.07131	18.27105	6.08263	0.44763	40.88972	292.58	-28.10
96/ 6/ 6	2450240.5	0.19218	-0.34110	-0.20241	34.05814	22.39862	8.49989	0.44074	41.64016	299.40	-27.34
96/ 6/ 8	2450242.5	0.23007	-0.31290	-0.19120	31.45824	26.42065	10.92086	0.43289	42.50808	306.33	-26.21
96/ 6/10	2450244.5	0.26461	-0.28013	-0.17719	28.23160	30.28379	13.32107	0.42413	43.49232	313.37	-24.69
96/ 6/12	2450246.5	0.29503	-0.24302	-0.16044	24.33608	33.92006	15.66844	0.41454	44.59053	320.52	-22.77
96/ 6/14	2450248.5	0.32056	-0.20189	-0.14103	19.73057	37.24300	17.92088	0.40423	45.79841	327.80	-20.42
96/ 6/16	2450250.5	0.34033	-0.15715	-0.11910	14.38017	40.14351	20.02354	0.39332	47.10873	335.21	-17.63
96/ 6/18	2450252.5	0.35348	-0.10936	-0.09486	8.26448	42.48586	21.90583	0.38198	48.50995	342.81	-14.38
96/ 6/20	2450254.5	0.35913	-0.05927	-0.06861	1.38988	44.10507	23.47872	0.37040	49.98439	350.63	-10.67
96/ 6/22	2450256.5	0.35642	-0.00783	-0.04078	-6.19316	44.80754	24.63336	0.35883	51.50605	358.74	-6.53
96/ 6/24	2450258.5	0.34459	0.04380	-0.01191	-14.36781	44.37827	25.24261	0.34757	53.03823	7.24	-1.96
96/ 6/26	2450260.5	0.32308	0.09418	0.01727	-22.92584	42.59879	25.16808	0.33697	54.53149	16.25	2.94
96/ 6/28	2450262.5	0.29160	0.14162	0.04591	-31.54605	39.28000	24.27551	0.32741	55.92292	25.90	8.06
96/ 6/30	2450264.5	0.25034	0.18428	0.07300	-39.78790	34.31088	22.46024	0.31931	57.13822	36.36	13.22
96/ 7/ 2	2450266.5	0.20004	0.22026	0.09743	-47.11540	27.71620	19.68051	0.31308	58.09795	47.75	18.13
96/ 7/ 4	2450268.5	0.14207	0.24776	0.11811	-52.96283	19.70480	15.99008	0.30906	58.72838	60.17	22.47
96/ 7/ 6	2450270.5	0.07845	0.26539	0.13408	-56.83722	10.68150	11.55518	0.30751	58.97530	73.53	25.85
96/ 7/ 8	2450272.5	0.01165	0.27226	0.14462	-58.42754	1.20270	6.64186	0.30851	58.81614	87.55	27.95
96/ 7/10	2450274.5	-0.05563	0.26823	0.14936	-57.67562	-8.11958	1.57193	0.31201	58.26556	101.72	28.60
96/ 7/12	2450276.5	-0.12076	0.25378	0.14831	-54.77657	-16.73051	-3.33743	0.31778	57.37178	115.45	27.82
96/ 7/14	2450278.5	-0.18149	0.23001	0.14182	-50.11241	-24.21862	-7.82664	0.32551	56.20544	128.28	25.83
96/ 7/16	2450280.5	-0.23603	0.19836	0.13046	-44.15365	-30.34979	-11.72200	0.33478	54.84578	139.96	22.94
96/ 7/18	2450282.5	-0.28317	0.16045	0.11500	-37.36899	-35.05255	-14.93712	0.34519	53.36891	150.46	19.46
96/ 7/20	2450284.5	-0.32220	0.11791	0.09622	-30.16625	-38.37591	-17.45640	0.35634	51.84051	159.90	15.67
96/ 7/22	2450286.5	-0.35283	0.07228	0.07493	-22.86691	-40.44185	-19.31215	0.36787	50.31300	168.42	11.75
96/ 7/24	2450288.5	-0.37508	0.02491	0.05184	-15.70532	-41.40572	-20.56352	0.37947	48.82570	176.20	7.85

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96/ 7/26	2450290.5	-0.38922	-0.02302	0.02763	-8.84078	-41.42912	-21.28072	0.39088	47.40676	183.38	4.05
96/ 7/28	2450292.5	-0.39566	-0.07050	0.00286	-2.37407	-40.66404	-21.53479	0.40190	46.07545	190.10	0.41
96/ 7/30	2450294.5	-0.39488	-0.11671	-0.02197	3.63664	-39.24524	-21.39193	0.41236	44.84449	196.46	-3.05
96/ 8/ 1	2450296.5	-0.38745	-0.16095	-0.04643	9.16245	-37.28794	-20.91090	0.42211	43.72192	202.56	-6.32
96/ 8/ 3	2450298.5	-0.37391	-0.20268	-0.07017	14.19364	-34.88834	-20.14220	0.43106	42.71257	208.46	-9.37
96/ 8/ 5	2450300.5	-0.35485	-0.24141	-0.09287	18.73213	-32.12557	-19.12843	0.43911	41.81916	214.23	-12.21
96/ 8/ 7	2450302.5	-0.33082	-0.27678	-0.11427	22.78632	-29.06418	-17.90501	0.44621	41.04305	219.92	-14.84
96/ 8/ 9	2450304.5	-0.30239	-0.30846	-0.13416	26.36746	-25.75656	-16.50115	0.45231	40.38479	225.57	-17.25
96/ 8/11	2450306.5	-0.27008	-0.33620	-0.15234	29.48727	-22.24528	-14.94087	0.45737	39.84446	231.22	-19.46
96/ 8/13	2450308.5	-0.23444	-0.35979	-0.16863	32.15625	-18.56512	-13.24385	0.46135	39.42192	236.91	-21.44
96/ 8/15	2450310.5	-0.19597	-0.37904	-0.18288	34.38264	-14.74478	-11.42633	0.46424	39.11695	242.66	-23.20
96/ 8/17	2450312.5	-0.15518	-0.39380	-0.19498	36.17162	-10.80845	-9.50179	0.46603	38.92933	248.49	-24.73
96/ 8/19	2450314.5	-0.11257	-0.40397	-0.20480	37.52481	-6.77710	-7.48162	0.46670	38.85891	254.43	-26.03
96/ 8/21	2450316.5	-0.06866	-0.40943	-0.21223	38.43987	-2.66972	-5.37576	0.46625	38.90565	260.48	-27.08
96/ 8/23	2450318.5	-0.02394	-0.41011	-0.21719	38.91012	1.49554	-3.19324	0.46469	39.06957	266.66	-27.86
96/ 8/25	2450320.5	0.02106	-0.40596	-0.21958	38.92433	5.70025	-0.94277	0.46202	39.35080	272.97	-28.38
96/ 8/27	2450322.5	0.06580	-0.39694	-0.21934	38.46639	9.92447	1.36661	0.45826	39.74954	279.41	-28.60
96/ 8/29	2450324.5	0.10973	-0.38304	-0.21641	37.51514	14.14540	3.72486	0.45342	40.26602	285.99	-28.51
96/ 8/31	2450326.5	0.15227	-0.36427	-0.21072	36.04424	18.33578	6.12010	0.44753	40.90041	292.68	-28.09
96/ 9/ 2	2450328.5	0.19279	-0.34070	-0.20226	34.02225	22.46205	8.53758	0.44063	41.65270	299.50	-27.32
96/ 9/ 4	2450330.5	0.23064	-0.31242	-0.19100	31.41293	26.48205	10.95843	0.43276	42.52245	306.44	-26.19
96/ 9/ 6	2450332.5	0.26511	-0.27958	-0.17695	28.17623	30.34224	13.35809	0.42399	43.50851	313.48	-24.67
96/ 9/ 8	2450334.5	0.29547	-0.24241	-0.16016	24.27000	33.97438	15.70434	0.41439	44.60849	320.63	-22.74
96/ 9/10	2450336.5	0.32091	-0.20122	-0.14071	19.65316	37.29168	17.95492	0.40407	45.81806	327.91	-20.38
96/ 9/12	2450338.5	0.34059	-0.15643	-0.11874	14.29098	40.18464	20.05475	0.39315	47.12993	335.33	-17.58
96/ 9/14	2450340.5	0.35363	-0.10860	-0.09446	8.16335	42.51711	21.93297	0.38180	48.53246	342.93	-14.32
96/ 9/16	2450342.5	0.35915	-0.05848	-0.06819	1.27719	44.12362	23.50025	0.37022	50.00787	350.75	-10.61
96/ 9/18	2450344.5	0.35631	-0.00702	-0.04034	-6.31617	44.81017	24.64742	0.35865	51.53000	358.87	-6.46
96/ 9/20	2450346.5	0.34433	0.04460	-0.01146	-14.49867	44.36155	25.24709	0.34740	53.06198	7.38	-1.89
96/ 9/22	2450348.5	0.32266	0.09494	0.01773	-23.06045	42.55943	25.16081	0.33681	54.55416	16.40	3.02
96/ 9/24	2450350.5	0.29104	0.14232	0.04635	-31.67847	39.21553	24.25457	0.32727	55.94343	26.06	8.14
96/ 9/26	2450352.5	0.24963	0.18490	0.07340	-39.91039	34.22049	22.42439	0.31920	57.15535	36.53	13.29
96/ 9/28	2450354.5	0.19919	0.22075	0.09778	-47.21916	27.60164	19.62978	0.31300	58.11048	47.94	18.20
96/ 9/30	2450356.5	0.14112	0.24812	0.11840	-53.03934	19.57089	15.92619	0.30902	58.73529	60.37	22.53
96/10/ 2	2450358.5	0.07742	0.26558	0.13429	-56.87998	10.53595	11.48159	0.30750	58.97597	73.75	25.89
96/10/ 4	2450360.5	0.01060	0.27228	0.14474	-58.43360	1.05491	6.56329	0.30855	58.81050	87.77	27.98
96/10/ 6	2450362.5	-0.05666	0.26808	0.14939	-57.64616	-8.26026	1.49352	0.31208	58.25411	101.93	28.60
96/10/ 8	2450364.5	-0.12175	0.25348	0.14825	-54.71634	-16.85640	-3.41109	0.31789	57.35548	115.66	27.80
96/10/10	2450366.5	-0.18239	0.22957	0.14168	-50.02832	-24.32471	-7.89213	0.32564	56.18550	128.47	25.79
96/10/12	2450368.5	-0.23683	0.19781	0.13025	-44.05322	-30.43381	-11.77735	0.33493	54.82343	140.13	22.89
96/10/14	2450370.5	-0.28384	0.15982	0.11473	-37.25915	-35.11447	-14.98160	0.34536	53.34527	150.62	19.40
96/10/16	2450372.5	-0.32274	0.11722	0.09591	-30.05269	-38.41720	-17.49020	0.35651	51.81653	160.04	15.61
96/10/18	2450374.5	-0.35324	0.07155	0.07458	-22.75394	-40.46476	-19.33605	0.36805	50.28938	168.55	11.69
96/10/20	2450376.5	-0.37536	0.02416	0.05147	-15.59593	-41.41279	-20.57857	0.37965	48.80297	176.32	7.79
96/10/22	2450378.5	-0.38938	-0.02376	0.02725	-8.73695	-41.42282	-21.28802	0.39106	47.38527	183.49	4.00

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96/10/24	2450380.5	-0.39570	-0.07123	0.00247	-2.27698	-40.64659	-21.53543	0.40207	46.05545	190.20	0.35
96/10/26	2450382.5	-0.39482	-0.11741	-0.02235	3.72634	-39.21858	-21.38688	0.41251	44.82613	196.56	-3.11
96/10/28	2450384.5	-0.38728	-0.16162	-0.04681	9.24450	-37.25372	-20.90100	0.42225	43.70529	202.65	-6.36
96/10/30	2450386.5	-0.37365	-0.20330	-0.07053	14.26798	-34.84791	-20.12819	0.43119	42.69773	208.55	-9.41
96/11/ 1	2450388.5	-0.35451	-0.24199	-0.09321	18.79886	-32.08006	-19.11090	0.43923	41.80615	214.32	-12.25
96/11/ 3	2450390.5	-0.33041	-0.27730	-0.11460	22.84561	-29.01448	-17.88447	0.44632	41.03189	220.01	-14.88
96/11/ 5	2450392.5	-0.30191	-0.30892	-0.13446	26.41951	-25.70340	-16.47802	0.45240	40.37549	225.66	-17.29
96/11/ 7	2450394.5	-0.26955	-0.33660	-0.15260	29.53225	-22.18926	-14.91547	0.45744	39.83702	231.31	-19.49
96/11/ 9	2450396.5	-0.23386	-0.36012	-0.16886	32.19431	-18.50671	-13.21647	0.46140	39.41633	237.00	-21.47
96/11/11	2450398.5	-0.19535	-0.37930	-0.18309	34.41389	-14.68439	-11.39718	0.46428	39.11321	242.75	-23.23
96/11/13	2450400.5	-0.15453	-0.39400	-0.19515	36.19611	-10.74641	-9.47106	0.46604	38.92743	248.58	-24.76
96/11/15	2450402.5	-0.11190	-0.40409	-0.20493	37.54253	-6.71372	-7.44947	0.46670	38.85885	254.52	-26.05
96/11/17	2450404.5	-0.06797	-0.40948	-0.21233	38.45073	-2.60529	-5.34234	0.46623	38.90741	260.58	-27.09
96/11/19	2450406.5	-0.02324	-0.41009	-0.21724	38.91399	1.56075	-3.15868	0.46466	39.07316	266.76	-27.87
96/11/21	2450408.5	0.02176	-0.40586	-0.21960	38.92098	5.76593	-0.90722	0.46197	39.35622	273.07	-28.38
96/11/23	2450410.5	0.06649	-0.39676	-0.21932	38.45553	9.99030	1.40301	0.45819	39.75679	279.51	-28.60
96/11/25	2450412.5	0.11040	-0.38278	-0.21634	37.49640	14.21098	3.76194	0.45333	40.27511	286.09	-28.50
96/11/27	2450414.5	0.15291	-0.36394	-0.21061	36.01718	18.40064	6.15765	0.44743	40.91134	292.79	-28.08
96/11/29	2450416.5	0.19340	-0.34030	-0.20211	33.98633	22.52563	8.57535	0.44051	41.66547	299.61	-27.31
96/12/ 1	2450418.5	0.23120	-0.31194	-0.19080	31.36756	26.54360	10.99609	0.43263	42.53705	306.54	-26.17
96/12/ 3	2450420.5	0.26562	-0.27904	-0.17671	28.12074	30.40081	13.39519	0.42384	43.52490	313.59	-24.64
96/12/ 5	2450422.5	0.29591	-0.24180	-0.15988	24.20372	34.02876	15.74031	0.41423	44.62661	320.75	-22.70
96/12/ 7	2450424.5	0.32126	-0.20055	-0.14038	19.57549	37.34034	17.98899	0.40390	45.83781	328.03	-20.34
96/12/ 9	2450426.5	0.34084	-0.15570	-0.11838	14.20146	40.22567	20.08594	0.39298	47.15115	335.45	-17.53
96/12/11	2450428.5	0.35377	-0.10783	-0.09407	8.06186	42.54815	21.96003	0.38162	48.55494	343.05	-14.27
96/12/13	2450430.5	0.35917	-0.05769	-0.06777	1.16415	44.14186	23.52164	0.37004	50.03126	350.88	-10.55
96/12/15	2450432.5	0.35619	-0.00621	-0.03989	-6.43948	44.81241	24.66128	0.35847	51.55383	359.00	-6.39
96/12/17	2450434.5	0.34407	0.04540	-0.01100	-14.62973	44.34433	25.25133	0.34723	53.08558	7.52	-1.82
96/12/19	2450436.5	0.32225	0.09571	0.01818	-23.19513	42.51951	25.15326	0.33665	54.57663	16.54	3.10
96/12/21	2450438.5	0.29047	0.14303	0.04679	-31.81075	39.15047	24.23330	0.32713	55.96370	26.22	8.22
96/12/23	2450440.5	0.24891	0.18551	0.07380	-40.03254	34.12953	22.38820	0.31909	57.17220	36.70	13.37
96/12/25	2450442.5	0.19834	0.22125	0.09813	-47.32235	27.48661	19.57874	0.31292	58.12268	48.12	18.28
96/12/27	2450444.5	0.14016	0.24847	0.11868	-53.11508	19.43671	15.86207	0.30898	58.74184	60.57	22.59
96/12/29	2450446.5	0.07640	0.26577	0.13449	-56.92187	10.39037	11.40788	0.30750	58.97626	73.96	25.94
96/12/31	2450448.5	0.00955	0.27230	0.14486	-58.43881	0.90734	6.48474	0.30858	58.80450	87.99	28.00
97/ 1/ 2	2450450.5	-0.05770	0.26793	0.14942	-57.61598	-8.40050	1.41526	0.31216	58.24236	102.15	28.60
97/ 1/ 4	2450452.5	-0.12273	0.25318	0.14819	-54.65561	-16.98173	-3.48449	0.31800	57.33897	115.86	27.78
97/ 1/ 6	2450454.5	-0.18328	0.22914	0.14153	-49.94398	-24.43019	-7.95733	0.32577	56.16542	128.66	25.75
97/ 1/ 8	2450456.5	-0.23761	0.19727	0.13004	-43.95275	-30.51725	-11.83239	0.33509	54.80103	140.30	22.84
97/ 1/10	2450458.5	-0.28451	0.15919	0.11446	-37.14945	-35.17588	-15.02579	0.34553	53.32165	150.77	19.35
97/ 1/12	2450460.5	-0.32328	0.11653	0.09560	-29.93939	-38.45808	-17.52377	0.35669	51.79260	160.18	15.55
97/ 1/14	2450462.5	-0.35364	0.07083	0.07423	-22.64129	-40.48737	-19.35975	0.36823	50.26584	168.67	11.63
97/ 1/16	2450464.5	-0.37564	0.02342	0.05111	-15.48692	-41.41964	-20.59345	0.37983	48.78033	176.43	7.73
97/ 1/18	2450466.5	-0.38954	-0.02450	0.02687	-8.63350	-41.41637	-21.29521	0.39123	47.36390	183.60	3.94
97/ 1/20	2450468.5	-0.39574	-0.07195	0.00209	-2.18028	-40.62908	-21.53599	0.40224	46.03558	190.30	0.30

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97/ 1/22	2450470.5	-0.39475	-0.11811	-0.02273	3.81568	-39.19196	-21.38180	0.41267	44.80793	196.66	-3.16
97/ 1/24	2450472.5	-0.38711	-0.16229	-0.04718	9.32622	-37.21959	-20.89112	0.42240	43.68885	202.74	-6.41
97/ 1/26	2450474.5	-0.37340	-0.20392	-0.07089	14.34205	-34.80763	-20.11422	0.43132	42.68311	208.64	-9.46
97/ 1/28	2450476.5	-0.35417	-0.24256	-0.09355	18.86538	-32.03470	-19.09344	0.43935	41.79335	214.41	-12.29
97/ 1/30	2450478.5	-0.33000	-0.27782	-0.11492	22.90473	-28.96494	-17.86400	0.44642	41.02093	220.09	-14.92
97/ 2/ 1	2450480.5	-0.30144	-0.30938	-0.13475	26.47142	-25.65039	-16.45494	0.45248	40.36636	225.74	-17.33
97/ 2/ 3	2450482.5	-0.26902	-0.33700	-0.15287	29.57711	-22.13336	-14.89013	0.45750	39.82972	231.40	-19.52
97/ 2/ 5	2450484.5	-0.23328	-0.36045	-0.16910	32.23227	-18.44842	-13.18913	0.46145	39.41086	237.09	-21.50
97/ 2/ 7	2450486.5	-0.19473	-0.37956	-0.18329	34.44505	-14.62410	-11.36807	0.46431	39.10957	242.84	-23.25
97/ 2/ 9	2450488.5	-0.15388	-0.39419	-0.19532	36.22052	-10.68448	-9.44038	0.46606	38.92563	248.68	-24.78
97/ 2/11	2450490.5	-0.11122	-0.40421	-0.20507	37.56019	-6.65045	-7.41738	0.46670	38.85889	254.61	-26.07
97/ 2/13	2450492.5	-0.06728	-0.40952	-0.21242	38.46156	-2.54097	-5.30898	0.46622	38.90930	260.67	-27.11
97/ 2/15	2450494.5	-0.02254	-0.41006	-0.21730	38.91785	1.62585	-3.12419	0.46462	39.07689	266.85	-27.88
97/ 2/17	2450496.5	0.02245	-0.40575	-0.21961	38.91765	5.83152	-0.87172	0.46192	39.36178	273.17	-28.39
97/ 2/19	2450498.5	0.06718	-0.39658	-0.21929	38.44470	10.05604	1.43936	0.45812	39.76419	279.61	-28.60
97/ 2/21	2450500.5	0.11108	-0.38252	-0.21627	37.47770	14.27649	3.79898	0.45325	40.28435	286.19	-28.50
97/ 2/23	2450502.5	0.15356	-0.36361	-0.21050	35.99015	18.46545	6.19517	0.44733	40.92241	292.90	-28.07
97/ 2/25	2450504.5	0.19401	-0.33989	-0.20195	33.95043	22.58912	8.61307	0.44040	41.67835	299.72	-27.29
97/ 2/27	2450506.5	0.23177	-0.31146	-0.19060	31.32219	26.60503	11.03367	0.43250	42.55172	306.65	-26.15
97/ 3/ 1	2450508.5	0.26613	-0.27849	-0.17647	28.06526	30.45922	13.43220	0.42370	43.54132	313.70	-24.61
97/ 3/ 3	2450510.5	0.29634	-0.24119	-0.15959	24.13747	34.08294	15.77615	0.41408	44.64472	320.86	-22.67
97/ 3/ 5	2450512.5	0.32162	-0.19987	-0.14006	19.49787	37.38876	18.02292	0.40374	45.85752	328.14	-20.30
97/ 3/ 7	2450514.5	0.34110	-0.15498	-0.11801	14.11205	40.26641	20.11696	0.39280	47.17230	335.57	-17.48
97/ 3/ 9	2450516.5	0.35392	-0.10707	-0.09367	7.96055	42.57885	21.98690	0.38144	48.57728	343.17	-14.22
97/ 3/11	2450518.5	0.35920	-0.05689	-0.06734	1.05141	44.15971	23.54279	0.36986	50.05445	351.00	-10.49
97/ 3/13	2450520.5	0.35608	-0.00541	-0.03945	-6.56233	44.81418	24.67486	0.35830	51.57736	359.13	-6.32
97/ 3/15	2450522.5	0.34381	0.04620	-0.01055	-14.76012	44.32663	25.25525	0.34706	53.10874	7.65	-1.74
97/ 3/17	2450524.5	0.32184	0.09647	0.01863	-23.32886	42.47913	25.14536	0.33650	54.59855	16.69	3.17
97/ 3/19	2450526.5	0.28990	0.14373	0.04722	-31.94180	39.08507	24.21172	0.32700	55.98329	26.37	8.30
97/ 3/21	2450528.5	0.24820	0.18613	0.07421	-40.15315	34.03850	22.35181	0.31899	57.18827	36.87	13.45
97/ 3/23	2450530.5	0.19750	0.22174	0.09849	-47.42380	27.37190	19.52770	0.31285	58.13406	48.31	18.35
97/ 3/25	2450532.5	0.13922	0.24882	0.11897	-53.18905	19.30333	15.79821	0.30894	58.74757	60.77	22.65
97/ 3/27	2450534.5	0.07539	0.26595	0.13470	-56.96215	10.24609	11.33471	0.30751	58.97580	74.17	25.98
97/ 3/29	2450536.5	0.00851	0.27232	0.14497	-58.44277	0.76149	6.40700	0.30863	58.79785	88.21	28.02
97/ 3/31	2450538.5	-0.05872	0.26779	0.14945	-57.58510	-8.53874	1.33802	0.31223	58.23009	102.37	28.60
97/ 4/ 2	2450540.5	-0.12369	0.25288	0.14813	-54.59478	-17.10496	-3.55678	0.31811	57.32207	116.07	27.75
97/ 4/ 4	2450542.5	-0.18417	0.22871	0.14140	-49.86012	-24.53367	-8.02140	0.32591	56.14512	128.84	25.71
97/ 4/ 6	2450544.5	-0.23839	0.19673	0.12983	-43.85328	-30.59892	-11.88638	0.33525	54.77856	140.47	22.79
97/ 4/ 8	2450546.5	-0.28517	0.15857	0.11420	-37.04113	-35.23586	-15.06907	0.34570	53.29811	150.92	19.29
97/ 4/10	2450548.5	-0.32381	0.11586	0.09529	-29.82775	-38.49790	-17.55659	0.35687	51.76888	160.31	15.49
97/ 4/12	2450550.5	-0.35404	0.07012	0.07390	-22.53045	-40.50929	-19.38290	0.36841	50.24261	168.80	11.57
97/ 4/14	2450552.5	-0.37591	0.02270	0.05074	-15.37974	-41.42615	-20.60797	0.38000	48.75809	176.54	7.67
97/ 4/16	2450554.5	-0.38969	-0.02523	0.02649	-8.53186	-41.40990	-21.30221	0.39140	47.34297	183.70	3.88
97/ 4/18	2450556.5	-0.39578	-0.07266	0.00171	-2.08527	-40.61182	-21.53652	0.40240	46.01620	190.40	0.24
97/ 4/20	2450558.5	-0.39468	-0.11880	-0.02311	3.90345	-39.16579	-21.37681	0.41282	44.79022	196.75	-3.21

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97/ 4/22	2450560.5	-0.38695	-0.16294	-0.04755	9.40651	-37.18610	-20.88143	0.42254	43.67291	202.84	-6.46
97/ 4/24	2450562.5	-0.37314	-0.20453	-0.07124	14.41484	-34.76811	-20.10053	0.43145	42.66896	208.73	-9.50
97/ 4/26	2450564.5	-0.35384	-0.24312	-0.09389	18.93075	-31.99022	-19.07633	0.43946	41.78103	214.49	-12.34
97/ 4/28	2450566.5	-0.32960	-0.27832	-0.11523	22.96284	-28.91636	-17.84394	0.44652	41.01042	220.18	-14.96
97/ 4/30	2450568.5	-0.30097	-0.30983	-0.13504	26.52244	-25.59841	-16.43234	0.45256	40.35765	225.83	-17.36
97/ 5/ 2	2450570.5	-0.26850	-0.33738	-0.15313	29.62121	-22.07856	-14.86529	0.45757	39.82281	231.49	-19.55
97/ 5/ 4	2450572.5	-0.23272	-0.36077	-0.16933	32.26959	-18.39127	-13.16233	0.46150	39.40574	237.18	-21.53
97/ 5/ 6	2450574.5	-0.19412	-0.37982	-0.18349	34.47568	-14.56500	-11.33954	0.46434	39.10623	242.93	-23.28
97/ 5/ 8	2450576.5	-0.15324	-0.39437	-0.19549	36.24451	-10.62376	-9.41029	0.46608	38.92405	248.77	-24.80
97/ 5/10	2450578.5	-0.11056	-0.40432	-0.20520	37.57751	-6.58841	-7.38590	0.46670	38.85908	254.71	-26.08
97/ 5/12	2450580.5	-0.06660	-0.40957	-0.21252	38.47213	-2.47788	-5.27625	0.46620	38.91123	260.76	-27.12
97/ 5/14	2450582.5	-0.02186	-0.41003	-0.21735	38.92152	1.68971	-3.09033	0.46459	39.08055	266.95	-27.89
97/ 5/16	2450584.5	0.02314	-0.40565	-0.21963	38.91419	5.89585	-0.83689	0.46187	39.36719	273.27	-28.39
97/ 5/18	2450586.5	0.06786	-0.39640	-0.21927	38.43384	10.12051	1.47504	0.45805	39.77135	279.71	-28.60
97/ 5/20	2450588.5	0.11174	-0.38227	-0.21620	37.45905	14.34071	3.83532	0.45317	40.29326	286.29	-28.50
97/ 5/22	2450590.5	0.15420	-0.36328	-0.21039	35.96328	18.52895	6.23197	0.44723	40.93308	293.00	-28.06
97/ 5/24	2450592.5	0.19461	-0.33949	-0.20180	33.91481	22.65132	8.65007	0.44028	41.69077	299.82	-27.28
97/ 5/26	2450594.5	0.23232	-0.31099	-0.19041	31.27724	26.66518	11.07053	0.43237	42.56588	306.76	-26.13
97/ 5/28	2450596.5	0.26662	-0.27795	-0.17623	28.01035	30.51639	13.46848	0.42356	43.55720	313.81	-24.59
97/ 5/30	2450598.5	0.29677	-0.24058	-0.15931	24.07197	34.13593	15.81129	0.41393	44.66227	320.97	-22.64
97/ 6/ 1	2450600.5	0.32196	-0.19921	-0.13974	19.42119	37.43606	18.05615	0.40357	45.87664	328.25	-20.26
97/ 6/ 3	2450602.5	0.34135	-0.15427	-0.11766	14.02377	40.30615	20.14733	0.39263	47.19287	335.68	-17.44
97/ 6/ 5	2450604.5	0.35406	-0.10632	-0.09328	7.86059	42.60872	22.01318	0.38127	48.59909	343.29	-14.16
97/ 6/ 7	2450606.5	0.35922	-0.05611	-0.06693	0.94018	44.17696	23.56346	0.36968	50.07718	351.12	-10.43
97/ 6/ 9	2450608.5	0.35596	-0.00462	-0.03901	-6.68354	44.81566	24.68811	0.35812	51.60054	359.26	-6.25
97/ 6/11	2450610.5	0.34355	0.04698	-0.01011	-14.88880	44.30900	25.25902	0.34690	53.13174	7.79	-1.67
97/ 6/13	2450612.5	0.32142	0.09722	0.01907	-23.46094	42.43921	25.13754	0.33635	54.62050	16.83	3.25
97/ 6/15	2450614.5	0.28934	0.14442	0.04765	-32.07137	39.02051	24.19043	0.32687	56.00312	26.53	8.38
97/ 6/17	2450616.5	0.24749	0.18672	0.07460	-40.27259	33.94860	22.31591	0.31888	57.20479	37.03	13.53
97/ 6/19	2450618.5	0.19666	0.22222	0.09883	-47.52448	27.25850	19.47728	0.31277	58.14607	48.49	18.42
97/ 6/21	2450620.5	0.13828	0.24916	0.11925	-53.26266	19.17129	15.73501	0.30890	58.75407	60.97	22.71
97/ 6/23	2450622.5	0.07439	0.26613	0.13490	-57.00248	10.10304	11.26220	0.30750	58.97619	74.38	26.02
97/ 6/25	2450624.5	0.00749	0.27233	0.14509	-58.44712	0.61664	6.32983	0.30866	58.79211	88.43	28.04
97/ 6/27	2450626.5	-0.05973	0.26763	0.14947	-57.55480	-8.67627	1.26120	0.31231	58.21876	102.58	28.59
97/ 6/29	2450628.5	-0.12465	0.25258	0.14807	-54.53462	-17.22779	-3.62878	0.31821	57.30610	116.27	27.73
97/ 7/ 1	2450630.5	-0.18504	0.22828	0.14125	-49.77689	-24.63700	-8.08533	0.32604	56.12569	129.03	25.67
97/ 7/ 3	2450632.5	-0.23916	0.19619	0.12962	-43.75433	-30.68064	-11.94035	0.33540	54.75687	140.64	22.74
97/ 7/ 5	2450634.5	-0.28582	0.15795	0.11393	-36.93317	-35.29599	-15.11240	0.34586	53.27524	151.07	19.23
97/ 7/ 7	2450636.5	-0.32433	0.11518	0.09498	-29.71628	-38.53789	-17.58948	0.35704	51.74569	160.45	15.43
97/ 7/ 9	2450638.5	-0.35444	0.06940	0.07355	-22.41963	-40.53133	-19.40612	0.36858	50.21978	168.92	11.51
97/ 7/11	2450640.5	-0.37618	0.02197	0.05038	-15.27249	-41.43271	-20.62252	0.38018	48.73609	176.66	7.61
97/ 7/13	2450642.5	-0.38984	-0.02596	0.02611	-8.43008	-41.40337	-21.30918	0.39157	47.32216	183.81	3.82
97/ 7/15	2450644.5	-0.39581	-0.07338	0.00133	-1.99014	-40.59438	-21.53696	0.40256	45.99680	190.50	0.19
97/ 7/17	2450646.5	-0.39461	-0.11949	-0.02349	3.99132	-39.13933	-21.37167	0.41298	44.77239	196.85	-3.26
97/ 7/19	2450648.5	-0.38678	-0.16360	-0.04792	9.48684	-37.15224	-20.87155	0.42268	43.65673	202.93	-6.51

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97/ 7/21	2450650.5	-0.37289	-0.20515	-0.07160	14.48759	-34.72816	-20.08660	0.43158	42.65451	208.82	-9.55
97/ 7/23	2450652.5	-0.35350	-0.24369	-0.09423	18.99602	-31.94527	-19.05895	0.43957	41.76832	214.58	-12.38
97/ 7/25	2450654.5	-0.32919	-0.27884	-0.11555	23.02079	-28.86728	-17.82361	0.44662	40.99948	220.27	-14.99
97/ 7/27	2450656.5	-0.30050	-0.31028	-0.13533	26.57323	-25.54593	-16.40944	0.45265	40.34849	225.92	-17.40
97/ 7/29	2450658.5	-0.26798	-0.33777	-0.15339	29.66501	-22.02326	-14.84016	0.45764	39.81542	231.57	-19.58
97/ 7/31	2450660.5	-0.23214	-0.36110	-0.16956	32.30655	-18.33363	-13.13524	0.46155	39.40012	237.26	-21.55
97/ 8/ 2	2450662.5	-0.19351	-0.38007	-0.18369	34.50589	-14.50542	-11.31072	0.46438	39.10238	243.02	-23.30
97/ 8/ 4	2450664.5	-0.15260	-0.39456	-0.19565	36.26802	-10.56258	-9.37992	0.46610	38.92198	248.86	-24.82
97/ 8/ 6	2450666.5	-0.10990	-0.40444	-0.20533	37.59434	-6.52595	-7.35416	0.46670	38.85879	254.80	-26.10
97/ 8/ 8	2450668.5	-0.06592	-0.40961	-0.21261	38.48222	-2.41441	-5.24327	0.46618	38.91275	260.86	-27.13
97/ 8/10	2450670.5	-0.02117	-0.41000	-0.21741	38.92472	1.75390	-3.05625	0.46455	39.08389	267.04	-27.90
97/ 8/12	2450672.5	0.02383	-0.40554	-0.21964	38.91031	5.96049	-0.80184	0.46182	39.37235	273.36	-28.40
97/ 8/14	2450674.5	0.06854	-0.39622	-0.21924	38.42257	10.18527	1.51091	0.45799	39.77834	279.81	-28.60
97/ 8/16	2450676.5	0.11240	-0.38201	-0.21613	37.44003	14.40520	3.87185	0.45308	40.30207	286.40	-28.49
97/ 8/18	2450678.5	0.15483	-0.36295	-0.21028	35.93604	18.59272	6.26895	0.44713	40.94372	293.10	-28.05
97/ 8/20	2450680.5	0.19521	-0.33909	-0.20164	33.87884	22.71379	8.68725	0.44017	41.70324	299.93	-27.27
97/ 8/22	2450682.5	0.23287	-0.31052	-0.19021	31.23195	26.72562	11.10759	0.43224	42.58019	306.87	-26.11
97/ 8/24	2450684.5	0.26712	-0.27741	-0.17599	27.95511	30.57388	13.50498	0.42342	43.57333	313.92	-24.56
97/ 8/26	2450686.5	0.29719	-0.23998	-0.15903	24.00611	34.18929	15.84665	0.41377	44.68017	321.08	-22.60
97/ 8/28	2450688.5	0.32230	-0.19855	-0.13942	19.34412	37.48379	18.08965	0.40341	45.89624	328.37	-20.22
97/ 8/30	2450690.5	0.34159	-0.15355	-0.11730	13.93502	40.34634	20.17799	0.39246	47.21401	335.80	-17.39
97/ 9/ 1	2450692.5	0.35420	-0.10556	-0.09289	7.76000	42.63903	22.03976	0.38109	48.62155	343.40	-14.11
97/ 9/ 3	2450694.5	0.35923	-0.05533	-0.06651	0.82817	44.19457	23.58441	0.36950	50.10061	351.24	-10.37
97/ 9/ 5	2450696.5	0.35584	-0.00382	-0.03857	-6.80572	44.81738	24.70158	0.35795	51.62445	359.38	-6.19
97/ 9/ 7	2450698.5	0.34328	0.04776	-0.00966	-15.01865	44.29138	25.26292	0.34672	53.15545	7.92	-1.60
97/ 9/ 9	2450700.5	0.32100	0.09797	0.01952	-23.59432	42.39902	25.12971	0.33619	54.64312	16.97	3.33
97/ 9/11	2450702.5	0.28876	0.14511	0.04808	-32.20228	38.95533	24.16895	0.32673	56.02359	26.68	8.46
97/ 9/13	2450704.5	0.24677	0.18733	0.07500	-40.39329	33.85771	22.27961	0.31876	57.22188	37.20	13.61
97/ 9/15	2450706.5	0.19581	0.22271	0.09918	-47.62620	27.14376	19.42625	0.31269	58.15855	48.68	18.49
97/ 9/17	2450708.5	0.13733	0.24949	0.11953	-53.33698	19.03764	15.67103	0.30886	58.76093	61.17	22.77
97/ 9/19	2450710.5	0.07337	0.26631	0.13510	-57.04307	9.95822	11.18877	0.30750	58.97683	74.60	26.06
97/ 9/21	2450712.5	0.00644	0.27234	0.14520	-58.45122	0.47004	6.25170	0.30870	58.78648	88.65	28.06
97/ 9/23	2450714.5	-0.06076	0.26747	0.14949	-57.52378	-8.81542	1.18345	0.31238	58.20736	102.80	28.59
97/ 9/25	2450716.5	-0.12563	0.25227	0.14800	-54.47331	-17.35196	-3.70162	0.31832	57.28991	116.47	27.71
97/ 9/27	2450718.5	-0.18593	0.22783	0.14111	-49.69222	-24.74132	-8.14994	0.32618	56.10590	129.22	25.63
97/ 9/29	2450720.5	-0.23994	0.19564	0.12941	-43.65376	-30.76296	-11.99481	0.33555	54.73469	140.81	22.68
97/10/ 1	2450722.5	-0.28648	0.15732	0.11366	-36.82354	-35.35638	-15.15604	0.34603	53.25178	151.23	19.18
97/10/ 3	2450724.5	-0.32486	0.11449	0.09466	-29.60319	-38.57785	-17.62253	0.35722	51.72188	160.59	15.37
97/10/ 5	2450726.5	-0.35484	0.06867	0.07320	-22.30729	-40.55314	-19.42936	0.36876	50.19633	169.05	11.45
97/10/ 7	2450728.5	-0.37646	0.02122	0.05001	-15.16383	-41.43887	-20.63700	0.38036	48.71352	176.77	7.56
97/10/ 9	2450730.5	-0.38999	-0.02670	0.02573	-8.32704	-41.39633	-21.31600	0.39175	47.30082	183.92	3.77
97/10/11	2450732.5	-0.39585	-0.07411	0.00094	-1.89386	-40.57634	-21.53720	0.40273	45.97692	190.60	0.13
97/10/13	2450734.5	-0.39454	-0.12019	-0.02387	4.08021	-39.11222	-21.36629	0.41313	44.75413	196.94	-3.31
97/10/15	2450736.5	-0.38661	-0.16426	-0.04829	9.56810	-37.11766	-20.86138	0.42283	43.64019	203.02	-6.56
97/10/17	2450738.5	-0.37263	-0.20577	-0.07196	14.56117	-34.68746	-20.07236	0.43171	42.63974	208.91	-9.59

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97/10/19	2450740.5	-0.35316	-0.24426	-0.09457	19.06202	-31.89956	-19.04124	0.43969	41.75538	214.67	-12.42
97/10/21	2450742.5	-0.32878	-0.27935	-0.11586	23.07938	-28.81744	-17.80292	0.44672	40.98837	220.35	-15.03
97/10/23	2450744.5	-0.30003	-0.31074	-0.13563	26.62459	-25.49270	-16.38619	0.45273	40.33924	226.00	-17.43
97/10/25	2450746.5	-0.26745	-0.33817	-0.15366	29.70934	-21.96722	-14.81468	0.45771	39.80802	231.66	-19.62
97/10/27	2450748.5	-0.23157	-0.36142	-0.16980	32.34397	-18.27525	-13.10780	0.46161	39.39456	237.35	-21.58
97/10/29	2450750.5	-0.19290	-0.38033	-0.18390	34.53651	-14.44510	-11.28154	0.46441	39.09865	243.11	-23.33
97/10/31	2450752.5	-0.15195	-0.39475	-0.19582	36.29190	-10.50067	-9.34919	0.46611	38.92009	248.95	-24.84
97/11/ 2	2450754.5	-0.10922	-0.40456	-0.20546	37.61146	-6.46273	-7.32203	0.46670	38.85873	254.89	-26.12
97/11/ 4	2450756.5	-0.06523	-0.40965	-0.21270	38.49250	-2.35017	-5.20989	0.46617	38.91451	260.95	-27.15
97/11/ 6	2450758.5	-0.02047	-0.40996	-0.21746	38.92803	1.81889	-3.02176	0.46452	39.08748	267.14	-27.91
97/11/ 8	2450760.5	0.02453	-0.40543	-0.21966	38.90643	6.02592	-0.76637	0.46177	39.37777	273.46	-28.40
97/11/10	2450762.5	0.06923	-0.39603	-0.21921	38.41120	10.25082	1.54721	0.45792	39.78559	279.92	-28.60
97/11/12	2450764.5	0.11307	-0.38176	-0.21606	37.42079	14.47049	3.90882	0.45300	40.31116	286.50	-28.49
97/11/14	2450766.5	0.15548	-0.36262	-0.21017	35.90849	18.65727	6.30638	0.44703	40.95465	293.21	-28.04
97/11/16	2450768.5	0.19581	-0.33868	-0.20149	33.84243	22.77702	8.72489	0.44005	41.71602	300.04	-27.25
97/11/18	2450770.5	0.23343	-0.31004	-0.19001	31.18608	26.78680	11.14509	0.43211	42.59480	306.98	-26.09
97/11/20	2450772.5	0.26762	-0.27686	-0.17575	27.89912	30.63205	13.54191	0.42327	43.58975	314.03	-24.53
97/11/22	2450774.5	0.29762	-0.23937	-0.15875	23.93934	34.24323	15.88243	0.41361	44.69834	321.19	-22.57
97/11/24	2450776.5	0.32265	-0.19788	-0.13910	19.26594	37.53196	18.12350	0.40324	45.91607	328.48	-20.18
97/11/26	2450778.5	0.34184	-0.15283	-0.11694	13.84499	40.38681	20.20893	0.39228	47.23536	335.91	-17.34
97/11/28	2450780.5	0.35434	-0.10480	-0.09250	7.65800	42.66942	22.06653	0.38091	48.64418	343.52	-14.05
97/11/30	2450782.5	0.35924	-0.05454	-0.06608	0.71463	44.21206	23.60545	0.36932	50.12419	351.37	-10.31
97/12/ 2	2450784.5	0.35572	-0.00302	-0.03813	-6.92947	44.81871	24.71501	0.35777	51.64849	359.51	-6.12
97/12/ 4	2450786.5	0.34301	0.04856	-0.00920	-15.15004	44.27311	25.26663	0.34655	53.17927	8.06	-1.52
97/12/ 6	2450788.5	0.32058	0.09873	0.01997	-23.72913	42.35789	25.12152	0.33603	54.66583	17.12	3.41
97/12/ 8	2450790.5	0.28818	0.14581	0.04851	-32.33441	38.88893	24.14695	0.32659	56.04408	26.84	8.54
97/12/10	2450792.5	0.24604	0.18793	0.07540	-40.51488	33.76538	22.24263	0.31865	57.23890	37.37	13.69
97/12/12	2450794.5	0.19496	0.22319	0.09952	-47.72839	27.02745	19.37442	0.31261	58.17087	48.86	18.56
97/12/14	2450796.5	0.13637	0.24984	0.11981	-53.41130	18.90242	15.60621	0.30882	58.76753	61.37	22.83
97/12/16	2450798.5	0.07234	0.26649	0.13530	-57.08321	9.81198	11.11452	0.30750	58.97712	74.81	26.10
97/12/18	2450800.5	0.00539	0.27235	0.14531	-58.45452	0.32225	6.17285	0.30874	58.78043	88.87	28.08
97/12/20	2450802.5	-0.06180	0.26731	0.14951	-57.49173	-8.95543	1.10513	0.31246	58.19554	103.02	28.59
97/12/22	2450804.5	-0.12661	0.25195	0.14794	-54.41089	-17.47667	-3.77486	0.31843	57.27328	116.68	27.68
97/12/24	2450806.5	-0.18683	0.22739	0.14096	-49.60647	-24.84592	-8.21480	0.32631	56.08569	129.41	25.59
97/12/26	2450808.5	-0.24073	0.19508	0.12919	-43.55219	-30.84536	-12.04941	0.33571	54.71213	140.98	22.63
97/12/28	2450810.5	-0.28714	0.15668	0.11339	-36.71302	-35.41669	-15.19972	0.34620	53.22799	151.38	19.12
97/12/30	2450812.5	-0.32540	0.11379	0.09435	-29.48934	-38.61762	-17.65555	0.35740	51.69778	160.72	15.31
98/ 1/ 1	2450814.5	-0.35524	0.06794	0.07285	-22.19431	-40.57467	-19.45252	0.36894	50.17262	169.17	11.39
98/ 1/ 3	2450816.5	-0.37673	0.02048	0.04964	-15.05466	-41.44471	-20.65136	0.38054	48.69071	176.89	7.50
98/ 1/ 5	2450818.5	-0.39014	-0.02744	0.02535	-8.22358	-41.38895	-21.32270	0.39192	47.27928	184.02	3.71
98/ 1/ 7	2450820.5	-0.39588	-0.07484	0.00055	-1.79725	-40.55798	-21.53730	0.40290	45.95689	190.71	0.08
98/ 1/ 9	2450822.5	-0.39447	-0.12089	-0.02426	4.16937	-39.08481	-21.36077	0.41329	44.73576	197.04	-3.36
98/ 1/11	2450824.5	-0.38644	-0.16493	-0.04866	9.64956	-37.08282	-20.85109	0.42297	43.62359	203.11	-6.61
98/ 1/13	2450826.5	-0.37237	-0.20639	-0.07232	14.63493	-34.64654	-20.05802	0.43184	42.62497	209.00	-9.64
98/ 1/15	2450828.5	-0.35282	-0.24483	-0.09491	19.12818	-31.85363	-19.02344	0.43981	41.74245	214.76	-12.46

1.1 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MERCURY

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
98/ 1/17	2450830.5	-0.32836	-0.27987	-0.11618	23.13811	-28.76740	-17.78214	0.44682	40.97731	220.44	-15.07
98/ 1/19	2450832.5	-0.29955	-0.31120	-0.13592	26.67608	-25.43924	-16.36284	0.45282	40.33002	226.09	-17.47
98/ 1/21	2450834.5	-0.26691	-0.33856	-0.15393	29.75375	-21.91093	-14.78908	0.45778	39.80065	231.75	-19.65
98/ 1/23	2450836.5	-0.23099	-0.36175	-0.17003	32.38146	-18.21661	-13.08023	0.46166	39.38904	237.44	-21.61
98/ 1/25	2450838.5	-0.19228	-0.38059	-0.18410	34.56719	-14.38452	-11.25222	0.46445	39.09498	243.20	-23.35
98/ 1/27	2450840.5	-0.15130	-0.39494	-0.19599	36.31581	-10.43848	-9.31832	0.46613	38.91826	249.04	-24.86
98/ 1/29	2450842.5	-0.10855	-0.40467	-0.20559	37.62860	-6.39925	-7.28977	0.46670	38.85875	254.98	-26.14
98/ 1/31	2450844.5	-0.06454	-0.40969	-0.21280	38.50281	-2.28567	-5.17638	0.46615	38.91639	261.05	-27.16
98/ 2/ 2	2450846.5	-0.01977	-0.40993	-0.21752	38.93136	1.88412	-2.98714	0.46448	39.09122	267.24	-27.92
98/ 2/ 4	2450848.5	0.02522	-0.40532	-0.21967	38.90254	6.09161	-0.73076	0.46171	39.38337	273.56	-28.41
98/ 2/ 6	2450850.5	0.06992	-0.39585	-0.21918	38.39981	10.31663	1.58366	0.45785	39.79304	280.02	-28.60
98/ 2/ 8	2450852.5	0.11374	-0.38149	-0.21599	37.40151	14.53604	3.94594	0.45291	40.32046	286.60	-28.48
98/ 2/10	2450854.5	0.15612	-0.36228	-0.21005	35.88084	18.72209	6.34397	0.44693	40.96580	293.31	-28.03
98/ 2/12	2450856.5	0.19642	-0.33827	-0.20133	33.80588	22.84050	8.76268	0.43993	41.72901	300.14	-27.23
98/ 2/14	2450858.5	0.23399	-0.30956	-0.18981	31.14001	26.84819	11.18273	0.43198	42.60962	307.09	-26.07
98/ 2/16	2450860.5	0.26812	-0.27631	-0.17550	27.84288	30.69039	13.57896	0.42313	43.60635	314.14	-24.51
98/ 2/18	2450862.5	0.29805	-0.23875	-0.15846	23.87226	34.29729	15.91830	0.41346	44.71668	321.30	-22.54
98/ 2/20	2450864.5	0.32299	-0.19720	-0.13877	19.18742	37.58019	18.15742	0.40307	45.93604	328.59	-20.14
98/ 2/22	2450866.5	0.34209	-0.15210	-0.11657	13.75460	40.42726	20.23990	0.39211	47.25681	336.03	-17.30
98/ 2/24	2450868.5	0.35447	-0.10403	-0.09210	7.55563	42.69971	22.09328	0.38073	48.66688	343.64	-14.00
98/ 2/26	2450870.5	0.35925	-0.05374	-0.06566	0.60076	44.22931	23.62640	0.36914	50.14778	351.49	-10.25
98/ 2/28	2450872.5	0.35559	-0.00221	-0.03768	-7.05348	44.81968	24.72827	0.35759	51.67246	359.64	-6.05
98/ 3/ 2	2450874.5	0.34274	0.04936	-0.00875	-15.28156	44.25434	25.27008	0.34638	53.20291	8.19	-1.45
98/ 3/ 4	2450876.5	0.32015	0.09950	0.02043	-23.86387	42.31614	25.11299	0.33587	54.68823	17.26	3.49
98/ 3/ 6	2450878.5	0.28760	0.14651	0.04895	-32.46620	38.82186	24.12455	0.32646	56.06412	27.00	8.62
98/ 3/ 8	2450880.5	0.24531	0.18854	0.07580	-40.63584	33.67243	22.20525	0.31855	57.25537	37.55	13.77
98/ 3/10	2450882.5	0.19410	0.22368	0.09987	-47.82966	26.91069	19.32226	0.31254	58.18257	49.05	18.64
98/ 3/12	2450884.5	0.13541	0.25018	0.12009	-53.48449	18.76703	15.54119	0.30878	58.77347	61.58	22.89
98/ 3/14	2450886.5	0.07132	0.26666	0.13550	-57.12216	9.66592	11.04026	0.30750	58.97677	75.03	26.14
98/ 3/16	2450888.5	0.00434	0.27236	0.14542	-58.45674	0.17501	6.09417	0.30878	58.77381	89.09	28.10
98/ 3/18	2450890.5	-0.06283	0.26715	0.14953	-57.45886	-9.09463	1.02716	0.31253	58.18322	103.23	28.58
98/ 3/20	2450892.5	-0.12759	0.25164	0.14787	-54.34798	-17.60044	-3.84765	0.31854	57.25629	116.89	27.66
98/ 3/22	2450894.5	-0.18772	0.22694	0.14081	-49.52058	-24.94954	-8.27916	0.32645	56.06525	129.60	25.55
98/ 3/24	2450896.5	-0.24151	0.19453	0.12898	-43.45081	-30.92687	-12.10351	0.33586	54.68948	141.15	22.58
98/ 3/26	2450898.5	-0.28780	0.15605	0.11312	-36.60296	-35.47627	-15.24297	0.34637	53.20424	151.53	19.06
98/ 3/28	2450900.5	-0.32592	0.11311	0.09403	-29.37613	-38.65686	-17.68822	0.35758	51.67381	160.86	15.25
98/ 3/30	2450902.5	-0.35564	0.06722	0.07251	-22.08206	-40.59587	-19.47543	0.36913	50.14912	169.30	11.33
98/ 4/ 1	2450904.5	-0.37700	0.01974	0.04927	-14.94625	-41.45041	-20.66557	0.38072	48.66819	177.00	7.44
98/ 4/ 3	2450906.5	-0.39029	-0.02818	0.02497	-8.12086	-41.38159	-21.32932	0.39210	47.25806	184.13	3.65
98/ 4/ 5	2450908.5	-0.39592	-0.07556	0.00017	-1.70134	-40.53976	-21.53741	0.40306	45.93721	190.81	0.02
98/ 4/ 7	2450910.5	-0.39439	-0.12159	-0.02464	4.25789	-39.05763	-21.35532	0.41345	44.71776	197.13	-3.42
98/ 4/ 9	2450912.5	-0.38627	-0.16559	-0.04904	9.73046	-37.04828	-20.84091	0.42312	43.60734	203.20	-6.66
98/ 4/11	2450914.5	-0.37211	-0.20701	-0.07267	14.70817	-34.60596	-20.04381	0.43197	42.61052	209.09	-9.69
98/ 4/13	2450916.5	-0.35248	-0.24540	-0.09525	19.19388	-31.80808	-19.00578	0.43992	41.72983	214.85	-12.50
98/ 4/15	2450918.5	-0.32795	-0.28038	-0.11650	23.19642	-28.71775	-17.76154	0.44692	40.96651	220.53	-15.11

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MERCURY

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98/ 4/17	2450920.5	-0.29907	-0.31165	-0.13621	26.72721	-25.38621	-16.33967	0.45290	40.32106	226.18	-17.50
98/ 4/19	2450922.5	-0.26638	-0.33895	-0.15419	29.79787	-21.85509	-14.76370	0.45784	39.79353	231.84	-19.68
98/ 4/21	2450924.5	-0.23041	-0.36207	-0.17027	32.41871	-18.15845	-13.05289	0.46171	39.38375	237.53	-21.64
98/ 4/23	2450926.5	-0.19166	-0.38085	-0.18430	34.59767	-14.32442	-11.22315	0.46448	39.09152	243.29	-23.38
98/ 4/25	2450928.5	-0.15065	-0.39512	-0.19615	36.33957	-10.37680	-9.28770	0.46615	38.91663	249.13	-24.88
98/ 4/27	2450930.5	-0.10788	-0.40478	-0.20572	37.64562	-6.33628	-7.25777	0.46670	38.85893	255.08	-26.15
98/ 4/29	2450932.5	-0.06385	-0.40973	-0.21289	38.51300	-2.22171	-5.14314	0.46613	38.91836	261.14	-27.18
98/ 5/ 1	2450934.5	-0.01908	-0.40989	-0.21757	38.93457	1.94881	-2.95280	0.46445	39.09499	267.34	-27.93
98/ 5/ 3	2450936.5	0.02592	-0.40522	-0.21968	38.89857	6.15671	-0.69546	0.46166	39.38892	273.66	-28.41
98/ 5/ 5	2450938.5	0.07060	-0.39566	-0.21915	38.38835	10.38182	1.61978	0.45778	39.80039	280.12	-28.60
98/ 5/ 7	2450940.5	0.11441	-0.38123	-0.21592	37.38219	14.60092	3.98270	0.45283	40.32961	286.71	-28.48
98/ 5/ 9	2450942.5	0.15676	-0.36195	-0.20994	35.85322	18.78617	6.38115	0.44683	40.97673	293.42	-28.02
98/ 5/11	2450944.5	0.19703	-0.33786	-0.20117	33.76943	22.90319	8.80002	0.43982	41.74171	300.25	-27.22
98/ 5/13	2450946.5	0.23455	-0.30908	-0.18961	31.09414	26.90872	11.21989	0.43185	42.62406	307.19	-26.04
98/ 5/15	2450948.5	0.26862	-0.27576	-0.17526	27.78694	30.74780	13.61548	0.42298	43.62250	314.25	-24.48
98/ 5/17	2450950.5	0.29848	-0.23814	-0.15818	23.80563	34.35036	15.95359	0.41330	44.73446	321.42	-22.50
98/ 5/19	2450952.5	0.32334	-0.19653	-0.13845	19.10955	37.62738	18.19071	0.40291	45.95537	328.71	-20.10
98/ 5/21	2450954.5	0.34234	-0.15138	-0.11621	13.66508	40.46665	20.27021	0.39194	47.27754	336.15	-17.25
98/ 5/23	2450956.5	0.35461	-0.10327	-0.09171	7.45442	42.72895	22.11935	0.38056	48.68877	343.76	-13.94
98/ 5/25	2450958.5	0.35927	-0.05295	-0.06524	0.48836	44.24561	23.64668	0.36896	50.17049	351.62	-10.18
98/ 5/27	2450960.5	0.35547	-0.00141	-0.03725	-7.17568	44.81986	24.74092	0.35742	51.69549	359.77	-5.98
98/ 5/29	2450962.5	0.34247	0.05014	-0.00830	-15.41092	44.23505	25.27304	0.34622	53.22558	8.33	-1.37
98/ 5/31	2450964.5	0.31973	0.10025	0.02087	-23.99614	42.27428	25.10415	0.33573	54.70967	17.41	3.56
98/ 6/ 2	2450966.5	0.28703	0.14720	0.04937	-32.59530	38.75523	24.10211	0.32633	56.08327	27.15	8.70
98/ 6/ 4	2450968.5	0.24460	0.18914	0.07619	-40.75405	33.58055	22.16816	0.31844	57.27106	37.71	13.84
98/ 6/ 6	2450970.5	0.19326	0.22416	0.10021	-47.92836	26.79568	19.27078	0.31247	58.19363	49.23	18.71
98/ 6/ 8	2450972.5	0.13447	0.25051	0.12036	-53.55554	18.63403	15.47721	0.30875	58.77896	61.77	22.94
98/ 6/10	2450974.5	0.07032	0.26684	0.13569	-57.15963	9.52272	10.96738	0.30750	58.97617	75.24	26.19
98/ 6/12	2450976.5	0.00331	0.27236	0.14553	-58.45830	0.03086	6.01709	0.30882	58.76716	89.30	28.11
98/ 6/14	2450978.5	-0.06383	0.26700	0.14955	-57.42618	-9.23076	0.95086	0.31261	58.17110	103.45	28.58
98/ 6/16	2450980.5	-0.12854	0.25133	0.14780	-54.28607	-17.72138	-3.91883	0.31865	57.23969	117.09	27.64
98/ 6/18	2450982.5	-0.18858	0.22651	0.14067	-49.43633	-25.05079	-8.34208	0.32658	56.04536	129.78	25.51
98/ 6/20	2450984.5	-0.24227	0.19399	0.12877	-43.35152	-31.00651	-12.15640	0.33602	54.66751	141.31	22.53
98/ 6/22	2450986.5	-0.28844	0.15543	0.11285	-36.49523	-35.53450	-15.28525	0.34654	53.18122	151.68	19.00
98/ 6/24	2450988.5	-0.32644	0.11243	0.09372	-29.26532	-38.69523	-17.72019	0.35775	51.65061	161.00	15.19
98/ 6/26	2450990.5	-0.35602	0.06651	0.07217	-21.97219	-40.61663	-19.49785	0.36930	50.12638	169.42	11.27
98/ 6/28	2450992.5	-0.37726	0.01902	0.04891	-14.84010	-41.45601	-20.67949	0.38089	48.64638	177.11	7.38
98/ 6/30	2450994.5	-0.39043	-0.02890	0.02460	-8.02023	-41.37441	-21.33583	0.39227	47.23752	184.23	3.59
98/ 7/ 2	2450996.5	-0.39594	-0.07627	-0.00021	-1.60731	-40.52196	-21.53754	0.40322	45.91817	190.90	-0.03
98/ 7/ 4	2450998.5	-0.39432	-0.12227	-0.02501	4.34474	-39.03105	-21.35001	0.41360	44.70036	197.23	-3.47
98/ 7/ 6	2451000.5	-0.38609	-0.16624	-0.04940	9.80989	-37.01447	-20.83096	0.42325	43.59167	203.29	-6.70
98/ 7/ 8	2451002.5	-0.37184	-0.20762	-0.07302	14.78015	-34.56619	-20.02990	0.43209	42.59661	209.18	-9.73
98/ 7/10	2451004.5	-0.35214	-0.24595	-0.09558	19.25850	-31.76340	-18.98849	0.44004	41.71769	214.93	-12.55
98/ 7/12	2451006.5	-0.32754	-0.28088	-0.11681	23.25383	-28.66901	-17.74132	0.44702	40.95616	220.61	-15.15
98/ 7/14	2451008.5	-0.29860	-0.31209	-0.13650	26.77757	-25.33409	-16.31692	0.45299	40.31248	226.27	-17.54

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98/ 7/16	2451010.5	-0.26586	-0.33933	-0.15445	29.84134	-21.80017	-14.73873	0.45791	39.78672	231.92	-19.71
98/ 7/18	2451012.5	-0.22983	-0.36239	-0.17050	32.45542	-18.10119	-13.02597	0.46176	39.37872	237.62	-21.67
98/ 7/20	2451014.5	-0.19105	-0.38110	-0.18449	34.62771	-14.26521	-11.19450	0.46451	39.08825	243.37	-23.40
98/ 7/22	2451016.5	-0.15001	-0.39530	-0.19632	36.36296	-10.31598	-9.25751	0.46616	38.91511	249.22	-24.91
98/ 7/24	2451018.5	-0.10721	-0.40489	-0.20585	37.66234	-6.27415	-7.22618	0.46670	38.85916	255.17	-26.17
98/ 7/26	2451020.5	-0.06317	-0.40977	-0.21298	38.52297	-2.15853	-5.11031	0.46611	38.92035	261.24	-27.19
98/ 7/28	2451022.5	-0.01839	-0.40986	-0.21762	38.93763	2.01273	-2.91884	0.46441	39.09872	267.43	-27.94
98/ 7/30	2451024.5	0.02661	-0.40510	-0.21969	38.89449	6.22110	-0.66052	0.46161	39.39441	273.76	-28.42
98/ 8/ 1	2451026.5	0.07128	-0.39548	-0.21913	38.37684	10.44634	1.65554	0.45771	39.80764	280.22	-28.60
98/ 8/ 3	2451028.5	0.11507	-0.38097	-0.21585	37.36289	14.66516	4.01912	0.45274	40.33863	286.81	-28.47
98/ 8/ 5	2451030.5	0.15740	-0.36161	-0.20983	35.82566	18.84966	6.41802	0.44673	40.98754	293.52	-28.01
98/ 8/ 7	2451032.5	0.19762	-0.33745	-0.20102	33.73309	22.96534	8.83707	0.43970	41.75431	300.35	-27.20
98/ 8/ 9	2451034.5	0.23510	-0.30860	-0.18941	31.04843	26.96879	11.25678	0.43172	42.63843	307.30	-26.02
98/ 8/11	2451036.5	0.26911	-0.27522	-0.17502	27.73123	30.80483	13.65177	0.42284	43.63862	314.36	-24.45
98/ 8/13	2451038.5	0.29890	-0.23753	-0.15790	23.73928	34.40314	15.98870	0.41315	44.75230	321.53	-22.47
98/ 8/15	2451040.5	0.32367	-0.19586	-0.13812	19.03196	37.67439	18.22388	0.40275	45.97483	328.82	-20.06
98/ 8/17	2451042.5	0.34258	-0.15066	-0.11586	13.57585	40.50597	20.30045	0.39177	47.29847	336.26	-17.20
98/ 8/19	2451044.5	0.35474	-0.10251	-0.09132	7.35346	42.75820	22.14540	0.38038	48.71094	343.88	-13.89
98/ 8/21	2451046.5	0.35928	-0.05217	-0.06482	0.37614	44.26199	23.66699	0.36879	50.19354	351.74	-10.12
98/ 8/23	2451048.5	0.35534	-0.00062	-0.03681	-7.29780	44.82016	24.75363	0.35724	51.71892	359.90	-5.91
98/ 8/25	2451050.5	0.34220	0.05092	-0.00785	-15.54031	44.21589	25.27607	0.34605	53.24872	8.46	-1.30
98/ 8/27	2451052.5	0.31931	0.10099	0.02131	-24.12857	42.23251	25.09537	0.33557	54.73162	17.55	3.64
98/ 8/29	2451054.5	0.28645	0.14789	0.04980	-32.72469	38.68858	24.07969	0.32620	56.10297	27.31	8.78
98/ 8/31	2451056.5	0.24388	0.18973	0.07658	-40.87261	33.48852	22.13102	0.31834	57.28729	37.88	13.92
98/ 9/ 2	2451058.5	0.19241	0.22463	0.10055	-48.02740	26.68034	19.21915	0.31239	58.20522	49.42	18.78
98/ 9/ 4	2451060.5	0.13353	0.25084	0.12064	-53.62685	18.50052	15.41300	0.30871	58.78494	61.97	23.00
98/ 9/ 6	2451062.5	0.06931	0.26700	0.13589	-57.19721	9.37887	10.89416	0.30750	58.97599	75.45	26.23
98/ 9/ 8	2451064.5	0.00228	0.27236	0.14563	-58.45975	-0.11400	5.93961	0.30886	58.76083	89.52	28.13
98/ 9/10	2451066.5	-0.06485	0.26683	0.14956	-57.39317	-9.36759	0.87415	0.31269	58.15919	103.66	28.58
98/ 9/12	2451068.5	-0.12949	0.25102	0.14773	-54.22362	-17.84294	-3.99038	0.31876	57.22320	117.29	27.61
98/ 9/14	2451070.5	-0.18946	0.22606	0.14052	-49.35137	-25.15250	-8.40532	0.32672	56.02549	129.97	25.47
98/ 9/16	2451072.5	-0.24303	0.19345	0.12855	-43.25141	-31.08646	-12.20953	0.33617	54.64545	141.48	22.48
98/ 9/18	2451074.5	-0.28908	0.15480	0.11258	-36.38664	-35.59287	-15.32770	0.34670	53.15805	151.83	18.95
98/ 9/20	2451076.5	-0.32695	0.11175	0.09341	-29.15366	-38.73358	-17.75222	0.35792	51.62719	161.13	15.13
98/ 9/22	2451078.5	-0.35641	0.06579	0.07182	-21.86151	-40.63722	-19.52027	0.36948	50.10339	169.54	11.21
98/ 9/24	2451080.5	-0.37752	0.01828	0.04854	-14.73322	-41.46131	-20.69333	0.38107	48.62429	177.23	7.32
98/ 9/26	2451082.5	-0.39057	-0.02963	0.02422	-7.91900	-41.36682	-21.34218	0.39244	47.21666	184.34	3.54
98/ 9/28	2451084.5	-0.39597	-0.07699	-0.00059	-1.51281	-40.50364	-21.53745	0.40339	45.89875	191.00	-0.08
98/ 9/30	2451086.5	-0.39424	-0.12296	-0.02539	4.43192	-39.00389	-21.34442	0.41375	44.68254	197.32	-3.52
98/10/ 2	2451088.5	-0.38592	-0.16689	-0.04977	9.88950	-36.98004	-20.82070	0.42340	43.57553	203.39	-6.75
98/10/ 4	2451090.5	-0.37158	-0.20823	-0.07338	14.85219	-34.52580	-20.01567	0.43222	42.58222	209.27	-9.77
98/10/ 6	2451092.5	-0.35180	-0.24651	-0.09592	19.32306	-31.71812	-18.97087	0.44015	41.70508	215.02	-12.59
98/10/ 8	2451094.5	-0.32713	-0.28139	-0.11713	23.31109	-28.61971	-17.72079	0.44711	40.94534	220.70	-15.19
98/10/10	2451096.5	-0.29813	-0.31254	-0.13679	26.82771	-25.28147	-16.29388	0.45307	40.30346	226.35	-17.57
98/10/12	2451098.5	-0.26533	-0.33972	-0.15471	29.88453	-21.74480	-14.71350	0.45798	39.77950	232.01	-19.74

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98/10/14	2451100.5	-0.22926	-0.36271	-0.17073	32.49180	-18.04352	-12.99881	0.46181	39.37328	237.70	-21.70
98/10/16	2451102.5	-0.19044	-0.38135	-0.18469	34.65737	-14.20566	-11.16563	0.46455	39.08459	243.46	-23.43
98/10/18	2451104.5	-0.14937	-0.39548	-0.19648	36.38596	-10.25486	-9.22711	0.46618	38.91324	249.31	-24.93
98/10/20	2451106.5	-0.10655	-0.40500	-0.20597	37.67867	-6.21176	-7.19442	0.46669	38.85907	255.26	-26.19
98/10/22	2451108.5	-0.06249	-0.40981	-0.21307	38.53255	-2.09517	-5.07733	0.46609	38.92205	261.33	-27.20
98/10/24	2451110.5	-0.01770	-0.40982	-0.21767	38.94033	2.07681	-2.88478	0.46438	39.10223	267.53	-27.95
98/10/26	2451112.5	0.02729	-0.40499	-0.21971	38.89010	6.28559	-0.62550	0.46156	39.39974	273.86	-28.43
98/10/28	2451114.5	0.07196	-0.39529	-0.21910	38.36506	10.51092	1.69137	0.45764	39.81479	280.32	-28.60
98/10/30	2451116.5	0.11573	-0.38071	-0.21578	37.34333	14.72947	4.05560	0.45266	40.34761	286.91	-28.47
98/11/ 1	2451118.5	0.15803	-0.36128	-0.20971	35.79788	18.91322	6.45495	0.44663	40.99835	293.62	-28.01
98/11/ 3	2451120.5	0.19822	-0.33705	-0.20086	33.69656	23.02758	8.87418	0.43959	41.76695	300.46	-27.19
98/11/ 5	2451122.5	0.23564	-0.30813	-0.18921	31.00253	27.02895	11.29375	0.43159	42.65290	307.41	-26.00
98/11/ 7	2451124.5	0.26959	-0.27467	-0.17478	27.67533	30.86198	13.68815	0.42270	43.65491	314.47	-24.42
98/11/ 9	2451126.5	0.29932	-0.23692	-0.15761	23.67271	34.45608	16.02391	0.41299	44.77035	321.64	-22.43
98/11/11	2451128.5	0.32401	-0.19520	-0.13780	18.95411	37.72157	18.25717	0.40258	45.99456	328.93	-20.02
98/11/13	2451130.5	0.34282	-0.14995	-0.11550	13.48629	40.54547	20.33083	0.39159	47.31974	336.38	-17.15
98/11/15	2451132.5	0.35487	-0.10175	-0.09092	7.25205	42.78766	22.17161	0.38020	48.73352	344.00	-13.84
98/11/17	2451134.5	0.35928	-0.05139	-0.06440	0.26334	44.27856	23.68746	0.36860	50.21709	351.86	-10.06
98/11/19	2451136.5	0.35521	0.00017	-0.03637	-7.42066	44.82061	24.76650	0.35706	51.74295	0.03	-5.85
98/11/21	2451138.5	0.34192	0.05171	-0.00740	-15.67063	44.19678	25.27921	0.34588	53.27253	8.60	-1.23
98/11/23	2451140.5	0.31887	0.10174	0.02176	-24.26208	42.19061	25.08663	0.33542	54.75432	17.70	3.72
98/11/25	2451142.5	0.28586	0.14857	0.05023	-32.85525	38.62155	24.05718	0.32606	56.12344	27.46	8.86
98/11/27	2451144.5	0.24314	0.19032	0.07698	-40.99237	33.39578	22.09363	0.31823	57.30428	38.05	14.00
98/11/29	2451146.5	0.19155	0.22510	0.10090	-48.12752	26.56395	19.16706	0.31232	58.21750	49.60	18.85
98/12/ 1	2451148.5	0.13256	0.25116	0.12091	-53.69897	18.36564	15.34814	0.30867	58.79150	62.17	23.06
98/12/ 3	2451150.5	0.06828	0.26717	0.13608	-57.23519	9.23346	10.82014	0.30750	58.97626	75.66	26.27
98/12/ 5	2451152.5	0.00123	0.27235	0.14574	-58.46113	-0.26051	5.86125	0.30890	58.75479	89.74	28.15
98/12/ 7	2451154.5	-0.06587	0.26666	0.14958	-57.35960	-9.50597	0.79654	0.31276	58.14741	103.88	28.57
98/12/ 9	2451156.5	-0.13047	0.25070	0.14766	-54.16017	-17.96584	-4.06276	0.31886	57.20665	117.49	27.59
98/12/11	2451158.5	-0.19034	0.22561	0.14037	-49.26507	-25.25524	-8.46925	0.32685	56.00538	130.15	25.43
98/12/13	2451160.5	-0.24381	0.19289	0.12833	-43.14973	-31.16708	-12.26319	0.33633	54.62300	141.65	22.43
98/12/15	2451162.5	-0.28973	0.15416	0.11230	-36.27637	-35.65158	-15.37050	0.34687	53.13438	151.98	18.89
98/12/17	2451164.5	-0.32747	0.11105	0.09309	-29.04033	-38.77196	-17.78444	0.35810	51.60321	161.27	15.07
98/12/19	2451166.5	-0.35680	0.06507	0.07147	-21.74924	-40.65758	-19.54273	0.36966	50.07981	169.67	11.15
98/12/21	2451168.5	-0.37778	0.01754	0.04817	-14.62488	-41.46620	-20.70709	0.38125	48.60161	177.34	7.26
98/12/23	2451170.5	-0.39071	-0.03038	0.02384	-7.81644	-41.35869	-21.34837	0.39261	47.19524	184.45	3.48
98/12/25	2451172.5	-0.39600	-0.07771	-0.00097	-1.41713	-40.48470	-21.53714	0.40355	45.87883	191.10	-0.14
98/12/27	2451174.5	-0.39416	-0.12366	-0.02577	4.52014	-38.97603	-21.33857	0.41391	44.66427	197.42	-3.57
98/12/29	2451176.5	-0.38574	-0.16755	-0.05014	9.97004	-36.94487	-20.81013	0.42354	43.55900	203.48	-6.80
98/12/31	2451178.5	-0.37132	-0.20884	-0.07374	14.92503	-34.48463	-20.00110	0.43235	42.56748	209.35	-9.82
99/ 1/ 2	2451180.5	-0.35145	-0.24708	-0.09626	19.38832	-31.67204	-18.95288	0.44027	41.69217	215.11	-12.63
99/ 1/ 4	2451182.5	-0.32671	-0.28190	-0.11744	23.36894	-28.56959	-17.69988	0.44722	40.93428	220.79	-15.22
99/ 1/ 6	2451184.5	-0.29765	-0.31299	-0.13708	26.87835	-25.22803	-16.27045	0.45315	40.29425	226.44	-17.61
99/ 1/ 8	2451186.5	-0.26480	-0.34010	-0.15497	29.92813	-21.68861	-14.68786	0.45804	39.77213	232.10	-19.78
99/ 1/10	2451188.5	-0.22868	-0.36303	-0.17096	32.52852	-17.98506	-12.97125	0.46186	39.36776	237.79	-21.72

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99/ 1/12	2451190.5	-0.18982	-0.38160	-0.18489	34.68731	-14.14531	-11.13637	0.46458	39.08091	243.55	-23.45
99/ 1/14	2451192.5	-0.14872	-0.39567	-0.19664	36.40917	-10.19296	-9.19632	0.46620	38.91140	249.40	-24.95
99/ 1/16	2451194.5	-0.10588	-0.40511	-0.20610	37.69514	-6.14861	-7.16227	0.46669	38.85907	255.35	-26.21
99/ 1/18	2451196.5	-0.06180	-0.40984	-0.21316	38.54222	-2.03104	-5.04395	0.46608	38.92389	261.42	-27.22
99/ 1/20	2451198.5	-0.01701	-0.40978	-0.21772	38.94304	2.14164	-2.85031	0.46434	39.10590	267.62	-27.96
99/ 1/22	2451200.5	0.02798	-0.40488	-0.21972	38.88563	6.35084	-0.59007	0.46151	39.40525	273.95	-28.43
99/ 1/24	2451202.5	0.07264	-0.39511	-0.21907	38.35311	10.57625	1.72762	0.45758	39.82214	280.42	-28.60
99/ 1/26	2451204.5	0.11640	-0.38045	-0.21571	37.32353	14.79449	4.09249	0.45257	40.35681	287.01	-28.47
99/ 1/28	2451206.5	0.15866	-0.36094	-0.20960	35.76977	18.97747	6.49227	0.44652	41.00939	293.73	-28.00
99/ 1/30	2451208.5	0.19882	-0.33664	-0.20070	33.65959	23.09045	8.91169	0.43947	41.77984	300.57	-27.17
99/ 2/ 1	2451210.5	0.23619	-0.30764	-0.18901	30.95611	27.08971	11.33109	0.43146	42.66763	307.52	-25.98
99/ 2/ 3	2451212.5	0.27009	-0.27412	-0.17453	27.61878	30.91965	13.72487	0.42255	43.67144	314.58	-24.40
99/ 2/ 5	2451214.5	0.29974	-0.23630	-0.15733	23.60539	34.50945	16.05944	0.41284	44.78863	321.75	-22.40
99/ 2/ 7	2451216.5	0.32434	-0.19452	-0.13747	18.87541	37.76907	18.29072	0.40241	46.01450	329.05	-19.98
99/ 2/ 9	2451218.5	0.34305	-0.14922	-0.11513	13.39577	40.58515	20.36140	0.39142	47.34118	336.49	-17.11
99/ 2/11	2451220.5	0.35499	-0.10099	-0.09053	7.14962	42.81711	22.19792	0.38002	48.75623	344.12	-13.78
99/ 2/13	2451222.5	0.35928	-0.05060	-0.06398	0.14949	44.29493	23.70793	0.36842	50.24071	351.98	-10.00
99/ 2/15	2451224.5	0.35507	0.00097	-0.03592	-7.54453	44.82063	24.77924	0.35688	51.76697	0.16	-5.78
99/ 2/17	2451226.5	0.34163	0.05250	-0.00695	-15.80185	44.17701	25.28210	0.34571	53.29626	8.74	-1.15
99/ 2/19	2451228.5	0.31843	0.10250	0.02221	-24.39630	42.14783	25.07750	0.33526	54.77682	17.84	3.80
99/ 2/21	2451230.5	0.28527	0.14926	0.05066	-32.98623	38.55347	24.03416	0.32592	56.14359	27.62	8.94
99/ 2/23	2451232.5	0.24241	0.19092	0.07737	-41.11218	33.30192	22.05564	0.31812	57.32085	38.22	14.08
99/ 2/25	2451234.5	0.19069	0.22557	0.10124	-48.22729	26.44650	19.11438	0.31224	58.22928	49.79	18.92
99/ 2/27	2451236.5	0.13160	0.25149	0.12118	-53.77038	18.22990	15.28274	0.30863	58.79749	62.38	23.12
99/ 3/ 1	2451238.5	0.06726	0.26733	0.13627	-57.27221	9.08746	10.74572	0.30750	58.97592	75.88	26.31
99/ 3/ 3	2451240.5	0.00019	0.27235	0.14584	-58.46145	-0.40724	5.78265	0.30894	58.74816	89.96	28.17
99/ 3/ 5	2451242.5	-0.06690	0.26649	0.14959	-57.32503	-9.64427	0.71888	0.31284	58.13508	104.09	28.57
99/ 3/ 7	2451244.5	-0.13144	0.25038	0.14759	-54.09590	-18.08842	-4.13506	0.31898	57.18965	117.70	27.56
99/ 3/ 9	2451246.5	-0.19122	0.22516	0.14022	-49.17820	-25.35753	-8.53299	0.32699	55.98492	130.34	25.39
99/ 3/11	2451248.5	-0.24458	0.19233	0.12811	-43.04776	-31.24722	-12.31662	0.33649	54.60034	141.82	22.38
99/ 3/13	2451250.5	-0.29038	0.15352	0.11203	-36.16603	-35.70983	-15.41306	0.34705	53.11061	152.14	18.83
99/ 3/15	2451252.5	-0.32799	0.11036	0.09277	-28.92710	-38.80997	-17.81646	0.35828	51.57923	161.40	15.01
99/ 3/17	2451254.5	-0.35719	0.06434	0.07112	-21.63718	-40.67768	-19.56503	0.36984	50.05628	169.79	11.09
99/ 3/19	2451256.5	-0.37805	0.01680	0.04780	-14.51681	-41.47091	-20.72073	0.38143	48.57904	177.46	7.20
99/ 3/21	2451258.5	-0.39085	-0.03111	0.02345	-7.71417	-41.35045	-21.35447	0.39279	47.17395	184.55	3.42
99/ 3/23	2451260.5	-0.39603	-0.07843	-0.00136	-1.32176	-40.46570	-21.53677	0.40372	45.85905	191.20	-0.19
99/ 3/25	2451262.5	-0.39408	-0.12435	-0.02615	4.60806	-38.94817	-21.33269	0.41406	44.64614	197.51	-3.62
99/ 3/27	2451264.5	-0.38557	-0.16821	-0.05051	10.05029	-36.90975	-20.79957	0.42369	43.54263	203.57	-6.85
99/ 3/29	2451266.5	-0.37105	-0.20946	-0.07409	14.99760	-34.44358	-19.98656	0.43249	42.55292	209.44	-9.86
99/ 3/31	2451268.5	-0.35111	-0.24765	-0.09659	19.45332	-31.62611	-18.93496	0.44038	41.67943	215.20	-12.67
99/ 4/ 2	2451270.5	-0.32630	-0.28241	-0.11776	23.42656	-28.51965	-17.67904	0.44732	40.92338	220.88	-15.26
99/ 4/ 4	2451272.5	-0.29717	-0.31344	-0.13737	26.92877	-25.17479	-16.24709	0.45324	40.28519	226.53	-17.64
99/ 4/ 6	2451274.5	-0.26427	-0.34049	-0.15523	29.97154	-21.63263	-14.66232	0.45811	39.76490	232.18	-19.81
99/ 4/ 8	2451276.5	-0.22811	-0.36335	-0.17119	32.56506	-17.92680	-12.94379	0.46191	39.36236	237.88	-21.75
99/ 4/10	2451278.5	-0.18921	-0.38185	-0.18509	34.71709	-14.08517	-11.10720	0.46462	39.07734	243.64	-23.48

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99/ 4/12	2451280.5	-0.14807	-0.39585	-0.19681	36.43224	-10.13129	-9.16564	0.46621	38.90964	249.49	-24.97
99/ 4/14	2451282.5	-0.10521	-0.40522	-0.20623	37.71149	-6.08570	-7.13023	0.46669	38.85913	255.45	-26.22
99/ 4/16	2451284.5	-0.06112	-0.40988	-0.21325	38.55177	-1.96717	-5.01069	0.46606	38.92577	261.52	-27.23
99/ 4/18	2451286.5	-0.01632	-0.40975	-0.21777	38.94566	2.20620	-2.81597	0.46431	39.10961	267.72	-27.97
99/ 4/20	2451288.5	0.02867	-0.40477	-0.21973	38.88109	6.41580	-0.55478	0.46145	39.41078	274.05	-28.44
99/ 4/22	2451290.5	0.07332	-0.39492	-0.21903	38.34112	10.64129	1.76372	0.45751	39.82950	280.52	-28.60
99/ 4/24	2451292.5	0.11706	-0.38019	-0.21563	37.30371	14.85923	4.12923	0.45249	40.36600	287.11	-28.46
99/ 4/26	2451294.5	0.15930	-0.36060	-0.20948	35.74164	19.04142	6.52945	0.44642	41.02041	293.83	-27.99
99/ 4/28	2451296.5	0.19941	-0.33623	-0.20054	33.62262	23.15302	8.94902	0.43935	41.79268	300.67	-27.16
99/ 4/30	2451298.5	0.23674	-0.30716	-0.18881	30.90969	27.15013	11.36824	0.43133	42.68226	307.62	-25.96
99/ 5/ 2	2451300.5	0.27058	-0.27357	-0.17429	27.56228	30.97695	13.76139	0.42241	43.68783	314.68	-24.37
99/ 5/ 4	2451302.5	0.30016	-0.23569	-0.15704	23.53815	34.56239	16.09472	0.41268	44.80673	321.86	-22.37
99/ 5/ 6	2451304.5	0.32468	-0.19385	-0.13715	18.79686	37.81611	18.32400	0.40225	46.03422	329.16	-19.94
99/ 5/ 8	2451306.5	0.34329	-0.14850	-0.11477	13.30549	40.62435	20.39168	0.39125	47.36237	336.61	-17.06
99/ 5/10	2451308.5	0.35512	-0.10023	-0.09013	7.04754	42.84608	22.22394	0.37984	48.77866	344.24	-13.73
99/ 5/12	2451310.5	0.35928	-0.04981	-0.06355	0.03612	44.31083	23.72810	0.36824	50.26404	352.11	-9.94
99/ 5/14	2451312.5	0.35494	0.00177	-0.03548	-7.66780	44.82023	24.79168	0.35671	51.79069	0.29	-5.71
99/ 5/16	2451314.5	0.34135	0.05328	-0.00650	-15.93233	44.15688	25.28472	0.34554	53.31965	8.87	-1.08
99/ 5/18	2451316.5	0.31800	0.10324	0.02265	-24.52964	42.10480	25.06814	0.33511	54.79899	17.99	3.88
99/ 5/20	2451318.5	0.28468	0.14995	0.05109	-33.11622	38.48530	24.01098	0.32579	56.16342	27.78	9.02
99/ 5/22	2451320.5	0.24168	0.19151	0.07776	-41.23091	33.20817	22.01761	0.31801	57.33713	38.39	14.15
99/ 5/24	2451322.5	0.18983	0.22604	0.10158	-48.32599	26.32941	19.06178	0.31217	58.24080	49.98	18.99
99/ 5/26	2451324.5	0.13064	0.25181	0.12146	-53.84082	18.09478	15.21757	0.30859	58.80331	62.58	23.18
99/ 5/28	2451326.5	0.06624	0.26749	0.13646	-57.30848	8.94232	10.67167	0.30751	58.97551	76.09	26.34
99/ 5/30	2451328.5	-0.00085	0.27234	0.14595	-58.46131	-0.55300	5.70453	0.30898	58.74158	90.18	28.19
99/ 6/ 1	2451330.5	-0.06792	0.26632	0.14960	-57.29034	-9.78156	0.64174	0.31292	58.12292	104.31	28.56
99/ 6/ 3	2451332.5	-0.13240	0.25005	0.14751	-54.03181	-18.21006	-4.20683	0.31909	57.17290	117.90	27.54
99/ 6/ 5	2451334.5	-0.19210	0.22471	0.14006	-49.09176	-25.45903	-8.59627	0.32713	55.96480	130.53	25.35
99/ 6/ 7	2451336.5	-0.24535	0.19177	0.12789	-42.94634	-31.32674	-12.36966	0.33664	54.57803	141.99	22.33
99/ 6/ 9	2451338.5	-0.29102	0.15289	0.11175	-36.05633	-35.76762	-15.45531	0.34722	53.08718	152.29	18.78
99/ 6/11	2451340.5	-0.32851	0.10967	0.09245	-28.81450	-38.84765	-17.84823	0.35846	51.55555	161.54	14.95
99/ 6/13	2451342.5	-0.35757	0.06361	0.07077	-21.52573	-40.69756	-19.58715	0.37002	50.03304	169.91	11.03
99/ 6/15	2451344.5	-0.37830	0.01606	0.04743	-14.40930	-41.47551	-20.73426	0.38160	48.55672	177.57	7.14
99/ 6/17	2451346.5	-0.39099	-0.03185	0.02307	-7.61240	-41.34219	-21.36052	0.39296	47.15291	184.66	3.37
99/ 6/19	2451348.5	-0.39605	-0.07915	-0.00174	-1.22680	-40.44677	-21.53640	0.40388	45.83953	191.30	-0.25
99/ 6/21	2451350.5	-0.39400	-0.12505	-0.02653	4.69564	-38.92044	-21.32683	0.41422	44.62828	197.61	-3.67
99/ 6/23	2451352.5	-0.38539	-0.16887	-0.05088	10.13026	-36.87479	-20.78906	0.42383	43.52652	203.66	-6.90
99/ 6/25	2451354.5	-0.37079	-0.21007	-0.07445	15.06994	-34.40268	-19.97209	0.43261	42.53859	209.53	-9.91
99/ 6/27	2451356.5	-0.35076	-0.24821	-0.09693	19.51815	-31.58034	-18.91710	0.44050	41.66693	215.28	-12.71
99/ 6/29	2451358.5	-0.32588	-0.28292	-0.11807	23.48404	-28.46987	-17.65828	0.44742	40.91269	220.96	-15.30
99/ 7/ 1	2451360.5	-0.29669	-0.31389	-0.13766	26.97909	-25.12170	-16.22382	0.45332	40.27633	226.61	-17.68
99/ 7/ 3	2451362.5	-0.26373	-0.34088	-0.15549	30.01488	-21.57681	-14.63686	0.45818	39.75788	232.27	-19.84
99/ 7/ 5	2451364.5	-0.22753	-0.36367	-0.17142	32.60156	-17.86873	-12.91641	0.46196	39.35717	237.97	-21.78
99/ 7/ 7	2451366.5	-0.18859	-0.38210	-0.18529	34.74684	-14.02524	-11.07813	0.46465	39.07397	243.73	-23.50
99/ 7/ 9	2451368.5	-0.14742	-0.39603	-0.19697	36.45528	-10.06983	-9.13507	0.46623	38.90808	249.58	-24.99

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99/ 7/11	2451370.5	-0.10454	-0.40533	-0.20636	37.72780	-6.02302	-7.09831	0.46669	38.85936	255.54	-26.24
99/ 7/13	2451372.5	-0.06043	-0.40991	-0.21334	38.56126	-1.90356	-4.97758	0.46604	38.92777	261.61	-27.24
99/ 7/15	2451374.5	-0.01563	-0.40971	-0.21783	38.94818	2.27045	-2.78179	0.46428	39.11335	267.82	-27.98
99/ 7/17	2451376.5	0.02937	-0.40466	-0.21974	38.87643	6.48039	-0.51968	0.46140	39.41627	274.15	-28.44
99/ 7/19	2451378.5	0.07400	-0.39473	-0.21900	38.32898	10.70587	1.79958	0.45744	39.83673	280.62	-28.60
99/ 7/21	2451380.5	0.11772	-0.37993	-0.21556	37.28373	14.92340	4.16567	0.45240	40.37496	287.22	-28.46
99/ 7/23	2451382.5	0.15993	-0.36027	-0.20937	35.71339	19.10469	6.56626	0.44633	41.03110	293.94	-27.98
99/ 7/25	2451384.5	0.20001	-0.33582	-0.20039	33.58558	23.21478	8.98593	0.43924	41.80508	300.78	-27.14
99/ 7/27	2451386.5	0.23729	-0.30668	-0.18861	30.86330	27.20962	11.40490	0.43120	42.69635	307.73	-25.94
99/ 7/29	2451388.5	0.27107	-0.27303	-0.17405	27.50593	31.03322	13.79734	0.42227	43.70358	314.79	-24.34
99/ 7/31	2451390.5	0.30058	-0.23508	-0.15676	23.47122	34.61421	16.12938	0.41253	44.82409	321.97	-22.33
99/ 8/ 2	2451392.5	0.32501	-0.19319	-0.13683	18.71884	37.86195	18.35659	0.40209	46.05308	329.27	-19.89
99/ 8/ 4	2451394.5	0.34353	-0.14779	-0.11441	13.21603	40.66227	20.42120	0.39108	47.38259	336.72	-17.01
99/ 8/ 6	2451396.5	0.35525	-0.09948	-0.08974	6.94664	42.87376	22.24914	0.37967	48.79999	344.36	-13.67
99/ 8/ 8	2451398.5	0.35929	-0.04903	-0.06314	-0.07566	44.32548	23.74744	0.36807	50.28613	352.23	-9.88
99/ 8/10	2451400.5	0.35481	0.00255	-0.03505	-7.78900	44.81873	24.80333	0.35654	51.81305	0.41	-5.64
99/ 8/12	2451402.5	0.34108	0.05405	-0.00606	-16.06023	44.13597	25.28666	0.34539	53.34164	9.01	-1.01
99/ 8/14	2451404.5	0.31758	0.10398	0.02309	-24.65996	42.06152	25.05833	0.33496	54.81975	18.13	3.95
99/ 8/16	2451406.5	0.28411	0.15062	0.05150	-33.24288	38.41759	23.98771	0.32567	56.18194	27.93	9.10
99/ 8/18	2451408.5	0.24096	0.19209	0.07815	-41.34624	33.11574	21.97992	0.31791	57.35225	38.56	14.23
99/ 8/20	2451410.5	0.18899	0.22650	0.10191	-48.42152	26.21452	19.01003	0.31210	58.25140	50.16	19.06
99/ 8/22	2451412.5	0.12971	0.25213	0.12172	-53.90866	17.96265	15.15374	0.30856	58.80847	62.78	23.23
99/ 8/24	2451414.5	0.06525	0.26765	0.13665	-57.34301	8.80074	10.59935	0.30751	58.97474	76.30	26.38
99/ 8/26	2451416.5	-0.00186	0.27233	0.14604	-58.46049	-0.69493	5.62839	0.30902	58.73492	90.39	28.20
99/ 8/28	2451418.5	-0.06891	0.26615	0.14962	-57.25605	-9.91512	0.56665	0.31300	58.11098	104.52	28.56
99/ 8/30	2451420.5	-0.13333	0.24974	0.14744	-53.96912	-18.32837	-4.27667	0.31919	57.15667	118.10	27.51
99/ 9/ 1	2451422.5	-0.19294	0.22426	0.13991	-49.00747	-25.55780	-8.65786	0.32726	55.94544	130.71	25.31
99/ 9/ 3	2451424.5	-0.24609	0.19123	0.12768	-42.84761	-31.40425	-12.42135	0.33679	54.55671	142.15	22.28
99/ 9/ 5	2451426.5	-0.29165	0.15227	0.11149	-35.94955	-35.82415	-15.49658	0.34738	53.06490	152.43	18.72
99/ 9/ 7	2451428.5	-0.32900	0.10899	0.09214	-28.70486	-38.88473	-17.87938	0.35863	51.53313	161.67	14.89
99/ 9/ 9	2451430.5	-0.35794	0.06291	0.07043	-21.41709	-40.71739	-19.60895	0.37019	50.01108	170.03	10.97
99/ 9/11	2451432.5	-0.37855	0.01534	0.04707	-14.30435	-41.48048	-20.74772	0.38177	48.53568	177.68	7.08
99/ 9/13	2451434.5	-0.39111	-0.03257	0.02270	-7.51291	-41.33461	-21.36669	0.39312	47.13310	184.76	3.31
99/ 9/15	2451436.5	-0.39606	-0.07986	-0.00212	-1.13383	-40.42870	-21.53628	0.40404	45.82114	191.40	-0.30
99/ 9/17	2451438.5	-0.39391	-0.12572	-0.02690	4.78151	-38.89369	-21.32134	0.41436	44.61145	197.70	-3.72
99/ 9/19	2451440.5	-0.38521	-0.16951	-0.05125	10.20878	-36.84088	-20.77897	0.42396	43.51132	203.75	-6.94
99/ 9/21	2451442.5	-0.37052	-0.21067	-0.07480	15.14107	-34.36285	-19.95806	0.43274	42.52507	209.62	-9.95
99/ 9/23	2451444.5	-0.35042	-0.24876	-0.09726	19.58196	-31.53563	-18.89969	0.44061	41.65510	215.37	-12.75
99/ 9/25	2451446.5	-0.32547	-0.28341	-0.11838	23.54066	-28.42112	-17.63797	0.44751	40.90257	221.05	-15.34
99/ 9/27	2451448.5	-0.29621	-0.31433	-0.13794	27.02868	-25.06958	-16.20099	0.45340	40.26792	226.70	-17.71
99/ 9/29	2451450.5	-0.26320	-0.34125	-0.15575	30.05759	-21.52190	-14.61183	0.45824	39.75118	232.36	-19.87
99/10/ 1	2451452.5	-0.22695	-0.36398	-0.17165	32.63751	-17.81149	-12.88943	0.46201	39.35217	238.06	-21.81
99/10/ 3	2451454.5	-0.18797	-0.38235	-0.18548	34.77610	-13.96606	-11.04942	0.46468	39.07068	243.82	-23.53
99/10/ 5	2451456.5	-0.14678	-0.39620	-0.19713	36.47788	-10.00905	-9.10482	0.46624	38.90649	249.67	-25.01
99/10/ 7	2451458.5	-0.10387	-0.40544	-0.20648	37.74371	-5.96094	-7.06667	0.46669	38.85947	255.63	-26.26

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99/10/ 9	2451460.5	-0.05975	-0.40995	-0.21342	38.57040	-1.84048	-4.94470	0.46602	38.92960	261.71	-27.26
99/10/11	2451462.5	-0.01494	-0.40967	-0.21787	38.95041	2.33426	-2.74782	0.46424	39.11692	267.91	-27.99
99/10/13	2451464.5	0.03005	-0.40454	-0.21975	38.87153	6.54461	-0.48475	0.46135	39.42160	274.25	-28.44
99/10/15	2451466.5	0.07468	-0.39454	-0.21897	38.31666	10.77017	1.83531	0.45737	39.84384	280.72	-28.60
99/10/17	2451468.5	0.11838	-0.37966	-0.21549	37.26362	14.98737	4.20203	0.45232	40.38386	287.32	-28.45
99/10/19	2451470.5	0.16056	-0.35993	-0.20925	35.68503	19.16787	6.60304	0.44623	41.04180	294.04	-27.97
99/10/21	2451472.5	0.20060	-0.33541	-0.20023	33.54845	23.27656	9.02287	0.43913	41.81756	300.88	-27.13
99/10/23	2451474.5	0.23784	-0.30620	-0.18841	30.81680	27.26924	11.44164	0.43107	42.71063	307.84	-25.92
99/10/25	2451476.5	0.27155	-0.27248	-0.17381	27.44941	31.08973	13.83344	0.42213	43.71962	314.90	-24.31
99/10/27	2451478.5	0.30099	-0.23447	-0.15647	23.40407	34.66639	16.16424	0.41238	44.84185	322.08	-22.30
99/10/29	2451480.5	0.32534	-0.19252	-0.13650	18.64048	37.90824	18.38945	0.40193	46.07248	329.38	-19.85
99/10/31	2451482.5	0.34376	-0.14707	-0.11405	13.12607	40.70075	20.45107	0.39091	47.40349	336.84	-16.96
99/11/ 2	2451484.5	0.35537	-0.09872	-0.08935	6.84501	42.90204	22.27474	0.37950	48.82216	344.47	-13.62
99/11/ 4	2451486.5	0.35928	-0.04825	-0.06272	-0.18844	44.34074	23.76720	0.36790	50.30921	352.35	-9.82
99/11/ 6	2451488.5	0.35467	0.00334	-0.03461	-7.91152	44.81775	24.81540	0.35637	51.83654	0.54	-5.57
99/11/ 8	2451490.5	0.34079	0.05483	-0.00562	-16.18981	44.11538	25.28893	0.34522	53.36485	9.14	-0.93
99/11/10	2451492.5	0.31714	0.10472	0.02353	-24.79225	42.01818	25.04870	0.33481	54.84178	18.27	4.03
99/11/12	2451494.5	0.28352	0.15129	0.05193	-33.37170	38.34931	23.96436	0.32553	56.20170	28.08	9.18
99/11/14	2451496.5	0.24023	0.19267	0.07853	-41.46375	33.02213	21.94183	0.31781	57.36852	38.73	14.31
99/11/16	2451498.5	0.18814	0.22696	0.10224	-48.51900	26.09782	18.95751	0.31203	58.26299	50.34	19.13
99/11/18	2451500.5	0.12876	0.25244	0.12199	-53.97797	17.82818	15.08880	0.30852	58.81443	62.98	23.29
99/11/20	2451502.5	0.06423	0.26780	0.13683	-57.37832	8.65645	10.52566	0.30751	58.97453	76.51	26.42
99/11/22	2451504.5	-0.00290	0.27231	0.14614	-58.45966	-0.83968	5.55074	0.30906	58.72859	90.61	28.22
99/11/24	2451506.5	-0.06992	0.26597	0.14962	-57.22094	-10.05135	0.49004	0.31307	58.09910	104.73	28.55
99/11/26	2451508.5	-0.13429	0.24941	0.14736	-53.90489	-18.44897	-4.34790	0.31930	57.14023	118.30	27.48
99/11/28	2451510.5	-0.19381	0.22381	0.13976	-48.92111	-25.65834	-8.72062	0.32739	55.92562	130.89	25.27
99/11/30	2451512.5	-0.24684	0.19067	0.12745	-42.74645	-31.48292	-12.47391	0.33694	54.53469	142.32	22.23
99/12/ 2	2451514.5	-0.29228	0.15163	0.11121	-35.84022	-35.88122	-15.53841	0.34754	53.04174	152.58	18.66
99/12/ 4	2451516.5	-0.32951	0.10830	0.09183	-28.59273	-38.92182	-17.91079	0.35880	51.50970	161.81	14.83
99/12/ 6	2451518.5	-0.35832	0.06218	0.07008	-21.30615	-40.73679	-19.63076	0.37037	49.98805	170.15	10.91
99/12/ 8	2451520.5	-0.37880	0.01460	0.04670	-14.19738	-41.48469	-20.76098	0.38195	48.51353	177.79	7.02
99/12/10	2451522.5	-0.39125	-0.03330	0.02232	-7.41169	-41.32603	-21.37251	0.39329	47.11218	184.87	3.25
99/12/12	2451524.5	-0.39608	-0.08058	-0.00250	-1.03943	-40.40950	-21.53570	0.40420	45.80169	191.50	-0.35
99/12/14	2451526.5	-0.39383	-0.12642	-0.02728	4.86854	-38.86573	-21.31530	0.41452	44.59361	197.80	-3.77
99/12/16	2451528.5	-0.38502	-0.17016	-0.05162	10.28821	-36.80572	-20.76830	0.42410	43.49517	203.84	-6.99
99/12/18	2451530.5	-0.37025	-0.21128	-0.07515	15.21290	-34.32178	-19.94344	0.43286	42.51067	209.71	-10.00
99/12/20	2451532.5	-0.35007	-0.24932	-0.09760	19.64629	-31.48970	-18.88170	0.44072	41.64248	215.46	-12.79
99/12/22	2451534.5	-0.32505	-0.28392	-0.11870	23.59765	-28.37120	-17.61708	0.44761	40.89175	221.14	-15.38
99/12/24	2451536.5	-0.29574	-0.31477	-0.13823	27.07850	-25.01637	-16.17759	0.45348	40.25889	226.79	-17.75
99/12/26	2451538.5	-0.26267	-0.34163	-0.15601	30.10042	-21.46596	-14.58626	0.45831	39.74396	232.44	-19.90

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64/12/31	2438760.5	-0.55629	-0.43341	-0.16016	22.10750	-24.22267	-12.31144	0.72316	35.02929	217.92	-12.80
65/ 1/ 4	2438764.5	-0.50185	-0.48655	-0.18755	24.97442	-21.73024	-11.36941	0.72371	35.00269	224.11	-15.02
65/ 1/ 8	2438768.5	-0.44114	-0.53361	-0.21259	27.52357	-18.97261	-10.28780	0.72425	34.97636	230.42	-17.07
65/ 1/12	2438772.5	-0.37495	-0.57403	-0.23498	29.72477	-15.98518	-9.08065	0.72479	34.95062	236.85	-18.92
65/ 1/16	2438776.5	-0.30409	-0.60732	-0.25446	31.55234	-12.80584	-7.76343	0.72530	34.92579	243.40	-20.54
65/ 1/20	2438780.5	-0.22947	-0.63308	-0.27078	32.98540	-9.47450	-6.35281	0.72579	34.90216	250.08	-21.91
65/ 1/24	2438784.5	-0.15201	-0.65101	-0.28375	34.00798	-6.03257	-4.86642	0.72625	34.88004	256.86	-23.00
65/ 1/28	2438788.5	-0.07266	-0.66090	-0.29322	34.60916	-2.52247	-3.32269	0.72667	34.85968	263.73	-23.80
65/ 2/ 1	2438792.5	0.00757	-0.66265	-0.29908	34.78308	1.01289	-1.74060	0.72705	34.84133	270.65	-24.29
65/ 2/ 5	2438796.5	0.08772	-0.65624	-0.30125	34.52897	4.53059	-0.13942	0.72739	34.82521	277.61	-24.47
65/ 2/ 9	2438800.5	0.16678	-0.64176	-0.29972	33.85107	7.98816	1.46142	0.72767	34.81152	284.57	-24.32
65/ 2/13	2438804.5	0.24380	-0.61941	-0.29451	32.75856	11.34406	3.04264	0.72790	34.80041	291.48	-23.87
65/ 2/17	2438808.5	0.31783	-0.58946	-0.28569	31.26536	14.55809	4.58524	0.72807	34.79203	298.33	-23.10
65/ 2/21	2438812.5	0.38796	-0.55228	-0.27337	29.38998	17.59185	6.07075	0.72819	34.78646	305.09	-22.05
65/ 2/25	2438816.5	0.45334	-0.50834	-0.25770	27.15530	20.40907	7.48138	0.72825	34.78378	311.73	-20.72
65/ 3/ 1	2438820.5	0.51317	-0.45818	-0.23887	24.58829	22.97606	8.80024	0.72824	34.78402	318.24	-19.15
65/ 3/ 5	2438824.5	0.56672	-0.40240	-0.21712	21.71975	25.26202	10.01151	0.72817	34.78717	324.62	-17.35
65/ 3/ 9	2438828.5	0.61332	-0.34169	-0.19271	18.58394	27.23933	11.10058	0.72805	34.79320	330.88	-15.35
65/ 3/13	2438832.5	0.65241	-0.27680	-0.16594	15.21828	28.88392	12.05424	0.72787	34.80204	337.01	-13.18
65/ 3/17	2438836.5	0.68349	-0.20851	-0.13713	11.66294	30.17550	12.86081	0.72763	34.81358	343.03	-10.86
65/ 3/21	2438840.5	0.70618	-0.13766	-0.10664	7.96041	31.09779	13.51028	0.72733	34.82769	348.97	-8.43
65/ 3/25	2438844.5	0.72019	-0.06512	-0.07484	4.15510	31.63876	13.99440	0.72699	34.84421	354.83	-5.91
65/ 3/29	2438848.5	0.72533	0.00822	-0.04211	0.29287	31.79076	14.30684	0.72660	34.86293	0.65	-3.32
65/ 4/ 2	2438852.5	0.72153	0.08146	-0.00887	-3.57948	31.55070	14.44326	0.72617	34.88363	6.44	-0.70
65/ 4/ 6	2438856.5	0.70882	0.15369	0.02448	-7.41473	30.92014	14.40137	0.72571	34.90605	12.23	1.93
65/ 4/10	2438860.5	0.68734	0.22402	0.05753	-11.16573	29.90529	14.18099	0.72521	34.92994	18.05	4.55
65/ 4/14	2438864.5	0.65733	0.29158	0.08987	-14.78597	28.51709	13.78412	0.72470	34.95499	23.92	7.12
65/ 4/18	2438868.5	0.61916	0.35551	0.12109	-18.23016	26.77108	13.21489	0.72416	34.98089	29.86	9.63
65/ 4/22	2438872.5	0.57327	0.41501	0.15080	-21.45476	24.68737	12.47962	0.72361	35.00734	35.90	12.03
65/ 4/26	2438876.5	0.52023	0.46933	0.17863	-24.41857	22.29040	11.58671	0.72306	35.03398	42.06	14.30
65/ 4/30	2438880.5	0.46068	0.51778	0.20422	-27.08326	19.60877	10.54665	0.72252	35.06050	48.34	16.42
65/ 5/ 4	2438884.5	0.39536	0.55974	0.22725	-29.41396	16.67495	9.37184	0.72198	35.08656	54.77	18.35
65/ 5/ 8	2438888.5	0.32506	0.59466	0.24743	-31.37971	13.52489	8.07655	0.72146	35.11182	61.34	20.06
65/ 5/12	2438892.5	0.25067	0.62209	0.26449	-32.95399	10.19764	6.67668	0.72096	35.13596	68.05	21.52
65/ 5/16	2438896.5	0.17312	0.64167	0.27821	-34.11512	6.73489	5.18966	0.72049	35.15868	74.90	22.71
65/ 5/20	2438900.5	0.09338	0.65314	0.28841	-34.84663	3.18041	3.63417	0.72006	35.17968	81.86	23.61
65/ 5/24	2438904.5	0.01246	0.65633	0.29496	-35.13759	-0.42049	2.02993	0.71967	35.19869	88.91	24.20
65/ 5/28	2438908.5	-0.06863	0.65119	0.29777	-34.98282	-4.02158	0.39746	0.71933	35.21546	96.02	24.45
65/ 6/ 1	2438912.5	-0.14883	0.63778	0.29679	-34.38304	-7.57633	-1.24225	0.71903	35.22978	103.14	24.38
65/ 6/ 5	2438916.5	-0.22715	0.61626	0.29204	-33.34493	-11.03861	-2.86797	0.71879	35.24146	110.23	23.97
65/ 6/ 9	2438920.5	-0.30257	0.58689	0.28357	-31.88107	-14.36331	-4.45858	0.71861	35.25034	117.27	23.24
65/ 6/13	2438924.5	-0.37414	0.55003	0.27148	-30.00985	-17.50702	-5.99337	0.71849	35.25631	124.22	22.20
65/ 6/17	2438928.5	-0.44093	0.50617	0.25594	-27.75519	-20.42867	-7.45232	0.71842	35.25930	131.06	20.87
65/ 6/21	2438932.5	-0.50210	0.45585	0.23713	-25.14622	-23.09013	-8.81640	0.71842	35.25926	137.76	19.27
65/ 6/25	2438936.5	-0.55687	0.39971	0.21529	-22.21689	-25.45677	-10.06787	0.71849	35.25619	144.33	17.44

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65/ 6/29	2438940.5	-0.60454	0.33848	0.19071	-19.00548	-27.49795	-11.19050	0.71861	35.25015	150.76	15.39
65/ 7/ 3	2438944.5	-0.64450	0.27293	0.16370	-15.55399	-29.18750	-12.16984	0.71879	35.24120	157.05	13.16
65/ 7/ 7	2438948.5	-0.67625	0.20391	0.13460	-11.90758	-30.50404	-12.99341	0.71904	35.22947	163.22	10.79
65/ 7/11	2438952.5	-0.69940	0.13229	0.10379	-8.11383	-31.43125	-13.65085	0.71933	35.21511	169.29	8.30
65/ 7/15	2438956.5	-0.71366	0.05899	0.07166	-4.22211	-31.95813	-14.13408	0.71968	35.19831	175.27	5.71
65/ 7/19	2438960.5	-0.71887	-0.01505	0.03862	-0.28282	-32.07903	-14.43738	0.72007	35.17928	181.20	3.07
65/ 7/23	2438964.5	-0.71497	-0.08891	0.00510	3.65330	-31.79371	-14.55743	0.72050	35.15829	187.09	0.41
65/ 7/27	2438968.5	-0.70203	-0.16164	-0.02849	7.53592	-31.10727	-14.49335	0.72097	35.13559	192.97	-2.27
65/ 7/31	2438972.5	-0.68023	-0.23233	-0.06173	11.31575	-30.03002	-14.24668	0.72146	35.11148	198.86	-4.91
65/ 8/ 4	2438976.5	-0.64987	-0.30010	-0.09418	14.94525	-28.57723	-13.82128	0.72198	35.08628	204.79	-7.50
65/ 8/ 8	2438980.5	-0.61133	-0.36410	-0.12545	18.37919	-26.76888	-13.22331	0.72252	35.06028	210.78	-10.00
65/ 8/12	2438984.5	-0.56513	-0.42353	-0.15515	21.57522	-24.62929	-12.46106	0.72306	35.03384	216.85	-12.39
65/ 8/16	2438988.5	-0.51186	-0.47766	-0.18291	24.49438	-22.18676	-11.54480	0.72361	35.00727	223.02	-14.64
65/ 8/20	2438992.5	-0.45220	-0.52583	-0.20838	27.10152	-19.47311	-10.48667	0.72416	34.98092	229.31	-16.72
65/ 8/24	2438996.5	-0.38691	-0.56745	-0.23126	29.36567	-16.52325	-9.30044	0.72469	34.95509	235.71	-18.61
65/ 8/28	2439000.5	-0.31680	-0.60202	-0.25127	31.26037	-13.37468	-8.00132	0.72521	34.93013	242.25	-20.27
65/ 9/ 1	2439004.5	-0.24277	-0.62912	-0.26816	32.76386	-10.06699	-6.60580	0.72570	34.90632	248.90	-21.69
65/ 9/ 5	2439008.5	-0.16574	-0.64844	-0.28173	33.85930	-6.64136	-5.13135	0.72617	34.88396	255.66	-22.83
65/ 9/ 9	2439012.5	-0.08666	-0.65975	-0.29182	34.53487	-3.14007	-3.59630	0.72659	34.86332	262.52	-23.68
65/ 9/13	2439016.5	-0.00650	-0.66292	-0.29831	34.78384	0.39403	-2.01951	0.72698	34.84464	269.44	-24.23
65/ 9/17	2439020.5	0.07373	-0.65794	-0.30113	34.60454	3.91797	-0.42025	0.72732	34.82816	276.39	-24.46
65/ 9/21	2439024.5	0.15305	-0.64486	-0.30025	34.00033	7.38917	1.18208	0.72762	34.81407	283.35	-24.37
65/ 9/25	2439028.5	0.23050	-0.62387	-0.29568	32.97953	10.76589	2.76816	0.72786	34.80253	290.28	-23.97
65/ 9/29	2439032.5	0.30512	-0.59522	-0.28749	31.55524	14.00767	4.31891	0.72804	34.79369	297.14	-23.26
65/10/ 3	2439036.5	0.37600	-0.55928	-0.27577	29.74519	17.07574	5.81575	0.72816	34.78764	303.91	-22.25
65/10/ 7	2439040.5	0.44227	-0.51649	-0.26067	27.57151	19.93345	7.24077	0.72823	34.78447	310.57	-20.97
65/10/11	2439044.5	0.50313	-0.46737	-0.24238	25.06048	22.54661	8.57691	0.72824	34.78420	317.11	-19.44
65/10/15	2439048.5	0.55782	-0.41253	-0.22113	22.24224	24.88389	9.80813	0.72818	34.78685	323.52	-17.68
65/10/19	2439052.5	0.60569	-0.35263	-0.19716	19.15049	26.91710	10.91960	0.72806	34.79237	329.79	-15.71
65/10/23	2439056.5	0.64612	-0.28842	-0.17078	15.82211	28.62152	11.89787	0.72789	34.80072	335.95	-13.57
65/10/27	2439060.5	0.67864	-0.22066	-0.14230	12.29683	29.97618	12.73096	0.72766	34.81179	341.99	-11.28
65/10/31	2439064.5	0.70282	-0.15020	-0.11207	8.61678	30.96407	13.40857	0.72738	34.82545	347.94	-8.86
65/11/ 4	2439068.5	0.71837	-0.07789	-0.08047	4.82606	31.57240	13.92212	0.72704	34.84154	353.81	-6.35
65/11/ 8	2439072.5	0.72507	-0.00462	-0.04788	0.97032	31.79276	14.26496	0.72666	34.85987	359.63	-3.78
65/11/12	2439076.5	0.72283	0.06870	-0.01470	-2.90379	31.62126	14.43238	0.72624	34.88022	5.43	-1.16
65/11/16	2439080.5	0.71167	0.14118	0.01866	-6.74904	31.05862	14.42173	0.72578	34.90234	11.22	1.47
65/11/20	2439084.5	0.69171	0.21191	0.05180	-10.51825	30.11025	14.23246	0.72529	34.92597	17.03	4.10
65/11/24	2439088.5	0.66317	0.28001	0.08429	-14.16475	28.78627	13.86618	0.72478	34.95083	22.89	6.68
65/11/28	2439092.5	0.62639	0.34463	0.11573	-17.64300	27.10142	13.32666	0.72425	34.97660	28.82	9.19
65/12/ 2	2439096.5	0.58182	0.40496	0.14573	-20.90910	25.07502	12.61984	0.72370	35.00296	34.84	11.62
65/12/ 6	2439100.5	0.52998	0.46024	0.17392	-23.92140	22.73079	11.75376	0.72315	35.02960	40.97	13.92
65/12/10	2439104.5	0.47152	0.50976	0.19992	-26.64103	20.09661	10.73854	0.72261	35.05616	47.23	16.06
65/12/14	2439108.5	0.40714	0.55290	0.22343	-29.03249	17.20430	9.58628	0.72207	35.08233	53.63	18.02
65/12/18	2439112.5	0.33766	0.58908	0.24412	-31.06408	14.08924	8.31091	0.72154	35.10777	60.18	19.78
65/12/22	2439116.5	0.26392	0.61785	0.26174	-32.70849	10.78997	6.92808	0.72104	35.13214	66.87	21.28

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65/12/26	2439120.5	0.18685	0.63883	0.27606	-33.94316	7.34776	5.45496	0.72057	35.15514	73.70	22.53
65/12/30	2439124.5	0.10741	0.65172	0.28689	-34.75068	3.80606	3.91002	0.72013	35.17647	80.64	23.48
66/ 1/ 3	2439128.5	0.02662	0.65637	0.29409	-35.11914	0.20996	2.31284	0.71973	35.19584	87.68	24.12
66/ 1/ 7	2439132.5	-0.05450	0.65269	0.29755	-35.04236	-3.39442	0.68380	0.71938	35.21301	94.77	24.43
66/ 1/11	2439136.5	-0.13494	0.64072	0.29724	-34.52000	-6.96056	-0.95615	0.71908	35.22775	101.89	24.42
66/ 1/15	2439140.5	-0.21366	0.62059	0.29314	-33.55773	-10.44219	-2.58581	0.71883	35.23985	109.00	24.07
66/ 1/19	2439144.5	-0.28966	0.59257	0.28532	-32.16711	-13.79399	-4.18403	0.71864	35.24916	116.05	23.39
66/ 1/23	2439148.5	-0.36197	0.55699	0.27385	-30.36552	-16.97221	-5.72998	0.71851	35.25554	123.02	22.40
66/ 1/27	2439152.5	-0.42966	0.51432	0.25890	-28.17595	-19.93532	-7.20351	0.71844	35.25892	129.88	21.12
66/ 1/31	2439156.5	-0.49187	0.46508	0.24064	-25.62665	-22.64464	-8.58540	0.71843	35.25924	136.60	19.57
66/ 2/ 4	2439160.5	-0.54781	0.40991	0.21931	-22.75080	-25.06491	-9.85767	0.71849	35.25652	143.19	17.77
66/ 2/ 8	2439164.5	-0.59677	0.34952	0.19519	-19.58593	-27.16477	-11.00381	0.71861	35.25078	149.64	15.76
66/ 2/12	2439168.5	-0.63812	0.28467	0.16858	-16.17345	-28.91727	-12.00905	0.71878	35.24211	155.96	13.56
66/ 2/16	2439172.5	-0.67134	0.21620	0.13982	-12.55802	-30.30016	-12.86057	0.71902	35.23064	162.15	11.21
66/ 2/20	2439176.5	-0.69602	0.14497	0.10929	-8.78684	-31.29626	-13.54763	0.71931	35.21651	168.23	8.74
66/ 2/24	2439180.5	-0.71185	0.07190	0.07736	-4.90902	-31.89363	-14.06174	0.71965	35.19992	174.23	6.17
66/ 2/28	2439184.5	-0.71866	-0.00208	0.04445	-0.97480	-32.08569	-14.39678	0.72003	35.18109	180.17	3.54
66/ 3/ 4	2439188.5	-0.71635	-0.07603	0.01098	2.96509	-31.87128	-14.54901	0.72046	35.16026	186.06	0.87
66/ 3/ 8	2439192.5	-0.70499	-0.14902	-0.02263	6.86023	-31.25458	-14.51714	0.72092	35.13771	191.94	-1.80
66/ 3/12	2439196.5	-0.68473	-0.22014	-0.05595	10.66111	-30.24499	-14.30226	0.72142	35.11372	197.82	-4.45
66/ 3/16	2439200.5	-0.65584	-0.28847	-0.08857	14.31987	-28.85693	-13.90787	0.72194	35.08861	203.74	-7.05
66/ 3/20	2439204.5	-0.61871	-0.35319	-0.12007	17.79085	-27.10958	-13.33971	0.72247	35.06268	209.72	-9.57
66/ 3/24	2439208.5	-0.57382	-0.41347	-0.15007	21.03119	-25.02651	-12.60571	0.72301	35.03628	215.77	-11.98
66/ 3/28	2439212.5	-0.52175	-0.46858	-0.17820	24.00131	-22.63533	-11.71580	0.72356	35.00973	221.93	-14.26
66/ 4/ 1	2439216.5	-0.46316	-0.51784	-0.20409	26.66539	-19.96727	-10.68178	0.72411	34.98336	228.19	-16.37
66/ 4/ 5	2439220.5	-0.39880	-0.56065	-0.22745	28.99171	-17.05670	-9.51716	0.72464	34.95750	234.57	-18.29
66/ 4/ 9	2439224.5	-0.32949	-0.59649	-0.24798	30.95299	-13.94068	-8.23691	0.72516	34.93247	241.08	-20.00
66/ 4/13	2439228.5	-0.25609	-0.62493	-0.26543	32.52666	-10.65845	-6.85727	0.72566	34.90857	247.72	-21.46
66/ 4/17	2439232.5	-0.17952	-0.64564	-0.27960	33.69498	-7.25093	-5.39557	0.72612	34.88610	254.46	-22.65
66/ 4/21	2439236.5	-0.10073	-0.65837	-0.29031	34.44524	-3.76021	-3.86998	0.72655	34.86532	261.30	-23.55
66/ 4/25	2439240.5	-0.02070	-0.66298	-0.29744	34.76979	-0.22907	-2.29929	0.72694	34.84649	268.21	-24.15
66/ 4/29	2439244.5	0.05959	-0.65943	-0.30091	34.66607	3.29953	-0.70269	0.72729	34.82983	275.16	-24.44
66/ 5/ 3	2439248.5	0.13914	-0.64777	-0.30069	34.13653	6.78292	0.90043	0.72759	34.81553	282.12	-24.41
66/ 5/ 7	2439252.5	0.21699	-0.62816	-0.29676	33.18860	10.17918	2.49072	0.72783	34.80377	289.06	-24.06
66/ 5/11	2439256.5	0.29217	-0.60084	-0.28920	31.83455	13.44759	4.04904	0.72802	34.79469	295.93	-23.41
66/ 5/15	2439260.5	0.36378	-0.56615	-0.27810	30.09127	16.54906	5.55672	0.72815	34.78840	302.72	-22.45
66/ 5/19	2439264.5	0.43092	-0.52453	-0.26358	27.98011	19.44652	6.99571	0.72822	34.78496	309.40	-21.22
66/ 5/23	2439268.5	0.49279	-0.47649	-0.24584	25.52663	22.10532	8.34878	0.72823	34.78442	315.96	-19.73
66/ 5/27	2439272.5	0.54862	-0.42261	-0.22509	22.76029	24.49358	9.59969	0.72818	34.78679	322.39	-18.01
66/ 5/31	2439276.5	0.59774	-0.36355	-0.20158	19.71419	26.58252	10.73340	0.72807	34.79203	328.69	-16.07
66/ 6/ 4	2439280.5	0.63952	-0.30004	-0.17559	16.42466	28.34678	11.73617	0.72791	34.80010	334.87	-13.96
66/ 6/ 8	2439284.5	0.67347	-0.23285	-0.14746	12.93097	29.76466	12.59575	0.72768	34.81089	340.93	-11.69
66/ 6/12	2439288.5	0.69914	-0.16279	-0.11752	9.27483	30.81845	13.30153	0.72740	34.82428	346.89	-9.30
66/ 6/16	2439292.5	0.71623	-0.09074	-0.08613	5.50006	31.49458	13.84462	0.72707	34.84011	352.78	-6.80
66/ 6/20	2439296.5	0.72450	-0.01758	-0.05368	1.65208	31.78384	14.21801	0.72670	34.85819	358.61	-4.24

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66/ 6/24	2439300.5	0.72384	0.05581	-0.02057	-2.22258	31.68150	14.41662	0.72628	34.87831	4.41	-1.62
66/ 6/28	2439304.5	0.71425	0.12850	0.01279	-6.07676	31.18748	14.43743	0.72583	34.90022	10.20	1.01
66/ 7/ 2	2439308.5	0.69582	0.19961	0.04600	-9.86318	30.30636	14.27953	0.72534	34.92367	16.01	3.64
66/ 7/ 6	2439312.5	0.66876	0.26824	0.07863	-13.53504	29.04740	13.94414	0.72483	34.94836	21.86	6.23
66/ 7/10	2439316.5	0.63340	0.33353	0.11029	-17.04652	27.42457	13.43465	0.72430	34.97400	27.77	8.76
66/ 7/14	2439320.5	0.59016	0.39468	0.14058	-20.35338	25.45639	12.75661	0.72376	35.00027	33.77	11.20
66/ 7/18	2439324.5	0.53955	0.45090	0.16911	-23.41352	23.16581	11.91772	0.72321	35.02684	39.89	13.52
66/ 7/22	2439328.5	0.48220	0.50149	0.19552	-26.18752	20.58004	10.92773	0.72266	35.05338	46.12	15.70
66/ 7/26	2439332.5	0.41881	0.54579	0.21949	-28.63924	17.73023	9.79841	0.72212	35.07956	52.50	17.70
66/ 7/30	2439336.5	0.35015	0.58323	0.24070	-30.73626	14.65118	8.54338	0.72160	35.10505	59.02	19.49
66/ 8/ 3	2439340.5	0.27709	0.61333	0.25888	-32.45047	11.38094	7.17802	0.72109	35.12952	65.69	21.04
66/ 8/ 7	2439344.5	0.20053	0.63570	0.27379	-33.75843	7.96034	5.71925	0.72062	35.15265	72.49	22.33
66/ 8/11	2439348.5	0.12144	0.65003	0.28524	-34.64183	4.43250	4.18534	0.72017	35.17414	79.42	23.33
66/ 8/15	2439352.5	0.04081	0.65613	0.29309	-35.08776	0.84229	2.59569	0.71977	35.19372	86.44	24.03
66/ 8/19	2439356.5	-0.04033	0.65391	0.29721	-35.08904	-2.76429	0.97058	0.71942	35.21113	93.53	24.40
66/ 8/23	2439360.5	-0.12097	0.64338	0.29756	-34.64431	-6.34074	-0.66912	0.71911	35.22614	100.65	24.44
66/ 8/27	2439364.5	-0.20006	0.62467	0.29412	-33.75820	-9.84069	-2.30223	0.71885	35.23855	107.76	24.15
66/ 8/31	2439368.5	-0.27661	0.59801	0.28694	-32.44125	-13.21860	-3.90755	0.71865	35.24820	114.82	23.53
66/ 9/ 4	2439372.5	-0.34963	0.56373	0.27611	-30.70987	-16.43039	-5.46420	0.71852	35.25495	121.81	22.60
66/ 9/ 8	2439376.5	-0.41820	0.52225	0.26175	-28.58610	-19.43411	-6.95186	0.71844	35.25873	128.69	21.37
66/ 9/12	2439380.5	-0.48143	0.47412	0.24406	-26.09730	-22.19054	-8.35115	0.71842	35.25948	135.44	19.86
66/ 9/16	2439384.5	-0.53852	0.41994	0.22325	-23.27582	-24.66378	-9.64384	0.71847	35.25719	142.05	18.10
66/ 9/20	2439388.5	-0.58875	0.36041	0.19959	-20.15850	-26.82176	-10.81315	0.71858	35.25189	148.53	16.13
66/ 9/24	2439392.5	-0.63146	0.29628	0.17339	-16.78611	-28.63673	-11.84401	0.71875	35.24367	154.86	13.96
66/ 9/28	2439396.5	-0.66614	0.22838	0.14499	-13.20277	-30.08561	-12.72322	0.71897	35.23262	161.08	11.63
66/10/ 2	2439400.5	-0.69234	0.15757	0.11473	-9.45531	-31.15031	-13.43969	0.71925	35.21889	167.18	9.18
66/10/ 6	2439404.5	-0.70974	0.08476	0.08302	-5.59254	-31.81799	-13.98452	0.71959	35.20267	173.19	6.63
66/10/10	2439408.5	-0.71813	0.01087	0.05026	-1.66457	-32.08112	-14.35119	0.71997	35.18417	179.13	4.00
66/10/14	2439412.5	-0.71742	-0.06315	0.01685	2.27792	-31.93760	-14.53552	0.72039	35.16363	185.03	1.34
66/10/18	2439416.5	-0.70763	-0.13638	-0.01676	6.18441	-31.39070	-14.53581	0.72085	35.14132	190.91	-1.33
66/10/22	2439420.5	-0.68891	-0.20788	-0.05016	10.00519	-30.44891	-14.35274	0.72134	35.11753	196.79	-3.99
66/10/26	2439424.5	-0.66151	-0.27677	-0.08294	13.69207	-29.12580	-13.98938	0.72185	35.09256	202.70	-6.60
66/10/30	2439428.5	-0.62579	-0.34217	-0.11467	17.19896	-27.43974	-13.45111	0.72239	35.06673	208.67	-9.13
66/11/ 3	2439432.5	-0.58221	-0.40329	-0.14496	20.48249	-25.41355	-12.74546	0.72293	35.04037	214.71	-11.57
66/11/ 7	2439436.5	-0.53135	-0.45935	-0.17343	23.50248	-23.07418	-11.88204	0.72348	35.01382	220.84	-13.87
66/11/11	2439440.5	-0.47386	-0.50968	-0.19974	26.22241	-20.45225	-10.87234	0.72402	34.98739	227.09	-16.01
66/11/15	2439444.5	-0.41045	-0.55366	-0.22356	28.60985	-17.58161	-9.72957	0.72456	34.96142	233.45	-17.97
66/11/19	2439448.5	-0.34195	-0.59075	-0.24461	30.63672	-14.49888	-8.46845	0.72508	34.93623	239.94	-19.72
66/11/23	2439452.5	-0.26920	-0.62051	-0.26261	32.27959	-11.24294	-7.10503	0.72558	34.91213	246.55	-21.22
66/11/27	2439456.5	-0.19311	-0.64260	-0.27737	33.51990	-7.85445	-5.65645	0.72605	34.88942	253.27	-22.46
66/12/ 1	2439460.5	-0.11464	-0.65673	-0.28870	34.34403	-4.37534	-4.14075	0.72649	34.86835	260.10	-23.41
66/12/ 5	2439464.5	-0.03476	-0.66277	-0.29646	34.74345	-0.84828	-2.57663	0.72689	34.84919	267.00	-24.07
66/12/ 9	2439468.5	0.04555	-0.66065	-0.30058	34.71471	2.68375	-0.98322	0.72724	34.83217	273.94	-24.41
66/12/13	2439472.5	0.12531	-0.65040	-0.30100	34.25938	6.17801	0.62012	0.72755	34.81749	280.90	-24.44
66/12/17	2439476.5	0.20352	-0.63217	-0.29772	33.38403	9.59243	2.21400	0.72780	34.80531	287.85	-24.15

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66/12/21	2439480.5	0.27924	-0.60618	-0.29079	32.10008	12.88603	3.77925	0.72800	34.79580	294.73	-23.54
66/12/25	2439484.5	0.35153	-0.57275	-0.28030	30.42362	16.01942	5.29710	0.72814	34.78905	301.54	-22.64
66/12/29	2439488.5	0.41952	-0.53231	-0.26637	28.37525	18.95515	6.74936	0.72822	34.78515	308.24	-21.46
67/ 1/ 2	2439492.5	0.48237	-0.48535	-0.24917	25.97980	21.65811	8.11866	0.72824	34.78414	314.82	-20.01
67/ 1/ 6	2439496.5	0.53931	-0.43245	-0.22893	23.26606	24.09592	9.38858	0.72820	34.78604	321.28	-18.32
67/ 1/10	2439500.5	0.58965	-0.37425	-0.20588	20.26650	26.23923	10.54385	0.72810	34.79082	327.60	-16.43
67/ 1/14	2439504.5	0.63276	-0.31146	-0.18031	17.01693	28.06205	11.57048	0.72794	34.79843	333.79	-14.34
67/ 1/18	2439508.5	0.66811	-0.24486	-0.15253	13.55612	29.54203	12.45597	0.72773	34.80878	339.87	-12.10
67/ 1/22	2439512.5	0.69526	-0.17524	-0.12288	9.92538	30.66073	13.18939	0.72746	34.82174	345.85	-9.72
67/ 1/26	2439516.5	0.71387	-0.10348	-0.09172	6.16820	31.40385	13.76156	0.72714	34.83717	351.75	-7.25
67/ 1/30	2439520.5	0.72370	-0.03045	-0.05943	2.32974	31.76138	14.16510	0.72677	34.85489	357.59	-4.69
67/ 2/ 3	2439524.5	0.72461	0.04297	-0.02640	-1.54362	31.72783	14.39462	0.72636	34.87467	3.39	-2.08
67/ 2/ 7	2439528.5	0.71657	0.11585	0.00694	-5.40479	31.30226	14.44672	0.72591	34.89629	9.18	0.55
67/ 2/11	2439532.5	0.69968	0.18729	0.04021	-9.20648	30.48845	14.32012	0.72543	34.91949	14.99	3.18
67/ 2/15	2439536.5	0.67412	0.25642	0.07297	-12.90175	29.29485	14.01565	0.72492	34.94398	20.83	5.78
67/ 2/19	2439540.5	0.64019	0.32236	0.10483	-16.44459	27.73458	13.53633	0.72439	34.96947	26.73	8.32
67/ 2/23	2439544.5	0.59829	0.38430	0.13538	-19.79042	25.82539	12.88733	0.72385	34.99564	32.71	10.78
67/ 2/27	2439548.5	0.54893	0.44144	0.16425	-22.89673	23.58947	12.07598	0.72330	35.02218	38.81	13.13
67/ 3/ 3	2439552.5	0.49271	0.49306	0.19106	-25.72361	21.05329	11.11167	0.72276	35.04874	45.02	15.33
67/ 3/ 7	2439556.5	0.43032	0.53850	0.21548	-28.23427	18.24733	10.00583	0.72221	35.07500	51.37	17.36
67/ 3/11	2439560.5	0.36253	0.57718	0.23719	-30.39563	15.20579	8.77177	0.72169	35.10063	57.87	19.19
67/ 3/15	2439564.5	0.29018	0.60860	0.25592	-32.17878	11.96616	7.42455	0.72118	35.12530	64.51	20.79
67/ 3/19	2439568.5	0.21416	0.63235	0.27142	-33.55943	8.56882	5.98085	0.72070	35.14869	71.29	22.12
67/ 3/23	2439572.5	0.13544	0.64811	0.28349	-34.51834	5.05655	4.45872	0.72025	35.17051	78.20	23.18
67/ 3/27	2439576.5	0.05501	0.65566	0.29198	-35.04164	1.47394	2.87738	0.71984	35.19046	85.20	23.93
67/ 3/31	2439580.5	-0.02612	0.65490	0.29676	-35.12112	-2.13317	1.25698	0.71947	35.20829	92.28	24.36
67/ 4/ 4	2439584.5	-0.10692	0.64582	0.29777	-34.75441	-5.71830	-0.38171	0.71915	35.22376	99.40	24.46
67/ 4/ 8	2439588.5	-0.18635	0.62853	0.29500	-33.94506	-9.23504	-2.01753	0.71889	35.23667	106.51	24.23
67/ 4/12	2439592.5	-0.26342	0.60324	0.28847	-32.70259	-12.63762	-3.62928	0.71868	35.24685	113.59	23.66
67/ 4/16	2439596.5	-0.33713	0.57026	0.27826	-31.04239	-15.88169	-5.19597	0.71853	35.25416	120.59	22.78
67/ 4/20	2439600.5	-0.40654	0.53001	0.26451	-28.98551	-18.92484	-6.69718	0.71844	35.25850	127.49	21.60
67/ 4/24	2439604.5	-0.47077	0.48301	0.24739	-26.55844	-21.72736	-8.11334	0.71841	35.25982	134.26	20.14
67/ 4/28	2439608.5	-0.52899	0.42984	0.22710	-23.79266	-24.25270	-9.42598	0.71845	35.25810	140.90	18.43
67/ 5/ 2	2439612.5	-0.58047	0.37119	0.20393	-20.72427	-26.46810	-10.61808	0.71855	35.25336	147.40	16.49
67/ 5/ 6	2439616.5	-0.62454	0.30781	0.17815	-17.39339	-28.34500	-11.67423	0.71870	35.24566	153.76	14.35
67/ 5/10	2439620.5	-0.66066	0.24051	0.15010	-13.84361	-29.85949	-12.58088	0.71892	35.23512	160.00	12.05
67/ 5/14	2439624.5	-0.68837	0.17014	0.12015	-10.12132	-30.99259	-13.32658	0.71919	35.22186	166.12	9.62
67/ 5/18	2439628.5	-0.70733	0.09761	0.08866	-6.27506	-31.73051	-13.90202	0.71952	35.20607	172.14	7.08
67/ 5/22	2439632.5	-0.71731	0.02385	0.05605	-2.35475	-32.06478	-14.30025	0.71989	35.18796	178.10	4.47
67/ 5/26	2439636.5	-0.71819	-0.05022	0.02273	1.58898	-31.99236	-14.51670	0.72030	35.16775	184.00	1.81
67/ 5/30	2439640.5	-0.70999	-0.12366	-0.01088	5.50549	-31.51558	-14.54922	0.72076	35.14573	189.88	-0.86
67/ 6/ 3	2439644.5	-0.69281	-0.19553	-0.04435	9.34491	-30.64203	-14.39808	0.72124	35.12216	195.76	-3.53
67/ 6/ 7	2439648.5	-0.66691	-0.26494	-0.07727	13.05872	-29.38442	-14.06593	0.72175	35.09736	201.67	-6.15
67/ 6/11	2439652.5	-0.63261	-0.33101	-0.10921	16.60042	-27.76029	-13.55776	0.72228	35.07164	207.62	-8.70
67/ 6/15	2439656.5	-0.59037	-0.39294	-0.13978	19.92611	-25.79172	-12.88073	0.72283	35.04534	213.65	-11.15

1.2 1 A.U.=149,599,000 KM.

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67/ 6/19	2439660.5	-0.54074	-0.44994	-0.16860	22.99503	-23.50496	-12.04411	0.72337	35.01878	219.76	-13.48
67/ 6/23	2439664.5	-0.48435	-0.50132	-0.19531	25.76999	-20.93002	-11.05906	0.72392	34.99229	225.99	-15.65
67/ 6/27	2439668.5	-0.42193	-0.54644	-0.21959	28.21779	-18.10023	-9.93850	0.72446	34.96621	232.33	-17.64
67/ 7/ 1	2439672.5	-0.35425	-0.58478	-0.24114	30.30960	-15.05176	-8.69692	0.72499	34.94086	238.79	-19.43
67/ 7/ 5	2439676.5	-0.28218	-0.61585	-0.25969	32.02114	-11.82314	-7.35014	0.72549	34.91654	245.38	-20.97
67/ 7/ 9	2439680.5	-0.20661	-0.63930	-0.27503	33.33299	-8.45476	-5.91514	0.72597	34.89355	252.09	-22.26
67/ 7/13	2439684.5	-0.12849	-0.65484	-0.28697	34.23067	-4.98835	-4.40981	0.72641	34.87218	258.90	-23.27
67/ 7/17	2439688.5	-0.04878	-0.66230	-0.29536	34.70475	-1.46652	-2.85275	0.72682	34.85267	265.79	-23.98
67/ 7/21	2439692.5	0.03153	-0.66160	-0.30012	34.75089	2.06781	-1.26303	0.72718	34.83526	272.73	-24.38
67/ 7/25	2439696.5	0.11145	-0.65277	-0.30119	34.36979	5.57178	0.34000	0.72749	34.82015	279.69	-24.46
67/ 7/29	2439700.5	0.19001	-0.63592	-0.29856	33.56717	9.00318	1.93695	0.72776	34.80753	286.64	-24.22
67/ 8/ 2	2439704.5	0.26623	-0.61126	-0.29226	32.35361	12.32082	3.50859	0.72796	34.79754	293.54	-23.67
67/ 8/ 6	2439708.5	0.33919	-0.57911	-0.28238	30.74439	15.48499	5.03607	0.72812	34.79029	300.36	-22.82
67/ 8/10	2439712.5	0.40799	-0.53986	-0.26904	28.75936	18.45787	6.50108	0.72821	34.78588	307.08	-21.68
67/ 8/14	2439716.5	0.47179	-0.49400	-0.25240	26.42261	21.20391	7.88609	0.72824	34.78435	313.68	-20.28
67/ 8/18	2439720.5	0.52982	-0.44209	-0.23268	23.76229	23.69024	9.17451	0.72821	34.78571	320.16	-18.63
67/ 8/22	2439724.5	0.58136	-0.38477	-0.21010	20.81025	25.88694	10.35084	0.72813	34.78994	326.50	-16.77
67/ 8/26	2439728.5	0.62577	-0.32273	-0.18495	17.60174	27.76742	11.40088	0.72798	34.79699	332.72	-14.72
67/ 8/30	2439732.5	0.66252	-0.25673	-0.15753	14.17503	29.30868	12.31184	0.72778	34.80678	338.82	-12.50
67/ 9/ 3	2439736.5	0.69113	-0.18759	-0.12818	10.57105	30.49160	13.07252	0.72752	34.81919	344.81	-10.15
67/ 9/ 7	2439740.5	0.71126	-0.11614	-0.09726	6.83291	31.30113	13.67342	0.72721	34.83406	350.73	-7.69
67/ 9/11	2439744.5	0.72263	-0.04326	-0.06513	3.00553	31.72653	14.10685	0.72685	34.85124	356.57	-5.14
67/ 9/15	2439748.5	0.72511	0.03015	-0.03221	-0.86489	31.76149	14.36706	0.72645	34.87051	2.38	-2.54
67/ 9/19	2439752.5	0.71864	0.10319	0.00111	-4.73135	31.40431	14.45031	0.72601	34.89166	8.17	0.09
67/ 9/23	2439756.5	0.70329	0.17495	0.03442	-8.54657	30.65794	14.35494	0.72554	34.91443	13.97	2.72
67/ 9/27	2439760.5	0.67923	0.24454	0.06730	-12.26352	29.53001	14.08143	0.72504	34.93855	19.80	5.33
67/10/ 1	2439764.5	0.64674	0.31110	0.09934	-15.83599	28.03285	13.63241	0.72452	34.96372	25.69	7.88
67/10/ 5	2439768.5	0.60621	0.37379	0.13015	-19.21914	26.18340	13.01268	0.72398	34.98965	31.66	10.36
67/10/ 9	2439772.5	0.55812	0.43182	0.15934	-22.37006	24.00309	12.22918	0.72343	35.01601	37.73	12.72
67/10/13	2439776.5	0.50306	0.48446	0.18654	-25.24836	21.51766	11.29097	0.72289	35.04248	43.92	14.95
67/10/17	2439780.5	0.44170	0.53103	0.21140	-27.81670	18.75689	10.20912	0.72234	35.06873	50.25	17.02
67/10/21	2439784.5	0.37480	0.57094	0.23361	-30.04131	15.75435	8.99660	0.72181	35.09442	56.72	18.88
67/10/25	2439788.5	0.30319	0.60366	0.25288	-31.89252	12.54696	7.66820	0.72130	35.11924	63.33	20.52
67/10/29	2439792.5	0.22775	0.62878	0.26896	-33.34524	9.17464	6.24029	0.72082	35.14285	70.09	21.91
67/11/ 2	2439796.5	0.14944	0.64596	0.28165	-34.37930	5.67973	4.73072	0.72036	35.16498	76.97	23.02
67/11/ 6	2439800.5	0.06924	0.65496	0.29077	-34.97989	2.10655	3.15848	0.71994	35.18531	83.97	23.82
67/11/10	2439804.5	-0.01184	0.65567	0.29621	-35.13777	-1.49927	1.54359	0.71957	35.20360	91.03	24.31
67/11/14	2439808.5	-0.09276	0.64805	0.29788	-34.84952	-5.09132	-0.09328	0.71924	35.21959	98.15	24.47
67/11/18	2439812.5	-0.17251	0.63219	0.29577	-34.11766	-8.62315	-1.73103	0.71896	35.23308	105.26	24.29
67/11/22	2439816.5	-0.25006	0.60829	0.28990	-32.95065	-12.04885	-3.34844	0.71874	35.24389	112.35	23.79
67/11/26	2439820.5	-0.32443	0.57664	0.28034	-31.36282	-15.32377	-4.92448	0.71858	35.25188	119.36	22.96
67/11/30	2439824.5	-0.39466	0.53763	0.26720	-29.37425	-18.40515	-6.43862	0.71847	35.25694	126.28	21.83
67/12/ 4	2439828.5	-0.45986	0.49178	0.25065	-27.01045	-21.25272	-7.87109	0.71843	35.25899	133.08	20.42
67/12/ 8	2439832.5	-0.51919	0.43965	0.23091	-24.30205	-23.82937	-9.20325	0.71845	35.25802	139.74	18.75
67/12/12	2439836.5	-0.57191	0.38191	0.20822	-21.28433	-26.10161	-10.41776	0.71853	35.25403	146.27	16.84

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67/12/16	2439840.5	-0.61733	0.31931	0.18288	-17.99676	-28.04011	-11.49893	0.71868	35.24708	152.65	14.74
67/12/20	2439844.5	-0.65488	0.25263	0.15520	-14.48233	-29.62009	-12.43287	0.71888	35.23725	158.91	12.47
67/12/24	2439848.5	-0.68410	0.18274	0.12555	-10.78699	-30.82167	-13.20772	0.71913	35.22469	165.04	10.05
67/12/28	2439852.5	-0.70462	0.11053	0.09431	-6.95893	-31.63012	-13.81379	0.71945	35.20954	171.09	7.53
68/ 1/ 1	2439856.5	-0.71619	0.03691	0.06186	-3.04790	-32.03601	-14.24371	0.71981	35.19203	177.05	4.93
68/ 1/ 5	2439860.5	-0.71868	-0.03718	0.02864	0.89555	-32.03532	-14.49245	0.72021	35.17236	182.96	2.28
68/ 1/ 9	2439864.5	-0.71207	-0.11079	-0.00495	4.82072	-31.62943	-14.55745	0.72065	35.15081	188.84	-0.39
68/ 1/13	2439868.5	-0.69646	-0.18301	-0.03848	8.67754	-30.82500	-14.43854	0.72113	35.12765	194.72	-3.06
68/ 1/17	2439872.5	-0.67206	-0.25292	-0.07152	12.41719	-29.63385	-14.13796	0.72163	35.10318	200.62	-5.69
68/ 1/21	2439876.5	-0.63921	-0.31964	-0.10367	15.99275	-28.07268	-13.66028	0.72216	35.07772	206.57	-8.25
68/ 1/25	2439880.5	-0.59833	-0.38235	-0.13451	19.35982	-26.16279	-13.01229	0.72270	35.05159	212.58	-10.73
68/ 1/29	2439884.5	-0.54996	-0.44027	-0.16366	22.47700	-23.92975	-12.20290	0.72324	35.02512	218.68	-13.08
68/ 2/ 2	2439888.5	-0.49470	-0.49269	-0.19077	25.30645	-21.40292	-11.24295	0.72379	34.99865	224.88	-15.28
68/ 2/ 6	2439892.5	-0.43328	-0.53896	-0.21550	27.81422	-18.61510	-10.14507	0.72433	34.97250	231.20	-17.31
68/ 2/10	2439896.5	-0.36646	-0.57853	-0.23755	29.97067	-15.60201	-8.92350	0.72486	34.94700	237.65	-19.13
68/ 2/14	2439900.5	-0.29509	-0.61090	-0.25665	31.75070	-12.40182	-7.59383	0.72537	34.92246	244.22	-20.72
68/ 2/18	2439904.5	-0.22007	-0.63571	-0.27257	33.13401	-9.05462	-6.17287	0.72585	34.89918	250.91	-22.06
68/ 2/22	2439908.5	-0.14232	-0.65266	-0.28512	34.10524	-5.60199	-4.67837	0.72630	34.87745	257.70	-23.11
68/ 2/26	2439912.5	-0.06282	-0.66155	-0.29414	34.65406	-2.08641	-3.12882	0.72671	34.85752	264.58	-23.88
68/ 3/ 1	2439916.5	0.01746	-0.66228	-0.29954	34.77525	1.44917	-1.54326	0.72708	34.83963	271.51	-24.33
68/ 3/ 5	2439920.5	0.09753	-0.65487	-0.30126	34.46865	4.96186	0.05901	0.72741	34.82400	278.47	-24.47
68/ 3/ 9	2439924.5	0.17640	-0.63941	-0.29927	33.73909	8.40927	1.65858	0.72768	34.81081	285.42	-24.28
68/ 3/13	2439928.5	0.25310	-0.61610	-0.29361	32.59632	11.75000	3.23617	0.72790	34.80022	292.33	-23.79
68/ 3/17	2439932.5	0.32669	-0.58523	-0.28435	31.05484	14.94404	4.77283	0.72807	34.79234	299.17	-22.99
68/ 3/21	2439936.5	0.39629	-0.54719	-0.27161	29.13371	17.95320	6.25017	0.72817	34.78728	305.91	-21.90
68/ 3/25	2439940.5	0.46103	-0.50245	-0.25553	26.85633	20.74151	7.65048	0.72822	34.78509	312.54	-20.54
68/ 3/29	2439944.5	0.52012	-0.45156	-0.23633	24.25016	23.27561	8.95700	0.72820	34.78580	319.04	-18.94
68/ 4/ 2	2439948.5	0.57284	-0.39513	-0.21423	21.34643	25.52503	10.15404	0.72813	34.78939	325.40	-17.11
68/ 4/ 6	2439952.5	0.61855	-0.33386	-0.18951	18.17985	27.46260	11.22715	0.72800	34.79583	331.64	-15.09
68/ 4/10	2439956.5	0.65667	-0.26850	-0.16247	14.78820	29.06467	12.16328	0.72781	34.80504	337.76	-12.90
68/ 4/14	2439960.5	0.68673	-0.19985	-0.13343	11.21196	30.31141	12.95096	0.72756	34.81691	343.77	-10.57
68/ 4/18	2439964.5	0.70836	-0.12874	-0.10275	7.49393	31.18708	13.58038	0.72726	34.83130	349.70	-8.12
68/ 4/22	2439968.5	0.72128	-0.05605	-0.07081	3.67872	31.68015	14.04352	0.72691	34.84804	355.56	-5.59
68/ 4/26	2439972.5	0.72532	0.01734	-0.03800	-0.18764	31.78356	14.33431	0.72652	34.86692	1.37	-3.00
68/ 4/30	2439976.5	0.72041	0.09050	-0.00472	-4.05825	31.49478	14.44863	0.72609	34.88773	7.16	-0.37
68/ 5/ 4	2439980.5	0.70660	0.16255	0.02862	-7.88586	30.81595	14.38447	0.72562	34.91021	12.96	2.26
68/ 5/ 8	2439984.5	0.68404	0.23259	0.06161	-11.62334	29.75390	14.14193	0.72513	34.93409	18.78	4.87
68/ 5/12	2439988.5	0.65300	0.29974	0.09383	-15.22432	28.32013	13.72327	0.72461	34.95909	24.66	7.44
68/ 5/16	2439992.5	0.61384	0.36316	0.12488	-18.64366	26.53080	13.13290	0.72408	34.98489	30.61	9.93
68/ 5/20	2439996.5	0.56704	0.42206	0.15438	-21.83810	24.40655	12.37742	0.72353	35.01118	36.66	12.32
68/ 5/24	2440000.5	0.51315	0.47569	0.18195	-24.76675	21.97240	11.46549	0.72299	35.03763	42.83	14.58
68/ 5/28	2440004.5	0.45284	0.52337	0.20724	-27.39172	19.25744	10.40784	0.72244	35.06392	49.13	16.67
68/ 6/ 1	2440008.5	0.38685	0.56448	0.22994	-29.67858	16.29460	9.21715	0.72191	35.08971	55.58	18.57
68/ 6/ 5	2440012.5	0.31600	0.59849	0.24974	-31.59692	13.12026	7.90787	0.72140	35.11468	62.17	20.25
68/ 6/ 9	2440016.5	0.24116	0.62496	0.26639	-33.12080	9.77383	6.49612	0.72091	35.13850	68.90	21.69

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68/ 6/13	2440020.5	0.16329	0.64355	0.27969	-34.22919	6.29727	4.99950	0.72045	35.16088	75.76	22.84
68/ 6/17	2440024.5	0.08335	0.65399	0.28944	-34.90631	2.73458	3.43683	0.72002	35.18153	82.74	23.70
68/ 6/21	2440028.5	0.00235	0.65615	0.29553	-35.14194	-0.86877	1.82795	0.71964	35.20017	89.79	24.25
68/ 6/25	2440032.5	-0.07868	0.64998	0.29787	-34.93164	-4.46649	0.19345	0.71930	35.21657	96.90	24.46
68/ 6/29	2440036.5	-0.15871	0.63556	0.29642	-34.27689	-8.01208	-1.44564	0.71902	35.23050	104.02	24.35
68/ 7/ 3	2440040.5	-0.23671	0.61304	0.29120	-33.18509	-11.45950	-3.06809	0.71878	35.24179	111.11	23.90
68/ 7/ 7	2440044.5	-0.31171	0.58272	0.28227	-31.66958	-14.76384	-4.65282	0.71861	35.25028	118.14	23.13
68/ 7/11	2440048.5	-0.38273	0.54497	0.26975	-29.74944	-17.88196	-6.17919	0.71850	35.25586	125.08	22.05
68/ 7/15	2440052.5	-0.44887	0.50027	0.25378	-27.44924	-20.77312	-7.62729	0.71844	35.25846	131.90	20.69
68/ 7/19	2440056.5	-0.50928	0.44919	0.23458	-24.79876	-23.39961	-8.97825	0.71845	35.25803	138.59	19.06
68/ 7/23	2440060.5	-0.56320	0.39239	0.21239	-21.83250	-25.72728	-10.21449	0.71852	35.25459	145.13	17.19
68/ 7/27	2440064.5	-0.60994	0.33058	0.18749	-18.58920	-27.72604	-11.32002	0.71865	35.24818	151.54	15.12
68/ 7/31	2440068.5	-0.64891	0.26456	0.16020	-15.11131	-29.37029	-12.28061	0.71885	35.23888	157.82	12.88
68/ 8/ 4	2440072.5	-0.67962	0.19517	0.13087	-11.44429	-30.63927	-13.08405	0.71909	35.22682	163.98	10.49
68/ 8/ 8	2440076.5	-0.70168	0.12329	0.09987	-7.63599	-31.51732	-13.72024	0.71939	35.21214	170.03	7.98
68/ 8/12	2440080.5	-0.71483	0.04986	0.06761	-3.73592	-31.99410	-14.18140	0.71975	35.19505	176.01	5.39
68/ 8/16	2440084.5	-0.71891	-0.02422	0.03449	0.20544	-32.06463	-14.46211	0.72014	35.17577	181.93	2.75
68/ 8/20	2440088.5	-0.71388	-0.09798	0.00093	4.13738	-31.72933	-14.55934	0.72058	35.15455	187.82	0.07
68/ 8/24	2440092.5	-0.69984	-0.17051	-0.03264	8.00966	-30.99397	-14.47253	0.72105	35.13168	193.69	-2.59
68/ 8/28	2440096.5	-0.67696	-0.24089	-0.06579	11.77320	-29.86946	-14.20349	0.72155	35.10743	199.59	-5.23
68/ 9/ 1	2440100.5	-0.64556	-0.30823	-0.09812	15.38071	-28.37167	-13.75638	0.72207	35.08213	205.52	-7.81
68/ 9/ 5	2440104.5	-0.60605	-0.37170	-0.12922	18.78731	-26.52113	-13.13763	0.72260	35.05610	211.52	-10.30
68/ 9/ 9	2440108.5	-0.55894	-0.43051	-0.15870	21.95103	-24.34266	-12.35577	0.72315	35.02967	217.60	-12.68
68/ 9/13	2440112.5	-0.50485	-0.48394	-0.18619	24.83338	-21.86502	-11.42132	0.72370	35.00318	223.79	-14.91
68/ 9/17	2440116.5	-0.44445	-0.53133	-0.21136	27.39971	-19.12042	-10.34661	0.72424	34.97695	230.09	-16.97
68/ 9/21	2440120.5	-0.37852	-0.57211	-0.23390	29.61959	-16.14410	-9.14561	0.72477	34.95131	236.51	-18.83
68/ 9/25	2440124.5	-0.30788	-0.60577	-0.25353	31.46710	-12.97384	-7.83369	0.72528	34.92658	243.06	-20.46
68/ 9/29	2440128.5	-0.23343	-0.63193	-0.27002	32.92111	-9.64944	-6.42746	0.72577	34.90306	249.73	-21.84
68/10/ 3	2440132.5	-0.15609	-0.65027	-0.28317	33.96536	-6.21224	-4.94452	0.72622	34.88103	256.50	-22.95
68/10/ 7	2440136.5	-0.07682	-0.66058	-0.29282	34.58867	-2.70461	-3.40326	0.72664	34.86077	263.37	-23.76
68/10/11	2440140.5	0.00339	-0.66275	-0.29886	34.78489	0.83056	-1.82262	0.72702	34.84251	270.29	-24.27
68/10/15	2440144.5	0.08356	-0.65675	-0.30123	34.55299	4.35033	-0.22187	0.72736	34.82648	277.25	-24.47
68/10/19	2440148.5	0.16271	-0.64269	-0.29989	33.89692	7.81220	1.37957	0.72764	34.81286	284.21	-24.34
68/10/23	2440152.5	0.23986	-0.62074	-0.29487	32.82560	11.17454	2.96239	0.72787	34.80181	291.13	-23.90
68/10/27	2440156.5	0.31407	-0.59117	-0.28623	31.35269	14.39709	4.50758	0.72804	34.79347	297.98	-23.15
68/10/31	2440160.5	0.38443	-0.55435	-0.27408	29.49648	17.44130	5.99661	0.72816	34.78794	304.74	-22.11
68/11/ 4	2440164.5	0.45007	-0.51075	-0.25858	27.27961	20.27080	7.41166	0.72821	34.78527	311.39	-20.80
68/11/ 8	2440168.5	0.51021	-0.46089	-0.23991	24.72884	22.85172	8.73579	0.72821	34.78550	317.91	-19.24
68/11/12	2440172.5	0.56410	-0.40538	-0.21830	21.87480	25.15309	9.95310	0.72814	34.78863	324.30	-17.45
68/11/16	2440176.5	0.61107	-0.34491	-0.19402	18.75157	27.14710	11.04890	0.72802	34.79461	330.56	-15.46
68/11/20	2440180.5	0.65056	-0.28021	-0.16736	15.39644	28.80949	12.00992	0.72784	34.80338	336.70	-13.29
68/11/24	2440184.5	0.68206	-0.21207	-0.13864	11.84944	30.11974	12.82436	0.72760	34.81483	342.73	-10.98
68/11/28	2440188.5	0.70519	-0.14133	-0.10822	8.15300	31.06135	13.48213	0.72731	34.82882	348.67	-8.56
68/12/ 2	2440192.5	0.71965	-0.06885	-0.07648	4.35145	31.62207	13.97490	0.72697	34.84520	354.54	-6.04
68/12/ 6	2440196.5	0.72525	0.00448	-0.04379	0.49060	31.79401	14.29622	0.72658	34.86376	0.35	-3.45

1.2 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM VENUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
68/12/10	2440200.5	0.72191	0.07775	-0.01056	-3.38277	31.57387	14.44164	0.72616	34.88428	6.15	-0.83
68/12/14	2440204.5	0.70965	0.15006	0.02280	-7.22141	30.96294	14.40878	0.72570	34.90652	11.94	1.80
68/12/18	2440208.5	0.68860	0.22051	0.05588	-10.97814	29.96723	14.19735	0.72521	34.93021	17.76	4.42
68/12/22	2440212.5	0.65902	0.28823	0.08826	-14.60640	28.59745	13.80924	0.72469	34.95505	23.62	7.00
68/12/26	2440216.5	0.62125	0.35237	0.11955	-18.06080	26.86891	13.24848	0.72416	34.98076	29.56	9.50
68/12/30	2440220.5	0.57574	0.41211	0.14935	-21.29770	24.80152	12.52129	0.72362	35.00700	35.59	11.91
69/ 1/ 3	2440224.5	0.52305	0.46672	0.17728	-24.27576	22.41951	11.63598	0.72307	35.03346	41.74	14.19
69/ 1/ 7	2440228.5	0.46381	0.51548	0.20300	-26.95651	19.75131	10.60293	0.72253	35.05980	48.02	16.32
69/ 1/11	2440232.5	0.39876	0.55778	0.22617	-29.30487	16.82920	9.43446	0.72199	35.08570	54.44	18.26
69/ 1/15	2440236.5	0.32869	0.59307	0.24649	-31.28970	13.68898	8.14475	0.72147	35.11083	61.00	19.98
69/ 1/19	2440240.5	0.25449	0.62089	0.26372	-32.88424	10.36956	6.74964	0.72098	35.13487	67.71	21.46
69/ 1/23	2440244.5	0.17707	0.64087	0.27761	-34.06658	6.91252	5.26648	0.72051	35.15751	74.55	22.66
69/ 1/27	2440248.5	0.09742	0.65275	0.28800	-34.81998	3.36154	3.71390	0.72008	35.17846	81.51	23.57
69/ 1/31	2440252.5	0.01653	0.65637	0.29473	-35.13325	-0.23813	2.11158	0.71969	35.19745	88.56	24.17
69/ 2/ 4	2440256.5	-0.06457	0.65165	0.29773	-35.00091	-3.84028	0.48000	0.71935	35.21423	95.66	24.45
69/ 2/ 8	2440260.5	-0.14484	0.63866	0.29694	-34.42342	-7.39841	-1.15986	0.71905	35.22859	102.78	24.39
69/ 2/12	2440264.5	-0.22328	0.61754	0.29238	-33.40714	-10.86635	-2.78679	0.71881	35.24033	109.88	24.00
69/ 2/16	2440268.5	-0.29887	0.58856	0.28409	-31.96439	-14.19892	-4.37966	0.71863	35.24930	116.92	23.29
69/ 2/20	2440272.5	-0.37065	0.55207	0.27219	-30.11326	-17.35264	-5.91772	0.71851	35.25538	123.88	22.26
69/ 2/24	2440276.5	-0.43770	0.50855	0.25681	-27.87739	-20.28630	-7.38091	0.71844	35.25848	130.72	20.94
69/ 2/28	2440280.5	-0.49918	0.45854	0.23816	-25.28568	-22.96162	-8.75017	0.71844	35.25858	137.43	19.36
69/ 3/ 4	2440284.5	-0.55429	0.40268	0.21647	-22.37184	-25.34380	-10.00767	0.71850	35.25565	144.00	17.53
69/ 3/ 8	2440288.5	-0.60233	0.34169	0.19202	-19.17394	-27.40199	-11.13712	0.71862	35.24975	150.43	15.50
69/ 3/12	2440292.5	-0.64269	0.27635	0.16512	-15.73379	-29.10980	-12.12398	0.71881	35.24093	156.73	13.28
69/ 3/16	2440296.5	-0.67487	0.20748	0.13612	-12.09641	-30.44559	-12.95565	0.71904	35.22933	162.91	10.91
69/ 3/20	2440300.5	-0.69846	0.13598	0.10539	-8.30927	-31.39281	-13.62168	0.71934	35.21509	168.98	8.42
69/ 3/24	2440304.5	-0.71318	0.06274	0.07332	-4.42166	-31.94016	-14.11387	0.71968	35.19838	174.97	5.85
69/ 3/28	2440308.5	-0.71885	-0.01128	0.04031	-0.48393	-32.08174	-14.42637	0.72007	35.17943	180.90	3.21
69/ 4/ 1	2440312.5	-0.71542	-0.08517	0.00680	3.45319	-31.81705	-14.55576	0.72050	35.15848	186.79	0.54
69/ 4/ 5	2440316.5	-0.70294	-0.15798	-0.02680	7.33933	-31.15091	-14.50102	0.72097	35.13580	192.67	-2.13
69/ 4/ 9	2440320.5	-0.68159	-0.22880	-0.06006	11.12516	-30.09337	-14.26358	0.72147	35.11167	198.56	-4.77
69/ 4/13	2440324.5	-0.65165	-0.29673	-0.09256	14.76303	-28.65946	-13.84718	0.72199	35.08641	204.48	-7.37
69/ 4/17	2440328.5	-0.61353	-0.36094	-0.12390	18.20762	-26.86892	-13.25787	0.72253	35.06034	210.47	-9.87
69/ 4/21	2440332.5	-0.56771	-0.42062	-0.15369	21.41642	-24.74587	-12.50383	0.72307	35.03379	216.54	-12.27
69/ 4/25	2440336.5	-0.51479	-0.47504	-0.18156	24.35030	-22.31840	-11.59524	0.72362	35.00711	222.70	-14.53
69/ 4/29	2440340.5	-0.45544	-0.52353	-0.20715	26.97394	-19.61816	-10.54413	0.72417	34.98063	228.98	-16.62
69/ 5/ 3	2440344.5	-0.39042	-0.56550	-0.23017	29.25615	-16.67990	-9.36421	0.72470	34.95468	235.38	-18.52
69/ 5/ 7	2440348.5	-0.32055	-0.60044	-0.25033	31.17023	-13.54099	-8.07061	0.72522	34.92959	241.90	-20.19
69/ 5/11	2440352.5	-0.24670	-0.62794	-0.26739	32.69421	-10.24090	-6.67974	0.72572	34.90567	248.55	-21.62
69/ 5/15	2440356.5	-0.16980	-0.64767	-0.28113	33.81098	-6.82074	-5.20904	0.72618	34.88322	255.31	-22.78
69/ 5/19	2440360.5	-0.09081	-0.65939	-0.29141	34.50847	-3.32271	-3.67677	0.72661	34.86250	262.16	-23.64
69/ 5/23	2440364.5	-0.01069	-0.66299	-0.29809	34.77968	0.21036	-2.10179	0.72700	34.84377	269.08	-24.21
69/ 5/27	2440368.5	0.06956	-0.65843	-0.30110	34.62267	3.73552	-0.50332	0.72734	34.82724	276.03	-24.45
69/ 5/31	2440372.5	0.14895	-0.64577	-0.30041	34.04055	7.21019	1.09923	0.72764	34.81313	282.99	-24.38
69/ 6/ 4	2440376.5	0.22652	-0.62519	-0.29603	33.04135	10.59257	2.68655	0.72788	34.80159	289.92	-24.00

1.2 1 A.U.=149,599,000 KM.

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69/ 6/ 8	2440380.5	0.30130	-0.59693	-0.28803	31.63792	13.84213	4.23954	0.72806	34.79276	296.78	-23.30
69/ 6/12	2440384.5	0.37240	-0.56136	-0.27649	29.84774	16.92003	5.73960	0.72818	34.78675	303.56	-22.31
69/ 6/16	2440388.5	0.43893	-0.51892	-0.26156	27.69269	19.78950	7.16878	0.72825	34.78363	310.23	-21.05
69/ 6/20	2440392.5	0.50008	-0.47011	-0.24343	25.19882	22.41621	8.50996	0.72825	34.78342	316.77	-19.53
69/ 6/24	2440396.5	0.55512	-0.41556	-0.22232	22.39606	24.76867	9.74707	0.72820	34.78614	323.18	-17.78
69/ 6/28	2440400.5	0.60335	-0.35591	-0.19849	19.31792	26.81850	10.86519	0.72808	34.79175	329.46	-15.82
69/ 7/ 2	2440404.5	0.64419	-0.29190	-0.17222	16.00110	28.54078	11.85079	0.72790	34.80019	335.62	-13.69
69/ 7/ 6	2440408.5	0.67713	-0.22431	-0.14385	12.48519	29.91434	12.69181	0.72767	34.81134	341.67	-11.40
69/ 7/10	2440412.5	0.70175	-0.15396	-0.11370	8.81218	30.92193	13.37784	0.72739	34.82509	347.63	-8.99
69/ 7/14	2440416.5	0.71776	-0.08173	-0.08216	5.02610	31.55052	13.90022	0.72705	34.84126	353.50	-6.49
69/ 7/18	2440420.5	0.72492	-0.00849	-0.04961	1.17251	31.79146	14.25218	0.72667	34.85966	359.33	-3.91
69/ 7/22	2440424.5	0.72316	0.06486	-0.01645	-2.70195	31.64058	14.42889	0.72625	34.88008	5.12	-1.30
69/ 7/26	2440428.5	0.71246	0.13740	0.01692	-6.55008	31.09838	14.42759	0.72579	34.90226	10.92	1.34
69/ 7/30	2440432.5	0.69295	0.20824	0.05008	-10.32465	30.16999	14.24762	0.72530	34.92595	16.73	3.96
69/ 8/ 3	2440436.5	0.66485	0.27651	0.08261	-13.97896	28.86528	13.89048	0.72478	34.95084	22.58	6.54
69/ 8/ 7	2440440.5	0.62849	0.34133	0.11412	-17.46736	27.19876	13.35981	0.72425	34.97664	28.51	9.07
69/ 8/11	2440444.5	0.58431	0.40191	0.14421	-20.74584	25.18950	12.66143	0.72370	35.00304	34.52	11.49
69/ 8/15	2440448.5	0.53283	0.45747	0.17250	-23.77260	22.86099	11.80329	0.72315	35.02969	40.65	13.80
69/ 8/19	2440452.5	0.47469	0.50731	0.19863	-26.50861	20.24093	10.79541	0.72260	35.05628	46.90	15.96
69/ 8/23	2440456.5	0.41060	0.55079	0.22227	-28.91814	17.36093	9.64977	0.72206	35.08246	53.30	17.93
69/ 8/27	2440460.5	0.34136	0.58735	0.24312	-30.96930	14.25620	8.38023	0.72154	35.10791	59.84	19.69
69/ 8/31	2440464.5	0.26781	0.61652	0.26091	-32.63450	10.96517	7.00235	0.72103	35.13230	66.52	21.21
69/ 9/ 4	2440468.5	0.19089	0.63790	0.27540	-33.89093	7.52895	5.53324	0.72056	35.15533	73.34	22.47
69/ 9/ 8	2440472.5	0.11155	0.65122	0.28642	-34.72090	3.99094	3.99132	0.72012	35.17669	80.28	23.44
69/ 9/12	2440476.5	0.03080	0.65630	0.29380	-35.11222	0.39615	2.39611	0.71972	35.19611	87.31	24.09
69/ 9/16	2440480.5	-0.05034	0.65305	0.29746	-35.05838	-3.20930	0.76797	0.71937	35.21334	94.41	24.43
69/ 9/20	2440484.5	-0.13083	0.64150	0.29734	-34.55877	-6.77891	-0.87216	0.71906	35.22815	101.53	24.43
69/ 9/24	2440488.5	-0.20967	0.62179	0.29344	-33.61872	-10.26636	-2.50309	0.71881	35.24035	108.63	24.09
69/ 9/28	2440492.5	-0.28583	0.59416	0.28580	-32.24953	-13.62626	-4.10364	0.71862	35.24978	115.69	23.44
69/10/ 2	2440496.5	-0.35836	0.55896	0.27452	-30.46828	-16.81474	-5.65296	0.71848	35.25631	122.66	22.46
69/10/ 6	2440500.5	-0.42631	0.51664	0.25974	-28.29768	-19.79014	-7.13086	0.71841	35.25986	129.53	21.20
69/10/10	2440504.5	-0.48882	0.46772	0.24164	-25.76575	-22.51362	-8.51806	0.71840	35.26038	136.26	19.66
69/10/14	2440508.5	-0.54510	0.41284	0.22046	-22.90540	-24.94971	-9.79649	0.71845	35.25786	142.86	17.87
69/10/18	2440512.5	-0.59443	0.35269	0.19648	-19.75399	-27.06684	-10.94957	0.71857	35.25233	149.32	15.87
69/10/22	2440516.5	-0.63618	0.28805	0.16998	-16.35275	-28.83779	-11.96243	0.71874	35.24387	155.64	13.68
69/10/26	2440520.5	-0.66983	0.21973	0.14132	-12.74619	-30.24008	-12.82213	0.71897	35.23258	161.84	11.34
69/10/30	2440524.5	-0.69495	0.14862	0.11087	-8.98142	-31.25625	-13.51782	0.71926	35.21861	167.93	8.87
69/11/ 3	2440528.5	-0.71124	0.07562	0.07900	-5.10748	-31.87410	-14.04091	0.71960	35.20216	173.93	6.30
69/11/ 7	2440532.5	-0.71850	0.00167	0.04613	-1.17460	-32.08678	-14.38514	0.71998	35.18342	179.87	3.67
69/11/11	2440536.5	-0.71666	-0.07231	0.01267	2.76650	-31.89284	-14.54665	0.72041	35.16265	185.76	1.01
69/11/15	2440540.5	-0.70575	-0.14538	-0.02094	6.66534	-31.29621	-14.52403	0.72088	35.14011	191.64	-1.66
69/11/19	2440544.5	-0.68594	-0.21661	-0.05429	10.47234	-30.30605	-14.31828	0.72137	35.11609	197.53	-4.32
69/11/23	2440548.5	-0.65748	-0.28511	-0.08696	14.13954	-28.93654	-13.93274	0.72189	35.09090	203.44	-6.92
69/11/27	2440552.5	-0.62075	-0.35003	-0.11853	17.62114	-27.20664	-13.37308	0.72243	35.06487	209.42	-9.44
69/12/ 1	2440556.5	-0.57624	-0.41056	-0.14862	20.87412	-25.13972	-12.64711	0.72297	35.03831	215.47	-11.86

1.2 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM VENUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
69/12/ 5	2440560.5	-0.52451	-0.46595	-0.17684	23.85873	-22.76321	-11.76468	0.72353	35.01158	221.62	-14.15
69/12/ 9	2440564.5	-0.46623	-0.51552	-0.20286	26.53895	-20.10820	-10.73752	0.72408	34.98499	227.87	-16.27
69/12/13	2440568.5	-0.40215	-0.55866	-0.22635	28.88286	-17.20890	-9.57904	0.72462	34.95889	234.25	-18.20
69/12/17	2440572.5	-0.33307	-0.59487	-0.24703	30.86297	-14.10228	-8.30416	0.72514	34.93360	240.76	-19.92
69/12/21	2440576.5	-0.25985	-0.62369	-0.26464	32.45646	-10.82747	-6.92906	0.72564	34.90942	247.38	-21.39
69/12/25	2440580.5	-0.18342	-0.64480	-0.27898	33.64538	-7.42533	-5.47104	0.72611	34.88666	254.12	-22.59

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — VENUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
69/12/17	2440572.5	-0.33307	-0.59487	-0.24703	30.86297	-14.10228	-8.30416	0.72514	34.93360	240.76	-19.92
69/12/21	2440576.5	-0.25985	-0.62369	-0.26464	32.45646	-10.82747	-6.92906	0.72564	34.90942	247.38	-21.39
69/12/25	2440580.5	-0.18342	-0.64480	-0.27898	33.64538	-7.42533	-5.47104	0.72611	34.88666	254.12	-22.59
69/12/29	2440584.5	-0.10472	-0.65793	-0.28987	34.41677	-3.93790	-3.94821	0.72655	34.86559	260.96	-23.51
70/ 1/ 2	2440588.5	-0.02473	-0.66296	-0.29719	34.76275	-0.40794	-2.37935	0.72694	34.84647	267.86	-24.13
70/ 1/ 6	2440592.5	0.05557	-0.65982	-0.30085	34.68050	3.12160	-0.78363	0.72730	34.82952	274.81	-24.43
70/ 1/10	2440596.5	0.13518	-0.64857	-0.30080	34.17226	6.60803	0.81957	0.72760	34.81495	281.77	-24.42
70/ 1/14	2440600.5	0.21313	-0.62935	-0.29707	33.24521	10.00941	2.41089	0.72785	34.80294	288.71	-24.09
70/ 1/18	2440604.5	0.28847	-0.60242	-0.28969	31.91137	13.28495	3.97119	0.72804	34.79361	295.59	-23.45
70/ 1/22	2440608.5	0.36027	-0.56810	-0.27876	30.18742	16.39548	5.48178	0.72818	34.78709	302.38	-22.51
70/ 1/26	2440612.5	0.42766	-0.52682	-0.26441	28.09448	19.30386	6.92457	0.72825	34.78345	309.07	-21.29
70/ 1/30	2440616.5	0.48982	-0.47909	-0.24683	25.65791	21.97530	8.28230	0.72827	34.78274	315.63	-19.81
70/ 2/ 3	2440620.5	0.54597	-0.42550	-0.22622	22.90697	24.37780	9.53868	0.72822	34.78495	322.07	-18.10
70/ 2/ 7	2440624.5	0.59544	-0.36669	-0.20285	19.87455	26.48241	10.67861	0.72812	34.79007	328.37	-16.18
70/ 2/11	2440628.5	0.63761	-0.30339	-0.17699	16.59684	28.26361	11.68828	0.72795	34.79802	334.55	-14.07
70/ 2/15	2440632.5	0.67196	-0.23637	-0.14895	13.11292	29.69952	12.55538	0.72773	34.80873	340.62	-11.81
70/ 2/19	2440636.5	0.69807	-0.16644	-0.11909	9.46441	30.77221	13.26920	0.72745	34.82206	346.59	-9.42
70/ 2/23	2440640.5	0.71560	-0.09448	-0.08777	5.69499	31.46790	13.82077	0.72712	34.83784	352.48	-6.93
70/ 2/27	2440644.5	0.72432	-0.02135	-0.05537	1.84999	31.77715	14.20297	0.72675	34.85590	358.31	-4.37
70/ 3/ 3	2440648.5	0.72412	0.05204	-0.02228	-2.02411	31.69501	14.41063	0.72633	34.87602	4.11	-1.76
70/ 3/ 7	2440652.5	0.71498	0.12479	0.01108	-5.88017	31.22113	14.44062	0.72588	34.89795	9.90	0.87
70/ 3/11	2440656.5	0.69700	0.19600	0.04430	-9.67094	30.35985	14.29192	0.72539	34.92143	15.71	3.50
70/ 3/15	2440660.5	0.67039	0.26477	0.07698	-13.34957	29.12019	13.96562	0.72488	34.94617	21.55	6.10
70/ 3/19	2440664.5	0.63545	0.33026	0.10869	-16.87020	27.51585	13.46501	0.72435	34.97188	27.46	8.63
70/ 3/23	2440668.5	0.59260	0.39164	0.13906	-20.18850	25.56511	12.79552	0.72380	34.99822	33.46	11.08
70/ 3/27	2440672.5	0.54236	0.44813	0.16769	-23.26223	23.29071	11.96472	0.72325	35.02489	39.57	13.41
70/ 3/31	2440676.5	0.48534	0.49902	0.19422	-26.05184	20.71960	10.98229	0.72270	35.05155	45.80	15.59
70/ 4/ 4	2440680.5	0.42224	0.54366	0.21832	-28.52098	17.88275	9.85985	0.72216	35.07785	52.17	17.60
70/ 4/ 8	2440684.5	0.35383	0.58147	0.23968	-30.63705	14.81476	8.61096	0.72163	35.10348	58.68	19.40
70/ 4/12	2440688.5	0.28098	0.61196	0.25802	-32.37167	11.55350	7.25089	0.72112	35.12811	65.34	20.97
70/ 4/16	2440692.5	0.20458	0.63473	0.27311	-33.70116	8.13969	5.79648	0.72064	35.15141	72.14	22.27
70/ 4/20	2440696.5	0.12559	0.64948	0.28475	-34.60691	4.61633	4.26595	0.72020	35.17310	79.06	23.29
70/ 4/24	2440700.5	0.04502	0.65601	0.29278	-35.07573	1.02821	2.67863	0.71979	35.19289	86.07	24.00
70/ 4/28	2440704.5	-0.03613	0.65422	0.29709	-35.10012	-2.57872	1.05477	0.71943	35.21052	93.16	24.39
70/ 5/ 2	2440708.5	-0.11682	0.64412	0.29764	-34.67842	-6.15796	-0.58478	0.71911	35.22577	100.28	24.45
70/ 5/ 6	2440712.5	-0.19602	0.62582	0.29440	-33.81492	-9.66312	-2.21886	0.71885	35.23844	107.39	24.18
70/ 5/10	2440716.5	-0.27272	0.59956	0.28741	-32.51986	-13.04859	-3.82625	0.71865	35.24836	114.46	23.57
70/ 5/14	2440720.5	-0.34595	0.56566	0.27675	-30.80934	-16.27019	-5.38604	0.71850	35.25541	121.45	22.66
70/ 5/18	2440724.5	-0.41477	0.52455	0.26257	-28.70509	-19.28583	-6.87788	0.71842	35.25947	128.33	21.44
70/ 5/22	2440728.5	-0.47829	0.47674	0.24504	-26.23422	-22.05613	-8.28232	0.71840	35.26052	135.09	19.94
70/ 5/26	2440732.5	-0.53572	0.42286	0.22439	-23.42884	-24.54498	-9.58106	0.71844	35.25852	141.72	18.20
70/ 5/30	2440736.5	-0.58631	0.36358	0.20087	-20.32554	-26.72011	-10.75724	0.71854	35.25351	148.20	16.23
70/ 6/ 3	2440740.5	-0.62943	0.29966	0.17479	-16.96494	-28.55350	-11.79567	0.71870	35.24556	154.54	14.08
70/ 6/ 7	2440744.5	-0.66453	0.23193	0.14649	-13.39099	-30.02182	-12.68307	0.71893	35.23476	160.76	11.76
70/ 6/11	2440748.5	-0.69118	0.16125	0.11632	-9.65042	-31.10670	-13.40820	0.71920	35.22126	166.87	9.31

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70/ 6/15	2440752.5	-0.70903	0.08851	0.08467	-5.79198	-31.79502	-13.96206	0.71953	35.20524	172.88	6.76
70/ 6/19	2440756.5	-0.71788	0.01466	0.05194	-1.86572	-32.07896	-14.33799	0.71991	35.18691	178.83	4.14
70/ 6/23	2440760.5	-0.71764	-0.05939	0.01856	2.07765	-31.95615	-14.53170	0.72033	35.16650	184.73	1.48
70/ 6/27	2440764.5	-0.70831	-0.13268	-0.01506	5.98756	-31.42958	-14.54135	0.72079	35.14427	190.61	-1.20
70/ 7/ 1	2440768.5	-0.69004	-0.20430	-0.04848	9.81424	-30.50749	-14.36751	0.72128	35.12053	196.49	-3.85
70/ 7/ 5	2440772.5	-0.66307	-0.27334	-0.08130	13.50938	-29.20320	-14.01313	0.72179	35.09555	202.40	-6.47
70/ 7/ 9	2440776.5	-0.62776	-0.33895	-0.11309	17.02675	-27.53485	-13.48347	0.72233	35.06968	208.37	-9.01
70/ 7/13	2440780.5	-0.58457	-0.40030	-0.14347	20.32283	-25.52508	-12.78597	0.72287	35.04323	214.40	-11.45
70/ 7/17	2440784.5	-0.53406	-0.45664	-0.17205	23.35723	-23.20062	-11.93014	0.72342	35.01653	220.53	-13.76
70/ 7/21	2440788.5	-0.47688	-0.50728	-0.19848	26.09327	-20.59196	-10.92739	0.72397	34.98993	226.77	-15.91
70/ 7/25	2440792.5	-0.41375	-0.55159	-0.22243	28.49826	-17.73279	-9.79085	0.72451	34.96374	233.13	-17.88
70/ 7/29	2440796.5	-0.34548	-0.58904	-0.24362	30.54391	-14.65964	-8.53519	0.72504	34.93831	239.61	-19.63
70/ 8/ 2	2440800.5	-0.27293	-0.61919	-0.26179	32.20658	-11.41130	-7.17639	0.72554	34.91393	246.21	-21.15
70/ 8/ 6	2440804.5	-0.19699	-0.64166	-0.27671	33.46745	-8.02836	-5.73156	0.72602	34.89091	252.93	-22.40
70/ 8/10	2440808.5	-0.11861	-0.65621	-0.28822	34.31267	-4.55271	-4.21870	0.72646	34.86953	259.75	-23.37
70/ 8/14	2440812.5	-0.03878	-0.66266	-0.29617	34.73347	-1.02700	-2.65648	0.72687	34.85005	266.65	-24.05
70/ 8/18	2440816.5	0.04154	-0.66095	-0.30047	34.72615	2.50581	-1.06402	0.72723	34.83270	273.60	-24.40
70/ 8/22	2440820.5	0.12134	-0.65111	-0.30108	34.29206	6.00293	0.53932	0.72754	34.81769	280.56	-24.45
70/ 8/26	2440824.5	0.19965	-0.63327	-0.29798	33.43754	9.42226	2.13415	0.72780	34.80521	287.50	-24.17
70/ 8/30	2440828.5	0.27552	-0.60767	-0.29124	32.17376	12.72278	3.70129	0.72800	34.79539	294.39	-23.58
70/ 9/ 3	2440832.5	0.34800	-0.57461	-0.28092	30.51661	15.86501	5.22194	0.72815	34.78836	301.20	-22.69
70/ 9/ 7	2440836.5	0.41623	-0.53452	-0.26716	28.48645	18.81140	6.67790	0.72824	34.78420	307.91	-21.52
70/ 9/11	2440840.5	0.47935	-0.48787	-0.25013	26.10792	21.52674	8.05175	0.72826	34.78296	314.50	-20.09
70/ 9/15	2440844.5	0.53661	-0.43526	-0.23003	23.40962	23.97851	9.32701	0.72823	34.78465	320.95	-18.41
70/ 9/19	2440848.5	0.58729	-0.37731	-0.20712	20.42383	26.13720	10.48837	0.72813	34.78925	327.28	-16.53
70/ 9/23	2440852.5	0.63078	-0.31474	-0.18167	17.18621	27.97667	11.52177	0.72798	34.79671	333.48	-14.45
70/ 9/27	2440856.5	0.66654	-0.24831	-0.15399	13.73535	29.47439	12.41464	0.72777	34.80694	339.57	-12.22
70/10/ 1	2440860.5	0.69411	-0.17884	-0.12443	10.11245	30.61172	13.15598	0.72750	34.81981	345.55	-9.85
70/10/ 5	2440864.5	0.71316	-0.10716	-0.09333	6.36089	31.37414	13.73649	0.72718	34.83517	351.45	-7.37
70/10/ 9	2440868.5	0.72344	-0.03417	-0.06109	2.52574	31.75145	14.14874	0.72681	34.85284	357.30	-4.82
70/10/13	2440872.5	0.72480	0.03924	-0.02809	-1.34668	31.73789	14.38721	0.72641	34.87261	3.10	-2.22
70/10/17	2440876.5	0.71722	0.11216	0.00525	-5.20932	31.33232	14.44841	0.72596	34.89424	8.89	0.41
70/10/21	2440880.5	0.70078	0.18370	0.03852	-9.01489	30.53825	14.33093	0.72548	34.91745	14.69	3.04
70/10/25	2440884.5	0.67565	0.25297	0.07132	-12.71644	29.36390	14.03551	0.72497	34.94198	20.53	5.65
70/10/29	2440888.5	0.64214	0.31909	0.10324	-16.26788	27.82214	13.56506	0.72444	34.96751	26.42	8.19
70/11/ 2	2440892.5	0.60064	0.38125	0.13387	-19.62458	25.93049	12.92462	0.72390	34.99372	32.40	10.66
70/11/ 6	2440896.5	0.55165	0.43865	0.16283	-22.74390	23.71089	12.12142	0.72335	35.02029	38.49	13.01
70/11/10	2440900.5	0.49576	0.49057	0.18976	-25.58578	21.18962	11.16474	0.72280	35.04687	44.70	15.22
70/11/14	2440904.5	0.43367	0.53634	0.21430	-28.11327	18.39694	10.06590	0.72226	35.07314	51.04	17.26
70/11/18	2440908.5	0.36614	0.57538	0.23616	-30.29309	15.36685	8.83812	0.72173	35.09877	57.53	19.10
70/11/22	2440912.5	0.29400	0.60719	0.25505	-32.09611	12.13670	7.49638	0.72122	35.12343	64.16	20.71
70/11/26	2440916.5	0.21815	0.63134	0.27073	-33.49780	8.74673	6.05727	0.72074	35.14681	70.94	22.06
70/11/30	2440920.5	0.13955	0.64751	0.28298	-34.47866	5.23958	4.53877	0.72029	35.16862	77.84	23.13
70/12/ 4	2440924.5	0.05918	0.65549	0.29165	-35.02455	1.65977	2.96006	0.71988	35.18858	84.84	23.90
70/12/ 8	2440928.5	-0.02193	0.65516	0.29662	-35.12696	-1.94691	1.34123	0.71951	35.20643	91.92	24.35

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70/12/12	2440932.5	-0.10277	0.64651	0.29783	-34.78321	-5.53403	-0.29696	0.71919	35.22195	99.03	24.46
70/12/16	2440936.5	-0.18230	0.62964	0.29525	-33.99656	-9.05515	-1.93339	0.71893	35.23493	106.15	24.25
70/12/20	2440940.5	-0.25951	0.60476	0.28892	-32.77623	-12.46447	-3.54683	0.71872	35.24520	113.23	23.70
70/12/24	2440944.5	-0.33342	0.57217	0.27890	-31.13728	-15.71756	-5.11630	0.71856	35.25264	120.23	22.84
70/12/28	2440948.5	-0.40307	0.53229	0.26533	-29.10049	-18.77192	-6.62135	0.71847	35.25714	127.13	21.67
71/ 1/ 1	2440952.5	-0.46758	0.48562	0.24837	-26.69204	-21.58767	-8.04234	0.71844	35.25864	133.92	20.23
71/ 1/ 5	2440956.5	-0.52614	0.43276	0.22825	-23.94318	-24.12811	-9.36077	0.71847	35.25713	140.56	18.52
71/ 1/ 9	2440960.5	-0.57798	0.37438	0.20521	-20.88974	-26.36026	-10.55951	0.71856	35.25263	147.07	16.59
71/ 1/13	2440964.5	-0.62245	0.31123	0.17956	-17.57164	-28.25536	-11.62308	0.71871	35.24519	153.43	14.47
71/ 1/17	2440968.5	-0.65899	0.24411	0.15162	-14.03230	-29.78921	-12.53783	0.71892	35.23492	159.67	12.18
71/ 1/21	2440972.5	-0.68715	0.17388	0.12176	-10.31797	-30.94259	-13.29217	0.71919	35.22195	165.80	9.75
71/ 1/25	2440976.5	-0.70657	0.10145	0.09034	-6.47707	-31.70140	-13.87671	0.71951	35.20646	171.83	7.21
71/ 1/29	2440980.5	-0.71702	0.02772	0.05778	-2.55946	-32.05692	-14.28435	0.71987	35.18863	177.79	4.60
71/ 2/ 2	2440984.5	-0.71837	-0.04635	0.02448	1.38425	-32.00579	-14.51039	0.72028	35.16871	183.69	1.95
71/ 2/ 6	2440988.5	-0.71064	-0.11984	-0.00912	5.30342	-31.55005	-14.55255	0.72073	35.14696	189.57	-0.73
71/ 2/10	2440992.5	-0.69393	-0.19182	-0.04261	9.14810	-30.69702	-14.41097	0.72121	35.12365	195.45	-3.39
71/ 2/14	2440996.5	-0.66847	-0.26138	-0.07557	12.86970	-29.45912	-14.08818	0.72172	35.09908	201.36	-6.01
71/ 2/18	2441000.5	-0.63460	-0.32765	-0.10757	16.42158	-27.85364	-13.58902	0.72224	35.07356	207.31	-8.57
71/ 2/22	2441004.5	-0.59276	-0.38981	-0.13822	19.75969	-25.90243	-12.92057	0.72278	35.04742	213.33	-11.02
71/ 2/26	2441008.5	-0.54350	-0.44708	-0.16714	22.84306	-23.63152	-12.09196	0.72333	35.02099	219.44	-13.36
71/ 3/ 2	2441012.5	-0.48744	-0.49877	-0.19398	25.63432	-21.07074	-11.11427	0.72388	34.99459	225.66	-15.54
71/ 3/ 6	2441016.5	-0.42531	-0.54424	-0.21839	28.10003	-18.25326	-10.00034	0.72441	34.96856	231.99	-17.55
71/ 3/10	2441020.5	-0.35788	-0.58294	-0.24009	30.21110	-15.21511	-8.76458	0.72494	34.94321	238.45	-19.34
71/ 3/14	2441024.5	-0.28601	-0.61440	-0.25881	31.94301	-11.99473	-7.42274	0.72544	34.91885	245.04	-20.90
71/ 3/18	2441028.5	-0.21060	-0.63825	-0.27432	33.27607	-8.63241	-5.99175	0.72592	34.89580	251.74	-22.20
71/ 3/22	2441032.5	-0.13258	-0.65420	-0.28643	34.19554	-5.16986	-4.48947	0.72637	34.87431	258.54	-23.22
71/ 3/26	2441036.5	-0.05293	-0.66209	-0.29502	34.69172	-1.64964	-2.93447	0.72677	34.85467	265.43	-23.95
71/ 3/30	2441040.5	0.02737	-0.66181	-0.29997	34.76000	1.88530	-1.34582	0.72714	34.83709	272.37	-24.36
71/ 4/ 3	2441044.5	0.10734	-0.65340	-0.30122	34.40083	5.39210	0.25716	0.72745	34.82180	279.33	-24.46
71/ 4/ 7	2441048.5	0.18599	-0.63696	-0.29878	33.61967	8.82847	1.85505	0.72772	34.80898	286.28	-24.24
71/ 4/11	2441052.5	0.26236	-0.61269	-0.29267	32.42684	12.15316	3.42861	0.72793	34.79878	293.18	-23.71
71/ 4/15	2441056.5	0.33551	-0.58092	-0.28297	30.83742	15.32637	4.95896	0.72809	34.79132	300.01	-22.87
71/ 4/19	2441060.5	0.40455	-0.54203	-0.26981	28.87101	18.31017	6.42777	0.72818	34.78669	306.74	-21.75
71/ 4/23	2441064.5	0.46863	-0.49649	-0.25334	26.55150	21.06888	7.81744	0.72822	34.78494	313.35	-20.36
71/ 4/27	2441068.5	0.52698	-0.44488	-0.23376	23.90684	23.56947	9.11133	0.72820	34.78611	319.83	-18.72
71/ 5/ 1	2441072.5	0.57887	-0.38782	-0.21132	20.96870	25.78187	10.29389	0.72811	34.79016	326.18	-16.87
71/ 5/ 5	2441076.5	0.62366	-0.32600	-0.18630	17.77218	27.67931	11.35083	0.72797	34.79707	332.40	-14.83
71/ 5/ 9	2441080.5	0.66081	-0.26019	-0.15899	14.35541	29.23859	12.26930	0.72777	34.80673	338.51	-12.62
71/ 5/13	2441084.5	0.68985	-0.19118	-0.12972	10.75919	30.44038	13.03800	0.72751	34.81905	344.51	-10.27
71/ 5/17	2441088.5	0.71042	-0.11983	-0.09887	7.02656	31.26941	13.64734	0.72720	34.83387	350.43	-7.81
71/ 5/21	2441092.5	0.72224	-0.04700	-0.06680	3.20233	31.71472	14.08954	0.72685	34.85102	356.28	-5.27
71/ 5/25	2441096.5	0.72518	0.02640	-0.03390	-0.66733	31.76976	14.35875	0.72645	34.87029	2.09	-2.68
71/ 5/29	2441100.5	0.71916	0.09948	-0.00059	-4.53544	31.43259	14.45112	0.72601	34.89144	7.88	-0.05
71/ 6/ 2	2441104.5	0.70426	0.17133	0.03273	-8.35471	30.70591	14.36487	0.72554	34.91423	13.67	2.59
71/ 6/ 6	2441108.5	0.68063	0.24106	0.06564	-12.07809	29.59712	14.10037	0.72504	34.93838	19.50	5.19

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71/ 6/10	2441112.5	0.64856	0.30779	0.09774	-15.65928	28.11831	13.66015	0.72452	34.96358	25.39	7.75
71/ 6/14	2441116.5	0.60843	0.37070	0.12862	-19.05336	26.28618	13.04889	0.72398	34.98954	31.35	10.23
71/ 6/18	2441120.5	0.56071	0.42899	0.15790	-22.21730	24.12196	12.27344	0.72344	35.01592	37.42	12.61
71/ 6/22	2441124.5	0.50598	0.48192	0.18521	-25.11054	21.65116	11.34275	0.72289	35.04240	43.60	14.85
71/ 6/26	2441128.5	0.44493	0.52881	0.21020	-27.69557	18.90340	10.26777	0.72235	35.06865	49.92	16.92
71/ 6/30	2441132.5	0.37828	0.56907	0.23255	-29.93843	15.91205	9.06142	0.72182	35.09434	56.39	18.79
71/ 7/ 4	2441136.5	0.30689	0.60217	0.25198	-31.80923	12.71392	7.73838	0.72131	35.11913	63.00	20.45
71/ 7/ 8	2441140.5	0.23162	0.62769	0.26823	-33.28261	9.34877	6.31498	0.72082	35.14272	69.75	21.85
71/ 7/12	2441144.5	0.15343	0.64527	0.28109	-34.33818	5.85886	4.80897	0.72037	35.16480	76.62	22.97
71/ 7/16	2441148.5	0.07330	0.65469	0.29040	-34.96084	2.28843	3.23933	0.71995	35.18509	83.61	23.79
71/ 7/20	2441152.5	-0.00776	0.65582	0.29603	-35.14107	-1.31691	1.62602	0.71957	35.20331	90.68	24.29
71/ 7/24	2441156.5	-0.08872	0.64862	0.29789	-34.87519	-4.91081	-0.01032	0.71925	35.21925	97.79	24.47
71/ 7/28	2441160.5	-0.16855	0.63317	0.29598	-34.16542	-8.44677	-1.64858	0.71897	35.23267	104.91	24.31
71/ 8/ 1	2441164.5	-0.24624	0.60967	0.29029	-33.01992	-11.87885	-3.26754	0.71875	35.24342	111.99	23.82
71/ 8/ 5	2441168.5	-0.32079	0.57840	0.28091	-31.45277	-15.16232	-4.84617	0.71859	35.25135	119.01	23.01
71/ 8/ 9	2441172.5	-0.39126	0.53976	0.26795	-29.48376	-18.25430	-6.36389	0.71848	35.25636	125.94	21.90
71/ 8/13	2441176.5	-0.45673	0.49424	0.25157	-27.13815	-21.11443	-7.80092	0.71844	35.25837	132.74	20.50
71/ 8/17	2441180.5	-0.51638	0.44241	0.23198	-24.44634	-23.70540	-9.13851	0.71846	35.25737	139.41	18.84
71/ 8/21	2441184.5	-0.56944	0.38495	0.20944	-21.44339	-25.99357	-10.35931	0.71855	35.25336	145.94	16.95
71/ 8/25	2441188.5	-0.61524	0.32257	0.18422	-18.16856	-27.94938	-11.44750	0.71869	35.24641	152.33	14.85
71/ 8/29	2441192.5	-0.65321	0.25609	0.15666	-14.66469	-29.54784	-12.38912	0.71889	35.23661	158.59	12.59
71/ 9/ 2	2441196.5	-0.68286	0.18634	0.12710	-10.97758	-30.76883	-13.17222	0.71915	35.22408	164.74	10.18
71/ 9/ 6	2441200.5	-0.70382	0.11422	0.09593	-7.15532	-31.59736	-13.78699	0.71946	35.20899	170.78	7.66
71/ 9/10	2441204.5	-0.71585	0.04066	0.06353	-3.24757	-32.02374	-14.22595	0.71982	35.19154	176.75	5.06
71/ 9/14	2441208.5	-0.71880	-0.03342	0.03034	0.69513	-32.04369	-14.48395	0.72022	35.17196	182.66	2.41
71/ 9/18	2441212.5	-0.71265	-0.10708	-0.00324	4.62213	-31.65831	-14.55831	0.72066	35.15049	188.55	-0.26
71/ 9/22	2441216.5	-0.69750	-0.17939	-0.03679	8.48329	-30.87400	-14.44874	0.72113	35.12743	194.42	-2.92
71/ 9/26	2441220.5	-0.67354	-0.24943	-0.06986	12.22974	-29.70232	-14.15736	0.72164	35.10306	200.32	-5.56
71/ 9/30	2441224.5	-0.64112	-0.31634	-0.10206	15.81448	-28.15971	-13.68861	0.72216	35.07770	206.26	-8.12
71/10/ 4	2441228.5	-0.60064	-0.37927	-0.13298	19.19295	-26.26725	-13.04918	0.72270	35.05166	212.27	-10.60
71/10/ 8	2441232.5	-0.55263	-0.43745	-0.16223	22.32362	-24.05027	-12.24786	0.72324	35.02527	218.36	-12.96
71/10/12	2441236.5	-0.49771	-0.49016	-0.18945	25.16845	-21.53796	-11.29539	0.72379	34.99886	224.56	-15.17
71/10/16	2441240.5	-0.43659	-0.53676	-0.21431	27.69330	-18.76293	-10.20433	0.72433	34.97277	230.88	-17.21
71/10/20	2441244.5	-0.37003	-0.57668	-0.23650	29.86829	-15.76075	-8.98881	0.72486	34.94731	237.31	-19.04
71/10/24	2441248.5	-0.29888	-0.60944	-0.25576	31.66809	-12.56946	-7.66437	0.72536	34.92279	243.88	-20.65
71/10/28	2441252.5	-0.22402	-0.63464	-0.27184	33.07214	-9.22907	-6.24775	0.72584	34.89952	250.56	-21.99
71/11/ 1	2441256.5	-0.14639	-0.65200	-0.28457	34.06483	-5.78107	-4.75665	0.72630	34.87778	257.35	-23.07
71/11/ 5	2441260.5	-0.06695	-0.66130	-0.29378	34.63558	-2.26791	-3.20954	0.72671	34.85783	264.22	-23.84
71/11/ 9	2441264.5	0.01331	-0.66246	-0.29937	34.77888	1.26750	-1.62541	0.72708	34.83990	271.15	-24.31
71/11/13	2441268.5	0.09341	-0.65546	-0.30127	34.49429	4.78224	-0.02356	0.72741	34.82422	278.11	-24.47
71/11/17	2441272.5	0.17236	-0.64041	-0.29948	33.78640	8.23391	1.57659	0.72768	34.81097	285.06	-24.30
71/11/21	2441276.5	0.24920	-0.61750	-0.29401	32.66470	11.58103	3.15577	0.72790	34.80032	291.98	-23.82
71/11/25	2441280.5	0.32298	-0.58701	-0.28493	31.14344	14.78352	4.69501	0.72807	34.79238	298.82	-23.04
71/11/29	2441284.5	0.39280	-0.54933	-0.27236	29.24143	17.80309	6.17587	0.72817	34.78725	305.57	-21.96
71/12/ 3	2441288.5	0.45781	-0.50492	-0.25645	26.98184	20.60365	7.58062	0.72822	34.78500	312.20	-20.62

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71/12/ 7	2441292.5	0.51721	-0.45433	-0.23740	24.39194	23.15167	8.89242	0.72821	34.78565	318.70	-19.03
71/12/11	2441296.5	0.57028	-0.39817	-0.21545	21.50275	25.41653	10.09553	0.72813	34.78919	325.08	-17.21
71/12/15	2441300.5	0.61636	-0.33714	-0.19085	18.34881	27.37087	11.17542	0.72800	34.79560	331.32	-15.20
71/12/19	2441304.5	0.65488	-0.27197	-0.16392	14.96774	28.99086	12.11899	0.72781	34.80478	337.45	-13.02
71/12/23	2441308.5	0.68537	-0.20346	-0.13497	11.39989	30.25645	12.91465	0.72756	34.81664	343.47	-10.69
71/12/27	2441312.5	0.70744	-0.13246	-0.10437	7.68795	31.15166	13.55251	0.72726	34.83104	349.39	-8.25
71/12/31	2441316.5	0.72081	-0.05983	-0.07249	3.87646	31.66475	14.02445	0.72691	34.84779	355.26	-5.72
72/ 1/ 4	2441320.5	0.72531	0.01354	-0.03971	0.01137	31.78840	14.32429	0.72652	34.86671	1.07	-3.13
72/ 1/ 8	2441324.5	0.72086	0.08675	-0.00644	-3.86044	31.51984	14.44780	0.72609	34.88757	6.86	-0.51
72/ 1/12	2441328.5	0.70750	0.15888	0.02691	-7.69169	30.86096	14.39287	0.72562	34.91011	12.66	2.13
72/ 1/16	2441332.5	0.68539	0.22904	0.05992	-11.43526	29.81833	14.15946	0.72513	34.93405	18.48	4.74
72/ 1/20	2441336.5	0.65477	0.29636	0.09220	-15.04467	28.40322	13.74972	0.72461	34.95912	24.35	7.31
72/ 1/24	2441340.5	0.61601	0.36000	0.12332	-18.47471	26.63154	13.16798	0.72407	34.98499	30.30	9.81
72/ 1/28	2441344.5	0.56958	0.41915	0.15291	-21.68199	24.52372	12.42069	0.72353	35.01136	36.35	12.20
72/ 2/ 1	2441348.5	0.51604	0.47307	0.18059	-24.62548	22.10455	11.51642	0.72298	35.03788	42.51	14.46
72/ 2/ 5	2441352.5	0.45604	0.52106	0.20601	-27.26708	19.40293	10.46582	0.72244	35.06424	48.81	16.57
72/ 2/ 9	2441356.5	0.39032	0.56252	0.22884	-29.57217	16.45162	9.28144	0.72190	35.09008	55.24	18.48
72/ 2/13	2441360.5	0.31969	0.59691	0.24880	-31.51011	13.28683	7.97767	0.72139	35.11510	61.83	20.17
72/ 2/17	2441364.5	0.24503	0.62378	0.26562	-33.05472	9.94786	6.57056	0.72090	35.13896	68.55	21.62
72/ 2/21	2441368.5	0.16728	0.64277	0.27909	-34.18470	6.47657	5.07764	0.72044	35.16137	75.41	22.79
72/ 2/25	2441372.5	0.08742	0.65363	0.28903	-34.88399	2.91688	3.51768	0.72001	35.18202	82.38	23.67
72/ 2/29	2441376.5	0.00645	0.65621	0.29531	-35.14209	-0.68579	1.91049	0.71963	35.20067	89.44	24.23
72/ 3/ 4	2441380.5	-0.07461	0.65047	0.29784	-34.95428	-4.28515	0.27662	0.71929	35.21705	96.54	24.46
72/ 3/ 8	2441384.5	-0.15471	0.63645	0.29658	-34.32172	-7.83469	-1.36288	0.71901	35.23096	103.66	24.36
72/ 3/12	2441388.5	-0.23285	0.61434	0.29155	-33.25156	-11.28832	-2.98681	0.71877	35.24221	110.76	23.93
72/ 3/16	2441392.5	-0.30802	0.58441	0.28281	-31.75683	-14.60104	-4.57404	0.71860	35.25065	117.79	23.18
72/ 3/20	2441396.5	-0.37926	0.54702	0.27046	-29.85635	-17.72961	-6.10392	0.71849	35.25619	124.73	22.11
72/ 3/24	2441400.5	-0.44567	0.50266	0.25467	-27.57446	-20.63315	-7.55648	0.71843	35.25873	131.56	20.76
72/ 3/28	2441404.5	-0.50640	0.45189	0.23562	-24.94068	-23.27379	-8.91280	0.71844	35.25826	138.26	19.15
72/ 4/ 1	2441408.5	-0.56066	0.39536	0.21357	-21.98929	-25.61721	-10.15523	0.71852	35.25477	144.81	17.29
72/ 4/ 5	2441412.5	-0.60778	0.33378	0.18880	-18.75887	-27.63310	-11.26770	0.71865	35.24832	151.23	15.23
72/ 4/ 9	2441416.5	-0.64715	0.26796	0.16162	-15.29168	-29.29564	-12.23588	0.71884	35.23899	157.51	12.99
72/ 4/13	2441420.5	-0.67829	0.19872	0.13239	-11.63305	-30.58383	-13.04746	0.71909	35.22690	163.67	10.61
72/ 4/17	2441424.5	-0.70079	0.12695	0.10147	-7.83074	-31.48178	-13.69226	0.71939	35.21222	169.73	8.11
72/ 4/21	2441428.5	-0.71439	0.05357	0.06926	-3.93418	-31.97887	-14.16237	0.71974	35.19515	175.71	5.52
72/ 4/25	2441432.5	-0.71893	-0.02049	0.03617	0.00619	-32.06986	-14.45224	0.72014	35.17589	181.63	2.88
72/ 4/29	2441436.5	-0.71437	-0.09429	0.00263	3.93966	-31.75492	-14.55875	0.72057	35.15471	187.52	0.21
72/ 5/ 3	2441440.5	-0.70078	-0.16690	-0.03095	7.81597	-31.03955	-14.48120	0.72104	35.13187	193.40	-2.46
72/ 5/ 7	2441444.5	-0.67834	-0.23741	-0.06414	11.58598	-29.93441	-14.22130	0.72154	35.10768	199.29	-5.10
72/ 5/11	2441448.5	-0.64736	-0.30492	-0.09652	15.20229	-28.45513	-13.78308	0.72206	35.08244	205.22	-7.68
72/ 5/15	2441452.5	-0.60825	-0.36861	-0.12769	18.61990	-26.62201	-13.17286	0.72260	35.05647	211.22	-10.18
72/ 5/19	2441456.5	-0.56152	-0.42767	-0.15726	21.79670	-24.45966	-12.39907	0.72314	35.03010	217.29	-12.56
72/ 5/23	2441460.5	-0.50776	-0.48139	-0.18486	24.69402	-21.99662	-11.47213	0.72369	35.00366	223.47	-14.80
72/ 5/27	2441464.5	-0.44767	-0.52910	-0.21016	27.27701	-19.26497	-10.40428	0.72423	34.97747	229.77	-16.87
72/ 5/31	2441468.5	-0.38200	-0.57022	-0.23284	29.51501	-16.29978	-9.20941	0.72476	34.95185	236.18	-18.74

1.2 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — VENUS

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72/ 6/ 4	2441472.5	-0.31158	-0.60426	-0.25262	31.38190	-13.13871	-7.90282	0.72528	34.92712	242.72	-20.38
72/ 6/ 8	2441476.5	-0.23730	-0.63080	-0.26928	32.85628	-9.82146	-6.50107	0.72577	34.90358	249.38	-21.78
72/ 6/12	2441480.5	-0.16009	-0.64955	-0.28260	33.92165	-6.38929	-5.02170	0.72622	34.88150	256.15	-22.90
72/ 6/16	2441484.5	-0.08090	-0.66027	-0.29243	34.56656	-2.88454	-3.48305	0.72665	34.86114	263.01	-23.73
72/ 6/20	2441488.5	-0.00071	-0.66285	-0.29866	34.78461	0.64994	-1.90406	0.72703	34.84275	269.94	-24.25
72/ 6/24	2441492.5	0.07949	-0.65728	-0.30121	34.57452	4.17119	-0.30397	0.72736	34.82655	276.90	-24.46
72/ 6/28	2441496.5	0.15871	-0.64362	-0.30006	33.93998	7.63670	1.29779	0.72765	34.81273	283.85	-24.35
72/ 7/ 2	2441500.5	0.23598	-0.62207	-0.29523	32.88967	11.00480	2.88192	0.72788	34.80146	290.77	-23.93
72/ 7/ 6	2441504.5	0.31036	-0.59288	-0.28678	31.43701	14.23514	4.42938	0.72806	34.79287	297.63	-23.20
72/ 7/10	2441508.5	0.38094	-0.55643	-0.27481	29.60005	17.28909	5.92163	0.72818	34.78709	304.40	-22.17
72/ 7/14	2441512.5	0.44685	-0.51316	-0.25947	27.40123	20.13016	7.34080	0.72824	34.78417	311.05	-20.87
72/ 7/18	2441516.5	0.50728	-0.46361	-0.24096	24.86710	22.72438	8.66991	0.72824	34.78415	317.58	-19.32
72/ 7/22	2441520.5	0.56151	-0.40838	-0.21950	22.02808	25.04059	9.89299	0.72818	34.78705	323.97	-17.54
72/ 7/26	2441524.5	0.60885	-0.34815	-0.19534	18.91808	27.05087	10.99532	0.72806	34.79282	330.24	-15.56
72/ 7/30	2441528.5	0.64873	-0.28365	-0.16880	15.57423	28.73074	11.96352	0.72788	34.80141	336.38	-13.41
72/ 8/ 3	2441532.5	0.68066	-0.21568	-0.14018	12.03641	30.05950	12.78575	0.72764	34.81270	342.42	-11.11
72/ 8/ 7	2441536.5	0.70423	-0.14505	-0.10984	8.34691	31.02045	13.45181	0.72736	34.82658	348.36	-8.69
72/ 8/11	2441540.5	0.71914	-0.07264	-0.07816	4.54998	31.60110	13.95328	0.72702	34.84288	354.23	-6.17
72/ 8/15	2441544.5	0.72521	0.00066	-0.04551	0.69132	31.79335	14.28362	0.72663	34.86140	0.05	-3.59
72/ 8/19	2441548.5	0.72233	0.07395	-0.01230	-3.18231	31.59363	14.43827	0.72621	34.88192	5.85	-0.97
72/ 8/23	2441552.5	0.71053	0.14633	0.02107	-7.02371	31.00300	14.41472	0.72574	34.90419	11.64	1.66
72/ 8/27	2441556.5	0.68994	0.21690	0.05417	-10.78570	30.02721	14.21259	0.72525	34.92796	17.45	4.28
72/ 8/31	2441560.5	0.66079	0.28478	0.08660	-14.42166	28.67669	13.83363	0.72473	34.95292	23.31	6.86
72/ 9/ 4	2441564.5	0.62343	0.34912	0.11795	-17.88614	26.96654	13.28178	0.72420	34.97876	29.25	9.37
72/ 9/ 8	2441568.5	0.57832	0.40911	0.14784	-21.13540	24.91637	12.56311	0.72365	35.00518	35.28	11.79
72/ 9/12	2441572.5	0.52598	0.46400	0.17588	-24.12796	22.55023	11.68584	0.72310	35.03184	41.42	14.08
72/ 9/16	2441576.5	0.46706	0.51308	0.20171	-26.82517	19.89628	10.66022	0.72256	35.05841	47.69	16.21
72/ 9/20	2441580.5	0.40229	0.55573	0.22502	-29.19177	16.98662	9.49848	0.72202	35.08455	54.10	18.16
72/ 9/24	2441584.5	0.33247	0.59139	0.24551	-31.19638	13.85685	8.21470	0.72149	35.10994	60.66	19.89
72/ 9/28	2441588.5	0.25845	0.61961	0.26290	-32.81199	10.54575	6.82463	0.72099	35.13424	67.36	21.38
72/10/ 2	2441592.5	0.18118	0.64001	0.27697	-34.01639	7.09475	5.34554	0.72052	35.15715	74.19	22.61
72/10/ 6	2441596.5	0.10162	0.65232	0.28754	-34.79257	3.54744	3.79601	0.72009	35.17836	81.15	23.54
72/10/10	2441600.5	0.02076	0.65636	0.29447	-35.12902	-0.05098	2.19567	0.71969	35.19761	88.19	24.15
72/10/14	2441604.5	-0.06035	0.65208	0.29766	-35.01996	-3.65435	0.56497	0.71934	35.21464	95.29	24.44
72/10/18	2441608.5	-0.14070	0.63951	0.29707	-34.46549	-7.21613	-1.07512	0.71904	35.22923	102.41	24.40
72/10/22	2441612.5	-0.21925	0.61880	0.29270	-33.47169	-10.69010	-2.70339	0.71880	35.24118	109.51	24.03
72/10/26	2441616.5	-0.29502	0.59022	0.28461	-32.05056	-14.03102	-4.29869	0.71861	35.25034	116.56	23.33
72/10/30	2441620.5	-0.36702	0.55411	0.27288	-30.21989	-17.19527	-5.84024	0.71848	35.25659	123.52	22.32
72/11/ 3	2441624.5	-0.43435	0.51094	0.25768	-28.00305	-20.14150	-7.30793	0.71841	35.25985	130.37	21.02
72/11/ 7	2441628.5	-0.49613	0.46125	0.23919	-25.42869	-22.83125	-8.68263	0.71841	35.26006	137.09	19.45
72/11/11	2441632.5	-0.55159	0.40568	0.21765	-22.53028	-25.22951	-9.94643	0.71847	35.25724	143.67	17.63
72/11/15	2441636.5	-0.60001	0.34493	0.19333	-19.34569	-27.30522	-11.08295	0.71858	35.25142	150.11	15.61
72/11/19	2441640.5	-0.64078	0.27978	0.16655	-15.91659	-29.03172	-12.07755	0.71876	35.24267	156.41	13.40
72/11/23	2441644.5	-0.67340	0.21108	0.13765	-12.28783	-30.38714	-12.91753	0.71900	35.23112	162.60	11.04
72/11/27	2441648.5	-0.69744	0.13968	0.10700	-8.50681	-31.35465	-13.59233	0.71929	35.21691	168.67	8.55

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72/12/ 1	2441652.5	-0.71262	0.06652	0.07498	-4.62274	-31.92268	-14.09361	0.71963	35.20024	174.67	5.98
72/12/ 5	2441656.5	-0.71876	-0.00750	0.04202	-0.68596	-32.08505	-14.41542	0.72002	35.18132	180.60	3.35
72/12/ 9	2441660.5	-0.71579	-0.08142	0.00852	3.25281	-31.84099	-14.55419	0.72045	35.16040	186.49	0.68
72/12/13	2441664.5	-0.70377	-0.15430	-0.02509	7.14314	-31.19506	-14.50882	0.72092	35.13775	192.37	-1.99
72/12/17	2441668.5	-0.68286	-0.22525	-0.05838	10.93562	-30.15705	-14.28057	0.72142	35.11367	198.26	-4.64
72/12/21	2441672.5	-0.65335	-0.29335	-0.09093	14.58251	-28.74174	-13.87311	0.72194	35.08847	204.18	-7.24
72/12/25	2441676.5	-0.61563	-0.35777	-0.12234	18.03832	-26.96866	-13.29235	0.72247	35.06246	210.16	-9.75
72/12/29	2441680.5	-0.57019	-0.41770	-0.15222	21.26039	-24.86169	-12.54636	0.72302	35.03597	216.23	-12.15
73/ 1/ 2	2441684.5	-0.51761	-0.47240	-0.18019	24.20941	-22.44876	-11.64526	0.72357	35.00935	222.39	-14.42
73/ 1/ 6	2441688.5	-0.45857	-0.52121	-0.20591	26.84982	-19.76135	-10.60097	0.72412	34.98291	228.66	-16.52
73/ 1/10	2441692.5	-0.39382	-0.56352	-0.22907	29.15022	-16.83407	-9.42711	0.72465	34.95700	235.05	-18.43
73/ 1/14	2441696.5	-0.32417	-0.59883	-0.24938	31.08369	-13.70416	-8.13877	0.72517	34.93192	241.57	-20.11
73/ 1/18	2441700.5	-0.25050	-0.62671	-0.26660	32.62797	-10.41103	-6.75229	0.72567	34.90798	248.21	-21.55
73/ 1/22	2441704.5	-0.17373	-0.64684	-0.28052	33.76573	-6.99570	-5.28507	0.72614	34.88547	254.97	-22.73
73/ 1/26	2441708.5	-0.09481	-0.65897	-0.29097	34.48463	-3.50037	-3.75534	0.72657	34.86467	261.81	-23.61
73/ 1/30	2441712.5	-0.01473	-0.66298	-0.29784	34.77742	0.03216	-2.18194	0.72696	34.84581	268.73	-24.19
73/ 2/ 3	2441716.5	0.06554	-0.65883	-0.30103	34.64190	3.55892	-0.58409	0.72731	34.82913	275.68	-24.45
73/ 2/ 7	2441720.5	0.14500	-0.64658	-0.30053	34.08094	7.03728	1.01882	0.72760	34.81482	282.64	-24.40
73/ 2/11	2441724.5	0.22269	-0.62638	-0.29634	33.10234	10.42538	2.60744	0.72785	34.80305	289.57	-24.03
73/ 2/15	2441728.5	0.29764	-0.59851	-0.28851	31.71873	13.68263	4.16266	0.72804	34.79396	296.44	-23.35
73/ 2/19	2441732.5	0.36894	-0.56330	-0.27714	29.94735	16.77007	5.66586	0.72817	34.78766	303.22	-22.37
73/ 2/23	2441736.5	0.43572	-0.52118	-0.26238	27.80990	19.65082	7.09903	0.72824	34.78422	309.90	-21.12
73/ 2/27	2441740.5	0.49717	-0.47269	-0.24441	25.33225	22.29043	8.44502	0.72825	34.78368	316.45	-19.61
73/ 3/ 3	2441744.5	0.55253	-0.41840	-0.22344	22.54414	24.65725	9.68768	0.72820	34.78605	322.86	-17.87
73/ 3/ 7	2441748.5	0.60112	-0.35900	-0.19974	19.47891	26.72275	10.81207	0.72809	34.79130	329.15	-15.92
73/ 3/11	2441752.5	0.64234	-0.29519	-0.17359	16.17316	28.46187	11.80456	0.72792	34.79938	335.32	-13.80
73/ 3/15	2441756.5	0.67569	-0.22776	-0.14531	12.66630	29.85322	12.65304	0.72770	34.81019	341.37	-11.52
73/ 3/19	2441760.5	0.70074	-0.15754	-0.11525	9.00025	30.87938	13.34700	0.72742	34.82360	347.33	-9.12
73/ 3/23	2441764.5	0.71718	-0.08538	-0.08377	5.21893	31.52712	13.87772	0.72709	34.83946	353.21	-6.62
73/ 3/27	2441768.5	0.72480	-0.01217	-0.05126	1.36783	31.78758	14.23831	0.72671	34.85757	359.04	-4.04
73/ 3/31	2441772.5	0.72348	0.06119	-0.01812	-2.50646	31.65637	14.42387	0.72629	34.87774	4.83	-1.43
73/ 4/ 4	2441776.5	0.71324	0.13379	0.01525	-6.35677	31.13376	14.43154	0.72584	34.89970	10.62	1.20
73/ 4/ 8	2441780.5	0.69417	0.20474	0.04842	-10.13587	30.22467	14.26054	0.72535	34.92320	16.43	3.83
73/ 4/12	2441784.5	0.66650	0.27315	0.08100	-13.79704	28.93872	13.91227	0.72484	34.94795	22.29	6.42
73/ 4/16	2441788.5	0.63055	0.33817	0.11257	-17.29457	27.29019	13.39027	0.72431	34.97365	28.21	8.94
73/ 4/20	2441792.5	0.58675	0.39898	0.14274	-20.58440	25.29793	12.70025	0.72376	34.99998	34.21	11.37
73/ 4/24	2441796.5	0.53563	0.45481	0.17113	-23.62460	22.98519	11.85005	0.72321	35.02663	40.33	13.69
73/ 4/28	2441800.5	0.47782	0.50495	0.19737	-26.37601	20.37946	10.84958	0.72266	35.05324	46.58	15.85
73/ 5/ 2	2441804.5	0.41402	0.54877	0.22115	-28.80273	17.51215	9.71072	0.72212	35.07949	52.97	17.83
73/ 5/ 6	2441808.5	0.34502	0.58569	0.24214	-30.87267	14.41828	8.44724	0.72160	35.10505	59.50	19.61
73/ 5/10	2441812.5	0.27167	0.61524	0.26009	-32.55803	11.13610	7.07460	0.72109	35.12959	66.18	21.14
73/ 5/14	2441816.5	0.19490	0.63703	0.27476	-33.83573	7.70660	5.60983	0.72061	35.15279	72.99	22.41
73/ 5/18	2441820.5	0.11567	0.65077	0.28596	-34.68783	4.17303	4.07129	0.72017	35.17435	79.92	23.39
73/ 5/22	2441824.5	0.03497	0.65626	0.29353	-35.10183	0.58035	2.47843	0.71977	35.19400	86.95	24.07
73/ 5/26	2441828.5	-0.04617	0.65344	0.29738	-35.07093	-3.02541	0.85158	0.71941	35.21148	94.04	24.42

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73/ 5/30	2441832.5	-0.12673	0.64231	0.29745	-34.59420	-6.59774	-0.78835	0.71910	35.22655	101.16	24.43
73/ 6/ 3	2441836.5	-0.20567	0.62301	0.29374	-33.67666	-10.09031	-2.42019	0.71884	35.23903	108.27	24.12
73/ 6/ 7	2441840.5	-0.28200	0.59579	0.28629	-32.32927	-13.45767	-4.02274	0.71864	35.24873	115.33	23.48
73/ 6/11	2441844.5	-0.35473	0.56097	0.27520	-30.56883	-16.65586	-5.57516	0.71850	35.25555	122.31	22.52
73/ 6/15	2441848.5	-0.42293	0.51899	0.26059	-28.41775	-19.64309	-7.05717	0.71842	35.25937	129.18	21.27
73/ 6/19	2441852.5	-0.48575	0.47040	0.24266	-25.90376	-22.38037	-8.44947	0.71841	35.26017	135.92	19.74
73/ 6/23	2441856.5	-0.54236	0.41581	0.22163	-23.05954	-24.83202	-9.73391	0.71845	35.25792	142.52	17.97
73/ 6/27	2441860.5	-0.59206	0.35591	0.19778	-19.92220	-26.96627	-10.89383	0.71856	35.25265	148.99	15.98
73/ 7/ 1	2441864.5	-0.63422	0.29148	0.17141	-16.53280	-28.75565	-11.91425	0.71873	35.24444	155.32	13.80
73/ 7/ 5	2441868.5	-0.66829	0.22333	0.14285	-12.93568	-30.17742	-12.78214	0.71896	35.23339	161.52	11.46
73/ 7/ 9	2441872.5	-0.69386	0.15235	0.11247	-9.17783	-31.21386	-13.48653	0.71924	35.21966	167.62	9.00
73/ 7/13	2441876.5	-0.71061	0.07942	0.08067	-5.30821	-31.85247	-14.01870	0.71957	35.20342	173.62	6.44
73/ 7/17	2441880.5	-0.71834	0.00549	0.04784	-1.37700	-32.08610	-14.37227	0.71995	35.18488	179.56	3.81
73/ 7/21	2441884.5	-0.71696	-0.06851	0.01441	2.56507	-31.91305	-14.54325	0.72037	35.16430	185.46	1.15
73/ 7/25	2441888.5	-0.70652	-0.14165	-0.01921	6.46750	-31.33694	-14.53010	0.72083	35.14194	191.34	-1.53
73/ 7/29	2441892.5	-0.68715	-0.21300	-0.05259	10.28063	-30.36666	-14.33368	0.72133	35.11809	197.22	-4.18
73/ 8/ 2	2441896.5	-0.65912	-0.28166	-0.08530	13.95639	-29.01615	-13.95723	0.72184	35.09305	203.14	-6.79
73/ 8/ 6	2441900.5	-0.62281	-0.34678	-0.11694	17.44885	-27.30411	-13.40629	0.72237	35.06715	209.11	-9.32
73/ 8/10	2441904.5	-0.57868	-0.40756	-0.14711	20.71481	-25.25369	-12.68856	0.72292	35.04071	215.16	-11.74
73/ 8/14	2441908.5	-0.52730	-0.46323	-0.17544	23.71434	-22.89215	-11.81379	0.72347	35.01408	221.30	-14.03
73/ 8/18	2441912.5	-0.46934	-0.51311	-0.20159	26.41120	-20.25036	-10.79362	0.72402	34.98758	227.55	-16.17
73/ 8/22	2441916.5	-0.40553	-0.55660	-0.22521	28.77324	-17.36243	-9.64139	0.72456	34.96155	233.92	-18.11
73/ 8/26	2441920.5	-0.33668	-0.59317	-0.24604	30.77272	-14.26518	-8.37193	0.72508	34.93630	240.42	-19.84
73/ 8/30	2441924.5	-0.26365	-0.62238	-0.26382	32.38656	-10.99766	-7.00138	0.72558	34.91214	247.04	-21.32
73/ 9/ 3	2441928.5	-0.18735	-0.64388	-0.27833	33.59656	-7.60067	-5.54698	0.72605	34.88937	253.78	-22.54
73/ 9/ 7	2441932.5	-0.10874	-0.65743	-0.28940	34.38949	-4.11621	-4.02683	0.72649	34.86826	260.61	-23.47
73/ 9/11	2441936.5	-0.02879	-0.66287	-0.29689	34.75720	-0.58703	-2.45967	0.72689	34.84906	267.51	-24.11
73/ 9/15	2441940.5	0.05152	-0.66014	-0.30074	34.69661	2.94390	-0.86467	0.72724	34.83201	274.46	-24.43
73/ 9/19	2441944.5	0.13119	-0.64930	-0.30088	34.20971	6.43385	0.73879	0.72755	34.81730	281.42	-24.43
73/ 9/23	2441948.5	0.20926	-0.63048	-0.29733	33.30345	9.84080	2.33133	0.72780	34.80511	288.36	-24.11
73/ 9/27	2441952.5	0.28475	-0.60392	-0.29013	31.98960	13.12389	3.89380	0.72800	34.79558	295.24	-23.49
73/10/ 1	2441956.5	0.35676	-0.56997	-0.27938	30.28463	16.24386	5.40746	0.72814	34.78882	302.04	-22.56
73/10/ 5	2441960.5	0.42439	-0.52903	-0.26520	28.20947	19.16342	6.85419	0.72822	34.78492	308.74	-21.36
73/10/ 9	2441964.5	0.48683	-0.48161	-0.24778	25.78926	21.84767	8.21666	0.72824	34.78390	315.31	-19.89
73/10/13	2441968.5	0.54330	-0.42829	-0.22732	23.05310	24.26444	9.47856	0.72820	34.78580	321.75	-18.19
73/10/17	2441972.5	0.59312	-0.36972	-0.20407	20.03375	26.38464	10.62470	0.72811	34.79058	328.06	-16.28
73/10/21	2441976.5	0.63568	-0.30663	-0.17833	16.76722	28.18255	11.64121	0.72795	34.79819	334.25	-14.18
73/10/25	2441980.5	0.67043	-0.23978	-0.15039	13.29249	29.63614	12.51570	0.72773	34.80854	340.32	-11.93
73/10/29	2441984.5	0.69696	-0.16998	-0.12062	9.65107	30.72728	13.23739	0.72746	34.82151	346.29	-9.54
73/11/ 2	2441988.5	0.71493	-0.09809	-0.08936	5.88657	31.44198	13.79722	0.72714	34.83695	352.19	-7.06
73/11/ 6	2441992.5	0.72410	-0.02500	-0.05700	2.04423	31.77060	14.18797	0.72677	34.85468	358.02	-4.50
73/11/10	2441996.5	0.72435	0.04840	-0.02394	-1.82949	31.70798	14.40440	0.72636	34.87448	3.82	-1.89
73/11/14	2442000.5	0.71566	0.12120	0.00942	-5.68749	31.25355	14.44327	0.72591	34.89613	9.61	0.74
73/11/18	2442004.5	0.69812	0.19250	0.04266	-9.48252	30.41142	14.30345	0.72543	34.91935	15.42	3.37
73/11/22	2442008.5	0.67193	0.26142	0.07537	-13.16771	29.19039	13.98595	0.72492	34.94388	21.26	5.97

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73/11/26	2442012.5	0.63740	0.32709	0.10714	-16.69714	27.60395	13.49394	0.72439	34.96940	27.16	8.51
73/11/30	2442016.5	0.59494	0.38869	0.13758	-20.02640	25.67016	12.83276	0.72385	34.99562	33.16	10.96
73/12/ 4	2442020.5	0.54506	0.44544	0.16631	-23.11318	23.41151	12.00987	0.72330	35.02220	39.26	13.29
73/12/ 8	2442024.5	0.48837	0.49663	0.19296	-25.91777	20.85477	11.03483	0.72275	35.04882	45.48	15.48
73/12/12	2442028.5	0.42556	0.54159	0.21719	-28.40367	18.03070	9.91919	0.72221	35.07513	51.84	17.50
73/12/16	2442032.5	0.35740	0.57976	0.23869	-30.53809	14.97372	8.67640	0.72168	35.10081	58.35	19.31
73/12/20	2442036.5	0.28475	0.61063	0.25719	-32.29245	11.72153	7.32163	0.72118	35.12553	65.00	20.89
73/12/24	2442040.5	0.20851	0.63380	0.27244	-33.64282	8.31471	5.87166	0.72069	35.14897	71.79	22.21
73/12/28	2442044.5	0.12964	0.64896	0.28426	-34.57033	4.79613	4.34463	0.72025	35.17082	78.70	23.25
74/ 1/ 1	2442048.5	0.04912	0.65590	0.29247	-35.06153	1.21051	2.75983	0.71984	35.19081	85.72	23.97
74/ 1/ 5	2442052.5	-0.03202	0.65453	0.29698	-35.10860	-2.39625	1.13744	0.71947	35.20866	92.80	24.38
74/ 1/ 9	2442056.5	-0.11275	0.64485	0.29772	-34.70959	-5.97770	-0.50170	0.71915	35.22414	99.92	24.46
74/ 1/13	2442060.5	-0.19205	0.62697	0.29467	-33.86847	-9.48741	-2.13645	0.71889	35.23704	107.03	24.20
74/ 1/17	2442064.5	-0.26890	0.60111	0.28786	-32.59520	-12.87974	-3.74559	0.71868	35.24718	114.10	23.61
74/ 1/21	2442068.5	-0.34233	0.56759	0.27740	-30.90554	-16.11042	-5.30819	0.71853	35.25443	121.10	22.71
74/ 1/25	2442072.5	-0.41139	0.52683	0.26339	-28.82096	-19.13726	-6.80386	0.71845	35.25869	127.99	21.51
74/ 1/29	2442076.5	-0.47521	0.47935	0.24603	-26.36830	-21.92072	-8.21311	0.71842	35.25989	134.75	20.03
74/ 2/ 2	2442080.5	-0.53296	0.42576	0.22552	-23.57939	-24.42452	-9.51757	0.71846	35.25803	141.38	18.29
74/ 2/ 6	2442084.5	-0.58392	0.36674	0.20215	-20.49064	-26.61618	-10.70030	0.71856	35.25314	147.87	16.34
74/ 2/10	2442088.5	-0.62744	0.30305	0.17619	-17.14243	-28.46748	-11.74603	0.71872	35.24528	154.22	14.19
74/ 2/14	2442092.5	-0.66296	0.23549	0.14799	-13.57858	-29.95483	-12.64137	0.71894	35.23455	160.44	11.88
74/ 2/18	2442096.5	-0.69004	0.16494	0.11791	-9.84568	-31.05961	-13.37498	0.71921	35.22112	166.56	9.44
74/ 2/22	2442100.5	-0.70836	0.09229	0.08633	-5.99236	-31.76843	-13.93776	0.71954	35.20515	172.58	6.89
74/ 2/26	2442104.5	-0.71768	0.01847	0.05365	-2.06866	-32.07320	-14.32290	0.71992	35.18686	178.53	4.27
74/ 3/ 2	2442108.5	-0.71790	-0.05558	0.02029	1.87478	-31.97127	-14.52601	0.72033	35.16649	184.43	1.61
74/ 3/ 6	2442112.5	-0.70904	-0.12894	-0.01333	5.78736	-31.46536	-14.54512	0.72079	35.14431	190.31	-1.06
74/ 3/10	2442116.5	-0.69122	-0.20066	-0.04677	9.61926	-30.56343	-14.38067	0.72128	35.12061	196.19	-3.72
74/ 3/14	2442120.5	-0.66469	-0.26986	-0.07963	13.32209	-29.27856	-14.03549	0.72179	35.09568	202.10	-6.33
74/ 3/18	2442124.5	-0.62980	-0.33566	-0.11149	16.84953	-27.62862	-13.51473	0.72232	35.06986	208.06	-8.88
74/ 3/22	2442128.5	-0.58701	-0.39725	-0.14194	20.15788	-25.63602	-12.82572	0.72287	35.04347	214.09	-11.32
74/ 3/26	2442132.5	-0.53687	-0.45386	-0.17062	23.20663	-23.32730	-11.97784	0.72341	35.01685	220.21	-13.64
74/ 3/30	2442136.5	-0.48002	-0.50481	-0.19717	25.95887	-20.73272	-10.98243	0.72396	34.99032	226.44	-15.80
74/ 4/ 3	2442140.5	-0.41718	-0.54946	-0.22126	28.38171	-17.88583	-9.85250	0.72450	34.96422	232.79	-17.78
74/ 4/ 7	2442144.5	-0.34916	-0.58728	-0.24260	30.44663	-14.82300	-8.60267	0.72503	34.93887	239.27	-19.55
74/ 4/11	2442148.5	-0.27680	-0.61781	-0.26093	32.12972	-11.58290	-7.24883	0.72553	34.91459	245.87	-21.08
74/ 4/15	2442152.5	-0.20102	-0.64069	-0.27603	33.41191	-8.20603	-5.80804	0.72600	34.89166	252.58	-22.35
74/ 4/19	2442156.5	-0.12275	-0.65565	-0.28771	34.27908	-4.73422	-4.29825	0.72645	34.87037	259.40	-23.33
74/ 4/23	2442160.5	-0.04296	-0.66252	-0.29585	34.72217	-1.21008	-2.73811	0.72685	34.85098	266.29	-24.02
74/ 4/27	2442164.5	0.03735	-0.66123	-0.30034	34.73721	2.32342	-1.14671	0.72721	34.83370	273.23	-24.39
74/ 5/ 1	2442168.5	0.11721	-0.65181	-0.30114	34.32528	5.82349	0.45659	0.72752	34.81876	280.19	-24.45
74/ 5/ 5	2442172.5	0.19562	-0.63439	-0.29824	33.49244	9.24796	2.05240	0.72778	34.80633	287.14	-24.19
74/ 5/ 9	2442176.5	0.27164	-0.60917	-0.29167	32.24961	12.55575	3.62152	0.72798	34.79655	294.03	-23.62
74/ 5/13	2442180.5	0.34432	-0.57649	-0.28154	30.61243	15.70727	5.14513	0.72813	34.78953	300.85	-22.75
74/ 5/17	2442184.5	0.41279	-0.53675	-0.26795	28.60102	18.66486	6.60497	0.72821	34.78536	307.56	-21.59
74/ 5/21	2442188.5	0.47620	-0.49043	-0.25108	26.23981	21.39316	7.98358	0.72824	34.78408	314.16	-20.17

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74/ 5/25	2442192.5	0.53378	-0.43811	-0.23114	23.55719	23.85948	9.26443	0.72821	34.78571	320.62	-18.51
74/ 5/29	2442196.5	0.58482	-0.38042	-0.20837	20.58528	26.03416	10.43211	0.72811	34.79023	326.96	-16.63
74/ 6/ 2	2442200.5	0.62869	-0.31807	-0.18304	17.35955	27.89084	11.47253	0.72796	34.79758	333.16	-14.56
74/ 6/ 6	2442204.5	0.66486	-0.25182	-0.15547	13.91848	29.40679	12.37300	0.72775	34.80768	339.26	-12.33
74/ 6/10	2442208.5	0.69287	-0.18247	-0.12599	10.30315	30.56316	13.12243	0.72749	34.82040	345.25	-9.97
74/ 6/14	2442212.5	0.71236	-0.11089	-0.09496	6.55685	31.34522	13.71144	0.72717	34.83559	351.15	-7.50
74/ 6/18	2442216.5	0.72310	-0.03794	-0.06276	2.72459	31.74251	14.13250	0.72681	34.85308	357.00	-4.95
74/ 6/22	2442220.5	0.72492	0.03547	-0.02980	-1.14736	31.74906	14.37997	0.72640	34.87266	2.80	-2.35
74/ 6/26	2442224.5	0.71780	0.10845	0.00354	-5.01194	31.36348	14.45027	0.72596	34.89410	8.59	0.28
74/ 6/30	2442228.5	0.70181	0.18008	0.03683	-8.82187	30.58906	14.34189	0.72548	34.91713	14.39	2.91
74/ 7/ 4	2442232.5	0.67712	0.24948	0.06967	-12.53015	29.43377	14.05545	0.72497	34.94148	20.23	5.51
74/ 7/ 8	2442236.5	0.64403	0.31579	0.10164	-16.09063	27.91027	13.59375	0.72445	34.96686	26.12	8.06
74/ 7/12	2442240.5	0.60292	0.37817	0.13234	-19.45858	26.03582	12.96173	0.72391	34.99295	32.10	10.53
74/ 7/16	2442244.5	0.55430	0.43583	0.16140	-22.59125	23.83217	12.16651	0.72336	35.01944	38.18	12.89
74/ 7/20	2442248.5	0.49876	0.48805	0.18844	-25.44842	21.32538	11.21728	0.72281	35.04599	44.38	15.11
74/ 7/24	2442252.5	0.43696	0.53415	0.21312	-27.99298	18.54553	10.12525	0.72227	35.07227	50.72	17.16
74/ 7/28	2442256.5	0.36969	0.57355	0.23512	-30.19144	15.52644	8.90355	0.72174	35.09795	57.20	19.01
74/ 8/ 1	2442260.5	0.29776	0.60573	0.25417	-32.01443	12.30529	7.56709	0.72123	35.12271	63.82	20.63
74/ 8/ 5	2442264.5	0.22208	0.63028	0.27001	-33.43719	8.92221	6.13237	0.72075	35.14623	70.59	22.00
74/ 8/ 9	2442268.5	0.14359	0.64687	0.28244	-34.43994	5.41972	4.61732	0.72029	35.16821	77.48	23.09
74/ 8/13	2442272.5	0.06329	0.65526	0.29129	-35.00826	1.84226	3.04105	0.71988	35.18835	84.48	23.87
74/ 8/17	2442276.5	-0.01782	0.65536	0.29646	-35.13333	-1.76441	1.42363	0.71951	35.20640	91.56	24.33
74/ 8/21	2442280.5	-0.09870	0.64713	0.29786	-34.81219	-5.35387	-0.21423	0.71919	35.22213	98.67	24.47
74/ 8/25	2442284.5	-0.17832	0.63067	0.29547	-34.04778	-8.87966	-1.85138	0.71892	35.23531	105.79	24.27
74/ 8/29	2442288.5	-0.25568	0.60618	0.28932	-32.84902	-12.29594	-3.46661	0.71870	35.24579	112.87	23.74
74/ 9/ 2	2442292.5	-0.32977	0.57397	0.27948	-31.23070	-15.55816	-5.03891	0.71855	35.25341	119.88	22.89
74/ 9/ 6	2442296.5	-0.39967	0.53445	0.26609	-29.21330	-18.62370	-6.54778	0.71845	35.25809	126.79	21.74
74/ 9/10	2442300.5	-0.46446	0.48811	0.24930	-26.82276	-21.45254	-7.97355	0.71842	35.25974	133.58	20.30
74/ 9/14	2442304.5	-0.52333	0.43554	0.22932	-24.09009	-24.00779	-9.29763	0.71845	35.25836	140.23	18.61
74/ 9/18	2442308.5	-0.57553	0.37742	0.20643	-21.05091	-26.25627	-10.50282	0.71854	35.25396	146.74	16.70
74/ 9/22	2442312.5	-0.62039	0.31449	0.18090	-17.74497	-28.16897	-11.57355	0.71869	35.24659	153.12	14.58
74/ 9/26	2442316.5	-0.65735	0.24755	0.15307	-14.21554	-29.72150	-12.49608	0.71890	35.23636	159.36	12.29
74/ 9/30	2442320.5	-0.68593	0.17746	0.12329	-10.50874	-30.89435	-13.25871	0.71916	35.22340	165.50	9.87
74/10/ 4	2442324.5	-0.70580	0.10511	0.09194	-6.67293	-31.67318	-13.85193	0.71948	35.20787	171.53	7.34
74/10/ 8	2442328.5	-0.71670	0.03143	0.05942	-2.75792	-32.04900	-14.26853	0.71985	35.18999	177.49	4.74
74/10/12	2442332.5	-0.71852	-0.04266	0.02615	1.18569	-32.01819	-14.50370	0.72026	35.16998	183.40	2.08
74/10/16	2442336.5	-0.71124	-0.11620	-0.00745	5.10725	-31.58255	-14.55503	0.72071	35.14812	189.28	-0.59
74/10/20	2442340.5	-0.69498	-0.18827	-0.04095	8.95676	-30.74913	-14.42256	0.72119	35.12467	195.16	-3.26
74/10/24	2442344.5	-0.66995	-0.25797	-0.07395	12.68553	-29.53012	-14.10870	0.72170	35.09995	201.06	-5.88
74/10/28	2442348.5	-0.63650	-0.32443	-0.10601	16.24683	-27.94261	-13.61820	0.72223	35.07426	207.01	-8.44
74/11/ 1	2442352.5	-0.59505	-0.38681	-0.13674	19.59649	-26.00820	-12.95801	0.72277	35.04795	213.03	-10.90
74/11/ 5	2442356.5	-0.54615	-0.44435	-0.16575	22.69338	-23.75276	-12.13718	0.72332	35.02134	219.13	-13.25
74/11/ 9	2442360.5	-0.49042	-0.49633	-0.19270	25.49994	-21.20592	-11.16670	0.72387	34.99476	225.34	-15.44
74/11/13	2442364.5	-0.42858	-0.54213	-0.21724	27.98257	-18.40069	-10.05933	0.72441	34.96855	231.67	-17.45
74/11/17	2442368.5	-0.36141	-0.58118	-0.23908	30.11194	-15.37298	-8.82938	0.72494	34.94303	238.12	-19.26

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74/11/21	2442372.5	-0.28974	-0.61301	-0.25795	31.86334	-12.16109	-7.49257	0.72545	34.91852	244.70	-20.83
74/11/25	2442376.5	-0.21449	-0.63726	-0.27363	33.21682	-8.80525	-6.06575	0.72593	34.89532	251.40	-22.14
74/11/29	2442380.5	-0.13659	-0.65362	-0.28592	34.15741	-5.34707	-4.56674	0.72638	34.87370	258.20	-23.18
74/12/ 3	2442384.5	-0.05700	-0.66191	-0.29469	34.67516	-1.82907	-3.01407	0.72679	34.85393	265.08	-23.92
74/12/ 7	2442388.5	0.02329	-0.66206	-0.29982	34.76520	1.70582	-1.42678	0.72716	34.83626	272.02	-24.35
74/12/11	2442392.5	0.10330	-0.65405	-0.30127	34.42774	5.21473	0.17581	0.72747	34.82088	278.98	-24.46
74/12/15	2442396.5	0.18204	-0.63801	-0.29901	33.66796	8.65538	1.77430	0.72774	34.80798	285.92	-24.26
74/12/19	2442400.5	0.25854	-0.61415	-0.29309	32.49596	11.98644	3.34944	0.72796	34.79772	292.83	-23.74
74/12/23	2442404.5	0.33187	-0.58275	-0.28357	30.92655	15.16805	4.88233	0.72811	34.79021	299.66	-22.92
74/12/27	2442408.5	0.40114	-0.54421	-0.27058	28.97909	18.16218	6.35460	0.72821	34.78554	306.39	-21.81
74/12/31	2442412.5	0.46549	-0.49900	-0.25427	26.67727	20.93305	7.74864	0.72825	34.78377	313.01	-20.44
75/ 1/ 4	2442416.5	0.52415	-0.44769	-0.23485	24.04879	23.44747	9.04775	0.72822	34.78491	319.50	-18.81
75/ 1/ 8	2442420.5	0.57638	-0.39089	-0.21255	21.12515	25.67523	10.23631	0.72814	34.78895	325.86	-16.97
75/ 1/12	2442424.5	0.62155	-0.32930	-0.18765	17.94126	27.58936	11.29998	0.72800	34.79585	332.09	-14.94
75/ 1/16	2442428.5	0.65910	-0.26368	-0.16045	14.53508	29.16650	12.22581	0.72780	34.80551	338.20	-12.74
75/ 1/20	2442432.5	0.68857	-0.19482	-0.13128	10.94728	30.38708	13.00244	0.72754	34.81782	344.20	-10.40
75/ 1/24	2442436.5	0.70958	-0.12356	-0.10049	7.22078	31.23562	13.62017	0.72723	34.83264	350.12	-7.94
75/ 1/28	2442440.5	0.72186	-0.05079	-0.06848	3.40031	31.70093	14.07113	0.72688	34.84978	355.98	-5.41
75/ 2/ 1	2442444.5	0.72525	0.02260	-0.03561	-0.46802	31.77621	14.34935	0.72648	34.86905	1.79	-2.81
75/ 2/ 5	2442448.5	0.71970	0.09572	-0.00231	-4.33727	31.45929	14.45088	0.72604	34.89021	7.58	-0.18
75/ 2/ 9	2442452.5	0.70525	0.16766	0.03102	-8.16016	30.75260	14.37384	0.72557	34.91301	13.37	2.45
75/ 2/13	2442456.5	0.68207	0.23752	0.06396	-11.88960	29.66331	14.11848	0.72506	34.93717	19.20	5.06
75/ 2/17	2442460.5	0.65042	0.30443	0.09611	-15.47925	28.20325	13.68720	0.72454	34.96241	25.08	7.62
75/ 2/21	2442464.5	0.61069	0.36755	0.12707	-18.88409	26.38888	13.08459	0.72400	34.98840	31.04	10.11
75/ 2/25	2442468.5	0.56335	0.42610	0.15644	-22.06097	24.24119	12.31737	0.72346	35.01484	37.10	12.49
75/ 3/ 1	2442472.5	0.50897	0.47932	0.18386	-24.96921	21.78547	11.39438	0.72291	35.04140	43.28	14.73
75/ 3/ 5	2442476.5	0.44822	0.52654	0.20898	-27.57108	19.05114	10.32648	0.72236	35.06775	49.59	16.82
75/ 3/ 9	2442480.5	0.38184	0.56715	0.23147	-29.83245	16.07139	9.12648	0.72183	35.09355	56.05	18.70
75/ 3/13	2442484.5	0.31066	0.60063	0.25105	-31.72318	12.88284	7.80897	0.72132	35.11848	62.65	20.37
75/ 3/17	2442488.5	0.23557	0.62654	0.26747	-33.21766	9.52511	6.39021	0.72083	35.14222	69.39	21.78
75/ 3/21	2442492.5	0.15751	0.64454	0.28051	-34.29523	6.04038	4.88788	0.72037	35.16447	76.27	22.92
75/ 3/25	2442496.5	0.07745	0.65439	0.29001	-34.94049	2.47277	3.32091	0.71995	35.18495	83.25	23.75
75/ 3/29	2442500.5	-0.00359	0.65594	0.29582	-35.14363	-1.13214	1.70920	0.71957	35.20338	90.31	24.27
75/ 4/ 2	2442504.5	-0.08458	0.64916	0.29788	-34.90065	-4.72801	0.07339	0.71924	35.21952	97.42	24.47
75/ 4/ 6	2442508.5	-0.16450	0.63414	0.29616	-34.21346	-8.26832	-1.56543	0.71896	35.23317	104.54	24.33
75/ 4/10	2442512.5	-0.24232	0.61104	0.29067	-33.08992	-11.70709	-3.18605	0.71873	35.24414	111.63	23.85
75/ 4/14	2442516.5	-0.31706	0.58016	0.28147	-31.54380	-14.99949	-4.76740	0.71857	35.25229	118.66	23.06
75/ 4/18	2442520.5	-0.38776	0.54188	0.26868	-29.59461	-18.10252	-6.28886	0.71846	35.25750	125.59	21.96
75/ 4/22	2442524.5	-0.45351	0.49670	0.25247	-27.26734	-20.97564	-7.73059	0.71841	35.25972	132.40	20.57
75/ 4/26	2442528.5	-0.51347	0.44517	0.23304	-24.59215	-23.58140	-9.07381	0.71843	35.25890	139.08	18.93
75/ 4/30	2442532.5	-0.56689	0.38797	0.21064	-21.60388	-25.88590	-10.30104	0.71851	35.25506	145.61	17.05
75/ 5/ 4	2442536.5	-0.61308	0.32583	0.18555	-18.34160	-27.85940	-11.39641	0.71865	35.24824	152.01	14.96
75/ 5/ 8	2442540.5	-0.65146	0.25953	0.15810	-14.84800	-29.47664	-12.34584	0.71885	35.23854	158.28	12.70
75/ 5/12	2442544.5	-0.68154	0.18993	0.12863	-11.16876	-30.71723	-13.13726	0.71911	35.22609	164.43	10.30
75/ 5/16	2442548.5	-0.70295	0.11791	0.09753	-7.35189	-31.56594	-13.76077	0.71942	35.21104	170.48	7.79

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75/ 5/20	2442552.5	-0.71544	0.04439	0.06519	-3.44701	-32.01280	-14.20874	0.71977	35.19360	176.45	5.20
75/ 5/24	2442556.5	-0.71885	-0.02969	0.03202	0.49537	-32.05326	-14.47595	0.72018	35.17399	182.37	2.55
75/ 5/28	2442560.5	-0.71316	-0.10340	-0.00156	4.42454	-31.68816	-14.55955	0.72062	35.15247	188.25	-0.12
75/ 6/ 1	2442564.5	-0.69846	-0.17579	-0.03511	8.29035	-30.92365	-14.45916	0.72110	35.12932	194.13	-2.79
75/ 6/ 5	2442568.5	-0.67494	-0.24598	-0.06822	12.04382	-29.77104	-14.17678	0.72160	35.10484	200.02	-5.43
75/ 6/ 9	2442572.5	-0.64293	-0.31306	-0.10048	15.63784	-28.24655	-13.71675	0.72213	35.07933	205.96	-8.00
75/ 6/13	2442576.5	-0.60285	-0.37621	-0.13147	19.02772	-26.37106	-13.08565	0.72267	35.05312	211.97	-10.48
75/ 6/17	2442580.5	-0.55521	-0.43465	-0.16081	22.17178	-24.16970	-12.29217	0.72322	35.02656	218.06	-12.85
75/ 6/21	2442584.5	-0.50063	-0.48766	-0.18815	25.03179	-21.67147	-11.34697	0.72376	34.99996	224.25	-15.07
75/ 6/25	2442588.5	-0.43980	-0.53458	-0.21313	27.57342	-18.90884	-10.26251	0.72431	34.97366	230.56	-17.11
75/ 6/29	2442592.5	-0.37350	-0.57485	-0.23547	29.76658	-15.91725	-9.05286	0.72484	34.94800	236.99	-18.96
75/ 7/ 3	2442596.5	-0.30255	-0.60797	-0.25487	31.58571	-12.73462	-7.73351	0.72535	34.92327	243.54	-20.57
75/ 7/ 7	2442600.5	-0.22786	-0.63357	-0.27113	33.01004	-9.40088	-6.32112	0.72584	34.89980	250.22	-21.93
75/ 7/11	2442604.5	-0.15035	-0.65133	-0.28402	34.02371	-5.95745	-4.83337	0.72629	34.87786	257.00	-23.02
75/ 7/15	2442608.5	-0.07099	-0.66104	-0.29341	34.61588	-2.44673	-3.28867	0.72671	34.85773	263.87	-23.81
75/ 7/19	2442612.5	0.00926	-0.66261	-0.29919	34.78081	1.08839	-1.70600	0.72709	34.83963	270.80	-24.30
75/ 7/23	2442616.5	0.08938	-0.65603	-0.30128	34.51782	4.60498	-0.10465	0.72741	34.82380	277.76	-24.47
75/ 7/27	2442620.5	0.16841	-0.64138	-0.29967	33.83125	8.06062	1.49598	0.72769	34.81041	284.71	-24.32
75/ 7/31	2442624.5	0.24538	-0.61886	-0.29438	32.73033	11.41379	3.07661	0.72792	34.79964	291.63	-23.85
75/ 8/ 4	2442628.5	0.31933	-0.58876	-0.28549	31.22908	14.62434	4.61824	0.72809	34.79159	298.47	-23.09
75/ 8/ 8	2442632.5	0.38937	-0.55143	-0.27309	29.34609	17.65387	6.10241	0.72820	34.78637	305.23	-22.03
75/ 8/12	2442636.5	0.45464	-0.50736	-0.25735	27.10430	20.46620	7.51135	0.72824	34.78403	311.86	-20.69
75/ 8/16	2442640.5	0.51435	-0.45707	-0.23846	24.53076	23.02766	8.82820	0.72823	34.78460	318.37	-19.11
75/ 8/20	2442644.5	0.56775	-0.40118	-0.21664	21.65632	25.30749	10.03713	0.72816	34.78806	324.75	-17.31
75/ 8/24	2442648.5	0.61420	-0.34037	-0.19218	18.51532	27.27815	11.12358	0.72803	34.79437	331.01	-15.31
75/ 8/28	2442652.5	0.65312	-0.27540	-0.16535	15.14523	28.91562	12.07434	0.72784	34.80345	337.14	-13.13
75/ 9/ 1	2442656.5	0.68403	-0.20705	-0.13650	11.58627	30.19966	12.87776	0.72760	34.81519	343.16	-10.81
75/ 9/ 5	2442660.5	0.70654	-0.13615	-0.10597	7.88099	31.11409	13.52385	0.72730	34.82946	349.09	-8.38
75/ 9/ 9	2442664.5	0.72037	-0.06358	-0.07414	4.07386	31.64694	14.00441	0.72696	34.84607	354.96	-5.85
75/ 9/13	2442668.5	0.72532	0.00977	-0.04140	0.21075	31.79067	14.31315	0.72657	34.86484	0.77	-3.27
75/ 9/17	2442672.5	0.72133	0.08300	-0.00815	-3.66150	31.54227	14.44575	0.72614	34.88555	6.56	-0.64
75/ 9/21	2442676.5	0.70843	0.15520	0.02521	-7.49563	30.90340	14.39998	0.72567	34.90794	12.36	1.99
75/ 9/25	2442680.5	0.68677	0.22549	0.05825	-11.24450	29.88039	14.17571	0.72518	34.93175	18.18	4.61
75/ 9/29	2442684.5	0.65658	0.29298	0.09057	-14.86160	28.48427	13.77497	0.72466	34.95670	24.05	7.18
75/10/ 3	2442688.5	0.61824	0.35682	0.12176	-18.30166	26.73070	13.20197	0.72413	34.98247	29.99	9.68
75/10/ 7	2442692.5	0.57219	0.41622	0.15144	-21.52118	24.63988	12.46306	0.72359	35.00875	36.03	12.08
75/10/11	2442696.5	0.51900	0.47042	0.17922	-24.47901	22.23636	11.56670	0.72304	35.03522	42.19	14.35
75/10/15	2442700.5	0.45932	0.51874	0.20477	-27.13691	19.54886	10.52342	0.72249	35.06155	48.48	16.46
75/10/19	2442704.5	0.39388	0.56055	0.22774	-29.46006	16.60991	9.34569	0.72196	35.08740	54.91	18.39
75/10/23	2442708.5	0.32349	0.59532	0.24785	-31.41761	13.45555	8.04780	0.72144	35.11246	61.48	20.09
75/10/27	2442712.5	0.24902	0.62259	0.26484	-32.98315	10.12490	6.64570	0.72095	35.13641	68.20	21.55
75/10/31	2442716.5	0.17141	0.64200	0.27849	-34.13512	6.65970	5.15685	0.72049	35.15894	75.05	22.74
75/11/ 4	2442720.5	0.09164	0.65329	0.28862	-34.85717	3.10377	3.59997	0.72006	35.17976	82.02	23.63
75/11/ 8	2442724.5	0.01070	0.65630	0.29509	-35.13851	-0.49756	1.99479	0.71967	35.19860	89.07	24.21
75/11/12	2442728.5	-0.07037	0.65099	0.29781	-34.97409	-4.09805	0.36184	0.71933	35.21522	96.17	24.46

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75/11/16	2442732.5	-0.15055	0.63740	0.29675	-34.36477	-7.65118	-1.27786	0.71904	35.22940	103.29	24.38
75/11/20	2442736.5	-0.22881	0.61571	0.29192	-33.31736	-11.11084	-2.90311	0.71880	35.24096	110.39	23.96
75/11/24	2442740.5	-0.30416	0.58617	0.28337	-31.84458	-14.43197	-4.49279	0.71862	35.24974	117.42	23.22
75/11/28	2442744.5	-0.37563	0.54917	0.27121	-29.96493	-17.57120	-6.02619	0.71850	35.25562	124.37	22.18
75/12/ 2	2442748.5	-0.44231	0.50516	0.25558	-27.70244	-20.48754	-7.48332	0.71844	35.25853	131.21	20.84
75/12/ 6	2442752.5	-0.50335	0.45471	0.23670	-25.08636	-23.14292	-8.84518	0.71844	35.25843	137.91	19.24
75/12/10	2442756.5	-0.55798	0.39846	0.21480	-22.15073	-25.50280	-10.09405	0.71850	35.25532	144.47	17.40
75/12/14	2442760.5	-0.60548	0.33713	0.19016	-18.93389	-27.53667	-11.21376	0.71863	35.24924	150.89	15.34
75/12/18	2442764.5	-0.64527	0.27150	0.16310	-15.47794	-29.21842	-12.18989	0.71881	35.24026	157.18	13.11
75/12/22	2442768.5	-0.67685	0.20242	0.13396	-11.82805	-30.52679	-13.01000	0.71905	35.22851	163.35	10.74
75/12/26	2442772.5	-0.69981	0.13076	0.10312	-8.03186	-31.44559	-13.66379	0.71935	35.21414	169.42	8.24
75/12/30	2442776.5	-0.71388	0.05744	0.07097	-4.13877	-31.96392	-14.14323	0.71970	35.19733	175.40	5.66
76/ 1/ 3	2442780.5	-0.71890	-0.01661	0.03791	-0.19917	-32.07623	-14.44263	0.72009	35.17831	181.32	3.02
76/ 1/ 7	2442784.5	-0.71480	-0.09045	0.00438	3.73620	-31.78241	-14.55874	0.72052	35.15733	187.21	0.35
76/ 1/11	2442788.5	-0.70168	-0.16315	-0.02921	7.61703	-31.08767	-14.49073	0.72099	35.13465	193.09	-2.32
76/ 1/15	2442792.5	-0.67969	-0.23379	-0.06243	11.39408	-30.00241	-14.24018	0.72148	35.11057	198.98	-4.96
76/ 1/19	2442796.5	-0.64915	-0.30148	-0.09487	15.01983	-28.54199	-13.81101	0.72200	35.08539	204.91	-7.55
76/ 1/23	2442800.5	-0.61045	-0.36539	-0.12611	18.44912	-26.72650	-13.20942	0.72254	35.05944	210.90	-10.05
76/ 1/27	2442804.5	-0.56409	-0.42471	-0.15578	21.63967	-24.58033	-12.44373	0.72308	35.03304	216.98	-12.44
76/ 1/31	2442808.5	-0.51068	-0.47873	-0.18349	24.55259	-22.13185	-11.52427	0.72363	35.00653	223.15	-14.69
76/ 2/ 4	2442812.5	-0.45089	-0.52676	-0.20891	27.15282	-19.41295	-10.46320	0.72417	34.98024	229.44	-16.77
76/ 2/ 8	2442816.5	-0.38549	-0.56824	-0.23173	29.40947	-16.45860	-9.27432	0.72470	34.95448	235.85	-18.65
76/ 2/12	2442820.5	-0.31529	-0.60266	-0.25168	31.29617	-13.30634	-7.97290	0.72522	34.92959	242.38	-20.31
76/ 2/16	2442824.5	-0.24119	-0.62960	-0.26850	32.79127	-9.99579	-6.57541	0.72571	34.90587	249.04	-21.71
76/ 2/20	2442828.5	-0.16410	-0.64875	-0.28200	33.87803	-6.56816	-5.09937	0.72617	34.88360	255.80	-22.85
76/ 2/24	2442832.5	-0.08498	-0.65989	-0.29201	34.54473	-3.06575	-3.56310	0.72660	34.86305	262.66	-23.70
76/ 2/28	2442836.5	-0.00482	-0.66289	-0.29843	34.78472	0.46859	-1.98551	0.72698	34.84449	269.58	-24.24
76/ 3/ 3	2442840.5	0.07540	-0.65773	-0.30117	34.59644	3.99188	-0.38584	0.72732	34.82812	276.54	-24.46
76/ 3/ 7	2442844.5	0.15470	-0.64449	-0.30021	33.98337	7.46157	1.21650	0.72761	34.81414	283.50	-24.37
76/ 3/11	2442848.5	0.23210	-0.62333	-0.29556	32.95392	10.83592	2.80217	0.72785	34.80273	290.42	-23.96
76/ 3/15	2442852.5	0.30665	-0.59453	-0.28729	31.52128	14.07450	4.35211	0.72803	34.79401	297.28	-23.24
76/ 3/19	2442856.5	0.37744	-0.55843	-0.27550	29.70327	17.13859	5.84776	0.72815	34.78810	304.05	-22.23
76/ 3/23	2442860.5	0.44361	-0.51550	-0.26033	27.52211	19.99156	7.27120	0.72822	34.78505	310.71	-20.95
76/ 3/27	2442864.5	0.50434	-0.46626	-0.24197	25.00418	22.59930	8.60539	0.72822	34.78491	317.25	-19.41
76/ 3/31	2442868.5	0.55890	-0.41130	-0.22065	22.17968	24.93051	9.83432	0.72816	34.78768	323.65	-17.64
76/ 4/ 4	2442872.5	0.60661	-0.35130	-0.19662	19.08240	26.95707	10.94319	0.72805	34.79332	329.92	-15.67
76/ 4/ 8	2442876.5	0.64689	-0.28700	-0.17019	15.74928	28.65434	11.91856	0.72787	34.80177	336.07	-13.52
76/ 4/12	2442880.5	0.67923	-0.21918	-0.14167	12.22012	30.00141	12.74848	0.72764	34.81292	342.12	-11.23
76/ 4/16	2442884.5	0.70323	-0.14867	-0.11141	8.53708	30.98137	13.42269	0.72735	34.82665	348.06	-8.81
76/ 4/20	2442888.5	0.71859	-0.07633	-0.07978	4.74435	31.58152	13.93266	0.72702	34.84279	353.94	-6.30
76/ 4/24	2442892.5	0.72510	-0.00305	-0.04716	0.88758	31.79353	14.27177	0.72664	34.86115	359.76	-3.72
76/ 4/28	2442896.5	0.72267	0.07027	-0.01397	-2.98653	31.61362	14.43534	0.72622	34.88150	5.55	-1.10
76/ 5/ 2	2442900.5	0.71132	0.14272	0.01940	-6.83075	31.04261	14.42078	0.72576	34.90360	11.34	1.53
76/ 5/ 6	2442904.5	0.69117	0.21340	0.05252	-10.59789	30.08602	14.22759	0.72527	34.92718	17.16	4.15
76/ 5/10	2442908.5	0.66245	0.28144	0.08500	-14.24129	28.75407	13.85743	0.72476	34.95196	23.02	6.73

1.2 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — VENUS

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76/ 5/14	2442912.5	0.62550	0.34598	0.11641	-17.71544	27.06162	13.31411	0.72423	34.97761	28.95	9.25
76/ 5/18	2442916.5	0.58077	0.40621	0.14638	-20.97648	25.02808	12.60363	0.72369	35.00384	34.97	11.67
76/ 5/22	2442920.5	0.52878	0.46137	0.17452	-23.98282	22.67727	11.73409	0.72314	35.03032	41.11	13.97
76/ 5/26	2442924.5	0.47018	0.51076	0.20048	-26.69567	20.03718	10.71565	0.72259	35.05670	47.37	16.11
76/ 5/30	2442928.5	0.40569	0.55375	0.22393	-29.07958	17.13971	9.56045	0.72206	35.08267	53.77	18.07
76/ 6/ 3	2442932.5	0.33610	0.58978	0.24456	-31.10299	14.02032	8.28246	0.72154	35.10790	60.32	19.81
76/ 6/ 7	2442936.5	0.26228	0.61839	0.26211	-32.73867	10.71762	6.89739	0.72104	35.13206	67.02	21.32
76/ 6/11	2442940.5	0.18516	0.63919	0.27636	-33.96418	7.27291	5.42242	0.72057	35.15485	73.85	22.55
76/ 6/15	2442944.5	0.10569	0.65192	0.28711	-34.76226	3.72970	3.87606	0.72014	35.17597	80.79	23.50
76/ 6/19	2442948.5	0.02488	0.65638	0.29423	-35.12112	0.13309	2.27790	0.71974	35.19516	87.83	24.13
76/ 6/23	2442952.5	-0.05624	0.65252	0.29761	-35.03469	-3.47079	0.64835	0.71939	35.21217	94.93	24.44
76/ 6/27	2442956.5	-0.13665	0.64038	0.29722	-34.50281	-7.03544	-0.99166	0.71909	35.22676	102.05	24.41
76/ 7/ 1	2442960.5	-0.21532	0.62008	0.29304	-33.53124	-10.51462	-2.62091	0.71885	35.23877	109.15	24.06
76/ 7/ 5	2442964.5	-0.29125	0.59190	0.28513	-32.13168	-13.86303	-4.21827	0.71866	35.24801	116.20	23.38
76/ 7/ 9	2442968.5	-0.36346	0.55617	0.27359	-30.32163	-17.03699	-5.76292	0.71852	35.25439	123.17	22.38
76/ 7/13	2442972.5	-0.43104	0.51335	0.25856	-28.12418	-19.99504	-7.23475	0.71845	35.25780	130.02	21.09
76/ 7/17	2442976.5	-0.49313	0.46398	0.24023	-25.56768	-22.69856	-8.61454	0.71845	35.25821	136.74	19.53
76/ 7/21	2442980.5	-0.54892	0.40869	0.21884	-22.68537	-25.11237	-9.88435	0.71850	35.25561	143.33	17.73
76/ 7/25	2442984.5	-0.59772	0.34820	0.19466	-19.51489	-27.20521	-11.02771	0.71861	35.25003	149.78	15.72
76/ 7/29	2442988.5	-0.63890	0.28326	0.16800	-16.09769	-28.95018	-12.02989	0.71879	35.24155	156.09	13.52
76/ 8/ 2	2442992.5	-0.67194	0.21472	0.13920	-12.47847	-30.32516	-12.87808	0.71902	35.23028	162.28	11.16
76/ 8/ 6	2442996.5	-0.69644	0.14345	0.10863	-8.70447	-31.31306	-13.56161	0.71931	35.21637	168.36	8.69
76/ 8/10	2443000.5	-0.71208	0.07035	0.07667	-4.82483	-31.90201	-14.07203	0.71964	35.19999	174.36	6.12
76/ 8/14	2443004.5	-0.71869	-0.00364	0.04375	-0.88982	-32.08557	-14.40324	0.72003	35.18137	180.29	3.48
76/ 8/18	2443008.5	-0.71619	-0.07758	0.01027	3.04985	-31.86264	-14.55157	0.72045	35.16074	186.18	0.82
76/ 8/22	2443012.5	-0.70463	-0.15054	-0.02334	6.94373	-31.23752	-14.51576	0.72091	35.13837	192.06	-1.86
76/ 8/26	2443016.5	-0.68418	-0.22161	-0.05666	10.74236	-30.21970	-14.29697	0.72140	35.11455	197.95	-4.50
76/ 8/30	2443020.5	-0.65511	-0.28988	-0.08926	14.39787	-28.82371	-13.89871	0.72192	35.08959	203.87	-7.10
76/ 9/ 3	2443024.5	-0.61780	-0.35451	-0.12074	17.86466	-27.06880	-13.32679	0.72245	35.06379	209.85	-9.62
76/ 9/ 7	2443028.5	-0.57274	-0.41469	-0.15071	21.09989	-24.97866	-12.58917	0.72299	35.03750	215.91	-12.03
76/ 9/11	2443032.5	-0.52052	-0.46968	-0.17879	24.06407	-22.58097	-11.69583	0.72354	35.01103	222.06	-14.31
76/ 9/15	2443036.5	-0.46180	-0.51881	-0.20464	26.72141	-19.90704	-10.65864	0.72408	34.98472	228.33	-16.42
76/ 9/19	2443040.5	-0.39732	-0.56147	-0.22794	29.04028	-16.99133	-9.49110	0.72461	34.95889	234.72	-18.33
76/ 9/23	2443044.5	-0.32790	-0.59715	-0.24840	30.99350	-13.87096	-8.20824	0.72513	34.93388	241.23	-20.03
76/ 9/27	2443048.5	-0.25442	-0.62543	-0.26579	32.55856	-10.58522	-6.82635	0.72563	34.90997	247.86	-21.49
76/10/ 1	2443052.5	-0.17778	-0.64597	-0.27988	33.71786	-7.17508	-5.36278	0.72609	34.88746	254.61	-22.67
76/10/ 5	2443056.5	-0.09895	-0.65852	-0.29051	34.45878	-3.68268	-3.83571	0.72652	34.86664	261.45	-23.57
76/10/ 9	2443060.5	-0.01890	-0.66295	-0.29757	34.77379	-0.15083	-2.26397	0.72692	34.84774	268.37	-24.16
76/10/13	2443064.5	0.06139	-0.65922	-0.30096	34.66044	3.37750	-0.66676	0.72726	34.83100	275.32	-24.44
76/10/17	2443068.5	0.14092	-0.64738	-0.30064	34.12132	6.85964	0.93652	0.72756	34.81661	282.28	-24.41
76/10/21	2443072.5	0.21872	-0.62759	-0.29664	33.16398	10.25368	2.52651	0.72781	34.80476	289.21	-24.05
76/10/25	2443076.5	0.29383	-0.60011	-0.28899	31.80079	13.51893	4.08409	0.72800	34.79557	296.09	-23.39
76/10/29	2443080.5	0.36535	-0.56526	-0.27781	30.04877	16.61632	5.59058	0.72813	34.78916	302.88	-22.43
76/11/ 2	2443084.5	0.43239	-0.52349	-0.26322	27.92940	19.50884	7.02794	0.72821	34.78560	309.56	-21.19
76/11/ 6	2443088.5	0.49413	-0.47531	-0.24540	25.46832	22.16191	8.37897	0.72822	34.78495	316.11	-19.69

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76/11/10	2443092.5	0.54982	-0.42130	-0.22458	22.69512	24.54369	9.62746	0.72817	34.78720	322.54	-17.96
76/11/14	2443096.5	0.59877	-0.36214	-0.20101	19.64296	26.62551	10.75838	0.72807	34.79233	328.83	-16.03
76/11/18	2443100.5	0.64039	-0.29853	-0.17498	16.34827	28.38208	11.75804	0.72790	34.80028	335.01	-13.91
76/11/22	2443104.5	0.67415	-0.23127	-0.14680	12.85037	29.79181	12.61424	0.72768	34.81097	341.07	-11.64
76/11/26	2443108.5	0.69964	-0.16117	-0.11681	9.19106	30.83710	13.31639	0.72740	34.82425	347.03	-9.24
76/11/30	2443112.5	0.71653	-0.08908	-0.08539	5.41418	31.50447	13.85565	0.72708	34.83998	352.91	-6.74
76/12/ 4	2443116.5	0.72460	-0.01590	-0.05293	1.56518	31.78482	14.22507	0.72670	34.85796	358.74	-4.18
76/12/ 8	2443120.5	0.72374	0.05747	-0.01980	-2.30938	31.67357	14.41961	0.72629	34.87798	4.54	-1.56
76/12/12	2443124.5	0.71394	0.13014	0.01356	-6.16235	31.17073	14.43633	0.72584	34.89981	10.33	1.07
76/12/16	2443128.5	0.69532	0.20119	0.04676	-9.94647	30.28100	14.27434	0.72535	34.92317	16.14	3.70
76/12/20	2443132.5	0.66808	0.26976	0.07938	-13.61495	29.01376	13.93492	0.72484	34.94777	21.99	6.29
76/12/24	2443136.5	0.63254	0.33497	0.11101	-17.12204	27.38307	13.42152	0.72431	34.97333	27.90	8.82
76/12/28	2443140.5	0.58913	0.39601	0.14126	-20.42354	25.40756	12.73974	0.72377	34.99951	33.91	11.25
77/ 1/ 1	2443144.5	0.53837	0.45211	0.16975	-23.47742	23.11029	11.89733	0.72323	35.02600	40.02	13.57
77/ 1/ 5	2443148.5	0.48087	0.50256	0.19611	-26.24435	20.51854	10.90409	0.72268	35.05246	46.26	15.75
77/ 1/ 9	2443152.5	0.41736	0.54671	0.22002	-28.68827	17.66355	9.77181	0.72214	35.07857	52.64	17.74
77/ 1/13	2443156.5	0.34860	0.58400	0.24117	-30.77688	14.58018	8.51418	0.72162	35.10398	59.17	19.52
77/ 1/17	2443160.5	0.27545	0.61393	0.25927	-32.48217	11.30653	7.14659	0.72112	35.12838	65.84	21.07
77/ 1/21	2443164.5	0.19883	0.63612	0.27411	-33.78083	7.88347	5.68600	0.72064	35.15145	72.64	22.36
77/ 1/25	2443168.5	0.11970	0.65027	0.28549	-34.65466	4.35417	4.15069	0.72020	35.17290	79.57	23.35
77/ 1/29	2443172.5	0.03905	0.65619	0.29325	-35.09090	0.76349	2.56009	0.71980	35.19245	86.59	24.04
77/ 2/ 2	2443176.5	-0.04209	0.65379	0.29729	-35.08248	-2.84256	0.93448	0.71944	35.20985	93.68	24.41
77/ 2/ 6	2443180.5	-0.12270	0.64308	0.29756	-34.62817	-6.41750	-0.70527	0.71913	35.22487	100.80	24.44
77/ 2/10	2443184.5	-0.20175	0.62420	0.29404	-33.73271	-9.91499	-2.33797	0.71888	35.23732	107.91	24.14
77/ 2/14	2443188.5	-0.27822	0.59737	0.28677	-32.40677	-13.28952	-3.94245	0.71868	35.24703	114.97	23.52
77/ 2/18	2443192.5	-0.35116	0.56292	0.27586	-30.66687	-16.49707	-5.49781	0.71854	35.25388	121.96	22.58
77/ 2/22	2443196.5	-0.41961	0.52131	0.26143	-28.53513	-19.49574	-6.98380	0.71846	35.25778	128.83	21.34
77/ 2/26	2443200.5	-0.48272	0.47304	0.24366	-26.03903	-22.24638	-8.38101	0.71844	35.25867	135.58	19.83
77/ 3/ 2	2443204.5	-0.53967	0.41874	0.22279	-23.21099	-24.71317	-9.67127	0.71848	35.25655	142.19	18.06
77/ 3/ 6	2443208.5	-0.58973	0.35910	0.19907	-20.08792	-26.86412	-10.83784	0.71859	35.25144	148.66	16.08
77/ 3/10	2443212.5	-0.63228	0.29488	0.17282	-16.71065	-28.67157	-11.86565	0.71875	35.24341	155.00	13.91
77/ 3/14	2443216.5	-0.66678	0.22691	0.14436	-13.12337	-30.11252	-12.74156	0.71898	35.23257	161.21	11.58
77/ 3/18	2443220.5	-0.69279	0.15605	0.11407	-9.37295	-31.16899	-13.45451	0.71925	35.21905	167.31	9.13
77/ 3/22	2443224.5	-0.71000	0.08320	0.08233	-5.50822	-31.82821	-13.99566	0.71958	35.20303	173.32	6.57
77/ 3/26	2443228.5	-0.71819	0.00930	0.04955	-1.57932	-32.08277	-14.35850	0.71996	35.18472	179.26	3.95
77/ 3/30	2443232.5	-0.71729	-0.06472	0.01613	2.36306	-31.93066	-14.53893	0.72038	35.16435	185.16	1.28
77/ 4/ 3	2443236.5	-0.70730	-0.13792	-0.01749	6.26838	-31.37524	-14.53527	0.72084	35.14217	191.03	-1.39
77/ 4/ 7	2443240.5	-0.68839	-0.20938	-0.05089	10.08697	-30.42513	-14.34825	0.72133	35.11848	196.92	-4.05
77/ 4/11	2443244.5	-0.66080	-0.27820	-0.08364	13.77063	-29.09399	-13.98100	0.72184	35.09357	202.83	-6.65
77/ 4/15	2443248.5	-0.62491	-0.34352	-0.11535	17.27334	-27.40027	-13.43893	0.72237	35.06776	208.80	-9.19
77/ 4/19	2443252.5	-0.58117	-0.40454	-0.14561	20.55176	-25.36692	-12.72963	0.72292	35.04139	214.84	-11.62
77/ 4/23	2443256.5	-0.53015	-0.46049	-0.17404	23.56576	-23.02096	-11.86276	0.72346	35.01478	220.98	-13.92
77/ 4/27	2443260.5	-0.47252	-0.51069	-0.20030	26.27892	-20.39311	-10.84984	0.72401	34.98828	227.22	-16.06
77/ 5/ 1	2443264.5	-0.40899	-0.55452	-0.22407	28.65886	-17.51729	-9.70413	0.72455	34.96221	233.59	-18.01
77/ 5/ 5	2443268.5	-0.34038	-0.59146	-0.24505	30.67762	-14.43020	-8.44040	0.72507	34.93690	240.08	-19.75

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77/ 5/ 9	2443272.5	-0.26755	-0.62106	-0.26299	32.31187	-11.17077	-7.07473	0.72557	34.91267	246.69	-21.25
77/ 5/13	2443276.5	-0.19140	-0.64297	-0.27767	33.54314	-7.77972	-5.62428	0.72605	34.88981	253.42	-22.49
77/ 5/17	2443280.5	-0.11289	-0.65694	-0.28892	34.35795	-4.29900	-4.10713	0.72649	34.86859	260.25	-23.43
77/ 5/21	2443284.5	-0.03298	-0.66280	-0.29661	34.74789	-0.77131	-2.54198	0.72689	34.84929	267.15	-24.08
77/ 5/25	2443288.5	0.04733	-0.66050	-0.30065	34.70962	2.76038	-0.94798	0.72724	34.83211	274.10	-24.42
77/ 5/29	2443292.5	0.12706	-0.65007	-0.30098	34.24485	6.25331	0.65549	0.72755	34.81728	281.06	-24.44
77/ 6/ 2	2443296.5	0.20523	-0.63167	-0.29763	33.36026	9.66544	2.24905	0.72781	34.80497	288.00	-24.14
77/ 6/ 6	2443300.5	0.28088	-0.60551	-0.29062	32.06739	12.95584	3.81354	0.72801	34.79532	294.89	-23.53
77/ 6/10	2443304.5	0.35309	-0.57193	-0.28004	30.38245	16.08516	5.33020	0.72815	34.78845	301.69	-22.62
77/ 6/14	2443308.5	0.42097	-0.53134	-0.26604	28.32613	19.01599	6.78086	0.72823	34.78445	308.39	-21.43
77/ 6/18	2443312.5	0.48370	-0.48425	-0.24878	25.92336	21.71331	8.14817	0.72825	34.78335	314.97	-19.97
77/ 6/22	2443316.5	0.54051	-0.43122	-0.22847	23.20304	24.14480	9.41573	0.72822	34.78517	321.42	-18.28
77/ 6/26	2443320.5	0.59069	-0.37292	-0.20536	20.19770	26.28119	10.56830	0.72812	34.78990	327.73	-16.38
77/ 6/30	2443324.5	0.63363	-0.31004	-0.17974	16.94321	28.09659	11.59195	0.72796	34.79747	333.93	-14.29
77/ 7/ 4	2443328.5	0.66881	-0.24337	-0.15191	13.47840	29.56875	12.47420	0.72774	34.80781	340.00	-12.05
77/ 7/ 8	2443332.5	0.69578	-0.17370	-0.12222	9.84463	30.67932	13.20416	0.72747	34.82079	345.98	-9.67
77/ 7/12	2443336.5	0.71420	-0.10191	-0.09103	6.08541	31.41409	13.77269	0.72715	34.83625	351.88	-7.19
77/ 7/16	2443340.5	0.72383	-0.02886	-0.05872	2.24593	31.76317	14.17248	0.72678	34.85402	357.72	-4.63
77/ 7/20	2443344.5	0.72455	0.04455	-0.02568	-1.62743	31.72116	14.39815	0.72637	34.87387	3.52	-2.03
77/ 7/24	2443348.5	0.71632	0.11740	0.00767	-5.48758	31.28722	14.44637	0.72592	34.89558	9.31	0.61
77/ 7/28	2443352.5	0.69924	0.18881	0.04093	-9.28725	30.46523	14.31589	0.72544	34.91888	15.11	3.23
77/ 8/ 1	2443356.5	0.67350	0.25787	0.07368	-12.97953	29.26373	14.00759	0.72493	34.94348	20.95	5.83
77/ 8/ 5	2443360.5	0.63939	0.32373	0.10551	-16.51843	27.69594	13.52454	0.72440	34.96909	26.85	8.38
77/ 8/ 9	2443364.5	0.59733	0.38557	0.13604	-19.85943	25.77969	12.87196	0.72386	34.99538	32.84	10.83
77/ 8/13	2443368.5	0.54782	0.44259	0.16486	-22.96007	23.53725	12.05720	0.72331	35.02204	38.94	13.18
77/ 8/17	2443372.5	0.49146	0.49409	0.19163	-25.78050	20.99518	11.08971	0.72276	35.04872	45.15	15.37
77/ 8/21	2443376.5	0.42895	0.53939	0.21599	-28.28400	18.18402	9.98094	0.72221	35.07510	51.51	17.40
77/ 8/25	2443380.5	0.36105	0.57792	0.23764	-30.43758	15.13804	8.74425	0.72168	35.10083	58.01	19.23
77/ 8/29	2443384.5	0.28861	0.60918	0.25631	-32.21241	11.89479	7.39473	0.72117	35.12559	64.65	20.82
77/ 9/ 2	2443388.5	0.21253	0.63276	0.27174	-33.58430	8.49470	5.94909	0.72069	35.14907	71.43	22.15
77/ 9/ 6	2443392.5	0.13376	0.64834	0.28373	-34.53411	4.98058	4.42541	0.72024	35.17095	78.34	23.20
77/ 9/10	2443396.5	0.05330	0.65572	0.29214	-35.04809	1.39706	2.84293	0.71983	35.19095	85.35	23.94
77/ 9/14	2443400.5	-0.02783	0.65478	0.29684	-35.11814	-2.21001	1.22180	0.71946	35.20882	92.43	24.37
77/ 9/18	2443404.5	-0.10861	0.64553	0.29777	-34.74199	-5.79415	-0.41717	0.71914	35.22431	99.55	24.46
77/ 9/22	2443408.5	-0.18801	0.62806	0.29491	-33.92334	-9.30892	-2.05283	0.71888	35.23724	106.67	24.22
77/ 9/26	2443412.5	-0.26502	0.60260	0.28830	-32.67181	-12.70862	-3.66397	0.71867	35.24742	113.74	23.65
77/ 9/30	2443416.5	-0.33865	0.56947	0.27802	-31.00290	-15.94888	-5.22961	0.71852	35.25473	120.74	22.76
77/10/ 4	2443420.5	-0.40796	0.52907	0.26419	-28.93781	-18.98738	-6.72935	0.71843	35.25906	127.64	21.58
77/10/ 8	2443424.5	-0.47206	0.48193	0.24699	-26.50310	-21.78443	-8.14361	0.71840	35.26037	134.41	20.11
77/10/12	2443428.5	-0.53015	0.42863	0.22665	-23.73038	-24.30357	-9.45398	0.71844	35.25864	141.04	18.39
77/10/16	2443432.5	-0.58147	0.36987	0.20341	-20.65582	-26.51210	-10.64344	0.71853	35.25389	147.54	16.44
77/10/20	2443436.5	-0.62538	0.30640	0.17757	-17.31964	-28.38157	-11.69661	0.71869	35.24619	153.90	14.30
77/10/24	2443440.5	-0.66133	0.23902	0.14948	-13.76550	-29.88814	-12.60001	0.71891	35.23564	160.13	12.00
77/10/28	2443444.5	-0.68885	0.16860	0.11948	-10.03986	-31.01295	-13.34219	0.71918	35.22237	166.25	9.56
77/11/ 1	2443448.5	-0.70762	0.09603	0.08797	-6.19127	-31.74230	-13.91392	0.71951	35.20658	172.27	7.02

1.2 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM VENUS

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77/11/ 5	2443452.5	-0.71740	0.02225	0.05533	-2.26972	-32.06787	-14.30829	0.71988	35.18845	178.22	4.41
77/11/ 9	2443456.5	-0.71809	-0.05182	0.02200	1.67415	-31.98670	-14.52077	0.72029	35.16823	184.13	1.75
77/11/13	2443460.5	-0.70969	-0.12523	-0.01162	5.58973	-31.50123	-14.54927	0.72075	35.14618	190.01	-0.92
77/11/17	2443464.5	-0.69233	-0.19706	-0.04508	9.42712	-30.61920	-14.39410	0.72123	35.12259	195.89	-3.58
77/11/21	2443468.5	-0.66623	-0.26640	-0.07798	13.13785	-29.35339	-14.05800	0.72175	35.09775	201.79	-6.20
77/11/25	2443472.5	-0.63176	-0.33240	-0.10990	16.67546	-27.72147	-13.54596	0.72228	35.07199	207.75	-8.75
77/11/29	2443476.5	-0.58935	-0.39422	-0.14044	19.99611	-25.74562	-12.86523	0.72282	35.04563	213.78	-11.20
77/12/ 3	2443480.5	-0.53957	-0.45111	-0.16922	23.05909	-23.45219	-12.02511	0.72337	35.01899	219.90	-13.53
77/12/ 7	2443484.5	-0.48304	-0.50236	-0.19589	25.82730	-20.87126	-11.03681	0.72392	34.99243	226.12	-15.70
77/12/11	2443488.5	-0.42049	-0.54735	-0.22011	28.26764	-18.03624	-9.91330	0.72446	34.96626	232.47	-17.69
77/12/15	2443492.5	-0.35271	-0.58552	-0.24160	30.35135	-14.98338	-8.66909	0.72499	34.94080	238.94	-19.47
77/12/19	2443496.5	-0.28055	-0.61644	-0.26008	32.05430	-11.75125	-7.32005	0.72550	34.91638	245.53	-21.01
77/12/23	2443500.5	-0.20491	-0.63971	-0.27535	33.35715	-8.38029	-5.88318	0.72597	34.89328	252.24	-22.29
77/12/27	2443504.5	-0.12674	-0.65508	-0.28721	34.24556	-4.91226	-4.37639	0.72642	34.87178	259.05	-23.29
77/12/31	2443508.5	-0.04701	-0.66237	-0.29553	34.71020	-1.38976	-2.81829	0.72683	34.85215	265.94	-23.99
78/ 1/ 4	2443512.5	0.03330	-0.66149	-0.30021	34.74687	2.14424	-1.22798	0.72719	34.83462	272.88	-24.38
78/ 1/ 8	2443516.5	0.11320	-0.65248	-0.30120	34.35639	5.64694	0.37519	0.72751	34.81939	279.84	-24.46
78/ 1/12	2443520.5	0.19171	-0.63546	-0.29848	33.54459	9.07612	1.97185	0.72777	34.80666	286.79	-24.21
78/ 1/16	2443524.5	0.26787	-0.61064	-0.29210	32.32215	12.39064	3.54276	0.72798	34.79656	293.69	-23.66
78/ 1/20	2443528.5	0.34075	-0.57833	-0.28215	30.70450	15.55083	5.06908	0.72813	34.78922	300.51	-22.80
78/ 1/24	2443532.5	0.40945	-0.53893	-0.26873	28.71154	18.51894	6.53254	0.72823	34.78473	307.23	-21.66
78/ 1/28	2443536.5	0.47314	-0.49294	-0.25203	26.36749	21.25948	7.91561	0.72826	34.78314	313.83	-20.25
78/ 2/ 1	2443540.5	0.53103	-0.44091	-0.23223	23.70055	23.73965	9.20174	0.72823	34.78447	320.30	-18.60
78/ 2/ 5	2443544.5	0.58242	-0.38348	-0.20960	20.74267	25.92962	10.37546	0.72814	34.78870	326.64	-16.73
78/ 2/ 9	2443548.5	0.62667	-0.32135	-0.18439	17.52914	27.80288	11.42260	0.72800	34.79579	332.85	-14.67
78/ 2/13	2443552.5	0.66324	-0.25528	-0.15693	14.09830	29.33653	12.33041	0.72779	34.80565	338.95	-12.45
78/ 2/17	2443556.5	0.69167	-0.18608	-0.12754	10.49110	30.51152	13.08773	0.72753	34.81817	344.94	-10.10
78/ 2/21	2443560.5	0.71161	-0.11459	-0.09658	6.75071	31.31291	13.68509	0.72722	34.83320	350.85	-7.63
78/ 2/25	2443564.5	0.72279	-0.04170	-0.06444	2.92203	31.73002	14.11485	0.72686	34.85056	356.70	-5.09
78/ 3/ 1	2443568.5	0.72508	0.03171	-0.03150	-0.94871	31.75667	14.37130	0.72645	34.87005	2.50	-2.49
78/ 3/ 5	2443572.5	0.71842	0.10473	0.00183	-4.81451	31.39122	14.45074	0.72601	34.89143	8.29	0.14
78/ 3/ 9	2443576.5	0.70287	0.17645	0.03513	-8.62811	30.63671	14.35154	0.72553	34.91446	14.09	2.78
78/ 3/13	2443580.5	0.67863	0.24598	0.06800	-12.34248	29.50087	14.07423	0.72503	34.93884	19.92	5.38
78/ 3/17	2443584.5	0.64596	0.31247	0.10002	-15.91144	27.99610	13.62148	0.72450	34.96427	25.81	7.94
78/ 3/21	2443588.5	0.60526	0.37506	0.13080	-19.29018	26.13943	12.99813	0.72396	34.99046	31.79	10.41
78/ 3/25	2443592.5	0.55701	0.43299	0.15995	-22.43584	23.95237	12.21116	0.72341	35.01707	37.86	12.77
78/ 3/29	2443596.5	0.50181	0.48550	0.18710	-25.30806	21.46073	11.26967	0.72286	35.04378	44.05	15.00
78/ 4/ 2	2443600.5	0.44032	0.53193	0.21191	-27.86956	18.69439	10.18476	0.72231	35.07024	50.38	17.06
78/ 4/ 6	2443604.5	0.37330	0.57169	0.23406	-30.08663	15.68698	8.96945	0.72178	35.09613	56.86	18.92
78/ 4/10	2443608.5	0.30160	0.60425	0.25327	-31.92971	12.47550	7.63856	0.72127	35.12110	63.48	20.56
78/ 4/14	2443612.5	0.22609	0.62920	0.26928	-33.37374	9.09990	6.20852	0.72078	35.14485	70.24	21.94
78/ 4/18	2443616.5	0.14772	0.64620	0.28189	-34.39869	5.60263	4.69717	0.72032	35.16706	77.12	23.04
78/ 4/22	2443620.5	0.06749	0.65503	0.29093	-34.98982	2.02801	3.12357	0.71990	35.18745	84.12	23.84
78/ 4/26	2443624.5	-0.01360	0.65555	0.29629	-35.13803	-1.57825	1.50774	0.71953	35.20575	91.19	24.32
78/ 4/30	2443628.5	-0.09452	0.64775	0.29788	-34.84002	-5.16975	-0.12962	0.71920	35.22172	98.30	24.47

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78/ 5/ 4	2443632.5	-0.17424	0.63171	0.29569	-34.09842	-8.70000	-1.76738	0.71892	35.23515	105.42	24.29
78/ 5/ 8	2443636.5	-0.25173	0.60763	0.28973	-32.92184	-12.12312	-3.38434	0.71870	35.24587	112.50	23.77
78/ 5/12	2443640.5	-0.32602	0.57581	0.28008	-31.32475	-15.39445	-4.95945	0.71854	35.25372	119.52	22.94
78/ 5/16	2443644.5	-0.39616	0.53666	0.26687	-29.32734	-18.47128	-6.47218	0.71844	35.25862	126.43	21.81
78/ 5/20	2443648.5	-0.46124	0.49065	0.25024	-26.95528	-21.31339	-7.90280	0.71840	35.26049	133.23	20.39
78/ 5/24	2443652.5	-0.52043	0.43839	0.23043	-24.23931	-23.88373	-9.23266	0.71842	35.25931	139.89	18.71
78/ 5/28	2443656.5	-0.57299	0.38054	0.20768	-21.21485	-26.14890	-10.44447	0.71851	35.25510	146.41	16.80
78/ 6/ 1	2443660.5	-0.61825	0.31783	0.18228	-17.92145	-28.07967	-11.52257	0.71866	35.24791	152.79	14.69
78/ 6/ 5	2443664.5	-0.65562	0.25107	0.15455	-14.40220	-29.65136	-12.45311	0.71886	35.23786	159.05	12.42
78/ 6/ 9	2443668.5	-0.68465	0.18112	0.12486	-10.70312	-30.84422	-13.22428	0.71913	35.22506	165.18	10.00
78/ 6/13	2443672.5	-0.70497	0.10887	0.09358	-6.87246	-31.64364	-13.82646	0.71944	35.20968	171.22	7.47
78/ 6/17	2443676.5	-0.71634	0.03523	0.06111	-2.96000	-32.04034	-14.25230	0.71981	35.19194	177.18	4.87
78/ 6/21	2443680.5	-0.71863	-0.03886	0.02787	0.98368	-32.03041	-14.49687	0.72021	35.17206	183.10	2.22
78/ 6/25	2443684.5	-0.71181	-0.11245	-0.00573	4.90791	-31.61537	-14.55765	0.72066	35.15031	188.98	-0.46
78/ 6/29	2443688.5	-0.69600	-0.18463	-0.03925	8.76261	-30.80201	-14.43453	0.72114	35.12695	194.86	-3.12
78/ 7/ 3	2443692.5	-0.67142	-0.25447	-0.07228	12.49901	-29.60228	-14.12982	0.72165	35.10231	200.76	-5.75
78/ 7/ 7	2443696.5	-0.63838	-0.32111	-0.10440	16.07026	-28.03299	-13.64813	0.72218	35.07668	206.70	-8.31
78/ 7/11	2443700.5	-0.59733	-0.38372	-0.13521	19.43201	-26.11557	-12.99633	0.72272	35.05040	212.72	-10.78
78/ 7/15	2443704.5	-0.54879	-0.44153	-0.16432	22.54297	-23.87565	-12.18335	0.72327	35.02379	218.82	-13.13
78/ 7/19	2443708.5	-0.49339	-0.49381	-0.19138	25.36538	-21.34270	-11.22009	0.72382	34.99720	225.02	-15.33
78/ 7/23	2443712.5	-0.43184	-0.53994	-0.21606	27.86541	-18.54959	-10.11923	0.72436	34.97095	231.35	-17.35
78/ 7/27	2443716.5	-0.36492	-0.57935	-0.23804	30.01352	-15.53209	-8.89503	0.72489	34.94537	237.79	-19.17
78/ 7/31	2443720.5	-0.29346	-0.61156	-0.25707	31.78473	-12.32842	-7.56312	0.72540	34.92076	244.37	-20.76
78/ 8/ 4	2443724.5	-0.21837	-0.63619	-0.27292	33.15886	-8.97870	-6.14032	0.72589	34.89743	251.06	-22.08
78/ 8/ 8	2443728.5	-0.14057	-0.65296	-0.28539	34.12068	-5.52452	-4.64441	0.72634	34.87566	257.85	-23.14
78/ 8/12	2443732.5	-0.06104	-0.66167	-0.29433	34.65999	-2.00838	-3.09388	0.72675	34.85571	264.73	-23.89
78/ 8/16	2443736.5	0.01924	-0.66223	-0.29965	34.77168	1.52681	-1.50778	0.72712	34.83783	271.66	-24.34
78/ 8/20	2443740.5	0.09929	-0.65464	-0.30129	34.45569	5.03815	0.09459	0.72745	34.82222	278.62	-24.47
78/ 8/24	2443744.5	0.17811	-0.63900	-0.29922	33.71699	8.48330	1.69383	0.72772	34.80906	285.58	-24.28
78/ 8/28	2443748.5	0.25475	-0.61552	-0.29348	32.56542	11.82089	3.27066	0.72794	34.79852	292.48	-23.78
78/ 9/ 1	2443752.5	0.32827	-0.58450	-0.28414	31.01557	15.01097	4.80617	0.72810	34.79072	299.32	-22.97
78/ 9/ 5	2443756.5	0.39776	-0.54631	-0.27132	29.08661	18.01540	6.28196	0.72821	34.78575	306.06	-21.88
78/ 9/ 9	2443760.5	0.46239	-0.50143	-0.25517	26.80200	20.79829	7.68036	0.72825	34.78367	312.68	-20.51
78/ 9/13	2443764.5	0.52135	-0.45041	-0.23590	24.18927	23.32631	8.98463	0.72823	34.78450	319.17	-18.90
78/ 9/17	2443768.5	0.57392	-0.39388	-0.21375	21.27975	25.56911	10.17911	0.72815	34.78824	325.54	-17.07
78/ 9/21	2443772.5	0.61946	-0.33251	-0.18897	18.10817	27.49957	11.24937	0.72802	34.79484	331.77	-15.04
78/ 9/25	2443776.5	0.65741	-0.26708	-0.16188	14.71237	29.09414	12.18243	0.72782	34.80423	337.89	-12.85
78/ 9/29	2443780.5	0.68730	-0.19836	-0.13280	11.13288	30.33306	12.96681	0.72757	34.81629	343.90	-10.52
78/10/ 3	2443784.5	0.70874	-0.12721	-0.10209	7.41250	31.20067	13.59275	0.72727	34.83088	349.82	-8.07
78/10/ 7	2443788.5	0.72147	-0.05450	-0.07012	3.59590	31.68555	14.05228	0.72692	34.84783	355.68	-5.54
78/10/11	2443792.5	0.72532	0.01889	-0.03729	-0.27090	31.78070	14.33936	0.72652	34.86693	1.49	-2.94
78/10/15	2443796.5	0.72022	0.09204	-0.00400	-4.14099	31.48369	14.44991	0.72609	34.88797	7.28	-0.32
78/10/19	2443800.5	0.70622	0.16405	0.02933	-7.96711	30.79675	14.38196	0.72562	34.91067	13.08	2.32
78/10/23	2443804.5	0.68348	0.23403	0.06231	-11.70215	29.72678	14.13565	0.72512	34.93478	18.90	4.93
78/10/27	2443808.5	0.65226	0.30111	0.09451	-15.29974	28.28540	13.71328	0.72460	34.95997	24.78	7.49

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78/10/31	2443812.5	0.61293	0.36445	0.12554	-18.71479	26.48883	13.11931	0.72406	34.98596	30.74	9.98
78/11/ 4	2443816.5	0.56596	0.42324	0.15500	-21.90405	24.35781	12.36035	0.72351	35.01240	36.79	12.37
78/11/ 8	2443820.5	0.51193	0.47675	0.18252	-24.82669	21.91743	11.44515	0.72297	35.03898	42.96	14.62
78/11/12	2443824.5	0.45149	0.52429	0.20777	-27.44487	19.19689	10.38446	0.72242	35.06534	49.27	16.71
78/11/16	2443828.5	0.38539	0.56526	0.23040	-29.72424	16.22917	9.19097	0.72189	35.09117	55.71	18.61
78/11/20	2443832.5	0.31444	0.59912	0.25014	-31.63447	13.05073	7.87922	0.72137	35.11614	62.31	20.29
78/11/24	2443836.5	0.23953	0.62542	0.26673	-33.14972	9.70106	6.46534	0.72088	35.13993	69.04	21.72
78/11/28	2443840.5	0.16159	0.64384	0.27995	-34.24905	6.22216	4.96696	0.72042	35.16224	75.91	22.87
78/12/ 2	2443844.5	0.08162	0.65411	0.28963	-34.91680	2.65810	3.40295	0.72000	35.18279	82.89	23.72
78/12/ 6	2443848.5	0.00061	0.65609	0.29564	-35.14288	-0.94564	1.79316	0.71962	35.20130	89.95	24.26
78/12/10	2443852.5	-0.08041	0.64974	0.29789	-34.92298	-4.54274	0.15820	0.71929	35.21755	97.06	24.47
78/12/14	2443856.5	-0.16041	0.63514	0.29636	-34.25868	-8.08670	-1.48088	0.71900	35.23131	104.17	24.34
78/12/18	2443860.5	-0.23836	0.61246	0.29106	-33.15757	-11.53149	-3.10286	0.71877	35.24241	111.27	23.89
78/12/22	2443864.5	-0.31328	0.58197	0.28206	-31.63308	-14.83222	-4.68664	0.71860	35.25069	118.29	23.11
78/12/26	2443868.5	-0.38421	0.54407	0.26945	-29.70443	-17.94581	-6.21161	0.71849	35.25606	125.23	22.03
78/12/30	2443872.5	-0.45023	0.49923	0.25342	-27.39634	-20.83157	-7.65787	0.71844	35.25843	132.05	20.65
79/ 1/ 3	2443876.5	-0.51052	0.44803	0.23415	-24.73867	-23.45187	-9.00658	0.71846	35.25778	138.73	19.02
79/ 1/ 7	2443880.5	-0.56429	0.39111	0.21189	-21.76604	-25.77266	-10.24020	0.71853	35.25411	145.27	17.15
79/ 1/11	2443884.5	-0.61087	0.32920	0.18694	-18.51730	-27.76395	-11.34276	0.71867	35.24748	151.68	15.08
79/ 1/15	2443888.5	-0.64967	0.26310	0.15960	-15.03493	-29.40024	-12.30009	0.71886	35.23798	157.95	12.83
79/ 1/19	2443892.5	-0.68019	0.19365	0.13023	-11.36447	-30.66089	-13.10001	0.71911	35.22573	164.11	10.43
79/ 1/23	2443896.5	-0.70207	0.12174	0.09920	-7.55382	-31.53039	-13.73251	0.71942	35.21089	170.16	7.93
79/ 1/27	2443900.5	-0.71503	0.04828	0.06691	-3.65249	-31.99848	-14.18983	0.71977	35.19367	176.14	5.33
79/ 1/31	2443904.5	-0.71891	-0.02579	0.03378	0.28902	-32.06032	-14.46661	0.72017	35.17428	182.05	2.69
79/ 2/ 4	2443908.5	-0.71370	-0.09954	0.00021	4.22004	-31.71646	-14.55990	0.72061	35.15299	187.94	0.02
79/ 2/ 8	2443912.5	-0.69946	-0.17203	-0.03335	8.09034	-30.97276	-14.46915	0.72108	35.13007	193.82	-2.65
79/ 2/12	2443916.5	-0.67640	-0.24234	-0.06650	11.85089	-29.84025	-14.19626	0.72158	35.10581	199.71	-5.29
79/ 2/16	2443920.5	-0.64483	-0.30961	-0.09881	15.45446	-28.33490	-13.74542	0.72210	35.08053	205.65	-7.86
79/ 2/20	2443924.5	-0.60515	-0.37299	-0.12988	18.85621	-26.47732	-13.12310	0.72263	35.05454	211.65	-10.35
79/ 2/24	2443928.5	-0.55789	-0.43169	-0.15932	22.01429	-24.29241	-12.33789	0.72318	35.02818	217.73	-12.73
79/ 2/28	2443932.5	-0.50366	-0.48500	-0.18676	24.89027	-21.80899	-11.40032	0.72372	35.00178	223.92	-14.96
79/ 3/ 4	2443936.5	-0.44314	-0.53225	-0.21188	27.44958	-19.05934	-10.32278	0.72426	34.97567	230.22	-17.01
79/ 3/ 8	2443940.5	-0.37710	-0.57288	-0.23436	29.66188	-16.07874	-9.11925	0.72479	34.95017	236.65	-18.87
79/ 3/12	2443944.5	-0.30637	-0.60639	-0.25393	31.50138	-12.90501	-7.80514	0.72530	34.92558	243.20	-20.49
79/ 3/16	2443948.5	-0.23185	-0.63239	-0.27035	32.94701	-9.57798	-6.39706	0.72578	34.90223	249.87	-21.87
79/ 3/20	2443952.5	-0.15446	-0.65056	-0.28343	33.98263	-6.13900	-4.91264	0.72624	34.88037	256.64	-22.97
79/ 3/24	2443956.5	-0.07517	-0.66070	-0.29301	34.59713	-2.63045	-3.37028	0.72666	34.86028	263.51	-23.78
79/ 3/28	2443960.5	0.00506	-0.66270	-0.29897	34.78448	0.90477	-1.78892	0.72703	34.84220	270.44	-24.28
79/ 4/ 1	2443964.5	0.08522	-0.65653	-0.30126	34.54373	4.42372	-0.18786	0.72736	34.82634	277.40	-24.47
79/ 4/ 5	2443968.5	0.16434	-0.64230	-0.29984	33.87895	7.88392	1.41350	0.72764	34.81289	284.35	-24.33
79/ 4/ 9	2443972.5	0.24143	-0.62018	-0.29474	32.79913	11.24377	2.99585	0.72787	34.80201	291.27	-23.89
79/ 4/13	2443976.5	0.31557	-0.59046	-0.28603	31.31803	14.46302	4.54017	0.72804	34.79383	298.12	-23.13
79/ 4/17	2443980.5	0.38584	-0.55350	-0.27381	29.45401	17.50316	6.02796	0.72815	34.78844	304.88	-22.09
79/ 4/21	2443984.5	0.45138	-0.50975	-0.25823	27.22983	20.32786	7.44141	0.72820	34.78591	311.52	-20.77
79/ 4/25	2443988.5	0.51139	-0.45977	-0.23949	24.67231	22.90330	8.76357	0.72819	34.78627	318.04	-19.20

1.2 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM VENUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
79/ 4/29	2443992.5	0.56514	-0.40415	-0.21782	21.81216	25.19856	9.97858	0.72813	34.78950	324.43	-17.41
79/ 5/ 3	2443996.5	0.61197	-0.34358	-0.19348	18.68354	27.18591	11.07178	0.72800	34.79558	330.69	-15.41
79/ 5/ 7	2444000.5	0.65129	-0.27880	-0.16677	15.32380	28.84114	12.02990	0.72782	34.80443	336.83	-13.25
79/ 5/11	2444004.5	0.68262	-0.21059	-0.13801	11.77304	30.14382	12.84120	0.72758	34.81596	342.85	-10.93
79/ 5/15	2444008.5	0.70557	-0.13981	-0.10756	8.07373	31.07753	13.49560	0.72729	34.83001	348.79	-8.50
79/ 5/19	2444012.5	0.71984	-0.06730	-0.07579	4.27026	31.63010	13.98482	0.72694	34.84643	354.66	-5.98
79/ 5/23	2444016.5	0.72525	0.00604	-0.04308	0.40846	31.79375	14.30245	0.72656	34.86502	0.48	-3.40
79/ 5/27	2444020.5	0.72172	0.07930	-0.00984	-3.46485	31.56526	14.44408	0.72613	34.88556	6.27	-0.78
79/ 5/31	2444024.5	0.70927	0.15158	0.02352	-7.30242	30.94604	14.40736	0.72567	34.90780	12.06	1.86
79/ 6/ 4	2444028.5	0.68805	0.22198	0.05659	-11.05707	29.94218	14.19207	0.72518	34.93148	17.88	4.48
79/ 6/ 8	2444032.5	0.65829	0.28963	0.08896	-14.68224	28.56450	13.80013	0.72467	34.95630	23.75	7.05
79/ 6/12	2444036.5	0.62034	0.35368	0.12022	-18.13258	26.82844	13.23565	0.72414	34.98197	29.69	9.56
79/ 6/16	2444040.5	0.57468	0.41333	0.14998	-21.36447	24.75398	12.50486	0.72359	35.00816	35.73	11.96
79/ 6/20	2444044.5	0.52183	0.46781	0.17787	-24.33663	22.36546	11.61614	0.72305	35.03456	41.88	14.24
79/ 6/24	2444048.5	0.46246	0.51645	0.20354	-27.01066	19.69141	10.57991	0.72251	35.06084	48.16	16.36
79/ 6/28	2444052.5	0.39729	0.55860	0.22665	-29.35157	16.76418	9.40855	0.72197	35.08665	54.58	18.30
79/ 7/ 2	2444056.5	0.32713	0.59374	0.24692	-31.32829	13.61967	8.11627	0.72146	35.11169	61.15	20.01
79/ 7/ 6	2444060.5	0.25284	0.62139	0.26407	-32.91418	10.29684	6.71895	0.72096	35.13563	67.86	21.49
79/ 7/10	2444064.5	0.17537	0.64121	0.27789	-34.08742	6.83733	5.23397	0.72050	35.15815	74.70	22.69
79/ 7/14	2444068.5	0.09568	0.65291	0.28820	-34.83142	3.28487	3.67999	0.72007	35.17898	81.66	23.59
79/ 7/18	2444072.5	0.01478	0.65635	0.29486	-35.13510	-0.31527	2.07672	0.71969	35.19783	88.71	24.19
79/ 7/22	2444076.5	-0.06631	0.65145	0.29777	-34.99313	-3.91687	0.44465	0.71935	35.21447	95.81	24.45
79/ 7/26	2444080.5	-0.14656	0.63828	0.29691	-34.40608	-7.47342	-1.19523	0.71905	35.22866	102.93	24.39
79/ 7/30	2444084.5	-0.22494	0.61699	0.29226	-33.38047	-10.93876	-2.82170	0.71882	35.24023	110.03	23.99
79/ 8/ 3	2444088.5	-0.30046	0.58785	0.28389	-31.92874	-14.26777	-4.41363	0.71864	35.24902	117.07	23.27
79/ 8/ 7	2444092.5	-0.37215	0.55121	0.27191	-30.06910	-17.41700	-5.95031	0.71852	35.25492	124.03	22.24
79/ 8/11	2444096.5	-0.43910	0.50754	0.25646	-27.82534	-20.34531	-7.41169	0.71846	35.25783	130.86	20.91
79/ 8/15	2444100.5	-0.50044	0.45741	0.23774	-25.22645	-23.01451	-8.77871	0.71846	35.25773	137.57	19.32
79/ 8/19	2444104.5	-0.55540	0.40144	0.21599	-22.30625	-25.38987	-10.03361	0.71852	35.25461	144.14	17.49
79/ 8/23	2444108.5	-0.60329	0.34035	0.19148	-19.10287	-27.44066	-11.16012	0.71865	35.24852	150.57	15.45
79/ 8/27	2444112.5	-0.64348	0.27492	0.16453	-15.65823	-29.14059	-12.14375	0.71883	35.23953	156.87	13.23
79/ 8/31	2444116.5	-0.67548	0.20599	0.13549	-12.01735	-30.46814	-12.97195	0.71907	35.22777	163.04	10.86
79/ 9/ 4	2444120.5	-0.69889	0.13445	0.10473	-8.22777	-31.40687	-13.63432	0.71937	35.21339	169.11	8.37
79/ 9/ 8	2444124.5	-0.71342	0.06119	0.07263	-4.33877	-31.94563	-14.12271	0.71971	35.19657	175.10	5.79
79/ 9/12	2444128.5	-0.71890	-0.01284	0.03961	-0.40073	-32.07860	-14.43132	0.72010	35.17755	181.02	3.15
79/ 9/16	2444132.5	-0.71527	-0.08671	0.00609	3.53566	-31.80541	-14.55679	0.72054	35.15658	186.91	0.48
79/ 9/20	2444136.5	-0.70260	-0.15948	-0.02750	7.42005	-31.13099	-14.49815	0.72100	35.13391	192.79	-2.19
79/ 9/24	2444140.5	-0.68107	-0.23025	-0.06075	11.20316	-30.06548	-14.25688	0.72150	35.10986	198.68	-4.83
79/ 9/28	2444144.5	-0.65096	-0.29811	-0.09324	14.83740	-28.62401	-13.83676	0.72201	35.08473	204.61	-7.42
79/10/ 2	2444148.5	-0.61266	-0.36222	-0.12455	18.27747	-26.82640	-13.24389	0.72255	35.05884	210.59	-9.93
79/10/ 6	2444152.5	-0.56669	-0.42180	-0.15430	21.48097	-24.69683	-12.48647	0.72309	35.03252	216.66	-12.32
79/10/10	2444156.5	-0.51363	-0.47610	-0.18212	24.40883	-22.26345	-11.57473	0.72364	35.00610	222.83	-14.58
79/10/14	2444160.5	-0.45415	-0.52445	-0.20767	27.02579	-19.55797	-10.52074	0.72418	34.97990	229.11	-16.66
79/10/18	2444164.5	-0.38902	-0.56628	-0.23063	29.30076	-16.61519	-9.33820	0.72471	34.95427	235.51	-18.56
79/10/22	2444168.5	-0.31906	-0.60107	-0.25073	31.20710	-13.47249	-8.04229	0.72522	34.92950	242.04	-20.23

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79/10/26	2444172.5	-0.24513	-0.62840	-0.26772	32.72293	-10.16941	-6.64944	0.72571	34.90590	248.69	-21.65
79/10/30	2444176.5	-0.16818	-0.64796	-0.28139	33.83123	-6.74706	-5.17710	0.72617	34.88377	255.45	-22.80
79/11/ 3	2444180.5	-0.08915	-0.65952	-0.29159	34.52001	-3.24767	-3.64355	0.72659	34.86336	262.30	-23.66
79/11/ 7	2444184.5	-0.00901	-0.66294	-0.29819	34.78235	0.28592	-2.06766	0.72697	34.84493	269.22	-24.22
79/11/11	2444188.5	0.07123	-0.65820	-0.30113	34.61641	3.81075	-0.46867	0.72731	34.82868	276.18	-24.46
79/11/15	2444192.5	0.15060	-0.64537	-0.30036	34.02537	7.28422	1.13402	0.72760	34.81482	283.14	-24.38
79/11/19	2444196.5	0.22812	-0.62462	-0.29590	33.01738	10.66454	2.72106	0.72784	34.80350	290.06	-23.99
79/11/23	2444200.5	0.30284	-0.59620	-0.28781	31.60538	13.91120	4.27338	0.72802	34.79487	296.93	-23.29
79/11/27	2444204.5	0.37385	-0.56048	-0.27620	29.80693	16.98537	5.77237	0.72814	34.78902	303.70	-22.29
79/12/ 1	2444208.5	0.44028	-0.51789	-0.26120	27.64402	19.85030	7.20007	0.72820	34.78602	310.37	-21.02
79/12/ 5	2444212.5	0.50131	-0.46895	-0.24300	25.14281	22.47171	8.53939	0.72820	34.78591	316.91	-19.49
79/12/ 9	2444216.5	0.55621	-0.41427	-0.22182	22.33330	24.81813	9.77426	0.72814	34.78868	323.32	-17.74
79/12/13	2444220.5	0.60429	-0.35452	-0.19793	19.24911	26.86127	10.88980	0.72803	34.79431	329.60	-15.78
79/12/17	2444224.5	0.64496	-0.29042	-0.17161	15.92704	28.57627	11.87247	0.72785	34.80272	335.76	-13.64
79/12/21	2444228.5	0.67773	-0.22275	-0.14318	12.40673	29.94201	12.71027	0.72762	34.81382	341.81	-11.35
79/12/25	2444232.5	0.70217	-0.15235	-0.11300	8.73028	30.94136	13.39281	0.72734	34.82747	347.76	-8.94
79/12/29	2444236.5	0.71798	-0.08008	-0.08143	4.94175	31.56139	13.91148	0.72700	34.84353	353.64	-6.43
80/ 1/ 2	2444240.5	0.72495	-0.00683	-0.04886	1.08678	31.79352	14.25954	0.72663	34.86178	359.46	-3.86
80/ 1/ 6	2444244.5	0.72298	0.06651	-0.01568	-2.78796	31.63374	14.43222	0.72621	34.88202	5.26	-1.24
80/ 1/10	2444248.5	0.71209	0.13903	0.01769	-6.63524	31.08264	14.42682	0.72575	34.90401	11.05	1.40
80/ 1/14	2444252.5	0.69238	0.20983	0.05084	-10.40785	30.14548	14.24272	0.72526	34.92747	16.86	4.02
80/ 1/18	2444256.5	0.66409	0.27802	0.08336	-14.05906	28.83226	13.88147	0.72475	34.95213	22.72	6.60
80/ 1/22	2444260.5	0.62755	0.34276	0.11484	-17.54327	27.15760	13.34679	0.72422	34.97769	28.64	9.12
80/ 1/26	2444264.5	0.58320	0.40324	0.14489	-20.81651	25.14071	12.64456	0.72368	35.00382	34.66	11.55
80/ 1/30	2444268.5	0.53157	0.45868	0.17314	-23.83706	22.80519	11.78277	0.72314	35.03021	40.79	13.85
80/ 2/ 3	2444272.5	0.47329	0.50838	0.19922	-26.56596	20.17883	10.77150	0.72259	35.05653	47.05	16.00
80/ 2/ 7	2444276.5	0.40908	0.55171	0.22280	-28.96757	17.29336	9.62279	0.72206	35.08245	53.44	17.97
80/ 2/11	2444280.5	0.33973	0.58811	0.24359	-31.01012	14.18406	8.35053	0.72154	35.10765	59.99	19.73
80/ 2/15	2444284.5	0.26610	0.61710	0.26130	-32.66615	10.88943	6.97034	0.72104	35.13179	66.67	21.25
80/ 2/19	2444288.5	0.18911	0.63831	0.27572	-33.91297	7.45065	5.49934	0.72057	35.15458	73.50	22.50
80/ 2/23	2444292.5	0.10974	0.65145	0.28665	-34.73304	3.91113	3.95600	0.72014	35.17571	80.44	23.46
80/ 2/27	2444296.5	0.02897	0.65634	0.29396	-35.11430	0.31592	2.35985	0.71974	35.19493	87.47	24.11
80/ 3/ 2	2444300.5	-0.05216	0.65290	0.29753	-35.05041	-3.28887	0.73126	0.71939	35.21196	94.57	24.43
80/ 3/ 6	2444304.5	-0.13263	0.64117	0.29733	-34.54088	-6.85674	-0.90882	0.71909	35.22660	101.69	24.42
80/ 3/10	2444308.5	-0.21141	0.62129	0.29334	-33.59121	-10.34142	-2.53921	0.71885	35.23865	108.79	24.08
80/ 3/14	2444312.5	-0.28750	0.59349	0.28562	-32.21281	-13.69755	-4.13874	0.71866	35.24794	115.85	23.42
80/ 3/18	2444316.5	-0.35993	0.55813	0.27426	-30.42290	-16.88134	-5.68660	0.71852	35.25436	122.82	22.44
80/ 3/22	2444320.5	-0.42777	0.51566	0.25940	-28.24429	-19.85121	-7.16259	0.71845	35.25781	129.68	21.16
80/ 3/26	2444324.5	-0.49015	0.46661	0.24124	-25.70512	-22.56840	-8.54748	0.71845	35.25826	136.41	19.62
80/ 3/30	2444328.5	-0.54628	0.41160	0.21999	-22.83837	-24.99753	-9.82323	0.71850	35.25569	143.00	17.83
80/ 4/ 3	2444332.5	-0.59545	0.35135	0.19595	-19.68148	-27.10715	-10.97332	0.71861	35.25013	149.46	15.82
80/ 4/ 7	2444336.5	-0.63703	0.28663	0.16940	-16.27575	-28.87014	-11.98291	0.71879	35.24167	155.77	13.63
80/ 4/11	2444340.5	-0.67049	0.21825	0.14070	-12.66571	-30.26414	-12.83911	0.71902	35.23040	161.97	11.28
80/ 4/15	2444344.5	-0.69543	0.14709	0.11021	-8.89850	-31.27180	-13.53113	0.71930	35.21648	168.06	8.81
80/ 4/19	2444348.5	-0.71152	0.07407	0.07831	-5.02317	-31.88103	-14.05041	0.71964	35.20009	174.06	6.25

1.2 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — VENUS

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80/ 4/23	2444352.5	-0.71859	0.00010	0.04543	-1.08995	-32.08508	-14.39076	0.72002	35.18145	179.99	3.62
80/ 4/27	2444356.5	-0.71655	-0.07386	0.01196	2.85046	-31.88263	-14.54836	0.72045	35.16080	185.89	0.95
80/ 5/ 1	2444360.5	-0.70545	-0.14689	-0.02165	6.74760	-31.27769	-14.52184	0.72091	35.13841	191.76	-1.72
80/ 5/ 5	2444364.5	-0.68545	-0.21807	-0.05499	10.55195	-30.27951	-14.31224	0.72140	35.11457	197.65	-4.37
80/ 5/ 9	2444368.5	-0.65681	-0.28650	-0.08764	14.21557	-28.90237	-13.92298	0.72192	35.08959	203.57	-6.97
80/ 5/13	2444372.5	-0.61991	-0.35134	-0.11919	17.69274	-27.16530	-13.35972	0.72245	35.06378	209.54	-9.50
80/ 5/17	2444376.5	-0.57524	-0.41176	-0.14924	20.94048	-25.09174	-12.63034	0.72299	35.03748	215.60	-11.91
80/ 5/21	2444380.5	-0.52337	-0.46703	-0.17742	23.91913	-22.70920	-11.74472	0.72354	35.01101	221.74	-14.19
80/ 5/25	2444384.5	-0.46496	-0.51647	-0.20339	26.59272	-20.04880	-10.71461	0.72408	34.98471	228.00	-16.31
80/ 5/29	2444388.5	-0.40076	-0.55947	-0.22683	28.92941	-17.14483	-9.55346	0.72462	34.95890	234.39	-18.24
80/ 6/ 2	2444392.5	-0.33157	-0.59553	-0.24744	30.90179	-14.03428	-8.27620	0.72513	34.93390	240.89	-19.95
80/ 6/ 6	2444396.5	-0.25828	-0.62419	-0.26499	32.48711	-10.75634	-6.89906	0.72563	34.91000	247.52	-21.42
80/ 6/10	2444400.5	-0.18178	-0.64513	-0.27926	33.66751	-7.35188	-5.43934	0.72610	34.88750	254.26	-22.62
80/ 6/14	2444404.5	-0.10304	-0.65809	-0.29007	34.43012	-3.86298	-3.91517	0.72653	34.86666	261.10	-23.53
80/ 6/18	2444408.5	-0.02303	-0.66294	-0.29731	34.76713	-0.33241	-2.34535	0.72692	34.84774	268.01	-24.14
80/ 6/22	2444412.5	0.05726	-0.65963	-0.30089	34.67584	3.19685	-0.74907	0.72727	34.83095	274.96	-24.44
80/ 6/26	2444416.5	0.13685	-0.64821	-0.30077	34.15858	6.68213	0.85429	0.72757	34.81650	281.92	-24.42
80/ 6/30	2444420.5	0.21476	-0.62882	-0.29695	33.22262	10.08146	2.44536	0.72782	34.80457	288.86	-24.08
80/ 7/ 4	2444424.5	0.29004	-0.60172	-0.28949	31.88011	13.35410	4.00501	0.72801	34.79530	295.73	-23.43
80/ 7/ 8	2444428.5	0.36176	-0.56725	-0.27848	30.14781	16.46088	5.51452	0.72815	34.78881	302.53	-22.49
80/ 7/12	2444432.5	0.42905	-0.52582	-0.26406	28.04697	19.36469	6.95584	0.72822	34.78516	309.21	-21.26
80/ 7/16	2444436.5	0.49108	-0.47796	-0.24641	25.60302	22.03080	8.31170	0.72824	34.78441	315.78	-19.78
80/ 7/20	2444440.5	0.54710	-0.42424	-0.22574	22.84534	24.42724	9.56584	0.72819	34.78656	322.21	-18.06
80/ 7/24	2444444.5	0.59642	-0.36533	-0.20230	19.80691	26.52515	10.70317	0.72809	34.79160	328.51	-16.13
80/ 7/28	2444448.5	0.63843	-0.30194	-0.17639	16.52400	28.29906	11.70993	0.72792	34.79945	334.69	-14.02
80/ 8/ 1	2444452.5	0.67261	-0.23484	-0.14831	13.03577	29.72720	12.57382	0.72770	34.81004	340.75	-11.76
80/ 8/ 5	2444456.5	0.69853	-0.16487	-0.11841	9.38391	30.79172	13.28418	0.72743	34.82322	346.72	-9.37
80/ 8/ 9	2444460.5	0.71587	-0.09286	-0.08706	5.61215	31.47894	13.83207	0.72710	34.83886	352.61	-6.88
80/ 8/13	2444464.5	0.72441	-0.01972	-0.05463	1.76586	31.77953	14.21042	0.72673	34.85675	358.44	-4.31
80/ 8/17	2444468.5	0.72401	0.05367	-0.02153	-2.10844	31.68866	14.41413	0.72632	34.87669	4.24	-1.70
80/ 8/21	2444472.5	0.71468	0.12639	0.01183	-5.96361	31.20609	14.44010	0.72587	34.89844	10.03	0.93
80/ 8/25	2444476.5	0.69651	0.19755	0.04505	-9.75239	30.33628	14.28737	0.72538	34.92174	15.83	3.56
80/ 8/29	2444480.5	0.66971	0.26626	0.07770	-13.42798	29.08836	13.95709	0.72487	34.94630	21.68	6.15
80/ 9/ 2	2444484.5	0.63459	0.33167	0.10940	-16.94452	27.47616	13.45259	0.72434	34.97182	27.59	8.69
80/ 9/ 6	2444488.5	0.59157	0.39295	0.13973	-20.25775	25.51806	12.77937	0.72380	34.99800	33.59	11.13
80/ 9/10	2444492.5	0.54118	0.44932	0.16832	-23.32550	23.23689	11.94505	0.72326	35.02451	39.70	13.46
80/ 9/14	2444496.5	0.48402	0.50008	0.19480	-26.10829	20.65972	10.95934	0.72271	35.05102	45.93	15.64
80/ 9/18	2444500.5	0.42080	0.54457	0.21885	-28.56986	17.81757	9.83393	0.72217	35.07719	52.31	17.64
80/ 9/22	2444504.5	0.35229	0.58223	0.24014	-30.67773	14.74514	8.58240	0.72164	35.10270	58.82	19.44
80/ 9/26	2444508.5	0.27935	0.61255	0.25842	-32.40362	11.48035	7.22006	0.72114	35.12723	65.48	21.00
80/ 9/30	2444512.5	0.20289	0.63515	0.27343	-33.72397	8.06395	5.76378	0.72066	35.15045	72.28	22.30
80/10/ 4	2444516.5	0.12386	0.64973	0.28499	-34.62030	4.53899	4.23181	0.72021	35.17208	79.21	23.31
80/10/ 8	2444520.5	0.04327	0.65608	0.29294	-35.07954	0.95027	2.64349	0.71981	35.19184	86.23	24.01
80/10/12	2444524.5	-0.03788	0.65410	0.29717	-35.09433	-2.65626	1.01909	0.71944	35.20946	93.31	24.40
80/10/16	2444528.5	-0.11854	0.64383	0.29764	-34.66311	-6.23410	-0.62055	0.71913	35.22471	100.43	24.45

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80/10/20	2444532.5	-0.19769	0.62536	0.29431	-33.79032	-9.73690	-2.25426	0.71887	35.23740	107.54	24.17
80/10/24	2444536.5	-0.27433	0.59893	0.28724	-32.48631	-13.11907	-3.86084	0.71867	35.24736	114.61	23.56
80/10/28	2444540.5	-0.34747	0.56487	0.27651	-30.76729	-16.33649	-5.41937	0.71852	35.25445	121.60	22.63
80/11/ 1	2444544.5	-0.41618	0.52361	0.26225	-28.65510	-19.34713	-6.90955	0.71844	35.25859	128.48	21.41
80/11/ 5	2444548.5	-0.47959	0.47567	0.24465	-26.17695	-22.11167	-8.31193	0.71841	35.25970	135.23	19.91
80/11/ 9	2444552.5	-0.53687	0.42166	0.22393	-23.36502	-24.59409	-9.60824	0.71845	35.25779	141.85	18.16
80/11/13	2444556.5	-0.58731	0.36228	0.20035	-20.25599	-26.76219	-10.78166	0.71856	35.25286	148.33	16.19
80/11/17	2444560.5	-0.63026	0.29828	0.17422	-16.89054	-28.58805	-11.81704	0.71872	35.24499	154.67	14.03
80/11/21	2444564.5	-0.66519	0.23047	0.14587	-13.31269	-30.04843	-12.70112	0.71894	35.23428	160.89	11.71
80/11/25	2444568.5	-0.69165	0.15974	0.11566	-9.56920	-31.12507	-13.42273	0.71921	35.22087	167.00	9.25
80/11/29	2444572.5	-0.70931	0.08697	0.08399	-5.70884	-31.80494	-13.97290	0.71954	35.20492	173.01	6.70
80/12/ 3	2444576.5	-0.71797	0.01310	0.05124	-1.78171	-32.08033	-14.34501	0.71992	35.18666	178.95	4.08
80/12/ 7	2444580.5	-0.71753	-0.06094	0.01785	2.16151	-31.94898	-14.53482	0.72034	35.16633	184.85	1.42
80/12/11	2444584.5	-0.70801	-0.13421	-0.01577	6.07024	-31.41397	-14.54054	0.72079	35.14417	190.73	-1.25
80/12/15	2444588.5	-0.68955	-0.20578	-0.04919	9.89472	-30.48366	-14.36280	0.72128	35.12049	196.62	-3.91
80/12/19	2444592.5	-0.66240	-0.27476	-0.08199	13.58669	-29.17146	-14.00458	0.72179	35.09559	202.53	-6.52
80/12/23	2444596.5	-0.62691	-0.34028	-0.11376	17.09995	-27.49560	-13.47118	0.72232	35.06978	208.49	-9.06
80/12/27	2444600.5	-0.58356	-0.40153	-0.14411	20.39103	-25.47881	-12.77011	0.72287	35.04339	214.53	-11.50
80/12/31	2444604.5	-0.53290	-0.45776	-0.17264	23.41962	-23.14791	-11.91091	0.72342	35.01677	220.66	-13.81
81/ 1/ 4	2444608.5	-0.47558	-0.50827	-0.19903	26.14908	-20.53345	-10.90502	0.72396	34.99023	226.90	-15.96
81/ 1/ 8	2444612.5	-0.41234	-0.55244	-0.22293	28.54684	-17.66921	-9.76562	0.72450	34.96413	233.26	-17.92
81/ 1/12	2444616.5	-0.34396	-0.58974	-0.24406	30.58468	-14.59175	-8.50740	0.72503	34.93877	239.75	-19.67
81/ 1/16	2444620.5	-0.27132	-0.61972	-0.26215	32.23903	-11.33993	-7.14639	0.72553	34.91447	246.36	-21.18
81/ 1/20	2444624.5	-0.19532	-0.64203	-0.27701	33.49119	-7.95438	-5.69971	0.72601	34.89153	253.08	-22.43
81/ 1/24	2444628.5	-0.11690	-0.65640	-0.28844	34.32741	-4.47700	-4.18538	0.72645	34.87022	259.90	-23.39
81/ 1/28	2444632.5	-0.03704	-0.66268	-0.29631	34.73903	-0.95050	-2.62209	0.72685	34.85081	266.80	-24.06
81/ 2/ 1	2444636.5	0.04328	-0.66079	-0.30053	34.72244	2.58218	-1.02899	0.72721	34.83352	273.75	-24.41
81/ 2/ 5	2444640.5	0.12306	-0.65078	-0.30105	34.27911	6.07824	0.57457	0.72752	34.81856	280.71	-24.44
81/ 2/ 9	2444644.5	0.20133	-0.63277	-0.29788	33.41548	9.49559	2.16919	0.72778	34.80612	287.65	-24.16
81/ 2/13	2444648.5	0.27714	-0.60700	-0.29105	32.14284	12.79322	3.73569	0.72798	34.79633	294.54	-23.57
81/ 2/17	2444652.5	0.34954	-0.57378	-0.28066	30.47719	15.93169	5.25527	0.72813	34.78930	301.35	-22.67
81/ 2/21	2444656.5	0.41767	-0.53354	-0.26682	28.43899	18.87349	6.70975	0.72822	34.78514	308.05	-21.49
81/ 2/25	2444660.5	0.48067	-0.48676	-0.24972	26.05298	21.58345	8.08172	0.72824	34.78387	314.64	-20.05
81/ 3/ 1	2444664.5	0.53779	-0.43402	-0.22956	23.34785	24.02912	9.35473	0.72821	34.78551	321.10	-18.38
81/ 3/ 5	2444668.5	0.58833	-0.37596	-0.20659	20.35599	26.18106	10.51347	0.72812	34.79005	327.42	-16.48
81/ 3/ 9	2444672.5	0.63165	-0.31330	-0.18108	17.11311	28.01321	11.54394	0.72796	34.79743	333.62	-14.40
81/ 3/13	2444676.5	0.66723	-0.24679	-0.15336	13.65790	29.50311	12.43359	0.72775	34.80756	339.70	-12.16
81/ 3/17	2444680.5	0.69462	-0.17726	-0.12375	10.03162	30.63224	13.17144	0.72749	34.82032	345.68	-9.79
81/ 3/21	2444684.5	0.71348	-0.10555	-0.09262	6.27767	31.38617	13.74827	0.72717	34.83556	351.58	-7.32
81/ 3/25	2444688.5	0.72357	-0.03254	-0.06036	2.44119	31.75480	14.15667	0.72681	34.85309	357.42	-4.76
81/ 3/29	2444692.5	0.72473	0.04087	-0.02735	-1.43150	31.73249	14.39118	0.72640	34.87272	3.23	-2.16
81/ 4/ 2	2444696.5	0.71696	0.11377	0.00600	-5.29332	31.31822	14.44835	0.72596	34.89419	9.02	0.47
81/ 4/ 6	2444700.5	0.70032	0.18527	0.03927	-9.09700	30.51560	14.32683	0.72548	34.91726	14.82	3.10
81/ 4/10	2444704.5	0.67501	0.25447	0.07206	-12.79562	29.33295	14.02742	0.72497	34.94164	20.66	5.70
81/ 4/14	2444708.5	0.64132	0.32051	0.10395	-16.34312	27.78329	13.55306	0.72445	34.96704	26.55	8.25

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81/ 4/18	2444712.5	0.59965	0.38257	0.13454	-19.69492	25.88420	12.90886	0.72391	34.99315	32.54	10.71
81/ 4/22	2444716.5	0.55050	0.43986	0.16346	-22.80844	23.65775	12.10209	0.72336	35.01963	38.62	13.06
81/ 4/26	2444720.5	0.49448	0.49164	0.19034	-25.64371	21.13027	11.14209	0.72281	35.04617	44.84	15.27
81/ 4/30	2444724.5	0.43226	0.53728	0.21484	-28.16386	18.33213	10.04020	0.72227	35.07244	51.18	17.30
81/ 5/ 4	2444728.5	0.36462	0.57616	0.23663	-30.33570	15.29740	8.80970	0.72174	35.09809	57.67	19.14
81/ 5/ 8	2444732.5	0.29239	0.60780	0.25545	-32.13020	12.06347	7.46560	0.72123	35.12281	64.31	20.74
81/ 5/12	2444736.5	0.21648	0.63178	0.27105	-33.52293	8.67062	6.02450	0.72075	35.14628	71.09	22.09
81/ 5/16	2444740.5	0.13783	0.64777	0.28323	-34.49451	5.16155	4.50443	0.72030	35.16821	77.99	23.15
81/ 5/20	2444744.5	0.05744	0.65557	0.29182	-35.03091	1.58077	2.92457	0.71988	35.18830	84.99	23.91
81/ 5/24	2444748.5	-0.02368	0.65506	0.29671	-35.12373	-2.02591	1.30502	0.71951	35.20630	92.07	24.35
81/ 5/28	2444752.5	-0.10450	0.64623	0.29783	-34.77041	-5.61205	-0.33345	0.71919	35.22198	99.19	24.46
81/ 6/ 1	2444756.5	-0.18399	0.62918	0.29517	-33.97433	-9.13122	-1.96969	0.71892	35.23512	106.30	24.24
81/ 6/ 5	2444760.5	-0.26114	0.60412	0.28875	-32.74480	-12.53766	-3.58251	0.71871	35.24556	113.38	23.69
81/ 6/ 9	2444764.5	-0.33496	0.57137	0.27865	-31.09702	-15.78696	-5.15091	0.71855	35.25315	120.38	22.82
81/ 6/13	2444768.5	-0.40452	0.53134	0.26500	-29.05187	-18.83666	-6.65446	0.71845	35.25781	127.28	21.64
81/ 6/17	2444772.5	-0.46891	0.48452	0.24797	-26.63564	-21.64693	-8.07354	0.71842	35.25946	134.06	20.19
81/ 6/21	2444776.5	-0.52732	0.43153	0.22778	-23.87966	-24.18115	-9.38967	0.71845	35.25808	140.70	18.48
81/ 6/25	2444780.5	-0.57901	0.37304	0.20468	-20.81988	-26.40639	-10.58573	0.71854	35.25369	147.21	16.55
81/ 6/29	2444784.5	-0.62331	0.30979	0.17897	-17.49628	-28.29397	-11.64629	0.71869	35.24634	153.57	14.42
81/ 7/ 3	2444788.5	-0.65968	0.24259	0.15098	-13.95237	-29.81980	-12.55773	0.71890	35.23614	159.81	12.12
81/ 7/ 7	2444792.5	-0.68764	0.17230	0.12107	-10.23446	-30.96474	-13.30849	0.71917	35.22322	165.93	9.69
81/ 7/11	2444796.5	-0.70687	0.09982	0.08963	-6.39101	-31.71481	-13.88923	0.71948	35.20774	171.96	7.16
81/ 7/15	2444800.5	-0.71711	0.02608	0.05704	-2.47195	-32.06138	-14.29291	0.71985	35.18991	177.92	4.54
81/ 7/19	2444804.5	-0.71827	-0.04800	0.02373	1.47209	-32.00121	-14.51486	0.72026	35.16995	183.82	1.89
81/ 7/23	2444808.5	-0.71033	-0.12147	-0.00988	5.39047	-31.53647	-14.55285	0.72071	35.14814	189.70	-0.79
81/ 7/27	2444812.5	-0.69342	-0.19340	-0.04337	9.23324	-30.67459	-14.40710	0.72119	35.12474	195.58	-3.45
81/ 7/31	2444816.5	-0.66777	-0.26290	-0.07631	12.95182	-29.42811	-14.08018	0.72170	35.10007	201.49	-6.07
81/ 8/ 4	2444820.5	-0.63371	-0.32909	-0.10829	16.49962	-27.81445	-13.57700	0.72223	35.07443	207.44	-8.62
81/ 8/ 8	2444824.5	-0.59170	-0.39114	-0.13891	19.83264	-25.85555	-12.90466	0.72277	35.04816	213.47	-11.08
81/ 8/12	2444828.5	-0.54227	-0.44830	-0.16779	22.90998	-23.57756	-12.07238	0.72332	35.02158	219.58	-13.41
81/ 8/16	2444832.5	-0.48607	-0.49986	-0.19457	25.69434	-21.01040	-11.09127	0.72387	34.99503	225.80	-15.59
81/ 8/20	2444836.5	-0.42381	-0.54518	-0.21893	28.15238	-18.18731	-9.97423	0.72441	34.96884	232.14	-17.59
81/ 8/24	2444840.5	-0.35627	-0.58372	-0.24057	30.25511	-15.14442	-8.73568	0.72493	34.94334	238.60	-19.38
81/ 8/28	2444844.5	-0.28431	-0.61501	-0.25921	31.97813	-11.92021	-7.39144	0.72544	34.91884	245.19	-20.94
81/ 9/ 1	2444848.5	-0.20883	-0.63869	-0.27465	33.30187	-8.55504	-5.95846	0.72592	34.89565	251.89	-22.23
81/ 9/ 5	2444852.5	-0.13076	-0.65446	-0.28669	34.21170	-5.09062	-4.45462	0.72637	34.87404	258.70	-23.25
81/ 9/ 9	2444856.5	-0.05108	-0.66216	-0.29519	34.69806	-1.56956	-2.89850	0.72678	34.85427	265.59	-23.96
81/ 9/13	2444860.5	0.02922	-0.66171	-0.30005	34.75647	1.96520	-1.30919	0.72715	34.83660	272.53	-24.37
81/ 9/17	2444864.5	0.10917	-0.65311	-0.30123	34.38751	5.47080	0.29397	0.72747	34.82121	279.49	-24.46
81/ 9/21	2444868.5	0.18778	-0.63648	-0.29870	33.59675	8.90499	1.89158	0.72773	34.80831	286.44	-24.23
81/ 9/25	2444872.5	0.26409	-0.61205	-0.29251	32.39465	12.22655	3.46441	0.72795	34.79805	293.34	-23.69
81/ 9/29	2444876.5	0.33715	-0.58011	-0.28273	30.79639	15.39571	4.99357	0.72810	34.79054	300.16	-22.85
81/10/ 3	2444880.5	0.40609	-0.54106	-0.26948	28.82168	18.37460	6.46077	0.72820	34.78587	306.89	-21.72
81/10/ 7	2444884.5	0.47005	-0.49539	-0.25294	26.49451	21.12762	7.84842	0.72824	34.78409	313.50	-20.32
81/10/11	2444888.5	0.52825	-0.44364	-0.23329	23.84292	23.62181	9.13992	0.72821	34.78524	319.98	-18.69

1.2 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM VENUS

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81/10/15	2444892.5	0.57998	-0.38647	-0.21079	20.89867	25.82718	10.31973	0.72813	34.78928	326.32	-16.83
81/10/19	2444896.5	0.62461	-0.32456	-0.18571	17.69691	27.71704	11.37362	0.72799	34.79618	332.54	-14.78
81/10/23	2444900.5	0.66158	-0.25867	-0.15835	14.27584	29.26831	12.28877	0.72779	34.80585	338.65	-12.57
81/10/27	2444904.5	0.69043	-0.18960	-0.12905	10.67631	30.46173	13.05391	0.72753	34.81818	344.64	-10.22
81/10/31	2444908.5	0.71080	-0.11821	-0.09816	6.94138	31.28216	13.65951	0.72722	34.83301	350.56	-7.76
81/11/ 4	2444912.5	0.72243	-0.04536	-0.06607	3.11592	31.71872	14.09783	0.72687	34.85018	356.41	-5.21
81/11/ 8	2444916.5	0.72517	0.02804	-0.03316	-0.75393	31.76499	14.36306	0.72647	34.86948	2.21	-2.62
81/11/12	2444920.5	0.71895	0.10110	0.00016	-4.62117	31.41912	14.45140	0.72603	34.89067	8.00	0.01
81/11/16	2444924.5	0.70385	0.17291	0.03348	-8.43852	30.68391	14.36113	0.72555	34.91351	13.80	2.64
81/11/20	2444928.5	0.68004	0.24258	0.06638	-12.15896	29.56687	14.09266	0.72505	34.93770	19.63	5.25
81/11/24	2444932.5	0.64779	0.30923	0.09845	-15.73625	28.08018	13.64856	0.72453	34.96297	25.52	7.81
81/11/28	2444936.5	0.60748	0.37204	0.12931	-19.12547	26.24065	13.03357	0.72399	34.98899	31.49	10.29
81/12/ 2	2444940.5	0.55960	0.43022	0.15855	-22.28369	24.06957	12.25458	0.72345	35.01545	37.55	12.66
81/12/ 6	2444944.5	0.50473	0.48302	0.18581	-25.17040	21.59256	11.32057	0.72290	35.04202	43.74	14.89
81/12/10	2444948.5	0.44354	0.52977	0.21074	-27.74817	18.83930	10.24255	0.72235	35.06836	50.06	16.96
81/12/14	2444952.5	0.37679	0.56988	0.23303	-29.98312	15.84324	9.03345	0.72182	35.09414	56.53	18.83
81/12/18	2444956.5	0.30529	0.60281	0.25239	-31.84546	12.64123	7.70801	0.72131	35.11905	63.14	20.48
81/12/22	2444960.5	0.22995	0.62815	0.26857	-33.30993	9.27309	6.28258	0.72082	35.14275	69.89	21.88
81/12/26	2444964.5	0.15171	0.64556	0.28135	-34.35625	5.78112	4.77494	0.72037	35.16494	76.78	22.99
81/12/30	2444968.5	0.07155	0.65480	0.29058	-34.96941	2.20959	3.20408	0.71995	35.18534	83.76	23.80
82/ 1/ 3	2444972.5	-0.00952	0.65575	0.29612	-35.14004	-1.39589	1.58998	0.71957	35.20368	90.83	24.30
82/ 1/ 7	2444976.5	-0.09047	0.64836	0.29791	-34.86455	-4.98892	-0.04669	0.71924	35.21971	97.94	24.47
82/ 1/11	2444980.5	-0.17026	0.63274	0.29591	-34.14528	-8.52303	-1.68483	0.71897	35.23323	105.06	24.30
82/ 1/15	2444984.5	-0.24789	0.60907	0.29014	-32.99052	-11.95230	-3.30322	0.71874	35.24405	112.15	23.81
82/ 1/19	2444988.5	-0.32237	0.57763	0.28068	-31.41446	-15.23202	-4.88082	0.71858	35.25202	119.17	22.99
82/ 1/23	2444992.5	-0.39273	0.53884	0.26764	-29.43701	-18.31936	-6.39708	0.71848	35.25704	126.09	21.87
82/ 1/27	2444996.5	-0.45809	0.49317	0.25118	-27.08354	-21.17399	-7.83220	0.71844	35.25904	132.89	20.46
82/ 1/31	2445000.5	-0.51760	0.44121	0.23153	-24.38456	-23.75870	-9.16750	0.71846	35.25799	139.55	18.80
82/ 2/ 4	2445004.5	-0.57051	0.38363	0.20892	-21.37523	-26.03991	-10.38561	0.71854	35.25391	146.08	16.90
82/ 2/ 8	2445008.5	-0.61615	0.32116	0.18364	-18.09490	-27.98817	-11.47078	0.71869	35.24687	152.47	14.80
82/ 2/12	2445012.5	-0.65394	0.25459	0.15603	-14.58649	-29.57857	-12.40909	0.71889	35.23696	158.73	12.54
82/ 2/16	2445016.5	-0.68341	0.18478	0.12643	-10.89587	-30.79111	-13.18860	0.71915	35.22431	164.87	10.13
82/ 2/20	2445020.5	-0.70418	0.11263	0.09522	-7.07117	-31.61091	-13.79958	0.71946	35.20909	170.91	7.61
82/ 2/24	2445024.5	-0.71601	0.03904	0.06281	-3.16210	-32.02841	-14.23459	0.71982	35.19150	176.88	5.01
82/ 2/28	2445028.5	-0.71876	-0.03504	0.02959	0.78081	-32.03944	-14.48854	0.72023	35.17177	182.79	2.36
82/ 3/ 4	2445032.5	-0.71242	-0.10868	-0.00399	4.70687	-31.64522	-14.55880	0.72067	35.15016	188.67	-0.32
82/ 3/ 8	2445036.5	-0.69707	-0.18095	-0.03753	8.56599	-30.85229	-14.44514	0.72115	35.12694	194.55	-2.98
82/ 3/12	2445040.5	-0.67293	-0.25093	-0.07059	12.30933	-29.67229	-14.14973	0.72165	35.10242	200.45	-5.61
82/ 3/16	2445044.5	-0.64032	-0.31776	-0.10277	15.88993	-28.12182	-13.67708	0.72218	35.07690	206.39	-8.18
82/ 3/20	2445048.5	-0.59967	-0.38059	-0.13366	19.26331	-26.22202	-13.03392	0.72272	35.05072	212.40	-10.66
82/ 3/24	2445052.5	-0.55151	-0.43866	-0.16287	22.38802	-23.99834	-12.22909	0.72327	35.02420	218.50	-13.01
82/ 3/28	2445056.5	-0.49645	-0.49125	-0.19004	25.22609	-21.48004	-11.27338	0.72381	34.99767	224.70	-15.22
82/ 4/ 1	2445060.5	-0.43520	-0.53771	-0.21485	27.74350	-18.69980	-10.17937	0.72435	34.97147	231.01	-17.25
82/ 4/ 5	2445064.5	-0.36854	-0.57747	-0.23698	29.91046	-15.69325	-8.96124	0.72488	34.94592	237.45	-19.08
82/ 4/ 9	2445068.5	-0.29729	-0.61007	-0.25617	31.70177	-12.49846	-7.63456	0.72539	34.92134	244.02	-20.68

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82/ 4/13	2445072.5	-0.22237	-0.63511	-0.27218	33.09697	-9.15549	-6.21608	0.72587	34.89803	250.70	-22.02
82/ 4/17	2445076.5	-0.14469	-0.65229	-0.28483	34.08058	-5.70584	-4.72353	0.72632	34.87627	257.49	-23.09
82/ 4/21	2445080.5	-0.06523	-0.66142	-0.29396	34.64211	-2.19196	-3.17539	0.72674	34.85633	264.37	-23.86
82/ 4/25	2445084.5	0.01504	-0.66240	-0.29947	34.77619	1.34324	-1.59064	0.72711	34.83845	271.30	-24.32
82/ 4/29	2445088.5	0.09512	-0.65523	-0.30130	34.48247	4.85686	0.01139	0.72743	34.82284	278.26	-24.47
82/ 5/ 3	2445092.5	0.17403	-0.64001	-0.29942	33.76566	8.30652	1.61132	0.72771	34.80969	285.21	-24.30
82/ 5/ 7	2445096.5	0.25081	-0.61693	-0.29387	32.63534	11.65079	3.18986	0.72792	34.79916	292.12	-23.81
82/ 5/11	2445100.5	0.32451	-0.58629	-0.28472	31.10584	14.84962	4.72807	0.72809	34.79137	298.96	-23.02
82/ 5/15	2445104.5	0.39424	-0.54846	-0.27207	29.19608	17.86478	6.20751	0.72819	34.78641	305.71	-21.94
82/ 5/19	2445108.5	0.45913	-0.50392	-0.25609	26.92929	20.66021	7.61047	0.72823	34.78434	312.34	-20.59
82/ 5/23	2445112.5	0.51841	-0.45320	-0.23698	24.33281	23.20247	8.92015	0.72821	34.78519	318.84	-18.99
82/ 5/27	2445116.5	0.57133	-0.39693	-0.21496	21.43775	25.46099	10.12082	0.72814	34.78894	325.21	-17.17
82/ 5/31	2445120.5	0.61725	-0.33580	-0.19031	18.27868	27.40849	11.19798	0.72800	34.79555	331.45	-15.15
82/ 6/ 4	2445124.5	0.65561	-0.27056	-0.16333	14.89329	29.02118	12.13856	0.72780	34.80494	337.58	-12.97
82/ 6/ 8	2445128.5	0.68592	-0.20199	-0.13434	11.32198	30.27913	12.93099	0.72755	34.81700	343.59	-10.64
82/ 6/12	2445132.5	0.70781	-0.13094	-0.10371	7.60747	31.16641	13.56542	0.72725	34.83158	349.52	-8.20
82/ 6/16	2445136.5	0.72099	-0.05828	-0.07179	3.79434	31.67136	14.03378	0.72690	34.84852	355.38	-5.67
82/ 6/20	2445140.5	0.72530	0.01509	-0.03900	-0.07143	31.78677	14.32990	0.72650	34.86760	1.19	-3.08
82/ 6/24	2445144.5	0.72066	0.08828	-0.00572	-3.94294	31.50994	14.44962	0.72607	34.88860	6.98	-0.45
82/ 6/28	2445148.5	0.70711	0.16038	0.02763	-7.77293	30.84286	14.39083	0.72560	34.91127	12.78	2.18
82/ 7/ 2	2445152.5	0.68481	0.23049	0.06063	-11.51424	29.79220	14.15358	0.72510	34.93533	18.60	4.80
82/ 7/ 6	2445156.5	0.65402	0.29774	0.09288	-15.12043	28.36932	13.74005	0.72458	34.96048	24.48	7.37
82/ 7/10	2445160.5	0.61509	0.36129	0.12398	-18.54631	26.59023	13.15460	0.72405	34.98641	30.43	9.86
82/ 7/14	2445164.5	0.56850	0.42034	0.15354	-21.74852	24.47544	12.40373	0.72350	35.01282	36.48	12.25
82/ 7/18	2445168.5	0.51481	0.47414	0.18117	-24.68606	22.04984	11.49608	0.72295	35.03936	42.64	14.51
82/ 7/22	2445172.5	0.45468	0.52200	0.20654	-27.32091	19.34244	10.44231	0.72241	35.06571	48.94	16.61
82/ 7/26	2445176.5	0.38884	0.56332	0.22932	-29.61852	16.38606	9.25504	0.72188	35.09153	55.38	18.52
82/ 7/30	2445180.5	0.31811	0.59755	0.24921	-31.54834	13.21700	7.94870	0.72136	35.11650	61.97	20.21
82/ 8/ 3	2445184.5	0.24338	0.62425	0.26596	-33.08427	9.87462	6.53937	0.72087	35.14030	68.70	21.65
82/ 8/ 7	2445188.5	0.16557	0.64307	0.27936	-34.20513	6.40084	5.04462	0.72041	35.16262	75.56	22.82
82/ 8/11	2445192.5	0.08567	0.65376	0.28922	-34.89498	2.83964	3.48325	0.71999	35.18318	82.53	23.68
82/ 8/15	2445196.5	0.00468	0.65616	0.29542	-35.14344	-0.76354	1.87509	0.71961	35.20171	89.59	24.24
82/ 8/19	2445200.5	-0.07636	0.65023	0.29786	-34.94591	-4.36239	0.24072	0.71927	35.21796	96.70	24.46
82/ 8/23	2445204.5	-0.15644	0.63604	0.29652	-34.30371	-7.91039	-1.39882	0.71899	35.23174	103.82	24.36
82/ 8/27	2445208.5	-0.23452	0.61376	0.29141	-33.22411	-11.36147	-3.02230	0.71876	35.24285	110.91	23.92
82/ 8/31	2445212.5	-0.30962	0.58366	0.28259	-31.72028	-14.67066	-4.60862	0.71859	35.25115	117.95	23.16
82/ 9/ 4	2445216.5	-0.38077	0.54612	0.27016	-29.81117	-17.79476	-6.13711	0.71848	35.25654	124.89	22.09
82/ 9/ 8	2445220.5	-0.44706	0.50161	0.25429	-27.52124	-20.69295	-7.58785	0.71843	35.25893	131.71	20.73
82/ 9/12	2445224.5	-0.50765	0.45071	0.23518	-24.88012	-23.32745	-8.94192	0.71844	35.25830	138.40	19.11
82/ 9/16	2445228.5	-0.56177	0.39406	0.21307	-21.92221	-25.66400	-10.18172	0.71852	35.25467	144.95	17.25
82/ 9/20	2445232.5	-0.60873	0.33239	0.18824	-18.68618	-27.67240	-11.29119	0.71865	35.24806	151.36	15.18
82/ 9/24	2445236.5	-0.64793	0.26648	0.16101	-15.21436	-29.32694	-12.25608	0.71885	35.23859	157.64	12.94
82/ 9/28	2445240.5	-0.67888	0.19717	0.13173	-11.55216	-30.60675	-13.06411	0.71910	35.22636	163.80	10.56
82/10/ 2	2445244.5	-0.70119	0.12536	0.10078	-7.74735	-31.49603	-13.70515	0.71941	35.21154	169.86	8.05
82/10/ 6	2445248.5	-0.71460	0.05196	0.06854	-3.84942	-31.98430	-14.17134	0.71976	35.19432	175.84	5.46

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82/10/10	2445252.5	-0.71895	-0.02210	0.03544	0.09118	-32.06645	-14.45720	0.72016	35.17494	181.76	2.82
82/10/14	2445256.5	-0.71419	-0.09589	0.00189	4.02377	-31.74277	-14.55965	0.72060	35.15363	187.65	0.15
82/10/18	2445260.5	-0.70040	-0.16846	-0.03169	7.89810	-31.01886	-14.47806	0.72107	35.13067	193.52	-2.52
82/10/22	2445264.5	-0.67778	-0.23890	-0.06487	11.66507	-29.90552	-14.21418	0.72157	35.10637	199.42	-5.16
82/10/26	2445268.5	-0.64662	-0.30634	-0.09723	15.27734	-28.41847	-13.77211	0.72209	35.08101	205.35	-7.74
82/10/30	2445272.5	-0.60734	-0.36993	-0.12837	18.68997	-26.57810	-13.15821	0.72263	35.05494	211.35	-10.23
82/11/ 3	2445276.5	-0.56045	-0.42889	-0.15790	21.86094	-24.40912	-12.38095	0.72318	35.02847	217.43	-12.61
82/11/ 7	2445280.5	-0.50655	-0.48248	-0.18545	24.75167	-21.94016	-11.45080	0.72373	35.00195	223.61	-14.85
82/11/11	2445284.5	-0.44634	-0.53005	-0.21070	27.32738	-19.20333	-10.38003	0.72427	34.97569	229.90	-16.91
82/11/15	2445288.5	-0.38056	-0.57103	-0.23332	29.55756	-16.23376	-9.18256	0.72480	34.95002	236.32	-18.78
82/11/19	2445292.5	-0.31006	-0.60491	-0.25304	31.41617	-13.06916	-7.87373	0.72531	34.92527	242.86	-20.42
82/11/23	2445296.5	-0.23571	-0.63129	-0.26962	32.88192	-9.74925	-6.47010	0.72580	34.90173	249.53	-21.81
82/11/27	2445300.5	-0.15844	-0.64987	-0.28287	33.93843	-6.31532	-4.98924	0.72626	34.87969	256.30	-22.92
82/12/ 1	2445304.5	-0.07922	-0.66042	-0.29263	34.57436	-2.80968	-3.44950	0.72668	34.85943	263.16	-23.75
82/12/ 5	2445308.5	0.00097	-0.66283	-0.29878	34.78342	0.72480	-1.86982	0.72705	34.84118	270.08	-24.26
82/12/ 9	2445312.5	0.08116	-0.65708	-0.30125	34.56439	4.24519	-0.26945	0.72739	34.82516	277.04	-24.47
82/12/13	2445316.5	0.16035	-0.64326	-0.30002	33.92111	7.70899	1.33221	0.72767	34.81157	284.00	-24.35
82/12/17	2445320.5	0.23756	-0.62154	-0.29511	32.86230	11.07457	2.91584	0.72790	34.80056	290.92	-23.92
82/12/21	2445324.5	0.31187	-0.59219	-0.28658	31.40149	14.30160	4.46242	0.72807	34.79228	297.77	-23.18
82/12/25	2445328.5	0.38235	-0.55559	-0.27454	29.55679	17.35152	5.95342	0.72818	34.78681	304.54	-22.15
82/12/29	2445332.5	0.44816	-0.51219	-0.25913	27.35071	20.18786	7.37098	0.72824	34.78423	311.19	-20.84
83/ 1/ 2	2445336.5	0.50847	-0.46251	-0.24055	24.80988	22.77669	8.69814	0.72823	34.78456	317.71	-19.29
83/ 1/ 6	2445340.5	0.56255	-0.40717	-0.21902	21.96477	25.08693	9.91896	0.72816	34.78780	324.10	-17.50
83/ 1/10	2445344.5	0.60974	-0.34684	-0.19481	18.84937	27.09068	11.01873	0.72803	34.79391	330.37	-15.52
83/ 1/14	2445348.5	0.64946	-0.28225	-0.16822	15.50085	28.76355	11.98409	0.72785	34.80282	336.51	-13.36
83/ 1/18	2445352.5	0.68121	-0.21421	-0.13955	11.95915	30.08488	12.80323	0.72761	34.81442	342.54	-11.06
83/ 1/22	2445356.5	0.70460	-0.14353	-0.10918	8.26662	31.03806	13.46597	0.72731	34.82859	348.49	-8.63
83/ 1/26	2445360.5	0.71933	-0.07110	-0.07746	4.46754	31.61066	13.96392	0.72697	34.84514	354.36	-6.12
83/ 1/30	2445364.5	0.72520	0.00222	-0.04479	0.60769	31.79465	14.29058	0.72658	34.86388	0.18	-3.53
83/ 2/ 3	2445368.5	0.72212	0.07551	-0.01157	-3.26619	31.58657	14.44143	0.72615	34.88458	5.97	-0.91
83/ 2/ 7	2445372.5	0.71013	0.14786	0.02179	-7.10683	30.98756	14.41399	0.72569	34.90700	11.76	1.72
83/ 2/11	2445376.5	0.68935	0.21838	0.05489	-10.86703	30.00346	14.20793	0.72519	34.93086	17.58	4.34
83/ 2/15	2445380.5	0.66002	0.28620	0.08730	-14.50020	28.64482	13.82506	0.72468	34.95588	23.44	6.92
83/ 2/19	2445384.5	0.62249	0.35045	0.11863	-17.96086	26.92683	13.26934	0.72414	34.98174	29.38	9.43
83/ 2/23	2445388.5	0.57720	0.41035	0.14848	-21.20531	24.86922	12.54691	0.72360	35.00812	35.41	11.84
83/ 2/27	2445392.5	0.52471	0.46512	0.17648	-24.19209	22.49614	11.66604	0.72305	35.03470	41.55	14.13
83/ 3/ 3	2445396.5	0.46565	0.51407	0.20227	-26.88262	19.83588	10.63703	0.72250	35.06114	47.83	16.26
83/ 3/ 7	2445400.5	0.40076	0.55657	0.22552	-29.24170	16.92061	9.47217	0.72197	35.08712	54.24	18.20
83/ 3/11	2445404.5	0.33083	0.59208	0.24594	-31.23803	13.78607	8.18558	0.72145	35.11230	60.81	19.93
83/ 3/15	2445408.5	0.25673	0.62013	0.26326	-32.84471	10.47108	6.79307	0.72095	35.13636	67.51	21.42
83/ 3/19	2445412.5	0.17939	0.64035	0.27726	-34.03965	7.01718	5.31195	0.72049	35.15900	74.35	22.63
83/ 3/23	2445416.5	0.09978	0.65247	0.28775	-34.80598	3.46802	3.76083	0.72005	35.17992	81.31	23.55
83/ 3/27	2445420.5	0.01891	0.65633	0.29460	-35.13231	-0.13118	2.15938	0.71967	35.19885	88.35	24.16
83/ 3/31	2445424.5	-0.06220	0.65186	0.29770	-35.01302	-3.73421	0.52806	0.71932	35.21555	95.45	24.45
83/ 4/ 4	2445428.5	-0.14252	0.63911	0.29703	-34.44839	-7.29454	-1.11213	0.71903	35.22980	102.57	24.40

1.2 1 A.U.=149,599,000 KM.

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83/ 4/ 8	2445432.5	-0.22102	0.61823	0.29258	-33.44463	-10.76596	-2.73999	0.71879	35.24140	109.67	24.02
83/ 4/12	2445436.5	-0.29671	0.58947	0.28440	-32.01389	-14.10326	-4.33436	0.71861	35.25022	116.72	23.31
83/ 4/16	2445440.5	-0.36862	0.55320	0.27259	-30.17413	-17.26287	-5.87448	0.71849	35.25612	123.68	22.30
83/ 4/20	2445444.5	-0.43583	0.50988	0.25731	-27.94885	-20.20352	-7.34027	0.71843	35.25905	130.52	20.99
83/ 4/24	2445448.5	-0.49748	0.46006	0.23875	-25.36683	-22.88685	-8.71262	0.71843	35.25895	137.24	19.41
83/ 4/28	2445452.5	-0.55279	0.40436	0.21714	-22.46165	-25.27793	-9.97367	0.71849	35.25583	143.81	17.59
83/ 5/ 2	2445456.5	-0.60104	0.34351	0.19277	-19.27128	-27.34583	-11.10708	0.71862	35.24974	150.25	15.56
83/ 5/ 6	2445460.5	-0.64164	0.27828	0.16593	-15.83746	-29.06402	-12.09825	0.71880	35.24075	156.55	13.35
83/ 5/10	2445464.5	-0.67407	0.20951	0.13699	-12.20509	-30.41075	-12.93456	0.71904	35.22898	162.73	10.98
83/ 5/14	2445468.5	-0.69792	0.13807	0.10630	-8.42162	-31.36933	-13.60548	0.71934	35.21459	168.81	8.50
83/ 5/18	2445472.5	-0.71290	0.06488	0.07426	-4.53626	-31.92833	-14.10275	0.71969	35.19777	174.80	5.92
83/ 5/22	2445476.5	-0.71884	-0.00913	0.04128	-0.59936	-32.08169	-14.42047	0.72008	35.17874	180.73	3.29
83/ 5/26	2445480.5	-0.71567	-0.08303	0.00777	3.33840	-31.82876	-14.55514	0.72051	35.15774	186.62	0.62
83/ 5/30	2445484.5	-0.70345	-0.15588	-0.02583	7.22662	-31.17423	-14.50569	0.72098	35.13505	192.49	-2.05
83/ 6/ 3	2445488.5	-0.68235	-0.22677	-0.05911	11.01595	-30.12800	-14.27347	0.72147	35.11096	198.38	-4.70
83/ 6/ 7	2445492.5	-0.65266	-0.29480	-0.09164	14.65870	-28.70495	-13.86217	0.72199	35.08578	204.31	-7.29
83/ 6/11	2445496.5	-0.61477	-0.35912	-0.12302	18.10948	-26.92469	-13.27776	0.72253	35.05982	210.29	-9.80
83/ 6/15	2445500.5	-0.56917	-0.41894	-0.15286	21.32571	-24.81118	-12.52836	0.72307	35.03341	216.35	-12.20
83/ 6/19	2445504.5	-0.51645	-0.47352	-0.18079	24.26815	-22.39240	-11.62409	0.72362	35.00689	222.52	-14.47
83/ 6/23	2445508.5	-0.45728	-0.52219	-0.20646	26.90137	-19.69990	-10.57693	0.72417	34.98058	228.79	-16.56
83/ 6/27	2445512.5	-0.39242	-0.56436	-0.22956	29.19405	-16.76831	-9.40052	0.72470	34.95481	235.19	-18.47
83/ 7/ 1	2445516.5	-0.32268	-0.59951	-0.24981	31.11935	-13.63494	-8.10997	0.72522	34.92989	241.71	-20.15
83/ 7/ 5	2445520.5	-0.24894	-0.62723	-0.26696	32.65516	-10.33917	-6.72165	0.72571	34.90614	248.35	-21.58
83/ 7/ 9	2445524.5	-0.17211	-0.64719	-0.28080	33.78421	-6.92208	-5.25296	0.72617	34.88383	255.11	-22.75
83/ 7/13	2445528.5	-0.09317	-0.65915	-0.29118	34.49428	-3.42583	-3.72213	0.72660	34.86325	261.96	-23.62
83/ 7/17	2445532.5	-0.01307	-0.66299	-0.29796	34.77819	0.10676	-2.14802	0.72698	34.84463	268.87	-24.20
83/ 7/21	2445536.5	0.06719	-0.65866	-0.30108	34.63386	3.63275	-0.54984	0.72733	34.82820	275.82	-24.45
83/ 7/25	2445540.5	0.14663	-0.64624	-0.30050	34.06423	7.10950	1.05301	0.72762	34.81415	282.78	-24.39
83/ 7/29	2445544.5	0.22426	-0.62588	-0.29623	33.07718	10.49521	2.64119	0.72786	34.80266	289.71	-24.02
83/ 8/ 2	2445548.5	0.29914	-0.59785	-0.28832	31.68543	13.74929	4.19560	0.72804	34.79386	296.58	-23.33
83/ 8/ 6	2445552.5	0.37036	-0.56249	-0.27689	29.90632	16.83283	5.69762	0.72817	34.78785	303.36	-22.35
83/ 8/10	2445556.5	0.43704	-0.52024	-0.26205	27.76159	19.70897	7.12925	0.72823	34.78470	310.03	-21.09
83/ 8/14	2445560.5	0.49837	-0.47161	-0.24401	25.27719	22.34332	8.47337	0.72824	34.78445	316.58	-19.58
83/ 8/18	2445564.5	0.55359	-0.41721	-0.22298	22.48294	24.70426	9.71384	0.72818	34.78709	323.00	-17.83
83/ 8/22	2445568.5	0.60203	-0.35770	-0.19922	19.41225	26.76333	10.83573	0.72807	34.79259	329.28	-15.88
83/ 8/26	2445572.5	0.64310	-0.29381	-0.17302	16.10177	28.49551	11.82543	0.72790	34.80089	335.45	-13.75
83/ 8/30	2445576.5	0.67627	-0.22631	-0.14470	12.59098	29.87949	12.67086	0.72767	34.81189	341.50	-11.47
83/ 9/ 3	2445580.5	0.70115	-0.15604	-0.11460	8.92185	30.89792	13.36154	0.72739	34.82545	347.45	-9.06
83/ 9/ 7	2445584.5	0.71741	-0.08385	-0.08309	5.13834	31.53766	13.88878	0.72705	34.84142	353.33	-6.56
83/ 9/11	2445588.5	0.72484	-0.01062	-0.05056	1.28600	31.78991	14.24573	0.72667	34.85961	359.16	-3.99
83/ 9/15	2445592.5	0.72333	0.06273	-0.01740	-2.58856	31.65040	14.42752	0.72626	34.87982	4.96	-1.37
83/ 9/19	2445596.5	0.71290	0.13531	0.01597	-6.43813	31.11948	14.43133	0.72580	34.90179	10.75	1.26
83/ 9/23	2445600.5	0.69364	0.20622	0.04914	-10.21548	30.20218	14.25646	0.72531	34.92527	16.56	3.88
83/ 9/27	2445604.5	0.66579	0.27457	0.08170	-13.87388	28.90823	13.90432	0.72480	34.94996	22.41	6.47
83/10/ 1	2445608.5	0.62967	0.33951	0.11325	-17.36764	27.25200	13.37851	0.72427	34.97558	28.33	9.00

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83/10/ 5	2445612.5	0.58570	0.40022	0.14338	-20.65271	25.25247	12.68481	0.72373	35.00180	34.35	11.43
83/10/ 9	2445616.5	0.53444	0.45593	0.17173	-23.68723	22.93299	11.83109	0.72318	35.02830	40.47	13.74
83/10/13	2445620.5	0.47648	0.50595	0.19793	-26.43209	20.32114	10.82732	0.72263	35.05474	46.72	15.90
83/10/17	2445624.5	0.41256	0.54962	0.22165	-28.85147	17.44844	9.68543	0.72210	35.08081	53.11	17.88
83/10/21	2445628.5	0.34346	0.58639	0.24259	-30.91337	14.35000	8.41923	0.72157	35.10616	59.64	19.65
83/10/25	2445632.5	0.27003	0.61578	0.26047	-32.59009	11.06412	7.04424	0.72107	35.13047	66.32	21.18
83/10/29	2445636.5	0.19319	0.63740	0.27506	-33.85867	7.63188	5.57752	0.72060	35.15343	73.14	22.44
83/11/ 2	2445640.5	0.11392	0.65096	0.28618	-34.70130	4.09657	4.03744	0.72016	35.17475	80.07	23.41
83/11/ 6	2445644.5	0.03320	0.65628	0.29368	-35.10561	0.50318	2.44352	0.71976	35.19415	87.10	24.08
83/11/10	2445648.5	-0.04794	0.65328	0.29745	-35.06495	-3.10224	0.81607	0.71941	35.21137	94.20	24.42
83/11/14	2445652.5	-0.12847	0.64198	0.29744	-34.57853	-6.67318	-0.82398	0.71910	35.22620	101.32	24.43
83/11/18	2445656.5	-0.20737	0.62251	0.29365	-33.65152	-10.16334	-2.45545	0.71885	35.23844	108.42	24.11
83/11/22	2445660.5	-0.28362	0.59512	0.28611	-32.29501	-13.52729	-4.05717	0.71866	35.24792	115.48	23.46
83/11/26	2445664.5	-0.35626	0.56014	0.27494	-30.52592	-16.72115	-5.60827	0.71852	35.25452	122.46	22.50
83/11/30	2445668.5	-0.42436	0.51802	0.26026	-28.36680	-19.70318	-7.08854	0.71845	35.25816	129.32	21.24
83/12/ 4	2445672.5	-0.48705	0.46930	0.24226	-25.84548	-22.43447	-8.47868	0.71843	35.25879	136.06	19.71
83/12/ 8	2445676.5	-0.54352	0.41459	0.22117	-22.99474	-24.87944	-9.76058	0.71848	35.25640	142.66	17.93
83/12/12	2445680.5	-0.59307	0.35459	0.19726	-19.85179	-27.00642	-10.91762	0.71859	35.25102	149.13	15.93
83/12/16	2445684.5	-0.63505	0.29007	0.17083	-16.45773	-28.78805	-11.93488	0.71876	35.24273	155.45	13.75
83/12/20	2445688.5	-0.66895	0.22186	0.14223	-12.85696	-30.20171	-12.79936	0.71899	35.23164	161.65	11.41
83/12/24	2445692.5	-0.69433	0.15083	0.11182	-9.09650	-31.22978	-13.50014	0.71927	35.21788	167.74	8.94
83/12/28	2445696.5	-0.71089	0.07788	0.07999	-5.22533	-31.85988	-14.02856	0.71960	35.20166	173.75	6.38
84/ 1/ 1	2445700.5	-0.71843	0.00394	0.04714	-1.29363	-32.08500	-14.37828	0.71999	35.18317	179.69	3.75
84/ 1/ 5	2445704.5	-0.71686	-0.07005	0.01370	2.64789	-31.90350	-14.54537	0.72041	35.16265	185.58	1.09
84/ 1/ 9	2445708.5	-0.70623	-0.14316	-0.01992	6.54873	-31.31914	-14.52833	0.72087	35.14039	191.46	-1.58
84/ 1/13	2445712.5	-0.68667	-0.21445	-0.05329	10.35930	-30.34090	-14.32808	0.72135	35.11665	197.34	-4.24
84/ 1/17	2445716.5	-0.65847	-0.28305	-0.08599	14.03156	-28.98280	-13.94790	0.72187	35.09175	203.26	-6.84
84/ 1/21	2445720.5	-0.62199	-0.34809	-0.11760	17.51963	-27.26362	-13.39336	0.72240	35.06600	209.23	-9.37
84/ 1/25	2445724.5	-0.57770	-0.40876	-0.14774	20.78038	-25.20662	-12.67221	0.72294	35.03973	215.28	-11.79
84/ 1/29	2445728.5	-0.52618	-0.46431	-0.17603	23.77396	-22.83908	-11.79425	0.72349	35.01327	221.43	-14.08
84/ 2/ 2	2445732.5	-0.46809	-0.51407	-0.20212	26.46420	-20.19197	-10.77113	0.72403	34.98695	227.68	-16.21
84/ 2/ 6	2445736.5	-0.40416	-0.55742	-0.22569	28.81902	-17.29943	-9.61623	0.72457	34.96109	234.06	-18.15
84/ 2/10	2445740.5	-0.33521	-0.59384	-0.24646	30.81077	-14.19833	-8.34440	0.72509	34.93601	240.56	-19.87
84/ 2/14	2445744.5	-0.26210	-0.62289	-0.26417	32.41646	-10.92777	-6.97183	0.72558	34.91202	247.18	-21.35
84/ 2/18	2445748.5	-0.18575	-0.64423	-0.27861	33.61798	-7.52855	-5.51575	0.72605	34.88941	253.92	-22.56
84/ 2/22	2445752.5	-0.10710	-0.65761	-0.28960	34.40219	-4.04272	-3.99428	0.72649	34.86845	260.75	-23.49
84/ 2/26	2445756.5	-0.02713	-0.66287	-0.29703	34.76104	-0.51304	-2.42619	0.72688	34.84938	267.66	-24.12
84/ 3/ 1	2445760.5	0.05318	-0.65997	-0.30079	34.69156	3.01754	-0.83066	0.72724	34.83245	274.61	-24.43
84/ 3/ 5	2445764.5	0.13283	-0.64896	-0.30086	34.19582	6.50626	0.77293	0.72754	34.81785	281.57	-24.43
84/ 3/ 9	2445768.5	0.21085	-0.62998	-0.29723	33.28087	9.91114	2.36521	0.72779	34.80576	288.51	-24.10
84/ 3/13	2445772.5	0.28629	-0.60327	-0.28996	31.95858	13.19133	3.92701	0.72799	34.79632	295.39	-23.47
84/ 3/17	2445776.5	0.35821	-0.56916	-0.27912	30.24553	16.30759	5.43961	0.72812	34.78964	302.19	-22.54
84/ 3/21	2445780.5	0.42575	-0.52807	-0.26487	28.16272	19.22268	6.88489	0.72820	34.78580	308.88	-21.33
84/ 3/25	2445784.5	0.48807	-0.48052	-0.24738	25.73539	21.90174	8.24555	0.72822	34.78485	315.45	-19.86
84/ 3/29	2445788.5	0.54441	-0.42709	-0.22685	22.99274	24.31266	9.50528	0.72818	34.78681	321.89	-18.15

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84/ 4/ 2	2445792.5	0.59409	-0.36842	-0.20355	19.96759	26.42640	10.64892	0.72808	34.79164	328.20	-16.23
84/ 4/ 6	2445796.5	0.63648	-0.30524	-0.17775	16.69603	28.21732	11.66263	0.72792	34.79931	334.38	-14.13
84/ 4/10	2445800.5	0.67107	-0.23831	-0.14978	13.21712	29.66346	12.53405	0.72771	34.80970	340.45	-11.88
84/ 4/14	2445804.5	0.69742	-0.16846	-0.11996	9.57240	30.74678	13.25241	0.72744	34.82272	346.42	-9.49
84/ 4/18	2445808.5	0.71520	-0.09654	-0.08867	5.80554	31.45337	13.80872	0.72711	34.83819	352.31	-7.00
84/ 4/22	2445812.5	0.72418	-0.02343	-0.05629	1.96184	31.77369	14.19579	0.72675	34.85594	358.15	-4.44
84/ 4/26	2445816.5	0.72424	0.04997	-0.02321	-1.91223	31.70267	14.40841	0.72633	34.87575	3.95	-1.83
84/ 4/30	2445820.5	0.71536	0.12274	0.01015	-5.76956	31.23985	14.44339	0.72589	34.89739	9.74	0.80
84/ 5/ 4	2445824.5	0.69763	0.19401	0.04338	-9.56287	30.38945	14.29967	0.72541	34.92059	15.54	3.43
84/ 5/ 8	2445828.5	0.67126	0.26286	0.07608	-13.24531	29.16038	13.97828	0.72490	34.94507	21.39	6.02
84/ 5/12	2445832.5	0.63656	0.32846	0.10783	-16.77098	27.56621	13.48245	0.72437	34.97054	27.29	8.56
84/ 5/16	2445836.5	0.59393	0.38996	0.13824	-20.09552	25.62512	12.81757	0.72383	34.99667	33.29	11.01
84/ 5/20	2445840.5	0.54390	0.44660	0.16693	-23.17664	23.35971	11.99116	0.72329	35.02314	39.39	13.34
84/ 5/24	2445844.5	0.48706	0.49766	0.19353	-25.97471	20.79684	11.01282	0.72274	35.04963	45.62	15.53
84/ 5/28	2445848.5	0.42413	0.54249	0.21770	-28.45332	17.96737	9.89415	0.72220	35.07580	51.98	17.54
84/ 6/ 1	2445852.5	0.35587	0.58050	0.23915	-30.57975	14.90578	8.64864	0.72167	35.10132	58.49	19.35
84/ 6/ 5	2445856.5	0.28313	0.61121	0.25758	-32.32554	11.64987	7.29151	0.72117	35.12586	65.14	20.93
84/ 6/ 9	2445860.5	0.20683	0.63421	0.27276	-33.66686	8.24024	5.83957	0.72069	35.14910	71.94	22.24
84/ 6/13	2445864.5	0.12791	0.64919	0.28450	-34.58498	4.71985	4.31098	0.72025	35.17076	78.85	23.27
84/ 6/17	2445868.5	0.04737	0.65596	0.29264	-35.06656	1.13342	2.72507	0.71984	35.19054	85.87	23.99
84/ 6/21	2445872.5	-0.03377	0.65442	0.29706	-35.10393	-2.47315	1.10203	0.71948	35.20820	92.95	24.39
84/ 6/25	2445876.5	-0.11448	0.64456	0.29772	-34.69528	-6.05337	-0.53730	0.71916	35.22349	100.07	24.45
84/ 6/29	2445880.5	-0.19373	0.62650	0.29458	-33.84471	-9.56088	-2.17176	0.71890	35.23622	107.18	24.19
84/ 7/ 3	2445884.5	-0.27052	0.60047	0.28770	-32.56229	-12.95004	-3.78015	0.71869	35.24622	114.25	23.60
84/ 7/ 7	2445888.5	-0.34386	0.56679	0.27715	-30.86395	-16.17665	-5.34155	0.71855	35.25336	121.24	22.69
84/ 7/11	2445892.5	-0.41282	0.52589	0.26307	-28.77124	-19.19856	-6.83560	0.71846	35.25754	128.13	21.48
84/ 7/15	2445896.5	-0.47651	0.47828	0.24564	-26.31112	-21.97631	-8.24282	0.71844	35.25872	134.89	19.99
84/ 7/19	2445900.5	-0.53413	0.42457	0.22507	-23.51551	-24.47372	-9.54487	0.71848	35.25687	141.52	18.26
84/ 7/23	2445904.5	-0.58493	0.36544	0.20163	-20.42088	-26.65839	-10.72486	0.71857	35.25202	148.00	16.30
84/ 7/27	2445908.5	-0.62828	0.30166	0.17562	-17.06771	-28.50218	-11.76755	0.71873	35.24424	154.35	14.14
84/ 7/31	2445912.5	-0.66363	0.23403	0.14738	-13.49985	-29.98162	-12.65958	0.71895	35.23362	160.57	11.83
84/ 8/ 4	2445916.5	-0.69053	0.16343	0.11726	-9.76392	-31.07818	-13.38968	0.71922	35.22032	166.68	9.38
84/ 8/ 8	2445920.5	-0.70865	0.09075	0.08564	-5.90859	-31.77857	-13.94878	0.71955	35.20451	172.70	6.84
84/ 8/12	2445924.5	-0.71777	0.01691	0.05294	-1.98390	-32.07482	-14.33011	0.71992	35.18639	178.65	4.22
84/ 8/16	2445928.5	-0.71780	-0.05714	0.01957	1.95949	-31.96437	-14.52934	0.72034	35.16620	184.55	1.56
84/ 8/20	2445932.5	-0.70874	-0.13046	-0.01404	5.87100	-31.45002	-14.54452	0.72079	35.14421	190.43	-1.12
84/ 8/24	2445936.5	-0.69074	-0.20214	-0.04749	9.70084	-30.53987	-14.37617	0.72127	35.12071	196.31	-3.77
84/ 8/28	2445940.5	-0.66402	-0.27127	-0.08033	13.40063	-29.24705	-14.02715	0.72178	35.09598	202.22	-6.39
84/ 9/ 1	2445944.5	-0.62896	-0.33699	-0.11216	16.92409	-27.58956	-13.50264	0.72231	35.07035	208.18	-8.93
84/ 9/ 5	2445948.5	-0.58600	-0.39848	-0.14259	20.22758	-25.58986	-12.81002	0.72285	35.04415	214.22	-11.38
84/ 9/ 9	2445952.5	-0.53570	-0.45499	-0.17123	23.27063	-23.27459	-11.95873	0.72340	35.01771	220.34	-13.69
84/ 9/13	2445956.5	-0.47871	-0.50580	-0.19773	26.01639	-20.67408	-10.96012	0.72394	34.99134	226.58	-15.85
84/ 9/17	2445960.5	-0.41575	-0.55031	-0.22176	28.43206	-17.82195	-9.82727	0.72448	34.96540	232.93	-17.82
84/ 9/21	2445964.5	-0.34762	-0.58798	-0.24304	30.48917	-14.75464	-8.57480	0.72500	34.94018	239.41	-19.59
84/ 9/25	2445968.5	-0.27517	-0.61835	-0.26130	32.16393	-11.51087	-7.21865	0.72550	34.91600	246.01	-21.11

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84/ 9/29	2445972.5	-0.19932	-0.64106	-0.27632	33.43733	-8.13119	-5.77592	0.72598	34.89316	252.73	-22.37
84/10/ 3	2445976.5	-0.12100	-0.65585	-0.28793	34.29537	-4.65747	-4.26457	0.72642	34.87192	259.55	-23.35
84/10/ 7	2445980.5	-0.04119	-0.66254	-0.29599	34.72910	-1.13236	-2.70327	0.72682	34.85255	266.44	-24.03
84/10/11	2445984.5	0.03913	-0.66107	-0.30040	34.73465	2.40116	-1.11115	0.72718	34.83527	273.39	-24.40
84/10/15	2445988.5	0.11897	-0.65147	-0.30112	34.31322	5.90029	0.49244	0.72749	34.82029	280.35	-24.45
84/10/19	2445992.5	0.19735	-0.63387	-0.29813	33.47098	9.32286	2.08810	0.72775	34.80779	287.29	-24.18
84/10/23	2445996.5	0.27330	-0.60849	-0.29149	32.21898	12.62779	3.65661	0.72795	34.79791	294.19	-23.60
84/10/27	2446000.5	0.34591	-0.57564	-0.28127	30.57297	15.77554	5.17917	0.72810	34.79077	301.00	-22.73
84/10/31	2446004.5	0.41427	-0.53575	-0.26761	28.55320	18.72848	6.63753	0.72819	34.78646	307.71	-21.56
84/11/ 4	2446008.5	0.47756	-0.48929	-0.25067	26.18419	21.45131	8.01423	0.72822	34.78503	314.31	-20.13
84/11/ 8	2446012.5	0.53500	-0.43684	-0.23066	23.49446	23.91139	9.29278	0.72819	34.78649	320.77	-18.47
84/11/12	2446016.5	0.58589	-0.37904	-0.20782	20.51621	26.07915	10.45780	0.72810	34.79084	327.10	-16.58
84/11/16	2446020.5	0.62960	-0.31659	-0.18243	17.28501	27.92831	11.49520	0.72795	34.79801	333.30	-14.51
84/11/20	2446024.5	0.66559	-0.25026	-0.15481	13.83941	29.43625	12.39237	0.72774	34.80794	339.39	-12.28
84/11/24	2446028.5	0.69341	-0.18086	-0.12529	10.22056	30.58421	13.13824	0.72748	34.82050	345.38	-9.92
84/11/28	2446032.5	0.71271	-0.10924	-0.09424	6.47179	31.35756	13.72348	0.72717	34.83554	351.29	-7.45
84/12/ 2	2446036.5	0.72325	-0.03627	-0.06202	2.63814	31.74598	14.14061	0.72681	34.85289	357.13	-4.89
84/12/ 6	2446040.5	0.72487	0.03714	-0.02903	-1.23408	31.74361	14.38405	0.72640	34.87234	2.93	-2.29
84/12/10	2446044.5	0.71755	0.11009	0.00431	-5.09782	31.34917	14.45025	0.72596	34.89367	8.72	0.34
84/12/14	2446048.5	0.70136	0.18168	0.03759	-8.90580	30.56606	14.33777	0.72549	34.91660	14.52	2.97
84/12/18	2446052.5	0.67648	0.25102	0.07041	-12.61106	29.40236	14.04729	0.72498	34.94087	20.36	5.57
84/12/22	2446056.5	0.64321	0.31725	0.10236	-16.16748	27.87086	13.58164	0.72446	34.96617	26.25	8.12
84/12/26	2446060.5	0.60193	0.37953	0.13304	-19.53039	25.98891	12.94584	0.72392	34.99220	32.23	10.59
84/12/30	2446064.5	0.55315	0.43707	0.16205	-22.65710	23.77837	12.14703	0.72338	35.01864	38.31	12.95
85/ 1/ 3	2446068.5	0.49746	0.48916	0.18904	-25.50747	21.26537	11.19446	0.72283	35.04516	44.52	15.16
85/ 1/ 7	2446072.5	0.43554	0.53512	0.21366	-28.04448	18.48008	10.09939	0.72229	35.07141	50.86	17.21
85/ 1/11	2446076.5	0.36815	0.57436	0.23560	-30.23474	15.45639	8.87499	0.72176	35.09708	57.34	19.05
85/ 1/15	2446080.5	0.29614	0.60638	0.25458	-32.04900	12.23154	7.53618	0.72125	35.12183	63.97	20.67
85/ 1/19	2446084.5	0.22039	0.63075	0.27035	-33.46260	8.84569	6.09951	0.72076	35.14535	70.74	22.03
85/ 1/23	2446088.5	0.14185	0.64715	0.28270	-34.45587	5.34141	4.58293	0.72031	35.16733	77.64	23.11
85/ 1/27	2446092.5	0.06152	0.65537	0.29148	-35.01453	1.76316	3.00557	0.71990	35.18749	84.64	23.88
85/ 1/31	2446096.5	-0.01959	0.65528	0.29656	-35.12988	-1.84332	1.38749	0.71953	35.20556	91.71	24.34
85/ 2/ 4	2446100.5	-0.10045	0.64687	0.29787	-34.79908	-5.43159	-0.25055	0.71920	35.22131	98.83	24.47
85/ 2/ 8	2446104.5	-0.18003	0.63023	0.29540	-34.02520	-8.95521	-1.88743	0.71893	35.23454	105.94	24.26
85/ 2/12	2446108.5	-0.25732	0.60558	0.28917	-32.81728	-12.36837	-3.50194	0.71872	35.24505	113.02	23.72
85/ 2/16	2446112.5	-0.33133	0.57321	0.27925	-31.19021	-15.62658	-5.07308	0.71856	35.25273	120.03	22.87
85/ 2/20	2446116.5	-0.40112	0.53353	0.26578	-29.16460	-18.68726	-6.58037	0.71846	35.25746	126.94	21.71
85/ 2/24	2446120.5	-0.46580	0.48705	0.24891	-26.76647	-21.51046	-8.00415	0.71843	35.25919	133.72	20.27
85/ 2/28	2446124.5	-0.52453	0.43435	0.22887	-24.02694	-24.05935	-9.32587	0.71846	35.25788	140.37	18.58
85/ 3/ 4	2446128.5	-0.57658	0.37612	0.20592	-20.98170	-26.30086	-10.52836	0.71855	35.25356	146.88	16.65
85/ 3/ 8	2446132.5	-0.62127	0.31309	0.18033	-17.67059	-28.20606	-11.59607	0.71870	35.24628	153.25	14.53
85/ 3/12	2446136.5	-0.65805	0.24608	0.15245	-14.13692	-29.75064	-12.51531	0.71890	35.23615	159.50	12.24
85/ 3/16	2446140.5	-0.68645	0.17593	0.12263	-10.42688	-30.91519	-13.27443	0.71917	35.22328	165.63	9.82
85/ 3/20	2446144.5	-0.70613	0.10354	0.09125	-6.58884	-31.68550	-13.86394	0.71949	35.20785	171.66	7.29
85/ 3/24	2446148.5	-0.71683	0.02984	0.05871	-2.67266	-32.05265	-14.27670	0.71985	35.19005	177.62	4.68

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85/ 3/28	2446152.5	-0.71845	-0.04424	0.02543	1.27105	-32.01316	-14.50794	0.72026	35.17013	183.52	2.02
85/ 4/ 1	2446156.5	-0.71098	-0.11776	-0.00818	5.19165	-31.56889	-14.55529	0.72071	35.14832	189.40	-0.65
85/ 4/ 5	2446160.5	-0.69452	-0.18979	-0.04168	9.03914	-30.72704	-14.41884	0.72119	35.12493	195.28	-3.31
85/ 4/ 9	2446164.5	-0.66931	-0.25943	-0.07466	12.76488	-29.49990	-14.10106	0.72170	35.10023	201.19	-5.94
85/ 4/13	2446168.5	-0.63567	-0.32581	-0.10670	16.32218	-27.90463	-13.60673	0.72223	35.07456	207.14	-8.50
85/ 4/17	2446172.5	-0.59406	-0.38809	-0.13740	19.66689	-25.96296	-12.94287	0.72277	35.04825	213.16	-10.96
85/ 4/21	2446176.5	-0.54500	-0.44552	-0.16637	22.75798	-23.70082	-12.11855	0.72332	35.02162	219.26	-13.30
85/ 4/25	2446180.5	-0.48913	-0.49738	-0.19327	25.55794	-21.14795	-11.14483	0.72387	34.99502	225.48	-15.49
85/ 4/29	2446184.5	-0.42716	-0.54303	-0.21776	28.03326	-18.33744	-10.03448	0.72441	34.96879	231.81	-17.49
85/ 5/ 3	2446188.5	-0.35988	-0.58193	-0.23954	30.15471	-15.30524	-8.80189	0.72494	34.94324	238.27	-19.29
85/ 5/ 7	2446192.5	-0.28813	-0.61361	-0.25835	31.89767	-12.08972	-7.46277	0.72545	34.91870	244.85	-20.86
85/ 5/11	2446196.5	-0.21281	-0.63768	-0.27395	33.24231	-8.73114	-6.03402	0.72593	34.89546	251.54	-22.17
85/ 5/15	2446200.5	-0.13486	-0.65387	-0.28617	34.17375	-5.27116	-4.53349	0.72638	34.87381	258.35	-23.20
85/ 5/19	2446204.5	-0.05524	-0.66199	-0.29486	34.68216	-1.75231	-2.97971	0.72679	34.85400	265.23	-23.94
85/ 5/23	2446208.5	0.02506	-0.66195	-0.29991	34.76280	1.78246	-1.39174	0.72716	34.83628	272.17	-24.36
85/ 5/27	2446212.5	0.10505	-0.65377	-0.30128	34.41598	5.29030	0.21108	0.72748	34.82085	279.13	-24.47
85/ 5/31	2446216.5	0.18375	-0.63756	-0.29894	33.64701	8.72893	1.80937	0.72775	34.80789	286.08	-24.25
85/ 6/ 4	2446220.5	0.26019	-0.61353	-0.29294	32.46609	12.05706	3.38387	0.72796	34.79756	292.98	-23.73
85/ 6/ 8	2446224.5	0.33344	-0.58197	-0.28334	30.88815	15.23487	4.91569	0.72812	34.78998	299.81	-22.90
85/ 6/12	2446228.5	0.40261	-0.54328	-0.27027	28.93265	18.22436	6.38648	0.72822	34.78524	306.54	-21.79
85/ 6/16	2446232.5	0.46685	-0.49794	-0.25389	26.62337	20.98983	7.77865	0.72826	34.78339	313.15	-20.40
85/ 6/20	2446236.5	0.52537	-0.44650	-0.23440	23.98813	23.49815	9.07550	0.72823	34.78445	319.64	-18.78
85/ 6/24	2446240.5	0.57746	-0.38959	-0.21205	21.05849	25.71918	10.26148	0.72815	34.78842	325.99	-16.93
85/ 6/28	2446244.5	0.62247	-0.32791	-0.18709	17.86942	27.62607	11.32225	0.72801	34.79524	332.22	-14.89
85/ 7/ 2	2446248.5	0.65985	-0.26221	-0.15984	14.45896	29.19550	12.24491	0.72781	34.80484	338.33	-12.69
85/ 7/ 6	2446252.5	0.68914	-0.19329	-0.13063	10.86782	30.40804	13.01814	0.72755	34.81710	344.33	-10.34
85/ 7/10	2446256.5	0.70996	-0.12200	-0.09981	7.13896	31.24830	13.63229	0.72725	34.83189	350.25	-7.89
85/ 7/14	2446260.5	0.72205	-0.04921	-0.06777	3.31715	31.70517	14.07952	0.72689	34.84902	356.10	-5.35
85/ 7/18	2446264.5	0.72525	0.02419	-0.03489	-0.55152	31.77199	14.35391	0.72649	34.86829	1.91	-2.75
85/ 7/22	2446268.5	0.71950	0.09729	-0.00159	-4.42008	31.44665	14.45156	0.72605	34.88949	7.70	-0.13
85/ 7/26	2446272.5	0.70486	0.16918	0.03174	-8.24128	30.73170	14.37064	0.72558	34.91234	13.50	2.51
85/ 7/30	2446276.5	0.68150	0.23898	0.06467	-11.96804	29.63441	14.11143	0.72507	34.93658	19.32	5.12
85/ 8/ 3	2446280.5	0.64967	0.30582	0.09680	-15.55405	28.16670	13.67639	0.72455	34.96191	25.21	7.68
85/ 8/ 7	2446284.5	0.60977	0.36885	0.12773	-18.95435	26.34512	13.07014	0.72401	34.98802	31.17	10.16
85/ 8/11	2446288.5	0.56227	0.42729	0.15707	-22.12584	24.19073	12.29946	0.72346	35.01458	37.23	12.54
85/ 8/15	2446292.5	0.50775	0.48038	0.18444	-25.02788	21.72893	11.37321	0.72291	35.04128	43.41	14.78
85/ 8/19	2446296.5	0.44687	0.52747	0.20950	-27.62284	18.98919	10.30231	0.72236	35.06777	49.73	16.86
85/ 8/23	2446300.5	0.38039	0.56793	0.23194	-29.87664	16.00476	9.09959	0.72183	35.09371	56.19	18.74
85/ 8/27	2446304.5	0.30912	0.60125	0.25146	-31.75925	12.81232	7.77969	0.72131	35.11879	62.79	20.40
85/ 8/31	2446308.5	0.23395	0.62700	0.26780	-33.24515	9.45157	6.35888	0.72082	35.14267	69.54	21.81
85/ 9/ 4	2446312.5	0.15584	0.64483	0.28077	-34.31375	5.96468	4.85487	0.72036	35.16505	76.41	22.94
85/ 9/ 8	2446316.5	0.07575	0.65449	0.29019	-34.94978	2.39585	3.28662	0.71994	35.18564	83.40	23.77
85/ 9/12	2446320.5	-0.00530	0.65587	0.29592	-35.14355	-1.20934	1.67406	0.71956	35.20417	90.46	24.28
85/ 9/16	2446324.5	-0.08629	0.64891	0.29790	-34.89114	-4.80453	0.03783	0.71922	35.22040	97.57	24.47
85/ 9/20	2446328.5	-0.16617	0.63371	0.29610	-34.19460	-8.34320	-1.60097	0.71894	35.23411	104.69	24.32

1.2 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — VENUS

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85/ 9/24	2446332.5	-0.24394	0.61045	0.29052	-33.06191	-11.77938	-3.22112	0.71872	35.24513	111.78	23.84
85/ 9/28	2446336.5	-0.31860	0.57940	0.28124	-31.50695	-15.06826	-4.80155	0.71855	35.25330	118.81	23.04
85/10/ 2	2446340.5	-0.38920	0.54097	0.26838	-29.54935	-18.16689	-6.32166	0.71844	35.25852	125.73	21.94
85/10/ 6	2446344.5	-0.45484	0.49564	0.25210	-27.21422	-21.03477	-7.76161	0.71840	35.26071	132.54	20.54
85/10/10	2446348.5	-0.51468	0.44399	0.23260	-24.53182	-23.63449	-9.10264	0.71841	35.25986	139.22	18.89
85/10/14	2446352.5	-0.56795	0.38667	0.21013	-21.53710	-25.93227	-10.32731	0.71849	35.25596	145.75	17.01
85/10/18	2446356.5	-0.61397	0.32443	0.18498	-18.26922	-27.89842	-11.41976	0.71864	35.24907	152.15	14.92
85/10/22	2446360.5	-0.65218	0.25805	0.15748	-14.77095	-29.50778	-12.36597	0.71884	35.23928	158.41	12.65
85/10/26	2446364.5	-0.68208	0.18838	0.12797	-11.08804	-30.74009	-13.15390	0.71909	35.22673	164.56	10.25
85/10/30	2446368.5	-0.70330	0.11632	0.09683	-7.26855	-31.58019	-13.77370	0.71941	35.21157	170.61	7.74
85/11/ 3	2446372.5	-0.71560	0.04278	0.06447	-3.36214	-32.01826	-14.21779	0.71977	35.19402	176.58	5.14
85/11/ 7	2446376.5	-0.71881	-0.03130	0.03128	0.58066	-32.04986	-14.48100	0.72017	35.17428	182.49	2.49
85/11/11	2446380.5	-0.71292	-0.10499	-0.00230	4.50914	-31.67596	-14.56054	0.72062	35.15264	188.38	-0.18
85/11/15	2446384.5	-0.69803	-0.17735	-0.03585	8.37315	-30.90281	-14.45609	0.72110	35.12936	194.26	-2.85
85/11/19	2446388.5	-0.67432	-0.24747	-0.06895	12.12375	-29.74186	-14.16969	0.72160	35.10475	200.15	-5.48
85/11/23	2446392.5	-0.64213	-0.31448	-0.10118	15.71386	-28.20943	-13.70574	0.72213	35.07912	206.09	-8.05
85/11/27	2446396.5	-0.60188	-0.37754	-0.13215	19.09887	-26.32651	-13.07088	0.72267	35.05281	212.10	-10.54
85/12/ 1	2446400.5	-0.55408	-0.43587	-0.16145	22.23715	-24.11831	-12.27384	0.72322	35.02614	218.19	-12.90
85/12/ 5	2446404.5	-0.49935	-0.48875	-0.18874	25.09056	-21.61393	-11.32534	0.72377	34.99945	224.38	-15.12
85/12/ 9	2446408.5	-0.43840	-0.53553	-0.21367	27.62486	-18.84593	-10.23787	0.72432	34.97308	230.70	-17.16
85/12/13	2446412.5	-0.37199	-0.57564	-0.23594	29.81008	-15.84978	-9.02554	0.72485	34.94734	237.13	-19.00
85/12/17	2446416.5	-0.30095	-0.60861	-0.25529	31.62076	-12.66347	-7.70385	0.72537	34.92256	243.69	-20.61
85/12/21	2446420.5	-0.22619	-0.63404	-0.27147	33.03623	-9.32697	-6.28952	0.72585	34.89904	250.37	-21.96
85/12/25	2446424.5	-0.14863	-0.65162	-0.28429	34.04075	-5.88171	-4.80023	0.72631	34.87706	257.15	-23.04
85/12/29	2446428.5	-0.06924	-0.66116	-0.29360	34.62361	-2.37012	-3.25442	0.72673	34.85689	264.02	-23.83
86/ 1/ 2	2446432.5	0.01101	-0.66256	-0.29930	34.77917	1.16490	-1.67107	0.72710	34.83878	270.95	-24.31
86/ 1/ 6	2446436.5	0.09113	-0.65580	-0.30131	34.50688	4.68045	-0.06947	0.72743	34.82293	277.91	-24.47
86/ 1/10	2446440.5	0.17012	-0.64098	-0.29962	33.81117	8.13413	1.53097	0.72771	34.80953	284.86	-24.31
86/ 1/14	2446444.5	0.24703	-0.61829	-0.29425	32.70141	11.48444	3.11097	0.72794	34.79874	291.78	-23.84
86/ 1/18	2446448.5	0.32090	-0.58803	-0.28528	31.19169	14.69127	4.65157	0.72810	34.79069	298.62	-23.07
86/ 1/22	2446452.5	0.39085	-0.55055	-0.27280	29.30072	17.71629	6.13430	0.72821	34.78547	305.37	-22.00
86/ 1/26	2446456.5	0.45601	-0.50634	-0.25699	27.05152	20.52336	7.54143	0.72826	34.78313	312.01	-20.66
86/ 1/30	2446460.5	0.51558	-0.45592	-0.23803	24.47123	23.07890	8.85609	0.72825	34.78372	318.51	-19.08
86/ 2/ 3	2446464.5	0.56884	-0.39992	-0.21616	21.59076	25.35221	10.06252	0.72818	34.78721	324.89	-17.27
86/ 2/ 7	2446468.5	0.61513	-0.33903	-0.19163	18.44453	27.31583	11.14615	0.72805	34.79356	331.14	-15.26
86/ 2/11	2446472.5	0.65389	-0.27397	-0.16476	15.07006	28.94583	12.09384	0.72786	34.80271	337.27	-13.08
86/ 2/15	2446476.5	0.68462	-0.20556	-0.13587	11.50761	30.22206	12.89396	0.72761	34.81454	343.29	-10.76
86/ 2/19	2446480.5	0.70694	-0.13462	-0.10531	7.79978	31.12841	13.53657	0.72731	34.82891	349.22	-8.33
86/ 2/23	2446484.5	0.72058	-0.06203	-0.07345	3.99105	31.65302	14.01350	0.72696	34.84566	355.08	-5.80
86/ 2/27	2446488.5	0.72534	0.01133	-0.04069	0.12731	31.78842	14.31849	0.72657	34.86458	0.89	-3.21
86/ 3/ 3	2446492.5	0.72116	0.08454	-0.00743	-3.74458	31.53171	14.44728	0.72614	34.88545	6.69	-0.59
86/ 3/ 7	2446496.5	0.70807	0.15672	0.02592	-7.57739	30.88463	14.39767	0.72567	34.90803	12.48	2.05
86/ 3/11	2446500.5	0.68622	0.22695	0.05895	-11.32397	29.85361	14.16957	0.72517	34.93203	18.30	4.66
86/ 3/15	2446504.5	0.65585	0.29436	0.09125	-14.93784	28.44975	13.76506	0.72465	34.95718	24.17	7.23
86/ 3/19	2446508.5	0.61733	0.35812	0.12242	-18.37377	26.68880	13.18839	0.72411	34.98316	30.12	9.73

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86/ 3/23	2446512.5	0.57113	0.41741	0.15206	-21.58828	24.59106	12.44594	0.72356	35.00965	36.16	12.13
86/ 3/27	2446516.5	0.51779	0.47150	0.17980	-24.54028	22.18116	11.54624	0.72301	35.03633	42.32	14.40
86/ 3/31	2446520.5	0.45798	0.51968	0.20529	-27.19156	19.48787	10.49983	0.72246	35.06287	48.61	16.51
86/ 4/ 4	2446524.5	0.39242	0.56135	0.22821	-29.50739	16.54382	9.31922	0.72193	35.08892	55.04	18.43
86/ 4/ 8	2446528.5	0.32192	0.59595	0.24826	-31.45700	13.38512	8.01875	0.72141	35.11416	61.62	20.13
86/ 4/12	2446532.5	0.24738	0.62305	0.26518	-33.01404	10.05094	6.61440	0.72091	35.13828	68.35	21.58
86/ 4/16	2446536.5	0.16971	0.64229	0.27875	-34.15704	6.58309	5.12367	0.72044	35.16095	75.20	22.76
86/ 4/20	2446540.5	0.08989	0.65340	0.28880	-34.86976	3.02542	3.56529	0.72001	35.18188	82.17	23.65
86/ 4/24	2446544.5	0.00893	0.65623	0.29519	-35.14152	-0.57668	1.95904	0.71962	35.20081	89.22	24.22
86/ 4/28	2446548.5	-0.07213	0.65074	0.29783	-34.96739	-4.17694	0.32546	0.71928	35.21748	96.33	24.46
86/ 5/ 2	2446552.5	-0.15228	0.63697	0.29669	-34.34834	-7.72884	-1.31441	0.71899	35.23168	103.45	24.37
86/ 5/ 6	2446556.5	-0.23050	0.61510	0.29177	-33.29132	-11.18625	-2.93936	0.71875	35.24321	110.54	23.95
86/ 5/10	2446560.5	-0.30577	0.58540	0.28314	-31.80918	-14.50412	-4.52825	0.71858	35.25193	117.58	23.21
86/ 5/14	2446564.5	-0.37715	0.54823	0.27089	-29.92056	-17.63911	-6.06040	0.71846	35.25772	124.53	22.15
86/ 5/18	2446568.5	-0.44372	0.50407	0.25519	-27.64962	-20.55027	-7.51581	0.71840	35.26049	131.36	20.81
86/ 5/22	2446572.5	-0.50463	0.45348	0.23624	-25.02573	-23.19960	-8.87550	0.71841	35.26022	138.06	19.20
86/ 5/26	2446576.5	-0.55911	0.39711	0.21427	-22.08307	-25.55263	-10.12178	0.71847	35.25691	144.62	17.35
86/ 5/30	2446580.5	-0.60645	0.33567	0.18957	-18.86009	-27.57893	-11.23851	0.71860	35.25060	151.04	15.30
86/ 6/ 3	2446584.5	-0.64606	0.26995	0.16246	-15.39897	-29.25251	-12.21131	0.71879	35.24136	157.32	13.06
86/ 6/ 7	2446588.5	-0.67745	0.20080	0.13327	-11.74498	-30.55222	-13.02780	0.71904	35.22933	163.49	10.68
86/ 6/11	2446592.5	-0.70022	0.12909	0.10239	-7.94583	-31.46199	-13.67771	0.71934	35.21467	169.55	8.18
86/ 6/15	2446596.5	-0.71409	0.05574	0.07021	-4.05096	-31.97106	-14.15307	0.71969	35.19756	175.54	5.60
86/ 6/19	2446600.5	-0.71890	-0.01831	0.03714	-0.11079	-32.07403	-14.44827	0.72009	35.17823	181.46	2.96
86/ 6/23	2446604.5	-0.71460	-0.09214	0.00360	3.82394	-31.77092	-14.56011	0.72053	35.15694	187.35	0.29
86/ 6/27	2446608.5	-0.70127	-0.16480	-0.02999	7.70293	-31.06707	-14.48783	0.72100	35.13396	193.22	-2.38
86/ 7/ 1	2446612.5	-0.67909	-0.23538	-0.06320	11.47697	-29.97302	-14.23306	0.72150	35.10958	199.12	-5.03
86/ 7/ 5	2446616.5	-0.64836	-0.30299	-0.09562	15.09861	-28.50427	-13.79980	0.72203	35.08413	205.05	-7.61
86/ 7/ 9	2446620.5	-0.60949	-0.36680	-0.12683	18.52275	-26.68101	-13.19429	0.72257	35.05792	211.04	-10.11
86/ 7/13	2446624.5	-0.56297	-0.42602	-0.15645	21.70721	-24.52773	-12.42492	0.72312	35.03129	217.12	-12.50
86/ 7/17	2446628.5	-0.50940	-0.47990	-0.18412	24.61320	-22.07291	-11.50207	0.72367	35.00458	223.29	-14.74
86/ 7/21	2446632.5	-0.44949	-0.52779	-0.20949	27.20576	-19.34850	-10.43792	0.72421	34.97811	229.58	-16.81
86/ 7/25	2446636.5	-0.38397	-0.56911	-0.23225	29.45414	-16.38953	-9.24633	0.72475	34.95222	235.99	-18.69
86/ 7/29	2446640.5	-0.31368	-0.60337	-0.25212	31.33208	-13.23359	-7.94257	0.72527	34.92723	242.53	-20.34
86/ 8/ 2	2446644.5	-0.23951	-0.63014	-0.26887	32.81806	-9.92032	-6.54316	0.72576	34.90345	249.19	-21.74
86/ 8/ 6	2446648.5	-0.16237	-0.64911	-0.28229	33.89546	-6.49095	-5.06562	0.72622	34.88116	255.96	-22.87
86/ 8/10	2446652.5	-0.08322	-0.66007	-0.29223	34.55268	-2.98777	-3.52829	0.72665	34.86063	262.81	-23.71
86/ 8/14	2446656.5	-0.00305	-0.66289	-0.29856	34.78321	0.54635	-1.95007	0.72703	34.84211	269.74	-24.25
86/ 8/18	2446660.5	0.07716	-0.65756	-0.30122	34.58559	4.06850	-0.35022	0.72737	34.82583	276.69	-24.46
86/ 8/22	2446664.5	0.15642	-0.64414	-0.30018	33.96341	7.53613	1.25188	0.72766	34.81197	283.65	-24.36
86/ 8/26	2446668.5	0.23376	-0.62281	-0.29545	32.92516	10.90755	2.83688	0.72789	34.80070	290.57	-23.95
86/ 8/30	2446672.5	0.30824	-0.59384	-0.28710	31.48416	14.14239	4.38577	0.72807	34.79216	297.43	-23.22
86/ 9/ 3	2446676.5	0.37893	-0.55760	-0.27523	29.65829	17.20198	5.87997	0.72819	34.78644	304.20	-22.21
86/ 9/ 7	2446680.5	0.44499	-0.51453	-0.25999	27.46985	20.04975	7.30160	0.72825	34.78360	310.85	-20.92
86/ 9/11	2446684.5	0.50559	-0.46515	-0.24156	24.94529	22.65165	8.63365	0.72825	34.78368	317.39	-19.37
86/ 9/15	2446688.5	0.56001	-0.41008	-0.22018	22.11488	24.97646	9.86013	0.72819	34.78668	323.79	-17.60

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86/ 9/19	2446692.5	0.60756	-0.34999	-0.19610	19.01245	26.99612	10.96626	0.72807	34.79256	330.06	-15.63
86/ 9/23	2446696.5	0.64767	-0.28561	-0.16961	15.67500	28.68606	11.93863	0.72789	34.80124	336.20	-13.48
86/ 9/27	2446700.5	0.67984	-0.21772	-0.14105	12.14236	30.02546	12.76534	0.72765	34.81263	342.24	-11.18
86/10/ 1	2446704.5	0.70366	-0.14716	-0.11075	8.45675	30.99749	13.43614	0.72736	34.82658	348.19	-8.76
86/10/ 5	2446708.5	0.71883	-0.07479	-0.07910	4.66236	31.58952	13.94255	0.72702	34.84293	354.06	-6.25
86/10/ 9	2446712.5	0.72515	-0.00151	-0.04647	0.80487	31.79332	14.27798	0.72664	34.86149	359.88	-3.67
86/10/13	2446716.5	0.72253	0.07180	-0.01326	-3.06899	31.60517	14.43780	0.72621	34.88203	5.68	-1.05
86/10/17	2446720.5	0.71099	0.14422	0.02010	-6.91201	31.02602	14.41945	0.72575	34.90430	11.47	1.59
86/10/21	2446724.5	0.69066	0.21486	0.05322	-10.67698	30.06145	14.22247	0.72526	34.92803	17.28	4.21
86/10/25	2446728.5	0.66176	0.28283	0.08568	-14.31728	28.72177	13.84857	0.72475	34.95293	23.14	6.79
86/10/29	2446732.5	0.62464	0.34728	0.11707	-17.78738	27.02195	13.30160	0.72421	34.97870	29.07	9.30
86/11/ 2	2446736.5	0.57974	0.40741	0.14701	-21.04349	24.98148	12.58760	0.72367	35.00501	35.10	11.72
86/11/ 6	2446740.5	0.52761	0.46246	0.17511	-24.04405	22.62427	11.71471	0.72312	35.03153	41.24	14.01
86/11/10	2446744.5	0.46887	0.51172	0.20102	-26.75032	19.97840	10.69314	0.72257	35.05794	47.50	16.15
86/11/14	2446748.5	0.40426	0.55457	0.22441	-29.12695	17.07583	9.53506	0.72204	35.08390	53.91	18.11
86/11/18	2446752.5	0.33458	0.59045	0.24498	-31.14242	13.95211	8.25451	0.72152	35.10910	60.46	19.85
86/11/22	2446756.5	0.26067	0.61889	0.26247	-32.76963	10.64592	6.86719	0.72102	35.13321	67.16	21.35
86/11/26	2446760.5	0.18348	0.63953	0.27664	-33.98623	7.19861	5.39036	0.72055	35.15593	73.99	22.58
86/11/30	2446764.5	0.10398	0.65208	0.28732	-34.77506	3.65375	3.84254	0.72012	35.17698	80.94	23.52
86/12/ 4	2446768.5	0.02315	0.65637	0.29436	-35.12446	0.05646	2.24334	0.71973	35.19607	87.98	24.14
86/12/ 8	2446772.5	-0.05797	0.65234	0.29766	-35.02850	-3.54710	0.61320	0.71938	35.21298	95.08	24.44
86/12/12	2446776.5	-0.13835	0.64001	0.29718	-34.48713	-7.11043	-1.02694	0.71908	35.22747	102.20	24.41
86/12/16	2446780.5	-0.21697	0.61955	0.29292	-33.50624	-10.58729	-2.65586	0.71883	35.23936	109.30	24.05
86/12/20	2446784.5	-0.29283	0.59120	0.28494	-32.09767	-13.93242	-4.25242	0.71865	35.24849	116.35	23.36
86/12/24	2446788.5	-0.36496	0.55531	0.27332	-30.27904	-17.10217	-5.79583	0.71852	35.25473	123.31	22.36
86/12/28	2446792.5	-0.43243	0.51235	0.25821	-28.07356	-20.05514	-7.26596	0.71845	35.25801	130.17	21.06

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86/12/16	2446780.5	-0.21697	0.61955	0.29292	-33.50624	-10.58729	-2.65586	0.71883	35.23936	109.30	24.05
86/12/20	2446784.5	-0.29283	0.59120	0.28494	-32.09767	-13.93242	-4.25242	0.71865	35.24849	116.35	23.36
86/12/24	2446788.5	-0.36496	0.55531	0.27332	-30.27904	-17.10217	-5.79583	0.71852	35.25473	123.31	22.36
86/12/28	2446792.5	-0.43243	0.51235	0.25821	-28.07356	-20.05514	-7.26596	0.71845	35.25801	130.17	21.06
87/ 1/ 1	2446796.5	-0.49439	0.46285	0.23982	-25.50971	-22.75277	-8.64365	0.71845	35.25828	136.89	19.50
87/ 1/ 5	2446800.5	-0.55005	0.40744	0.21836	-22.62083	-25.15997	-9.91096	0.71850	35.25554	143.47	17.69
87/ 1/ 9	2446804.5	-0.59869	0.34685	0.19412	-19.44463	-27.24557	-11.05148	0.71862	35.24981	149.91	15.67
87/ 1/13	2446808.5	-0.63970	0.28183	0.16741	-16.02266	-28.98278	-12.05049	0.71880	35.24119	156.22	13.47
87/ 1/17	2446812.5	-0.67256	0.21322	0.13856	-12.39967	-30.34958	-12.89527	0.71903	35.22977	162.41	11.11
87/ 1/21	2446816.5	-0.69687	0.14190	0.10796	-8.62297	-31.32899	-13.57516	0.71932	35.21571	168.49	8.63
87/ 1/25	2446820.5	-0.71232	0.06878	0.07598	-4.74170	-31.90930	-14.08177	0.71966	35.19920	174.48	6.06
87/ 1/29	2446824.5	-0.71874	-0.00522	0.04303	-0.80617	-32.08414	-14.40908	0.72004	35.18044	180.42	3.43
87/ 2/ 2	2446828.5	-0.71605	-0.07915	0.00954	3.13292	-31.85257	-14.55344	0.72047	35.15969	186.31	0.76
87/ 2/ 6	2446832.5	-0.70430	-0.15208	-0.02407	7.02515	-31.21898	-14.51366	0.72093	35.13722	192.18	-1.91
87/ 2/10	2446836.5	-0.68366	-0.22309	-0.05738	10.82108	-30.19300	-14.29095	0.72143	35.11330	198.07	-4.56
87/ 2/14	2446840.5	-0.65441	-0.29129	-0.08996	14.47291	-28.78924	-13.88888	0.72194	35.08826	203.99	-7.16
87/ 2/18	2446844.5	-0.61694	-0.35583	-0.12141	17.93508	-27.02706	-13.31330	0.72247	35.06242	209.97	-9.67
87/ 2/22	2446848.5	-0.57173	-0.41591	-0.15134	21.16485	-24.93022	-12.57222	0.72302	35.03608	216.03	-12.08
87/ 2/26	2446852.5	-0.51936	-0.47078	-0.17938	24.12278	-22.52649	-11.67566	0.72356	35.00960	222.19	-14.35
87/ 3/ 2	2446856.5	-0.46051	-0.51978	-0.20518	26.77320	-19.84725	-10.63551	0.72411	34.98331	228.46	-16.46
87/ 3/ 6	2446860.5	-0.39592	-0.56230	-0.22842	29.08457	-16.92699	-9.46533	0.72464	34.95752	234.85	-18.37
87/ 3/10	2446864.5	-0.32641	-0.59783	-0.24882	31.02980	-13.80289	-8.18016	0.72516	34.93255	241.37	-20.07
87/ 3/14	2446868.5	-0.25285	-0.62594	-0.26614	32.58649	-10.51428	-6.79631	0.72565	34.90873	248.00	-21.52
87/ 3/18	2446872.5	-0.17616	-0.64631	-0.28016	33.73714	-7.10213	-5.33115	0.72611	34.88633	254.75	-22.70
87/ 3/22	2446876.5	-0.09729	-0.65869	-0.29072	34.46924	-3.60860	-3.80288	0.72654	34.86563	261.60	-23.59
87/ 3/26	2446880.5	-0.01723	-0.66295	-0.29770	34.77535	-0.07649	-2.23032	0.72693	34.84688	268.51	-24.18
87/ 3/30	2446884.5	0.06305	-0.65905	-0.30101	34.65312	3.45122	-0.63270	0.72728	34.83030	275.46	-24.45
87/ 4/ 3	2446888.5	0.14255	-0.64705	-0.30062	34.10524	6.93189	0.97060	0.72757	34.81609	282.42	-24.40
87/ 4/ 7	2446892.5	0.22031	-0.62709	-0.29654	33.13935	10.32362	2.56020	0.72781	34.80443	289.36	-24.04
87/ 4/11	2446896.5	0.29536	-0.59945	-0.28881	31.76791	13.58576	4.11701	0.72800	34.79544	296.23	-23.37
87/ 4/15	2446900.5	0.36679	-0.56445	-0.27755	30.00804	16.67927	5.62235	0.72813	34.78924	303.02	-22.41
87/ 4/19	2446904.5	0.43372	-0.52254	-0.26289	27.88129	19.56719	7.05820	0.72820	34.78590	309.69	-21.16
87/ 4/23	2446908.5	0.49535	-0.47423	-0.24501	25.41338	22.21497	8.40736	0.72821	34.78546	316.25	-19.66
87/ 4/27	2446912.5	0.55090	-0.42011	-0.22412	22.63396	24.59085	9.65365	0.72816	34.78791	322.67	-17.93
87/ 5/ 1	2446916.5	0.59971	-0.36084	-0.20050	19.57628	26.66619	10.78206	0.72805	34.79323	328.96	-15.99
87/ 5/ 5	2446920.5	0.64116	-0.29715	-0.17441	16.27684	28.41577	11.77892	0.72788	34.80136	335.13	-13.86
87/ 5/ 9	2446924.5	0.67476	-0.22982	-0.14618	12.77500	29.81810	12.63205	0.72766	34.81219	341.19	-11.59
87/ 5/13	2446928.5	0.70007	-0.15966	-0.11616	9.11262	30.85562	13.33091	0.72738	34.82560	347.15	-9.19
87/ 5/17	2446932.5	0.71677	-0.08755	-0.08472	5.33359	31.51496	13.86669	0.72705	34.84142	353.04	-6.69
87/ 5/21	2446936.5	0.72465	-0.01435	-0.05223	1.48340	31.78710	14.23246	0.72667	34.85947	358.87	-4.12
87/ 5/25	2446940.5	0.72360	0.05902	-0.01909	-2.39136	31.66754	14.42324	0.72626	34.87953	4.66	-1.51
87/ 5/29	2446944.5	0.71362	0.13166	0.01428	-6.24352	31.15641	14.43612	0.72581	34.90136	10.45	1.13
87/ 6/ 2	2446948.5	0.69481	0.20268	0.04747	-10.02582	30.25849	14.27027	0.72532	34.92469	16.26	3.75
87/ 6/ 6	2446952.5	0.66739	0.27118	0.08007	-13.69148	28.98329	13.92701	0.72481	34.94924	22.11	6.34
87/ 6/10	2446956.5	0.63168	0.33631	0.11168	-17.19475	27.34496	13.40985	0.72429	34.97471	28.03	8.87

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87/ 6/14	2446960.5	0.58810	0.39725	0.14190	-20.49148	25.36225	12.72442	0.72375	35.00079	34.04	11.31
87/ 6/18	2446964.5	0.53719	0.45324	0.17035	-23.53968	23.05830	11.87853	0.72320	35.02715	40.16	13.62
87/ 6/22	2446968.5	0.47956	0.50357	0.19667	-26.30009	20.46050	10.88204	0.72266	35.05347	46.40	15.79
87/ 6/26	2446972.5	0.41592	0.54758	0.22052	-28.73673	17.60018	9.74678	0.72212	35.07942	52.78	17.78
87/ 6/30	2446976.5	0.34706	0.58471	0.24161	-30.81739	14.51229	8.48648	0.72160	35.10468	59.31	19.56
87/ 7/ 4	2446980.5	0.27383	0.61448	0.25965	-32.51416	11.23498	7.11657	0.72110	35.12891	65.98	21.10
87/ 7/ 8	2446984.5	0.19715	0.63650	0.27442	-33.80384	7.80920	5.65404	0.72063	35.15183	72.79	22.38
87/ 7/12	2446988.5	0.11797	0.65048	0.28572	-34.66835	4.27814	4.11721	0.72019	35.17312	79.72	23.37
87/ 7/16	2446992.5	0.03731	0.65622	0.29340	-35.09507	0.68671	2.52554	0.71979	35.19252	86.75	24.06
87/ 7/20	2446996.5	-0.04383	0.65364	0.29736	-35.07704	-2.91907	0.89931	0.71944	35.20978	93.84	24.41
87/ 7/24	2447000.5	-0.12442	0.64276	0.29754	-34.61319	-6.49271	-0.74059	0.71913	35.22467	100.96	24.44
87/ 7/28	2447004.5	-0.20342	0.62371	0.29394	-33.70839	-9.98791	-2.37297	0.71888	35.23699	108.06	24.14
87/ 8/ 1	2447008.5	-0.27983	0.59671	0.28660	-32.37344	-13.35918	-3.97667	0.71868	35.24658	115.12	23.50
87/ 8/ 5	2447012.5	-0.35268	0.56211	0.27561	-30.62497	-16.56254	-5.53080	0.71855	35.25331	122.10	22.55
87/ 8/ 9	2447016.5	-0.42103	0.52035	0.26110	-28.48522	-19.55616	-7.01511	0.71847	35.25710	128.98	21.31
87/ 8/13	2447020.5	-0.48401	0.47195	0.24326	-25.98179	-22.30097	-8.41024	0.71845	35.25789	135.72	19.79
87/ 8/17	2447024.5	-0.54082	0.41753	0.22232	-23.14719	-24.76122	-9.69804	0.71850	35.25567	142.33	18.02
87/ 8/21	2447028.5	-0.59073	0.35778	0.19855	-20.01841	-26.90502	-10.86180	0.71861	35.25047	148.80	16.04
87/ 8/25	2447032.5	-0.63311	0.29348	0.17225	-16.63637	-28.70481	-11.88650	0.71877	35.24236	155.13	13.87
87/ 8/29	2447036.5	-0.66744	0.22544	0.14375	-13.04529	-30.13771	-12.75905	0.71900	35.23144	161.34	11.53
87/ 9/ 2	2447040.5	-0.69326	0.15453	0.11342	-9.29209	-31.18583	-13.46842	0.71928	35.21786	167.43	9.07
87/ 9/ 6	2447044.5	-0.71028	0.08166	0.08165	-5.42563	-31.83654	-14.00583	0.71961	35.20179	173.44	6.52
87/ 9/10	2447048.5	-0.71828	0.00775	0.04885	-1.49605	-32.08253	-14.36483	0.71998	35.18345	179.38	3.89
87/ 9/14	2447052.5	-0.71718	-0.06626	0.01542	2.44595	-31.92190	-14.54135	0.72040	35.16307	185.28	1.23
87/ 9/18	2447056.5	-0.70701	-0.13943	-0.01820	6.34988	-31.35813	-14.53377	0.72086	35.14091	191.16	-1.45
87/ 9/22	2447060.5	-0.68791	-0.21084	-0.05159	10.16607	-30.39993	-14.34289	0.72135	35.11727	197.04	-4.10
87/ 9/26	2447064.5	-0.66015	-0.27960	-0.08433	13.84638	-29.06105	-13.97186	0.72186	35.09245	202.95	-6.71
87/ 9/30	2447068.5	-0.62408	-0.34484	-0.11601	17.34484	-27.36005	-13.42614	0.72239	35.06676	208.92	-9.24
87/10/ 4	2447072.5	-0.58018	-0.40575	-0.14623	20.61816	-25.31995	-12.71337	0.72293	35.04052	214.97	-11.67
87/10/ 8	2447076.5	-0.52902	-0.46158	-0.17463	23.62631	-22.96782	-11.84324	0.72347	35.01408	221.11	-13.97
87/10/12	2447080.5	-0.47125	-0.51165	-0.20084	26.33291	-20.33446	-10.82731	0.72402	34.98776	227.35	-16.10
87/10/16	2447084.5	-0.40761	-0.55535	-0.22455	28.70568	-17.45384	-9.67887	0.72455	34.96188	233.72	-18.05
87/10/20	2447088.5	-0.33890	-0.59213	-0.24547	30.71673	-14.36269	-8.41271	0.72507	34.93678	240.22	-19.79
87/10/24	2447092.5	-0.26598	-0.62157	-0.26334	32.34283	-11.10001	-7.04493	0.72557	34.91275	246.83	-21.28
87/10/28	2447096.5	-0.18977	-0.64332	-0.27795	33.56560	-7.70653	-5.59272	0.72604	34.89009	253.56	-22.51
87/11/ 1	2447100.5	-0.11122	-0.65711	-0.28913	34.37164	-4.22422	-4.07418	0.72647	34.86908	260.39	-23.45
87/11/ 5	2447104.5	-0.03129	-0.66280	-0.29674	34.75265	-0.69580	-2.50801	0.72687	34.84998	267.30	-24.09
87/11/ 9	2447108.5	0.04902	-0.66032	-0.30070	34.70537	2.83574	-0.91340	0.72722	34.83300	274.25	-24.42
87/11/13	2447112.5	0.12873	-0.64973	-0.30096	34.23161	6.32766	0.69030	0.72753	34.81836	281.21	-24.44
87/11/17	2447116.5	0.20686	-0.63115	-0.29752	33.33815	9.73791	2.28368	0.72778	34.80624	288.15	-24.13
87/11/21	2447120.5	0.28245	-0.60483	-0.29043	32.03663	13.02558	3.84758	0.72797	34.79677	295.03	-23.51
87/11/25	2447124.5	0.35458	-0.57109	-0.27978	30.34335	16.15133	5.36325	0.72811	34.79006	301.84	-22.60
87/11/29	2447128.5	0.42236	-0.53036	-0.26570	28.27909	19.07780	6.81253	0.72819	34.78620	308.53	-21.40
87/12/ 3	2447132.5	0.48497	-0.48313	-0.24836	25.86890	21.76999	8.17807	0.72821	34.78524	315.11	-19.94
87/12/ 7	2447136.5	0.54164	-0.42998	-0.22799	23.14173	24.19564	9.44349	0.72817	34.78718	321.56	-18.25

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87/12/11	2447140.5	0.59167	-0.37156	-0.20482	20.13023	26.32553	10.59357	0.72807	34.79200	327.87	-16.34
87/12/15	2447144.5	0.63446	-0.30859	-0.17914	16.87036	28.13383	11.61439	0.72791	34.79964	334.06	-14.25
87/12/19	2447148.5	0.66946	-0.24184	-0.15127	13.40100	29.59836	12.49352	0.72770	34.81002	340.14	-12.00
87/12/23	2447152.5	0.69625	-0.17212	-0.12154	9.76360	30.70087	13.22009	0.72743	34.82301	346.11	-9.62
87/12/27	2447156.5	0.71448	-0.10028	-0.09031	6.00174	31.42723	13.78499	0.72711	34.83845	352.01	-7.13
87/12/31	2447160.5	0.72391	-0.02721	-0.05797	2.16064	31.76765	14.18096	0.72674	34.85615	357.85	-4.58
88/ 1/ 4	2447164.5	0.72443	0.04619	-0.02492	-1.71325	31.71683	14.40267	0.72633	34.87592	3.65	-1.97
88/ 1/ 8	2447168.5	0.71601	0.11903	0.00843	-5.57284	31.27407	14.44683	0.72589	34.89750	9.44	0.67
88/ 1/12	2447172.5	0.69873	0.19039	0.04169	-9.37082	30.44335	14.31225	0.72541	34.92063	15.24	3.29
88/ 1/16	2447176.5	0.67280	0.25940	0.07442	-13.06030	29.23332	13.99988	0.72490	34.94503	21.08	5.89
88/ 1/20	2447180.5	0.63851	0.32518	0.10624	-16.59531	27.65735	13.51282	0.72438	34.97041	26.99	8.43
88/ 1/24	2447184.5	0.59627	0.38692	0.13673	-19.93136	25.73337	12.85635	0.72384	34.99645	32.98	10.89
88/ 1/28	2447188.5	0.54660	0.44383	0.16551	-23.02606	23.48378	12.03789	0.72329	35.02282	39.08	13.23
88/ 2/ 1	2447192.5	0.49010	0.49519	0.19223	-25.83961	20.93523	11.06694	0.72275	35.04921	45.30	15.42
88/ 2/ 5	2447196.5	0.42746	0.54035	0.21654	-28.33542	18.11840	9.95502	0.72221	35.07527	51.65	17.45
88/ 2/ 9	2447200.5	0.35945	0.57872	0.23813	-30.48057	15.06761	8.71551	0.72169	35.10068	58.15	19.27
88/ 2/13	2447204.5	0.28692	0.60981	0.25672	-32.24637	11.82050	7.36357	0.72118	35.12513	64.80	20.85
88/ 2/17	2447208.5	0.21077	0.63322	0.27208	-33.60877	8.41756	5.91592	0.72070	35.14830	71.59	22.18
88/ 2/21	2447212.5	0.13196	0.64862	0.28399	-34.54876	4.90165	4.39069	0.72026	35.16989	78.50	23.22
88/ 2/25	2447216.5	0.05148	0.65581	0.29232	-35.05274	1.31741	2.80712	0.71985	35.18963	85.51	23.96
88/ 2/29	2447220.5	-0.02965	0.65469	0.29693	-35.11274	-2.28929	1.18540	0.71949	35.20725	92.59	24.37
88/ 3/ 4	2447224.5	-0.11041	0.64525	0.29778	-34.72667	-5.87199	-0.45367	0.71918	35.22255	99.71	24.46
88/ 3/ 8	2447228.5	-0.18976	0.62761	0.29484	-33.89834	-9.38430	-2.08894	0.71891	35.23530	106.82	24.21
88/ 3/12	2447232.5	-0.26670	0.60198	0.28815	-32.63753	-12.78053	-3.69920	0.71871	35.24535	113.89	23.64
88/ 3/16	2447236.5	-0.34024	0.56869	0.27779	-30.95987	-16.01641	-5.26352	0.71856	35.25257	120.89	22.74
88/ 3/20	2447240.5	-0.40944	0.52814	0.26388	-28.88664	-19.04967	-6.76149	0.71847	35.25685	127.78	21.55
88/ 3/24	2447244.5	-0.47342	0.48086	0.24661	-26.44452	-21.84071	-8.17360	0.71844	35.25814	134.55	20.08
88/ 3/28	2447248.5	-0.53136	0.42744	0.22620	-23.66520	-24.35317	-9.48144	0.71848	35.25643	141.19	18.35
88/ 4/ 1	2447252.5	-0.58253	0.36857	0.20290	-20.58493	-26.55445	-10.66804	0.71858	35.25174	147.68	16.40
88/ 4/ 5	2447256.5	-0.62627	0.30501	0.17701	-17.24398	-28.41619	-11.71807	0.71873	35.24412	154.03	14.26
88/ 4/ 9	2447260.5	-0.66203	0.23756	0.14887	-13.68606	-29.91468	-12.61809	0.71895	35.23369	160.26	11.95
88/ 4/13	2447264.5	-0.68937	0.16709	0.11884	-9.95764	-31.03115	-13.35670	0.71922	35.22056	166.38	9.51
88/ 4/17	2447268.5	-0.70795	0.09449	0.08729	-6.10732	-31.75201	-13.92471	0.71954	35.20493	172.40	6.97
88/ 4/21	2447272.5	-0.71753	0.02069	0.05464	-2.18505	-32.06903	-14.31526	0.71991	35.18698	178.35	4.35
88/ 4/25	2447276.5	-0.71803	-0.05336	0.02129	1.75851	-31.97937	-14.52387	0.72032	35.16696	184.25	1.69
88/ 4/29	2447280.5	-0.70943	-0.12675	-0.01233	5.67277	-31.48557	-14.54848	0.72077	35.14512	190.13	-0.98
88/ 5/ 3	2447284.5	-0.69188	-0.19853	-0.04579	9.50788	-30.59543	-14.38947	0.72125	35.12175	196.01	-3.64
88/ 5/ 7	2447288.5	-0.66560	-0.26782	-0.07867	13.21538	-29.32186	-14.04959	0.72176	35.09714	201.92	-6.26
88/ 5/11	2447292.5	-0.63095	-0.33373	-0.11057	16.74887	-27.68259	-13.53391	0.72229	35.07160	207.88	-8.81
88/ 5/15	2447296.5	-0.58838	-0.39545	-0.14108	20.06456	-25.69987	-12.84969	0.72283	35.04546	213.91	-11.25
88/ 5/19	2447300.5	-0.53845	-0.45223	-0.16982	23.12180	-23.40013	-12.00626	0.72337	35.01905	220.03	-13.58
88/ 5/23	2447304.5	-0.48178	-0.50335	-0.19643	25.88355	-20.81353	-11.01489	0.72392	34.99270	226.25	-15.74
88/ 5/27	2447308.5	-0.41911	-0.54820	-0.22060	28.31678	-17.97353	-9.88857	0.72446	34.96672	232.60	-17.73
88/ 5/31	2447312.5	-0.35122	-0.58623	-0.24203	30.39282	-14.91643	-8.64186	0.72498	34.94145	239.07	-19.50
88/ 6/ 4	2447316.5	-0.27898	-0.61698	-0.26045	32.08759	-11.68085	-7.29062	0.72548	34.91718	245.67	-21.04

1.2 1 A.U.=149,599,000 KM.

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88/ 6/ 8	2447320.5	-0.20327	-0.64009	-0.27565	33.38188	-8.30728	-5.85191	0.72596	34.89421	252.38	-22.32
88/ 6/12	2447324.5	-0.12506	-0.65529	-0.28744	34.26141	-4.83749	-4.34364	0.72640	34.87281	259.20	-23.31
88/ 6/16	2447328.5	-0.04530	-0.66240	-0.29568	34.71698	-1.31414	-2.78446	0.72681	34.85325	266.09	-24.01
88/ 6/20	2447332.5	0.03502	-0.66135	-0.30028	34.74446	2.21981	-1.19347	0.72717	34.83575	273.03	-24.39
88/ 6/24	2447336.5	0.11490	-0.65217	-0.30118	34.34481	5.72155	0.40998	0.72749	34.82054	279.99	-24.46
88/ 6/28	2447340.5	0.19338	-0.63497	-0.29839	33.52394	9.14887	2.00648	0.72775	34.80779	286.94	-24.21
88/ 7/ 2	2447344.5	0.26948	-0.60999	-0.29193	32.29267	12.46064	3.57682	0.72796	34.79767	293.83	-23.64
88/ 7/ 6	2447348.5	0.34228	-0.57752	-0.28190	30.66651	15.61722	5.10215	0.72811	34.79029	300.65	-22.78
88/ 7/10	2447352.5	0.41088	-0.53798	-0.26841	28.66549	18.58088	6.56420	0.72821	34.78575	307.37	-21.63
88/ 7/14	2447356.5	0.47445	-0.49185	-0.25163	26.31391	21.31620	7.94549	0.72824	34.78410	313.97	-20.21
88/ 7/18	2447360.5	0.53221	-0.43969	-0.23177	23.64010	23.79043	9.22944	0.72821	34.78536	320.44	-18.56
88/ 7/22	2447364.5	0.58345	-0.38215	-0.20907	20.67606	25.97381	10.40063	0.72813	34.78953	326.78	-16.69
88/ 7/26	2447368.5	0.62754	-0.31993	-0.18381	17.45719	27.83990	11.44492	0.72798	34.79655	332.99	-14.63
88/ 7/30	2447372.5	0.66394	-0.25378	-0.15630	14.02189	29.36590	12.34960	0.72778	34.80635	339.08	-12.40
88/ 8/ 3	2447376.5	0.69220	-0.18452	-0.12687	10.41118	30.53283	13.10352	0.72752	34.81880	345.07	-10.04
88/ 8/ 7	2447380.5	0.71195	-0.11300	-0.09588	6.66827	31.32586	13.69728	0.72721	34.83376	350.98	-7.58
88/ 8/11	2447384.5	0.72294	-0.04008	-0.06371	2.83812	31.73444	14.12327	0.72685	34.85106	356.83	-5.03
88/ 8/15	2447388.5	0.72503	0.03333	-0.03076	-1.03304	31.75245	14.37583	0.72644	34.87047	2.63	-2.43
88/ 8/19	2447392.5	0.71817	0.10632	0.00257	-4.89819	31.37840	14.45131	0.72600	34.89178	8.42	0.20
88/ 8/23	2447396.5	0.70244	0.17801	0.03587	-8.71005	30.61542	14.34813	0.72553	34.91472	14.22	2.83
88/ 8/27	2447400.5	0.67800	0.24748	0.06873	-12.42164	29.47135	14.06687	0.72502	34.93901	20.05	5.44
88/ 8/31	2447404.5	0.64516	0.31389	0.10073	-15.98679	27.95871	13.61026	0.72450	34.96436	25.94	7.99
88/ 9/ 4	2447408.5	0.60429	0.37639	0.13148	-19.36074	26.09463	12.98317	0.72396	34.99044	31.92	10.46
88/ 9/ 8	2447412.5	0.55588	0.43420	0.16059	-22.50068	23.90072	12.19266	0.72341	35.01694	37.99	12.83
88/ 9/12	2447416.5	0.50054	0.48659	0.18770	-25.36634	21.40289	11.24786	0.72286	35.04353	44.19	15.05
88/ 9/16	2447420.5	0.43892	0.53288	0.21245	-27.92050	18.63109	10.15991	0.72232	35.06987	50.52	17.10
88/ 9/20	2447424.5	0.37180	0.57248	0.23454	-30.12958	15.61904	8.94189	0.72179	35.09563	57.00	18.96
88/ 9/24	2447428.5	0.30000	0.60489	0.25368	-31.96409	12.40379	7.60864	0.72128	35.12048	63.62	20.59
88/ 9/28	2447432.5	0.22442	0.62967	0.26962	-33.39911	9.02537	6.17662	0.72079	35.14411	70.38	21.97
88/10/ 2	2447436.5	0.14601	0.64650	0.28215	-34.41472	5.52622	4.66371	0.72034	35.16621	77.27	23.06
88/10/ 6	2447440.5	0.06575	0.65514	0.29112	-34.99632	1.95073	3.08898	0.71992	35.18650	84.27	23.85
88/10/10	2447444.5	-0.01534	0.65548	0.29639	-35.13493	-1.65540	1.47248	0.71954	35.20471	91.34	24.33
88/10/14	2447448.5	-0.09624	0.64751	0.29790	-34.82738	-5.24579	-0.16510	0.71922	35.22062	98.45	24.47
88/10/18	2447452.5	-0.17592	0.63130	0.29563	-34.07644	-8.77396	-1.80264	0.71894	35.23401	105.57	24.28
88/10/22	2447456.5	-0.25335	0.60705	0.28959	-32.89081	-12.19405	-3.41892	0.71872	35.24471	112.65	23.76
88/10/26	2447460.5	-0.32756	0.57507	0.27986	-31.28510	-15.46147	-4.99292	0.71856	35.25257	119.67	22.92
88/10/30	2447464.5	-0.39759	0.53576	0.26657	-29.27961	-18.53355	-6.50411	0.71846	35.25751	126.58	21.78
88/11/ 3	2447468.5	-0.46256	0.48962	0.24988	-26.90010	-21.37016	-7.93280	0.71842	35.25944	133.37	20.35
88/11/ 7	2447472.5	-0.52162	0.43724	0.23000	-24.17739	-23.93430	-9.26037	0.71844	35.25835	140.03	18.67
88/11/11	2447476.5	-0.57403	0.37927	0.20718	-21.14699	-26.19267	-10.46955	0.71853	35.25425	146.55	16.76
88/11/15	2447480.5	-0.61912	0.31647	0.18173	-17.84850	-28.11611	-11.54471	0.71867	35.24720	152.93	14.65
88/11/19	2447484.5	-0.65632	0.24964	0.15396	-14.32508	-29.68006	-12.47206	0.71887	35.23728	159.17	12.37
88/11/23	2447488.5	-0.68517	0.17963	0.12422	-10.62278	-30.86485	-13.23981	0.71913	35.22464	165.31	9.95
88/11/27	2447492.5	-0.70530	0.10734	0.09291	-6.78990	-31.65597	-13.83838	0.71945	35.20943	171.35	7.42
88/12/ 1	2447496.5	-0.71648	0.03368	0.06042	-2.87623	-32.04422	-14.26049	0.71981	35.19185	177.31	4.82

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88/12/ 5	2447500.5	-0.71857	-0.04040	0.02716	1.06765	-32.02583	-14.50123	0.72021	35.17213	183.22	2.16
88/12/ 9	2447504.5	-0.71156	-0.11398	-0.00644	4.99104	-31.60239	-14.55813	0.72066	35.15054	189.10	-0.51
88/12/13	2447508.5	-0.69556	-0.18611	-0.03996	8.84391	-30.78080	-14.43113	0.72114	35.12734	194.98	-3.18
88/12/17	2447512.5	-0.67079	-0.25590	-0.07297	12.57750	-29.57310	-14.12258	0.72164	35.10283	200.88	-5.80
88/12/21	2447516.5	-0.63758	-0.32246	-0.10507	16.14498	-27.99620	-13.63714	0.72217	35.07733	206.83	-8.37
88/12/25	2447520.5	-0.59636	-0.38498	-0.13585	19.50205	-26.07160	-12.98172	0.72271	35.05116	212.84	-10.83
88/12/29	2447524.5	-0.54766	-0.44268	-0.16493	22.60749	-23.82505	-12.16530	0.72325	35.02465	218.95	-13.18
89/ 1/ 2	2447528.5	-0.49212	-0.49484	-0.19194	25.42357	-21.28608	-11.19883	0.72380	34.99812	225.16	-15.38
89/ 1/ 6	2447532.5	-0.43045	-0.54082	-0.21657	27.91656	-18.48763	-10.09500	0.72434	34.97192	231.48	-17.40
89/ 1/10	2447536.5	-0.36341	-0.58008	-0.23849	30.05698	-15.46554	-8.86812	0.72487	34.94637	237.93	-19.21
89/ 1/14	2447540.5	-0.29186	-0.61214	-0.25746	31.81996	-12.25809	-7.53387	0.72538	34.92177	244.51	-20.79
89/ 1/18	2447544.5	-0.21670	-0.63661	-0.27323	33.18542	-8.90546	-6.10908	0.72587	34.89843	251.20	-22.11
89/ 1/22	2447548.5	-0.13885	-0.65320	-0.28563	34.13823	-5.44928	-4.61157	0.72632	34.87664	258.00	-23.16
89/ 1/26	2447552.5	-0.05929	-0.66174	-0.29450	34.66829	-1.93205	-3.05985	0.72673	34.85665	264.88	-23.91
89/ 1/30	2447556.5	0.02100	-0.66212	-0.29974	34.77061	1.60326	-1.47297	0.72711	34.83870	271.82	-24.35
89/ 2/ 3	2447560.5	0.10103	-0.65435	-0.30129	34.44525	5.11379	0.12974	0.72743	34.82302	278.78	-24.47
89/ 2/ 7	2447564.5	0.17982	-0.63854	-0.29914	33.69728	8.55717	1.72888	0.72771	34.80978	285.73	-24.27
89/ 2/11	2447568.5	0.25641	-0.61490	-0.29332	32.53668	11.89206	3.30518	0.72793	34.79915	292.64	-23.76
89/ 2/15	2447572.5	0.32985	-0.58371	-0.28390	30.97816	15.07854	4.83972	0.72809	34.79126	299.47	-22.95
89/ 2/19	2447576.5	0.39924	-0.54537	-0.27100	29.04096	18.07852	6.31411	0.72820	34.78618	306.21	-21.85
89/ 2/23	2447580.5	0.46375	-0.50035	-0.25479	26.74869	20.85616	7.71071	0.72824	34.78400	312.83	-20.48
89/ 2/27	2447584.5	0.52258	-0.44921	-0.23545	24.12896	23.37820	9.01280	0.72823	34.78473	319.32	-18.86
89/ 3/ 3	2447588.5	0.57501	-0.39256	-0.21323	21.21318	25.61435	10.20473	0.72815	34.78836	325.68	-17.03
89/ 3/ 7	2447592.5	0.62039	-0.33110	-0.18840	18.03617	27.53758	11.27212	0.72801	34.79486	331.91	-15.00
89/ 3/11	2447596.5	0.65817	-0.26558	-0.16126	14.63584	29.12442	12.20201	0.72782	34.80414	338.03	-12.80
89/ 3/15	2447600.5	0.68787	-0.19681	-0.13214	11.05277	30.35523	12.98298	0.72757	34.81611	344.03	-10.46
89/ 3/19	2447604.5	0.70913	-0.12562	-0.10139	7.32983	31.21444	13.60530	0.72727	34.83062	349.95	-8.01
89/ 3/23	2447608.5	0.72167	-0.05288	-0.06940	3.51170	31.69073	14.06105	0.72692	34.84749	355.81	-5.48
89/ 3/27	2447612.5	0.72532	0.02050	-0.03656	-0.35558	31.77722	14.34422	0.72653	34.86652	1.62	-2.88
89/ 3/31	2447616.5	0.72002	0.09364	-0.00326	-4.22509	31.47158	14.45081	0.72609	34.88750	7.41	-0.26
89/ 4/ 4	2447620.5	0.70583	0.16561	0.03007	-8.04958	30.77615	14.37888	0.72562	34.91016	13.20	2.38
89/ 4/ 8	2447624.5	0.68290	0.23554	0.06304	-11.78196	29.69795	14.12861	0.72512	34.93423	19.03	4.99
89/ 4/12	2447628.5	0.65150	0.30254	0.09522	-15.37589	28.24867	13.70237	0.72460	34.95941	24.91	7.55
89/ 4/16	2447632.5	0.61200	0.36579	0.12621	-18.78633	26.44465	13.10466	0.72407	34.98539	30.87	10.04
89/ 4/20	2447636.5	0.56487	0.42447	0.15564	-21.97010	24.30672	12.34214	0.72352	35.01186	36.92	12.42
89/ 4/24	2447640.5	0.51070	0.47785	0.18312	-24.88642	21.86006	11.42360	0.72297	35.03848	43.10	14.67
89/ 4/28	2447644.5	0.45013	0.52526	0.20831	-27.49754	19.13393	10.35983	0.72243	35.06491	49.40	16.76
89/ 5/ 2	2447648.5	0.38391	0.56607	0.23088	-29.76918	16.16141	9.16357	0.72189	35.09083	55.85	18.65
89/ 5/ 6	2447652.5	0.31287	0.59977	0.25055	-31.67112	12.97899	7.84937	0.72137	35.11590	62.45	20.32
89/ 5/10	2447656.5	0.23788	0.62590	0.26707	-33.17760	9.62620	6.43342	0.72088	35.13980	69.19	21.75
89/ 5/14	2447660.5	0.15990	0.64414	0.28021	-34.26780	6.14512	4.93335	0.72042	35.16223	76.06	22.89
89/ 5/18	2447664.5	0.07989	0.65423	0.28981	-34.92616	2.57981	3.36807	0.72000	35.18289	83.04	23.74
89/ 5/22	2447668.5	-0.00114	0.65603	0.29574	-35.14270	-1.02422	1.75743	0.71961	35.20152	90.10	24.27
89/ 5/26	2447672.5	-0.08214	0.64951	0.29791	-34.91322	-4.62064	0.12206	0.71928	35.21787	97.21	24.47
89/ 5/30	2447676.5	-0.16210	0.63473	0.29630	-34.23945	-8.16296	-1.51699	0.71899	35.23173	104.33	24.34

1.2 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — VENUS

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89/ 6/ 3	2447680.5	-0.24000	0.61187	0.29092	-33.12905	-11.60516	-3.13848	0.71876	35.24292	111.42	23.88
89/ 6/ 7	2447684.5	-0.31485	0.58122	0.28183	-31.59560	-14.90239	-4.72135	0.71859	35.25130	118.44	23.09
89/ 6/11	2447688.5	-0.38568	0.54316	0.26915	-29.65842	-18.01159	-6.24496	0.71848	35.25675	125.38	22.00
89/ 6/15	2447692.5	-0.45159	0.49817	0.25304	-27.34234	-20.89213	-7.68945	0.71843	35.25921	132.19	20.62
89/ 6/19	2447696.5	-0.51174	0.44683	0.23370	-24.67732	-23.50644	-9.03598	0.71844	35.25864	138.87	18.98
89/ 6/23	2447700.5	-0.56536	0.38980	0.21138	-21.69808	-25.82054	-10.26704	0.71851	35.25506	145.42	17.11
89/ 6/27	2447704.5	-0.61178	0.32779	0.18636	-18.44355	-27.80451	-11.36671	0.71864	35.24851	151.82	15.03
89/ 7/ 1	2447708.5	-0.65040	0.26160	0.15897	-14.95631	-29.43295	-12.32083	0.71884	35.23907	158.09	12.78
89/ 7/ 5	2447712.5	-0.68074	0.19209	0.12956	-11.28195	-30.68531	-13.11727	0.71909	35.22688	164.24	10.38
89/ 7/ 9	2447716.5	-0.70242	0.12013	0.09849	-7.46841	-31.54617	-13.74606	0.71939	35.21210	170.30	7.87
89/ 7/13	2447720.5	-0.71518	0.04664	0.06618	-3.56528	-32.00540	-14.19949	0.71974	35.19492	176.27	5.28
89/ 7/17	2447724.5	-0.71886	-0.02743	0.03303	0.37694	-32.05826	-14.47224	0.72014	35.17556	182.19	2.63
89/ 7/21	2447728.5	-0.71344	-0.10117	-0.00055	4.30755	-31.70542	-14.56141	0.72058	35.15428	188.07	-0.04
89/ 7/25	2447732.5	-0.69901	-0.17362	-0.03411	8.17632	-30.95285	-14.46652	0.72105	35.13135	193.95	-2.71
89/ 7/29	2447736.5	-0.67575	-0.24388	-0.06725	11.93423	-29.81171	-14.18950	0.72155	35.10706	199.84	-5.35
89/ 8/ 2	2447740.5	-0.64399	-0.31107	-0.09953	15.53409	-28.29806	-13.73462	0.72208	35.08173	205.78	-7.92
89/ 8/ 6	2447744.5	-0.60413	-0.37435	-0.13057	18.93110	-26.43264	-13.10838	0.72261	35.05568	211.78	-10.41
89/ 8/10	2447748.5	-0.55671	-0.43295	-0.15997	22.08346	-24.24045	-12.31943	0.72316	35.02923	217.87	-12.78
89/ 8/14	2447752.5	-0.50232	-0.48612	-0.18737	24.95281	-21.75041	-11.37837	0.72371	35.00272	224.06	-15.01
89/ 8/18	2447756.5	-0.44166	-0.53324	-0.21244	27.50468	-18.99489	-10.29761	0.72425	34.97648	230.37	-17.06
89/ 8/22	2447760.5	-0.37551	-0.57371	-0.23486	29.70883	-16.00926	-9.09119	0.72478	34.95084	236.79	-18.91
89/ 8/26	2447764.5	-0.30468	-0.60706	-0.25436	31.53956	-12.83140	-7.77454	0.72529	34.92610	243.35	-20.53
89/ 8/30	2447768.5	-0.23009	-0.63288	-0.27071	32.97593	-9.50119	-6.36434	0.72578	34.90256	250.02	-21.90
89/ 9/ 3	2447772.5	-0.15264	-0.65087	-0.28370	34.00191	-6.06003	-4.87822	0.72624	34.88053	256.80	-22.99
89/ 9/ 7	2447776.5	-0.07331	-0.66083	-0.29320	34.60655	-2.55034	-3.33460	0.72666	34.86025	263.67	-23.80
89/ 9/11	2447780.5	0.00693	-0.66263	-0.29908	34.78394	0.98498	-1.75246	0.72704	34.84198	270.60	-24.29
89/ 9/15	2447784.5	0.08707	-0.65629	-0.30128	34.53325	4.50300	-0.15108	0.72737	34.82593	277.56	-24.47
89/ 9/19	2447788.5	0.16615	-0.64188	-0.29978	33.85870	7.96125	1.45012	0.72765	34.81229	284.51	-24.33
89/ 9/23	2447792.5	0.24319	-0.61958	-0.29460	32.76939	11.31815	3.03184	0.72788	34.80123	291.43	-23.87
89/ 9/27	2447796.5	0.31725	-0.58969	-0.28580	31.27922	14.53351	4.57507	0.72806	34.79287	298.28	-23.11
89/10/ 1	2447800.5	0.38742	-0.55257	-0.27350	29.40668	17.56888	6.06133	0.72817	34.78732	305.04	-22.06
89/10/ 5	2447804.5	0.45284	-0.50868	-0.25785	27.17459	20.38798	7.47283	0.72823	34.78465	311.68	-20.74
89/10/ 9	2447808.5	0.51272	-0.45856	-0.23905	24.60992	22.95710	8.79265	0.72822	34.78487	318.19	-19.16
89/10/13	2447812.5	0.56632	-0.40283	-0.21731	21.74343	25.24538	10.00497	0.72816	34.78801	324.58	-17.36
89/10/17	2447816.5	0.61298	-0.34216	-0.19291	18.60937	27.22521	11.09516	0.72803	34.79401	330.83	-15.37
89/10/21	2447820.5	0.65212	-0.27730	-0.16615	15.24513	28.87246	12.04999	0.72785	34.80281	336.96	-13.20
89/10/25	2447824.5	0.68327	-0.20903	-0.13735	11.69088	30.16682	12.85778	0.72761	34.81430	342.99	-10.88
89/10/29	2447828.5	0.70602	-0.13820	-0.10687	7.98910	31.09196	13.50848	0.72732	34.82836	348.92	-8.45
89/11/ 2	2447832.5	0.72010	-0.06567	-0.07507	4.18420	31.63583	13.99385	0.72698	34.84481	354.79	-5.93
89/11/ 6	2447836.5	0.72531	0.00767	-0.04234	0.32203	31.79075	14.30754	0.72659	34.86347	0.61	-3.34
89/11/10	2447840.5	0.72158	0.08091	-0.00910	-3.55061	31.55360	14.44519	0.72616	34.88409	6.40	-0.72
89/11/14	2447844.5	0.70894	0.15316	0.02426	-7.38647	30.92589	14.40450	0.72570	34.90645	12.19	1.92
89/11/18	2447848.5	0.68752	0.22351	0.05732	-11.13842	29.91383	14.18528	0.72520	34.93027	18.01	4.53
89/11/22	2447852.5	0.65757	0.29108	0.08967	-14.75992	28.52830	13.78951	0.72469	34.95525	23.88	7.11
89/11/26	2447856.5	0.61946	0.35504	0.12090	-18.20568	26.78484	13.22132	0.72415	34.98110	29.82	9.61

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89/11/30	2447860.5	0.57363	0.41458	0.15063	-21.43213	24.70350	12.48700	0.72361	35.00749	35.86	12.01
89/12/ 4	2447864.5	0.52063	0.46894	0.17847	-24.39805	22.30873	11.59497	0.72306	35.03409	42.01	14.29
89/12/ 8	2447868.5	0.46113	0.51743	0.20409	-27.06511	19.62910	10.55568	0.72251	35.06058	48.29	16.41
89/12/12	2447872.5	0.39584	0.55944	0.22714	-29.39839	16.69703	9.38155	0.72198	35.08660	54.72	18.34
89/12/16	2447876.5	0.32558	0.59441	0.24734	-31.36692	13.54847	8.08682	0.72146	35.11184	61.29	20.05
89/12/20	2447880.5	0.25122	0.62190	0.26442	-32.94414	10.22246	6.68740	0.72096	35.13597	68.00	21.52
89/12/24	2447884.5	0.17368	0.64154	0.27817	-34.10834	6.76065	5.20069	0.72050	35.15868	74.85	22.71
89/12/28	2447888.5	0.09395	0.65307	0.28840	-34.84302	3.20682	3.64539	0.72007	35.17966	81.81	23.61
90/ 1/ 1	2447892.5	0.01304	0.65632	0.29498	-35.13721	-0.39372	2.04122	0.71968	35.19865	88.86	24.20
90/ 1/ 5	2447896.5	-0.06805	0.65125	0.29781	-34.98569	-3.99476	0.40868	0.71933	35.21539	95.97	24.46
90/ 1/ 9	2447900.5	-0.14827	0.63790	0.29686	-34.38915	-7.54977	-1.23121	0.71904	35.22965	103.09	24.38
90/ 1/13	2447904.5	-0.22660	0.61643	0.29213	-33.35422	-11.01261	-2.85725	0.71880	35.24125	110.18	23.98
90/ 1/17	2447908.5	-0.30205	0.58712	0.28368	-31.89348	-14.33816	-4.44830	0.71862	35.25003	117.22	23.25
90/ 1/21	2447912.5	-0.37365	0.55033	0.27162	-30.02526	-17.48302	-5.98365	0.71850	35.25586	124.17	22.21
90/ 1/25	2447916.5	-0.44048	0.50651	0.25610	-27.77344	-20.40610	-7.44326	0.71845	35.25869	131.01	20.88
90/ 1/29	2447920.5	-0.50170	0.45624	0.23730	-25.16715	-23.06926	-8.80811	0.71845	35.25846	137.72	19.29
90/ 2/ 2	2447924.5	-0.55651	0.40015	0.21549	-22.24030	-25.43787	-10.06045	0.71852	35.25520	144.28	17.45
90/ 2/ 6	2447928.5	-0.60424	0.33896	0.19092	-19.03114	-27.48129	-11.18404	0.71864	35.24894	150.71	15.41
90/ 2/10	2447932.5	-0.64426	0.27345	0.16392	-15.58164	-29.17331	-12.16444	0.71883	35.23979	157.00	13.18
90/ 2/14	2447936.5	-0.67608	0.20446	0.13484	-11.93693	-30.49253	-12.98914	0.71907	35.22787	163.17	10.81
90/ 2/18	2447940.5	-0.69930	0.13286	0.10404	-8.14458	-31.42263	-13.64779	0.71937	35.21333	169.24	8.32
90/ 2/22	2447944.5	-0.71363	0.05958	0.07191	-4.25392	-31.95257	-14.13230	0.71972	35.19637	175.23	5.73
90/ 2/26	2447948.5	-0.71892	-0.01445	0.03888	-0.31533	-32.07666	-14.43691	0.72011	35.17721	181.15	3.09
90/ 3/ 2	2447952.5	-0.71509	-0.08831	0.00535	3.62048	-31.79465	-14.55832	0.72055	35.15611	187.04	0.43
90/ 3/ 6	2447956.5	-0.70223	-0.16105	-0.02824	7.50319	-31.11159	-14.49562	0.72101	35.13334	192.92	-2.25
90/ 3/10	2447960.5	-0.68050	-0.23175	-0.06148	11.28355	-30.03773	-14.25034	0.72151	35.10920	198.81	-4.89
90/ 3/14	2447964.5	-0.65021	-0.29954	-0.09395	14.91400	-28.58831	-13.82632	0.72203	35.08398	204.73	-7.48
90/ 3/18	2447968.5	-0.61175	-0.36357	-0.12523	18.34932	-26.78325	-13.22969	0.72256	35.05802	210.72	-9.98
90/ 3/22	2447972.5	-0.56561	-0.42304	-0.15495	21.54718	-24.64682	-12.46872	0.72311	35.03164	216.79	-12.37
90/ 3/26	2447976.5	-0.51240	-0.47721	-0.18272	24.46858	-22.20727	-11.55369	0.72366	35.00517	222.96	-14.63
90/ 3/30	2447980.5	-0.45280	-0.52543	-0.20822	27.07837	-19.49636	-10.49667	0.72420	34.97894	229.25	-16.71
90/ 4/ 3	2447984.5	-0.38756	-0.56711	-0.23112	29.34554	-16.54896	-9.31144	0.72473	34.95328	235.65	-18.60
90/ 4/ 7	2447988.5	-0.31750	-0.60174	-0.25116	31.24358	-13.40251	-8.01319	0.72524	34.92850	242.18	-20.26
90/ 4/11	2447992.5	-0.24350	-0.62891	-0.26807	32.75071	-10.09656	-6.61837	0.72573	34.90490	248.83	-21.68
90/ 4/15	2447996.5	-0.16649	-0.64830	-0.28167	33.85001	-6.67226	-5.14446	0.72619	34.88277	255.60	-22.82
90/ 4/19	2448000.5	-0.08743	-0.65968	-0.29180	34.52961	-3.17185	-3.60975	0.72661	34.86237	262.45	-23.68
90/ 4/23	2448004.5	-0.00728	-0.66293	-0.29832	34.78271	0.36182	-2.03312	0.72700	34.84396	269.37	-24.23
90/ 4/27	2448008.5	0.07295	-0.65802	-0.30117	34.60757	3.88580	-0.43381	0.72733	34.82774	276.33	-24.46
90/ 5/ 1	2448012.5	0.15229	-0.64502	-0.30032	34.00749	7.35752	1.16877	0.72762	34.81392	283.28	-24.38
90/ 5/ 5	2448016.5	0.22976	-0.62410	-0.29578	32.99072	10.73523	2.75529	0.72785	34.80265	290.21	-23.98
90/ 5/ 9	2448020.5	0.30441	-0.59552	-0.28762	31.57029	13.97843	4.30668	0.72803	34.79407	297.07	-23.27
90/ 5/13	2448024.5	0.37533	-0.55964	-0.27593	29.76387	17.04835	5.80434	0.72815	34.78828	303.85	-22.27
90/ 5/17	2448028.5	0.44165	-0.51691	-0.26086	27.59353	19.90829	7.23034	0.72821	34.78535	310.51	-20.99
90/ 5/21	2448032.5	0.50256	-0.46785	-0.24259	25.08549	22.52403	8.56760	0.72821	34.78531	317.05	-19.46
90/ 5/25	2448036.5	0.55731	-0.41305	-0.22135	22.26987	24.86418	9.80008	0.72815	34.78816	323.46	-17.70

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90/ 5/29	2448040.5	0.60524	-0.35320	-0.19740	19.18032	26.90051	10.91292	0.72804	34.79388	329.73	-15.73
90/ 6/ 2	2448044.5	0.64575	-0.28902	-0.17103	15.85370	28.60825	11.89263	0.72786	34.80239	335.89	-13.59
90/ 6/ 6	2448048.5	0.67834	-0.22129	-0.14257	12.32972	29.96635	12.72723	0.72763	34.81360	341.93	-11.30
90/ 6/10	2448052.5	0.70260	-0.15085	-0.11235	8.65050	30.95778	13.40637	0.72734	34.82737	347.88	-8.89
90/ 6/14	2448056.5	0.71822	-0.07855	-0.08075	4.86014	31.56968	13.92147	0.72700	34.84355	353.76	-6.38
90/ 6/18	2448060.5	0.72500	-0.00528	-0.04816	1.00430	31.79358	14.26584	0.72662	34.86193	359.58	-3.80
90/ 6/22	2448064.5	0.72285	0.06805	-0.01497	-2.87034	31.62554	14.43475	0.72620	34.88231	5.38	-1.18
90/ 6/26	2448068.5	0.71176	0.14054	0.01840	-6.71654	31.06624	14.42553	0.72574	34.90443	11.17	1.45
90/ 6/30	2448072.5	0.69187	0.21129	0.05154	-10.48710	30.12107	14.23762	0.72525	34.92804	16.98	4.08
90/ 7/ 4	2448076.5	0.66340	0.27942	0.08405	-14.13530	28.80008	13.87260	0.72474	34.95283	22.84	6.66
90/ 7/ 8	2448080.5	0.62669	0.34408	0.11550	-17.61557	27.11801	13.33424	0.72421	34.97852	28.77	9.18
90/ 7/12	2448084.5	0.58218	0.40445	0.14553	-20.88399	25.09414	12.62846	0.72366	35.00478	34.79	11.60
90/ 7/16	2448088.5	0.53040	0.45978	0.17373	-23.89885	22.75216	11.76329	0.72312	35.03129	40.92	13.90
90/ 7/20	2448092.5	0.47198	0.50935	0.19976	-26.62128	20.11996	10.74886	0.72257	35.05771	47.18	16.05
90/ 7/24	2448096.5	0.40765	0.55254	0.22329	-29.01570	17.22933	9.59725	0.72203	35.08372	53.58	18.01
90/ 7/28	2448100.5	0.33820	0.58878	0.24401	-31.05040	14.11564	8.32239	0.72151	35.10899	60.13	19.77
90/ 8/ 1	2448104.5	0.26448	0.61761	0.26166	-32.69803	10.81743	6.93993	0.72102	35.13318	66.82	21.28
90/ 8/ 5	2448108.5	0.18744	0.63865	0.27600	-33.93598	7.37597	5.46704	0.72055	35.15599	73.64	22.52
90/ 8/ 9	2448112.5	0.10802	0.65162	0.28686	-34.74683	3.83470	3.92219	0.72011	35.17713	80.59	23.48
90/ 8/13	2448116.5	0.02723	0.65633	0.29409	-35.11863	0.23871	2.32497	0.71972	35.19631	87.62	24.12
90/ 8/17	2448120.5	-0.05390	0.65271	0.29758	-35.04516	-3.36586	0.69576	0.71937	35.21329	94.72	24.44
90/ 8/21	2448124.5	-0.13435	0.64081	0.29729	-34.52607	-6.93251	-0.94449	0.71907	35.22784	101.84	24.42
90/ 8/25	2448128.5	-0.21308	0.62075	0.29322	-33.56697	-10.41497	-2.57458	0.71883	35.23977	108.95	24.07
90/ 8/29	2448132.5	-0.28911	0.59279	0.28542	-32.17942	-13.76789	-4.17334	0.71864	35.24893	116.00	23.40
90/ 9/ 2	2448136.5	-0.36145	0.55727	0.27398	-30.38077	-16.94753	-5.71996	0.71851	35.25518	122.97	22.42
90/ 9/ 6	2448140.5	-0.42918	0.51465	0.25905	-28.19396	-19.91234	-7.19427	0.71844	35.25845	129.83	21.14
90/ 9/10	2448144.5	-0.49144	0.46546	0.24081	-25.64724	-22.62364	-8.57704	0.71844	35.25869	136.55	19.58
90/ 9/14	2448148.5	-0.54743	0.41034	0.21950	-22.77372	-25.04613	-9.85029	0.71850	35.25591	143.15	17.79
90/ 9/18	2448152.5	-0.59644	0.34999	0.19540	-19.61093	-27.14846	-10.99749	0.71861	35.25013	149.60	15.78
90/ 9/22	2448156.5	-0.63784	0.28517	0.16880	-16.20024	-28.90361	-12.00389	0.71879	35.24145	155.91	13.58
90/ 9/26	2448160.5	-0.67113	0.21673	0.14005	-12.58627	-30.28933	-12.85661	0.71903	35.22997	162.10	11.23
90/ 9/30	2448164.5	-0.69588	0.14552	0.10952	-8.81622	-31.28841	-13.54493	0.71932	35.21584	168.19	8.76
90/10/ 4	2448168.5	-0.71178	0.07247	0.07760	-4.93916	-31.88886	-14.06035	0.71966	35.19926	174.19	6.19
90/10/ 8	2448172.5	-0.71865	-0.00150	0.04470	-1.00533	-32.08407	-14.39671	0.72004	35.18045	180.12	3.56
90/10/12	2448176.5	-0.71642	-0.07546	0.01123	2.93456	-31.87284	-14.55028	0.72047	35.15964	186.01	0.89
90/10/16	2448180.5	-0.70513	-0.14846	-0.02239	6.83009	-31.25930	-14.51972	0.72094	35.13711	191.89	-1.78
90/10/20	2448184.5	-0.68494	-0.21958	-0.05572	10.63175	-30.25283	-14.30614	0.72143	35.11315	197.78	-4.43
90/10/24	2448188.5	-0.65612	-0.28794	-0.08835	14.29168	-28.86780	-13.91300	0.72195	35.08808	203.69	-7.03
90/10/28	2448192.5	-0.61905	-0.35268	-0.11987	17.76419	-27.12333	-13.34602	0.72248	35.06220	209.67	-9.55
90/11/ 1	2448196.5	-0.57422	-0.41300	-0.14988	21.00641	-25.04298	-12.61313	0.72302	35.03585	215.73	-11.96
90/11/ 5	2448200.5	-0.52220	-0.46815	-0.17802	23.97875	-22.65431	-11.72423	0.72357	35.00936	221.88	-14.24
90/11/ 9	2448204.5	-0.46366	-0.51746	-0.20394	26.64533	-19.98851	-10.69113	0.72411	34.98306	228.14	-16.36
90/11/13	2448208.5	-0.39935	-0.56032	-0.22732	28.97443	-17.07993	-9.52730	0.72465	34.95727	234.52	-18.28
90/11/17	2448212.5	-0.33007	-0.59622	-0.24787	30.93872	-13.96559	-8.24770	0.72516	34.93231	241.03	-19.99
90/11/21	2448216.5	-0.25670	-0.62472	-0.26535	32.51557	-10.68471	-6.86858	0.72566	34.90849	247.66	-21.45

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90/11/25	2448220.5	-0.18015	-0.64549	-0.27954	33.68722	-7.27820	-5.40725	0.72612	34.88609	254.41	-22.64
90/11/29	2448224.5	-0.10137	-0.65828	-0.29029	34.44091	-3.78813	-3.88188	0.72655	34.86539	261.25	-23.55
90/12/ 3	2448228.5	-0.02135	-0.66296	-0.29745	34.76894	-0.25728	-2.31124	0.72694	34.84662	268.16	-24.15
90/12/ 7	2448232.5	0.05894	-0.65947	-0.30094	34.66869	3.27140	-0.71455	0.72729	34.83003	275.11	-24.44
90/12/11	2448236.5	0.13850	-0.64788	-0.30074	34.14259	6.75523	0.88882	0.72758	34.81580	282.07	-24.42
90/12/15	2448240.5	0.21637	-0.62833	-0.29685	33.19802	10.15227	2.47950	0.72783	34.80410	289.00	-24.07
90/12/19	2448244.5	0.29158	-0.60107	-0.28931	31.84719	13.42181	4.03836	0.72801	34.79507	295.88	-23.42
90/12/23	2448248.5	0.36321	-0.56644	-0.27823	30.10695	16.52473	5.54672	0.72814	34.78881	302.67	-22.46
90/12/27	2448252.5	0.43040	-0.52488	-0.26374	27.99864	19.42395	6.98650	0.72821	34.78541	309.35	-21.23
90/12/31	2448256.5	0.49231	-0.47688	-0.24601	25.54776	22.08478	8.34048	0.72822	34.78490	315.91	-19.74
91/ 1/ 4	2448260.5	0.54820	-0.42305	-0.22528	22.78376	24.47531	9.59240	0.72817	34.78728	322.34	-18.02
91/ 1/ 8	2448264.5	0.59737	-0.36403	-0.20178	19.73969	26.56675	10.72721	0.72807	34.79253	328.64	-16.09
91/ 1/12	2448268.5	0.63921	-0.30055	-0.17582	16.45188	28.33368	11.73115	0.72790	34.80059	334.82	-13.98
91/ 1/16	2448272.5	0.67322	-0.23338	-0.14769	12.95956	29.75439	12.59196	0.72767	34.81137	340.88	-11.71
91/ 1/20	2448276.5	0.69897	-0.16335	-0.11775	9.30446	30.81112	13.29901	0.72740	34.82473	346.85	-9.32
91/ 1/24	2448280.5	0.71612	-0.09132	-0.08637	5.53036	31.49027	13.84339	0.72707	34.84051	352.73	-6.82
91/ 1/28	2448284.5	0.72446	-0.01815	-0.05392	1.68268	31.78259	14.21808	0.72669	34.85854	358.56	-4.26
91/ 2/ 1	2448288.5	0.72387	0.05523	-0.02081	-2.19203	31.68333	14.41799	0.72628	34.87860	4.36	-1.64
91/ 2/ 5	2448292.5	0.71435	0.12793	0.01256	-6.04661	31.19236	14.44009	0.72582	34.90045	10.15	0.99
91/ 2/ 9	2448296.5	0.69599	0.19905	0.04577	-9.83380	30.31423	14.28344	0.72534	34.92381	15.96	3.62
91/ 2/13	2448300.5	0.66900	0.26770	0.07841	-13.50677	29.05819	13.94925	0.72483	34.94843	21.81	6.21
91/ 2/17	2448304.5	0.63371	0.33303	0.11008	-17.01969	27.43814	13.44090	0.72430	34.97398	27.72	8.74
91/ 2/21	2448308.5	0.59052	0.39421	0.14038	-20.32832	25.47259	12.76394	0.72376	35.00016	33.73	11.18
91/ 2/25	2448312.5	0.53997	0.45047	0.16893	-23.39052	23.18446	11.92603	0.72321	35.02665	39.84	13.51
91/ 3/ 1	2448316.5	0.48267	0.50110	0.19537	-26.16688	20.60093	10.93694	0.72267	35.05311	46.07	15.68
91/ 3/ 5	2448320.5	0.41932	0.54545	0.21936	-28.62120	17.75312	9.80840	0.72213	35.07921	52.45	17.68
91/ 3/ 9	2448324.5	0.35070	0.58295	0.24059	-30.72107	14.67581	8.55405	0.72160	35.10463	58.97	19.48
91/ 3/13	2448328.5	0.27767	0.61311	0.25880	-32.43831	11.40702	7.18924	0.72110	35.12904	65.63	21.03
91/ 3/17	2448332.5	0.20114	0.63554	0.27374	-33.74949	7.98755	5.73088	0.72063	35.15212	72.44	22.33
91/ 3/21	2448336.5	0.12207	0.64994	0.28522	-34.63622	4.46052	4.19724	0.72018	35.17358	79.36	23.33
91/ 3/25	2448340.5	0.04145	0.65610	0.29309	-35.08559	0.87077	2.60773	0.71978	35.19314	86.39	24.03
91/ 3/29	2448344.5	-0.03970	0.65395	0.29724	-35.09035	-2.73571	0.98260	0.71943	35.21055	93.47	24.40
91/ 4/ 2	2448348.5	-0.12034	0.64348	0.29762	-34.64912	-6.31241	-0.65727	0.71912	35.22556	100.59	24.45
91/ 4/ 6	2448352.5	-0.19945	0.62484	0.29421	-33.76647	-9.81298	-2.29070	0.71886	35.23799	107.70	24.16
91/ 4/10	2448356.5	-0.27602	0.59824	0.28705	-32.45289	-13.19188	-3.89650	0.71866	35.24768	114.77	23.54
91/ 4/14	2448360.5	-0.34908	0.56402	0.27624	-30.72475	-16.40501	-5.45376	0.71852	35.25448	121.75	22.61
91/ 4/18	2448364.5	-0.41768	0.52260	0.26191	-28.60403	-19.41040	-6.94219	0.71845	35.25831	128.63	21.38
91/ 4/22	2448368.5	-0.48095	0.47452	0.24423	-26.11807	-22.16883	-8.34237	0.71843	35.25912	135.39	19.87
91/ 4/26	2448372.5	-0.53810	0.42039	0.22344	-23.29916	-24.64436	-9.63607	0.71847	35.25690	142.00	18.12
91/ 4/30	2448376.5	-0.58838	0.36090	0.19981	-20.18409	-26.80490	-10.80650	0.71858	35.25168	148.48	16.14
91/ 5/ 4	2448380.5	-0.63116	0.29681	0.17362	-16.81361	-28.62265	-11.83857	0.71875	35.24352	154.81	13.98
91/ 5/ 8	2448384.5	-0.66590	0.22894	0.14522	-13.23182	-30.07450	-12.71906	0.71897	35.23253	161.03	11.65
91/ 5/12	2448388.5	-0.69217	0.15815	0.11498	-9.48551	-31.14233	-13.43687	0.71925	35.21887	167.13	9.20
91/ 5/16	2448392.5	-0.70964	0.08535	0.08327	-5.62349	-31.81322	-13.98308	0.71959	35.20271	173.14	6.65
91/ 5/20	2448396.5	-0.71810	0.01147	0.05051	-1.69585	-32.07962	-14.35114	0.71996	35.18427	179.08	4.02

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91/ 5/24	2448400.5	-0.71746	-0.06255	0.01711	2.24674	-31.93938	-14.53686	0.72039	35.16379	184.98	1.36
91/ 5/28	2448404.5	-0.70775	-0.13579	-0.01651	6.15374	-31.39571	-14.53851	0.72084	35.14153	190.86	-1.31
91/ 6/ 1	2448408.5	-0.68909	-0.20731	-0.04992	9.97543	-30.45707	-14.35677	0.72133	35.11779	196.74	-3.97
91/ 6/ 5	2448412.5	-0.66176	-0.27622	-0.08271	13.66361	-29.13700	-13.99468	0.72184	35.09288	202.66	-6.58
91/ 6/ 9	2448416.5	-0.62610	-0.34165	-0.11445	17.17218	-27.45379	-13.45759	0.72238	35.06710	208.62	-9.12
91/ 6/13	2448420.5	-0.58259	-0.40280	-0.14476	20.45772	-25.43027	-12.75304	0.72292	35.04079	214.66	-11.55
91/ 6/17	2448424.5	-0.53178	-0.45891	-0.17325	23.48003	-23.09332	-11.89061	0.72347	35.01428	220.79	-13.86
91/ 6/21	2448428.5	-0.47433	-0.50928	-0.19958	26.20257	-20.47354	-10.88178	0.72401	34.98790	227.03	-16.00
91/ 6/25	2448432.5	-0.41097	-0.55331	-0.22343	28.59284	-17.60475	-9.73974	0.72455	34.96199	233.40	-17.96
91/ 6/29	2448436.5	-0.34250	-0.59046	-0.24449	30.62274	-14.52356	-8.47922	0.72507	34.93685	239.88	-19.71
91/ 7/ 3	2448440.5	-0.26978	-0.62028	-0.26253	32.26880	-11.26883	-7.11625	0.72557	34.91279	246.49	-21.21
91/ 7/ 7	2448444.5	-0.19372	-0.64242	-0.27731	33.51240	-7.88122	-5.66798	0.72604	34.89012	253.22	-22.45
91/ 7/11	2448448.5	-0.11526	-0.65662	-0.28866	34.33989	-4.40263	-4.15243	0.72648	34.86910	260.04	-23.41
91/ 7/15	2448452.5	-0.03538	-0.66273	-0.29646	34.74269	-0.87576	-2.58831	0.72687	34.84998	266.94	-24.07
91/ 7/19	2448456.5	0.04493	-0.66067	-0.30060	34.71730	2.65644	-0.99475	0.72723	34.83299	273.89	-24.42
91/ 7/23	2448460.5	0.12469	-0.65048	-0.30104	34.26526	6.15119	0.60887	0.72753	34.81833	280.85	-24.44
91/ 7/27	2448464.5	0.20293	-0.63231	-0.29779	33.39311	9.56641	2.20318	0.72778	34.80618	287.79	-24.15
91/ 7/31	2448468.5	0.27867	-0.60637	-0.29089	32.11222	12.86112	3.76898	0.72798	34.79667	294.68	-23.55
91/ 8/ 4	2448472.5	0.35099	-0.57301	-0.28041	30.43867	15.99590	5.28749	0.72812	34.78992	301.49	-22.65
91/ 8/ 8	2448476.5	0.41902	-0.53262	-0.26651	28.39300	18.93328	6.74053	0.72821	34.78600	308.19	-21.47
91/ 8/12	2448480.5	0.48191	-0.48571	-0.24933	26.00002	21.63813	8.11070	0.72823	34.78496	314.78	-20.02
91/ 8/16	2448484.5	0.53890	-0.43285	-0.22911	23.28852	24.07803	9.38157	0.72819	34.78679	321.23	-18.34
91/ 8/20	2448488.5	0.58929	-0.37469	-0.20608	20.29095	26.22362	10.53785	0.72809	34.79148	327.55	-16.44
91/ 8/24	2448492.5	0.63246	-0.31193	-0.18052	17.04309	28.04887	11.56557	0.72794	34.79897	333.75	-14.36
91/ 8/28	2448496.5	0.66787	-0.24535	-0.15275	13.58370	29.53141	12.45218	0.72773	34.80917	339.83	-12.12
91/ 9/ 1	2448500.5	0.69509	-0.17576	-0.12310	9.95410	30.65279	13.18677	0.72746	34.82196	345.81	-9.74
91/ 9/ 5	2448504.5	0.71377	-0.10402	-0.09194	6.19775	31.39868	13.76011	0.72714	34.83719	351.71	-7.26
91/ 9/ 9	2448508.5	0.72366	-0.03099	-0.05966	2.35981	31.75905	14.16486	0.72678	34.85468	357.55	-4.71
91/ 9/13	2448512.5	0.72464	0.04242	-0.02663	-1.51333	31.72837	14.39558	0.72637	34.87424	3.35	-2.10
91/ 9/17	2448516.5	0.71668	0.11531	0.00672	-5.37459	31.30572	14.44888	0.72593	34.89563	9.14	0.53
91/ 9/21	2448520.5	0.69986	0.18676	0.03999	-9.17668	30.49483	14.32347	0.72545	34.91859	14.94	3.16
91/ 9/25	2448524.5	0.67436	0.25591	0.07276	-12.87269	29.30413	14.02017	0.72495	34.94286	20.78	5.76
91/ 9/29	2448528.5	0.64050	0.32188	0.10463	-16.41658	27.74672	13.54200	0.72442	34.96813	26.68	8.30
91/10/ 3	2448532.5	0.59866	0.38384	0.13520	-19.76380	25.84031	12.89411	0.72389	34.99410	32.67	10.76
91/10/ 7	2448536.5	0.54937	0.44102	0.16408	-22.87182	23.60706	12.08381	0.72334	35.02045	38.76	13.11
91/10/11	2448540.5	0.49320	0.49268	0.19091	-25.70073	21.07342	11.12050	0.72279	35.04686	44.97	15.32
91/10/15	2448544.5	0.43086	0.53818	0.21535	-28.21375	18.26983	10.01558	0.72226	35.07298	51.32	17.35
91/10/19	2448548.5	0.36311	0.57691	0.23709	-30.37777	15.23044	8.78235	0.72173	35.09850	57.81	19.18
91/10/23	2448552.5	0.29080	0.60839	0.25584	-32.16387	11.99271	7.43586	0.72122	35.12309	64.45	20.78
91/10/27	2448556.5	0.21482	0.63220	0.27137	-33.54773	8.59698	5.99277	0.72074	35.14643	71.23	22.12
91/10/31	2448560.5	0.13612	0.64803	0.28347	-34.51009	5.08599	4.47112	0.72029	35.16823	78.14	23.18
91/11/ 4	2448564.5	0.05570	0.65565	0.29198	-35.03704	1.50430	2.89011	0.71988	35.18820	85.14	23.93
91/11/ 8	2448568.5	-0.02542	0.65496	0.29680	-35.12032	-2.10228	1.26987	0.71951	35.20609	92.22	24.36
91/11/12	2448572.5	-0.10622	0.64595	0.29784	-34.75749	-5.68732	-0.36882	0.71920	35.22165	99.34	24.46
91/11/16	2448576.5	-0.18567	0.62873	0.29509	-33.95207	-9.20439	-2.00483	0.71893	35.23469	106.45	24.23

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91/11/20	2448580.5	-0.26276	0.60351	0.28859	-32.71351	-12.60776	-3.61694	0.71872	35.24502	113.53	23.67
91/11/24	2448584.5	-0.33650	0.57060	0.27842	-31.05712	-15.85306	-5.18418	0.71856	35.25252	120.53	22.80
91/11/28	2448588.5	-0.40595	0.53042	0.26469	-29.00390	-18.89790	-6.68614	0.71847	35.25707	127.43	21.62
91/12/ 2	2448592.5	-0.47022	0.48347	0.24759	-26.58025	-21.70253	-8.10321	0.71844	35.25863	134.20	20.16
91/12/ 6	2448596.5	-0.52850	0.43036	0.22733	-23.81760	-24.23037	-9.41694	0.71847	35.25717	140.84	18.45
91/12/10	2448600.5	-0.58003	0.37176	0.20417	-20.75198	-26.44863	-10.61028	0.71856	35.25270	147.34	16.51
91/12/14	2448604.5	-0.62418	0.30842	0.17841	-17.42345	-28.32871	-11.66778	0.71871	35.24528	153.71	14.37
91/12/18	2448608.5	-0.66037	0.24115	0.15038	-13.87558	-29.84662	-12.57591	0.71892	35.23501	159.94	12.07
91/12/22	2448612.5	-0.68815	0.17081	0.12043	-10.15471	-30.98334	-13.32316	0.71919	35.22203	166.06	9.64
91/12/26	2448616.5	-0.70719	0.09830	0.08895	-6.30935	-31.72499	-13.90021	0.71951	35.20651	172.09	7.10
91/12/30	2448620.5	-0.71725	0.02454	0.05634	-2.38942	-32.06307	-14.30007	0.71987	35.18866	178.04	4.49
92/ 1/ 3	2448624.5	-0.71821	-0.04953	0.02302	1.55445	-31.99444	-14.51814	0.72028	35.16870	183.95	1.83
92/ 1/ 7	2448628.5	-0.71009	-0.12298	-0.01059	5.47162	-31.52138	-14.55225	0.72073	35.14690	189.83	-0.84
92/ 1/11	2448632.5	-0.69299	-0.19487	-0.04407	9.31219	-30.65143	-14.40264	0.72121	35.12354	195.71	-3.50
92/ 1/15	2448636.5	-0.66716	-0.26430	-0.07700	13.02760	-29.39722	-14.07194	0.72172	35.09892	201.61	-6.12
92/ 1/19	2448640.5	-0.63293	-0.33041	-0.10896	16.57133	-27.77625	-13.56510	0.72225	35.07337	207.57	-8.68
92/ 1/23	2448644.5	-0.59076	-0.39237	-0.13954	19.89943	-25.81056	-12.88928	0.72279	35.04720	213.59	-11.13
92/ 1/27	2448648.5	-0.54118	-0.44942	-0.16839	22.97108	-23.52636	-12.05372	0.72333	35.02074	219.71	-13.46
92/ 1/31	2448652.5	-0.48485	-0.50085	-0.19512	25.74904	-20.95363	-11.06958	0.72388	34.99433	225.93	-15.64
92/ 2/ 4	2448656.5	-0.42247	-0.54603	-0.21943	28.20007	-18.12569	-9.94976	0.72442	34.96831	232.27	-17.63
92/ 2/ 8	2448660.5	-0.35483	-0.58443	-0.24100	30.29525	-15.07870	-8.70875	0.72494	34.94298	238.74	-19.42
92/ 2/12	2448664.5	-0.28278	-0.61556	-0.25958	32.01028	-11.85117	-7.36237	0.72544	34.91866	245.33	-20.97
92/ 2/16	2448668.5	-0.20724	-0.63908	-0.27495	33.32567	-8.48350	-5.92760	0.72592	34.89565	252.03	-22.26
92/ 2/20	2448672.5	-0.12913	-0.65468	-0.28692	34.22689	-5.01743	-4.42233	0.72637	34.87422	258.84	-23.27
92/ 2/24	2448676.5	-0.04942	-0.66221	-0.29534	34.70447	-1.49557	-2.86517	0.72677	34.85464	265.73	-23.98
92/ 2/28	2448680.5	0.03089	-0.66159	-0.30013	34.75402	2.03911	-1.27520	0.72714	34.83714	272.67	-24.38
92/ 3/ 3	2448684.5	0.11082	-0.65282	-0.30122	34.37623	5.54377	0.32821	0.72745	34.82192	279.63	-24.46
92/ 3/ 7	2448688.5	0.18939	-0.63603	-0.29862	33.57675	8.97616	1.92568	0.72772	34.80917	286.58	-24.23
92/ 3/11	2448692.5	0.26564	-0.61143	-0.29235	32.36616	12.29507	3.49795	0.72793	34.79903	293.48	-23.68
92/ 3/15	2448696.5	0.33863	-0.57934	-0.28249	30.75972	15.46076	5.02617	0.72808	34.79163	300.31	-22.83
92/ 3/19	2448700.5	0.40747	-0.54014	-0.26917	28.77723	18.43540	6.49202	0.72818	34.78705	307.03	-21.69
92/ 3/23	2448704.5	0.47132	-0.49433	-0.25256	26.44278	21.18343	7.87795	0.72821	34.78535	313.63	-20.29
92/ 3/27	2448708.5	0.52940	-0.44247	-0.23285	23.78451	23.67192	9.16736	0.72819	34.78654	320.11	-18.65
92/ 3/31	2448712.5	0.58099	-0.38518	-0.21029	20.83425	25.87096	10.34474	0.72810	34.79060	326.46	-16.79
92/ 4/ 4	2448716.5	0.62546	-0.32318	-0.18515	17.62724	27.75393	11.39588	0.72796	34.79750	332.67	-14.73
92/ 4/ 8	2448720.5	0.66227	-0.25721	-0.15774	14.20175	29.29780	12.30798	0.72776	34.80715	338.77	-12.52
92/ 4/12	2448724.5	0.69094	-0.18809	-0.12840	10.59869	30.48343	13.06984	0.72751	34.81943	344.77	-10.17
92/ 4/16	2448728.5	0.71113	-0.11666	-0.09748	6.86118	31.29575	13.67192	0.72720	34.83420	350.68	-7.70
92/ 4/20	2448732.5	0.72258	-0.04379	-0.06536	3.03413	31.72398	14.10655	0.72685	34.85128	356.53	-5.16
92/ 4/24	2448736.5	0.72512	0.02962	-0.03243	-0.83627	31.76180	14.36796	0.72645	34.87047	2.34	-2.56
92/ 4/28	2448740.5	0.71871	0.10266	0.00089	-4.70302	31.40747	14.45240	0.72601	34.89154	8.13	0.07
92/ 5/ 2	2448744.5	0.70343	0.17443	0.03421	-8.51884	30.66392	14.35819	0.72554	34.91424	13.93	2.70
92/ 5/ 6	2448748.5	0.67943	0.24404	0.06710	-12.23670	29.53875	14.08581	0.72504	34.93829	19.76	5.31
92/ 5/10	2448752.5	0.64700	0.31063	0.09915	-15.81037	28.04426	13.63786	0.72452	34.96340	25.65	7.87
92/ 5/14	2448756.5	0.60653	0.37335	0.12998	-19.19502	26.19736	13.01915	0.72399	34.98927	31.61	10.34

1.2 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — VENUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
92/ 5/18	2448760.5	0.55849	0.43141	0.15918	-22.34773	24.01945	12.23661	0.72344	35.01557	37.68	12.71
92/ 5/22	2448764.5	0.50348	0.48409	0.18639	-25.22809	21.53624	11.29927	0.72290	35.04197	43.88	14.94
92/ 5/26	2448768.5	0.44217	0.53071	0.21127	-27.79873	18.77750	10.21820	0.72236	35.06816	50.20	17.01
92/ 5/30	2448772.5	0.37531	0.57066	0.23350	-30.02588	15.77676	9.00637	0.72183	35.09379	56.67	18.87
92/ 6/ 3	2448776.5	0.30372	0.60344	0.25280	-31.87984	12.57092	7.67853	0.72132	35.11854	63.28	20.52
92/ 6/ 7	2448780.5	0.22832	0.62862	0.26891	-33.33548	9.19987	6.25109	0.72083	35.14211	70.04	21.90
92/ 6/11	2448784.5	0.15003	0.64585	0.28162	-34.37262	5.70594	4.74185	0.72038	35.16418	76.92	23.01
92/ 6/15	2448788.5	0.06984	0.65492	0.29077	-34.97639	2.13343	3.16982	0.71996	35.18447	83.91	23.82
92/ 6/19	2448792.5	-0.01124	0.65569	0.29623	-35.13754	-1.47204	1.55499	0.71959	35.20272	90.98	24.31
92/ 6/23	2448796.5	-0.09217	0.64813	0.29793	-34.85262	-5.06409	-0.08195	0.71926	35.21870	98.09	24.47
92/ 6/27	2448800.5	-0.17193	0.63233	0.29585	-34.12407	-8.59627	-1.71991	0.71898	35.23218	105.21	24.30
92/ 7/ 1	2448804.5	-0.24950	0.60849	0.29000	-32.96034	-12.02267	-3.33768	0.71876	35.24299	112.29	23.80
92/ 7/ 5	2448808.5	-0.32389	0.57690	0.28046	-31.37570	-15.29865	-4.91422	0.71860	35.25100	119.31	22.97
92/ 7/ 9	2448812.5	-0.39416	0.53796	0.26734	-29.39018	-18.38141	-6.42900	0.71849	35.25608	126.23	21.84
92/ 7/13	2448816.5	-0.45939	0.49215	0.25082	-27.02926	-21.23071	-7.86225	0.71845	35.25818	133.03	20.43
92/ 7/17	2448820.5	-0.51877	0.44007	0.23110	-24.32351	-23.80940	-9.19530	0.71847	35.25726	139.69	18.76
92/ 7/21	2448824.5	-0.57154	0.38238	0.20842	-21.30820	-26.08396	-10.41083	0.71855	35.25333	146.22	16.86
92/ 7/25	2448828.5	-0.61702	0.31981	0.18310	-18.02271	-28.02504	-11.49312	0.71869	35.24646	152.60	14.76
92/ 7/29	2448832.5	-0.65463	0.25317	0.15544	-14.51004	-29.60782	-12.42826	0.71889	35.23671	158.86	12.49
92/ 8/ 2	2448836.5	-0.68392	0.18331	0.12580	-10.81609	-30.81238	-13.20439	0.71915	35.22423	165.00	10.07
92/ 8/ 6	2448840.5	-0.70451	0.11111	0.09456	-6.98904	-31.62395	-13.81179	0.71946	35.20918	171.04	7.55
92/ 8/10	2448844.5	-0.71615	0.03750	0.06212	-3.07860	-32.03305	-14.24307	0.71981	35.19175	177.00	4.95
92/ 8/14	2448848.5	-0.71871	-0.03658	0.02889	0.86466	-32.03563	-14.49319	0.72022	35.17217	182.91	2.30
92/ 8/18	2448852.5	-0.71217	-0.11020	-0.00471	4.79006	-31.63300	-14.55956	0.72066	35.15070	188.80	-0.37
92/ 8/22	2448856.5	-0.69663	-0.18243	-0.03824	8.64753	-30.83178	-14.44199	0.72113	35.12762	194.67	-3.04
92/ 8/26	2448860.5	-0.67230	-0.25236	-0.07129	12.38822	-29.64375	-14.14271	0.72163	35.10322	200.57	-5.67
92/ 8/30	2448864.5	-0.63951	-0.31911	-0.10345	15.96522	-28.08556	-13.66627	0.72216	35.07783	206.52	-8.24
92/ 9/ 3	2448868.5	-0.59870	-0.38185	-0.13430	19.33408	-26.17848	-13.01944	0.72269	35.05175	212.53	-10.71
92/ 9/ 7	2448872.5	-0.55038	-0.43981	-0.16348	22.45340	-23.94802	-12.21110	0.72324	35.02533	218.63	-13.06
92/ 9/11	2448876.5	-0.49518	-0.49228	-0.19061	25.28528	-21.42353	-11.25210	0.72379	34.99890	224.83	-15.27
92/ 9/15	2448880.5	-0.43380	-0.53860	-0.21536	27.79575	-18.63777	-10.15505	0.72433	34.97278	231.15	-17.30
92/ 9/19	2448884.5	-0.36702	-0.57822	-0.23743	29.95512	-15.62644	-8.93416	0.72485	34.94731	237.59	-19.12
92/ 9/23	2448888.5	-0.29568	-0.61065	-0.25656	31.73826	-12.42767	-7.60504	0.72536	34.92279	244.16	-20.71
92/ 9/27	2448892.5	-0.22068	-0.63552	-0.27250	33.12482	-9.08157	-6.18448	0.72584	34.89952	250.85	-22.05
92/10/ 1	2448896.5	-0.14295	-0.65253	-0.28507	34.09940	-5.62969	-4.69023	0.72629	34.87780	257.64	-23.11
92/10/ 5	2448900.5	-0.06346	-0.66148	-0.29413	34.65164	-2.11451	-3.14079	0.72670	34.85788	264.52	-23.87
92/10/ 9	2448904.5	0.01682	-0.66229	-0.29956	34.77625	1.42103	-1.55517	0.72708	34.83999	271.45	-24.33
92/10/13	2448908.5	0.09689	-0.65494	-0.30130	34.47303	4.93403	0.04730	0.72740	34.82437	278.42	-24.47
92/10/17	2448912.5	0.17577	-0.63954	-0.29934	33.74678	8.38211	1.64721	0.72767	34.81118	285.37	-24.29
92/10/21	2448916.5	0.25250	-0.61629	-0.29371	32.60721	11.72382	3.22529	0.72789	34.80059	292.28	-23.80
92/10/25	2448920.5	0.32612	-0.58548	-0.28447	31.06879	14.91917	4.76258	0.72806	34.79272	299.12	-23.00
92/10/29	2448924.5	0.39575	-0.54750	-0.27175	29.15052	17.92994	6.24066	0.72816	34.78766	305.86	-21.91
92/11/ 2	2448928.5	0.46053	-0.50281	-0.25570	26.87578	20.72014	7.64183	0.72821	34.78548	312.49	-20.56
92/11/ 6	2448932.5	0.51967	-0.45196	-0.23651	24.27200	23.25637	8.94932	0.72819	34.78619	318.99	-18.95
92/11/10	2448936.5	0.57245	-0.39558	-0.21443	21.37038	25.50816	10.14741	0.72812	34.78978	325.35	-17.13

1.2 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM VENUS

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92/11/14	2448940.5	0.61821	-0.33435	-0.18972	18.20561	27.44828	11.22164	0.72799	34.79622	331.59	-15.11
92/11/18	2448944.5	0.65639	-0.26901	-0.16269	14.81544	29.05306	12.15897	0.72780	34.80543	337.71	-12.92
92/11/22	2448948.5	0.68652	-0.20038	-0.13366	11.24035	30.30266	12.94788	0.72755	34.81729	343.73	-10.59
92/11/26	2448952.5	0.70822	-0.12929	-0.10299	7.52311	31.18126	13.57857	0.72725	34.83168	349.65	-8.14
92/11/30	2448956.5	0.72120	-0.05661	-0.07105	3.70834	31.67733	14.04300	0.72690	34.84840	355.51	-5.61
92/12/ 4	2448960.5	0.72531	0.01677	-0.03824	-0.15794	31.78377	14.33507	0.72651	34.86728	1.32	-3.02
92/12/ 8	2448964.5	0.72047	0.08994	-0.00495	-4.02884	31.49800	14.45067	0.72608	34.88807	7.12	-0.39
92/12/12	2448968.5	0.70673	0.16200	0.02839	-7.85708	30.82214	14.38776	0.72561	34.91054	12.91	2.24
92/12/16	2448972.5	0.68424	0.23205	0.06139	-11.59556	29.76297	14.14642	0.72512	34.93440	18.73	4.86
92/12/20	2448976.5	0.65326	0.29923	0.09362	-15.19786	28.33197	13.72889	0.72460	34.95938	24.61	7.42
92/12/24	2448980.5	0.61416	0.36268	0.12469	-18.61884	26.54526	13.13960	0.72407	34.98516	30.56	9.92
92/12/28	2448984.5	0.56741	0.42162	0.15420	-21.81522	24.42345	12.38510	0.72353	35.01142	36.61	12.31
93/ 1/ 1	2448988.5	0.51357	0.47529	0.18179	-24.74610	21.99153	11.47406	0.72298	35.03784	42.78	14.56
93/ 1/ 5	2448992.5	0.45330	0.52301	0.20710	-27.37353	19.27856	10.41720	0.72244	35.06410	49.08	16.66
93/ 1/ 9	2448996.5	0.38735	0.56417	0.22982	-29.66307	16.31746	9.22717	0.72191	35.08985	55.53	18.56
93/ 1/13	2449000.5	0.31653	0.59824	0.24965	-31.58428	13.14458	7.91844	0.72139	35.11479	62.12	20.25
93/ 1/17	2449004.5	0.24173	0.62477	0.26633	-33.11119	9.79931	6.50711	0.72090	35.13858	68.85	21.68
93/ 1/21	2449008.5	0.16387	0.64342	0.27965	-34.22272	6.32360	5.01077	0.72044	35.16092	75.71	22.84
93/ 1/25	2449012.5	0.08394	0.65392	0.28943	-34.90307	2.76144	3.44824	0.72002	35.18153	82.69	23.70
93/ 1/29	2449016.5	0.00294	0.65614	0.29554	-35.14197	-0.84171	1.83936	0.71964	35.20014	89.74	24.25
93/ 2/ 2	2449020.5	-0.07809	0.65004	0.29791	-34.93495	-4.43957	0.20472	0.71930	35.21651	96.85	24.47
93/ 2/ 6	2449024.5	-0.15813	0.63567	0.29648	-34.28343	-7.98563	-1.43464	0.71902	35.23042	103.97	24.35
93/ 2/10	2449028.5	-0.23615	0.61322	0.29129	-33.19480	-11.43386	-3.05751	0.71879	35.24169	111.06	23.91
93/ 2/14	2449032.5	-0.31117	0.58295	0.28239	-31.68235	-14.73932	-4.64279	0.71861	35.25017	118.09	23.14
93/ 2/18	2449036.5	-0.38222	0.54526	0.26988	-29.76510	-17.85887	-6.16984	0.71850	35.25574	125.03	22.06
93/ 2/22	2449040.5	-0.44840	0.50061	0.25394	-27.46762	-20.75177	-7.61874	0.71845	35.25835	131.85	20.70
93/ 2/26	2449044.5	-0.50886	0.44958	0.23476	-24.81962	-23.38026	-8.97061	0.71845	35.25793	138.54	19.07
93/ 3/ 2	2449048.5	-0.56284	0.39282	0.21258	-21.85558	-25.71018	-10.20786	0.71853	35.25451	145.09	17.21
93/ 3/ 6	2449052.5	-0.60963	0.33105	0.18769	-18.61424	-27.71142	-11.31448	0.71866	35.24812	151.50	15.14
93/ 3/10	2449056.5	-0.64866	0.26505	0.16041	-15.13798	-29.35833	-12.27623	0.71885	35.23884	157.77	12.89
93/ 3/14	2449060.5	-0.67943	0.19569	0.13109	-11.47228	-30.63013	-13.08089	0.71910	35.22680	163.93	10.50
93/ 3/18	2449064.5	-0.70156	0.12383	0.10011	-7.66496	-31.51112	-13.71835	0.71940	35.21215	169.99	8.00
93/ 3/22	2449068.5	-0.71477	0.05041	0.06785	-3.76552	-31.99092	-14.18080	0.71975	35.19507	175.97	5.41
93/ 3/26	2449072.5	-0.71892	-0.02366	0.03472	0.17556	-32.06451	-14.46280	0.72015	35.17579	181.89	2.76
93/ 3/30	2449076.5	-0.71397	-0.09743	0.00116	4.10757	-31.73228	-14.56133	0.72059	35.15455	187.77	0.09
93/ 4/ 3	2449080.5	-0.69999	-0.16997	-0.03241	7.98029	-30.99996	-14.47579	0.72106	35.13162	193.65	-2.58
93/ 4/ 7	2449084.5	-0.67718	-0.24036	-0.06558	11.74461	-29.87842	-14.20798	0.72156	35.10730	199.54	-5.21
93/ 4/11	2449088.5	-0.64584	-0.30773	-0.09792	15.35325	-28.38351	-13.76205	0.72208	35.08190	205.48	-7.79
93/ 4/15	2449092.5	-0.60640	-0.37123	-0.12903	18.76129	-26.53571	-13.14442	0.72262	35.05575	211.47	-10.29
93/ 4/19	2449096.5	-0.55935	-0.43008	-0.15853	21.92677	-24.35985	-12.36360	0.72317	35.02919	217.56	-12.66
93/ 4/23	2449100.5	-0.50530	-0.48355	-0.18604	24.81118	-21.88462	-11.43010	0.72372	35.00255	223.74	-14.90
93/ 4/27	2449104.5	-0.44495	-0.53099	-0.21123	27.37984	-19.14223	-10.35626	0.72426	34.97618	230.04	-16.96
93/ 5/ 1	2449108.5	-0.37907	-0.57182	-0.23379	29.60230	-16.16790	-9.15602	0.72479	34.95039	236.46	-18.82
93/ 5/ 5	2449112.5	-0.30847	-0.60554	-0.25345	31.45264	-12.99937	-7.84476	0.72531	34.92552	243.01	-20.45
93/ 5/ 9	2449116.5	-0.23405	-0.63176	-0.26996	32.90967	-9.67642	-6.43906	0.72580	34.90188	249.67	-21.84

1.2 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM VENUS

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93/ 5/13	2449120.5	-0.15673	-0.65016	-0.28314	33.95713	-6.24038	-4.95654	0.72625	34.87974	256.45	-22.95
93/ 5/17	2449124.5	-0.07748	-0.66054	-0.29282	34.58378	-2.73359	-3.41556	0.72668	34.85938	263.31	-23.76
93/ 5/21	2449128.5	0.00273	-0.66277	-0.29889	34.78346	0.80108	-1.83505	0.72706	34.84104	270.24	-24.27
93/ 5/25	2449132.5	0.08291	-0.65685	-0.30128	34.55509	4.32070	-0.23430	0.72739	34.82495	277.19	-24.47
93/ 5/29	2449136.5	0.16206	-0.64285	-0.29997	33.90259	7.78278	1.36729	0.72767	34.81130	284.15	-24.35
93/ 6/ 2	2449140.5	0.23923	-0.62097	-0.29498	32.83481	11.14571	2.95041	0.72790	34.80024	291.07	-23.91
93/ 6/ 6	2449144.5	0.31346	-0.59146	-0.28637	31.36540	14.36922	4.49606	0.72808	34.79191	297.92	-23.16
93/ 6/10	2449148.5	0.38385	-0.55471	-0.27425	29.51256	17.41477	5.98570	0.72819	34.78641	304.68	-22.12
93/ 6/14	2449152.5	0.44954	-0.51117	-0.25877	27.29891	20.24598	7.40152	0.72824	34.78380	311.33	-20.81
93/ 6/18	2449156.5	0.50972	-0.46136	-0.24012	24.75116	22.82895	8.72655	0.72824	34.78410	317.85	-19.25
93/ 6/22	2449160.5	0.56367	-0.40590	-0.21853	21.89987	25.13270	9.94489	0.72817	34.78732	324.24	-17.46
93/ 6/26	2449164.5	0.61070	-0.34547	-0.19427	18.77910	27.12940	11.04187	0.72804	34.79342	330.50	-15.48
93/ 6/30	2449168.5	0.65025	-0.28081	-0.16762	15.42607	28.79475	12.00416	0.72786	34.80231	336.64	-13.31
93/ 7/ 4	2449172.5	0.68183	-0.21270	-0.13892	11.88081	30.10819	12.81997	0.72762	34.81391	342.67	-11.01
93/ 7/ 8	2449176.5	0.70503	-0.14198	-0.10851	8.18567	31.05319	13.47919	0.72733	34.82807	348.61	-8.58
93/ 7/12	2449180.5	0.71957	-0.06952	-0.07676	4.38499	31.61742	13.97346	0.72698	34.84461	354.48	-6.06
93/ 7/16	2449184.5	0.72525	0.00380	-0.04408	0.52454	31.79298	14.29632	0.72659	34.86335	0.30	-3.48
93/ 7/20	2449188.5	0.72198	0.07707	-0.01085	-3.34890	31.57648	14.44330	0.72616	34.88406	6.09	-0.86
93/ 7/24	2449192.5	0.70980	0.14939	0.02252	-7.18809	30.96917	14.41197	0.72570	34.90649	11.89	1.78
93/ 7/28	2449196.5	0.68883	0.21986	0.05560	-10.94585	29.97700	14.20205	0.72520	34.93037	17.70	4.40
93/ 8/ 1	2449200.5	0.65932	0.28761	0.08800	-14.57559	28.61062	13.81537	0.72469	34.95540	23.57	6.97
93/ 8/ 5	2449204.5	0.62162	0.35178	0.11930	-18.03191	26.88530	13.25597	0.72415	34.98128	29.51	9.48
93/ 8/ 9	2449208.5	0.57618	0.41157	0.14912	-21.27113	24.82088	12.53003	0.72360	35.00770	35.54	11.89
93/ 8/13	2449212.5	0.52354	0.46622	0.17707	-24.25188	22.44157	11.64584	0.72305	35.03432	41.69	14.18
93/ 8/17	2449216.5	0.46435	0.51503	0.20281	-26.93563	19.77574	10.61377	0.72251	35.06081	47.96	16.30
93/ 8/21	2449220.5	0.39934	0.55739	0.22601	-29.28727	16.85564	9.44612	0.72197	35.08684	54.38	18.24
93/ 8/25	2449224.5	0.32932	0.59274	0.24636	-31.27559	13.71706	8.15706	0.72145	35.11208	60.94	19.97
93/ 8/29	2449228.5	0.25514	0.62063	0.26362	-32.87378	10.39889	6.76243	0.72095	35.13620	67.65	21.45
93/ 9/ 2	2449232.5	0.17774	0.64069	0.27754	-34.05987	6.94269	5.27957	0.72049	35.15891	74.49	22.66
93/ 9/ 6	2449236.5	0.09810	0.65264	0.28796	-34.81707	3.39213	3.72710	0.72005	35.17991	81.45	23.57
93/ 9/10	2449240.5	0.01722	0.65632	0.29472	-35.13413	-0.20752	2.12472	0.71966	35.19893	88.50	24.18
93/ 9/14	2449244.5	-0.06389	0.65168	0.29775	-35.00553	-3.81005	0.49290	0.71932	35.21572	95.60	24.45
93/ 9/18	2449248.5	-0.14418	0.63875	0.29699	-34.43165	-7.36894	-1.14737	0.71902	35.23005	102.72	24.40
93/ 9/22	2449252.5	-0.22263	0.61770	0.29246	-33.41884	-10.83800	-2.77485	0.71878	35.24175	109.82	24.01
93/ 9/26	2449256.5	-0.29826	0.58878	0.28420	-31.97936	-14.17203	-4.36842	0.71860	35.25066	116.87	23.30
93/ 9/30	2449260.5	-0.37008	0.55236	0.27232	-30.13126	-17.32752	-5.90732	0.71848	35.25666	123.82	22.27
93/10/ 4	2449264.5	-0.43718	0.50889	0.25696	-27.89816	-20.26322	-7.37146	0.71842	35.25966	130.67	20.96
93/10/ 8	2449268.5	-0.49870	0.45893	0.23833	-25.30893	-22.94084	-8.74177	0.71842	35.25964	137.38	19.37
93/10/12	2449272.5	-0.55386	0.40312	0.21666	-22.39726	-25.32552	-10.00041	0.71848	35.25659	143.95	17.55
93/10/16	2449276.5	-0.60197	0.34217	0.19222	-19.20119	-27.38641	-11.13106	0.71860	35.25056	150.39	15.52
93/10/20	2449280.5	-0.64239	0.27685	0.16534	-15.76254	-29.09706	-12.11917	0.71879	35.24161	156.69	13.30
93/10/24	2449284.5	-0.67464	0.20802	0.13635	-12.12630	-30.43580	-12.95214	0.71903	35.22986	162.86	10.93
93/10/28	2449288.5	-0.69831	0.13653	0.10562	-8.33994	-31.38606	-13.61949	0.71932	35.21548	168.94	8.44
93/11/ 1	2449292.5	-0.71310	0.06331	0.07356	-4.45275	-31.93651	-14.11301	0.71967	35.19865	174.93	5.87
93/11/ 5	2449296.5	-0.71884	-0.01072	0.04056	-0.51507	-32.08121	-14.42684	0.72006	35.17958	180.85	3.23

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93/11/ 9	2449300.5	-0.71548	-0.08460	0.00704	3.42237	-31.81962	-14.55753	0.72050	35.15853	186.74	0.56
93/11/13	2449304.5	-0.70307	-0.15742	-0.02656	7.30919	-31.15654	-14.50408	0.72097	35.13577	192.62	-2.11
93/11/17	2449308.5	-0.68178	-0.22826	-0.05983	11.09606	-30.10198	-14.26787	0.72146	35.11159	198.51	-4.76
93/11/21	2449312.5	-0.65191	-0.29622	-0.09235	14.73531	-28.67093	-13.85265	0.72198	35.08629	204.44	-7.35
93/11/25	2449316.5	-0.61385	-0.36045	-0.12370	18.18159	-26.88312	-13.26445	0.72252	35.06020	210.42	-9.86
93/11/29	2449320.5	-0.56809	-0.42017	-0.15351	21.39240	-24.76260	-12.51143	0.72307	35.03366	216.49	-12.26
93/12/ 3	2449324.5	-0.51522	-0.47463	-0.18139	24.32857	-22.33746	-11.60377	0.72362	35.00699	222.65	-14.52
93/12/ 7	2449328.5	-0.45592	-0.52317	-0.20701	26.95474	-19.63932	-10.55350	0.72417	34.98052	228.93	-16.61
93/12/11	2449332.5	-0.39094	-0.56519	-0.23005	29.23971	-16.70289	-9.37428	0.72470	34.95460	235.33	-18.51
93/12/15	2449336.5	-0.32111	-0.60018	-0.25024	31.15674	-13.56552	-8.08127	0.72522	34.92953	241.85	-20.18
93/12/19	2449340.5	-0.24729	-0.62774	-0.26732	32.68381	-10.26667	-6.69085	0.72572	34.90563	248.50	-21.61
93/12/23	2449344.5	-0.17041	-0.64753	-0.28109	33.80380	-6.84742	-5.22047	0.72618	34.88319	255.26	-22.77
93/12/27	2449348.5	-0.09143	-0.65932	-0.29139	34.50459	-3.34998	-3.68838	0.72661	34.86249	262.11	-23.64
93/12/31	2449352.5	-0.01131	-0.66298	-0.29810	34.77913	0.18285	-2.11343	0.72700	34.84376	269.02	-24.21
94/ 1/ 4	2449356.5	0.06894	-0.65848	-0.30114	34.62546	3.70810	-0.51486	0.72734	34.82725	275.98	-24.46
94/ 1/ 8	2449360.5	0.14834	-0.64588	-0.30047	34.04663	7.18319	1.08795	0.72764	34.81314	282.93	-24.39
94/ 1/12	2449364.5	0.22592	-0.62536	-0.29612	33.05064	10.56632	2.67565	0.72788	34.80160	289.86	-24.01
94/ 1/16	2449368.5	0.30073	-0.59717	-0.28814	31.65032	13.81696	4.22916	0.72806	34.79277	296.73	-23.31
94/ 1/20	2449372.5	0.37186	-0.56165	-0.27662	29.86308	16.89624	5.72987	0.72818	34.78675	303.51	-22.33
94/ 1/24	2449376.5	0.43843	-0.51926	-0.26172	27.71079	19.76737	7.15981	0.72825	34.78362	310.18	-21.06
94/ 1/28	2449380.5	0.49963	-0.47051	-0.24361	25.21947	22.39602	8.50187	0.72825	34.78340	316.72	-19.54
94/ 2/ 1	2449384.5	0.55472	-0.41599	-0.22252	22.41900	24.75065	9.73994	0.72820	34.78611	323.13	-17.79
94/ 2/ 5	2449388.5	0.60300	-0.35638	-0.19870	19.34288	26.80289	10.85912	0.72808	34.79170	329.42	-15.84
94/ 2/ 9	2449392.5	0.64390	-0.29241	-0.17244	16.02779	28.52777	11.84585	0.72791	34.80012	335.58	-13.70
94/ 2/13	2449396.5	0.67690	-0.22484	-0.14408	12.51328	29.90409	12.68807	0.72768	34.81126	341.63	-11.42
94/ 2/17	2449400.5	0.70160	-0.15452	-0.11394	8.84134	30.91457	13.37534	0.72739	34.82499	347.58	-9.01
94/ 2/21	2449404.5	0.71767	-0.08230	-0.08240	5.05598	31.54617	13.89900	0.72705	34.84115	353.46	-6.51
94/ 2/25	2449408.5	0.72490	-0.00906	-0.04985	1.20274	31.79016	14.25226	0.72667	34.85955	359.28	-3.93
94/ 3/ 1	2449412.5	0.72321	0.06428	-0.01669	-2.67173	31.64238	14.43027	0.72625	34.87995	5.08	-1.32
94/ 3/ 5	2449416.5	0.71258	0.13683	0.01668	-6.52024	31.10326	14.43027	0.72579	34.90213	10.87	1.32
94/ 3/ 9	2449420.5	0.69314	0.20769	0.04985	-10.29557	30.17791	14.25156	0.72530	34.92580	16.68	3.94
94/ 3/13	2449424.5	0.66510	0.27598	0.08239	-13.95099	28.87615	13.89564	0.72478	34.95069	22.54	6.53
94/ 3/17	2449428.5	0.62881	0.34083	0.11392	-17.44084	27.21246	13.36613	0.72425	34.97648	28.46	9.05
94/ 3/21	2449432.5	0.58468	0.40144	0.14402	-20.72111	25.20588	12.66885	0.72371	35.00286	34.47	11.48
94/ 3/25	2449436.5	0.53326	0.45704	0.17233	-23.74998	22.87986	11.81172	0.72316	35.02950	40.60	13.79
94/ 3/29	2449440.5	0.47517	0.50693	0.19848	-26.48839	20.26206	10.80474	0.72261	35.05608	46.85	15.94
94/ 4/ 2	2449444.5	0.41113	0.55046	0.22214	-28.90059	17.38408	9.65990	0.72207	35.08224	53.24	17.92
94/ 4/ 6	2449448.5	0.34192	0.58708	0.24302	-30.95464	14.28110	8.39104	0.72154	35.10768	59.78	19.68
94/ 4/10	2449452.5	0.26840	0.61630	0.26083	-32.62293	10.99151	7.01371	0.72104	35.13205	66.47	21.21
94/ 4/14	2449456.5	0.19150	0.63775	0.27535	-33.88262	7.55642	5.54501	0.72057	35.15506	73.29	22.47
94/ 4/18	2449460.5	0.11218	0.65114	0.28639	-34.71597	4.01919	4.00335	0.72013	35.17640	80.22	23.43
94/ 4/22	2449464.5	0.03144	0.65628	0.29381	-35.11075	0.42484	2.40826	0.71973	35.19581	87.26	24.09
94/ 4/26	2449468.5	-0.04970	0.65309	0.29749	-35.06040	-3.18055	0.78009	0.71937	35.21301	94.35	24.43
94/ 4/30	2449472.5	-0.13021	0.64161	0.29740	-34.56429	-6.75045	-0.86022	0.71907	35.22781	101.47	24.43
94/ 5/ 4	2449476.5	-0.20906	0.62196	0.29353	-33.62769	-10.23856	-2.49149	0.71882	35.23999	108.58	24.10

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94/ 5/ 8	2449480.5	-0.28525	0.59440	0.28591	-32.26183	-13.59947	-4.09253	0.71863	35.24940	115.64	23.44
94/ 5/12	2449484.5	-0.35780	0.55926	0.27466	-30.48378	-16.78931	-5.64249	0.71849	35.25592	122.61	22.47
94/ 5/16	2449488.5	-0.42579	0.51699	0.25990	-28.31620	-19.76641	-7.12116	0.71842	35.25945	129.47	21.21
94/ 5/20	2449492.5	-0.48835	0.46813	0.24182	-25.78705	-22.49190	-8.50925	0.71841	35.25996	136.21	19.67
94/ 5/24	2449496.5	-0.54469	0.41329	0.22067	-22.92923	-24.93028	-9.78869	0.71846	35.25744	142.81	17.89
94/ 5/28	2449500.5	-0.59407	0.35319	0.19669	-19.78004	-27.04997	-10.94289	0.71857	35.25192	149.27	15.89
94/ 6/ 1	2449504.5	-0.63588	0.28858	0.17021	-16.38070	-28.82371	-11.95696	0.71875	35.24347	155.59	13.70
94/ 6/ 5	2449508.5	-0.66960	0.22029	0.14157	-12.77567	-30.22898	-12.81794	0.71898	35.23221	161.79	11.36
94/ 6/ 9	2449512.5	-0.69479	0.14921	0.11112	-9.01204	-31.24829	-13.51498	0.71927	35.21828	167.88	8.89
94/ 6/13	2449516.5	-0.71115	0.07622	0.07925	-5.13884	-31.86939	-14.03946	0.71960	35.20187	173.88	6.32
94/ 6/17	2449520.5	-0.71849	0.00227	0.04639	-1.20628	-32.08537	-14.38509	0.71999	35.18319	179.82	3.69
94/ 6/21	2449524.5	-0.71672	-0.07171	0.01293	2.73492	-31.89476	-14.54802	0.72041	35.16248	185.71	1.03
94/ 6/25	2449528.5	-0.70588	-0.14478	-0.02069	6.63428	-31.30143	-14.52679	0.72088	35.14002	191.59	-1.64
94/ 6/29	2449532.5	-0.68614	-0.21603	-0.05405	10.44223	-30.31449	-14.32239	0.72137	35.11608	197.48	-4.30
94/ 7/ 3	2449536.5	-0.65774	-0.28455	-0.08672	14.11076	-28.94808	-13.93815	0.72189	35.09098	203.39	-6.90
94/ 7/ 7	2449540.5	-0.62108	-0.34950	-0.11831	17.59407	-27.22110	-13.37971	0.72242	35.06503	209.37	-9.43
94/ 7/11	2449544.5	-0.57663	-0.41007	-0.14841	20.84912	-25.15691	-12.65487	0.72297	35.03857	215.42	-11.85
94/ 7/15	2449548.5	-0.52496	-0.46550	-0.17666	23.83612	-22.78288	-11.77346	0.72352	35.01192	221.56	-14.13
94/ 7/19	2449552.5	-0.46673	-0.51512	-0.20270	26.51901	-20.13006	-10.74719	0.72407	34.98542	227.82	-16.26
94/ 7/23	2449556.5	-0.40269	-0.55832	-0.22622	28.86584	-17.23267	-9.58947	0.72460	34.95940	234.20	-18.19
94/ 7/27	2449560.5	-0.33364	-0.59458	-0.24692	30.84906	-14.12762	-8.31520	0.72513	34.93417	240.70	-19.91
94/ 7/31	2449564.5	-0.26045	-0.62346	-0.26456	32.44581	-10.85404	-6.94058	0.72562	34.91006	247.33	-21.38
94/ 8/ 4	2449568.5	-0.18404	-0.64463	-0.27892	33.63810	-7.45277	-5.48286	0.72610	34.88735	254.07	-22.59
94/ 8/ 8	2449572.5	-0.10536	-0.65783	-0.28984	34.41293	-3.96586	-3.96019	0.72653	34.86633	260.90	-23.51
94/ 8/12	2449576.5	-0.02537	-0.66292	-0.29718	34.76236	-0.43605	-2.39132	0.72693	34.84724	267.81	-24.13
94/ 8/16	2449580.5	0.05493	-0.65984	-0.30087	34.68353	3.09369	-0.79545	0.72728	34.83032	274.76	-24.44
94/ 8/20	2449584.5	0.13455	-0.64866	-0.30085	34.17863	6.58068	0.80805	0.72758	34.81576	281.72	-24.42
94/ 8/24	2449588.5	0.21252	-0.62950	-0.29714	33.25481	9.98294	2.39982	0.72783	34.80374	288.65	-24.10
94/ 8/28	2449592.5	0.28789	-0.60263	-0.28979	31.92405	13.25968	3.96071	0.72802	34.79442	295.53	-23.46
94/ 9/ 1	2449596.5	0.35972	-0.56837	-0.27888	30.20300	16.37171	5.47200	0.72816	34.78788	302.33	-22.52
94/ 9/ 5	2449600.5	0.42715	-0.52714	-0.26456	28.11275	19.28186	6.91561	0.72824	34.78422	309.02	-21.30
94/ 9/ 9	2449604.5	0.48935	-0.47946	-0.24699	25.67861	21.95532	8.27426	0.72825	34.78348	315.58	-19.83
94/ 9/13	2449608.5	0.54555	-0.42591	-0.22641	22.92985	24.36005	9.53165	0.72821	34.78566	322.02	-18.11
94/ 9/17	2449612.5	0.59508	-0.36714	-0.20304	19.89932	26.46710	10.67266	0.72810	34.79074	328.33	-16.19
94/ 9/21	2449616.5	0.63731	-0.30387	-0.17720	16.62319	28.25089	11.68349	0.72794	34.79866	334.51	-14.09
94/ 9/25	2449620.5	0.67172	-0.23687	-0.14917	13.14055	29.68953	12.55179	0.72772	34.80933	340.58	-11.83
94/ 9/29	2449624.5	0.69789	-0.16697	-0.11932	9.49298	30.76506	13.26684	0.72744	34.82261	346.54	-9.44
94/10/ 3	2449628.5	0.71549	-0.09502	-0.08800	5.72417	31.46365	13.81966	0.72712	34.83835	352.44	-6.95
94/10/ 7	2449632.5	0.72428	-0.02190	-0.05560	1.87946	31.77585	14.20312	0.72674	34.85636	358.27	-4.39
94/10/11	2449636.5	0.72415	0.05149	-0.02251	-1.99469	31.69667	14.41204	0.72633	34.87642	4.07	-1.78
94/10/15	2449640.5	0.71508	0.12425	0.01085	-5.85112	31.22574	14.44328	0.72587	34.89829	9.86	0.86
94/10/19	2449644.5	0.69717	0.19547	0.04408	-9.64259	30.36736	14.29579	0.72539	34.92170	15.66	3.48
94/10/23	2449648.5	0.67061	0.26427	0.07677	-13.32223	29.13052	13.97066	0.72488	34.94636	21.51	6.08
94/10/27	2449652.5	0.63573	0.32978	0.10850	-16.84416	27.52891	13.47116	0.72435	34.97197	27.42	8.61
94/10/31	2449656.5	0.59294	0.39119	0.13888	-20.16404	25.58076	12.80273	0.72381	34.99819	33.41	11.06

1.2 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — VENUS

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94/11/ 4	2449660.5	0.54276	0.44772	0.16753	-23.23962	23.30880	11.97291	0.72326	35.02472	39.52	13.39
94/11/ 8	2449664.5	0.48579	0.49866	0.19408	-26.03134	20.73996	10.99137	0.72271	35.05120	45.75	15.58
94/11/12	2449668.5	0.42273	0.54335	0.21820	-28.50283	17.90517	9.86974	0.72218	35.07732	52.12	17.59
94/11/16	2449672.5	0.35436	0.58121	0.23959	-30.62148	14.83903	8.62156	0.72165	35.10275	58.63	19.39
94/11/20	2449676.5	0.28154	0.61176	0.25795	-32.35888	11.57939	7.26209	0.72115	35.12716	65.29	20.96
94/11/24	2449680.5	0.20517	0.63459	0.27307	-33.69135	8.16692	5.80817	0.72067	35.15026	72.08	22.27
94/11/28	2449684.5	0.12620	0.64941	0.28473	-34.60025	4.64463	4.27801	0.72023	35.17174	79.00	23.29
94/12/ 2	2449688.5	0.04564	0.65600	0.29279	-35.07237	1.05728	2.69094	0.71982	35.19134	86.02	24.00
94/12/ 6	2449692.5	-0.03550	0.65428	0.29713	-35.10017	-2.54920	1.06720	0.71946	35.20880	93.11	24.39
94/12/10	2449696.5	-0.11619	0.64424	0.29771	-34.68196	-6.12832	-0.57237	0.71915	35.22389	100.22	24.45
94/12/14	2449700.5	-0.19541	0.62602	0.29449	-33.82200	-9.63372	-2.20660	0.71890	35.23642	107.34	24.18
94/12/18	2449704.5	-0.27213	0.59983	0.28753	-32.53048	-13.01980	-3.81431	0.71869	35.24623	114.40	23.58
94/12/22	2449708.5	-0.34539	0.56599	0.27691	-30.82346	-16.24239	-5.37456	0.71855	35.25318	121.39	22.67
94/12/26	2449712.5	-0.41424	0.52494	0.26275	-28.72261	-19.25940	-6.86702	0.71847	35.25718	128.28	21.45
94/12/30	2449716.5	-0.47781	0.47719	0.24525	-26.25501	-22.03145	-8.27222	0.71845	35.25819	135.04	19.96
95/ 1/ 3	2449720.5	-0.53529	0.42336	0.22461	-23.45269	-24.52243	-9.57188	0.71849	35.25620	141.66	18.22
95/ 1/ 7	2449724.5	-0.58594	0.36413	0.20112	-20.35221	-26.70004	-10.74913	0.71859	35.25122	148.14	16.25
95/ 1/11	2449728.5	-0.62913	0.30026	0.17505	-16.99411	-28.53625	-11.78876	0.71875	35.24332	154.49	14.10
95/ 1/15	2449732.5	-0.66430	0.23257	0.14676	-13.42231	-30.00768	-12.67747	0.71897	35.23262	160.71	11.78
95/ 1/19	2449736.5	-0.69101	0.16191	0.11661	-9.68347	-31.09594	-13.40403	0.71924	35.21924	166.81	9.33
95/ 1/23	2449740.5	-0.70895	0.08920	0.08496	-5.82631	-31.78784	-13.95942	0.71957	35.20338	172.83	6.78
95/ 1/27	2449744.5	-0.71788	0.01535	0.05224	-1.90085	-32.07553	-14.33693	0.71994	35.18523	178.77	4.16
95/ 1/31	2449748.5	-0.71772	-0.05869	0.01886	2.04224	-31.95656	-14.53227	0.72036	35.16503	184.67	1.50
95/ 2/ 4	2449752.5	-0.70847	-0.13199	-0.01476	5.95240	-31.43385	-14.54356	0.72081	35.14304	190.55	-1.17
95/ 2/ 8	2449756.5	-0.69028	-0.20362	-0.04819	9.77986	-30.51559	-14.37134	0.72130	35.11954	196.44	-3.83
95/ 2/12	2449760.5	-0.66339	-0.27269	-0.08102	13.47630	-29.21503	-14.01855	0.72180	35.09484	202.35	-6.44
95/ 2/16	2449764.5	-0.62815	-0.33832	-0.11283	16.99548	-27.55024	-13.49039	0.72233	35.06925	208.31	-8.99
95/ 2/20	2449768.5	-0.58503	-0.39972	-0.14322	20.29383	-25.54378	-12.79431	0.72287	35.04310	214.34	-11.43
95/ 2/24	2449772.5	-0.53459	-0.45610	-0.17182	23.33096	-23.22236	-11.93976	0.72342	35.01670	220.47	-13.74
95/ 2/28	2449776.5	-0.47746	-0.50679	-0.19827	26.07010	-20.61638	-10.93815	0.72396	34.99040	226.71	-15.89
95/ 3/ 4	2449780.5	-0.41439	-0.55116	-0.22225	28.47852	-17.75952	-9.80258	0.72450	34.96451	233.06	-17.86
95/ 3/ 8	2449784.5	-0.34616	-0.58868	-0.24347	30.52788	-14.68825	-8.54770	0.72502	34.93937	239.54	-19.62
95/ 3/12	2449788.5	-0.27363	-0.61889	-0.26167	32.19444	-11.44134	-7.18950	0.72552	34.91526	246.15	-21.14
95/ 3/16	2449792.5	-0.19772	-0.64144	-0.27662	33.45933	-8.05938	-5.74506	0.72599	34.89250	252.87	-22.40
95/ 3/20	2449796.5	-0.11936	-0.65606	-0.28816	34.30864	-4.58424	-4.23238	0.72643	34.87134	259.69	-23.37
95/ 3/24	2449800.5	-0.03953	-0.66258	-0.29614	34.73350	-1.05858	-2.67013	0.72683	34.85206	266.59	-24.04
95/ 3/28	2449804.5	0.04079	-0.66094	-0.30047	34.73017	2.47461	-1.07746	0.72718	34.83488	273.53	-24.41
95/ 4/ 1	2449808.5	0.12061	-0.65118	-0.30111	34.29993	5.97255	0.52629	0.72749	34.82001	280.49	-24.45
95/ 4/ 5	2449812.5	0.19895	-0.63341	-0.29805	33.44906	9.39309	2.12170	0.72775	34.80763	287.44	-24.18
95/ 4/ 9	2449816.5	0.27484	-0.60787	-0.29133	32.18869	12.69518	3.68958	0.72795	34.79788	294.33	-23.59
95/ 4/13	2449820.5	0.34737	-0.57487	-0.28104	30.53468	15.83929	5.21111	0.72810	34.79088	301.14	-22.71
95/ 4/17	2449824.5	0.41563	-0.53484	-0.26730	28.50735	18.78785	6.66808	0.72818	34.78671	307.85	-21.54
95/ 4/21	2449828.5	0.47881	-0.48825	-0.25029	26.13131	21.50559	8.04303	0.72821	34.78543	314.44	-20.10
95/ 4/25	2449832.5	0.53612	-0.43568	-0.23022	23.43515	23.95996	9.31948	0.72818	34.78705	320.90	-18.43
95/ 4/29	2449836.5	0.58687	-0.37777	-0.20732	20.45116	26.12140	10.48208	0.72808	34.79155	327.23	-16.54

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95/ 5/ 3	2449840.5	0.63042	-0.31523	-0.18188	17.21496	27.96374	11.51678	0.72793	34.79888	333.43	-14.47
95/ 5/ 7	2449844.5	0.66624	-0.24883	-0.15422	13.76516	29.46440	12.41097	0.72772	34.80895	339.52	-12.23
95/ 5/11	2449848.5	0.69389	-0.17937	-0.12466	10.14298	30.60472	13.15363	0.72746	34.82164	345.51	-9.87
95/ 5/15	2449852.5	0.71301	-0.10771	-0.09357	6.39178	31.37014	13.73546	0.72714	34.83681	351.41	-7.39
95/ 5/19	2449856.5	0.72335	-0.03473	-0.06132	2.55665	31.75043	14.14900	0.72678	34.85427	357.25	-4.84
95/ 5/23	2449860.5	0.72479	0.03868	-0.02833	-1.31608	31.73981	14.38873	0.72637	34.87382	3.06	-2.23
95/ 5/27	2449864.5	0.71728	0.11162	0.00502	-5.17933	31.33710	14.45115	0.72593	34.89520	8.85	0.40
95/ 5/31	2449868.5	0.70090	0.18317	0.03831	-8.98582	30.54581	14.33483	0.72546	34.91818	14.65	3.03
95/ 6/ 4	2449872.5	0.67584	0.25246	0.07112	-12.68858	29.37413	14.04052	0.72495	34.94246	20.48	5.63
95/ 6/ 8	2449876.5	0.64239	0.31861	0.10304	-16.24151	27.83492	13.57110	0.72443	34.96776	26.38	8.18
95/ 6/12	2449880.5	0.60095	0.38080	0.13369	-19.59996	25.94566	12.93163	0.72389	34.99375	32.36	10.64
95/ 6/16	2449884.5	0.55202	0.43823	0.16267	-22.72129	23.72830	12.12931	0.72335	35.02013	38.45	13.00
95/ 6/20	2449888.5	0.49619	0.49020	0.18961	-25.56541	21.20907	11.17342	0.72280	35.04655	44.65	15.21
95/ 6/24	2449892.5	0.43414	0.53602	0.21418	-28.09537	18.41824	10.07529	0.72226	35.07268	50.99	17.25
95/ 6/28	2449896.5	0.36664	0.57511	0.23606	-30.27787	15.38979	8.84811	0.72174	35.09820	57.48	19.09
95/ 7/ 2	2449900.5	0.29453	0.60697	0.25497	-32.08374	12.16102	7.50688	0.72123	35.12279	64.11	20.70
95/ 7/ 6	2449904.5	0.21871	0.63118	0.27067	-33.48845	8.77216	6.06816	0.72075	35.14612	70.89	22.06
95/ 7/10	2449908.5	0.14013	0.64741	0.28295	-34.47245	5.26585	4.54993	0.72030	35.16789	77.79	23.13
95/ 7/14	2449912.5	0.05977	0.65545	0.29165	-35.02157	1.68657	2.97137	0.71989	35.18784	84.79	23.90
95/ 7/18	2449916.5	-0.02134	0.65518	0.29665	-35.12726	-1.91990	1.35255	0.71953	35.20568	91.87	24.35
95/ 7/22	2449920.5	-0.10218	0.64659	0.29788	-34.78682	-5.50713	-0.28577	0.71921	35.22120	98.98	24.47
95/ 7/26	2449924.5	-0.18173	0.62979	0.29533	-34.00346	-9.02869	-1.92246	0.71894	35.23419	106.10	24.25
95/ 7/30	2449928.5	-0.25896	0.60496	0.28902	-32.78635	-12.43880	-3.53629	0.71873	35.24448	113.17	23.71
95/ 8/ 3	2449932.5	-0.33289	0.57244	0.27902	-31.15052	-15.69299	-5.10630	0.71858	35.25194	120.18	22.85
95/ 8/ 7	2449936.5	-0.40258	0.53261	0.26547	-29.11670	-18.74878	-6.61200	0.71848	35.25646	127.08	21.68
95/ 8/11	2449940.5	-0.46713	0.48599	0.24854	-26.71104	-21.56627	-8.03378	0.71845	35.25798	133.87	20.24
95/ 8/15	2449944.5	-0.52573	0.43318	0.22843	-23.96474	-24.10874	-9.35311	0.71848	35.25650	140.51	18.54
95/ 8/19	2449948.5	-0.57762	0.37484	0.20542	-20.91359	-26.34320	-10.55285	0.71857	35.25202	147.02	16.61
95/ 8/23	2449952.5	-0.62215	0.31172	0.17978	-17.59750	-28.24083	-11.61752	0.71873	35.24461	153.39	14.49
95/ 8/27	2449956.5	-0.65876	0.24464	0.15185	-14.05983	-29.77743	-12.53345	0.71894	35.23437	159.63	12.19
95/ 8/31	2449960.5	-0.68698	0.17443	0.12199	-10.34681	-30.93371	-13.28904	0.71920	35.22144	165.75	9.77
95/ 9/ 4	2449964.5	-0.70647	0.10201	0.09058	-6.50684	-31.69558	-13.87487	0.71952	35.20598	171.78	7.23
95/ 9/ 8	2449968.5	-0.71698	0.02830	0.05802	-2.58977	-32.05423	-14.28384	0.71988	35.18819	177.74	4.62
95/ 9/12	2449972.5	-0.71841	-0.04577	0.02473	1.35379	-32.00628	-14.51122	0.72029	35.16831	183.65	1.97
95/ 9/16	2449976.5	-0.71075	-0.11927	-0.00888	5.27322	-31.55373	-14.55471	0.72074	35.14661	189.53	-0.71
95/ 9/20	2449980.5	-0.69410	-0.19126	-0.04238	9.11857	-30.70383	-14.41444	0.72122	35.12335	195.41	-3.37
95/ 9/24	2449984.5	-0.66871	-0.26083	-0.07534	12.84123	-29.46899	-14.09292	0.72172	35.09884	201.31	-5.99
95/ 9/28	2449988.5	-0.63490	-0.32713	-0.10736	16.39455	-27.86644	-13.59497	0.72225	35.07339	207.26	-8.55
95/10/ 2	2449992.5	-0.59313	-0.38932	-0.13802	19.73446	-25.91798	-12.92765	0.72279	35.04732	213.28	-11.01
95/10/ 6	2449996.5	-0.54392	-0.44663	-0.16696	22.81997	-23.64963	-12.10008	0.72333	35.02096	219.39	-13.35
95/10/10	2450000.5	-0.48792	-0.49837	-0.19382	25.61366	-21.09116	-11.12332	0.72388	34.99464	225.61	-15.53
95/10/14	2450004.5	-0.42583	-0.54389	-0.21825	28.08208	-18.27571	-10.01020	0.72441	34.96869	231.94	-17.53
95/10/18	2450008.5	-0.35844	-0.58264	-0.23997	30.19608	-15.23930	-8.77512	0.72494	34.94342	238.40	-19.33
95/10/22	2450012.5	-0.28660	-0.61416	-0.25871	31.93112	-12.02033	-7.43382	0.72544	34.91914	244.98	-20.89
95/10/26	2450016.5	-0.21121	-0.63807	-0.27425	33.26745	-8.65908	-6.00323	0.72591	34.89616	251.68	-22.20

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95/10/30	2450020.5	-0.13321	-0.65409	-0.28640	34.19028	-5.19726	-4.50120	0.72636	34.87474	258.49	-23.22
95/11/ 3	2450024.5	-0.05357	-0.66203	-0.29501	34.68987	-1.67741	-2.94629	0.72676	34.85514	265.37	-23.95
95/11/ 7	2450028.5	0.02674	-0.66182	-0.29998	34.76156	1.85751	-1.35757	0.72713	34.83761	272.31	-24.37
95/11/11	2450032.5	0.10671	-0.65347	-0.30127	34.40576	5.36463	0.24561	0.72745	34.82235	279.27	-24.47
95/11/15	2450036.5	0.18538	-0.63709	-0.29885	33.62789	8.80167	1.84386	0.72771	34.80954	286.22	-24.25
95/11/19	2450040.5	0.26177	-0.61289	-0.29277	32.43823	12.12736	3.41791	0.72792	34.79933	293.13	-23.72
95/11/23	2450044.5	0.33495	-0.58118	-0.28309	30.85182	15.30187	4.94888	0.72808	34.79186	299.96	-22.88
95/11/27	2450048.5	0.40402	-0.54234	-0.26995	28.88822	18.28726	6.41842	0.72817	34.78720	306.68	-21.76
95/12/ 1	2450052.5	0.46815	-0.49686	-0.25350	26.57131	21.04783	7.80893	0.72821	34.78541	313.30	-20.37
95/12/ 5	2450056.5	0.52654	-0.44529	-0.23394	23.92899	23.55052	9.10377	0.72819	34.78652	319.78	-18.74
95/12/ 9	2450060.5	0.57848	-0.38827	-0.21152	20.99293	25.76523	10.28735	0.72810	34.79052	326.13	-16.89
95/12/13	2450064.5	0.62334	-0.32649	-0.18651	17.79820	27.66517	11.34540	0.72796	34.79735	332.36	-14.85
95/12/17	2450068.5	0.66055	-0.26070	-0.15921	14.38291	29.22712	12.26503	0.72776	34.80695	338.46	-12.64
95/12/21	2450072.5	0.68965	-0.19172	-0.12996	10.78783	30.43171	13.03494	0.72751	34.81919	344.46	-10.29
95/12/25	2450076.5	0.71029	-0.12038	-0.09911	7.05601	31.26364	13.64552	0.72720	34.83393	350.38	-7.83
95/12/29	2450080.5	0.72218	-0.04757	-0.06704	3.23225	31.71191	14.08899	0.72685	34.85101	356.23	-5.29
96/ 1/ 2	2450084.5	0.72519	0.02583	-0.03414	-0.63729	31.76996	14.35947	0.72645	34.87020	2.04	-2.69
96/ 1/ 6	2450088.5	0.71924	0.09892	-0.00083	-4.50563	31.43580	14.45310	0.72601	34.89129	7.83	-0.07
96/ 1/10	2450092.5	0.70441	0.17078	0.03250	-8.32549	30.71210	14.36809	0.72554	34.91402	13.63	2.57
96/ 1/14	2450096.5	0.68085	0.24052	0.06542	-12.04980	29.60622	14.10480	0.72504	34.93811	19.46	5.18
96/ 1/18	2450100.5	0.64884	0.30729	0.09753	-15.63228	28.13023	13.66574	0.72452	34.96327	25.34	7.74
96/ 1/22	2450104.5	0.60876	0.37022	0.12843	-19.02796	26.30079	13.05558	0.72398	34.98919	31.31	10.22
96/ 1/26	2450108.5	0.56110	0.42855	0.15773	-22.19383	24.13909	12.28115	0.72344	35.01554	37.37	12.59
96/ 1/30	2450112.5	0.50643	0.48152	0.18505	-25.08930	21.67062	11.35138	0.72289	35.04201	43.56	14.83
96/ 2/ 3	2450116.5	0.44542	0.52846	0.21006	-27.67683	18.92496	10.27724	0.72235	35.06826	49.87	16.91
96/ 2/ 7	2450120.5	0.37882	0.56877	0.23244	-29.92244	15.93545	9.07161	0.72182	35.09395	56.34	18.78
96/ 2/11	2450124.5	0.30745	0.60193	0.25189	-31.79621	12.73887	7.74916	0.72131	35.11876	62.94	20.44
96/ 2/15	2450128.5	0.23221	0.62750	0.26816	-33.27275	9.37495	6.32621	0.72083	35.14237	69.69	21.84
96/ 2/19	2450132.5	0.15404	0.64515	0.28105	-34.33161	5.88595	4.82052	0.72037	35.16449	76.57	22.96
96/ 2/23	2450136.5	0.07392	0.65463	0.29039	-34.95765	2.31608	3.25105	0.71995	35.18481	83.56	23.79
96/ 2/27	2450140.5	-0.00713	0.65582	0.29604	-35.14133	-1.28907	1.63774	0.71958	35.20309	90.62	24.29
96/ 3/ 2	2450144.5	-0.08810	0.64869	0.29794	-34.87890	-4.88314	0.00127	0.71925	35.21907	97.73	24.47
96/ 3/ 6	2450148.5	-0.16795	0.63330	0.29604	-34.17253	-8.41963	-1.63728	0.71897	35.23255	104.85	24.32
96/ 3/10	2450152.5	-0.24565	0.60986	0.29039	-33.03035	-11.85260	-3.25669	0.71875	35.24336	111.94	23.83
96/ 3/14	2450156.5	-0.32023	0.57865	0.28103	-31.46638	-15.13731	-4.83591	0.71859	35.25135	118.96	23.02
96/ 3/18	2450160.5	-0.39073	0.54007	0.26809	-29.50037	-18.23088	-6.35436	0.71848	35.25641	125.88	21.91
96/ 3/22	2450164.5	-0.45624	0.49460	0.25173	-27.15754	-21.09289	-7.79223	0.71844	35.25848	132.69	20.51
96/ 3/26	2450168.5	-0.51594	0.44282	0.23216	-24.46823	-23.68603	-9.13080	0.71846	35.25754	139.36	18.85
96/ 3/30	2450172.5	-0.56906	0.38540	0.20963	-21.46750	-25.97661	-10.35266	0.71854	35.25359	145.89	16.96
96/ 4/ 3	2450176.5	-0.61492	0.32306	0.18443	-18.19456	-27.93506	-11.44202	0.71868	35.24669	152.28	14.87
96/ 4/ 7	2450180.5	-0.65294	0.25660	0.15688	-14.69222	-29.53633	-12.38487	0.71888	35.23693	158.55	12.60
96/ 4/11	2450184.5	-0.68266	0.18688	0.12733	-11.00626	-30.76027	-13.16924	0.71914	35.22444	164.69	10.20
96/ 4/15	2450188.5	-0.70369	0.11478	0.09616	-7.18478	-31.59185	-13.78533	0.71945	35.20939	170.74	7.68
96/ 4/19	2450192.5	-0.71579	0.04122	0.06377	-3.27741	-32.02133	-14.22561	0.71981	35.19197	176.70	5.08
96/ 4/23	2450196.5	-0.71881	-0.03286	0.03057	0.66531	-32.04439	-14.48494	0.72021	35.17242	182.62	2.43

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96/ 4/27	2450200.5	-0.71273	-0.10652	-0.00301	4.59270	-31.66209	-14.56059	0.72065	35.15098	188.50	-0.24
96/ 5/ 1	2450204.5	-0.69764	-0.17884	-0.03656	8.45463	-30.88078	-14.45228	0.72112	35.12794	194.38	-2.91
96/ 5/ 5	2450208.5	-0.67375	-0.24890	-0.06965	12.20222	-29.71200	-14.16211	0.72163	35.10359	200.28	-5.54
96/ 5/ 9	2450212.5	-0.64138	-0.31583	-0.10186	15.78843	-28.17214	-13.69450	0.72215	35.07825	206.22	-8.11
96/ 5/13	2450216.5	-0.60096	-0.37880	-0.13279	19.16869	-26.28227	-13.05613	0.72269	35.05223	212.22	-10.59
96/ 5/17	2450220.5	-0.55301	-0.43702	-0.16205	22.30144	-24.06768	-12.25577	0.72323	35.02586	218.32	-12.95
96/ 5/21	2450224.5	-0.49814	-0.48977	-0.18930	25.14860	-21.55752	-11.30417	0.72378	34.99947	224.51	-15.16
96/ 5/25	2450228.5	-0.43706	-0.53642	-0.21418	27.67601	-18.78440	-10.21385	0.72432	34.97339	230.83	-17.20
96/ 5/29	2450232.5	-0.37054	-0.57639	-0.23639	29.85375	-15.78386	-8.99896	0.72485	34.94793	237.26	-19.03
96/ 6/ 2	2450236.5	-0.29941	-0.60920	-0.25567	31.65645	-12.59394	-7.67503	0.72535	34.92340	243.83	-20.64
96/ 6/ 6	2450240.5	-0.22458	-0.63446	-0.27178	33.06352	-9.25463	-6.25878	0.72584	34.90009	250.51	-21.99
96/ 6/10	2450244.5	-0.14697	-0.65188	-0.28453	34.05930	-5.80741	-4.76793	0.72629	34.87829	257.30	-23.06
96/ 6/14	2450248.5	-0.06754	-0.66124	-0.29377	34.63318	-2.29474	-3.22094	0.72671	34.85825	264.17	-23.84
96/ 6/18	2450252.5	0.01272	-0.66246	-0.29939	34.77963	1.24048	-1.63680	0.72708	34.84021	271.10	-24.32
96/ 6/22	2450256.5	0.09283	-0.65553	-0.30132	34.49818	4.75534	-0.03483	0.72741	34.82440	278.06	-24.47
96/ 6/26	2450260.5	0.17179	-0.64054	-0.29955	33.79338	8.20741	1.56558	0.72769	34.81099	285.01	-24.31
96/ 6/30	2450264.5	0.24864	-0.61769	-0.29410	32.67471	11.55522	3.14513	0.72791	34.80016	291.93	-23.83
96/ 7/ 4	2450268.5	0.32245	-0.58726	-0.28505	31.15637	14.75867	4.68486	0.72808	34.79204	298.77	-23.05
96/ 7/ 8	2450272.5	0.39230	-0.54964	-0.27250	29.25719	17.77948	6.16630	0.72819	34.78672	305.52	-21.98
96/ 7/12	2450276.5	0.45735	-0.50528	-0.25661	27.00028	20.58155	7.57174	0.72824	34.78428	312.15	-20.63
96/ 7/16	2450280.5	0.51680	-0.45474	-0.23759	24.41289	23.13133	8.88433	0.72823	34.78475	318.66	-19.04
96/ 7/20	2450284.5	0.56992	-0.39862	-0.21565	21.52603	25.39820	10.08832	0.72816	34.78811	325.03	-17.23
96/ 7/24	2450288.5	0.61605	-0.33763	-0.19107	18.37419	27.35479	11.16919	0.72803	34.79435	331.28	-15.22
96/ 7/28	2450292.5	0.65464	-0.27249	-0.16415	14.99498	28.97724	12.11381	0.72784	34.80337	337.40	-13.03
96/ 8/ 1	2450296.5	0.68519	-0.20401	-0.13521	11.42873	30.24550	12.91060	0.72759	34.81508	343.42	-10.71
96/ 8/ 5	2450300.5	0.70733	-0.13303	-0.10462	7.71808	31.14356	13.54965	0.72730	34.82934	349.35	-8.27
96/ 8/ 9	2450304.5	0.72078	-0.06041	-0.07274	3.90755	31.65965	14.02285	0.72695	34.84599	355.21	-5.74
96/ 8/13	2450308.5	0.72535	0.01295	-0.03996	0.04309	31.78643	14.32398	0.72656	34.86482	1.02	-3.15
96/ 8/17	2450312.5	0.72097	0.08615	-0.00669	-3.82847	31.52110	14.44883	0.72613	34.88561	6.81	-0.53
96/ 8/21	2450316.5	0.70769	0.15828	0.02666	-7.65987	30.86551	14.39525	0.72566	34.90811	12.61	2.11
96/ 8/25	2450320.5	0.68565	0.22846	0.05968	-11.40399	29.82618	14.16320	0.72517	34.93205	18.43	4.72
96/ 8/29	2450324.5	0.65510	0.29580	0.09196	-15.01438	28.41435	13.75481	0.72465	34.95714	24.30	7.29
96/ 9/ 2	2450328.5	0.61641	0.35947	0.12310	-18.44582	26.64586	13.17438	0.72411	34.98306	30.25	9.79
96/ 9/ 6	2450332.5	0.57004	0.41866	0.15271	-21.65493	24.54111	12.42834	0.72356	35.00951	36.29	12.18
96/ 9/10	2450336.5	0.51656	0.47262	0.18040	-24.60064	22.12482	11.52526	0.72301	35.03614	42.46	14.45
96/ 9/14	2450340.5	0.45661	0.52067	0.20584	-27.24487	19.42586	10.47574	0.72247	35.06263	48.75	16.55
96/ 9/18	2450344.5	0.39094	0.56218	0.22870	-29.55294	16.47692	9.29232	0.72193	35.08864	55.19	18.47
96/ 9/22	2450348.5	0.32035	0.59663	0.24869	-31.49419	13.31417	7.98938	0.72141	35.11384	61.77	20.16
96/ 9/26	2450352.5	0.24573	0.62356	0.26554	-33.04239	9.97686	6.58294	0.72092	35.13790	68.49	21.61
96/ 9/30	2450356.5	0.16800	0.64262	0.27904	-34.17618	6.50682	5.09051	0.72045	35.16053	75.35	22.79
96/10/ 4	2450360.5	0.08815	0.65356	0.28900	-34.87944	2.94794	3.53087	0.72002	35.18142	82.32	23.66
96/10/ 8	2450364.5	0.00719	0.65621	0.29531	-35.14161	-0.65438	1.92379	0.71964	35.20031	89.37	24.23
96/10/12	2450368.5	-0.07387	0.65054	0.29787	-34.95788	-4.25386	0.28984	0.71929	35.21694	96.48	24.46
96/10/16	2450372.5	-0.15399	0.63660	0.29665	-34.32938	-7.80398	-1.34995	0.71900	35.23110	103.60	24.37
96/10/20	2450376.5	-0.23215	0.61455	0.29165	-33.26315	-11.25866	-2.97435	0.71877	35.24260	110.69	23.94

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96/10/24	2450380.5	-0.30735	0.58468	0.28293	-31.77217	-14.57287	-4.56226	0.71859	35.25129	117.73	23.19
96/10/28	2450384.5	-0.37863	0.54736	0.27061	-29.87520	-17.70333	-6.09299	0.71847	35.25706	124.67	22.13
96/11/ 1	2450388.5	-0.44509	0.50306	0.25484	-27.59651	-20.60915	-7.54656	0.71841	35.25982	131.50	20.78
96/11/ 5	2450392.5	-0.50587	0.45234	0.23582	-24.96557	-23.25240	-8.90403	0.71842	35.25955	138.20	19.16
96/11/ 9	2450396.5	-0.56019	0.39586	0.21379	-22.01664	-25.59870	-10.14773	0.71849	35.25624	144.75	17.31
96/11/13	2450400.5	-0.60738	0.33432	0.18903	-18.78824	-27.61770	-11.26156	0.71862	35.24994	151.17	15.25
96/11/17	2450404.5	-0.64682	0.26853	0.16187	-15.32262	-29.28352	-12.23119	0.71880	35.24073	157.45	13.01
96/11/21	2450408.5	-0.67802	0.19931	0.13264	-11.66512	-30.57510	-13.04425	0.71905	35.22874	163.62	10.63
96/11/25	2450412.5	-0.70060	0.12756	0.10173	-7.86346	-31.47650	-13.69055	0.71935	35.21413	169.68	8.13
96/11/29	2450416.5	-0.71428	0.05419	0.06952	-3.96710	-31.97703	-14.16215	0.71970	35.19708	175.66	5.54
96/12/ 3	2450420.5	-0.71890	-0.01987	0.03643	-0.02649	-32.07141	-14.45349	0.72010	35.17783	181.58	2.90
96/12/ 7	2450424.5	-0.71441	-0.09368	0.00288	3.90763	-31.75978	-14.56142	0.72053	35.15662	187.47	0.23
96/12/11	2450428.5	-0.70089	-0.16631	-0.03071	7.78499	-31.04757	-14.48521	0.72100	35.13373	193.35	-2.44
96/12/15	2450432.5	-0.67852	-0.23683	-0.06391	11.55640	-29.94543	-14.22657	0.72150	35.10946	199.24	-5.08
96/12/19	2450436.5	-0.64761	-0.30438	-0.09630	15.17445	-28.46894	-13.78952	0.72202	35.08412	205.17	-7.66
96/12/23	2450440.5	-0.60856	-0.36810	-0.12749	18.59409	-26.63838	-13.18036	0.72256	35.05803	211.17	-10.16
96/12/27	2450444.5	-0.56189	-0.42720	-0.15707	21.77318	-24.47835	-12.40751	0.72311	35.03152	217.25	-12.55
96/12/31	2450448.5	-0.50818	-0.48096	-0.18469	24.67302	-22.01737	-11.48139	0.72366	35.00492	223.42	-14.79
97/ 1/ 4	2450452.5	-0.44813	-0.52872	-0.21001	27.25871	-19.28749	-10.41424	0.72420	34.97858	229.72	-16.86
97/ 1/ 8	2450456.5	-0.38250	-0.56990	-0.23271	29.49958	-16.32379	-9.21993	0.72474	34.95280	236.13	-18.73
97/ 1/12	2450460.5	-0.31212	-0.60399	-0.25252	31.36946	-13.16391	-7.91377	0.72525	34.92791	242.67	-20.38
97/ 1/16	2450464.5	-0.23786	-0.63060	-0.26920	32.84692	-9.84755	-6.51231	0.72575	34.90422	249.33	-21.77
97/ 1/20	2450468.5	-0.16067	-0.64940	-0.28255	33.91544	-6.41598	-5.03310	0.72621	34.88200	256.10	-22.90
97/ 1/24	2450472.5	-0.08149	-0.66019	-0.29241	34.56354	-2.91151	-3.49449	0.72663	34.86153	262.96	-23.73
97/ 1/28	2450476.5	-0.00130	-0.66283	-0.29867	34.78478	0.62298	-1.91540	0.72702	34.84305	269.89	-24.26
97/ 2/ 1	2450480.5	0.07890	-0.65732	-0.30125	34.57785	4.14454	-0.31510	0.72735	34.82678	276.84	-24.47
97/ 2/ 5	2450484.5	0.15813	-0.64373	-0.30012	33.94643	7.61065	1.28700	0.72764	34.81291	283.80	-24.36
97/ 2/ 9	2450488.5	0.23543	-0.62223	-0.29531	32.89914	10.97963	2.87159	0.72788	34.80160	290.72	-23.94
97/ 2/13	2450492.5	0.30983	-0.59310	-0.28688	31.44938	14.21113	4.41961	0.72806	34.79299	297.58	-23.21
97/ 2/17	2450496.5	0.38044	-0.55671	-0.27494	29.61517	17.26650	5.91253	0.72818	34.78718	304.35	-22.18
97/ 2/21	2450500.5	0.44638	-0.51349	-0.25962	27.41891	20.10924	7.33247	0.72824	34.78424	311.00	-20.89
97/ 2/25	2450504.5	0.50686	-0.46398	-0.24113	24.88714	22.70535	8.66243	0.72824	34.78420	317.53	-19.34
97/ 3/ 1	2450508.5	0.56114	-0.40880	-0.21968	22.05024	25.02367	9.88646	0.72818	34.78706	323.93	-17.56
97/ 3/ 5	2450512.5	0.60853	-0.34860	-0.19554	18.94212	27.03624	10.98979	0.72806	34.79279	330.19	-15.58
97/ 3/ 9	2450516.5	0.64847	-0.28413	-0.16901	15.59986	28.71858	11.95907	0.72788	34.80132	336.34	-13.43
97/ 3/13	2450520.5	0.68046	-0.21618	-0.14040	12.06335	30.04995	12.78243	0.72765	34.81256	342.38	-11.12
97/ 3/17	2450524.5	0.70409	-0.14558	-0.11007	8.37485	31.01362	13.44965	0.72736	34.82637	348.32	-8.70
97/ 3/21	2450528.5	0.71907	-0.07318	-0.07838	4.57860	31.59708	13.95231	0.72702	34.84259	354.19	-6.19
97/ 3/25	2450532.5	0.72520	0.00011	-0.04573	0.72032	31.79220	14.28385	0.72664	34.86103	0.01	-3.61
97/ 3/29	2450536.5	0.72239	0.07341	-0.01252	-3.15329	31.59539	14.43971	0.72622	34.88147	5.80	-0.99
97/ 4/ 2	2450540.5	0.71066	0.14580	0.02084	-6.99500	31.00767	14.41736	0.72576	34.90366	11.59	1.65
97/ 4/ 6	2450544.5	0.69013	0.21638	0.05395	-10.75762	30.03476	14.21641	0.72527	34.92734	17.41	4.27
97/ 4/10	2450548.5	0.66105	0.28428	0.08639	-14.39457	28.68707	13.83860	0.72475	34.95223	23.27	6.85
97/ 4/14	2450552.5	0.62375	0.34865	0.11776	-17.86037	26.97964	13.28785	0.72422	34.97801	29.20	9.36
97/ 4/18	2450556.5	0.57869	0.40867	0.14766	-21.11127	24.93209	12.57023	0.72367	35.00437	35.23	11.77

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97/ 4/22	2450560.5	0.52641	0.46360	0.17572	-24.10579	22.56840	11.69393	0.72312	35.03098	41.37	14.06
97/ 4/26	2450564.5	0.46754	0.51272	0.20158	-26.80526	19.91671	10.66920	0.72257	35.05751	47.64	16.20
97/ 4/30	2450568.5	0.40282	0.55542	0.22491	-29.17439	17.00908	9.50826	0.72204	35.08363	54.05	18.15
97/ 5/ 4	2450572.5	0.33303	0.59114	0.24541	-31.18179	13.88110	8.22516	0.72151	35.10900	60.60	19.89
97/ 5/ 8	2450576.5	0.25904	0.61942	0.26283	-32.80041	10.57149	6.83565	0.72101	35.13330	67.31	21.38
97/ 5/12	2450580.5	0.18179	0.63988	0.27693	-34.00801	7.12167	5.35699	0.72054	35.15623	74.14	22.60
97/ 5/16	2450584.5	0.10224	0.65225	0.28752	-34.78754	3.57520	3.80775	0.72011	35.17747	81.09	23.53
97/ 5/20	2450588.5	0.02140	0.65636	0.29448	-35.12745	-0.02273	2.20756	0.71971	35.19676	88.13	24.15
97/ 5/24	2450592.5	-0.05971	0.65214	0.29770	-35.02191	-3.62598	0.57685	0.71936	35.21384	95.23	24.45
97/ 5/28	2450596.5	-0.14007	0.63964	0.29714	-34.47097	-7.18801	-1.06341	0.71906	35.22849	102.35	24.41
97/ 6/ 1	2450600.5	-0.21864	0.61899	0.29280	-33.48067	-10.66262	-2.69201	0.71881	35.24051	109.45	24.04
97/ 6/ 5	2450604.5	-0.29443	0.59047	0.28473	-32.06294	-14.00456	-4.28779	0.71862	35.24975	116.50	23.34
97/ 6/ 9	2450608.5	-0.36647	0.55442	0.27303	-30.23553	-17.17020	-5.82998	0.71849	35.25609	123.46	22.33
97/ 6/13	2450612.5	-0.43383	0.51131	0.25785	-28.02177	-20.11817	-7.29845	0.71842	35.25943	130.31	21.03
97/ 6/17	2450616.5	-0.49566	0.46167	0.23938	-25.45024	-22.80999	-8.67406	0.71842	35.25974	137.03	19.46
97/ 6/21	2450620.5	-0.55117	0.40614	0.21785	-22.55438	-25.21061	-9.93890	0.71847	35.25701	143.61	17.65
97/ 6/25	2450624.5	-0.59965	0.34544	0.19355	-19.37202	-27.28895	-11.07657	0.71859	35.25128	150.06	15.63
97/ 6/29	2450628.5	-0.64049	0.28033	0.16679	-15.94478	-29.01832	-12.07241	0.71877	35.24261	156.36	13.42
97/ 7/ 3	2450632.5	-0.67317	0.21165	0.13789	-12.31751	-30.37677	-12.91370	0.71900	35.23114	162.55	11.06
97/ 7/ 7	2450636.5	-0.69728	0.14027	0.10725	-8.53757	-31.34746	-13.58986	0.71929	35.21701	168.63	8.57
97/ 7/11	2450640.5	-0.71254	0.06712	0.07524	-4.65417	-31.91876	-14.09254	0.71963	35.20040	174.62	6.00
97/ 7/15	2450644.5	-0.71875	-0.00689	0.04227	-0.71763	-32.08445	-14.41575	0.72002	35.18154	180.55	3.37
97/ 7/19	2450648.5	-0.71585	-0.08081	0.00877	3.22131	-31.84369	-14.55593	0.72045	35.16067	186.44	0.70
97/ 7/23	2450652.5	-0.70390	-0.15371	-0.02484	7.11224	-31.20102	-14.51192	0.72091	35.13807	192.32	-1.97
97/ 7/27	2450656.5	-0.68306	-0.22467	-0.05814	10.90573	-30.16618	-14.28500	0.72141	35.11402	198.21	-4.62
97/ 7/31	2450660.5	-0.65362	-0.29280	-0.09070	14.55400	-28.75390	-13.87880	0.72193	35.08884	204.13	-7.22
97/ 8/ 4	2450664.5	-0.61597	-0.35725	-0.12213	18.01156	-26.98367	-13.29922	0.72246	35.06286	210.11	-9.73
97/ 8/ 8	2450668.5	-0.57058	-0.41721	-0.15202	21.23572	-24.87934	-12.55432	0.72301	35.03639	216.17	-12.14
97/ 8/12	2450672.5	-0.51806	-0.47196	-0.18001	24.18712	-22.46881	-11.65419	0.72356	35.00977	222.33	-14.41
97/ 8/16	2450676.5	-0.45907	-0.52082	-0.20576	26.83019	-19.78351	-10.61074	0.72411	34.98334	228.61	-16.51
97/ 8/20	2450680.5	-0.39436	-0.56318	-0.22894	29.13348	-16.85805	-9.43760	0.72464	34.95743	235.00	-18.42
97/ 8/24	2450684.5	-0.32474	-0.59855	-0.24927	31.07002	-13.72964	-8.14984	0.72516	34.93235	241.52	-20.11
97/ 8/28	2450688.5	-0.25110	-0.62649	-0.26652	32.61753	-10.43768	-6.76379	0.72566	34.90841	248.16	-21.55
97/ 9/ 1	2450692.5	-0.17435	-0.64668	-0.28046	33.75863	-7.02318	-5.29685	0.72612	34.88591	254.91	-22.72
97/ 9/ 5	2450696.5	-0.09545	-0.65888	-0.29094	34.48093	-3.52832	-3.76726	0.72655	34.86511	261.76	-23.61
97/ 9/ 9	2450700.5	-0.01537	-0.66295	-0.29784	34.77713	0.00409	-2.19383	0.72695	34.84626	268.67	-24.19
97/ 9/13	2450704.5	0.06490	-0.65887	-0.30106	34.64502	3.53108	-0.59581	0.72729	34.82959	275.63	-24.45
97/ 9/17	2450708.5	0.14438	-0.64668	-0.30058	34.08739	7.01000	1.00741	0.72759	34.81530	282.59	-24.40
97/ 9/21	2450712.5	0.22208	-0.62655	-0.29642	33.11203	10.39901	2.59648	0.72783	34.80356	289.52	-24.03
97/ 9/25	2450716.5	0.29706	-0.59873	-0.28861	31.73150	13.65748	4.15230	0.72802	34.79449	296.39	-23.36
97/ 9/29	2450720.5	0.36839	-0.56357	-0.27727	29.96304	16.74644	5.65620	0.72815	34.78821	303.17	-22.38
97/10/ 3	2450724.5	0.43521	-0.52151	-0.26253	27.82830	19.62898	7.09020	0.72822	34.78479	309.85	-21.13
97/10/ 7	2450728.5	0.49670	-0.47307	-0.24458	25.35309	22.27064	8.43712	0.72824	34.78427	316.40	-19.62
97/10/11	2450732.5	0.55211	-0.41883	-0.22363	22.56717	24.63973	9.68081	0.72819	34.78666	322.82	-17.88
97/10/15	2450736.5	0.60076	-0.35945	-0.19994	19.50384	26.70771	10.80629	0.72808	34.79192	329.11	-15.94

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97/10/19	2450740.5	0.64204	-0.29568	-0.17380	16.19966	28.44946	11.79994	0.72791	34.79999	335.27	-13.81
97/10/23	2450744.5	0.67545	-0.22828	-0.14553	12.69406	29.84356	12.64962	0.72769	34.81078	341.33	-11.54
97/10/27	2450748.5	0.70057	-0.15807	-0.11548	9.02893	30.87258	13.34482	0.72741	34.82416	347.29	-9.13
97/10/31	2450752.5	0.71708	-0.08593	-0.08400	5.24817	31.52325	13.87679	0.72708	34.83997	353.17	-6.63
97/11/ 4	2450756.5	0.72477	-0.01272	-0.05149	1.39730	31.78665	14.23864	0.72670	34.85804	358.99	-4.06
97/11/ 8	2450760.5	0.72352	0.06064	-0.01835	-2.47710	31.65840	14.42545	0.72629	34.87813	4.79	-1.45
97/11/12	2450764.5	0.71334	0.13325	0.01502	-6.32787	31.13872	14.43434	0.72583	34.90002	10.58	1.19
97/11/16	2450768.5	0.69434	0.20421	0.04821	-10.10777	30.23249	14.26453	0.72535	34.92345	16.39	3.81
97/11/20	2450772.5	0.66673	0.27264	0.08079	-13.77005	28.94931	13.91740	0.72484	34.94812	22.24	6.40
97/11/24	2450776.5	0.63084	0.33769	0.11237	-17.26902	27.30343	13.39648	0.72431	34.97373	28.16	8.93
97/11/28	2450780.5	0.58710	0.39853	0.14256	-20.56058	25.31367	12.70747	0.72376	34.99999	34.17	11.36
97/12/ 2	2450784.5	0.53603	0.45440	0.17096	-23.60280	23.00327	11.85820	0.72322	35.02655	40.29	13.67
97/12/ 6	2450788.5	0.47827	0.50459	0.19723	-26.35648	20.39967	10.85856	0.72267	35.05309	46.53	15.84
97/12/10	2450792.5	0.41451	0.54845	0.22103	-28.78572	17.53426	9.72044	0.72213	35.07927	52.92	17.82
97/12/14	2450796.5	0.34554	0.58543	0.24205	-30.85840	14.44206	8.45758	0.72160	35.10477	59.45	19.60
97/12/18	2450800.5	0.27223	0.61503	0.26002	-32.54668	11.16128	7.08545	0.72110	35.12925	66.12	21.14
97/12/22	2450804.5	0.19548	0.63688	0.27471	-33.82747	7.73289	5.62107	0.72062	35.15241	72.94	22.41
97/12/26	2450808.5	0.11626	0.65068	0.28594	-34.68278	4.20014	4.08279	0.72018	35.17393	79.87	23.39
97/12/30	2450812.5	0.03557	0.65624	0.29354	-35.10008	0.60797	2.49007	0.71978	35.19355	86.90	24.07
98/ 1/ 3	2450816.5	-0.04557	0.65348	0.29741	-35.07254	-2.99760	0.86322	0.71942	35.21099	93.99	24.42
98/ 1/ 7	2450820.5	-0.12613	0.64242	0.29751	-34.59918	-6.57006	-0.77685	0.71911	35.22602	101.11	24.44
98/ 1/11	2450824.5	-0.20509	0.62319	0.29383	-33.68500	-10.06310	-2.40896	0.71886	35.23845	108.22	24.13
98/ 1/15	2450828.5	-0.28144	0.59602	0.28641	-32.34091	-13.43125	-4.01192	0.71866	35.24810	115.28	23.49
98/ 1/19	2450832.5	-0.35420	0.56126	0.27533	-30.58366	-16.63056	-5.56487	0.71852	35.25483	122.26	22.53
98/ 1/23	2450836.5	-0.42245	0.51934	0.26075	-28.43562	-19.61923	-7.04755	0.71845	35.25857	129.13	21.28
98/ 1/27	2450840.5	-0.48530	0.47080	0.24284	-25.92451	-22.35825	-8.44063	0.71843	35.25927	135.87	19.76
98/ 1/31	2450844.5	-0.54197	0.41626	0.22183	-23.08294	-24.81195	-9.72598	0.71848	35.25691	142.47	17.98
98/ 2/ 4	2450848.5	-0.59173	0.35641	0.19800	-19.94802	-26.94852	-10.88690	0.71859	35.25153	148.94	15.99
98/ 2/ 8	2450852.5	-0.63394	0.29201	0.17164	-16.56075	-28.74048	-11.90843	0.71876	35.24322	155.27	13.82
98/ 2/12	2450856.5	-0.66809	0.22390	0.14309	-12.96545	-30.16507	-12.77751	0.71899	35.23208	161.47	11.48
98/ 2/16	2450860.5	-0.69373	0.15294	0.11273	-9.20910	-31.20453	-13.48317	0.71927	35.21826	167.57	9.02
98/ 2/20	2450864.5	-0.71055	0.08003	0.08093	-5.34060	-31.84632	-14.01668	0.71961	35.20195	173.57	6.46
98/ 2/24	2450868.5	-0.71835	0.00611	0.04810	-1.41013	-32.08328	-14.37162	0.71999	35.18336	179.51	3.83
98/ 2/28	2450872.5	-0.71705	-0.06789	0.01467	2.53162	-31.91364	-14.54402	0.72041	35.16274	185.41	1.17
98/ 3/ 4	2450876.5	-0.70669	-0.14103	-0.01895	6.43414	-31.34100	-14.53230	0.72087	35.14035	191.29	-1.51
98/ 3/ 8	2450880.5	-0.68740	-0.21240	-0.05233	10.24780	-30.37419	-14.33730	0.72136	35.11648	197.17	-4.16
98/ 3/12	2450884.5	-0.65944	-0.28108	-0.08506	13.92452	-29.02711	-13.96226	0.72188	35.09145	203.09	-6.77
98/ 3/16	2450888.5	-0.62320	-0.34623	-0.11671	17.41837	-27.31839	-13.41269	0.72241	35.06557	209.06	-9.30
98/ 3/20	2450892.5	-0.57914	-0.40704	-0.14690	20.68616	-25.27117	-12.69626	0.72295	35.03918	215.10	-11.72
98/ 3/24	2450896.5	-0.52783	-0.46275	-0.17525	23.68793	-22.91261	-11.82272	0.72350	35.01260	221.24	-14.02
98/ 3/28	2450900.5	-0.46992	-0.51269	-0.20141	26.38741	-20.27358	-10.80367	0.72405	34.98617	227.49	-16.15
98/ 4/ 1	2450904.5	-0.40617	-0.55623	-0.22507	28.75242	-17.38811	-9.65243	0.72458	34.96022	233.86	-18.10
98/ 4/ 5	2450908.5	-0.33736	-0.59287	-0.24592	30.75518	-14.29299	-8.38383	0.72510	34.93507	240.36	-19.83
98/ 4/ 9	2450912.5	-0.26436	-0.62214	-0.26372	32.37258	-11.02724	-7.01399	0.72560	34.91103	246.98	-21.31
98/ 4/13	2450916.5	-0.18810	-0.64372	-0.27826	33.58636	-7.63161	-5.56013	0.72607	34.88839	253.71	-22.53

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98/ 4/17	2450920.5	-0.10950	-0.65734	-0.28936	34.38323	-4.14809	-4.04034	0.72651	34.86743	260.54	-23.47
98/ 4/21	2450924.5	-0.02956	-0.66285	-0.29689	34.75499	-0.61941	-2.47335	0.72690	34.84840	267.45	-24.11
98/ 4/25	2450928.5	0.05075	-0.66020	-0.30077	34.69851	2.91147	-0.87833	0.72725	34.83152	274.40	-24.43
98/ 4/29	2450932.5	0.13043	-0.64943	-0.30095	34.21570	6.40183	0.72533	0.72755	34.81700	281.36	-24.43
98/ 5/ 3	2450936.5	0.20851	-0.63068	-0.29743	33.31344	9.80965	2.31828	0.72780	34.80501	288.29	-24.12
98/ 5/ 7	2450940.5	0.28404	-0.60420	-0.29026	32.00345	13.09406	3.88134	0.72800	34.79569	295.18	-23.50
98/ 5/11	2450944.5	0.35608	-0.57031	-0.27953	30.30215	16.21575	5.39577	0.72813	34.78915	301.98	-22.58
98/ 5/15	2450948.5	0.42376	-0.52943	-0.26538	28.23039	19.13743	6.84343	0.72821	34.78547	308.67	-21.37
98/ 5/19	2450952.5	0.48625	-0.48207	-0.24798	25.81327	21.82416	8.20700	0.72823	34.78468	315.25	-19.91
98/ 5/23	2450956.5	0.54278	-0.42880	-0.22754	23.07985	24.24372	9.47012	0.72818	34.78679	321.69	-18.21
98/ 5/27	2450960.5	0.59266	-0.37028	-0.20431	20.06284	26.36697	10.61759	0.72808	34.79178	328.00	-16.30
98/ 5/31	2450964.5	0.63529	-0.30722	-0.17858	16.79823	28.16815	11.63553	0.72792	34.79958	334.19	-14.20
98/ 6/ 4	2450968.5	0.67012	-0.24040	-0.15066	13.32497	29.62516	12.51152	0.72770	34.81010	340.27	-11.95
98/ 6/ 8	2450972.5	0.69672	-0.17062	-0.12089	9.68456	30.71983	13.23474	0.72743	34.82322	346.24	-9.57
98/ 6/12	2450976.5	0.71477	-0.09875	-0.08963	5.92060	31.43811	13.79611	0.72710	34.83878	352.13	-7.08
98/ 6/16	2450980.5	0.72402	-0.02567	-0.05728	2.07836	31.77030	14.18841	0.72673	34.85660	357.97	-4.52
98/ 6/20	2450984.5	0.72435	0.04774	-0.02421	-1.79571	31.71120	14.40635	0.72632	34.87646	3.77	-1.91
98/ 6/24	2450988.5	0.71573	0.12055	0.00915	-5.65450	31.26019	14.44669	0.72587	34.89813	9.56	0.72
98/ 6/28	2450992.5	0.69827	0.19187	0.04240	-9.45071	30.42134	14.30826	0.72539	34.92134	15.36	3.35
98/ 7/ 2	2450996.5	0.67215	0.26082	0.07512	-13.13746	29.20342	13.99207	0.72488	34.94583	21.21	5.95
98/ 7/ 6	2451000.5	0.63769	0.32652	0.10691	-16.66878	27.61988	13.50127	0.72436	34.97128	27.11	8.49
98/ 7/10	2451004.5	0.59529	0.38816	0.13737	-20.00025	25.68873	12.84118	0.72382	34.99738	33.11	10.94
98/ 7/14	2451008.5	0.54547	0.44496	0.16612	-23.08950	23.43247	12.01926	0.72327	35.02383	39.21	13.28
98/ 7/18	2451012.5	0.48883	0.49620	0.19279	-25.89679	20.87785	11.04507	0.72272	35.05028	45.43	15.47
98/ 7/22	2451016.5	0.42606	0.54122	0.21704	-28.38559	18.05561	9.93014	0.72218	35.07641	51.79	17.49
98/ 7/26	2451020.5	0.35795	0.57944	0.23857	-30.52307	15.00015	8.68792	0.72166	35.10188	58.29	19.30
98/ 7/30	2451024.5	0.28533	0.61037	0.25710	-32.28061	11.74919	7.33359	0.72115	35.12638	64.95	20.89
98/ 8/ 3	2451028.5	0.20911	0.63361	0.27238	-33.63426	8.34327	5.88392	0.72068	35.14960	71.74	22.21
98/ 8/ 7	2451032.5	0.13025	0.64883	0.28422	-34.56512	4.82529	4.35705	0.72023	35.17122	78.65	23.24
98/ 8/11	2451036.5	0.04974	0.65585	0.29247	-35.05970	1.23994	2.77227	0.71983	35.19098	85.66	23.97
98/ 8/15	2451040.5	-0.03140	0.65455	0.29700	-35.11015	-2.36688	1.14978	0.71946	35.20862	92.75	24.38
98/ 8/19	2451044.5	-0.11214	0.64493	0.29777	-34.71449	-5.94870	-0.48962	0.71915	35.22390	99.86	24.46
98/ 8/23	2451048.5	-0.19145	0.62712	0.29474	-33.87668	-9.45912	-2.12474	0.71889	35.23662	106.98	24.20
98/ 8/27	2451052.5	-0.26832	0.60132	0.28797	-32.60662	-12.85248	-3.73439	0.71868	35.24661	114.05	23.62
98/ 8/31	2451056.5	-0.34178	0.56786	0.27752	-30.92006	-16.08452	-5.29763	0.71854	35.25374	121.04	22.72
98/ 9/ 4	2451060.5	-0.41088	0.52716	0.26354	-28.83841	-19.11302	-6.79406	0.71845	35.25792	127.93	21.52
98/ 9/ 8	2451064.5	-0.47474	0.47974	0.24620	-26.38850	-21.89844	-8.20419	0.71843	35.25909	134.70	20.04
98/ 9/12	2451068.5	-0.53255	0.42620	0.22572	-23.60210	-24.40450	-9.50964	0.71847	35.25722	141.33	18.31
98/ 9/16	2451072.5	-0.58356	0.36722	0.20236	-20.51559	-26.59866	-10.69346	0.71857	35.25236	147.82	16.36
98/ 9/20	2451076.5	-0.62714	0.30356	0.17642	-17.16933	-28.45269	-11.74038	0.71873	35.24454	154.17	14.21
98/ 9/24	2451080.5	-0.66272	0.23604	0.14823	-13.60709	-29.94297	-12.63697	0.71895	35.23390	160.40	11.90
98/ 9/28	2451084.5	-0.68987	0.16551	0.11815	-9.87544	-31.05084	-13.37191	0.71922	35.22055	166.51	9.46
98/10/ 2	2451088.5	-0.70826	0.09288	0.08658	-6.02299	-31.76287	-13.93604	0.71955	35.20468	172.53	6.91
98/10/ 6	2451092.5	-0.71765	0.01907	0.05390	-2.09975	-32.07092	-14.32258	0.71992	35.18649	178.48	4.29
98/10/10	2451096.5	-0.71794	-0.05499	0.02054	1.84363	-31.97231	-14.52708	0.72034	35.16623	184.38	1.63

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98/10/14	2451100.5	-0.70915	-0.12835	-0.01308	5.75657	-31.46969	-14.54757	0.72079	35.14415	190.26	-1.04
98/10/18	2451104.5	-0.69141	-0.20008	-0.04653	9.58924	-30.57099	-14.38448	0.72128	35.12054	196.14	-3.70
98/10/22	2451108.5	-0.66495	-0.26930	-0.07940	13.29324	-29.28925	-14.04060	0.72179	35.09571	202.05	-6.32
98/10/26	2451112.5	-0.63012	-0.33513	-0.11127	16.82222	-27.64229	-13.52107	0.72232	35.06997	208.01	-8.86
98/10/30	2451116.5	-0.58739	-0.39675	-0.14174	20.13248	-25.65247	-12.83320	0.72286	35.04364	214.04	-11.31
98/11/ 3	2451120.5	-0.53730	-0.45341	-0.17044	23.18346	-23.34631	-11.98637	0.72341	35.01708	220.16	-13.63
98/11/ 7	2451124.5	-0.48050	-0.50440	-0.19701	25.93821	-20.75402	-10.99188	0.72396	34.99059	226.39	-15.79
98/11/11	2451128.5	-0.41771	-0.54910	-0.22112	28.36383	-17.90915	-9.86276	0.72450	34.96453	232.74	-17.77
98/11/15	2451132.5	-0.34973	-0.58698	-0.24249	30.43173	-14.84802	-8.61359	0.72502	34.93921	239.21	-19.54
98/11/19	2451136.5	-0.27740	-0.61757	-0.26084	32.11799	-11.60930	-7.26027	0.72552	34.91493	245.81	-21.07
98/11/23	2451140.5	-0.20164	-0.64051	-0.27597	33.40346	-8.23348	-5.81986	0.72600	34.89201	252.53	-22.34
98/11/27	2451144.5	-0.12339	-0.65554	-0.28768	34.27401	-4.76235	-4.31030	0.72644	34.87071	259.34	-23.33
98/12/ 1	2451148.5	-0.04361	-0.66248	-0.29584	34.72054	-1.23856	-2.75023	0.72684	34.85131	266.23	-24.02
98/12/ 5	2451152.5	0.03670	-0.66125	-0.30036	34.73902	2.29496	-1.15876	0.72720	34.83402	273.18	-24.40
98/12/ 9	2451156.5	0.11657	-0.65190	-0.30119	34.33049	5.79539	0.44476	0.72751	34.81905	280.14	-24.46
98/12/13	2451160.5	0.19500	-0.63454	-0.29831	33.50097	9.22057	2.04095	0.72777	34.80660	287.08	-24.20
98/12/17	2451164.5	0.27104	-0.60939	-0.29178	32.26135	12.52940	3.61058	0.72797	34.79679	293.98	-23.63
98/12/21	2451168.5	0.34375	-0.57677	-0.28166	30.62722	15.68228	5.13482	0.72812	34.78975	300.80	-22.76
98/12/25	2451172.5	0.41226	-0.53708	-0.26810	28.61869	18.64153	6.59543	0.72821	34.78556	307.51	-21.60
98/12/29	2451176.5	0.47571	-0.49081	-0.25125	26.26012	21.37176	7.97492	0.72824	34.78427	314.11	-20.18
99/ 1/ 2	2451180.5	0.53334	-0.43853	-0.23133	23.57990	23.84028	9.25675	0.72820	34.78589	320.57	-18.52
99/ 1/ 6	2451184.5	0.58444	-0.38089	-0.20857	20.61012	26.01737	10.42551	0.72811	34.79040	326.91	-16.65
99/ 1/10	2451188.5	0.62837	-0.31857	-0.18326	17.38621	27.87667	11.46707	0.72796	34.79774	333.12	-14.58
99/ 1/14	2451192.5	0.66460	-0.25235	-0.15570	13.94664	29.39541	12.36876	0.72775	34.80783	339.21	-12.35
99/ 1/18	2451196.5	0.69268	-0.18303	-0.12623	10.33249	30.55471	13.11945	0.72748	34.82055	345.20	-9.99
99/ 1/22	2451200.5	0.71224	-0.11146	-0.09520	6.58700	31.33979	13.70977	0.72717	34.83574	351.11	-7.52
99/ 1/26	2451204.5	0.72304	-0.03853	-0.06301	2.75519	31.74017	14.13214	0.72681	34.85322	356.95	-4.97
99/ 1/30	2451208.5	0.72494	0.03489	-0.03004	-1.11666	31.74985	14.38094	0.72640	34.87279	2.76	-2.37
99/ 2/ 3	2451212.5	0.71789	0.10787	0.00330	-4.98151	31.36739	14.45256	0.72596	34.89420	8.55	0.26
99/ 2/ 7	2451216.5	0.70196	0.17952	0.03660	-8.79207	30.59605	14.34546	0.72548	34.91720	14.34	2.89
99/ 2/11	2451220.5	0.67735	0.24894	0.06944	-12.50134	29.44375	14.06027	0.72498	34.94151	20.18	5.50
99/ 2/15	2451224.5	0.64432	0.31527	0.10142	-16.06316	27.92313	13.59976	0.72445	34.96684	26.07	8.05
99/ 2/19	2451228.5	0.60328	0.37768	0.13215	-19.43278	26.05142	12.96886	0.72391	34.99287	32.05	10.52
99/ 2/23	2451232.5	0.55471	0.43539	0.16122	-22.56743	23.85034	12.17468	0.72337	35.01929	38.13	12.88
99/ 2/27	2451236.5	0.49922	0.48765	0.18828	-25.42688	21.34590	11.22639	0.72282	35.04576	44.33	15.10
99/ 3/ 3	2451240.5	0.43747	0.53380	0.21298	-27.97398	18.56817	10.13520	0.72228	35.07197	50.66	17.15
99/ 3/ 7	2451244.5	0.37024	0.57325	0.23501	-30.17522	15.55095	8.91423	0.72175	35.09757	57.14	19.00
99/ 3/11	2451248.5	0.29834	0.60550	0.25408	-32.00121	12.33138	7.57837	0.72124	35.12225	63.77	20.63
99/ 3/15	2451252.5	0.22269	0.63010	0.26995	-33.42715	8.94957	6.14413	0.72076	35.14569	70.54	22.00
99/ 3/19	2451256.5	0.14422	0.64675	0.28240	-34.43323	5.44803	4.62941	0.72031	35.16760	77.43	23.08
99/ 3/23	2451260.5	0.06393	0.65522	0.29129	-35.00499	1.87118	3.05333	0.71989	35.18769	84.43	23.87
99/ 3/27	2451264.5	-0.01717	0.65538	0.29648	-35.13357	-1.73525	1.43594	0.71952	35.20569	91.50	24.33
99/ 3/31	2451268.5	-0.09806	0.64721	0.29791	-34.81596	-5.32483	-0.20203	0.71920	35.22138	98.62	24.47
99/ 4/ 4	2451272.5	-0.17770	0.63082	0.29555	-34.05507	-8.85112	-1.83945	0.71893	35.23456	105.73	24.27
99/ 4/ 8	2451276.5	-0.25507	0.60640	0.28942	-32.85977	-12.26827	-3.45511	0.71871	35.24503	112.81	23.75

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99/ 4/12	2451280.5	-0.32920	0.57426	0.27962	-31.24478	-15.53172	-5.02799	0.71856	35.25268	119.82	22.90
99/ 4/16	2451284.5	-0.39912	0.53479	0.26624	-29.23056	-18.59886	-6.53759	0.71846	35.25739	126.73	21.75
99/ 4/20	2451288.5	-0.46396	0.48851	0.24947	-26.84298	-21.42964	-7.96422	0.71843	35.25910	133.52	20.32
99/ 4/24	2451292.5	-0.52288	0.43599	0.22952	-24.11302	-23.98714	-9.28930	0.71845	35.25778	140.18	18.63
99/ 4/28	2451296.5	-0.57514	0.37791	0.20664	-21.07624	-26.23816	-10.49561	0.71854	35.25347	146.69	16.71
99/ 5/ 2	2451300.5	-0.62006	0.31502	0.18113	-17.77237	-28.15367	-11.56756	0.71869	35.24620	153.07	14.60
99/ 5/ 6	2451304.5	-0.65708	0.24811	0.15331	-14.24463	-29.70920	-12.49140	0.71890	35.23608	159.31	12.31
99/ 5/10	2451308.5	-0.68574	0.17804	0.12354	-10.53912	-30.88523	-13.25540	0.71916	35.22323	165.45	9.89
99/ 5/14	2451312.5	-0.70567	0.10571	0.09220	-6.70418	-31.66737	-13.85004	0.71948	35.20784	171.48	7.36
99/ 5/18	2451316.5	-0.71665	0.03204	0.05968	-2.78960	-32.04656	-14.26809	0.71985	35.19009	177.44	4.76
99/ 5/22	2451320.5	-0.71854	-0.04204	0.02641	1.15402	-32.01915	-14.50470	0.72025	35.17022	183.35	2.10
99/ 5/26	2451324.5	-0.71134	-0.11559	-0.00719	5.07603	-31.58687	-14.55747	0.72070	35.14849	189.23	-0.57
99/ 5/30	2451328.5	-0.69514	-0.18768	-0.04070	8.92641	-30.75673	-14.42639	0.72118	35.12517	195.11	-3.24
99/ 6/ 3	2451332.5	-0.67019	-0.25740	-0.07371	12.65647	-29.54087	-14.11386	0.72169	35.10058	201.01	-5.86
99/ 6/ 7	2451336.5	-0.63679	-0.32388	-0.10578	16.21945	-27.95633	-13.62460	0.72222	35.07501	206.96	-8.42
99/ 6/11	2451340.5	-0.59541	-0.38630	-0.13653	19.57114	-26.02467	-12.96556	0.72276	35.04881	212.98	-10.89
99/ 6/15	2451344.5	-0.54656	-0.44388	-0.16556	22.67038	-23.77173	-12.14576	0.72330	35.02229	219.08	-13.23
99/ 6/19	2451348.5	-0.49089	-0.49591	-0.19253	25.47957	-21.22710	-11.17618	0.72385	34.99579	225.29	-15.42
99/ 6/23	2451352.5	-0.42909	-0.54175	-0.21709	27.96505	-18.42378	-10.06957	0.72439	34.96965	231.62	-17.44
99/ 6/27	2451356.5	-0.36195	-0.58086	-0.23896	30.09747	-15.39766	-8.84024	0.72492	34.94418	238.07	-19.25
99/ 7/ 1	2451360.5	-0.29032	-0.61275	-0.25786	31.85206	-12.18702	-7.50390	0.72543	34.91970	244.65	-20.82
99/ 7/ 5	2451364.5	-0.21509	-0.63706	-0.27356	33.20883	-8.83208	-6.07740	0.72591	34.89651	251.34	-22.14
99/ 7/ 9	2451368.5	-0.13720	-0.65348	-0.28588	34.15276	-5.37446	-4.57855	0.72635	34.87490	258.14	-23.18
99/ 7/13	2451372.5	-0.05762	-0.66184	-0.29467	34.67385	-1.85668	-3.02589	0.72676	34.85512	265.02	-23.92
99/ 7/17	2451376.5	0.02268	-0.66205	-0.29983	34.76722	1.67832	-1.43847	0.72713	34.83741	271.96	-24.35
99/ 7/21	2451380.5	0.10269	-0.65411	-0.30131	34.43301	5.18767	0.16439	0.72745	34.82199	278.92	-24.47
99/ 7/25	2451384.5	0.18144	-0.63813	-0.29908	33.67639	8.62906	1.76328	0.72772	34.80904	285.87	-24.27
99/ 7/29	2451388.5	0.25797	-0.61432	-0.29318	32.50742	11.96116	3.33894	0.72794	34.79871	292.78	-23.75
99/ 8/ 2	2451392.5	0.33133	-0.58298	-0.28368	30.94088	15.14407	4.87247	0.72810	34.79112	299.61	-22.93
99/ 8/ 6	2451396.5	0.40064	-0.54450	-0.27071	28.99611	18.13975	6.34549	0.72820	34.78635	306.35	-21.82
99/ 8/10	2451400.5	0.46503	-0.49934	-0.25442	26.69677	20.91240	7.74036	0.72824	34.78446	312.96	-20.45
99/ 8/14	2451404.5	0.52373	-0.44807	-0.23502	24.07056	23.42880	9.04039	0.72822	34.78547	319.45	-18.83
99/ 8/18	2451408.5	0.57602	-0.39131	-0.21274	21.14894	25.65873	10.22993	0.72814	34.78936	325.81	-16.99
99/ 8/22	2451412.5	0.62125	-0.32976	-0.18785	17.96682	27.57520	11.29464	0.72800	34.79608	332.04	-14.95
99/ 8/26	2451416.5	0.65886	-0.26417	-0.16066	14.56216	29.15482	12.22157	0.72780	34.80556	338.15	-12.75
99/ 8/30	2451420.5	0.68839	-0.19533	-0.13150	10.97559	30.37802	12.99934	0.72755	34.81767	344.16	-10.41
99/ 9/ 3	2451424.5	0.70946	-0.12409	-0.10072	7.25004	31.22929	13.61824	0.72724	34.83228	350.08	-7.96
99/ 9/ 7	2451428.5	0.72181	-0.05133	-0.06871	3.43023	31.69741	14.07039	0.72689	34.84922	355.93	-5.42
99/ 9/11	2451432.5	0.72528	0.02206	-0.03584	-0.43776	31.77559	14.34983	0.72650	34.86829	1.74	-2.83
99/ 9/15	2451436.5	0.71979	0.09518	-0.00254	-4.30698	31.46161	14.45258	0.72606	34.88926	7.53	-0.20
99/ 9/19	2451440.5	0.70541	0.16712	0.03079	-8.13015	30.75790	14.37676	0.72559	34.91187	13.33	2.43
99/ 9/23	2451444.5	0.68230	0.23700	0.06375	-11.86020	29.67157	14.12261	0.72509	34.93586	19.15	5.04
99/ 9/27	2451448.5	0.65072	0.30393	0.09591	-15.45079	28.21444	13.69251	0.72458	34.96093	25.04	7.61
99/10/ 1	2451452.5	0.61105	0.36708	0.12688	-18.85691	26.40295	13.09105	0.72404	34.98678	30.99	10.09
99/10/ 5	2451456.5	0.56377	0.42566	0.15627	-22.03541	24.25804	12.32494	0.72350	35.01308	37.05	12.47

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99/10/ 9	2451460.5	0.50945	0.47893	0.18371	-24.94559	21.80498	11.40300	0.72295	35.03952	43.23	14.72
99/10/13	2451464.5	0.44875	0.52620	0.20884	-27.54975	19.07313	10.33607	0.72241	35.06576	49.54	16.80
99/10/17	2451468.5	0.38242	0.56686	0.23136	-29.81371	16.09565	9.13696	0.72188	35.09147	56.00	18.69
99/10/21	2451472.5	0.31128	0.60040	0.25097	-31.70734	12.90913	7.82024	0.72136	35.11634	62.60	20.36
99/10/25	2451476.5	0.23623	0.62638	0.26741	-33.20500	9.55315	6.40215	0.72087	35.14004	69.34	21.77
99/10/29	2451480.5	0.15819	0.64444	0.28048	-34.28598	6.06983	4.90035	0.72042	35.16226	76.21	22.91
99/11/ 2	2451484.5	0.07815	0.65436	0.29001	-34.93487	2.50328	3.33377	0.71999	35.18274	83.19	23.75
99/11/ 6	2451488.5	-0.00288	0.65598	0.29585	-35.14180	-1.10097	1.72229	0.71962	35.20120	90.25	24.28
99/11/10	2451492.5	-0.08388	0.64928	0.29794	-34.90273	-4.69659	0.08654	0.71928	35.21741	97.36	24.47
99/11/14	2451496.5	-0.16381	0.63432	0.29625	-34.21949	-8.23710	-1.55242	0.71900	35.23114	104.48	24.33
99/11/18	2451500.5	-0.24165	0.61130	0.29079	-33.09990	-11.67652	-3.17335	0.71877	35.24223	111.57	23.86
99/11/22	2451504.5	-0.31641	0.58048	0.28162	-31.55766	-14.97003	-4.75519	0.71860	35.25052	118.59	23.07
99/11/26	2451508.5	-0.38714	0.54227	0.26886	-29.61220	-18.07462	-6.27735	0.71849	35.25591	125.52	21.97
99/11/30	2451512.5	-0.45294	0.49715	0.25268	-27.28846	-20.94974	-7.71995	0.71844	35.25832	132.34	20.59
99/12/ 4	2451516.5	-0.51296	0.44569	0.23327	-24.61651	-23.55790	-9.06422	0.71845	35.25773	139.01	18.95
99/12/ 8	2451520.5	-0.56644	0.38854	0.21088	-21.63115	-25.86520	-10.29265	0.71853	35.25413	145.55	17.07
99/12/12	2451524.5	-0.61269	0.32643	0.18581	-18.37138	-27.84181	-11.38936	0.71866	35.24758	151.95	14.98
99/12/16	2451528.5	-0.65114	0.26017	0.15837	-14.87985	-29.46245	-12.34026	0.71886	35.23816	158.22	12.73
99/12/20	2451532.5	-0.68130	0.19060	0.12892	-11.20219	-30.70667	-13.13324	0.71911	35.22599	164.37	10.33
99/12/24	2451536.5	-0.70279	0.11860	0.09782	-7.38639	-31.55915	-13.75837	0.71941	35.21124	170.42	7.82

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
64/12/31	2438760.5	-0.15635	0.89066	0.38623	-29.89705	-4.44089	-1.92571	0.98331	30.28636	99.96	23.13
65/ 1/ 4	2438764.5	-0.22498	0.87819	0.38083	-29.48583	-6.34824	-2.75283	0.98329	30.28683	104.37	22.79
65/ 1/ 8	2438768.5	-0.29248	0.86135	0.37352	-28.92787	-8.22385	-3.56618	0.98336	30.28483	108.76	22.32
65/ 1/12	2438772.5	-0.35852	0.84023	0.36436	-28.22615	-10.05793	-4.36153	0.98350	30.28036	113.11	21.74
65/ 1/16	2438776.5	-0.42278	0.81492	0.35339	-27.38446	-11.84095	-5.13473	0.98373	30.27345	117.42	21.05
65/ 1/20	2438780.5	-0.48494	0.78556	0.34066	-26.40738	-13.56369	-5.88180	0.98404	30.26415	121.69	20.25
65/ 1/24	2438784.5	-0.54469	0.75230	0.32624	-25.30025	-15.21728	-6.59887	0.98442	30.25249	125.91	19.35
65/ 1/28	2438788.5	-0.60174	0.71531	0.31019	-24.06912	-16.79331	-7.28232	0.98488	30.23855	130.07	18.36
65/ 2/ 1	2438792.5	-0.65581	0.67478	0.29262	-22.72071	-18.28384	-7.92868	0.98541	30.22240	134.18	17.27
65/ 2/ 5	2438796.5	-0.70664	0.63091	0.27359	-21.26236	-19.68144	-8.53475	0.98602	30.20412	138.24	16.11
65/ 2/ 9	2438800.5	-0.75397	0.58392	0.25322	-19.70199	-20.97926	-9.09755	0.98669	30.18382	142.24	14.87
65/ 2/13	2438804.5	-0.79759	0.53406	0.23159	-18.04799	-22.17107	-9.61438	0.98743	30.16161	146.19	13.56
65/ 2/17	2438808.5	-0.83730	0.48157	0.20883	-16.30922	-23.25125	-10.08280	0.98822	30.13759	150.09	12.20
65/ 2/21	2438812.5	-0.87289	0.42672	0.18505	-14.49493	-24.21486	-10.50067	0.98907	30.11190	153.95	10.78
65/ 2/25	2438816.5	-0.90422	0.36978	0.16036	-12.61467	-25.05764	-10.86614	0.98998	30.08468	157.76	9.32
65/ 3/ 1	2438820.5	-0.93113	0.31104	0.13488	-10.67824	-25.77599	-11.17765	0.99093	30.05605	161.53	7.82
65/ 3/ 5	2438824.5	-0.95352	0.25078	0.10875	-8.69565	-26.36705	-11.43397	0.99193	30.02618	165.26	6.29
65/ 3/ 9	2438828.5	-0.97128	0.18931	0.08210	-6.67703	-26.82865	-11.63414	0.99296	29.99521	168.97	4.74
65/ 3/13	2438832.5	-0.98435	0.12693	0.05504	-4.63256	-27.15930	-11.77753	0.99402	29.96329	172.65	3.17
65/ 3/17	2438836.5	-0.99267	0.06393	0.02772	-2.57246	-27.35823	-11.86380	0.99512	29.93059	176.32	1.60
65/ 3/21	2438840.5	-0.99623	0.00062	0.00027	-0.50685	-27.42533	-11.89290	0.99623	29.89727	179.96	0.02
65/ 3/25	2438844.5	-0.99502	-0.06268	-0.02718	1.55420	-27.36115	-11.86507	0.99736	29.86349	183.60	-1.56
65/ 3/29	2438848.5	-0.98906	-0.12569	-0.05450	3.60082	-27.16688	-11.78084	0.99850	29.82941	187.24	-3.13
65/ 4/ 2	2438852.5	-0.97840	-0.18811	-0.08157	5.62333	-26.84436	-11.64098	0.99965	29.79520	190.88	-4.68
65/ 4/ 6	2438856.5	-0.96310	-0.24963	-0.10825	7.61228	-26.39598	-11.44654	1.00080	29.76101	194.53	-6.21
65/ 4/10	2438860.5	-0.94326	-0.30997	-0.13442	9.55854	-25.82473	-11.19883	1.00194	29.72702	198.19	-7.71
65/ 4/14	2438864.5	-0.91898	-0.36886	-0.15995	11.45327	-25.13411	-10.89935	1.00308	29.69338	201.87	-9.18
65/ 4/18	2438868.5	-0.89039	-0.42601	-0.18474	13.28803	-24.32815	-10.54985	1.00419	29.66024	205.57	-10.60
65/ 4/22	2438872.5	-0.85764	-0.48117	-0.20866	15.05472	-23.41133	-10.15228	1.00529	29.62776	209.29	-11.98
65/ 4/26	2438876.5	-0.82089	-0.53410	-0.23161	16.74570	-22.38859	-9.70877	1.00636	29.59607	213.05	-13.31
65/ 4/30	2438880.5	-0.78033	-0.58454	-0.25348	18.35373	-21.26525	-9.22164	1.00740	29.56533	216.84	-14.57
65/ 5/ 4	2438884.5	-0.73616	-0.63228	-0.27418	19.87204	-20.04703	-8.69337	1.00840	29.53567	220.66	-15.78
65/ 5/ 8	2438888.5	-0.68859	-0.67710	-0.29362	21.29432	-18.73998	-8.12657	1.00937	29.50722	224.52	-16.91
65/ 5/12	2438892.5	-0.63785	-0.71880	-0.31170	22.61476	-17.35045	-7.52401	1.01029	29.48010	228.41	-17.97
65/ 5/16	2438896.5	-0.58418	-0.75720	-0.32836	23.82804	-15.88508	-6.88856	1.01116	29.45443	232.35	-18.95
65/ 5/20	2438900.5	-0.52784	-0.79214	-0.34351	24.92933	-14.35075	-6.22320	1.01198	29.43032	236.32	-19.84
65/ 5/24	2438904.5	-0.46909	-0.82346	-0.35709	25.91432	-12.75455	-5.53102	1.01274	29.40787	240.33	-20.65
65/ 5/28	2438908.5	-0.40820	-0.85103	-0.36904	26.77923	-11.10376	-4.81516	1.01345	29.38718	244.38	-21.36
65/ 6/ 1	2438912.5	-0.34546	-0.87473	-0.37932	27.52076	-9.40582	-4.07885	1.01409	29.36833	248.45	-21.97
65/ 6/ 5	2438916.5	-0.28114	-0.89446	-0.38788	28.13617	-7.66828	-3.32538	1.01466	29.35140	252.55	-22.47
65/ 6/ 9	2438920.5	-0.21556	-0.91013	-0.39468	28.62322	-5.89881	-2.55805	1.01517	29.33647	256.68	-22.88
65/ 6/13	2438924.5	-0.14899	-0.92169	-0.39969	28.98019	-4.10514	-1.78024	1.01561	29.32359	260.82	-23.18
65/ 6/17	2438928.5	-0.08176	-0.92909	-0.40290	29.20588	-2.29507	-0.99531	1.01598	29.31282	264.97	-23.36
65/ 6/21	2438932.5	-0.01415	-0.93229	-0.40428	29.29960	-0.47642	-0.20666	1.01627	29.30420	269.13	-23.44
65/ 6/25	2438936.5	0.05351	-0.93129	-0.40385	29.26117	1.34301	0.58233	1.01649	29.29776	273.29	-23.41

1.3 1 A.U.=149,599,000 KM.

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	EARTH-MOON B RA	DEC
				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							
65/ 6/29	2438940.5	0.12094	-0.92609	-0.40160	29.09094	3.15541	1.36827	1.01664	29.29354	277.44	-23.27
65/ 7/ 3	2438944.5	0.18782	-0.91672	-0.39753	28.78974	4.95304	2.14781	1.01670	29.29155	281.58	-23.02
65/ 7/ 7	2438948.5	0.25386	-0.90322	-0.39168	28.35892	6.72821	2.91760	1.01670	29.29180	285.70	-22.66
65/ 7/11	2438952.5	0.31875	-0.88566	-0.38406	27.80030	8.47332	3.67437	1.01661	29.29428	289.79	-22.20
65/ 7/15	2438956.5	0.38221	-0.86410	-0.37472	27.11623	10.18089	4.41485	1.01645	29.29900	293.86	-21.63
65/ 7/19	2438960.5	0.44395	-0.83865	-0.36368	26.30950	11.84356	5.13586	1.01621	29.30592	297.89	-20.97
65/ 7/23	2438964.5	0.50368	-0.80942	-0.35100	25.38341	13.45414	5.83428	1.01590	29.31502	301.89	-20.21
65/ 7/27	2438968.5	0.56114	-0.77653	-0.33674	24.34173	15.00561	6.50707	1.01552	29.32627	305.85	-19.37
65/ 7/31	2438972.5	0.61606	-0.74014	-0.32096	23.18867	16.49114	7.15127	1.01506	29.33961	309.77	-18.43
65/ 8/ 4	2438976.5	0.66820	-0.70040	-0.30373	21.92893	17.90414	7.76402	1.01454	29.35500	313.65	-17.42
65/ 8/ 8	2438980.5	0.71730	-0.65748	-0.28511	20.56763	19.23826	8.34256	1.01395	29.37237	317.49	-16.33
65/ 8/12	2438984.5	0.76315	-0.61157	-0.26521	19.11035	20.48742	8.88425	1.01329	29.39166	321.29	-15.17
65/ 8/16	2438988.5	0.80553	-0.56289	-0.24410	17.56307	21.64582	9.38659	1.01257	29.41277	325.05	-13.95
65/ 8/20	2438992.5	0.84423	-0.51164	-0.22187	15.93220	22.70800	9.84721	1.01180	29.43562	328.78	-12.67
65/ 8/24	2438996.5	0.87908	-0.45805	-0.19863	14.22455	23.66883	10.26387	1.01096	29.46012	332.48	-11.33
65/ 8/28	2439000.5	0.90990	-0.40236	-0.17448	12.44731	24.52356	10.63452	1.01008	29.48615	336.14	-9.95
65/ 9/ 1	2439004.5	0.93654	-0.34482	-0.14953	10.60803	25.26780	10.95727	1.00915	29.51362	339.79	-8.52
65/ 9/ 5	2439008.5	0.95887	-0.28570	-0.12390	8.71461	25.89763	11.23039	1.00817	29.54240	343.41	-7.06
65/ 9/ 9	2439012.5	0.97677	-0.22526	-0.09769	6.77527	26.40953	11.45238	1.00716	29.57236	347.01	-5.57
65/ 9/13	2439016.5	0.99015	-0.16377	-0.07102	4.79853	26.80047	11.62191	1.00611	29.60338	350.61	-4.05
65/ 9/17	2439020.5	0.99892	-0.10153	-0.04403	2.79319	27.06791	11.73789	1.00503	29.63531	354.20	-2.51
65/ 9/21	2439024.5	1.00304	-0.03881	-0.01683	0.76826	27.20983	11.79944	1.00393	29.66802	357.78	-0.96
65/ 9/25	2439028.5	1.00246	0.02409	0.01045	-1.26700	27.22473	11.80590	1.00281	29.70136	1.38	0.60
65/ 9/29	2439032.5	0.99718	0.08688	0.03767	-3.30320	27.11170	11.75689	1.00167	29.73516	4.98	2.16
65/10/ 3	2439036.5	0.98721	0.14926	0.06472	-5.33080	26.87039	11.65226	1.00052	29.76929	8.60	3.71
65/10/ 7	2439040.5	0.97257	0.21093	0.09147	-7.34015	26.50107	11.49210	0.99937	29.80357	12.24	5.25
65/10/11	2439044.5	0.95332	0.27161	0.11778	-9.32157	26.00459	11.27681	0.99823	29.83784	15.90	6.78
65/10/15	2439048.5	0.92953	0.33099	0.14353	-11.26540	25.38246	11.00703	0.99708	29.87195	19.60	8.28
65/10/19	2439052.5	0.90130	0.38879	0.16859	-13.16201	24.63681	10.68369	0.99596	29.90572	23.33	9.75
65/10/23	2439056.5	0.86876	0.44473	0.19285	-15.00185	23.77042	10.30799	0.99484	29.93899	27.11	11.18
65/10/27	2439060.5	0.83204	0.49853	0.21618	-16.77558	22.78671	9.88141	0.99376	29.97160	30.93	12.56
65/10/31	2439064.5	0.79131	0.54992	0.23847	-18.47403	21.68975	9.40572	0.99270	30.00338	34.80	13.90
65/11/ 4	2439068.5	0.74675	0.59866	0.25960	-20.08833	20.48423	8.88295	0.99167	30.03417	38.72	15.18
65/11/ 8	2439072.5	0.69856	0.64449	0.27948	-21.60990	19.17549	8.31543	0.99069	30.06382	42.69	16.39
65/11/12	2439076.5	0.64698	0.68718	0.29799	-23.03058	17.76946	7.70571	0.98975	30.09218	46.73	17.52
65/11/16	2439080.5	0.59224	0.72652	0.31505	-24.34264	16.27265	7.05663	0.98885	30.11909	50.81	18.58
65/11/20	2439084.5	0.53460	0.76230	0.33057	-25.53886	14.69216	6.37126	0.98801	30.14442	54.96	19.55
65/11/24	2439088.5	0.47433	0.79434	0.34446	-26.61255	13.03560	5.65289	0.98723	30.16802	59.16	20.42
65/11/28	2439092.5	0.41174	0.82248	0.35666	-27.55765	11.31106	4.90506	0.98651	30.18979	63.41	21.19
65/12/ 2	2439096.5	0.34711	0.84656	0.36711	-28.36874	9.52709	4.13145	0.98586	30.20960	67.70	21.86
65/12/ 6	2439100.5	0.28077	0.86646	0.37573	-29.04111	7.69265	3.33595	0.98527	30.22733	72.05	22.42
65/12/10	2439104.5	0.21304	0.88207	0.38250	-29.57080	5.81704	2.52260	0.98475	30.24291	76.42	22.86
65/12/14	2439108.5	0.14426	0.89331	0.38738	-29.95460	3.90985	1.69555	0.98431	30.25624	80.83	23.18
65/12/18	2439112.5	0.07476	0.90012	0.39033	-30.19014	1.98090	0.85907	0.98395	30.26725	85.25	23.37
65/12/22	2439116.5	0.00488	0.90245	0.39134	-30.27585	0.04020	0.01749	0.98366	30.27588	89.69	23.44

1.3 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
65/12/26	2439120.5	-0.06501	0.90030	0.39041	-30.21103	-1.90216	-0.82481	0.98346	30.28209	94.13	23.39
65/12/30	2439124.5	-0.13459	0.89367	0.38754	-29.99583	-3.83604	-1.66343	0.98333	30.28583	98.56	23.21
66/ 1/ 3	2439128.5	-0.20349	0.88259	0.38273	-29.63125	-5.75132	-2.49398	0.98329	30.28710	102.98	22.91
66/ 1/ 7	2439132.5	-0.27138	0.86712	0.37602	-29.11917	-7.63799	-3.31213	0.98333	30.28589	107.38	22.48
66/ 1/11	2439136.5	-0.33792	0.84733	0.36744	-28.46229	-9.48620	-4.11360	0.98345	30.28220	111.74	21.94
66/ 1/15	2439140.5	-0.40278	0.82333	0.35703	-27.66416	-11.28632	-4.89421	0.98365	30.27606	116.07	21.28
66/ 1/19	2439144.5	-0.46563	0.79523	0.34485	-26.72911	-13.02902	-5.64992	0.98393	30.26751	120.35	20.52
66/ 1/23	2439148.5	-0.52617	0.76318	0.33095	-25.66224	-14.70534	-6.37685	0.98429	30.25660	124.58	19.65
66/ 1/27	2439152.5	-0.58410	0.72734	0.31541	-24.46939	-16.30669	-7.07126	0.98473	30.24338	128.77	18.68
66/ 1/31	2439156.5	-0.63914	0.68790	0.29831	-23.15707	-17.82499	-7.72966	0.98524	30.22793	132.90	17.62
66/ 2/ 4	2439160.5	-0.69101	0.64505	0.27973	-21.73244	-19.25264	-8.34875	0.98582	30.21034	136.97	16.48
66/ 2/ 8	2439164.5	-0.73947	0.59902	0.25976	-20.20323	-20.58260	-8.92547	0.98647	30.19069	140.99	15.27
66/ 2/12	2439168.5	-0.78428	0.55003	0.23852	-18.57770	-21.80843	-9.45705	0.98718	30.16910	144.96	13.98
66/ 2/16	2439172.5	-0.82524	0.49834	0.21611	-16.86457	-22.92434	-9.94095	0.98796	30.14567	148.87	12.64
66/ 2/20	2439176.5	-0.86214	0.44421	0.19263	-15.07296	-23.92514	-10.37495	0.98879	30.12052	152.74	11.23
66/ 2/24	2439180.5	-0.89483	0.38789	0.16821	-13.21233	-24.80637	-10.75709	0.98968	30.09380	156.56	9.79
66/ 2/28	2439184.5	-0.92314	0.32969	0.14297	-11.29243	-25.56422	-11.08573	0.99062	30.06563	160.35	8.30
66/ 3/ 4	2439188.5	-0.94696	0.26987	0.11703	-9.32319	-26.19561	-11.35953	0.99160	30.03616	164.09	6.78
66/ 3/ 8	2439192.5	-0.96619	0.20875	0.09053	-7.31472	-26.69812	-11.57745	0.99262	30.00554	167.81	5.23
66/ 3/12	2439196.5	-0.98074	0.14662	0.06358	-5.27719	-27.07007	-11.73876	0.99367	29.97392	171.50	3.67
66/ 3/16	2439200.5	-0.99056	0.08378	0.03633	-3.22081	-27.31046	-11.84301	0.99476	29.94147	175.17	2.09
66/ 3/20	2439204.5	-0.99561	0.02054	0.00891	-1.15575	-27.41897	-11.89007	0.99586	29.90835	178.82	0.51
66/ 3/24	2439208.5	-0.99590	-0.04280	-0.01856	0.90790	-27.39594	-11.88009	0.99699	29.87471	182.46	-1.07
66/ 3/28	2439212.5	-0.99143	-0.10594	-0.04594	2.96022	-27.24237	-11.81350	0.99813	29.84072	186.10	-2.64
66/ 4/ 1	2439216.5	-0.98224	-0.16857	-0.07310	4.99143	-26.95990	-11.69102	0.99927	29.80655	189.74	-4.19
66/ 4/ 5	2439220.5	-0.96839	-0.23041	-0.09991	6.99203	-26.55075	-11.51360	1.00042	29.77236	193.38	-5.73
66/ 4/ 9	2439224.5	-0.94996	-0.29115	-0.12625	8.95277	-26.01771	-11.28246	1.00157	29.73831	197.04	-7.24
66/ 4/13	2439228.5	-0.92706	-0.35053	-0.15200	10.86473	-25.36414	-10.99905	1.00270	29.70456	200.71	-8.72
66/ 4/17	2439232.5	-0.89981	-0.40825	-0.17703	12.71931	-24.59390	-10.66504	1.00383	29.67127	204.40	-10.16
66/ 4/21	2439236.5	-0.86834	-0.46407	-0.20124	14.50833	-23.71133	-10.28233	1.00493	29.63858	208.12	-11.55
66/ 4/25	2439240.5	-0.83283	-0.51773	-0.22451	16.22399	-22.72123	-9.85299	1.00601	29.60664	211.87	-12.89
66/ 4/29	2439244.5	-0.79345	-0.56897	-0.24673	17.85891	-21.62881	-9.37927	1.00706	29.57561	215.64	-14.18
66/ 5/ 3	2439248.5	-0.75038	-0.61758	-0.26781	19.40618	-20.43966	-8.86361	1.00807	29.54561	219.46	-15.41
66/ 5/ 7	2439252.5	-0.70385	-0.66334	-0.28765	20.85934	-19.15974	-8.30858	1.00905	29.51678	223.30	-16.56
66/ 5/11	2439256.5	-0.65408	-0.70604	-0.30617	22.21243	-17.79531	-7.71691	1.00998	29.48925	227.19	-17.65
66/ 5/15	2439260.5	-0.60131	-0.74550	-0.32328	23.45995	-16.35292	-7.09143	1.01087	29.46312	231.11	-18.65
66/ 5/19	2439264.5	-0.54577	-0.78154	-0.33891	24.59693	-14.83937	-6.43510	1.01170	29.43852	235.07	-19.57
66/ 5/23	2439268.5	-0.48775	-0.81402	-0.35299	25.61890	-13.26171	-5.75096	1.01248	29.41555	239.07	-20.40
66/ 5/27	2439272.5	-0.42750	-0.84277	-0.36546	26.52191	-11.62715	-5.04214	1.01321	29.39431	243.10	-21.14
66/ 5/31	2439276.5	-0.36530	-0.86770	-0.37627	27.30250	-9.94308	-4.31186	1.01387	29.37488	247.17	-21.78
66/ 6/ 4	2439280.5	-0.30145	-0.88868	-0.38537	27.95777	-8.21703	-3.56337	1.01446	29.35735	251.26	-22.33
66/ 6/ 8	2439284.5	-0.23623	-0.90564	-0.39272	28.48530	-6.45664	-2.79999	1.01499	29.34178	255.38	-22.76
66/ 6/12	2439288.5	-0.16994	-0.91849	-0.39830	28.88322	-4.66961	-2.02506	1.01546	29.32825	259.52	-23.09
66/ 6/16	2439292.5	-0.10288	-0.92720	-0.40207	29.15016	-2.86374	-1.24195	1.01585	29.31681	263.67	-23.32
66/ 6/20	2439296.5	-0.03535	-0.93172	-0.40403	29.28528	-1.04684	-0.45406	1.01616	29.30750	267.83	-23.43

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

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66/ 6/24	2439300.5	0.03233	-0.93203	-0.40417	29.28824	0.77329	0.33522	1.01641	29.30036	271.99	-23.43
66/ 6/28	2439304.5	0.09987	-0.92815	-0.40249	29.15922	2.58882	1.12252	1.01658	29.29543	276.14	-23.32
66/ 7/ 2	2439308.5	0.16696	-0.92008	-0.39899	28.89890	4.39199	1.90445	1.01667	29.29271	280.28	-23.11
66/ 7/ 6	2439312.5	0.23329	-0.90787	-0.39369	28.50847	6.17509	2.67768	1.01668	29.29223	284.41	-22.78
66/ 7/10	2439316.5	0.29858	-0.89157	-0.38663	27.98961	7.93049	3.43891	1.01662	29.29398	288.51	-22.35
66/ 7/14	2439320.5	0.36252	-0.87126	-0.37782	27.34450	9.65067	4.18485	1.01649	29.29795	292.59	-21.82
66/ 7/18	2439324.5	0.42482	-0.84701	-0.36730	26.57580	11.32823	4.91232	1.01628	29.30414	296.64	-21.19
66/ 7/22	2439328.5	0.48521	-0.81895	-0.35514	25.68665	12.95592	5.61816	1.01599	29.31252	300.65	-20.46
66/ 7/26	2439332.5	0.54341	-0.78720	-0.34137	24.68067	14.52666	6.29931	1.01563	29.32304	304.62	-19.64
66/ 7/30	2439336.5	0.59916	-0.75189	-0.32605	23.56195	16.03357	6.95277	1.01520	29.33568	308.55	-18.73
66/ 8/ 3	2439340.5	0.65219	-0.71317	-0.30926	22.33503	17.46997	7.57566	1.01470	29.35037	312.44	-17.75
66/ 8/ 7	2439344.5	0.70227	-0.67123	-0.29108	21.00490	18.82944	8.16519	1.01413	29.36706	316.29	-16.68
66/ 8/11	2439348.5	0.74917	-0.62624	-0.27157	19.57700	20.10580	8.71869	1.01350	29.38567	320.11	-15.54
66/ 8/15	2439352.5	0.79266	-0.57840	-0.25082	18.05719	21.29319	9.23359	1.01280	29.40614	323.88	-14.34
66/ 8/19	2439356.5	0.83253	-0.52793	-0.22894	16.45175	22.38601	9.70750	1.01204	29.42837	327.62	-13.07
66/ 8/23	2439360.5	0.86861	-0.47505	-0.20600	14.76737	23.37904	10.13812	1.01123	29.45227	331.33	-11.75
66/ 8/27	2439364.5	0.90071	-0.41999	-0.18213	13.01112	24.26741	10.52337	1.01036	29.47775	335.00	-10.38
66/ 8/31	2439368.5	0.92867	-0.36301	-0.15742	11.19044	25.04662	10.86127	1.00945	29.50469	338.65	-8.97
66/ 9/ 4	2439372.5	0.95237	-0.30435	-0.13198	9.31313	25.71260	11.15007	1.00849	29.53297	342.28	-7.52
66/ 9/ 8	2439376.5	0.97167	-0.24429	-0.10594	7.38731	26.26170	11.38819	1.00749	29.56248	345.89	-6.04
66/ 9/12	2439380.5	0.98647	-0.18311	-0.07941	5.42141	26.69074	11.57425	1.00646	29.59308	349.48	-4.53
66/ 9/16	2439384.5	0.99669	-0.12107	-0.05250	3.42413	26.99703	11.70708	1.00539	29.62465	353.07	-2.99
66/ 9/20	2439388.5	1.00227	-0.05847	-0.02536	1.40444	27.17837	11.78572	1.00430	29.65703	356.66	-1.45
66/ 9/24	2439392.5	1.00317	0.00441	0.00191	-0.62849	27.23312	11.80947	1.00318	29.69009	0.25	0.11
66/ 9/28	2439396.5	0.99937	0.06726	0.02916	-2.66531	27.16017	11.77784	1.00205	29.72367	3.85	1.67
66/10/ 2	2439400.5	0.99086	0.12980	0.05628	-4.69651	26.95900	11.69061	1.00091	29.75761	7.46	3.22
66/10/ 6	2439404.5	0.97768	0.19172	0.08314	-6.71249	26.62968	11.54781	0.99976	29.79177	11.09	4.77
66/10/10	2439408.5	0.95987	0.25274	0.10960	-8.70357	26.17289	11.34974	0.99861	29.82598	14.75	6.30
66/10/14	2439412.5	0.93749	0.31255	0.13553	-10.66007	25.58993	11.09694	0.99747	29.86007	18.44	7.81
66/10/18	2439416.5	0.91065	0.37088	0.16083	-12.57236	24.88273	10.79028	0.99634	29.89389	22.16	9.29
66/10/22	2439420.5	0.87944	0.42743	0.18535	-14.43087	24.05387	10.43086	0.99522	29.92727	25.92	10.73
66/10/26	2439424.5	0.84402	0.48192	0.20898	-16.22618	23.10657	10.02007	0.99413	29.96004	29.73	12.13
66/10/30	2439428.5	0.80453	0.53410	0.23161	-17.94907	22.04469	9.55960	0.99306	29.99205	33.58	13.49
66/11/ 3	2439432.5	0.76115	0.58369	0.25311	-19.59056	20.87274	9.05140	0.99203	30.02314	37.48	14.78
66/11/ 7	2439436.5	0.71408	0.63046	0.27339	-21.14200	19.59584	8.49768	0.99103	30.05314	41.44	16.01
66/11/11	2439440.5	0.66354	0.67416	0.29234	-22.59508	18.21973	7.90095	0.99007	30.08191	45.45	17.17
66/11/15	2439444.5	0.60977	0.71457	0.30987	-23.94194	16.75077	7.26395	0.98916	30.10930	49.52	18.26
66/11/19	2439448.5	0.55301	0.75149	0.32587	-25.17518	15.19585	6.58967	0.98830	30.13515	53.65	19.25
66/11/23	2439452.5	0.49354	0.78472	0.34029	-26.28796	13.56242	5.88135	0.98750	30.15935	57.83	20.16
66/11/27	2439456.5	0.43165	0.81409	0.35302	-27.27401	11.85843	5.14243	0.98676	30.18175	62.07	20.96
66/12/ 1	2439460.5	0.36763	0.83946	0.36402	-28.12770	10.09229	4.37656	0.98608	30.20225	66.35	21.66
66/12/ 5	2439464.5	0.30179	0.86068	0.37323	-28.84411	8.27282	3.58756	0.98547	30.22073	70.68	22.26
66/12/ 9	2439468.5	0.23447	0.87765	0.38059	-29.41902	6.40923	2.77943	0.98493	30.23709	75.04	22.73
66/12/13	2439472.5	0.16598	0.89027	0.38606	-29.84899	4.51101	1.95628	0.98446	30.25125	79.44	23.09
66/12/17	2439476.5	0.09667	0.89847	0.38962	-30.13137	2.58792	1.12234	0.98407	30.26312	83.86	23.32

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66/12/21	2439480.5	0.02688	0.90221	0.39124	-30.26435	0.64991	0.28194	0.98376	30.27264	88.29	23.43
66/12/25	2439484.5	-0.04305	0.90147	0.39092	-30.24695	-1.29296	-0.56057	0.98352	30.27976	92.73	23.42
66/12/29	2439488.5	-0.11276	0.89624	0.38865	-30.07904	-3.23054	-1.40079	0.98337	30.28444	97.17	23.28
67/ 1/ 2	2439492.5	-0.18191	0.88656	0.38445	-29.76136	-5.15270	-2.23432	0.98330	30.28665	101.60	23.02
67/ 1/ 6	2439496.5	-0.25015	0.87246	0.37834	-29.29550	-7.04940	-3.05681	0.98331	30.28638	106.00	22.63
67/ 1/10	2439500.5	-0.31715	0.85401	0.37034	-28.68391	-8.91072	-3.86396	0.98340	30.28363	110.37	22.12
67/ 1/14	2439504.5	-0.38257	0.83132	0.36050	-27.92986	-10.72696	-4.65157	0.98357	30.27841	114.71	21.50
67/ 1/18	2439508.5	-0.44609	0.80449	0.34887	-27.03744	-12.48868	-5.41553	0.98383	30.27075	119.01	20.77
67/ 1/22	2439512.5	-0.50739	0.77367	0.33550	-26.01151	-14.18680	-6.15191	0.98416	30.26070	123.26	19.93
67/ 1/26	2439516.5	-0.56617	0.73900	0.32047	-24.85767	-15.81261	-6.85693	0.98457	30.24830	127.46	19.00
67/ 1/30	2439520.5	-0.62215	0.70067	0.30384	-23.58223	-17.35785	-7.52702	0.98505	30.23363	131.60	17.97
67/ 2/ 3	2439524.5	-0.67504	0.65887	0.28572	-22.19214	-18.81477	-8.15881	0.98561	30.21677	135.69	16.85
67/ 2/ 7	2439528.5	-0.72460	0.61381	0.26618	-20.69497	-20.17616	-8.74917	0.98624	30.19780	139.73	15.66
67/ 2/11	2439532.5	-0.77059	0.56573	0.24533	-19.09881	-21.43538	-9.29523	0.98693	30.17684	143.72	14.39
67/ 2/15	2439536.5	-0.81278	0.51486	0.22327	-17.41225	-22.58642	-9.79437	0.98769	30.15398	147.65	13.06
67/ 2/19	2439540.5	-0.85097	0.46146	0.20011	-15.64429	-23.62391	-10.24428	0.98851	30.12936	151.53	11.68
67/ 2/23	2439544.5	-0.88500	0.40580	0.17597	-13.80429	-24.54315	-10.64291	0.98938	30.10310	155.37	10.25
67/ 2/27	2439548.5	-0.91471	0.34815	0.15098	-11.90192	-25.34013	-10.98852	0.99030	30.07533	159.16	8.77
67/ 3/ 3	2439552.5	-0.93995	0.28881	0.12525	-9.94707	-26.01153	-11.27968	0.99127	30.04622	162.92	7.26
67/ 3/ 7	2439556.5	-0.96063	0.22807	0.09891	-7.94979	-26.55473	-11.51524	0.99228	30.01589	166.64	5.72
67/ 3/11	2439560.5	-0.97666	0.16622	0.07209	-5.92026	-26.96782	-11.69438	0.99332	29.98452	170.34	4.16
67/ 3/15	2439564.5	-0.98797	0.10357	0.04492	-3.86867	-27.24958	-11.81657	0.99440	29.95225	174.02	2.59
67/ 3/19	2439568.5	-0.99452	0.04042	0.01753	-1.80522	-27.39947	-11.88158	0.99550	29.91926	177.67	1.01
67/ 3/23	2439572.5	-0.99631	-0.02292	-0.00994	0.25998	-27.41765	-11.88947	0.99662	29.88569	181.32	-0.57
67/ 3/27	2439576.5	-0.99333	-0.08616	-0.03736	2.31694	-27.30491	-11.84059	0.99776	29.85173	184.96	-2.15
67/ 3/31	2439580.5	-0.98562	-0.14898	-0.06460	4.35583	-27.06268	-11.73556	0.99890	29.81753	188.60	-3.71
67/ 4/ 4	2439584.5	-0.97323	-0.21110	-0.09154	6.36707	-26.69300	-11.57526	1.00005	29.78325	192.24	-5.25
67/ 4/ 8	2439588.5	-0.95623	-0.27222	-0.11804	8.34130	-26.19850	-11.36083	1.00120	29.74907	195.89	-6.77
67/ 4/12	2439592.5	-0.93472	-0.33205	-0.14399	10.26952	-25.58236	-11.09365	1.00234	29.71514	199.56	-8.26
67/ 4/16	2439596.5	-0.90882	-0.39033	-0.16926	12.14302	-24.84829	-10.77533	1.00347	29.68161	203.24	-9.71
67/ 4/20	2439600.5	-0.87866	-0.44677	-0.19374	13.95347	-24.00047	-10.40769	1.00458	29.64865	206.95	-11.12
67/ 4/24	2439604.5	-0.84441	-0.50113	-0.21731	15.69296	-23.04358	-9.99275	1.00567	29.61640	210.69	-12.48
67/ 4/28	2439608.5	-0.80622	-0.55316	-0.23987	17.35398	-21.98270	-9.53271	1.00673	29.58500	214.45	-13.78
67/ 5/ 2	2439612.5	-0.76429	-0.60262	-0.26132	18.92947	-20.82330	-9.02996	1.00776	29.55461	218.25	-15.03
67/ 5/ 6	2439616.5	-0.71883	-0.64930	-0.28156	20.41283	-19.57123	-8.48701	1.00875	29.52534	222.09	-16.21
67/ 5/10	2439620.5	-0.67005	-0.69298	-0.30050	21.79793	-18.23266	-7.90655	1.00970	29.49734	225.96	-17.31
67/ 5/14	2439624.5	-0.61819	-0.73348	-0.31807	23.07914	-16.81405	-7.29139	1.01061	29.47072	229.88	-18.34
67/ 5/18	2439628.5	-0.56350	-0.77061	-0.33417	24.25133	-15.32213	-6.64444	1.01146	29.44560	233.82	-19.29
67/ 5/22	2439632.5	-0.50623	-0.80422	-0.34874	25.30986	-13.76386	-5.96871	1.01226	29.42207	237.81	-20.15
67/ 5/26	2439636.5	-0.44665	-0.83416	-0.36173	26.25062	-12.14642	-5.26732	1.01300	29.40026	241.83	-20.92
67/ 5/30	2439640.5	-0.38504	-0.86030	-0.37306	27.07000	-10.47713	-4.54345	1.01368	29.38023	245.89	-21.59
67/ 6/ 3	2439644.5	-0.32168	-0.88254	-0.38270	27.76491	-8.76349	-3.80035	1.01430	29.36208	249.97	-22.17
67/ 6/ 7	2439648.5	-0.25685	-0.90077	-0.39061	28.33280	-7.01310	-3.04130	1.01485	29.34588	254.08	-22.64
67/ 6/11	2439652.5	-0.19087	-0.91492	-0.39675	28.77162	-5.23365	-2.26966	1.01534	29.33170	258.22	-23.00
67/ 6/15	2439656.5	-0.12402	-0.92493	-0.40109	29.07985	-3.43291	-1.48878	1.01575	29.31960	262.36	-23.26

1.3 1 A.U.=149,599,000 KM.

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM								EARTH-MOON B	
67/ 6/19	2439660.5	-0.05661	-0.93077	-0.40362	29.25647	-1.61867	-0.70205	1.01609	29.30962	266.52	-23.41
67/ 6/23	2439664.5	0.01106	-0.93240	-0.40433	29.30099	0.20124	0.08714	1.01636	29.30181	270.68	-23.44
67/ 6/27	2439668.5	0.07867	-0.92984	-0.40322	29.21343	2.01901	0.87540	1.01655	29.29619	274.84	-23.37
67/ 7/ 1	2439672.5	0.14593	-0.92308	-0.40029	28.99430	3.82686	1.65936	1.01667	29.29280	278.98	-23.19
67/ 7/ 5	2439676.5	0.21253	-0.91217	-0.39556	28.64465	5.61705	2.43567	1.01671	29.29164	283.12	-22.90
67/ 7/ 9	2439680.5	0.27818	-0.89715	-0.38904	28.16600	7.38195	3.20101	1.01667	29.29271	287.23	-22.50
67/ 7/13	2439684.5	0.34257	-0.87809	-0.38078	27.56036	9.11398	3.95209	1.01656	29.29602	291.31	-22.00
67/ 7/17	2439688.5	0.40542	-0.85507	-0.37080	26.83024	10.80570	4.68570	1.01637	29.30155	295.37	-21.40
67/ 7/21	2439692.5	0.46644	-0.82820	-0.35915	25.97864	12.44983	5.39867	1.01611	29.30927	299.39	-20.70
67/ 7/25	2439696.5	0.52536	-0.79759	-0.34587	25.00902	14.03922	6.08790	1.01577	29.31916	303.37	-19.91
67/ 7/29	2439700.5	0.58191	-0.76338	-0.33104	23.92532	15.56692	6.75038	1.01536	29.33117	307.32	-19.03
67/ 8/ 2	2439704.5	0.63582	-0.72572	-0.31471	22.73195	17.02621	7.38319	1.01488	29.34526	311.22	-18.06
67/ 8/ 6	2439708.5	0.68686	-0.68477	-0.29695	21.43374	18.41056	7.98351	1.01433	29.36137	315.09	-17.02
67/ 8/10	2439712.5	0.73478	-0.64072	-0.27785	20.03599	19.71373	8.54862	1.01371	29.37943	318.91	-15.91
67/ 8/14	2439716.5	0.77936	-0.59375	-0.25748	18.54445	20.92974	9.07594	1.01303	29.39937	322.70	-14.72
67/ 8/18	2439720.5	0.82039	-0.54409	-0.23594	16.96524	22.05292	9.56300	1.01229	29.42111	326.45	-13.48
67/ 8/22	2439724.5	0.85768	-0.49194	-0.21333	15.30494	23.07793	10.00748	1.01150	29.44455	330.16	-12.18
67/ 8/26	2439728.5	0.89105	-0.43754	-0.18974	13.57050	23.99977	10.40723	1.01065	29.46961	333.85	-10.82
67/ 8/30	2439732.5	0.92033	-0.38113	-0.16528	11.76923	24.81384	10.76025	1.00974	29.49617	337.50	-9.42
67/ 9/ 3	2439736.5	0.94538	-0.32298	-0.14006	9.90884	25.51591	11.06469	1.00880	29.52413	341.14	-7.98
67/ 9/ 7	2439740.5	0.96607	-0.26333	-0.11420	7.99734	26.10220	11.31894	1.00781	29.55335	344.75	-6.51
67/ 9/11	2439744.5	0.98230	-0.20247	-0.08780	6.04306	26.56939	11.52153	1.00678	29.58372	348.35	-5.00
67/ 9/15	2439748.5	0.99397	-0.14066	-0.06100	4.05463	26.91460	11.67123	1.00572	29.61509	351.95	-3.48
67/ 9/19	2439752.5	1.00101	-0.07821	-0.03392	2.04094	27.13550	11.76703	1.00463	29.64733	355.53	-1.93
67/ 9/23	2439756.5	1.00338	-0.01539	-0.00668	0.01109	27.23026	11.80813	1.00352	29.68028	359.12	-0.38
67/ 9/27	2439760.5	1.00106	0.04751	0.02060	-2.02561	27.19759	11.79397	1.00240	29.71379	2.72	1.18
67/10/ 1	2439764.5	0.99403	0.11018	0.04777	-4.05969	27.03678	11.72424	1.00125	29.74772	6.32	2.73
67/10/ 5	2439768.5	0.98231	0.17233	0.07472	-6.08159	26.74773	11.59891	1.00011	29.78190	9.95	4.28
67/10/ 9	2439772.5	0.96594	0.23366	0.10132	-8.08164	26.33090	11.41817	0.99896	29.81617	13.60	5.82
67/10/13	2439776.5	0.94499	0.29389	0.12744	-10.05016	25.78741	11.18250	0.99781	29.85037	17.28	7.34
67/10/17	2439780.5	0.91954	0.35271	0.15295	-11.97749	25.11899	10.89265	0.99667	29.88434	20.99	8.83
67/10/21	2439784.5	0.88969	0.40985	0.17772	-13.85403	24.32801	10.54966	0.99555	29.91791	24.73	10.28
67/10/25	2439788.5	0.85558	0.46503	0.20165	-15.67031	23.41748	10.15483	0.99445	29.95092	28.53	11.70
67/10/29	2439792.5	0.81734	0.51796	0.22460	-17.41703	22.39108	9.70975	0.99337	29.98321	32.36	13.07
67/11/ 2	2439796.5	0.77516	0.56839	0.24647	-19.08514	21.25310	9.21629	0.99232	30.01461	36.25	14.38
67/11/ 6	2439800.5	0.72923	0.61608	0.26715	-20.66586	20.00848	8.67658	0.99131	30.04497	40.19	15.63
67/11/10	2439804.5	0.67975	0.66076	0.28653	-22.15078	18.66277	8.09304	0.99034	30.07413	44.19	16.82
67/11/14	2439808.5	0.62697	0.70223	0.30451	-23.53188	17.22213	7.46833	0.98941	30.10195	48.24	17.92
67/11/18	2439812.5	0.57111	0.74027	0.32101	-24.80161	15.69330	6.80538	0.98854	30.12827	52.35	18.95
67/11/22	2439816.5	0.51247	0.77468	0.33593	-25.95295	14.08356	6.10733	0.98772	30.15298	56.51	19.88
67/11/26	2439820.5	0.45130	0.80528	0.34920	-26.97945	12.40070	5.37759	0.98696	30.17593	60.73	20.72
67/11/30	2439824.5	0.38791	0.83192	0.36075	-27.87527	10.65300	4.61972	0.98626	30.19700	65.00	21.46
67/12/ 4	2439828.5	0.32261	0.85446	0.37053	-28.63525	8.84916	3.83751	0.98563	30.21608	69.32	22.08
67/12/ 8	2439832.5	0.25571	0.87277	0.37847	-29.25496	6.99827	3.03489	0.98507	30.23308	73.67	22.59
67/12/12	2439836.5	0.18755	0.88676	0.38454	-29.73071	5.10973	2.21595	0.98458	30.24789	78.06	22.99

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
67/12/16	2439840.5	0.11846	0.89636	0.38870	-30.05961	3.19325	1.38489	0.98416	30.26045	82.47	23.26
67/12/20	2439844.5	0.04878	0.90150	0.39093	-30.23956	1.25871	0.54600	0.98383	30.27067	86.90	23.41
67/12/24	2439848.5	-0.02114	0.90217	0.39122	-30.26933	-0.68385	-0.29637	0.98357	30.27851	91.34	23.44
67/12/28	2439852.5	-0.09096	0.89835	0.38956	-30.14853	-2.62429	-1.13783	0.98339	30.28391	95.78	23.34
68/ 1/ 1	2439856.5	-0.16032	0.89005	0.38596	-29.87762	-4.55249	-1.97397	0.98329	30.28686	100.21	23.11
68/ 1/ 5	2439860.5	-0.22889	0.87733	0.38045	-29.45793	-6.45835	-2.80043	0.98328	30.28733	104.62	22.76
68/ 1/ 9	2439864.5	-0.29631	0.86024	0.37304	-28.89165	-8.33190	-3.61288	0.98335	30.28532	109.01	22.29
68/ 1/13	2439868.5	-0.36227	0.83887	0.36377	-28.18178	-10.16338	-4.40708	0.98349	30.28084	113.36	21.71
68/ 1/17	2439872.5	-0.42642	0.81332	0.35269	-27.33217	-11.94326	-5.17891	0.98372	30.27392	117.67	21.01
68/ 1/21	2439876.5	-0.48845	0.78373	0.33986	-26.34744	-13.66233	-5.92437	0.98403	30.26458	121.93	20.20
68/ 1/25	2439880.5	-0.54805	0.75025	0.32534	-25.23297	-15.31176	-6.63964	0.98442	30.25289	126.15	19.30
68/ 1/29	2439884.5	-0.60494	0.71305	0.30921	-23.99485	-16.88315	-7.32106	0.98488	30.23891	130.31	18.30
68/ 2/ 2	2439888.5	-0.65883	0.67231	0.29154	-22.63984	-18.36858	-7.96520	0.98542	30.22270	134.42	17.21
68/ 2/ 6	2439892.5	-0.70946	0.62825	0.27244	-21.17532	-19.76065	-8.56887	0.98603	30.20436	138.47	16.04
68/ 2/10	2439896.5	-0.75659	0.58109	0.25199	-19.60922	-21.05256	-9.12910	0.98670	30.18398	142.47	14.80
68/ 2/14	2439900.5	-0.79999	0.53106	0.23029	-17.94998	-22.23810	-9.64321	0.98744	30.16167	146.42	13.49
68/ 2/18	2439904.5	-0.83946	0.47842	0.20747	-16.20649	-23.31168	-10.10876	0.98824	30.13755	150.32	12.12
68/ 2/22	2439908.5	-0.87481	0.42344	0.18363	-14.38800	-24.26840	-10.52364	0.98910	30.11174	154.17	10.70
68/ 2/26	2439912.5	-0.90588	0.36639	0.15889	-12.50410	-25.10403	-10.88602	0.99000	30.08439	157.98	9.24
68/ 3/ 1	2439916.5	-0.93254	0.30755	0.13337	-10.56462	-25.81504	-11.19435	0.99096	30.05563	161.75	7.73
68/ 3/ 5	2439920.5	-0.95466	0.24721	0.10721	-8.57955	-26.39859	-11.44741	0.99196	30.02561	165.48	6.20
68/ 3/ 9	2439924.5	-0.97215	0.18568	0.08052	-6.55905	-26.85254	-11.64427	0.99300	29.99448	169.19	4.65
68/ 3/13	2439928.5	-0.98495	0.12324	0.05345	-4.51331	-27.17547	-11.78431	0.99406	29.96241	172.87	3.08
68/ 3/17	2439932.5	-0.99299	0.06022	0.02612	-2.45254	-27.36663	-11.86722	0.99516	29.92955	176.53	1.50
68/ 3/21	2439936.5	-0.99627	-0.00310	-0.00134	-0.38687	-27.42595	-11.89296	0.99628	29.89607	180.18	-0.08
68/ 3/25	2439940.5	-0.99479	-0.06640	-0.02879	1.67366	-27.35404	-11.86178	0.99741	29.86213	183.82	-1.65
68/ 3/29	2439944.5	-0.98855	-0.12938	-0.05610	3.71916	-27.15214	-11.77424	0.99856	29.82790	187.46	-3.22
68/ 4/ 2	2439948.5	-0.97762	-0.19175	-0.08315	5.73998	-26.82209	-11.63113	0.99971	29.79354	191.10	-4.77
68/ 4/ 6	2439952.5	-0.96206	-0.25321	-0.10980	7.72668	-26.36634	-11.43351	1.00086	29.75921	194.75	-6.30
68/ 4/10	2439956.5	-0.94195	-0.31348	-0.13593	9.67014	-25.78792	-11.18269	1.00201	29.72509	198.41	-7.80
68/ 4/14	2439960.5	-0.91742	-0.37227	-0.16143	11.56157	-25.09036	-10.88021	1.00315	29.69133	202.09	-9.26
68/ 4/18	2439964.5	-0.88858	-0.42932	-0.18616	13.39252	-24.27771	-10.52783	1.00426	29.65808	205.79	-10.68
68/ 4/22	2439968.5	-0.85559	-0.48436	-0.21003	15.15494	-23.35449	-10.12749	1.00536	29.62550	209.51	-12.06
68/ 4/26	2439972.5	-0.81862	-0.53714	-0.23292	16.84119	-22.32566	-9.68136	1.00643	29.59374	213.27	-13.38
68/ 4/30	2439976.5	-0.77784	-0.58743	-0.25473	18.44409	-21.19657	-9.19175	1.00748	29.56294	217.06	-14.65
68/ 5/ 4	2439980.5	-0.73347	-0.63500	-0.27536	19.95688	-19.97297	-8.66116	1.00848	29.53323	220.88	-15.85
68/ 5/ 8	2439984.5	-0.68571	-0.67965	-0.29472	21.37329	-18.66091	-8.09221	1.00944	29.50476	224.75	-16.98
68/ 5/12	2439988.5	-0.63480	-0.72116	-0.31272	22.68754	-17.26677	-7.48766	1.01036	29.47763	228.64	-18.03
68/ 5/16	2439992.5	-0.58097	-0.75937	-0.32929	23.89433	-15.79720	-6.85041	1.01123	29.45197	232.58	-19.00
68/ 5/20	2439996.5	-0.52448	-0.79410	-0.34435	24.98889	-14.25909	-6.18343	1.01205	29.42789	236.56	-19.89
68/ 5/24	2440000.5	-0.46560	-0.82520	-0.35784	25.96692	-12.65955	-5.48981	1.01281	29.40549	240.57	-20.69
68/ 5/28	2440004.5	-0.40460	-0.85255	-0.36969	26.82467	-11.00585	-4.77271	1.01351	29.38487	244.61	-21.39
68/ 6/ 1	2440008.5	-0.34176	-0.87602	-0.37987	27.55889	-9.30545	-4.03536	1.01415	29.36610	248.69	-22.00
68/ 6/ 5	2440012.5	-0.27737	-0.89551	-0.38833	28.16686	-7.56591	-3.28103	1.01473	29.34927	252.79	-22.50
68/ 6/ 9	2440016.5	-0.21172	-0.91095	-0.39502	28.64637	-5.79489	-2.51305	1.01523	29.33446	256.92	-22.90

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				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM						EARTH-MOON B	
68/ 6/13	2440020.5	-0.14511	-0.92227	-0.39993	28.99573	-4.00013	-1.73478	1.01567	29.32171	261.06	-23.19
68/ 6/17	2440024.5	-0.07785	-0.92942	-0.40303	29.21377	-2.18943	-0.94959	1.01603	29.31108	265.21	-23.37
68/ 6/21	2440028.5	-0.01023	-0.93238	-0.40431	29.29984	-0.37059	-0.16087	1.01632	29.30262	269.37	-23.44
68/ 6/25	2440032.5	0.05743	-0.93113	-0.40377	29.25378	1.44856	0.62798	1.01653	29.29636	273.53	-23.40
68/ 6/29	2440036.5	0.12483	-0.92569	-0.40142	29.07598	3.26025	1.41360	1.01667	29.29232	277.68	-23.26
68/ 7/ 3	2440040.5	0.19167	-0.91608	-0.39725	28.76728	5.05672	2.19262	1.01673	29.29052	281.82	-23.00
68/ 7/ 7	2440044.5	0.25764	-0.90234	-0.39129	28.32907	6.83029	2.96171	1.01672	29.29097	285.94	-22.63
68/ 7/11	2440048.5	0.32246	-0.88454	-0.38357	27.76320	8.57337	3.71758	1.01663	29.29366	290.03	-22.17
68/ 7/15	2440052.5	0.38582	-0.86276	-0.37413	27.07203	10.27850	4.45699	1.01646	29.29858	294.09	-21.60
68/ 7/19	2440056.5	0.44745	-0.83709	-0.36300	26.25839	11.93831	5.17676	1.01622	29.30572	298.13	-20.93
68/ 7/23	2440060.5	0.50705	-0.80764	-0.35023	25.32560	13.54564	5.87376	1.01590	29.31504	302.12	-20.17
68/ 7/27	2440064.5	0.56437	-0.77455	-0.33588	24.27746	15.09346	6.54496	1.01551	29.32650	306.08	-19.31
68/ 7/31	2440068.5	0.61914	-0.73796	-0.32001	23.11820	16.57497	7.18740	1.01505	29.34007	310.00	-18.38
68/ 8/ 4	2440072.5	0.67110	-0.69802	-0.30269	21.85254	17.98359	7.79824	1.01451	29.35567	313.87	-17.36
68/ 8/ 8	2440076.5	0.72003	-0.65493	-0.28401	20.48563	19.31297	8.37472	1.01392	29.37325	317.71	-16.27
68/ 8/12	2440080.5	0.76568	-0.60886	-0.26403	19.02307	20.55707	8.91421	1.01325	29.39274	321.51	-15.10
68/ 8/16	2440084.5	0.80785	-0.56002	-0.24285	17.47086	21.71009	9.41421	1.01253	29.41405	325.27	-13.88
68/ 8/20	2440088.5	0.84634	-0.50862	-0.22056	15.83544	22.76659	9.87236	1.01175	29.43709	329.00	-12.59
68/ 8/24	2440092.5	0.88096	-0.45490	-0.19727	14.12363	23.72146	10.28644	1.01091	29.46177	332.69	-11.25
68/ 8/28	2440096.5	0.91154	-0.39910	-0.17307	12.34265	24.56997	10.65439	1.01002	29.48797	336.35	-9.87
68/ 9/ 1	2440100.5	0.93794	-0.34147	-0.14808	10.50006	25.30776	10.97434	1.00909	29.51559	340.00	-8.44
68/ 9/ 5	2440104.5	0.96001	-0.28226	-0.12240	8.60379	25.93092	11.24457	1.00811	29.54451	343.62	-6.97
68/ 9/ 9	2440108.5	0.97766	-0.22175	-0.09616	6.66207	26.43596	11.46359	1.00709	29.57460	347.22	-5.48
68/ 9/13	2440112.5	0.99077	-0.16021	-0.06948	4.68345	26.81987	11.63008	1.00604	29.60572	350.81	-3.96
68/ 9/17	2440116.5	0.99927	-0.09793	-0.04247	2.67672	27.08014	11.74296	1.00496	29.63775	354.40	-2.42
68/ 9/21	2440120.5	1.00312	-0.03519	-0.01526	0.65093	27.21478	11.80135	1.00385	29.67052	357.99	-0.87
68/ 9/25	2440124.5	1.00227	0.02772	0.01201	-1.38467	27.22233	11.80464	1.00273	29.70391	1.58	0.69
68/ 9/29	2440128.5	0.99672	0.09049	0.03923	-3.42066	27.10190	11.75243	1.00159	29.73775	5.19	2.24
68/10/ 3	2440132.5	0.98648	0.15284	0.06627	-5.44749	26.85318	11.64459	1.00044	29.77188	8.81	3.80
68/10/ 7	2440136.5	0.97157	0.21446	0.09299	-7.45552	26.47647	11.48124	0.99929	29.80615	12.45	5.34
68/10/11	2440140.5	0.95205	0.27507	0.11928	-9.43507	25.97266	11.26278	0.99814	29.84040	16.12	6.86
68/10/15	2440144.5	0.92800	0.33437	0.14499	-11.37646	25.34329	10.98987	0.99700	29.87446	19.81	8.36
68/10/19	2440148.5	0.89952	0.39207	0.17001	-13.27007	24.59053	10.66346	0.99587	29.90817	23.55	9.83
68/10/23	2440152.5	0.86673	0.44789	0.19422	-15.10637	23.71721	10.28477	0.99477	29.94136	27.33	11.26
68/10/27	2440156.5	0.82978	0.50156	0.21749	-16.87601	22.72677	9.85529	0.99368	29.97386	31.15	12.64
68/10/31	2440160.5	0.78882	0.55281	0.23972	-18.56985	21.62333	9.37680	0.99262	30.00553	35.02	13.97
68/11/ 4	2440164.5	0.74404	0.60139	0.26078	-20.17901	20.41162	8.85137	0.99160	30.03620	38.95	15.25
68/11/ 8	2440168.5	0.69566	0.64704	0.28058	-21.69497	19.09701	8.28131	0.99062	30.06572	42.93	16.45
68/11/12	2440172.5	0.64388	0.68955	0.29901	-23.10956	17.68547	7.66922	0.98968	30.09393	46.96	17.59
68/11/16	2440176.5	0.58897	0.72869	0.31598	-24.41511	16.18355	7.01794	0.98879	30.12070	51.05	18.64
68/11/20	2440180.5	0.53117	0.76426	0.33141	-25.60440	14.59837	6.33056	0.98796	30.14587	55.20	19.60
68/11/24	2440184.5	0.47076	0.79608	0.34521	-26.67079	12.93757	5.61038	0.98718	30.16933	59.40	20.47
68/11/28	2440188.5	0.40804	0.82398	0.35731	-27.60826	11.20928	4.86094	0.98646	30.19094	63.66	21.24
68/12/ 2	2440192.5	0.34330	0.84782	0.36765	-28.41144	9.42208	4.08594	0.98581	30.21060	67.96	21.90
68/12/ 6	2440196.5	0.27687	0.86748	0.37617	-29.07564	7.58494	3.28929	0.98523	30.22819	72.30	22.45

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

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68/12/10	2440200.5	0.20907	0.88284	0.38283	-29.59695	5.70717	2.47502	0.98472	30.24363	76.68	22.88
68/12/14	2440204.5	0.14024	0.89382	0.38759	-29.97223	3.79838	1.64731	0.98428	30.25683	81.08	23.19
68/12/18	2440208.5	0.07071	0.90037	0.39043	-30.19912	1.86842	0.81040	0.98392	30.26772	85.51	23.38
68/12/22	2440212.5	0.00082	0.90245	0.39133	-30.27614	-0.07272	-0.03135	0.98364	30.27624	89.95	23.44
68/12/26	2440216.5	-0.06906	0.90003	0.39029	-30.20260	-2.01493	-0.87356	0.98344	30.28234	94.39	23.38
68/12/30	2440220.5	-0.13861	0.89314	0.38730	-29.97873	-3.94806	-1.71184	0.98332	30.28600	98.82	23.20
69/ 1/ 3	2440224.5	-0.20746	0.88181	0.38239	-29.60557	-5.86201	-2.54180	0.98328	30.28718	103.24	22.89
69/ 1/ 7	2440228.5	-0.27528	0.86608	0.37557	-29.08504	-7.74677	-3.35911	0.98332	30.28590	107.63	22.45
69/ 1/11	2440232.5	-0.34173	0.84604	0.36688	-28.41990	-9.59249	-4.15949	0.98345	30.28214	111.99	21.90
69/ 1/15	2440236.5	-0.40648	0.82180	0.35636	-27.61373	-11.38958	-4.93877	0.98365	30.27593	116.32	21.24
69/ 1/19	2440240.5	-0.46921	0.79346	0.34408	-26.67092	-13.12871	-5.69293	0.98394	30.26731	120.60	20.47
69/ 1/23	2440244.5	-0.52961	0.76119	0.33008	-25.59660	-14.80093	-6.41808	0.98430	30.25632	124.83	19.59
69/ 1/27	2440248.5	-0.58738	0.72514	0.31445	-24.39665	-16.39770	-7.11050	0.98474	30.24302	129.01	18.62
69/ 1/31	2440252.5	-0.64224	0.68549	0.29726	-23.07763	-17.91095	-7.76671	0.98526	30.22748	133.13	17.56
69/ 2/ 4	2440256.5	-0.69392	0.64245	0.27860	-21.64672	-19.33311	-8.38342	0.98584	30.20979	137.21	16.42
69/ 2/ 8	2440260.5	-0.74218	0.59624	0.25856	-20.11169	-20.65719	-8.95760	0.98650	30.19003	141.22	15.19
69/ 2/12	2440264.5	-0.78677	0.54709	0.23724	-18.48083	-21.87678	-9.48647	0.98722	30.16832	145.19	13.91
69/ 2/16	2440268.5	-0.82750	0.49525	0.21476	-16.76288	-22.98611	-9.96753	0.98800	30.14477	149.10	12.55
69/ 2/20	2440272.5	-0.86416	0.44097	0.19123	-14.96700	-23.98006	-10.39855	0.98884	30.11950	152.97	11.15
69/ 2/24	2440276.5	-0.89660	0.38454	0.16676	-13.10267	-24.85419	-10.77762	0.98973	30.09265	156.79	9.70
69/ 2/28	2440280.5	-0.92466	0.32623	0.14147	-11.17963	-25.60473	-11.10309	0.99067	30.06434	160.57	8.21
69/ 3/ 4	2440284.5	-0.94821	0.26634	0.11550	-9.20786	-26.22863	-11.37365	0.99166	30.03474	164.31	6.69
69/ 3/ 8	2440288.5	-0.96717	0.20515	0.08897	-7.19745	-26.72355	-11.58827	0.99268	30.00398	168.02	5.14
69/ 3/12	2440292.5	-0.98145	0.14297	0.06200	-5.15858	-27.08782	-11.74624	0.99374	29.97223	171.71	3.58
69/ 3/16	2440296.5	-0.99099	0.08009	0.03474	-3.10146	-27.32048	-11.84714	0.99483	29.93965	175.38	2.00
69/ 3/20	2440300.5	-0.99577	0.01684	0.00731	-1.03626	-27.42127	-11.89085	0.99594	29.90639	179.03	0.42
69/ 3/24	2440304.5	-0.99578	-0.04650	-0.02016	1.02694	-27.39056	-11.87754	0.99707	29.87262	182.67	-1.16
69/ 3/28	2440308.5	-0.99103	-0.10962	-0.04753	3.07823	-27.22940	-11.80766	0.99821	29.83850	186.31	-2.73
69/ 4/ 1	2440312.5	-0.98157	-0.17221	-0.07467	5.10784	-26.93945	-11.68193	0.99936	29.80422	189.95	-4.29
69/ 4/ 5	2440316.5	-0.96746	-0.23399	-0.10146	7.10629	-26.52297	-11.50133	1.00051	29.76992	193.60	-5.82
69/ 4/ 9	2440320.5	-0.94877	-0.29466	-0.12777	9.06436	-25.98281	-11.26710	1.00166	29.73578	197.25	-7.33
69/ 4/13	2440324.5	-0.92562	-0.35395	-0.15348	10.97312	-25.32234	-10.98070	1.00279	29.70196	200.93	-8.80
69/ 4/17	2440328.5	-0.89812	-0.41157	-0.17846	12.82403	-24.54546	-10.64382	1.00392	29.66860	204.62	-10.24
69/ 4/21	2440332.5	-0.86641	-0.46727	-0.20262	14.60890	-23.65653	-10.25836	1.00502	29.63588	208.34	-11.63
69/ 4/25	2440336.5	-0.83067	-0.52079	-0.22583	16.31997	-22.66037	-9.82640	1.00610	29.60392	212.09	-12.97
69/ 4/29	2440340.5	-0.79107	-0.57189	-0.24799	17.94989	-21.56223	-9.35021	1.00715	29.57287	215.86	-14.25
69/ 5/ 3	2440344.5	-0.74781	-0.62034	-0.26900	19.49178	-20.36771	-8.83224	1.00816	29.54288	219.68	-15.47
69/ 5/ 7	2440348.5	-0.70109	-0.66592	-0.28876	20.93921	-19.08279	-8.27506	1.00914	29.51406	223.53	-16.63
69/ 5/11	2440352.5	-0.65114	-0.70844	-0.30720	22.28623	-17.71374	-7.68140	1.01007	29.48655	227.41	-17.71
69/ 5/15	2440356.5	-0.59820	-0.74771	-0.32423	23.52741	-16.26713	-7.05411	1.01096	29.46047	231.34	-18.71
69/ 5/19	2440360.5	-0.54252	-0.78355	-0.33977	24.65779	-14.74978	-6.39614	1.01179	29.43592	235.30	-19.62
69/ 5/23	2440364.5	-0.48436	-0.81581	-0.35376	25.67294	-13.16873	-5.71055	1.01257	29.41301	239.30	-20.45
69/ 5/27	2440368.5	-0.42399	-0.84435	-0.36614	26.56892	-11.53121	-5.00047	1.01329	29.39185	243.34	-21.18
69/ 5/31	2440372.5	-0.36170	-0.86905	-0.37685	27.34233	-9.84462	-4.26911	1.01394	29.37252	247.40	-21.82
69/ 6/ 4	2440376.5	-0.29776	-0.88980	-0.38585	27.99027	-8.11648	-3.51974	1.01454	29.35509	251.50	-22.35

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				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					EARTH-MOON B		
69/ 6/ 8	2440380.5	-0.23247	-0.90652	-0.39310	28.51039	-6.35445	-2.75566	1.01506	29.33965	255.62	-22.78
69/ 6/12	2440384.5	-0.16613	-0.91914	-0.39857	28.90082	-4.56623	-1.98024	1.01552	29.32625	259.75	-23.11
69/ 6/16	2440388.5	-0.09904	-0.92761	-0.40224	29.16023	-2.75961	-1.19683	1.01590	29.31496	263.91	-23.32
69/ 6/20	2440392.5	-0.03150	-0.93188	-0.40410	29.28781	-0.94240	-0.40882	1.01622	29.30581	268.06	-23.43
69/ 6/24	2440396.5	0.03618	-0.93196	-0.40413	29.28324	0.87759	0.38039	1.01645	29.29886	272.22	-23.43
69/ 6/28	2440400.5	0.10370	-0.92783	-0.40234	29.14674	2.69256	1.16742	1.01662	29.29411	276.38	-23.31
69/ 7/ 2	2440404.5	0.17075	-0.91953	-0.39874	28.87900	4.49473	1.94890	1.01670	29.29160	280.52	-23.09
69/ 7/ 6	2440408.5	0.23703	-0.90708	-0.39334	28.48126	6.27641	2.72150	1.01671	29.29133	284.64	-22.76
69/ 7/10	2440412.5	0.30224	-0.89055	-0.38617	27.95521	8.02997	3.48190	1.01664	29.29330	288.75	-22.32
69/ 7/14	2440416.5	0.36609	-0.87001	-0.37727	27.30305	9.74790	4.22686	1.01650	29.29751	292.82	-21.79
69/ 7/18	2440420.5	0.42830	-0.84555	-0.36666	26.52748	11.42281	4.95316	1.01628	29.30395	296.86	-21.15
69/ 7/22	2440424.5	0.48857	-0.81727	-0.35440	25.63165	13.04746	5.65767	1.01599	29.31257	300.87	-20.42
69/ 7/26	2440428.5	0.54663	-0.78531	-0.34054	24.61922	14.61478	6.33731	1.01562	29.32335	304.84	-19.59
69/ 7/30	2440432.5	0.60223	-0.74979	-0.32514	23.49428	16.11790	6.98912	1.01518	29.33625	308.77	-18.68
69/ 8/ 3	2440436.5	0.65510	-0.71089	-0.30827	22.26140	17.55016	7.61021	1.01467	29.35121	312.66	-17.69
69/ 8/ 7	2440440.5	0.70501	-0.66877	-0.29000	20.92561	18.90514	8.19778	1.01409	29.36816	316.51	-16.62
69/ 8/11	2440444.5	0.75171	-0.62361	-0.27042	19.49235	20.17669	8.74917	1.01345	29.38704	320.32	-15.48
69/ 8/15	2440448.5	0.79500	-0.57561	-0.24961	17.96750	21.35893	9.26184	1.01275	29.40777	324.09	-14.27
69/ 8/19	2440452.5	0.83466	-0.52499	-0.22766	16.35738	22.44632	9.73338	1.01198	29.43026	327.83	-13.00
69/ 8/23	2440456.5	0.87051	-0.47198	-0.20467	14.66869	23.43364	10.16152	1.01116	29.45441	331.53	-11.68
69/ 8/27	2440460.5	0.90238	-0.41680	-0.18074	12.90852	24.31602	10.54416	1.01029	29.48013	335.21	-10.31
69/ 8/31	2440464.5	0.93011	-0.35971	-0.15599	11.08433	25.08900	10.87936	1.00937	29.50730	338.86	-8.89
69/ 9/ 4	2440468.5	0.95355	-0.30097	-0.13052	9.20394	25.74851	11.16536	1.00840	29.53580	342.48	-7.44
69/ 9/ 8	2440472.5	0.97259	-0.24084	-0.10444	7.27549	26.29094	11.40058	1.00740	29.56551	346.09	-5.95
69/ 9/12	2440476.5	0.98714	-0.17959	-0.07788	5.30743	26.71312	11.58367	1.00636	29.59630	349.69	-4.44
69/ 9/16	2440480.5	0.99709	-0.11751	-0.05096	3.30848	27.01239	11.71345	1.00529	29.62803	353.28	-2.91
69/ 9/20	2440484.5	1.00241	-0.05488	-0.02380	1.28762	27.18659	11.78900	1.00419	29.66056	356.87	-1.36
69/ 9/24	2440488.5	1.00303	0.00801	0.00347	-0.74597	27.23408	11.80961	1.00307	29.69375	0.46	0.20
69/ 9/28	2440492.5	0.99896	0.07085	0.03072	-2.78291	27.15381	11.77481	1.00194	29.72743	4.06	1.76
69/10/ 2	2440496.5	0.99018	0.13337	0.05783	-4.81369	26.94527	11.68439	1.00079	29.76146	7.67	3.31
69/10/ 6	2440500.5	0.97673	0.19525	0.08466	-6.82868	26.60858	11.53840	0.99964	29.79567	11.30	4.86
69/10/10	2440504.5	0.95865	0.25621	0.11110	-8.81823	26.14443	11.33714	0.99849	29.82990	14.96	6.39
69/10/14	2440508.5	0.93601	0.31595	0.13700	-10.77263	25.55418	11.08120	0.99735	29.86400	18.65	7.90
69/10/18	2440512.5	0.90891	0.37418	0.16225	-12.68225	24.83979	10.77142	0.99622	29.89779	22.38	9.37
69/10/22	2440516.5	0.87746	0.43063	0.18673	-14.53752	24.00388	10.40895	0.99511	29.93112	26.14	10.82
69/10/26	2440520.5	0.84179	0.48500	0.21031	-16.32903	23.04971	9.99520	0.99401	29.96382	29.95	12.21
69/10/30	2440524.5	0.80207	0.53704	0.23287	-18.04757	21.98118	9.53186	0.99295	29.99572	33.80	13.56
69/11/ 3	2440528.5	0.75847	0.58648	0.25431	-19.68417	20.80284	9.02090	0.99192	30.02668	37.71	14.86
69/11/ 7	2440532.5	0.71119	0.63307	0.27452	-21.23020	19.51985	8.46456	0.99092	30.05652	41.67	16.08
69/11/11	2440536.5	0.66045	0.67659	0.29339	-22.67737	18.13800	7.86535	0.98997	30.08511	45.69	17.24
69/11/15	2440540.5	0.60649	0.71680	0.31083	-24.01785	16.66366	7.22604	0.98907	30.11229	49.77	18.32
69/11/19	2440544.5	0.54957	0.75351	0.32675	-25.24426	15.10379	6.54963	0.98822	30.13793	53.90	19.31
69/11/23	2440548.5	0.48995	0.78653	0.34106	-26.34980	13.46585	5.83938	0.98742	30.16188	58.08	20.21
69/11/27	2440552.5	0.42792	0.81568	0.35370	-27.32823	11.75784	5.09873	0.98669	30.18403	62.32	21.01
69/12/ 1	2440556.5	0.36379	0.84081	0.36460	-28.17397	9.98819	4.33136	0.98602	30.20426	66.60	21.70

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69/12/ 5	2440560.5	0.29785	0.86179	0.37370	-28.88214	8.16575	3.54109	0.98541	30.22245	70.93	22.29
69/12/ 9	2440564.5	0.23045	0.87850	0.38095	-29.44857	6.29974	2.73193	0.98488	30.23852	75.30	22.76
69/12/13	2440568.5	0.16190	0.89087	0.38631	-29.86986	4.39969	1.90801	0.98442	30.25238	79.70	23.11
69/12/17	2440572.5	0.09255	0.89881	0.38975	-30.14343	2.47536	1.07356	0.98404	30.26394	84.12	23.33
69/12/21	2440576.5	0.02274	0.90229	0.39126	-30.26750	0.53671	0.23290	0.98374	30.27316	88.56	23.44
69/12/25	2440580.5	-0.04718	0.90129	0.39083	-30.24116	-1.40617	-0.60960	0.98351	30.27997	93.00	23.41

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
69/12/17	2440572.5	0.09255	0.89881	0.38975	-30.14343	2.47536	1.07356	0.98404	30.26394	84.12	23.33
69/12/21	2440576.5	0.02274	0.90229	0.39126	-30.26750	0.53671	0.23290	0.98374	30.27316	88.56	23.44
69/12/25	2440580.5	-0.04718	0.90129	0.39083	-30.24116	-1.40617	-0.60960	0.98351	30.27997	93.00	23.41
69/12/29	2440584.5	-0.11686	0.89580	0.38845	-30.06433	-3.34316	-1.44954	0.98337	30.28435	97.43	23.27
70/ 1/ 2	2440588.5	-0.18597	0.88585	0.38414	-29.73781	-5.26412	-2.28254	0.98330	30.28627	101.86	23.00
70/ 1/ 6	2440592.5	-0.25415	0.87150	0.37791	-29.26323	-7.15902	-3.10423	0.98332	30.28571	106.26	22.60
70/ 1/10	2440596.5	-0.32106	0.85280	0.36981	-28.64310	-9.01795	-3.91032	0.98342	30.28269	110.63	22.09
70/ 1/14	2440600.5	-0.38638	0.82987	0.35986	-27.88075	-10.83122	-4.69662	0.98360	30.27722	114.97	21.46
70/ 1/18	2440604.5	-0.44978	0.80280	0.34812	-26.98031	-12.58943	-5.45904	0.98386	30.26932	119.26	20.72
70/ 1/22	2440608.5	-0.51094	0.77175	0.33466	-25.94668	-14.28351	-6.19365	0.98420	30.25905	123.51	19.88
70/ 1/26	2440612.5	-0.56956	0.73686	0.31953	-24.78552	-15.90477	-6.89669	0.98462	30.24646	127.70	18.94
70/ 1/30	2440616.5	-0.62536	0.69833	0.30282	-23.50317	-17.44500	-7.56459	0.98511	30.23161	131.84	17.90
70/ 2/ 3	2440620.5	-0.67807	0.65633	0.28461	-22.10662	-18.89647	-8.19401	0.98567	30.21459	135.93	16.78
70/ 2/ 7	2440624.5	-0.72742	0.61109	0.26499	-20.60347	-20.25201	-8.78182	0.98630	30.19548	139.97	15.59
70/ 2/11	2440628.5	-0.77319	0.56284	0.24407	-19.00184	-21.50502	-9.32517	0.98700	30.17440	143.95	14.32
70/ 2/15	2440632.5	-0.81515	0.51181	0.22194	-17.31034	-22.64953	-9.82148	0.98776	30.15146	147.88	12.98
70/ 2/19	2440636.5	-0.85310	0.45828	0.19873	-15.53799	-23.68021	-10.26842	0.98858	30.12676	151.76	11.60
70/ 2/23	2440640.5	-0.88688	0.40249	0.17454	-13.69418	-24.59239	-10.66398	0.98946	30.10045	155.59	10.16
70/ 2/27	2440644.5	-0.91633	0.34475	0.14950	-11.78858	-25.38212	-11.00644	0.99038	30.07265	159.38	8.68
70/ 3/ 3	2440648.5	-0.94131	0.28532	0.12373	-9.83109	-26.04611	-11.29438	0.99135	30.04352	163.14	7.17
70/ 3/ 7	2440652.5	-0.96172	0.22450	0.09736	-7.83178	-26.58178	-11.52667	0.99236	30.01320	166.86	5.63
70/ 3/11	2440656.5	-0.97747	0.16260	0.07051	-5.80080	-26.98727	-11.70252	0.99341	29.98184	170.56	4.07
70/ 3/15	2440660.5	-0.98850	0.09991	0.04333	-3.74836	-27.26139	-11.82139	0.99448	29.94961	174.23	2.50
70/ 3/19	2440664.5	-0.99478	0.03674	0.01594	-1.68465	-27.40365	-11.88309	0.99559	29.91665	177.88	0.92
70/ 3/23	2440668.5	-0.99629	-0.02660	-0.01153	0.38023	-27.41423	-11.88769	0.99671	29.88314	181.53	-0.66
70/ 3/27	2440672.5	-0.99303	-0.08982	-0.03894	2.43628	-27.29397	-11.83555	0.99784	29.84923	185.17	-2.24
70/ 3/31	2440676.5	-0.98504	-0.15261	-0.06617	4.47372	-27.04433	-11.72731	0.99899	29.81509	188.81	-3.80
70/ 4/ 4	2440680.5	-0.97238	-0.21467	-0.09308	6.48295	-26.66739	-11.56386	1.00014	29.78088	192.45	-5.34
70/ 4/ 8	2440684.5	-0.95512	-0.27573	-0.11956	8.45466	-26.16580	-11.34637	1.00129	29.74677	196.10	-6.86
70/ 4/12	2440688.5	-0.93335	-0.33548	-0.14547	10.37984	-25.54278	-11.07621	1.00242	29.71291	199.77	-8.34
70/ 4/16	2440692.5	-0.90720	-0.39365	-0.17069	12.24982	-24.80205	-10.75502	1.00355	29.67946	203.46	-9.79
70/ 4/20	2440696.5	-0.87680	-0.44998	-0.19512	14.05630	-23.94784	-10.38462	1.00466	29.64657	207.17	-11.20
70/ 4/24	2440700.5	-0.84231	-0.50421	-0.21864	15.79136	-22.98484	-9.96704	1.00575	29.61439	210.91	-12.56
70/ 4/28	2440704.5	-0.80390	-0.55610	-0.24114	17.44755	-21.91816	-9.50450	1.00681	29.58307	214.67	-13.86
70/ 5/ 2	2440708.5	-0.76177	-0.60541	-0.26252	19.01781	-20.75328	-8.99938	1.00783	29.55274	218.48	-15.10
70/ 5/ 6	2440712.5	-0.71611	-0.65192	-0.28269	20.49557	-19.49608	-8.45423	1.00882	29.52354	222.31	-16.27
70/ 5/10	2440716.5	-0.66715	-0.69542	-0.30155	21.87475	-18.15275	-7.87172	1.00977	29.49561	226.19	-17.38
70/ 5/14	2440720.5	-0.61512	-0.73573	-0.31903	23.14973	-16.72976	-7.25467	1.01067	29.46905	230.10	-18.40
70/ 5/18	2440724.5	-0.56027	-0.77266	-0.33505	24.31541	-15.23385	-6.60601	1.01152	29.44399	234.05	-19.34
70/ 5/22	2440728.5	-0.50286	-0.80606	-0.34953	25.36718	-13.67201	-5.92875	1.01231	29.42054	238.04	-20.20
70/ 5/26	2440732.5	-0.44315	-0.83579	-0.36242	26.30096	-12.05141	-5.22601	1.01305	29.39878	242.07	-20.96
70/ 5/30	2440736.5	-0.38143	-0.86171	-0.37366	27.11318	-10.37940	-4.50098	1.01373	29.37883	246.12	-21.63
70/ 6/ 3	2440740.5	-0.31798	-0.88371	-0.38320	27.80078	-8.66347	-3.75690	1.01435	29.36075	250.21	-22.20
70/ 6/ 7	2440744.5	-0.25308	-0.90171	-0.39101	28.36123	-6.91123	-2.99707	1.01489	29.34463	254.32	-22.66
70/ 6/11	2440748.5	-0.18704	-0.91562	-0.39704	28.79252	-5.13038	-2.22484	1.01537	29.33053	258.45	-23.02

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		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							EARTH-MOON B		
70/ 6/15	2440752.5	-0.12015	-0.92539	-0.40128	29.09315	-3.32868	-1.44357	1.01578	29.31851	262.60	-23.27
70/ 6/19	2440756.5	-0.05272	-0.93099	-0.40371	29.26213	-1.51394	-0.65664	1.01612	29.30863	266.76	-23.41
70/ 6/23	2440760.5	0.01495	-0.93238	-0.40431	29.29902	0.30602	0.13255	1.01638	29.30091	270.92	-23.44
70/ 6/27	2440764.5	0.08255	-0.92958	-0.40309	29.20384	2.12340	0.92062	1.01657	29.29541	275.07	-23.36
70/ 7/ 1	2440768.5	0.14978	-0.92258	-0.40006	28.97717	3.93041	1.70420	1.01668	29.29213	279.22	-23.17
70/ 7/ 5	2440772.5	0.21633	-0.91143	-0.39523	28.62005	5.71934	2.47994	1.01672	29.29109	283.35	-22.88
70/ 7/ 9	2440776.5	0.28192	-0.89618	-0.38861	28.13404	7.48252	3.24451	1.01667	29.29230	287.46	-22.47
70/ 7/13	2440780.5	0.34623	-0.87689	-0.38025	27.52118	9.21242	3.99465	1.01656	29.29576	291.55	-21.97
70/ 7/17	2440784.5	0.40898	-0.85364	-0.37017	26.78402	10.90160	4.72713	1.01636	29.30144	295.60	-21.36
70/ 7/21	2440788.5	0.46988	-0.82655	-0.35842	25.92556	12.54277	5.43880	1.01609	29.30932	299.62	-20.66
70/ 7/25	2440792.5	0.52867	-0.79573	-0.34506	24.94931	14.12881	6.12656	1.01575	29.31938	303.60	-19.86
70/ 7/29	2440796.5	0.58507	-0.76132	-0.33014	23.85922	15.65278	6.78741	1.01534	29.33157	307.54	-18.97
70/ 8/ 2	2440800.5	0.63883	-0.72347	-0.31372	22.65973	17.10795	7.41843	1.01485	29.34584	311.44	-18.01
70/ 8/ 6	2440804.5	0.68969	-0.68233	-0.29588	21.35569	18.48784	8.01680	1.01430	29.36213	315.31	-16.96
70/ 8/10	2440808.5	0.73742	-0.63811	-0.27671	19.95244	19.78620	8.57981	1.01367	29.38038	319.13	-15.84
70/ 8/14	2440812.5	0.78180	-0.59098	-0.25627	18.45573	20.99707	9.10489	1.01299	29.40050	322.91	-14.65
70/ 8/18	2440816.5	0.82262	-0.54117	-0.23467	16.87172	22.11479	9.58958	1.01225	29.42242	326.66	-13.40
70/ 8/22	2440820.5	0.85969	-0.48888	-0.21200	15.20700	23.13405	10.03157	1.01144	29.44604	330.37	-12.10
70/ 8/26	2440824.5	0.89283	-0.43436	-0.18836	13.46854	24.04987	10.42870	1.01059	29.47127	334.06	-10.74
70/ 8/30	2440828.5	0.92187	-0.37784	-0.16385	11.66368	24.85765	10.77899	1.00968	29.49798	337.71	-9.34
70/ 9/ 3	2440832.5	0.94667	-0.31959	-0.13859	9.80014	25.55320	11.08062	1.00873	29.52607	341.35	-7.90
70/ 9/ 7	2440836.5	0.96711	-0.25987	-0.11269	7.88595	26.13277	11.33194	1.00774	29.55542	344.96	-6.42
70/ 9/11	2440840.5	0.98308	-0.19894	-0.08627	5.92946	26.59304	11.53154	1.00671	29.58589	348.56	-4.92
70/ 9/15	2440844.5	0.99448	-0.13709	-0.05945	3.93931	26.93119	11.67818	1.00565	29.61735	352.15	-3.39
70/ 9/19	2440848.5	1.00126	-0.07461	-0.03236	1.92440	27.14490	11.77086	1.00456	29.64966	355.74	-1.85
70/ 9/23	2440852.5	1.00336	-0.01177	-0.00511	-0.10614	27.23237	11.80880	1.00344	29.68267	359.33	-0.29
70/ 9/27	2440856.5	1.00076	0.05112	0.02216	-2.14299	27.19235	11.79146	1.00231	29.71623	2.92	1.27
70/10/ 1	2440860.5	0.99346	0.11377	0.04933	-4.17670	27.02416	11.71854	1.00117	29.75020	6.53	2.82
70/10/ 5	2440864.5	0.98148	0.17588	0.07626	-6.19766	26.72773	11.59000	1.00002	29.78440	10.16	4.37
70/10/ 9	2440868.5	0.96484	0.23716	0.10284	-8.19622	26.30356	11.40607	0.99887	29.81868	13.81	5.91
70/10/13	2440872.5	0.94363	0.29731	0.12892	-10.16269	25.75280	11.16725	0.99773	29.85288	17.49	7.42
70/10/17	2440876.5	0.91792	0.35605	0.15439	-12.08741	25.07721	10.87430	0.99659	29.88683	21.20	8.91
70/10/21	2440880.5	0.88782	0.41309	0.17912	-13.96080	24.27921	10.52827	0.99547	29.92037	24.95	10.37
70/10/25	2440884.5	0.85346	0.46814	0.20299	-15.77338	23.36185	10.13048	0.99437	29.95334	28.75	11.78
70/10/29	2440888.5	0.81500	0.52094	0.22589	-17.51588	22.32884	9.68253	0.99329	29.98557	32.59	13.14
70/11/ 2	2440892.5	0.77260	0.57122	0.24769	-19.17925	21.18450	9.18631	0.99224	30.01691	36.48	14.46
70/11/ 6	2440896.5	0.72645	0.61873	0.26830	-20.75473	19.93382	8.64398	0.99124	30.04720	40.42	15.70
70/11/10	2440900.5	0.67678	0.66324	0.28760	-22.23393	18.58238	8.05796	0.99027	30.07629	44.42	16.88
70/11/14	2440904.5	0.62380	0.70452	0.30550	-23.60886	17.13639	7.43093	0.98935	30.10404	48.48	17.99
70/11/18	2440908.5	0.56778	0.74235	0.32190	-24.87200	15.60260	6.76584	0.98847	30.13028	52.59	19.01
70/11/22	2440912.5	0.50898	0.77655	0.33673	-26.01634	13.98833	6.06585	0.98766	30.15490	56.76	19.93
70/11/26	2440916.5	0.44767	0.80693	0.34990	-27.03547	12.30141	5.33435	0.98690	30.17775	60.98	20.77
70/11/30	2440920.5	0.38416	0.83333	0.36136	-27.92359	10.55014	4.57496	0.98621	30.19872	65.25	21.49
70/12/ 4	2440924.5	0.31876	0.85563	0.37102	-28.67559	8.74325	3.79144	0.98558	30.21769	69.57	22.11
70/12/ 8	2440928.5	0.25178	0.87369	0.37886	-29.28706	6.88984	2.98775	0.98502	30.23455	73.92	22.62

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

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70/12/12	2440932.5	0.18356	0.88743	0.38482	-29.75436	4.99935	2.16798	0.98454	30.24922	78.31	23.01
70/12/16	2440936.5	0.11442	0.89677	0.38887	-30.07465	3.08147	1.33633	0.98413	30.26162	82.73	23.27
70/12/20	2440940.5	0.04471	0.90166	0.39098	-30.24589	1.14612	0.49711	0.98380	30.27168	87.16	23.42
70/12/24	2440944.5	-0.02521	0.90206	0.39116	-30.26688	-0.79666	-0.34533	0.98354	30.27933	91.60	23.43
70/12/28	2440948.5	-0.09501	0.89798	0.38939	-30.13729	-2.73673	-1.18660	0.98337	30.28455	96.04	23.33
71/ 1/ 1	2440952.5	-0.16434	0.88943	0.38568	-29.85764	-4.66396	-2.02231	0.98328	30.28730	100.47	23.09
71/ 1/ 5	2440956.5	-0.23285	0.87645	0.38005	-29.42930	-6.56827	-2.84807	0.98327	30.28757	104.88	22.74
71/ 1/ 9	2440960.5	-0.30020	0.85911	0.37253	-28.85450	-8.43969	-3.65958	0.98334	30.28536	109.26	22.26
71/ 1/13	2440964.5	-0.36606	0.83749	0.36316	-28.13632	-10.26847	-4.45259	0.98350	30.28068	113.61	21.67
71/ 1/17	2440968.5	-0.43009	0.81170	0.35198	-27.27864	-12.04510	-5.22299	0.98373	30.27356	117.92	20.97
71/ 1/21	2440972.5	-0.49199	0.78188	0.33905	-26.28613	-13.76039	-5.96679	0.98405	30.26403	122.18	20.15
71/ 1/25	2440976.5	-0.55145	0.74818	0.32443	-25.16421	-15.40553	-6.68018	0.98444	30.25215	126.39	19.24
71/ 1/29	2440980.5	-0.60816	0.71076	0.30821	-23.91902	-16.97215	-7.35952	0.98491	30.23799	130.55	18.24
71/ 2/ 2	2440984.5	-0.66187	0.66983	0.29046	-22.55735	-18.45236	-8.00139	0.98545	30.22161	134.66	17.14
71/ 2/ 6	2440988.5	-0.71230	0.62558	0.27127	-21.08661	-19.83881	-8.60260	0.98606	30.20312	138.71	15.97
71/ 2/10	2440992.5	-0.75922	0.57824	0.25075	-19.51478	-21.12471	-9.16021	0.98674	30.18260	142.71	14.72
71/ 2/14	2440996.5	-0.80240	0.52806	0.22898	-17.85032	-22.30389	-9.67154	0.98748	30.16017	146.65	13.41
71/ 2/18	2441000.5	-0.84163	0.47528	0.20610	-16.10213	-23.37081	-10.13420	0.98828	30.13595	150.55	12.04
71/ 2/22	2441004.5	-0.87674	0.42017	0.18220	-14.27951	-24.32062	-10.54607	0.98914	30.11007	154.39	10.61
71/ 2/26	2441008.5	-0.90756	0.36300	0.15741	-12.39203	-25.14910	-10.90533	0.99005	30.08265	158.20	9.15
71/ 3/ 2	2441012.5	-0.93395	0.30406	0.13185	-10.44954	-25.85278	-11.21047	0.99101	30.05385	161.97	7.65
71/ 3/ 6	2441016.5	-0.95580	0.24365	0.10566	-8.46207	-26.42886	-11.46028	0.99201	30.02381	165.70	6.11
71/ 3/10	2441020.5	-0.97302	0.18205	0.07895	-6.43974	-26.87524	-11.65386	0.99305	29.99268	169.40	4.56
71/ 3/14	2441024.5	-0.98554	0.11958	0.05186	-4.39278	-27.19053	-11.79058	0.99412	29.96063	173.08	2.99
71/ 3/18	2441028.5	-0.99331	0.05653	0.02451	-2.33136	-27.37403	-11.87016	0.99522	29.92780	176.74	1.41
71/ 3/22	2441032.5	-0.99631	-0.00680	-0.00294	-0.26564	-27.42571	-11.89258	0.99633	29.89437	180.39	-0.17
71/ 3/26	2441036.5	-0.99454	-0.07009	-0.03039	1.79436	-27.34620	-11.85811	0.99747	29.86050	184.03	-1.75
71/ 3/30	2441040.5	-0.98803	-0.13305	-0.05769	3.83877	-27.13678	-11.76731	0.99861	29.82634	187.67	-3.31
71/ 4/ 3	2441044.5	-0.97682	-0.19537	-0.08472	5.85793	-26.79934	-11.62099	0.99976	29.79207	191.31	-4.86
71/ 4/ 7	2441048.5	-0.96099	-0.25677	-0.11134	7.84245	-26.33635	-11.42023	1.00091	29.75784	194.96	-6.39
71/ 4/11	2441052.5	-0.94062	-0.31696	-0.13744	9.78319	-25.75087	-11.16636	1.00206	29.72382	198.62	-7.88
71/ 4/15	2441056.5	-0.91583	-0.37566	-0.16289	11.67139	-25.04645	-10.86091	1.00319	29.69016	202.30	-9.34
71/ 4/19	2441060.5	-0.88674	-0.43260	-0.18758	13.49863	-24.22719	-10.50566	1.00431	29.65702	206.01	-10.76
71/ 4/23	2441064.5	-0.85351	-0.48751	-0.21140	15.25687	-23.29763	-10.10258	1.00541	29.62455	209.73	-12.14
71/ 4/27	2441068.5	-0.81631	-0.54016	-0.23423	16.93850	-22.26275	-9.65383	1.00648	29.59289	213.49	-13.46
71/ 5/ 1	2441072.5	-0.77531	-0.59030	-0.25597	18.53634	-21.12792	-9.16175	1.00751	29.56219	217.28	-14.72
71/ 5/ 5	2441076.5	-0.73073	-0.63770	-0.27652	20.04369	-19.89892	-8.62882	1.00852	29.53257	221.11	-15.91
71/ 5/ 9	2441080.5	-0.68278	-0.68217	-0.29581	21.45429	-18.58181	-8.05769	1.00948	29.50418	224.97	-17.04
71/ 5/13	2441084.5	-0.63169	-0.72350	-0.31373	22.76239	-17.18301	-7.45113	1.01040	29.47713	228.88	-18.09
71/ 5/17	2441088.5	-0.57769	-0.76150	-0.33021	23.96271	-15.70917	-6.81203	1.01126	29.45154	232.82	-19.06
71/ 5/21	2441092.5	-0.52106	-0.79603	-0.34518	25.05051	-14.16720	-6.14340	1.01208	29.42752	236.79	-19.94
71/ 5/25	2441096.5	-0.46204	-0.82691	-0.35857	26.02154	-12.56422	-5.44830	1.01284	29.40517	240.81	-20.73
71/ 5/29	2441100.5	-0.40092	-0.85404	-0.37033	26.87206	-10.90753	-4.72991	1.01354	29.38458	244.85	-21.43
71/ 6/ 2	2441104.5	-0.33798	-0.87728	-0.38041	27.59886	-9.20458	-3.99147	1.01418	29.36585	248.93	-22.03
71/ 6/ 6	2441108.5	-0.27350	-0.89653	-0.38876	28.19925	-7.46294	-3.23624	1.01475	29.34904	253.03	-22.53

1.3 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
71/ 6/10	2441112.5	-0.20779	-0.91173	-0.39535	28.67105	-5.69029	-2.46757	1.01525	29.33424	257.16	-22.92
71/ 6/14	2441116.5	-0.14113	-0.92281	-0.40016	29.01261	-3.89438	-1.68881	1.01568	29.32149	261.30	-23.20
71/ 6/18	2441120.5	-0.07384	-0.92971	-0.40315	29.22279	-2.08299	-0.90334	1.01605	29.31086	265.46	-23.38
71/ 6/22	2441124.5	-0.00621	-0.93243	-0.40433	29.30097	-0.26394	-0.11455	1.01633	29.30239	269.62	-23.44
71/ 6/26	2441128.5	0.06144	-0.93093	-0.40368	29.24705	1.55495	0.67417	1.01655	29.29611	273.78	-23.40
71/ 6/30	2441132.5	0.12882	-0.92525	-0.40121	29.06140	3.36590	1.45945	1.01669	29.29205	277.93	-23.24
71/ 7/ 4	2441136.5	0.19561	-0.91539	-0.39694	28.74495	5.16116	2.23793	1.01675	29.29023	282.06	-22.98
71/ 7/ 8	2441140.5	0.26153	-0.90142	-0.39088	28.29908	6.93307	3.00628	1.01673	29.29066	286.18	-22.61
71/ 7/12	2441144.5	0.32627	-0.88338	-0.38306	27.72569	8.67403	3.76121	1.01664	29.29333	290.27	-22.14
71/ 7/16	2441148.5	0.38953	-0.86137	-0.37352	27.02717	10.37658	4.49949	1.01647	29.29824	294.33	-21.56
71/ 7/20	2441152.5	0.45105	-0.83548	-0.36229	26.20638	12.03340	5.21793	1.01623	29.30536	298.36	-20.89
71/ 7/24	2441156.5	0.51053	-0.80581	-0.34943	25.26668	13.63729	5.91343	1.01591	29.31466	302.36	-20.12
71/ 7/28	2441160.5	0.56770	-0.77251	-0.33499	24.21188	15.18128	6.58295	1.01552	29.32612	306.31	-19.26
71/ 8/ 1	2441164.5	0.62231	-0.73572	-0.31903	23.04625	16.65856	7.22354	1.01505	29.33968	310.23	-18.32
71/ 8/ 5	2441168.5	0.67410	-0.69560	-0.30163	21.77454	18.06257	7.83237	1.01452	29.35529	314.10	-17.30
71/ 8/ 9	2441172.5	0.72284	-0.65233	-0.28287	20.40192	19.38699	8.40668	1.01392	29.37288	317.94	-16.20
71/ 8/13	2441176.5	0.76829	-0.60609	-0.26282	18.93400	20.62578	8.94386	1.01326	29.39238	321.73	-15.03
71/ 8/17	2441180.5	0.81025	-0.55710	-0.24158	17.37684	21.77318	9.44141	1.01253	29.41371	325.49	-13.80
71/ 8/21	2441184.5	0.84851	-0.50557	-0.21923	15.73687	22.82377	9.89698	1.01175	29.43678	329.21	-12.51
71/ 8/25	2441188.5	0.88290	-0.45172	-0.19588	14.02095	23.77246	10.30836	1.01091	29.46149	332.90	-11.17
71/ 8/29	2441192.5	0.91324	-0.39581	-0.17164	12.23631	24.61454	10.67352	1.01002	29.48774	336.57	-9.78
71/ 9/ 2	2441196.5	0.93939	-0.33808	-0.14661	10.39053	25.34569	10.99057	1.00908	29.51542	340.21	-8.35
71/ 9/ 6	2441200.5	0.96121	-0.27880	-0.12090	8.49155	25.96202	11.25783	1.00810	29.54440	343.83	-6.89
71/ 9/10	2441204.5	0.97859	-0.21822	-0.09463	6.54762	26.46006	11.47380	1.00708	29.57455	347.43	-5.39
71/ 9/14	2441208.5	0.99143	-0.15663	-0.06792	4.56729	26.83685	11.63719	1.00603	29.60575	351.02	-3.87
71/ 9/18	2441212.5	0.99967	-0.09432	-0.04090	2.55939	27.08989	11.74692	1.00494	29.63786	354.61	-2.33
71/ 9/22	2441216.5	1.00324	-0.03157	-0.01369	0.53295	27.21723	11.80215	1.00383	29.67073	358.20	-0.78
71/ 9/26	2441220.5	1.00213	0.03134	0.01358	-1.50276	27.21744	11.80224	1.00271	29.70421	1.79	0.78
71/ 9/30	2441224.5	0.99630	0.09409	0.04080	-3.53832	27.08966	11.74684	1.00157	29.73815	5.39	2.33
71/10/ 4	2441228.5	0.98578	0.15640	0.06782	-5.56418	26.83362	11.63582	1.00042	29.77239	9.02	3.89
71/10/ 8	2441232.5	0.97061	0.21797	0.09452	-7.57070	26.44963	11.46932	0.99926	29.80677	12.66	5.43
71/10/12	2441236.5	0.95083	0.27851	0.12077	-9.54820	25.93864	11.24775	0.99811	29.84113	16.33	6.95
71/10/16	2441240.5	0.92652	0.33772	0.14644	-11.48701	25.30222	10.97178	0.99697	29.87530	20.03	8.45
71/10/20	2441244.5	0.89779	0.39532	0.17142	-13.37750	24.54257	10.64238	0.99584	29.90912	23.77	9.91
71/10/24	2441248.5	0.86476	0.45102	0.19557	-15.21018	23.66253	10.26078	0.99472	29.94242	27.54	11.34
71/10/28	2441252.5	0.82757	0.50456	0.21879	-16.97568	22.66561	9.82849	0.99364	29.97504	31.37	12.72
71/11/ 1	2441256.5	0.78638	0.55566	0.24095	-18.66489	21.55593	9.34731	0.99258	30.00681	35.25	14.05
71/11/ 5	2441260.5	0.74139	0.60407	0.26194	-20.26894	20.33828	8.81931	0.99155	30.03757	39.17	15.32
71/11/ 9	2441264.5	0.69281	0.64955	0.28166	-21.77934	19.01804	8.24682	0.99057	30.06718	43.15	16.52
71/11/13	2441268.5	0.64084	0.69187	0.30001	-23.18794	17.60121	7.63245	0.98963	30.09547	47.19	17.65
71/11/17	2441272.5	0.58575	0.73081	0.31690	-24.48707	16.09438	6.97905	0.98874	30.12230	51.29	18.69
71/11/21	2441276.5	0.52779	0.76617	0.33223	-25.66956	14.50471	6.28973	0.98790	30.14753	55.44	19.65
71/11/25	2441280.5	0.46725	0.79776	0.34593	-26.72880	12.83984	5.56780	0.98712	30.17103	59.64	20.51
71/11/29	2441284.5	0.40440	0.82544	0.35793	-27.65880	11.10795	4.81681	0.98641	30.19267	63.90	21.28
71/12/ 3	2441288.5	0.33956	0.84904	0.36817	-28.45421	9.31762	4.04048	0.98576	30.21234	68.20	21.93

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				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					EARTH-MOON B		
71/12/ 7	2441292.5	0.27304	0.86845	0.37658	-29.11040	7.47786	3.24271	0.98518	30.22993	72.55	22.47
71/12/11	2441296.5	0.20517	0.88356	0.38314	-29.62349	5.59800	2.42755	0.98467	30.24536	76.93	22.90
71/12/15	2441300.5	0.13628	0.89429	0.38779	-29.99036	3.68766	1.59917	0.98423	30.25852	81.34	23.20
71/12/19	2441304.5	0.06671	0.90058	0.39052	-30.20874	1.75669	0.76185	0.98387	30.26936	85.76	23.39
71/12/23	2441308.5	-0.00318	0.90240	0.39131	-30.27714	-0.18488	-0.08007	0.98359	30.27781	90.20	23.44
71/12/27	2441312.5	-0.07306	0.89973	0.39015	-30.19497	-2.12695	-0.92220	0.98339	30.28383	94.64	23.37
71/12/31	2441316.5	-0.14258	0.89258	0.38705	-29.96246	-4.05937	-1.76015	0.98328	30.28739	99.08	23.18
72/ 1/ 4	2441320.5	-0.21138	0.88099	0.38202	-29.58074	-5.97204	-2.58954	0.98324	30.28846	103.49	22.86
72/ 1/ 8	2441324.5	-0.27914	0.86501	0.37509	-29.05175	-7.85494	-3.40602	0.98329	30.28705	107.88	22.42
72/ 1/12	2441328.5	-0.34550	0.84473	0.36630	-28.37831	-9.69824	-4.20533	0.98342	30.28315	112.25	21.87
72/ 1/16	2441332.5	-0.41015	0.82024	0.35568	-27.56405	-11.49235	-4.98331	0.98363	30.27680	116.57	21.20
72/ 1/20	2441336.5	-0.47275	0.79167	0.34329	-26.61339	-13.22798	-5.73592	0.98392	30.26802	120.84	20.42
72/ 1/24	2441340.5	-0.53301	0.75917	0.32920	-25.53153	-14.89618	-6.45930	0.98428	30.25686	125.07	19.54
72/ 1/28	2441344.5	-0.59062	0.72291	0.31347	-24.32438	-16.48843	-7.14975	0.98473	30.24340	129.25	18.56
72/ 2/ 1	2441348.5	-0.64530	0.68306	0.29619	-22.99854	-17.99670	-7.80378	0.98525	30.22769	133.37	17.50
72/ 2/ 5	2441352.5	-0.69680	0.63983	0.27745	-21.56123	-19.41344	-8.41813	0.98584	30.20982	137.44	16.35
72/ 2/ 9	2441356.5	-0.74484	0.59343	0.25733	-20.02025	-20.73170	-8.98977	0.98650	30.18989	141.45	15.12
72/ 2/13	2441360.5	-0.78922	0.54412	0.23595	-18.38392	-21.94510	-9.51594	0.98722	30.16802	145.42	13.83
72/ 2/17	2441364.5	-0.82972	0.49213	0.21340	-16.66102	-23.04791	-9.99415	0.98801	30.14430	149.33	12.47
72/ 2/21	2441368.5	-0.86614	0.43772	0.18981	-14.86073	-24.03504	-10.42220	0.98885	30.11888	153.19	11.07
72/ 2/25	2441372.5	-0.89833	0.38117	0.16529	-12.99254	-24.90209	-10.79819	0.98975	30.09188	157.01	9.61
72/ 2/29	2441376.5	-0.92613	0.32276	0.13996	-11.06622	-25.64535	-11.12049	0.99069	30.06344	160.79	8.12
72/ 3/ 4	2441380.5	-0.94942	0.26277	0.11395	-9.09175	-26.26179	-11.38781	0.99168	30.03371	164.53	6.60
72/ 3/ 8	2441384.5	-0.96811	0.20152	0.08739	-7.07924	-26.74912	-11.59913	0.99271	30.00285	168.24	5.05
72/ 3/12	2441388.5	-0.98211	0.13929	0.06040	-5.03887	-27.10572	-11.75377	0.99377	29.97101	171.93	3.48
72/ 3/16	2441392.5	-0.99137	0.07638	0.03312	-2.98086	-27.33066	-11.85132	0.99486	29.93834	175.59	1.91
72/ 3/20	2441396.5	-0.99587	0.01311	0.00569	-0.91537	-27.42371	-11.89168	0.99598	29.90502	179.25	0.33
72/ 3/24	2441400.5	-0.99560	-0.05023	-0.02178	1.14753	-27.38531	-11.87503	0.99711	29.87120	182.89	-1.25
72/ 3/28	2441404.5	-0.99058	-0.11332	-0.04914	3.19791	-27.21652	-11.80185	0.99825	29.83705	186.53	-2.82
72/ 4/ 1	2441408.5	-0.98085	-0.17588	-0.07626	5.22605	-26.91905	-11.67286	0.99940	29.80273	190.17	-4.38
72/ 4/ 5	2441412.5	-0.96646	-0.23760	-0.10303	7.22246	-26.49520	-11.48908	1.00056	29.76841	193.81	-5.91
72/ 4/ 9	2441416.5	-0.94751	-0.29820	-0.12930	9.17793	-25.94784	-11.25173	1.00170	29.73426	197.47	-7.42
72/ 4/13	2441420.5	-0.92409	-0.35739	-0.15497	11.08357	-25.28037	-10.96231	1.00284	29.70042	201.14	-8.89
72/ 4/17	2441424.5	-0.89634	-0.41491	-0.17991	12.93086	-24.49673	-10.62251	1.00397	29.66706	204.84	-10.32
72/ 4/21	2441428.5	-0.86440	-0.47049	-0.20401	14.71162	-23.60131	-10.23423	1.00507	29.63433	208.56	-11.71
72/ 4/25	2441432.5	-0.82843	-0.52388	-0.22716	16.41813	-22.59897	-9.79959	1.00615	29.60237	212.31	-13.05
72/ 4/29	2441436.5	-0.78860	-0.57483	-0.24926	18.04306	-21.49496	-9.32087	1.00720	29.57134	216.09	-14.33
72/ 5/ 3	2441440.5	-0.74513	-0.62312	-0.27020	19.57956	-20.29492	-8.80050	1.00822	29.54135	219.90	-15.55
72/ 5/ 7	2441444.5	-0.69821	-0.66853	-0.28989	21.02122	-19.00484	-8.24109	1.00919	29.51256	223.76	-16.69
72/ 5/11	2441448.5	-0.64808	-0.71086	-0.30825	22.36214	-17.63102	-7.64537	1.01012	29.48508	227.65	-17.77
72/ 5/15	2441452.5	-0.59497	-0.74993	-0.32519	23.59690	-16.18004	-7.01619	1.01101	29.45903	231.57	-18.76
72/ 5/19	2441456.5	-0.53914	-0.78556	-0.34064	24.72058	-14.65874	-6.35651	1.01184	29.43452	235.54	-19.67
72/ 5/23	2441460.5	-0.48085	-0.81761	-0.35454	25.72877	-13.07417	-5.66940	1.01262	29.41166	239.54	-20.49
72/ 5/27	2441464.5	-0.42036	-0.84593	-0.36682	26.61757	-11.43358	-4.95799	1.01334	29.39054	243.58	-21.22
72/ 5/31	2441468.5	-0.35796	-0.87040	-0.37743	27.38362	-9.74436	-4.22550	1.01399	29.37125	247.64	-21.85

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				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					EARTH-MOON B		
72/ 6/ 4	2441472.5	-0.29393	-0.89092	-0.38633	28.02406	-8.01405	-3.47519	1.01458	29.35387	251.74	-22.38
72/ 6/ 8	2441476.5	-0.22858	-0.90740	-0.39347	28.53654	-6.25031	-2.71039	1.01511	29.33848	255.86	-22.81
72/ 6/12	2441480.5	-0.16218	-0.91978	-0.39884	28.91925	-4.46085	-1.93443	1.01556	29.32515	260.00	-23.12
72/ 6/16	2441484.5	-0.09506	-0.92800	-0.40241	29.17089	-2.65345	-1.15070	1.01595	29.31392	264.15	-23.33
72/ 6/20	2441488.5	-0.02751	-0.93203	-0.40415	29.29067	-0.83593	-0.36257	1.01626	29.30484	268.31	-23.43
72/ 6/24	2441492.5	0.04017	-0.93186	-0.40408	29.27832	0.98389	0.42655	1.01649	29.29795	272.47	-23.42
72/ 6/28	2441496.5	0.10767	-0.92749	-0.40218	29.13408	2.79822	1.21329	1.01665	29.29328	276.62	-23.30
72/ 7/ 2	2441500.5	0.17468	-0.91894	-0.39848	28.85868	4.59930	1.99428	1.01674	29.29085	280.76	-23.07
72/ 7/ 6	2441504.5	0.24091	-0.90625	-0.39298	28.45336	6.37942	2.76619	1.01674	29.29066	284.89	-22.74
72/ 7/10	2441508.5	0.30605	-0.88949	-0.38571	27.91987	8.13097	3.52571	1.01667	29.29270	288.99	-22.30
72/ 7/14	2441512.5	0.36981	-0.86871	-0.37670	27.26043	9.84645	4.26959	1.01653	29.29698	293.06	-21.75
72/ 7/18	2441516.5	0.43190	-0.84403	-0.36599	26.47777	11.51847	4.99462	1.01630	29.30347	297.10	-21.11
72/ 7/22	2441520.5	0.49205	-0.81553	-0.35364	25.57507	13.13981	5.69768	1.01601	29.31215	301.10	-20.37
72/ 7/26	2441524.5	0.54998	-0.78336	-0.33969	24.55600	14.70342	6.37571	1.01564	29.32299	305.07	-19.54
72/ 7/30	2441528.5	0.60542	-0.74765	-0.32420	23.42471	16.20244	7.02572	1.01520	29.33593	309.00	-18.62
72/ 8/ 3	2441532.5	0.65813	-0.70855	-0.30725	22.18578	17.63022	7.64485	1.01469	29.35093	312.89	-17.63
72/ 8/ 7	2441536.5	0.70785	-0.66625	-0.28891	20.84425	18.98036	8.23031	1.01411	29.36792	316.73	-16.55
72/ 8/11	2441540.5	0.75436	-0.62092	-0.26925	19.40560	20.24673	8.77945	1.01346	29.38684	320.54	-15.41
72/ 8/15	2441544.5	0.79744	-0.57277	-0.24837	17.87575	21.42349	9.28973	1.01275	29.40761	324.31	-14.20
72/ 8/19	2441548.5	0.83689	-0.52201	-0.22636	16.26102	22.50509	9.75875	1.01199	29.43014	328.05	-12.93
72/ 8/23	2441552.5	0.87251	-0.46887	-0.20332	14.56814	23.48634	10.18425	1.01117	29.45433	331.75	-11.60
72/ 8/27	2441556.5	0.90414	-0.41358	-0.17934	12.80421	24.36241	10.56415	1.01029	29.48009	335.42	-10.23
72/ 8/31	2441560.5	0.93162	-0.35639	-0.15454	10.97672	25.12885	10.89650	1.00937	29.50731	339.07	-8.81
72/ 9/ 4	2441564.5	0.95482	-0.29756	-0.12903	9.09349	25.78163	11.17958	1.00840	29.53586	342.69	-7.35
72/ 9/ 8	2441568.5	0.97360	-0.23736	-0.10293	7.16270	26.31716	11.41180	1.00739	29.56563	346.30	-5.86
72/ 9/12	2441572.5	0.98788	-0.17606	-0.07635	5.19279	26.73231	11.59183	1.00635	29.59649	349.89	-4.35
72/ 9/16	2441576.5	0.99757	-0.11394	-0.04941	3.19250	27.02443	11.71851	1.00527	29.62829	353.48	-2.82
72/ 9/20	2441580.5	1.00262	-0.05129	-0.02225	1.17082	27.19140	11.79092	1.00417	29.66090	357.07	-1.27
72/ 9/24	2441584.5	1.00297	0.01159	0.00502	-0.86306	27.23162	11.80836	1.00305	29.69416	0.66	0.29
72/ 9/28	2441588.5	0.99863	0.07443	0.03227	-2.89976	27.14405	11.77040	1.00191	29.72794	4.26	1.85
72/10/ 2	2441592.5	0.98958	0.13691	0.05936	-4.92977	26.92823	11.67682	1.00077	29.76206	7.88	3.40
72/10/ 6	2441596.5	0.97586	0.19875	0.08618	-6.94346	26.58429	11.52769	0.99962	29.79637	11.51	4.95
72/10/10	2441600.5	0.95752	0.25964	0.11258	-8.93117	26.11299	11.32333	0.99846	29.83071	15.17	6.47
72/10/14	2441604.5	0.93462	0.31930	0.13845	-10.88321	25.51568	11.06433	0.99732	29.86492	18.86	7.98
72/10/18	2441608.5	0.90727	0.37744	0.16366	-12.78994	24.79438	10.75156	0.99618	29.89883	22.59	9.46
72/10/22	2441612.5	0.87557	0.43377	0.18809	-14.64181	23.95174	10.38617	0.99507	29.93227	26.35	10.90
72/10/26	2441616.5	0.83967	0.48801	0.21161	-16.42942	22.99104	9.96960	0.99397	29.96508	30.16	12.29
72/10/30	2441620.5	0.79972	0.53990	0.23411	-18.14356	21.91622	9.50353	0.99290	29.99710	34.02	13.64
72/11/ 3	2441624.5	0.75590	0.58919	0.25548	-19.77529	20.73185	8.98996	0.99187	30.02817	37.93	14.93
72/11/ 7	2441628.5	0.70842	0.63561	0.27562	-21.31598	19.44314	8.43115	0.99087	30.05813	41.90	16.15
72/11/11	2441632.5	0.65749	0.67895	0.29441	-22.75737	18.05591	7.82961	0.98992	30.08682	45.92	17.30
72/11/15	2441636.5	0.60335	0.71897	0.31176	-24.09165	16.57654	7.18813	0.98901	30.11410	50.00	18.37
72/11/19	2441640.5	0.54627	0.75547	0.32759	-25.31148	15.01203	6.50972	0.98816	30.13982	54.13	19.36
72/11/23	2441644.5	0.48650	0.78827	0.34181	-26.41007	13.36988	5.79764	0.98736	30.16385	58.32	20.25
72/11/27	2441648.5	0.42434	0.81719	0.35435	-27.38122	11.65809	5.05536	0.98663	30.18607	62.56	21.05

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					EARTH-MOON B		
72/12/ 1	2441652.5	0.36009	0.84208	0.36515	-28.21938	9.88513	4.28656	0.98595	30.20635	66.85	21.74
72/12/ 5	2441656.5	0.29406	0.86282	0.37414	-28.91969	8.05988	3.49509	0.98535	30.22459	71.18	22.32
72/12/ 9	2441660.5	0.22658	0.87929	0.38128	-29.47804	6.19156	2.68494	0.98482	30.24069	75.55	22.78
72/12/13	2441664.5	0.15798	0.89140	0.38654	-29.89106	4.28974	1.86026	0.98436	30.25455	79.95	23.12
72/12/17	2441668.5	0.08859	0.89909	0.38987	-30.15621	2.36418	1.02528	0.98398	30.26611	84.37	23.34
72/12/21	2441672.5	0.01876	0.90232	0.39127	-30.27177	0.42486	0.18434	0.98368	30.27531	88.81	23.44
72/12/25	2441676.5	-0.05116	0.90105	0.39072	-30.23685	-1.51813	-0.65819	0.98345	30.28209	93.25	23.41
72/12/29	2441680.5	-0.12083	0.89531	0.38823	-30.05143	-3.45465	-1.49792	0.98331	30.28641	97.69	23.25
73/ 1/ 2	2441684.5	-0.18989	0.88510	0.38381	-29.71635	-5.37457	-2.33045	0.98325	30.28826	102.11	22.98
73/ 1/ 6	2441688.5	-0.25801	0.87049	0.37747	-29.23331	-7.26786	-3.15143	0.98327	30.28761	106.51	22.58
73/ 1/10	2441692.5	-0.32485	0.85155	0.36926	-28.60484	-9.12460	-3.95657	0.98337	30.28448	110.88	22.06
73/ 1/14	2441696.5	-0.39007	0.82837	0.35921	-27.83434	-10.93514	-4.74167	0.98356	30.27889	115.22	21.42
73/ 1/18	2441700.5	-0.45335	0.80107	0.34737	-26.92597	-12.69006	-5.50265	0.98382	30.27085	119.51	20.68
73/ 1/22	2441704.5	-0.51438	0.76979	0.33380	-25.88469	-14.38032	-6.23560	0.98417	30.26043	123.75	19.83
73/ 1/26	2441708.5	-0.57285	0.73469	0.31858	-24.71619	-15.99726	-6.93675	0.98459	30.24766	127.94	18.88
73/ 1/30	2441712.5	-0.62848	0.69594	0.30178	-23.42687	-17.53268	-7.60255	0.98508	30.23263	132.08	17.84
73/ 2/ 3	2441716.5	-0.68100	0.65375	0.28348	-22.02375	-18.97889	-8.22967	0.98565	30.21542	136.17	16.72
73/ 2/ 7	2441720.5	-0.73016	0.60832	0.26379	-20.51447	-20.32873	-8.81500	0.98629	30.19611	140.20	15.51
73/ 2/11	2441724.5	-0.77571	0.55990	0.24279	-18.90718	-21.57565	-9.35571	0.98700	30.17481	144.18	14.24
73/ 2/15	2441728.5	-0.81744	0.50872	0.22060	-17.21052	-22.71371	-9.84921	0.98776	30.15164	148.10	12.90
73/ 2/19	2441732.5	-0.85517	0.45504	0.19732	-15.43355	-23.73762	-10.29321	0.98859	30.12672	151.98	11.51
73/ 2/23	2441736.5	-0.88870	0.39914	0.17308	-13.58568	-24.64276	-10.68571	0.98947	30.10017	155.81	10.07
73/ 2/27	2441740.5	-0.91789	0.34128	0.14799	-11.67660	-25.42520	-11.02500	0.99040	30.07215	159.60	8.59
73/ 3/ 3	2441744.5	-0.94261	0.28176	0.12218	-9.71621	-26.08170	-11.30968	0.99138	30.04278	163.36	7.08
73/ 3/ 7	2441748.5	-0.96275	0.22087	0.09578	-7.71460	-26.60974	-11.53866	0.99239	30.01223	167.08	5.54
73/ 3/11	2441752.5	-0.97823	0.15891	0.06891	-5.68194	-27.00748	-11.71114	0.99345	29.98065	170.77	3.98
73/ 3/15	2441756.5	-0.98899	0.09619	0.04171	-3.62844	-27.27379	-11.82663	0.99453	29.94820	174.44	2.40
73/ 3/19	2441760.5	-0.99499	0.03300	0.01431	-1.56428	-27.40822	-11.88493	0.99564	29.91503	178.10	0.82
73/ 3/23	2441764.5	-0.99621	-0.03035	-0.01315	0.50044	-27.41100	-11.88614	0.99676	29.88132	181.74	-0.76
73/ 3/27	2441768.5	-0.99268	-0.09355	-0.04056	2.55574	-27.28299	-11.83064	0.99790	29.84723	185.38	-2.33
73/ 3/31	2441772.5	-0.98442	-0.15630	-0.06777	4.59183	-27.02571	-11.71908	0.99905	29.81293	189.02	-3.89
73/ 4/ 4	2441776.5	-0.97149	-0.21832	-0.09466	6.59914	-26.64127	-11.55238	1.00020	29.77857	192.67	-5.43
73/ 4/ 8	2441780.5	-0.95396	-0.27930	-0.12111	8.56838	-26.13236	-11.33172	1.00136	29.74433	196.32	-6.95
73/ 4/12	2441784.5	-0.93193	-0.33896	-0.14698	10.49054	-25.50223	-11.05848	1.00250	29.71036	199.99	-8.43
73/ 4/16	2441788.5	-0.90553	-0.39704	-0.17216	12.35700	-24.75465	-10.73432	1.00363	29.67682	203.68	-9.88
73/ 4/20	2441792.5	-0.87489	-0.45325	-0.19654	14.15946	-23.89387	-10.36107	1.00474	29.64387	207.39	-11.28
73/ 4/24	2441796.5	-0.84017	-0.50735	-0.22000	15.89006	-22.92460	-9.94077	1.00582	29.61166	211.13	-12.63
73/ 4/28	2441800.5	-0.80153	-0.55909	-0.24243	17.54135	-21.85197	-9.47565	1.00688	29.58032	214.90	-13.93
73/ 5/ 2	2441804.5	-0.75918	-0.60824	-0.26375	19.10632	-20.68150	-8.96811	1.00791	29.55001	218.70	-15.17
73/ 5/ 6	2441808.5	-0.71333	-0.65458	-0.28384	20.57842	-19.41908	-8.42070	1.00890	29.52085	222.54	-16.34
73/ 5/10	2441812.5	-0.66418	-0.69790	-0.30262	21.95159	-18.07092	-7.83611	1.00984	29.49297	226.42	-17.44
73/ 5/14	2441816.5	-0.61198	-0.73801	-0.32002	23.22027	-16.64350	-7.21715	1.01074	29.46649	230.33	-18.46
73/ 5/18	2441820.5	-0.55698	-0.77474	-0.33595	24.37936	-15.14359	-6.56675	1.01159	29.44153	234.29	-19.40
73/ 5/22	2441824.5	-0.49943	-0.80793	-0.35034	25.42432	-13.57817	-5.88795	1.01238	29.41820	238.28	-20.25
73/ 5/26	2441828.5	-0.43960	-0.83743	-0.36313	26.35107	-11.95443	-5.18385	1.01312	29.39659	242.30	-21.00

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
73/ 5/30	2441832.5	-0.37777	-0.86312	-0.37427	27.15607	-10.27972	-4.45766	1.01379	29.37679	246.36	-21.67
73/ 6/ 3	2441836.5	-0.31423	-0.88489	-0.38371	27.83632	-8.56154	-3.71261	1.01440	29.35888	250.45	-22.23
73/ 6/ 7	2441840.5	-0.24926	-0.90265	-0.39141	28.38929	-6.80751	-2.95202	1.01495	29.34294	254.56	-22.68
73/ 6/11	2441844.5	-0.18316	-0.91633	-0.39734	28.81301	-5.02532	-2.17922	1.01542	29.32904	258.70	-23.04
73/ 6/15	2441848.5	-0.11623	-0.92586	-0.40148	29.10601	-3.22274	-1.39758	1.01583	29.31722	262.84	-23.28
73/ 6/19	2441852.5	-0.04878	-0.93121	-0.40380	29.26735	-1.40757	-0.61047	1.01616	29.30754	267.00	-23.41
73/ 6/23	2441856.5	0.01889	-0.93236	-0.40429	29.29658	0.41237	0.17870	1.01641	29.30003	271.16	-23.44
73/ 6/27	2441860.5	0.08648	-0.92930	-0.40297	29.19378	2.22926	0.96655	1.01660	29.29472	275.32	-23.35
73/ 7/ 1	2441864.5	0.15368	-0.92206	-0.39983	28.95954	4.03535	1.74972	1.01670	29.29164	279.46	-23.16
73/ 7/ 5	2441868.5	0.22018	-0.91067	-0.39489	28.59493	5.82289	2.52484	1.01673	29.29080	283.59	-22.85
73/ 7/ 9	2441872.5	0.28570	-0.89518	-0.38818	28.10154	7.58426	3.28862	1.01669	29.29220	287.70	-22.45
73/ 7/13	2441876.5	0.34992	-0.87566	-0.37971	27.48145	9.31191	4.03778	1.01656	29.29583	291.78	-21.93
73/ 7/17	2441880.5	0.41257	-0.85219	-0.36953	26.73722	10.99841	4.76909	1.01636	29.30167	295.83	-21.32
73/ 7/21	2441884.5	0.47337	-0.82488	-0.35769	25.87189	12.63648	5.47940	1.01609	29.30971	299.85	-20.61
73/ 7/25	2441888.5	0.53202	-0.79385	-0.34423	24.88898	14.21902	6.16564	1.01574	29.31991	303.83	-19.81
73/ 7/29	2441892.5	0.58827	-0.75923	-0.32922	23.79249	15.73909	6.82478	1.01532	29.33222	307.77	-18.92
73/ 8/ 2	2441896.5	0.64187	-0.72118	-0.31272	22.58686	17.18999	7.45393	1.01483	29.34660	311.67	-17.95
73/ 8/ 6	2441900.5	0.69255	-0.67986	-0.29481	21.27699	18.56523	8.05028	1.01428	29.36299	315.53	-16.90
73/ 8/10	2441904.5	0.74010	-0.63546	-0.27556	19.86824	19.85859	8.61112	1.01365	29.38131	319.35	-15.77
73/ 8/14	2441908.5	0.78428	-0.58818	-0.25505	18.36637	21.06412	9.13387	1.01297	29.40150	323.13	-14.58
73/ 8/18	2441912.5	0.82489	-0.53821	-0.23339	16.77758	22.17620	9.61611	1.01222	29.42347	326.88	-13.33
73/ 8/22	2441916.5	0.86174	-0.48579	-0.21066	15.10849	23.18952	10.05551	1.01141	29.44713	330.59	-12.02
73/ 8/26	2441920.5	0.89464	-0.43115	-0.18696	13.36607	24.09912	10.44995	1.01056	29.47237	334.27	-10.66
73/ 8/30	2441924.5	0.92344	-0.37453	-0.16241	11.55771	24.90044	10.79743	1.00965	29.49910	337.92	-9.26
73/ 9/ 3	2441928.5	0.94800	-0.31619	-0.13711	9.69112	25.58932	11.09615	1.00870	29.52720	341.55	-7.81
73/ 9/ 7	2441932.5	0.96818	-0.25639	-0.11118	7.77437	26.16201	11.34449	1.00770	29.55654	345.17	-6.33
73/ 9/11	2441936.5	0.98388	-0.19540	-0.08474	5.81581	26.61525	11.54104	1.00667	29.58700	348.77	-4.83
73/ 9/15	2441940.5	0.99502	-0.13351	-0.05790	3.82411	26.94624	11.68457	1.00561	29.61845	352.36	-3.30
73/ 9/19	2441944.5	1.00153	-0.07100	-0.03079	1.80818	27.15267	11.77409	1.00452	29.65074	355.95	-1.76
73/ 9/23	2441948.5	1.00337	-0.00815	-0.00354	-0.22285	27.23280	11.80885	1.00341	29.68373	359.53	-0.20
73/ 9/27	2441952.5	1.00050	0.05473	0.02373	-2.25966	27.18540	11.78830	1.00228	29.71727	3.13	1.36
73/10/ 1	2441956.5	0.99293	0.11736	0.05088	-4.29276	27.00984	11.71218	1.00114	29.75121	6.74	2.91
73/10/ 5	2441960.5	0.98068	0.17943	0.07780	-6.31257	26.70606	11.58046	0.99999	29.78539	10.37	4.46
73/10/ 9	2441964.5	0.96378	0.24065	0.10435	-8.30943	26.27461	11.39339	0.99884	29.81964	14.02	6.00
73/10/13	2441968.5	0.94231	0.30073	0.13040	-10.27365	25.71668	11.15146	0.99769	29.85382	17.70	7.51
73/10/17	2441972.5	0.91635	0.35937	0.15583	-12.19557	25.03406	10.85547	0.99656	29.88775	21.41	9.00
73/10/21	2441976.5	0.88600	0.41630	0.18051	-14.06562	24.22921	10.50647	0.99543	29.92126	25.17	10.45
73/10/25	2441980.5	0.85141	0.47123	0.20433	-15.87433	23.30521	10.10581	0.99433	29.95421	28.96	11.86
73/10/29	2441984.5	0.81271	0.52389	0.22717	-17.61245	22.26580	9.65510	0.99326	29.98641	32.81	13.22
73/11/ 2	2441988.5	0.77009	0.57402	0.24891	-19.27093	21.11535	9.15625	0.99222	30.01772	36.70	14.53
73/11/ 6	2441992.5	0.72374	0.62137	0.26944	-20.84105	19.85887	8.61141	0.99121	30.04797	40.65	15.77
73/11/10	2441996.5	0.67387	0.66570	0.28866	-22.31444	18.50199	8.02304	0.99024	30.07701	44.65	16.95
73/11/14	2442000.5	0.62072	0.70678	0.30648	-23.68312	17.05092	7.39382	0.98932	30.10470	48.71	18.05
73/11/18	2442004.5	0.56453	0.74441	0.32279	-24.93961	15.51246	6.72672	0.98845	30.13087	52.82	19.06
73/11/22	2442008.5	0.50558	0.77839	0.33753	-26.07695	13.89396	6.02490	0.98764	30.15541	57.00	19.98

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					EARTH-MOON B		
73/11/26	2442012.5	0.44415	0.80855	0.35061	-27.08874	12.20327	5.29177	0.98689	30.17818	61.22	20.81
73/11/30	2442016.5	0.38052	0.83473	0.36196	-27.96923	10.44871	4.53095	0.98619	30.19906	65.49	21.53
73/12/ 4	2442020.5	0.31502	0.85678	0.37152	-28.71335	8.63904	3.74623	0.98557	30.21794	69.81	22.15
73/12/ 8	2442024.5	0.24797	0.87461	0.37925	-29.31674	6.78336	2.94157	0.98502	30.23471	74.17	22.64
73/12/12	2442028.5	0.17968	0.88810	0.38510	-29.77579	4.89114	2.12106	0.98453	30.24930	78.56	23.03
73/12/16	2442032.5	0.11051	0.89718	0.38904	-30.08771	2.97209	1.28891	0.98413	30.26161	82.98	23.29
73/12/20	2442036.5	0.04078	0.90182	0.39105	-30.25050	1.03612	0.44942	0.98380	30.27158	87.41	23.42
73/12/24	2442040.5	-0.02915	0.90197	0.39112	-30.26302	-0.90672	-0.39305	0.98355	30.27915	91.85	23.43
73/12/28	2442044.5	-0.09893	0.89763	0.38924	-30.12497	-2.84629	-1.23409	0.98338	30.28429	96.29	23.32
74/ 1/ 1	2442048.5	-0.16822	0.88883	0.38542	-29.83692	-4.77246	-2.06933	0.98329	30.28697	100.72	23.08
74/ 1/ 5	2442052.5	-0.23667	0.87560	0.37968	-29.40030	-6.67516	-2.89439	0.98328	30.28717	105.13	22.71
74/ 1/ 9	2442056.5	-0.30395	0.85801	0.37206	-28.81737	-8.54444	-3.70496	0.98336	30.28489	109.51	22.23
74/ 1/13	2442060.5	-0.36971	0.83615	0.36258	-28.09125	-10.37054	-4.49680	0.98351	30.28015	113.85	21.63
74/ 1/17	2442064.5	-0.43363	0.81014	0.35130	-27.22587	-12.14399	-5.26581	0.98375	30.27298	118.16	20.92
74/ 1/21	2442068.5	-0.49540	0.78009	0.33827	-26.22594	-13.85561	-6.00801	0.98407	30.26341	122.42	20.11
74/ 1/25	2442072.5	-0.55470	0.74617	0.32356	-25.09693	-15.49660	-6.71958	0.98446	30.25150	126.63	19.19
74/ 1/29	2442076.5	-0.61126	0.70855	0.30725	-23.84500	-17.05863	-7.39692	0.98493	30.23732	130.78	18.18
74/ 2/ 2	2442080.5	-0.66479	0.66742	0.28941	-22.47699	-18.53383	-8.03660	0.98547	30.22094	134.89	17.08
74/ 2/ 6	2442084.5	-0.71503	0.62299	0.27015	-21.00034	-19.91487	-8.63545	0.98608	30.20244	138.93	15.90
74/ 2/10	2442088.5	-0.76174	0.57549	0.24955	-19.42304	-21.19500	-9.19055	0.98676	30.18193	142.93	14.65
74/ 2/14	2442092.5	-0.80470	0.52515	0.22772	-17.75359	-22.36807	-9.69922	0.98751	30.15950	146.87	13.33
74/ 2/18	2442096.5	-0.84370	0.47222	0.20477	-16.00091	-23.42859	-10.15910	0.98831	30.13528	150.76	11.96
74/ 2/22	2442100.5	-0.87857	0.41699	0.18082	-14.17431	-24.37172	-10.56807	0.98917	30.10940	154.61	10.53
74/ 2/26	2442104.5	-0.90914	0.35971	0.15599	-12.28339	-25.19330	-10.92433	0.99008	30.08198	158.41	9.06
74/ 3/ 2	2442108.5	-0.93528	0.30068	0.13039	-10.33801	-25.88989	-11.22640	0.99104	30.05316	162.18	7.56
74/ 3/ 6	2442112.5	-0.95687	0.24019	0.10416	-8.34820	-26.45871	-11.47307	0.99204	30.02311	165.91	6.03
74/ 3/10	2442116.5	-0.97383	0.17853	0.07742	-6.32410	-26.89772	-11.66344	0.99308	29.99196	169.61	4.47
74/ 3/14	2442120.5	-0.98608	0.11601	0.05031	-4.27593	-27.20557	-11.79695	0.99415	29.95988	173.29	2.90
74/ 3/18	2442124.5	-0.99357	0.05294	0.02296	-2.21388	-27.38158	-11.87328	0.99525	29.92703	176.95	1.32
74/ 3/22	2442128.5	-0.99630	-0.01040	-0.00450	-0.14808	-27.42577	-11.89246	0.99637	29.89357	180.60	-0.26
74/ 3/26	2442132.5	-0.99426	-0.07368	-0.03194	1.91142	-27.33881	-11.85476	0.99750	29.85966	184.24	-1.84
74/ 3/30	2442136.5	-0.98748	-0.13661	-0.05923	3.95479	-27.12200	-11.76076	0.99865	29.82547	187.88	-3.40
74/ 4/ 3	2442140.5	-0.97601	-0.19889	-0.08624	5.97236	-26.77728	-11.61129	0.99980	29.79117	191.52	-4.95
74/ 4/ 7	2442144.5	-0.95992	-0.26024	-0.11284	7.95475	-26.30715	-11.40745	1.00095	29.75691	195.17	-6.47
74/ 4/11	2442148.5	-0.93929	-0.32035	-0.13890	9.89286	-25.71469	-11.15055	1.00209	29.72287	198.83	-7.97
74/ 4/15	2442152.5	-0.91425	-0.37896	-0.16432	11.77792	-25.00351	-10.84218	1.00322	29.68919	202.51	-9.43
74/ 4/19	2442156.5	-0.88492	-0.43579	-0.18896	13.60155	-24.17771	-10.48411	1.00434	29.65603	206.22	-10.84
74/ 4/23	2442160.5	-0.85146	-0.49058	-0.21272	15.35572	-23.24187	-10.07832	1.00543	29.62355	209.95	-12.21
74/ 4/27	2442164.5	-0.81403	-0.54309	-0.23549	17.03285	-22.20099	-9.62698	1.00650	29.59190	213.71	-13.53
74/ 5/ 1	2442168.5	-0.77282	-0.59308	-0.25717	18.62579	-21.06048	-9.13243	1.00754	29.56121	217.50	-14.79
74/ 5/ 5	2442172.5	-0.72804	-0.64032	-0.27765	20.12785	-19.82611	-8.59719	1.00854	29.53162	221.33	-15.98
74/ 5/ 9	2442176.5	-0.67990	-0.68462	-0.29686	21.53281	-18.50400	-8.02390	1.00950	29.50327	225.20	-17.10
74/ 5/13	2442180.5	-0.62863	-0.72576	-0.31470	22.83494	-17.10056	-7.41535	1.01041	29.47627	229.10	-18.15
74/ 5/17	2442184.5	-0.57448	-0.76357	-0.33110	24.02900	-15.62246	-6.77442	1.01128	29.45075	233.04	-19.11
74/ 5/21	2442188.5	-0.51770	-0.79789	-0.34598	25.11026	-14.07663	-6.10412	1.01209	29.42681	237.02	-19.99

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		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							EARTH-MOON B		
74/ 5/25	2442192.5	-0.45855	-0.82856	-0.35928	26.07452	-12.47020	-5.40754	1.01285	29.40455	241.04	-20.78
74/ 5/29	2442196.5	-0.39732	-0.85546	-0.37095	26.91805	-10.81048	-4.68785	1.01355	29.38407	245.09	-21.47
74/ 6/ 2	2442200.5	-0.33428	-0.87847	-0.38092	27.63769	-9.10492	-3.94829	1.01418	29.36546	249.17	-22.06
74/ 6/ 6	2442204.5	-0.26972	-0.89750	-0.38918	28.23075	-7.36112	-3.19214	1.01475	29.34879	253.27	-22.55
74/ 6/10	2442208.5	-0.20394	-0.91246	-0.39566	28.69511	-5.58675	-2.42273	1.01525	29.33412	257.40	-22.94
74/ 6/14	2442212.5	-0.13724	-0.92330	-0.40036	29.02914	-3.78956	-1.64343	1.01568	29.32153	261.55	-23.21
74/ 6/18	2442216.5	-0.06991	-0.92996	-0.40325	29.23172	-1.97735	-0.85761	1.01603	29.31107	265.70	-23.38
74/ 6/22	2442220.5	-0.00228	-0.93243	-0.40432	29.30226	-0.15793	-0.06867	1.01632	29.30277	269.86	-23.44
74/ 6/26	2442224.5	0.06537	-0.93069	-0.40357	29.24069	1.66088	0.72001	1.01652	29.29667	274.02	-23.39
74/ 6/30	2442228.5	0.13272	-0.92476	-0.40100	29.04742	3.47129	1.50504	1.01666	29.29279	278.17	-23.23
74/ 7/ 4	2442232.5	0.19948	-0.91466	-0.39662	28.72339	5.26555	2.28308	1.01671	29.29115	282.30	-22.96
74/ 7/ 8	2442236.5	0.26534	-0.90045	-0.39046	28.27002	7.03601	3.05079	1.01669	29.29176	286.42	-22.58
74/ 7/12	2442240.5	0.33000	-0.88218	-0.38254	27.68925	8.77508	3.80490	1.01660	29.29461	290.51	-22.10
74/ 7/16	2442244.5	0.39317	-0.85993	-0.37289	26.98349	10.47530	4.54216	1.01642	29.29969	294.57	-21.52
74/ 7/20	2442248.5	0.45458	-0.83381	-0.36156	26.15562	12.12934	5.25939	1.01618	29.30697	298.60	-20.84
74/ 7/24	2442252.5	0.51393	-0.80393	-0.34861	25.20904	13.73004	5.95350	1.01585	29.31644	302.59	-20.07
74/ 7/28	2442256.5	0.57096	-0.77042	-0.33408	24.14757	15.27041	6.62144	1.01546	29.32804	306.54	-19.21
74/ 8/ 1	2442260.5	0.62542	-0.73343	-0.31804	22.97554	16.74366	7.26029	1.01499	29.34174	310.46	-18.26
74/ 8/ 5	2442264.5	0.67704	-0.69312	-0.30056	21.69770	18.14325	7.86719	1.01446	29.35746	314.33	-17.23
74/ 8/ 9	2442268.5	0.72559	-0.64966	-0.28171	20.31927	19.46287	8.43941	1.01386	29.37515	318.16	-16.13
74/ 8/13	2442272.5	0.77085	-0.60326	-0.26159	18.84589	20.69648	8.97434	1.01319	29.39474	321.95	-14.96
74/ 8/17	2442276.5	0.81260	-0.55411	-0.24028	17.28362	21.83837	9.46950	1.01246	29.41614	325.71	-13.73
74/ 8/21	2442280.5	0.85064	-0.50243	-0.21787	15.63894	22.88311	9.92253	1.01168	29.43925	329.43	-12.44
74/ 8/25	2442284.5	0.88479	-0.44846	-0.19447	13.91873	23.82564	10.33124	1.01084	29.46399	333.12	-11.09
74/ 8/29	2442288.5	0.91490	-0.39243	-0.17017	12.13023	24.66128	10.69361	1.00995	29.49024	336.78	-9.70
74/ 9/ 2	2442292.5	0.94079	-0.33460	-0.14510	10.28107	25.38572	11.00775	1.00901	29.51789	340.42	-8.27
74/ 9/ 6	2442296.5	0.96236	-0.27523	-0.11935	8.37920	25.99511	11.27201	1.00803	29.54683	344.04	-6.80
74/ 9/10	2442300.5	0.97947	-0.21459	-0.09306	6.43289	26.48602	11.48489	1.00701	29.57691	347.64	-5.30
74/ 9/14	2442304.5	0.99205	-0.15295	-0.06633	4.45072	26.85549	11.64511	1.00596	29.60802	351.24	-3.78
74/ 9/18	2442308.5	1.00002	-0.09060	-0.03929	2.44151	27.10109	11.75162	1.00488	29.64002	354.82	-2.24
74/ 9/22	2442312.5	1.00332	-0.02783	-0.01207	0.41433	27.22088	11.80357	1.00378	29.67275	358.41	-0.69
74/ 9/26	2442316.5	1.00193	0.03507	0.01520	-1.62155	27.21347	11.80037	1.00265	29.70608	2.00	0.87
74/ 9/30	2442320.5	0.99583	0.09781	0.04240	-3.65670	27.07804	11.74166	1.00152	29.73985	5.61	2.43
74/10/ 4	2442324.5	0.98504	0.16008	0.06941	-5.68156	26.81436	11.62734	1.00037	29.77390	9.23	3.98
74/10/ 8	2442328.5	0.96959	0.22160	0.09608	-7.68649	26.42279	11.45756	0.99922	29.80808	12.87	5.52
74/10/12	2442332.5	0.94955	0.28207	0.12230	-9.66181	25.90431	11.23274	0.99808	29.84222	16.54	7.04
74/10/16	2442336.5	0.92498	0.34119	0.14794	-11.59785	25.26053	10.95360	0.99694	29.87617	20.25	8.53
74/10/20	2442340.5	0.89600	0.39869	0.17287	-13.48501	24.49369	10.62109	0.99581	29.90976	23.99	10.00
74/10/24	2442344.5	0.86272	0.45427	0.19697	-15.31378	23.60669	10.23648	0.99471	29.94283	27.77	11.42
74/10/28	2442348.5	0.82529	0.50767	0.22013	-17.07483	22.60306	9.80129	0.99363	29.97521	31.60	12.80
74/11/ 1	2442352.5	0.78389	0.55862	0.24222	-18.75906	21.48697	9.31734	0.99257	30.00675	35.47	14.12
74/11/ 5	2442356.5	0.73869	0.60686	0.26314	-20.35765	20.26324	8.78672	0.99156	30.03729	39.40	15.39
74/11/ 9	2442360.5	0.68990	0.65216	0.28279	-21.86209	18.93729	8.21176	0.99058	30.06667	43.39	16.59
74/11/13	2442364.5	0.63776	0.69428	0.30105	-23.26429	17.51516	7.59511	0.98964	30.09475	47.43	17.71
74/11/17	2442368.5	0.58250	0.73302	0.31785	-24.55662	16.00347	6.93961	0.98876	30.12137	51.53	18.75

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
74/11/21	2442372.5	0.52439	0.76816	0.33309	-25.73195	14.40940	6.24840	0.98793	30.14641	55.68	19.70
74/11/25	2442376.5	0.46370	0.79954	0.34669	-26.78369	12.74063	5.52479	0.98715	30.16973	59.89	20.56
74/11/29	2442380.5	0.40074	0.82698	0.35859	-27.70590	11.00534	4.77233	0.98644	30.19121	64.15	21.32
74/12/ 3	2442384.5	0.33579	0.85034	0.36872	-28.49328	9.21215	3.99478	0.98580	30.21074	68.45	21.96
74/12/ 7	2442388.5	0.26919	0.86950	0.37703	-29.14124	7.37007	3.19601	0.98522	30.22820	72.80	22.50
74/12/11	2442392.5	0.20126	0.88436	0.38348	-29.64595	5.48845	2.38011	0.98471	30.24351	77.18	22.92
74/12/15	2442396.5	0.13233	0.89484	0.38802	-30.00434	3.57692	1.55123	0.98428	30.25659	81.59	23.22
74/12/19	2442400.5	0.06275	0.90087	0.39064	-30.21418	1.64533	0.71365	0.98393	30.26736	86.02	23.39
74/12/23	2442404.5	-0.00715	0.90243	0.39131	-30.27403	-0.29629	-0.12828	0.98365	30.27576	90.45	23.44
74/12/27	2442408.5	-0.07702	0.89950	0.39005	-30.18335	-2.23785	-0.97018	0.98345	30.28174	94.89	23.37
74/12/31	2442412.5	-0.14650	0.89210	0.38684	-29.94242	-4.16919	-1.80765	0.98333	30.28528	99.33	23.17
75/ 1/ 4	2442416.5	-0.21525	0.88026	0.38170	-29.55240	-6.08023	-2.63632	0.98330	30.28636	103.74	22.84
75/ 1/ 8	2442420.5	-0.28292	0.86403	0.37466	-29.01528	-7.96097	-3.45185	0.98335	30.28496	108.13	22.40
75/ 1/12	2442424.5	-0.34920	0.84351	0.36576	-28.33393	-9.80159	-4.24999	0.98347	30.28110	112.49	21.83
75/ 1/16	2442428.5	-0.41373	0.81878	0.35504	-27.51200	-11.59252	-5.02658	0.98368	30.27479	116.81	21.16
75/ 1/20	2442432.5	-0.47621	0.78999	0.34256	-26.55397	-13.32448	-5.77760	0.98397	30.26608	121.08	20.37
75/ 1/24	2442436.5	-0.53632	0.75727	0.32837	-25.46505	-14.98855	-6.49918	0.98434	30.25500	125.31	19.49
75/ 1/28	2442440.5	-0.59377	0.72080	0.31256	-24.25121	-16.57625	-7.18765	0.98478	30.24161	129.48	18.50
75/ 2/ 1	2442444.5	-0.64827	0.68075	0.29519	-22.91905	-18.07955	-7.83952	0.98530	30.22600	133.60	17.43
75/ 2/ 5	2442448.5	-0.69958	0.63733	0.27637	-21.47584	-19.49095	-8.45154	0.98589	30.20823	137.67	16.28
75/ 2/ 9	2442452.5	-0.74742	0.59077	0.25618	-19.92940	-20.80351	-9.02071	0.98655	30.18841	141.68	15.05
75/ 2/13	2442456.5	-0.79158	0.54129	0.23472	-18.28808	-22.01090	-9.54427	0.98727	30.16664	145.64	13.75
75/ 2/17	2442460.5	-0.83185	0.48916	0.21211	-16.56067	-23.10740	-10.01974	0.98805	30.14304	149.54	12.40
75/ 2/21	2442464.5	-0.86804	0.43462	0.18847	-14.75635	-24.08798	-10.44496	0.98889	30.11773	153.40	10.99
75/ 2/25	2442468.5	-0.89998	0.37795	0.16390	-12.88466	-24.94826	-10.81800	0.98979	30.09085	157.22	9.53
75/ 3/ 1	2442472.5	-0.92753	0.31945	0.13852	-10.95537	-25.68455	-11.13729	0.99073	30.06252	161.00	8.04
75/ 3/ 5	2442476.5	-0.95056	0.25938	0.11248	-8.97846	-26.29388	-11.40152	0.99171	30.03291	164.74	6.51
75/ 3/ 9	2442480.5	-0.96898	0.19806	0.08589	-6.96405	-26.77398	-11.60971	0.99274	30.00215	168.45	4.96
75/ 3/13	2442484.5	-0.98272	0.13578	0.05888	-4.92234	-27.12325	-11.76118	0.99380	29.97041	172.13	3.40
75/ 3/17	2442488.5	-0.99171	0.07284	0.03159	-2.86354	-27.34083	-11.85554	0.99488	29.93785	175.80	1.82
75/ 3/21	2442492.5	-0.99594	0.00955	0.00415	-0.79780	-27.42651	-11.89270	0.99600	29.90462	179.45	0.24
75/ 3/25	2442496.5	-0.99540	-0.05378	-0.02331	1.26480	-27.38074	-11.87287	0.99712	29.87089	183.09	-1.34
75/ 3/29	2442500.5	-0.99011	-0.11685	-0.05066	3.31434	-27.20465	-11.79653	0.99827	29.83682	186.73	-2.91
75/ 4/ 2	2442504.5	-0.98010	-0.17937	-0.07777	5.34111	-26.89995	-11.66442	0.99941	29.80258	190.37	-4.46
75/ 4/ 6	2442508.5	-0.96545	-0.24104	-0.10452	7.33562	-26.46899	-11.47756	1.00056	29.76833	194.02	-6.00
75/ 4/10	2442512.5	-0.94624	-0.30158	-0.13076	9.28868	-25.91467	-11.23721	1.00171	29.73423	197.68	-7.50
75/ 4/14	2442516.5	-0.92258	-0.36069	-0.15639	11.19142	-25.24042	-10.94485	1.00285	29.70045	201.35	-8.97
75/ 4/18	2442520.5	-0.89458	-0.41811	-0.18129	13.03532	-24.45020	-10.60221	1.00397	29.66713	205.05	-10.40
75/ 4/22	2442524.5	-0.86240	-0.47357	-0.20534	14.81224	-23.54844	-10.21120	1.00507	29.63444	208.77	-11.79
75/ 4/26	2442528.5	-0.82620	-0.52683	-0.22844	16.51445	-22.54002	-9.77394	1.00615	29.60252	212.52	-13.12
75/ 4/30	2442532.5	-0.78616	-0.57763	-0.25047	18.13467	-21.43021	-9.29271	1.00720	29.57151	216.31	-14.40
75/ 5/ 4	2442536.5	-0.74248	-0.62577	-0.27134	19.66605	-20.22468	-8.76998	1.00821	29.54156	220.12	-15.61
75/ 5/ 8	2442540.5	-0.69537	-0.67101	-0.29096	21.10223	-18.92944	-8.20835	1.00918	29.51279	223.98	-16.76
75/ 5/12	2442544.5	-0.64506	-0.71316	-0.30924	22.43731	-17.55082	-7.61056	1.01011	29.48533	227.87	-17.83
75/ 5/16	2442548.5	-0.59178	-0.75204	-0.32610	23.66590	-16.09541	-6.97947	1.01100	29.45930	231.80	-18.82

1.3 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
75/ 5/20	2442552.5	-0.53580	-0.78748	-0.34146	24.78312	-14.57006	-6.31806	1.01183	29.43481	235.77	-19.72
75/ 5/24	2442556.5	-0.47737	-0.81931	-0.35527	25.78459	-12.98185	-5.62938	1.01260	29.41196	239.77	-20.54
75/ 5/28	2442560.5	-0.41676	-0.84741	-0.36745	26.66643	-11.33804	-4.91660	1.01332	29.39086	243.81	-21.26
75/ 6/ 1	2442564.5	-0.35425	-0.87166	-0.37797	27.42531	-9.64603	-4.18291	1.01398	29.37159	247.88	-21.89
75/ 6/ 5	2442568.5	-0.29014	-0.89195	-0.38677	28.05839	-7.91339	-3.43161	1.01457	29.35423	251.98	-22.41
75/ 6/ 9	2442572.5	-0.22471	-0.90820	-0.39381	28.56337	-6.14775	-2.66599	1.01509	29.33886	256.10	-22.83
75/ 6/13	2442576.5	-0.15827	-0.92034	-0.39908	28.93847	-4.35686	-1.88943	1.01554	29.32554	260.24	-23.14
75/ 6/17	2442580.5	-0.09111	-0.92832	-0.40254	29.18240	-2.54850	-1.10529	1.01593	29.31432	264.39	-23.34
75/ 6/21	2442584.5	-0.02354	-0.93210	-0.40418	29.29443	-0.73049	-0.31696	1.01623	29.30525	268.55	-23.44
75/ 6/25	2442588.5	0.04414	-0.93169	-0.40400	29.27430	1.08936	0.47217	1.01647	29.29837	272.71	-23.42
75/ 6/29	2442592.5	0.11162	-0.92708	-0.40200	29.12230	2.90326	1.25871	1.01663	29.29371	276.87	-23.29
75/ 7/ 3	2442596.5	0.17860	-0.91829	-0.39819	28.83918	4.70343	2.03930	1.01671	29.29128	281.01	-23.06
75/ 7/ 7	2442600.5	0.24477	-0.90536	-0.39258	28.42622	6.48219	2.81061	1.01672	29.29110	285.13	-22.71
75/ 7/11	2442604.5	0.30984	-0.88836	-0.38521	27.88521	8.23192	3.56934	1.01665	29.29316	289.23	-22.27
75/ 7/15	2442608.5	0.37351	-0.86735	-0.37611	27.21839	9.94513	4.31223	1.01650	29.29747	293.30	-21.72
75/ 7/19	2442612.5	0.43550	-0.84244	-0.36530	26.42851	11.61445	5.03608	1.01628	29.30399	297.34	-21.07
75/ 7/23	2442616.5	0.49553	-0.81373	-0.35285	25.51881	13.23266	5.73778	1.01598	29.31271	301.34	-20.32
75/ 7/27	2442620.5	0.55332	-0.78135	-0.33881	24.49297	14.79271	6.41425	1.01561	29.32359	305.30	-19.49
75/ 7/31	2442624.5	0.60861	-0.74543	-0.32324	23.35518	16.28777	7.06255	1.01516	29.33658	309.23	-18.57
75/ 8/ 4	2442628.5	0.66114	-0.70615	-0.30620	22.11003	17.71120	7.67978	1.01465	29.35164	313.11	-17.56
75/ 8/ 8	2442632.5	0.71068	-0.66366	-0.28778	20.76260	19.05662	8.26319	1.01407	29.36870	316.96	-16.49
75/ 8/12	2442636.5	0.75700	-0.61816	-0.26805	19.31841	20.31791	8.81012	1.01342	29.38770	320.77	-15.34
75/ 8/16	2442640.5	0.79987	-0.56985	-0.24711	17.78337	21.48925	9.31804	1.01271	29.40854	324.53	-14.12
75/ 8/20	2442644.5	0.83910	-0.51895	-0.22503	16.16385	22.56513	9.78456	1.01195	29.43115	328.26	-12.85
75/ 8/24	2442648.5	0.87450	-0.46567	-0.20193	14.46659	23.54036	10.20745	1.01112	29.45544	331.96	-11.52
75/ 8/28	2442652.5	0.90589	-0.41027	-0.17791	12.69872	24.41015	10.58461	1.01025	29.48130	335.63	-10.14
75/ 9/ 1	2442656.5	0.93312	-0.35297	-0.15306	10.86776	25.17006	10.91412	1.00932	29.50861	339.28	-8.72
75/ 9/ 5	2442660.5	0.95606	-0.29406	-0.12752	8.98155	25.81609	11.19426	1.00835	29.53727	342.90	-7.27
75/ 9/ 9	2442664.5	0.97458	-0.23379	-0.10138	7.04826	26.34467	11.42347	1.00734	29.56713	346.51	-5.78
75/ 9/13	2442668.5	0.98859	-0.17243	-0.07478	5.07637	26.75270	11.60041	1.00630	29.59808	350.11	-4.26
75/ 9/17	2442672.5	0.99801	-0.11027	-0.04782	3.07465	27.03757	11.72394	1.00522	29.62996	353.69	-2.73
75/ 9/21	2442676.5	1.00278	-0.04760	-0.02065	1.05207	27.19717	11.79316	1.00412	29.66263	357.28	-1.18
75/ 9/25	2442680.5	1.00286	0.01529	0.00662	-0.98215	27.22995	11.80739	1.00300	29.69595	0.87	0.38
75/ 9/29	2442684.5	0.99824	0.07811	0.03386	-3.01863	27.13490	11.76618	1.00187	29.72975	4.47	1.94
75/10/ 3	2442688.5	0.98892	0.14056	0.06094	-5.04785	26.91159	11.66937	1.00072	29.76388	8.09	3.49
75/10/ 7	2442692.5	0.97493	0.20235	0.08774	-7.06017	26.56019	11.51701	0.99957	29.79818	11.73	5.04
75/10/11	2442696.5	0.95632	0.26318	0.11411	-9.04594	26.08150	11.30945	0.99842	29.83248	15.39	6.56
75/10/15	2442700.5	0.93317	0.32276	0.13995	-10.99547	25.47690	11.04730	0.99727	29.86663	19.08	8.07
75/10/19	2442704.5	0.90556	0.38080	0.16511	-12.89912	24.74846	10.73145	0.99614	29.90046	22.81	9.54
75/10/23	2442708.5	0.87361	0.43701	0.18949	-14.74735	23.89885	10.36306	0.99503	29.93380	26.58	10.98
75/10/27	2442712.5	0.83747	0.49113	0.21296	-16.53077	22.93142	9.94358	0.99394	29.96649	30.39	12.37
75/10/31	2442716.5	0.79729	0.54288	0.23539	-18.24019	21.85012	9.47472	0.99287	29.99838	34.25	13.71
75/11/ 4	2442720.5	0.75325	0.59200	0.25670	-19.86669	20.65958	8.95850	0.99184	30.02929	38.16	15.00
75/11/ 8	2442724.5	0.70557	0.63825	0.27675	-21.40166	19.36503	8.39717	0.99085	30.05908	42.13	16.22
75/11/12	2442728.5	0.65445	0.68140	0.29546	-22.83688	17.97233	7.79328	0.98990	30.08759	46.16	17.37

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				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					EARTH-MOON B		
75/11/16	2442732.5	0.60014	0.72122	0.31273	-24.16455	16.48791	7.14962	0.98900	30.11468	50.24	18.43
75/11/20	2442736.5	0.54289	0.75751	0.32847	-25.37738	14.91878	6.46923	0.98815	30.14021	54.37	19.41
75/11/24	2442740.5	0.48298	0.79009	0.34259	-26.46860	13.27247	5.75537	0.98736	30.16404	58.56	20.30
75/11/28	2442744.5	0.42069	0.81878	0.35503	-27.43206	11.55703	5.01153	0.98663	30.18606	62.81	21.09
75/12/ 2	2442748.5	0.35633	0.84344	0.36573	-28.26226	9.78093	4.24139	0.98596	30.20614	67.10	21.77
75/12/ 6	2442752.5	0.29022	0.86394	0.37461	-28.95437	7.95308	3.44881	0.98537	30.22419	71.43	22.34
75/12/10	2442756.5	0.22266	0.88016	0.38165	-29.50434	6.08271	2.63780	0.98484	30.24009	75.80	22.80
75/12/14	2442760.5	0.15401	0.89201	0.38679	-29.90884	4.17940	1.81249	0.98439	30.25378	80.20	23.14
75/12/18	2442764.5	0.08459	0.89945	0.39001	-30.16538	2.25293	0.97715	0.98401	30.26517	84.63	23.35
75/12/22	2442768.5	0.01475	0.90241	0.39130	-30.27228	0.31328	0.13608	0.98371	30.27421	89.06	23.44
75/12/26	2442772.5	-0.05516	0.90089	0.39064	-30.22871	-1.62946	-0.70632	0.98349	30.28084	93.50	23.40
75/12/30	2442776.5	-0.12480	0.89489	0.38804	-30.03470	-3.56516	-1.54568	0.98335	30.28503	97.94	23.24
76/ 1/ 3	2442780.5	-0.19382	0.88443	0.38351	-29.69114	-5.48369	-2.37758	0.98329	30.28675	102.36	22.96
76/ 1/ 7	2442784.5	-0.26187	0.86957	0.37706	-29.19976	-7.37502	-3.19770	0.98332	30.28601	106.76	22.55
76/ 1/11	2442788.5	-0.32862	0.85039	0.36874	-28.56316	-9.22928	-4.00174	0.98342	30.28279	111.13	22.02
76/ 1/15	2442792.5	-0.39373	0.82697	0.35859	-27.78475	-11.03679	-4.78551	0.98361	30.27712	115.46	21.38
76/ 1/19	2442796.5	-0.45689	0.79944	0.34665	-26.86876	-12.78819	-5.54496	0.98388	30.26904	119.75	20.63
76/ 1/23	2442800.5	-0.51778	0.76793	0.33299	-25.82018	-14.47444	-6.27615	0.98422	30.25857	123.99	19.78
76/ 1/27	2442804.5	-0.57609	0.73262	0.31768	-24.64474	-16.08691	-6.97536	0.98465	30.24579	128.18	18.82
76/ 1/31	2442808.5	-0.63155	0.69367	0.30079	-23.34887	-17.61744	-7.63903	0.98514	30.23075	132.32	17.78
76/ 2/ 4	2442812.5	-0.68388	0.65129	0.28241	-21.93961	-19.05835	-8.26384	0.98571	30.21355	136.40	16.65
76/ 2/ 8	2442816.5	-0.73284	0.60569	0.26264	-20.42464	-20.40253	-8.84671	0.98635	30.19426	140.43	15.44
76/ 2/12	2442820.5	-0.77818	0.55710	0.24157	-18.81214	-21.64345	-9.38481	0.98705	30.17301	144.40	14.17
76/ 2/16	2442824.5	-0.81969	0.50577	0.21932	-17.11076	-22.77522	-9.87557	0.98782	30.14989	148.32	12.83
76/ 2/20	2442828.5	-0.85717	0.45196	0.19598	-15.32959	-23.79256	-10.31672	0.98865	30.12503	152.20	11.43
76/ 2/24	2442832.5	-0.89046	0.39593	0.17169	-13.47804	-24.69091	-10.70627	0.98953	30.09855	156.03	9.99
76/ 2/28	2442836.5	-0.91940	0.33797	0.14656	-11.56581	-25.46637	-11.04254	0.99045	30.07061	159.82	8.51
76/ 3/ 3	2442840.5	-0.94386	0.27837	0.12071	-9.60284	-26.11573	-11.32413	0.99143	30.04134	163.57	6.99
76/ 3/ 7	2442844.5	-0.96374	0.21741	0.09428	-7.59919	-26.63651	-11.54996	0.99244	30.01088	167.29	5.45
76/ 3/11	2442848.5	-0.97895	0.15540	0.06739	-5.56506	-27.02691	-11.71926	0.99349	29.97940	170.98	3.89
76/ 3/15	2442852.5	-0.98943	0.09263	0.04018	-3.51064	-27.28582	-11.83154	0.99457	29.94706	174.65	2.32
76/ 3/19	2442856.5	-0.99516	0.02943	0.01277	-1.44611	-27.41285	-11.88663	0.99568	29.91400	178.31	0.73
76/ 3/23	2442860.5	-0.99612	-0.03392	-0.01470	0.61842	-27.40823	-11.88465	0.99680	29.88040	181.95	-0.85
76/ 3/27	2442864.5	-0.99231	-0.09711	-0.04210	2.67298	-27.27289	-11.82598	0.99794	29.84642	185.59	-2.42
76/ 3/31	2442868.5	-0.98378	-0.15983	-0.06930	4.70779	-27.00836	-11.71129	0.99909	29.81223	189.23	-3.98
76/ 4/ 4	2442872.5	-0.97058	-0.22180	-0.09617	6.71330	-26.61678	-11.54151	1.00024	29.77798	192.87	-5.52
76/ 4/ 8	2442876.5	-0.95279	-0.28272	-0.12258	8.68022	-26.10089	-11.31782	1.00138	29.74384	196.53	-7.03
76/ 4/12	2442880.5	-0.93051	-0.34230	-0.14842	10.59957	-25.46396	-11.04165	1.00252	29.70996	200.20	-8.51
76/ 4/16	2442884.5	-0.90386	-0.40028	-0.17356	12.46272	-24.70977	-10.71464	1.00365	29.67652	203.89	-9.96
76/ 4/20	2442888.5	-0.87298	-0.45638	-0.19789	14.26142	-23.84262	-10.33864	1.00476	29.64365	207.60	-11.36
76/ 4/24	2442892.5	-0.83803	-0.51036	-0.22129	15.98781	-22.86723	-9.91571	1.00584	29.61151	211.34	-12.71
76/ 4/28	2442896.5	-0.79917	-0.56196	-0.24367	17.63446	-21.78877	-9.44808	1.00690	29.58025	215.11	-14.00
76/ 5/ 2	2442900.5	-0.75661	-0.61095	-0.26491	19.19439	-20.61278	-8.93817	1.00792	29.54999	218.92	-15.24
76/ 5/ 6	2442904.5	-0.71056	-0.65712	-0.28493	20.66107	-19.34516	-8.38852	1.00891	29.52088	222.76	-16.40
76/ 5/10	2442908.5	-0.66123	-0.70027	-0.30364	22.02847	-17.99215	-7.80184	1.00985	29.49304	226.64	-17.50

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		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							EARTH-MOON B		
76/ 5/14	2442912.5	-0.60886	-0.74019	-0.32095	23.29104	-16.56025	-7.18095	1.01075	29.46660	230.56	-18.51
76/ 5/18	2442916.5	-0.55370	-0.77673	-0.33680	24.44373	-15.05624	-6.52880	1.01159	29.44166	234.52	-19.45
76/ 5/22	2442920.5	-0.49601	-0.80971	-0.35110	25.48200	-13.48712	-5.84841	1.01239	29.41833	238.51	-20.29
76/ 5/26	2442924.5	-0.43606	-0.83900	-0.36380	26.40182	-11.86009	-5.14292	1.01312	29.39672	242.54	-21.04
76/ 5/30	2442928.5	-0.37412	-0.86447	-0.37484	27.19968	-10.18253	-4.41550	1.01379	29.37692	246.60	-21.70
76/ 6/ 3	2442932.5	-0.31048	-0.88601	-0.38419	27.87260	-8.46193	-3.66943	1.01440	29.35900	250.69	-22.26
76/ 6/ 7	2442936.5	-0.24544	-0.90354	-0.39179	28.41810	-6.70593	-2.90800	1.01495	29.34304	254.80	-22.71
76/ 6/11	2442940.5	-0.17928	-0.91697	-0.39761	28.83422	-4.92223	-2.13457	1.01542	29.32912	258.94	-23.05
76/ 6/15	2442944.5	-0.11231	-0.92626	-0.40164	29.11954	-3.11859	-1.35248	1.01582	29.31727	263.09	-23.29
76/ 6/19	2442948.5	-0.04484	-0.93137	-0.40386	29.27314	-1.30284	-0.56515	1.01615	29.30757	267.24	-23.42
76/ 6/23	2442952.5	0.02284	-0.93228	-0.40425	29.29461	0.51722	0.22406	1.01641	29.30003	271.40	-23.44
76/ 6/27	2442956.5	0.09041	-0.92899	-0.40282	29.18407	2.33377	1.01175	1.01659	29.29471	275.56	-23.34
76/ 7/ 1	2442960.5	0.15758	-0.92151	-0.39958	28.94212	4.13904	1.79454	1.01670	29.29161	279.70	-23.14
76/ 7/ 5	2442964.5	0.22403	-0.90988	-0.39454	28.56989	5.92532	2.56910	1.01672	29.29075	283.83	-22.83
76/ 7/ 9	2442968.5	0.28948	-0.89415	-0.38772	28.06898	7.68497	3.33212	1.01668	29.29214	287.94	-22.42
76/ 7/13	2442972.5	0.35363	-0.87440	-0.37915	27.44151	9.41045	4.08031	1.01655	29.29577	292.02	-21.90
76/ 7/17	2442976.5	0.41618	-0.85070	-0.36888	26.69008	11.09435	4.81048	1.01635	29.30163	296.07	-21.28
76/ 7/21	2442980.5	0.47685	-0.82317	-0.35694	25.81774	12.72939	5.51947	1.01608	29.30969	300.08	-20.57
76/ 7/25	2442984.5	0.53537	-0.79193	-0.34340	24.82807	14.30849	6.20420	1.01573	29.31992	304.06	-19.76
76/ 7/29	2442988.5	0.59148	-0.75711	-0.32830	23.72506	15.82472	6.86167	1.01530	29.33228	308.00	-18.87
76/ 8/ 2	2442992.5	0.64491	-0.71887	-0.31172	22.51320	17.27140	7.48897	1.01481	29.34672	311.90	-17.89
76/ 8/ 6	2442996.5	0.69542	-0.67737	-0.29372	21.19742	18.64204	8.08332	1.01425	29.36318	315.75	-16.83
76/ 8/10	2443000.5	0.74277	-0.63280	-0.27440	19.78308	19.93046	8.64200	1.01363	29.38159	319.57	-15.71
76/ 8/14	2443004.5	0.78675	-0.58535	-0.25382	18.27599	21.13072	9.16247	1.01294	29.40187	323.35	-14.51
76/ 8/18	2443008.5	0.82715	-0.53524	-0.23209	16.68237	22.23722	9.64227	1.01219	29.42395	327.09	-13.26
76/ 8/22	2443012.5	0.86377	-0.48268	-0.20931	15.00884	23.24466	10.07913	1.01138	29.44772	330.80	-11.94
76/ 8/26	2443016.5	0.89644	-0.42792	-0.18556	13.26241	24.14813	10.47089	1.01052	29.47309	334.48	-10.58
76/ 8/30	2443020.5	0.92499	-0.37120	-0.16096	11.45048	24.94306	10.81560	1.00961	29.49995	338.13	-9.17
76/ 9/ 3	2443024.5	0.94930	-0.31276	-0.13563	9.58078	25.62533	11.11146	1.00865	29.52818	341.76	-7.73
76/ 9/ 7	2443028.5	0.96922	-0.25289	-0.10966	7.66140	26.19123	11.35685	1.00765	29.55766	345.38	-6.25
76/ 9/11	2443032.5	0.98466	-0.19184	-0.08319	5.70071	26.63750	11.55038	1.00662	29.58827	348.98	-4.74
76/ 9/15	2443036.5	0.99554	-0.12991	-0.05634	3.70739	26.96137	11.69083	1.00555	29.61985	352.57	-3.21
76/ 9/19	2443040.5	1.00177	-0.06737	-0.02922	1.69036	27.16058	11.77722	1.00446	29.65228	356.15	-1.67
76/ 9/23	2443044.5	1.00333	-0.00451	-0.00196	-0.34125	27.23341	11.80882	1.00335	29.68540	359.74	-0.11
76/ 9/27	2443048.5	1.00019	0.05836	0.02530	-2.37809	27.17866	11.78509	1.00221	29.71907	3.34	1.45
76/10/ 1	2443052.5	0.99235	0.12096	0.05244	-4.41067	26.99572	11.70578	1.00107	29.75312	6.95	3.00
76/10/ 5	2443056.5	0.97982	0.18299	0.07934	-6.42941	26.68458	11.57088	0.99992	29.78741	10.58	4.55
76/10/ 9	2443060.5	0.96266	0.24416	0.10586	-8.42463	26.24583	11.38064	0.99877	29.82175	14.23	6.08
76/10/13	2443064.5	0.94093	0.30416	0.13188	-10.38666	25.68067	11.13560	0.99762	29.85600	17.91	7.60
76/10/17	2443068.5	0.91470	0.36272	0.15727	-12.30584	24.99095	10.83654	0.99648	29.88999	21.63	9.08
76/10/21	2443072.5	0.88411	0.41953	0.18191	-14.17259	24.17915	10.48454	0.99536	29.92355	25.39	10.53
76/10/25	2443076.5	0.84927	0.47434	0.20567	-15.97747	23.24839	10.08096	0.99426	29.95652	29.18	11.94
76/10/29	2443080.5	0.81034	0.52686	0.22845	-17.71122	22.20246	9.62744	0.99319	29.98873	33.03	13.30
76/11/ 2	2443084.5	0.76750	0.57684	0.25012	-19.36481	21.04576	9.12589	0.99215	30.02002	36.93	14.60
76/11/ 6	2443088.5	0.72094	0.62402	0.27058	-20.92955	19.78333	8.57849	0.99114	30.05023	40.88	15.84

1.3 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
76/11/10	2443092.5	0.67087	0.66817	0.28972	-22.39707	18.42083	7.98771	0.99018	30.07921	44.88	17.01
76/11/14	2443096.5	0.61754	0.70906	0.30745	-23.75944	16.96453	7.35624	0.98926	30.10681	48.95	18.11
76/11/18	2443100.5	0.56118	0.74648	0.32368	-25.00919	15.42124	6.68706	0.98840	30.13289	53.07	19.12
76/11/22	2443104.5	0.50208	0.78025	0.33832	-26.13939	13.79835	5.98336	0.98759	30.15730	57.24	20.03
76/11/26	2443108.5	0.44051	0.81018	0.35130	-27.14369	12.10374	5.24855	0.98684	30.17992	61.47	20.85
76/11/30	2443112.5	0.37677	0.83612	0.36255	-28.01637	10.34576	4.48627	0.98615	30.20063	65.74	21.57
76/12/ 4	2443116.5	0.31117	0.85794	0.37201	-28.75240	8.53318	3.70032	0.98553	30.21933	70.06	22.18
76/12/ 8	2443120.5	0.24403	0.87551	0.37963	-29.34746	6.67515	2.89465	0.98498	30.23590	74.43	22.67
76/12/12	2443124.5	0.17568	0.88875	0.38537	-29.79800	4.78114	2.07338	0.98451	30.25027	78.82	23.04
76/12/16	2443128.5	0.10646	0.89758	0.38920	-30.10127	2.86087	1.24073	0.98411	30.26236	83.24	23.30
76/12/20	2443132.5	0.03672	0.90196	0.39110	-30.25533	0.92427	0.40099	0.98379	30.27210	87.67	23.42
76/12/24	2443136.5	-0.03321	0.90185	0.39106	-30.25908	-1.01860	-0.44146	0.98354	30.27943	92.11	23.43
76/12/28	2443140.5	-0.10297	0.89725	0.38906	-30.11227	-2.95760	-1.28225	0.98338	30.28433	96.55	23.31
77/ 1/ 1	2443144.5	-0.17222	0.88819	0.38514	-29.81554	-4.88261	-2.11696	0.98330	30.28676	100.97	23.06
77/ 1/ 5	2443148.5	-0.24062	0.87471	0.37929	-29.37035	-6.78355	-2.94124	0.98330	30.28671	105.38	22.69
77/ 1/ 9	2443152.5	-0.30781	0.85688	0.37156	-28.77903	-8.65049	-3.75078	0.98338	30.28419	109.76	22.20
77/ 1/13	2443156.5	-0.37348	0.83478	0.36198	-28.04475	-10.47369	-4.54135	0.98355	30.27920	114.10	21.59
77/ 1/17	2443160.5	-0.43728	0.80853	0.35059	-27.17147	-12.24367	-5.30885	0.98379	30.27177	118.41	20.88
77/ 1/21	2443164.5	-0.49892	0.77826	0.33747	-26.16396	-13.95130	-6.04931	0.98412	30.26196	122.66	20.05
77/ 1/25	2443168.5	-0.55807	0.74412	0.32267	-25.02773	-15.58782	-6.75893	0.98452	30.24980	126.87	19.13
77/ 1/29	2443172.5	-0.61446	0.70630	0.30626	-23.76898	-17.14490	-7.43411	0.98499	30.23537	131.02	18.12
77/ 2/ 2	2443176.5	-0.66780	0.66497	0.28835	-22.39457	-18.61471	-8.07145	0.98554	30.21875	135.12	17.01
77/ 2/ 6	2443180.5	-0.71785	0.62036	0.26900	-20.91200	-19.98997	-8.66780	0.98616	30.20002	139.17	15.83
77/ 2/10	2443184.5	-0.76435	0.57269	0.24833	-19.32927	-21.26396	-9.22023	0.98685	30.17929	143.16	14.57
77/ 2/14	2443188.5	-0.80708	0.52220	0.22644	-17.65492	-22.43059	-9.72611	0.98760	30.15666	147.10	13.25
77/ 2/18	2443192.5	-0.84585	0.46914	0.20343	-15.89788	-23.48438	-10.18306	0.98841	30.13226	150.99	11.88
77/ 2/22	2443196.5	-0.88048	0.41378	0.17943	-14.06748	-24.42055	-10.58901	0.98927	30.10622	154.83	10.45
77/ 2/26	2443200.5	-0.91080	0.35640	0.15455	-12.17334	-25.23499	-10.94217	0.99019	30.07867	158.63	8.98
77/ 3/ 2	2443204.5	-0.93668	0.29729	0.12891	-10.22531	-25.92428	-11.24107	0.99115	30.04974	162.39	7.47
77/ 3/ 6	2443208.5	-0.95801	0.23672	0.10265	-8.23344	-26.48571	-11.48452	0.99215	30.01960	166.12	5.94
77/ 3/10	2443212.5	-0.97470	0.17501	0.07589	-6.20787	-26.91726	-11.67166	0.99319	29.98840	169.82	4.38
77/ 3/14	2443216.5	-0.98668	0.11246	0.04877	-4.15880	-27.21761	-11.80191	0.99426	29.95628	173.50	2.81
77/ 3/18	2443220.5	-0.99390	0.04936	0.02141	-2.09642	-27.38614	-11.87499	0.99536	29.92342	177.16	1.23
77/ 3/22	2443224.5	-0.99636	-0.01398	-0.00605	-0.03087	-27.42290	-11.89094	0.99648	29.88998	180.80	-0.35
77/ 3/26	2443228.5	-0.99405	-0.07724	-0.03349	2.02785	-27.32859	-11.85005	0.99761	29.85612	184.44	-1.92
77/ 3/30	2443232.5	-0.98700	-0.14014	-0.06076	4.06989	-27.10456	-11.75292	0.99875	29.82201	188.08	-3.49
77/ 4/ 3	2443236.5	-0.97527	-0.20238	-0.08775	6.08562	-26.75276	-11.60038	0.99990	29.78781	191.72	-5.03
77/ 4/ 7	2443240.5	-0.95891	-0.26365	-0.11432	8.06567	-26.27573	-11.39354	1.00105	29.75369	195.37	-6.56
77/ 4/11	2443244.5	-0.93804	-0.32369	-0.14035	10.00097	-25.67658	-11.13375	1.00219	29.71980	199.04	-8.05
77/ 4/15	2443248.5	-0.91275	-0.38220	-0.16572	11.88276	-24.95894	-10.82257	1.00332	29.68631	202.72	-9.51
77/ 4/19	2443252.5	-0.88318	-0.43892	-0.19031	13.70266	-24.12694	-10.46181	1.00443	29.65336	206.43	-10.92
77/ 4/23	2443256.5	-0.84949	-0.49359	-0.21402	15.45270	-23.18517	-10.05346	1.00552	29.62110	210.16	-12.29
77/ 4/27	2443260.5	-0.81184	-0.54596	-0.23673	17.12530	-22.13865	-9.59968	1.00658	29.58968	213.92	-13.60
77/ 5/ 1	2443264.5	-0.77043	-0.59580	-0.25834	18.71334	-20.99281	-9.10284	1.00761	29.55924	217.72	-14.86
77/ 5/ 5	2443268.5	-0.72545	-0.64288	-0.27876	20.21014	-19.75344	-8.56544	1.00861	29.52990	221.55	-16.04

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							EARTH-MOON B		
77/ 5/ 9	2443272.5	-0.67713	-0.68700	-0.29789	21.60953	-18.42666	-7.99015	1.00956	29.50180	225.41	-17.16
77/ 5/13	2443276.5	-0.62569	-0.72796	-0.31565	22.90579	-17.01890	-7.37974	1.01047	29.47505	229.32	-18.20
77/ 5/17	2443280.5	-0.57138	-0.76558	-0.33196	24.09370	-15.53686	-6.73711	1.01132	29.44977	233.26	-19.16
77/ 5/21	2443284.5	-0.51445	-0.79969	-0.34675	25.16857	-13.98746	-6.06528	1.01213	29.42608	237.25	-20.04
77/ 5/25	2443288.5	-0.45518	-0.83016	-0.35996	26.12621	-12.37785	-5.36734	1.01288	29.40406	241.26	-20.82
77/ 5/29	2443292.5	-0.39383	-0.85684	-0.37153	26.96293	-10.71535	-4.64647	1.01357	29.38381	245.31	-21.50
77/ 6/ 2	2443296.5	-0.33070	-0.87963	-0.38142	27.67559	-9.00741	-3.90589	1.01419	29.36542	249.40	-22.09
77/ 6/ 6	2443300.5	-0.26606	-0.89843	-0.38957	28.26153	-7.26164	-3.14891	1.01475	29.34896	253.50	-22.58
77/ 6/10	2443304.5	-0.20022	-0.91316	-0.39595	28.71864	-5.48572	-2.37886	1.01525	29.33450	257.63	-22.96
77/ 6/14	2443308.5	-0.13347	-0.92376	-0.40055	29.04533	-3.68741	-1.59909	1.01567	29.32210	261.78	-23.23
77/ 6/18	2443312.5	-0.06612	-0.93019	-0.40334	29.24051	-1.87450	-0.81299	1.01602	29.31181	265.93	-23.39
77/ 6/22	2443316.5	0.00153	-0.93241	-0.40431	29.30361	-0.05481	-0.02395	1.01630	29.30367	270.09	-23.44
77/ 6/26	2443320.5	0.06917	-0.93044	-0.40345	29.23459	1.76383	0.76463	1.01650	29.29773	274.25	-23.38
77/ 6/30	2443324.5	0.13650	-0.92427	-0.40078	29.03388	3.57364	1.54939	1.01663	29.29399	278.40	-23.22
77/ 7/ 4	2443328.5	0.20322	-0.91394	-0.39630	28.70247	5.36688	2.32696	1.01668	29.29248	282.54	-22.94
77/ 7/ 8	2443332.5	0.26902	-0.89949	-0.39003	28.24179	7.13588	3.09402	1.01665	29.29321	286.65	-22.56
77/ 7/12	2443336.5	0.33361	-0.88099	-0.38201	27.65380	8.87307	3.84729	1.01655	29.29617	290.74	-22.07
77/ 7/16	2443340.5	0.39669	-0.85853	-0.37227	26.94094	10.57099	4.58353	1.01637	29.30134	294.80	-21.49
77/ 7/20	2443344.5	0.45799	-0.83219	-0.36085	26.10615	12.22231	5.29956	1.01612	29.30872	298.83	-20.80
77/ 7/24	2443348.5	0.51722	-0.80210	-0.34780	25.15281	13.81987	5.99229	1.01580	29.31826	302.82	-20.02
77/ 7/28	2443352.5	0.57412	-0.76838	-0.33318	24.08481	15.35671	6.65869	1.01540	29.32993	306.77	-19.16
77/ 8/ 1	2443356.5	0.62842	-0.73120	-0.31706	22.90648	16.82605	7.29582	1.01493	29.34369	310.68	-18.20
77/ 8/ 5	2443360.5	0.67987	-0.69070	-0.29950	21.62262	18.22135	7.90085	1.01439	29.35947	314.55	-17.17
77/ 8/ 9	2443364.5	0.72824	-0.64707	-0.28058	20.23845	19.53630	8.47104	1.01378	29.37721	318.38	-16.07
77/ 8/13	2443368.5	0.77331	-0.60050	-0.26039	18.75965	20.76491	9.00379	1.01312	29.39684	322.17	-14.89
77/ 8/17	2443372.5	0.81485	-0.55120	-0.23901	17.19231	21.90146	9.49661	1.01239	29.41828	325.92	-13.66
77/ 8/21	2443376.5	0.85268	-0.49938	-0.21654	15.54294	22.94055	9.94718	1.01160	29.44144	329.64	-12.36
77/ 8/25	2443380.5	0.88661	-0.44528	-0.19309	13.81843	23.87713	10.35331	1.01076	29.46621	333.33	-11.01
77/ 8/29	2443384.5	0.91647	-0.38914	-0.16874	12.02606	24.70655	10.71297	1.00986	29.49250	336.99	-9.62
77/ 9/ 2	2443388.5	0.94212	-0.33122	-0.14363	10.17347	25.42453	11.02430	1.00893	29.52019	340.63	-8.18
77/ 9/ 6	2443392.5	0.96344	-0.27176	-0.11785	8.26863	26.02723	11.28565	1.00794	29.54916	344.25	-6.71
77/ 9/10	2443396.5	0.98029	-0.21105	-0.09152	6.31983	26.51126	11.49554	1.00692	29.57929	347.85	-5.21
77/ 9/14	2443400.5	0.99261	-0.14936	-0.06477	4.33568	26.87368	11.65271	1.00587	29.61045	351.44	-3.69
77/ 9/18	2443404.5	1.00031	-0.08698	-0.03772	2.32500	27.11209	11.75610	1.00479	29.64248	355.03	-2.15
77/ 9/22	2443408.5	1.00334	-0.02419	-0.01050	0.29688	27.22458	11.80488	1.00368	29.67526	358.62	-0.60
77/ 9/26	2443412.5	1.00167	0.03871	0.01678	-1.73939	27.20979	11.79849	1.00256	29.70863	2.21	0.96
77/ 9/30	2443416.5	0.99530	0.10143	0.04397	-3.77438	27.06695	11.73656	1.00142	29.74244	5.82	2.52
77/10/ 4	2443420.5	0.98424	0.16367	0.07096	-5.79851	26.79584	11.61902	1.00028	29.77653	9.44	4.07
77/10/ 8	2443424.5	0.96853	0.22513	0.09761	-7.80215	26.39688	11.44603	0.99913	29.81074	13.09	5.61
77/10/12	2443428.5	0.94822	0.28553	0.12380	-9.77561	25.87106	11.21804	0.99798	29.84492	16.76	7.13
77/10/16	2443432.5	0.92339	0.34457	0.14940	-11.70923	25.22005	10.93577	0.99684	29.87889	20.46	8.62
77/10/20	2443436.5	0.89415	0.40196	0.17429	-13.59339	24.44613	10.60020	0.99572	29.91250	24.21	10.08
77/10/24	2443440.5	0.86063	0.45743	0.19834	-15.41862	23.55221	10.21260	0.99462	29.94557	27.99	11.50
77/10/28	2443444.5	0.82297	0.51069	0.22144	-17.17558	22.54188	9.77451	0.99354	29.97796	31.82	12.88
77/11/ 1	2443448.5	0.78133	0.56149	0.24346	-18.85518	21.41934	9.28778	0.99249	30.00948	35.70	14.20

1.3 1 A.U.=149,599,000 KM.

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							EARTH-MOON B		
77/11/ 5	2443452.5	0.73591	0.60957	0.26431	-20.44861	20.18945	8.75449	0.99147	30.03999	39.64	15.46
77/11/ 9	2443456.5	0.68692	0.65470	0.28388	-21.94741	18.85767	8.17703	0.99050	30.06932	43.62	16.65
77/11/13	2443460.5	0.63459	0.69663	0.30206	-23.34349	17.43008	7.55802	0.98956	30.09734	47.67	17.77
77/11/17	2443464.5	0.57915	0.73516	0.31877	-24.62925	15.91332	6.90034	0.98868	30.12388	51.77	18.81
77/11/21	2443468.5	0.52088	0.77009	0.33392	-25.79758	14.31461	6.20713	0.98786	30.14882	55.93	19.76
77/11/25	2443472.5	0.46006	0.80124	0.34742	-26.84194	12.64167	5.48173	0.98709	30.17202	60.14	20.61
77/11/29	2443476.5	0.39696	0.82845	0.35922	-27.75642	10.90270	4.72770	0.98638	30.19336	64.40	21.36
77/12/ 3	2443480.5	0.33192	0.85157	0.36925	-28.53576	9.10636	3.94879	0.98574	30.21272	68.71	22.00
77/12/ 7	2443484.5	0.26523	0.87049	0.37745	-29.17542	7.26167	3.14891	0.98517	30.23000	73.05	22.53
77/12/11	2443488.5	0.19723	0.88509	0.38379	-29.67161	5.37800	2.33214	0.98467	30.24510	77.44	22.94
77/12/15	2443492.5	0.12825	0.89531	0.38822	-30.02131	3.46501	1.50265	0.98425	30.25795	81.85	23.23
77/12/19	2443496.5	0.05863	0.90109	0.39072	-30.22234	1.53256	0.66472	0.98390	30.26847	86.28	23.40
77/12/23	2443500.5	-0.01128	0.90239	0.39128	-30.27332	-0.40932	-0.17731	0.98363	30.27661	90.72	23.44
77/12/27	2443504.5	-0.08113	0.89920	0.38990	-30.17375	-2.35052	-1.01903	0.98344	30.28231	95.16	23.36
77/12/31	2443508.5	-0.15057	0.89153	0.38658	-29.92397	-4.28089	-1.85607	0.98334	30.28555	99.59	23.15
78/ 1/ 4	2443512.5	-0.21927	0.87943	0.38133	-29.52519	-6.19035	-2.68403	0.98331	30.28632	104.00	22.82
78/ 1/ 8	2443516.5	-0.28688	0.86296	0.37419	-28.97947	-8.06891	-3.49860	0.98337	30.28460	108.39	22.37
78/ 1/12	2443520.5	-0.35306	0.84218	0.36518	-28.28972	-9.90676	-4.29552	0.98350	30.28042	112.74	21.80
78/ 1/16	2443524.5	-0.41748	0.81722	0.35436	-27.45965	-11.69436	-5.07064	0.98372	30.27378	117.06	21.11
78/ 1/20	2443528.5	-0.47982	0.78820	0.34177	-26.49378	-13.42243	-5.81996	0.98402	30.26473	121.33	20.32
78/ 1/24	2443532.5	-0.53979	0.75526	0.32749	-25.39739	-15.08210	-6.53961	0.98440	30.25332	125.55	19.43
78/ 1/28	2443536.5	-0.59707	0.71857	0.31158	-24.17646	-16.66490	-7.22594	0.98485	30.23962	129.72	18.44
78/ 2/ 1	2443540.5	-0.65140	0.67833	0.29413	-22.83767	-18.16286	-7.87548	0.98538	30.22369	133.84	17.37
78/ 2/ 5	2443544.5	-0.70251	0.63473	0.27523	-21.38829	-19.56849	-8.48499	0.98597	30.20563	137.90	16.21
78/ 2/ 9	2443548.5	-0.75014	0.58799	0.25496	-19.83619	-20.87491	-9.05147	0.98664	30.18552	141.91	14.98
78/ 2/13	2443552.5	-0.79408	0.53836	0.23344	-18.18975	-22.07583	-9.57221	0.98737	30.16349	145.86	13.68
78/ 2/17	2443556.5	-0.83412	0.48608	0.21077	-16.45777	-23.16556	-10.04474	0.98816	30.13965	149.77	12.32
78/ 2/21	2443560.5	-0.87007	0.43141	0.18707	-14.64946	-24.13912	-10.46690	0.98900	30.11411	153.63	10.90
78/ 2/25	2443564.5	-0.90175	0.37464	0.16245	-12.77437	-24.99218	-10.83680	0.98990	30.08703	157.44	9.45
78/ 3/ 1	2443568.5	-0.92904	0.31604	0.13704	-10.84227	-25.72109	-11.15288	0.99085	30.05854	161.21	7.95
78/ 3/ 5	2443572.5	-0.95181	0.25590	0.11097	-8.86315	-26.32292	-11.41385	0.99184	30.02878	164.95	6.42
78/ 3/ 9	2443576.5	-0.96997	0.19452	0.08435	-6.84715	-26.79545	-11.61875	0.99287	29.99791	168.66	4.87
78/ 3/13	2443580.5	-0.98343	0.13219	0.05733	-4.80443	-27.13713	-11.76692	0.99393	29.96609	172.34	3.31
78/ 3/17	2443584.5	-0.99215	0.06923	0.03003	-2.74521	-27.34712	-11.85799	0.99502	29.93347	176.01	1.73
78/ 3/21	2443588.5	-0.99611	0.00594	0.00258	-0.67964	-27.42526	-11.89188	0.99613	29.90022	179.66	0.15
78/ 3/25	2443592.5	-0.99529	-0.05738	-0.02487	1.38222	-27.37204	-11.86882	0.99726	29.86650	183.30	-1.43
78/ 3/29	2443596.5	-0.98973	-0.12043	-0.05221	3.43049	-27.18861	-11.78929	0.99840	29.83247	186.94	-3.00
78/ 4/ 2	2443600.5	-0.97946	-0.18290	-0.07930	5.45545	-26.87674	-11.65408	0.99954	29.79830	190.58	-4.55
78/ 4/ 6	2443604.5	-0.96455	-0.24451	-0.10602	7.44764	-26.43879	-11.46419	1.00069	29.76415	194.22	-6.08
78/ 4/10	2443608.5	-0.94508	-0.30496	-0.13223	9.39789	-25.87768	-11.22090	1.00183	29.73017	197.88	-7.58
78/ 4/14	2443612.5	-0.92117	-0.36398	-0.15782	11.29736	-25.19688	-10.92571	1.00297	29.69654	201.56	-9.05
78/ 4/18	2443616.5	-0.89293	-0.42129	-0.18267	13.13754	-24.40037	-10.58034	1.00408	29.66339	205.26	-10.48
78/ 4/22	2443620.5	-0.86052	-0.47663	-0.20667	14.91033	-23.49261	-10.18674	1.00518	29.63090	208.98	-11.86
78/ 4/26	2443624.5	-0.82410	-0.52975	-0.22970	16.60803	-22.47847	-9.74700	1.00625	29.59919	212.73	-13.20
78/ 4/30	2443628.5	-0.78385	-0.58041	-0.25167	18.22336	-21.36326	-9.26345	1.00729	29.56842	216.52	-14.47

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
78/ 5/ 4	2443632.5	-0.73997	-0.62839	-0.27247	19.74952	-20.15267	-8.73853	1.00830	29.53872	220.34	-15.68
78/ 5/ 8	2443636.5	-0.69267	-0.67346	-0.29201	21.18016	-18.85272	-8.17487	1.00926	29.51022	224.19	-16.82
78/ 5/12	2443640.5	-0.64219	-0.71543	-0.31021	22.50942	-17.46973	-7.57520	1.01019	29.48303	228.09	-17.88
78/ 5/16	2443644.5	-0.58875	-0.75412	-0.32699	23.73194	-16.01033	-6.94240	1.01106	29.45730	232.02	-18.87
78/ 5/20	2443648.5	-0.53262	-0.78935	-0.34227	24.84284	-14.48137	-6.27943	1.01188	29.43311	235.99	-19.77
78/ 5/24	2443652.5	-0.47406	-0.82098	-0.35598	25.83777	-12.88993	-5.58937	1.01265	29.41057	240.00	-20.58
78/ 5/28	2443656.5	-0.41334	-0.84886	-0.36807	26.71290	-11.24327	-4.87537	1.01336	29.38978	244.04	-21.30
78/ 6/ 1	2443660.5	-0.35073	-0.87289	-0.37849	27.46489	-9.54882	-4.14064	1.01400	29.37082	248.11	-21.92
78/ 6/ 5	2443664.5	-0.28654	-0.89295	-0.38719	28.09096	-7.81414	-3.38847	1.01458	29.35378	252.21	-22.43
78/ 6/ 9	2443668.5	-0.22104	-0.90897	-0.39414	28.58881	-6.04687	-2.62216	1.01510	29.33872	256.33	-22.85
78/ 6/13	2443672.5	-0.15455	-0.92087	-0.39930	28.95669	-4.25476	-1.84509	1.01554	29.32571	260.47	-23.15
78/ 6/17	2443676.5	-0.08735	-0.92861	-0.40266	29.19335	-2.44560	-1.06062	1.01591	29.31480	264.63	-23.35
78/ 6/21	2443680.5	-0.01976	-0.93216	-0.40420	29.29805	-0.62719	-0.27214	1.01621	29.30603	268.79	-23.44
78/ 6/25	2443684.5	0.04791	-0.93151	-0.40391	29.27059	1.19263	0.51695	1.01644	29.29943	272.94	-23.41
78/ 6/29	2443688.5	0.11538	-0.92666	-0.40181	29.11125	3.00607	1.30328	1.01659	29.29505	277.10	-23.28
78/ 7/ 3	2443692.5	0.18232	-0.91763	-0.39790	28.82083	4.80538	2.08348	1.01666	29.29288	281.24	-23.04
78/ 7/ 7	2443696.5	0.24844	-0.90447	-0.39219	28.40064	6.58285	2.85421	1.01666	29.29295	285.36	-22.69
78/ 7/11	2443700.5	0.31344	-0.88724	-0.38472	27.85247	8.33088	3.61218	1.01658	29.29525	289.46	-22.24
78/ 7/15	2443704.5	0.37703	-0.86601	-0.37551	27.17861	10.04196	4.35413	1.01643	29.29976	293.53	-21.68
78/ 7/19	2443708.5	0.43892	-0.84087	-0.36462	26.38183	11.70875	5.07687	1.01620	29.30648	297.56	-21.03
78/ 7/23	2443712.5	0.49883	-0.81195	-0.35207	25.46538	13.32401	5.77727	1.01590	29.31538	301.56	-20.28
78/ 7/27	2443716.5	0.55649	-0.77936	-0.33794	24.43299	14.88071	6.45228	1.01552	29.32641	305.53	-19.44
78/ 7/31	2443720.5	0.61163	-0.74325	-0.32228	23.28886	16.37202	7.09893	1.01507	29.33954	309.45	-18.51
78/ 8/ 4	2443724.5	0.66401	-0.70377	-0.30517	22.03763	17.79131	7.71436	1.01456	29.35471	313.33	-17.50
78/ 8/ 8	2443728.5	0.71338	-0.66110	-0.28667	20.68440	19.13221	8.29580	1.01397	29.37186	317.18	-16.42
78/ 8/12	2443732.5	0.75950	-0.61544	-0.26686	19.23470	20.38862	8.84060	1.01332	29.39091	320.98	-15.27
78/ 8/16	2443736.5	0.80218	-0.56697	-0.24585	17.69450	21.55472	9.34624	1.01261	29.41179	324.75	-14.05
78/ 8/20	2443740.5	0.84119	-0.51592	-0.22371	16.07018	22.62502	9.81035	1.01185	29.43442	328.48	-12.77
78/ 8/24	2443744.5	0.87637	-0.46251	-0.20056	14.36850	23.59435	10.23067	1.01102	29.45868	332.18	-11.44
78/ 8/28	2443748.5	0.90753	-0.40699	-0.17648	12.59663	24.45794	10.60514	1.01014	29.48449	335.85	-10.06
78/ 9/ 1	2443752.5	0.93452	-0.34959	-0.15159	10.76210	25.21138	10.93186	1.00922	29.51173	339.49	-8.64
78/ 9/ 5	2443756.5	0.95721	-0.29059	-0.12601	8.87279	25.85070	11.20908	1.00825	29.54028	343.11	-7.18
78/ 9/ 9	2443760.5	0.97548	-0.23024	-0.09984	6.93688	26.37234	11.43528	1.00725	29.57002	346.72	-5.69
78/ 9/13	2443764.5	0.98923	-0.16883	-0.07321	4.96288	26.77325	11.60913	1.00620	29.60083	350.31	-4.17
78/ 9/17	2443768.5	0.99839	-0.10664	-0.04625	2.95956	27.05084	11.72951	1.00513	29.63255	353.90	-2.64
78/ 9/21	2443772.5	1.00289	-0.04395	-0.01906	0.93593	27.20304	11.79552	1.00403	29.66506	357.49	-1.09
78/ 9/25	2443776.5	1.00270	0.01895	0.00821	-1.09879	27.22834	11.80650	1.00292	29.69821	1.08	0.47
78/ 9/29	2443780.5	0.99781	0.08176	0.03545	-3.13521	27.12576	11.76203	1.00178	29.73183	4.68	2.03
78/10/ 3	2443784.5	0.98822	0.14418	0.06251	-5.16379	26.89492	11.66195	1.00064	29.76579	8.30	3.58
78/10/ 7	2443788.5	0.97397	0.20593	0.08929	-7.17491	26.53602	11.50633	0.99949	29.79992	11.94	5.13
78/10/11	2443792.5	0.95509	0.26669	0.11563	-9.15890	26.04988	11.29555	0.99835	29.83406	15.60	6.65
78/10/15	2443796.5	0.93168	0.32619	0.14143	-11.10608	25.43796	11.03022	0.99721	29.86805	19.30	8.15
78/10/19	2443800.5	0.90382	0.38413	0.16656	-13.00681	24.70233	10.71125	0.99608	29.90172	23.03	9.63
78/10/23	2443804.5	0.87163	0.44023	0.19088	-14.85157	23.84573	10.33983	0.99497	29.93492	26.80	11.06
78/10/27	2443808.5	0.83525	0.49421	0.21429	-16.63098	22.87151	9.91740	0.99388	29.96749	30.61	12.45

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

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78/10/31	2443812.5	0.79484	0.54582	0.23667	-18.33587	21.78370	9.44572	0.99282	29.99926	34.48	13.79
78/11/ 4	2443816.5	0.75059	0.59478	0.25790	-19.95733	20.58695	8.92680	0.99180	30.03008	38.39	15.07
78/11/ 8	2443820.5	0.70270	0.64085	0.27788	-21.48679	19.28653	8.36293	0.99081	30.05979	42.36	16.29
78/11/12	2443824.5	0.65139	0.68381	0.29650	-22.91604	17.88832	7.75666	0.98986	30.08824	46.39	17.43
78/11/16	2443828.5	0.59691	0.72343	0.31368	-24.23731	16.39879	7.11079	0.98897	30.11529	50.47	18.49
78/11/20	2443832.5	0.53950	0.75952	0.32933	-25.44333	14.82499	6.42838	0.98812	30.14080	54.61	19.47
78/11/24	2443836.5	0.47944	0.79187	0.34336	-26.52739	13.17448	5.71271	0.98733	30.16462	58.81	20.35
78/11/28	2443840.5	0.41703	0.82033	0.35570	-27.48336	11.45531	4.96727	0.98660	30.18663	63.05	21.13
78/12/ 2	2443844.5	0.35256	0.84475	0.36629	-28.30576	9.67600	4.19575	0.98594	30.20671	67.35	21.81
78/12/ 6	2443848.5	0.28635	0.86500	0.37507	-28.98984	7.84546	3.40202	0.98534	30.22475	71.68	22.37
78/12/10	2443852.5	0.21873	0.88097	0.38199	-29.53155	5.97296	2.59009	0.98482	30.24065	76.06	22.82
78/12/14	2443856.5	0.15002	0.89257	0.38703	-29.92763	4.06806	1.76411	0.98437	30.25433	80.46	23.15
78/12/18	2443860.5	0.08057	0.89975	0.39014	-30.17563	2.14058	0.92834	0.98400	30.26570	84.88	23.36
78/12/22	2443864.5	0.01071	0.90245	0.39131	-30.27392	0.20049	0.08710	0.98370	30.27471	89.32	23.44
78/12/26	2443868.5	-0.05919	0.90067	0.39054	-30.22172	-1.74211	-0.75522	0.98348	30.28131	93.76	23.40
78/12/30	2443872.5	-0.12881	0.89441	0.38782	-30.01909	-3.67708	-1.59424	0.98335	30.28545	98.19	23.23
79/ 1/ 3	2443876.5	-0.19778	0.88370	0.38318	-29.66698	-5.59430	-2.42557	0.98329	30.28712	102.62	22.94
79/ 1/ 7	2443880.5	-0.26576	0.86858	0.37663	-29.16718	-7.48376	-3.24485	0.98332	30.28630	107.01	22.52
79/ 1/11	2443884.5	-0.33243	0.84915	0.36820	-28.52232	-9.33556	-4.04782	0.98343	30.28301	111.38	21.99
79/ 1/15	2443888.5	-0.39744	0.82549	0.35794	-27.73587	-11.14008	-4.83027	0.98362	30.27725	115.71	21.34
79/ 1/19	2443892.5	-0.46047	0.79772	0.34590	-26.81210	-12.88795	-5.58817	0.98389	30.26905	119.99	20.58
79/ 1/23	2443896.5	-0.52122	0.76599	0.33214	-25.75604	-14.57016	-6.31760	0.98424	30.25847	124.23	19.72
79/ 1/27	2443900.5	-0.57938	0.73046	0.31674	-24.57347	-16.17811	-7.01482	0.98467	30.24556	128.42	18.76
79/ 1/31	2443904.5	-0.63466	0.69131	0.29976	-23.27084	-17.70364	-7.67631	0.98517	30.23039	132.55	17.71
79/ 2/ 4	2443908.5	-0.68681	0.64873	0.28130	-21.85526	-19.13913	-8.29876	0.98574	30.21304	136.63	16.58
79/ 2/ 8	2443912.5	-0.73556	0.60295	0.26145	-20.33441	-20.47748	-8.87909	0.98638	30.19361	140.66	15.37
79/ 2/12	2443916.5	-0.78069	0.55420	0.24031	-18.71652	-21.71222	-9.41449	0.98709	30.17219	144.63	14.09
79/ 2/16	2443920.5	-0.82197	0.50272	0.21799	-17.01026	-22.83747	-9.90242	0.98786	30.14891	148.55	12.75
79/ 2/20	2443924.5	-0.85922	0.44877	0.19460	-15.22474	-23.84801	-10.34061	0.98869	30.12389	152.42	11.35
79/ 2/24	2443928.5	-0.89226	0.39262	0.17025	-13.36940	-24.73931	-10.72709	0.98958	30.09725	156.25	9.91
79/ 2/28	2443932.5	-0.92094	0.33456	0.14507	-11.45396	-25.50750	-11.06020	0.99051	30.06915	160.03	8.42
79/ 3/ 4	2443936.5	-0.94514	0.27487	0.11919	-9.48835	-26.14944	-11.33856	0.99149	30.03972	163.78	6.90
79/ 3/ 8	2443940.5	-0.96475	0.21384	0.09273	-7.48266	-26.66267	-11.56111	0.99251	30.00912	167.50	5.36
79/ 3/12	2443944.5	-0.97969	0.15178	0.06582	-5.44708	-27.04543	-11.72709	0.99356	29.97750	171.19	3.80
79/ 3/16	2443948.5	-0.98990	0.08898	0.03859	-3.39180	-27.29667	-11.83604	0.99464	29.94503	174.86	2.22
79/ 3/20	2443952.5	-0.99536	0.02576	0.01117	-1.32701	-27.41602	-11.88780	0.99575	29.91185	178.52	0.64
79/ 3/24	2443956.5	-0.99604	-0.03759	-0.01629	0.73720	-27.40376	-11.88250	0.99688	29.87815	182.16	-0.94
79/ 3/28	2443960.5	-0.99196	-0.10076	-0.04368	2.79086	-27.26086	-11.82055	0.99802	29.84408	185.80	-2.51
79/ 4/ 1	2443964.5	-0.98316	-0.16344	-0.07087	4.82422	-26.98888	-11.70263	0.99917	29.80980	189.44	-4.07
79/ 4/ 5	2443968.5	-0.96969	-0.22536	-0.09771	6.82772	-26.59001	-11.52969	1.00032	29.77550	193.08	-5.61
79/ 4/ 9	2443972.5	-0.95164	-0.28620	-0.12409	8.79210	-26.06701	-11.30292	1.00146	29.74131	196.74	-7.12
79/ 4/13	2443976.5	-0.92911	-0.34570	-0.14989	10.70841	-25.42317	-11.02376	1.00260	29.70742	200.41	-8.60
79/ 4/17	2443980.5	-0.90221	-0.40358	-0.17499	12.56803	-24.66233	-10.69386	1.00373	29.67397	204.10	-10.04
79/ 4/21	2443984.5	-0.87109	-0.45956	-0.19927	14.36274	-23.78879	-10.31510	1.00484	29.64112	207.82	-11.44
79/ 4/25	2443988.5	-0.83590	-0.51341	-0.22261	16.08469	-22.80731	-9.88953	1.00592	29.60901	211.56	-12.79

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
79/ 4/29	2443992.5	-0.79683	-0.56486	-0.24492	17.72650	-21.72308	-9.41941	1.00698	29.57780	215.33	-14.08
79/ 5/ 3	2443996.5	-0.75407	-0.61370	-0.26610	19.28121	-20.54165	-8.90714	1.00800	29.54761	219.14	-15.31
79/ 5/ 7	2444000.5	-0.70782	-0.65970	-0.28605	20.74231	-19.26896	-8.35530	1.00898	29.51859	222.98	-16.47
79/ 5/11	2444004.5	-0.65831	-0.70266	-0.30468	22.10382	-17.91124	-7.76659	1.00992	29.49086	226.87	-17.56
79/ 5/15	2444008.5	-0.60577	-0.74240	-0.32191	23.36019	-16.47502	-7.14384	1.01081	29.46454	230.79	-18.57
79/ 5/19	2444012.5	-0.55046	-0.77873	-0.33766	24.50642	-14.96709	-6.49000	1.01165	29.43975	234.74	-19.50
79/ 5/23	2444016.5	-0.49263	-0.81150	-0.35187	25.53800	-13.39447	-5.80810	1.01244	29.41658	238.74	-20.34
79/ 5/27	2444020.5	-0.43256	-0.84057	-0.36448	26.45092	-11.76435	-5.10127	1.01317	29.39514	242.77	-21.08
79/ 5/31	2444024.5	-0.37051	-0.86582	-0.37542	27.24171	-10.08413	-4.37272	1.01384	29.37551	246.83	-21.73
79/ 6/ 4	2444028.5	-0.30679	-0.88713	-0.38467	27.90740	-8.36130	-3.62569	1.01444	29.35779	250.92	-22.28
79/ 6/ 8	2444032.5	-0.24167	-0.90442	-0.39216	28.44555	-6.60350	-2.86350	1.01498	29.34204	255.04	-22.73
79/ 6/12	2444036.5	-0.17546	-0.91762	-0.39789	28.85424	-4.81844	-2.08948	1.01545	29.32832	259.18	-23.07
79/ 6/16	2444040.5	-0.10845	-0.92667	-0.40181	29.13205	-3.01389	-1.30702	1.01584	29.31669	263.32	-23.30
79/ 6/20	2444044.5	-0.04096	-0.93154	-0.40392	29.27811	-1.19766	-0.51949	1.01617	29.30720	267.48	-23.42
79/ 6/24	2444048.5	0.02672	-0.93220	-0.40421	29.29204	0.62243	0.26972	1.01642	29.29989	271.64	-23.43
79/ 6/28	2444052.5	0.09428	-0.92867	-0.40268	29.17396	2.43857	1.05721	1.01659	29.29479	275.80	-23.33
79/ 7/ 2	2444056.5	0.16141	-0.92094	-0.39933	28.92453	4.24300	1.83963	1.01669	29.29191	279.94	-23.13
79/ 7/ 6	2444060.5	0.22782	-0.90908	-0.39418	28.54489	6.02800	2.61362	1.01671	29.29127	284.07	-22.81
79/ 7/10	2444064.5	0.29320	-0.89311	-0.38726	28.03667	7.78594	3.37588	1.01666	29.29287	288.17	-22.39
79/ 7/14	2444068.5	0.35726	-0.87313	-0.37860	27.40201	9.50928	4.12314	1.01653	29.29670	292.25	-21.87
79/ 7/18	2444072.5	0.41971	-0.84921	-0.36823	26.64353	11.19061	4.85218	1.01632	29.30275	296.30	-21.24
79/ 7/22	2444076.5	0.48027	-0.82146	-0.35620	25.76434	12.82268	5.55986	1.01604	29.31100	300.31	-20.52
79/ 7/26	2444080.5	0.53866	-0.79001	-0.34256	24.76801	14.39839	6.24311	1.01568	29.32140	304.29	-19.71
79/ 7/30	2444084.5	0.59462	-0.75499	-0.32737	23.65858	15.91085	6.89893	1.01526	29.33392	308.22	-18.81
79/ 8/ 3	2444088.5	0.64789	-0.71655	-0.31070	22.44056	17.35335	7.52442	1.01476	29.34850	312.12	-17.83
79/ 8/ 7	2444092.5	0.69823	-0.67487	-0.29263	21.11891	18.71946	8.11678	1.01420	29.36509	315.97	-16.77
79/ 8/11	2444096.5	0.74539	-0.63012	-0.27323	19.69902	20.00297	8.67333	1.01357	29.38361	319.79	-15.64
79/ 8/15	2444100.5	0.78917	-0.58251	-0.25259	18.18671	21.19799	9.19151	1.01287	29.40400	323.57	-14.44
79/ 8/19	2444104.5	0.82935	-0.53225	-0.23079	16.58823	22.29892	9.66888	1.01212	29.42615	327.31	-13.18
79/ 8/23	2444108.5	0.86575	-0.47956	-0.20795	14.91024	23.30048	10.10318	1.01131	29.44998	331.02	-11.87
79/ 8/27	2444112.5	0.89819	-0.42468	-0.18415	13.15976	24.19777	10.49226	1.01045	29.47540	334.69	-10.50
79/ 8/31	2444116.5	0.92651	-0.36784	-0.15950	11.34422	24.98627	10.83417	1.00954	29.50228	338.35	-9.09
79/ 9/ 4	2444120.5	0.95056	-0.30932	-0.13413	9.47138	25.66187	11.12713	1.00858	29.53052	341.97	-7.64
79/ 9/ 8	2444124.5	0.97023	-0.24937	-0.10813	7.54934	26.22087	11.36953	1.00758	29.55999	345.59	-6.16
79/ 9/12	2444128.5	0.98541	-0.18826	-0.08164	5.58648	26.66007	11.55998	1.00655	29.59056	349.18	-4.65
79/ 9/16	2444132.5	0.99602	-0.12628	-0.05476	3.59151	26.97672	11.69729	1.00548	29.62210	352.77	-3.12
79/ 9/20	2444136.5	1.00198	-0.06371	-0.02763	1.57337	27.16858	11.78049	1.00439	29.65447	356.36	-1.58
79/ 9/24	2444140.5	1.00327	-0.00085	-0.00037	-0.45881	27.23397	11.80886	1.00327	29.68752	359.95	-0.02
79/ 9/28	2444144.5	0.99986	0.06202	0.02689	-2.49566	27.17172	11.78188	1.00214	29.72110	3.55	1.54
79/10/ 2	2444148.5	0.99175	0.12459	0.05402	-4.52769	26.98128	11.69931	1.00100	29.75505	7.16	3.09
79/10/ 6	2444152.5	0.97895	0.18658	0.08090	-6.54531	26.66264	11.56116	0.99985	29.78923	10.79	4.64
79/10/10	2444156.5	0.96152	0.24769	0.10739	-8.53885	26.21645	11.36770	0.99870	29.82346	14.45	6.17
79/10/14	2444160.5	0.93953	0.30761	0.13338	-10.49862	25.64394	11.11947	0.99756	29.85759	18.13	7.68
79/10/18	2444164.5	0.91305	0.36608	0.15873	-12.41498	24.94701	10.81728	0.99643	29.89145	21.85	9.17
79/10/22	2444168.5	0.88221	0.42278	0.18332	-14.27836	24.12817	10.46224	0.99531	29.92488	25.61	10.61

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	EARTH-MOON B RA	DEC
					HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM						
79/10/26	2444172.5	0.84713	0.47746	0.20703	-16.07931	23.19058	10.05570	0.99421	29.95771	29.41	12.02
79/10/30	2444176.5	0.80797	0.52984	0.22974	-17.80861	22.13806	9.59933	0.99314	29.98979	33.26	13.38
79/11/ 3	2444180.5	0.76491	0.57967	0.25134	-19.45724	20.97506	9.09506	0.99210	30.02095	37.16	14.68
79/11/ 7	2444184.5	0.71814	0.62668	0.27173	-21.01653	19.70666	8.54508	0.99110	30.05104	41.11	15.91
79/11/11	2444188.5	0.66788	0.67064	0.29079	-22.47813	18.33854	7.95186	0.99014	30.07990	45.12	17.08
79/11/15	2444192.5	0.61436	0.71133	0.30844	-23.83415	16.87700	7.31814	0.98923	30.10739	49.18	18.17
79/11/19	2444196.5	0.55784	0.74855	0.32457	-25.07714	15.32891	6.64688	0.98837	30.13336	53.31	19.17
79/11/23	2444200.5	0.49859	0.78210	0.33912	-26.20022	13.70166	5.94130	0.98756	30.15768	57.48	20.08
79/11/27	2444204.5	0.43689	0.81180	0.35200	-27.19706	12.00316	5.20482	0.98681	30.18022	61.71	20.90
79/12/ 1	2444208.5	0.37303	0.83751	0.36315	-28.06198	10.24179	4.44109	0.98613	30.20086	65.99	21.61
79/12/ 5	2444212.5	0.30734	0.85908	0.37250	-28.78999	8.42635	3.65390	0.98551	30.21950	70.32	22.21
79/12/ 9	2444216.5	0.24012	0.87641	0.38001	-29.37683	6.56599	2.84724	0.98497	30.23602	74.68	22.69
79/12/13	2444220.5	0.17172	0.88939	0.38565	-29.81898	4.67020	2.02522	0.98449	30.25035	79.07	23.06
79/12/17	2444224.5	0.10246	0.89797	0.38936	-30.11373	2.74872	1.19205	0.98410	30.26241	83.49	23.31
79/12/21	2444228.5	0.03269	0.90208	0.39115	-30.25919	0.81149	0.35205	0.98377	30.27212	87.92	23.43
79/12/25	2444232.5	-0.03723	0.90171	0.39099	-30.25432	-1.13145	-0.49041	0.98353	30.27944	92.36	23.42
79/12/29	2444236.5	-0.10697	0.89686	0.38888	-30.09891	-3.06994	-1.33096	0.98337	30.28433	96.80	23.29
80/ 1/ 2	2444240.5	-0.17618	0.88754	0.38484	-29.79364	-4.99386	-2.16518	0.98329	30.28675	101.23	23.04
80/ 1/ 6	2444244.5	-0.24452	0.87380	0.37889	-29.34002	-6.89314	-2.98873	0.98330	30.28670	105.63	22.66
80/ 1/10	2444248.5	-0.31163	0.85571	0.37105	-28.74042	-8.75786	-3.79729	0.98338	30.28418	110.01	22.17
80/ 1/14	2444252.5	-0.37720	0.83337	0.36136	-27.99806	-10.57830	-4.58665	0.98355	30.27919	114.35	21.56
80/ 1/18	2444256.5	-0.44089	0.80688	0.34987	-27.11696	-12.34500	-5.35270	0.98379	30.27177	118.65	20.83
80/ 1/22	2444260.5	-0.50239	0.77638	0.33665	-26.10191	-14.04882	-6.09150	0.98412	30.26194	122.91	20.00
80/ 1/26	2444264.5	-0.56139	0.74203	0.32175	-24.95845	-15.68104	-6.79925	0.98452	30.24978	127.11	19.08
80/ 1/30	2444268.5	-0.61761	0.70399	0.30526	-23.69284	-17.23336	-7.47235	0.98500	30.23534	131.26	18.05
80/ 2/ 3	2444272.5	-0.67077	0.66247	0.28726	-22.31198	-18.69798	-8.10743	0.98555	30.21869	135.36	16.95
80/ 2/ 7	2444276.5	-0.72061	0.61767	0.26783	-20.82338	-20.06763	-8.70133	0.98617	30.19993	139.40	15.76
80/ 2/11	2444280.5	-0.76690	0.56983	0.24709	-19.23510	-21.33563	-9.25115	0.98686	30.17917	143.39	14.50
80/ 2/15	2444284.5	-0.80942	0.51918	0.22512	-17.55568	-22.49592	-9.75427	0.98761	30.15649	147.32	13.18
80/ 2/19	2444288.5	-0.84795	0.46598	0.20206	-15.79410	-23.54307	-10.20833	0.98843	30.13204	151.21	11.80
80/ 2/23	2444292.5	-0.88234	0.41049	0.17800	-13.95969	-24.47233	-10.61128	0.98929	30.10593	155.05	10.37
80/ 2/27	2444296.5	-0.91240	0.35300	0.15307	-12.06209	-25.27961	-10.96133	0.99021	30.07829	158.85	8.89
80/ 3/ 2	2444300.5	-0.93803	0.29379	0.12739	-10.11119	-25.96156	-11.25704	0.99118	30.04929	162.61	7.38
80/ 3/ 6	2444304.5	-0.95909	0.23315	0.10110	-8.11703	-26.51548	-11.49724	0.99218	30.01905	166.34	5.85
80/ 3/10	2444308.5	-0.97550	0.17138	0.07432	-6.08976	-26.93941	-11.68107	0.99323	29.98774	170.04	4.29
80/ 3/14	2444312.5	-0.98721	0.10878	0.04717	-4.03960	-27.23207	-11.80798	0.99430	29.95551	173.71	2.72
80/ 3/18	2444316.5	-0.99416	0.04566	0.01980	-1.97674	-27.39288	-11.87772	0.99540	29.92253	177.37	1.14
80/ 3/22	2444320.5	-0.99634	-0.01769	-0.00766	0.08870	-27.42193	-11.89033	0.99652	29.88896	181.02	-0.44
80/ 3/26	2444324.5	-0.99375	-0.08094	-0.03509	2.14671	-27.31995	-11.84613	0.99766	29.85496	184.66	-2.02
80/ 3/30	2444328.5	-0.98643	-0.14381	-0.06235	4.18746	-27.08834	-11.74571	0.99881	29.82071	188.29	-3.58
80/ 4/ 3	2444332.5	-0.97443	-0.20600	-0.08932	6.20131	-26.72908	-11.58995	0.99996	29.78636	191.94	-5.12
80/ 4/ 7	2444336.5	-0.95781	-0.26722	-0.11586	8.17893	-26.24477	-11.37996	1.00111	29.75208	195.59	-6.65
80/ 4/11	2444340.5	-0.93667	-0.32717	-0.14186	10.11125	-25.63852	-11.11710	1.00226	29.71803	199.25	-8.14
80/ 4/15	2444344.5	-0.91113	-0.38558	-0.16719	11.98955	-24.91402	-10.80296	1.00339	29.68437	202.94	-9.59
80/ 4/19	2444348.5	-0.88132	-0.44219	-0.19173	13.80548	-24.07542	-10.43935	1.00450	29.65126	206.64	-11.00

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		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							EARTH-MOON B		
80/ 4/23	2444352.5	-0.84740	-0.49674	-0.21538	15.55108	-23.12734	-10.02827	1.00560	29.61884	210.38	-12.37
80/ 4/27	2444356.5	-0.80953	-0.54897	-0.23803	17.21880	-22.07483	-9.57190	1.00666	29.58728	214.14	-13.68
80/ 5/ 1	2444360.5	-0.76791	-0.59865	-0.25957	18.80156	-20.92336	-9.07262	1.00769	29.55669	217.94	-14.93
80/ 5/ 5	2444364.5	-0.72273	-0.64557	-0.27992	20.29272	-19.67872	-8.53295	1.00869	29.52723	221.77	-16.11
80/ 5/ 9	2444368.5	-0.67423	-0.68951	-0.29897	21.68610	-18.34706	-7.95554	1.00965	29.49902	225.64	-17.22
80/ 5/13	2444372.5	-0.62262	-0.73028	-0.31665	22.97605	-16.93483	-7.34319	1.01056	29.47219	229.55	-18.26
80/ 5/17	2444376.5	-0.56815	-0.76770	-0.33287	24.15739	-15.44873	-6.69882	1.01141	29.44685	233.50	-19.22
80/ 5/21	2444380.5	-0.51109	-0.80160	-0.34758	25.22544	-13.89570	-6.02542	1.01222	29.42311	237.48	-20.08
80/ 5/25	2444384.5	-0.45169	-0.83185	-0.36069	26.17605	-12.28291	-5.32611	1.01297	29.40107	241.50	-20.86
80/ 5/29	2444388.5	-0.39024	-0.85832	-0.37217	27.00557	-10.61766	-4.60405	1.01366	29.38083	245.55	-21.54
80/ 6/ 2	2444392.5	-0.32701	-0.88088	-0.38195	27.71089	-8.90743	-3.86249	1.01428	29.36247	249.63	-22.12
80/ 6/ 6	2444396.5	-0.26230	-0.89944	-0.39000	28.28939	-7.15982	-3.10472	1.01484	29.34607	253.74	-22.60
80/ 6/10	2444400.5	-0.19640	-0.91393	-0.39629	28.73898	-5.38250	-2.33407	1.01533	29.33169	257.87	-22.97
80/ 6/14	2444404.5	-0.12962	-0.92429	-0.40078	29.05811	-3.58325	-1.55390	1.01575	29.31941	262.02	-23.24
80/ 6/18	2444408.5	-0.06225	-0.93048	-0.40346	29.24572	-1.76985	-0.76760	1.01609	29.30927	266.17	-23.40
80/ 6/22	2444412.5	0.00541	-0.93247	-0.40432	29.30127	0.04988	0.02144	1.01637	29.30132	270.33	-23.44
80/ 6/26	2444416.5	0.07303	-0.93025	-0.40336	29.22473	1.86811	0.80983	1.01656	29.29557	274.49	-23.38
80/ 6/30	2444420.5	0.14033	-0.92384	-0.40058	29.01659	3.67708	1.59421	1.01668	29.29206	278.64	-23.20
80/ 7/ 4	2444424.5	0.20700	-0.91327	-0.39600	28.67783	5.46904	2.37122	1.01673	29.29080	282.77	-22.92
80/ 7/ 8	2444428.5	0.27274	-0.89859	-0.38964	28.20993	7.23634	3.13753	1.01670	29.29179	286.88	-22.53
80/ 7/12	2444432.5	0.33724	-0.87986	-0.38152	27.61486	8.97141	3.88986	1.01659	29.29501	290.97	-22.04
80/ 7/16	2444436.5	0.40023	-0.85717	-0.37168	26.89510	10.66680	4.62500	1.01640	29.30047	295.03	-21.45
80/ 7/20	2444440.5	0.46141	-0.83062	-0.36016	26.05359	12.31520	5.33976	1.01614	29.30813	299.05	-20.76
80/ 7/24	2444444.5	0.52052	-0.80031	-0.34702	25.09376	13.90946	6.03104	1.01581	29.31797	303.04	-19.98
80/ 7/28	2444448.5	0.57727	-0.76640	-0.33232	24.01949	15.44263	6.69584	1.01540	29.32993	306.99	-19.10
80/ 8/ 1	2444452.5	0.63141	-0.72901	-0.31611	22.83516	16.90793	7.33121	1.01492	29.34398	310.90	-18.15
80/ 8/ 5	2444456.5	0.68269	-0.68833	-0.29847	21.54557	18.29884	7.93432	1.01437	29.36006	314.76	-17.11
80/ 8/ 9	2444460.5	0.73088	-0.64453	-0.27948	20.15599	19.60909	8.50246	1.01376	29.37808	318.59	-16.00
80/ 8/13	2444464.5	0.77575	-0.59780	-0.25921	18.67209	20.83266	9.03302	1.01308	29.39800	322.38	-14.82
80/ 8/17	2444468.5	0.81708	-0.54835	-0.23777	17.10000	21.96387	9.52353	1.01235	29.41971	326.13	-13.58
80/ 8/21	2444472.5	0.85469	-0.49639	-0.21525	15.44624	22.99733	9.97166	1.01155	29.44312	329.85	-12.29
80/ 8/25	2444476.5	0.88839	-0.44217	-0.19173	13.71773	23.92803	10.37522	1.01070	29.46815	333.54	-10.94
80/ 8/29	2444480.5	0.91802	-0.38592	-0.16734	11.92176	24.75131	10.73221	1.00980	29.49468	337.20	-9.54
80/ 9/ 2	2444484.5	0.94343	-0.32790	-0.14218	10.06599	25.46292	11.04079	1.00886	29.52259	340.83	-8.10
80/ 9/ 6	2444488.5	0.96449	-0.26836	-0.11637	8.15841	26.05904	11.29928	1.00787	29.55177	344.45	-6.63
80/ 9/10	2444492.5	0.98109	-0.20759	-0.09002	6.20734	26.53630	11.50624	1.00684	29.58209	348.05	-5.13
80/ 9/14	2444496.5	0.99314	-0.14585	-0.06325	4.22138	26.89180	11.66040	1.00579	29.61341	351.65	-3.61
80/ 9/18	2444500.5	1.00058	-0.08343	-0.03618	2.20940	27.12314	11.76072	1.00470	29.64559	355.23	-2.06
80/ 9/22	2444504.5	1.00334	-0.02063	-0.00895	0.18048	27.22846	11.80640	1.00359	29.67849	358.82	-0.51
80/ 9/26	2444508.5	1.00140	0.04228	0.01832	-1.85608	27.20643	11.79686	1.00246	29.71196	2.42	1.05
80/ 9/30	2444512.5	0.99476	0.10498	0.04551	-3.89081	27.05628	11.73178	1.00132	29.74585	6.02	2.61
80/10/ 4	2444516.5	0.98344	0.16719	0.07249	-5.91416	26.77786	11.61106	1.00017	29.77999	9.65	4.16
80/10/ 8	2444520.5	0.96745	0.22860	0.09912	-7.91647	26.37159	11.43492	0.99903	29.81423	13.29	5.69
80/10/12	2444524.5	0.94688	0.28893	0.12528	-9.88804	25.83853	11.20379	0.99788	29.84841	16.97	7.21
80/10/16	2444528.5	0.92180	0.34789	0.15084	-11.81922	25.18035	10.91842	0.99674	29.88236	20.68	8.70

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
80/10/20	2444532.5	0.89231	0.40518	0.17568	-13.70039	24.39938	10.57980	0.99562	29.91593	24.42	10.16
80/10/24	2444536.5	0.85854	0.46053	0.19968	-15.52207	23.49859	10.18923	0.99452	29.94893	28.21	11.58
80/10/28	2444540.5	0.82065	0.51366	0.22272	-17.27494	22.48158	9.74826	0.99344	29.98122	32.04	12.96
80/11/ 1	2444544.5	0.77879	0.56432	0.24469	-18.94993	21.35261	9.25874	0.99239	30.01263	35.93	14.27
80/11/ 5	2444548.5	0.73316	0.61224	0.26546	-20.53823	20.11657	8.72280	0.99138	30.04301	39.86	15.53
80/11/ 9	2444552.5	0.68397	0.65718	0.28495	-22.03140	18.77895	8.14281	0.99040	30.07219	43.86	16.72
80/11/13	2444556.5	0.63145	0.69893	0.30305	-23.42139	17.34587	7.52143	0.98948	30.10004	47.90	17.84
80/11/17	2444560.5	0.57584	0.73726	0.31968	-24.70060	15.82402	6.86156	0.98860	30.12641	52.01	18.87
80/11/21	2444564.5	0.51741	0.77198	0.33473	-25.86197	14.22064	6.16633	0.98778	30.15115	56.17	19.81
80/11/25	2444568.5	0.45644	0.80291	0.34814	-26.89900	12.54349	5.43911	0.98702	30.17415	60.38	20.65
80/11/29	2444572.5	0.39323	0.82988	0.35984	-27.80580	10.80080	4.68348	0.98632	30.19528	64.65	21.40
80/12/ 3	2444576.5	0.32807	0.85277	0.36976	-28.57717	9.00125	3.90319	0.98568	30.21443	68.96	22.03
80/12/ 7	2444580.5	0.26130	0.87144	0.37786	-29.20860	7.15389	3.10217	0.98512	30.23150	73.31	22.55
80/12/11	2444584.5	0.19323	0.88579	0.38408	-29.69634	5.26811	2.28449	0.98462	30.24640	77.69	22.96
80/12/15	2444588.5	0.12420	0.89575	0.38840	-30.03744	3.35357	1.45434	0.98421	30.25904	82.11	23.24
80/12/19	2444592.5	0.05456	0.90127	0.39080	-30.22975	1.42017	0.61601	0.98386	30.26936	86.54	23.40
80/12/23	2444596.5	-0.01535	0.90231	0.39125	-30.27195	-0.52208	-0.22616	0.98360	30.27730	90.97	23.44
80/12/27	2444600.5	-0.08519	0.89886	0.38975	-30.16359	-2.46304	-1.06777	0.98342	30.28281	95.41	23.35
80/12/31	2444604.5	-0.15460	0.89094	0.38632	-29.90507	-4.39259	-1.90444	0.98332	30.28588	99.84	23.13
81/ 1/ 4	2444608.5	-0.22325	0.87858	0.38096	-29.49764	-6.30062	-2.73177	0.98330	30.28648	104.26	22.79
81/ 1/ 8	2444612.5	-0.29078	0.86185	0.37371	-28.94341	-8.17718	-3.54546	0.98336	30.28461	108.64	22.34
81/ 1/12	2444616.5	-0.35686	0.84083	0.36459	-28.24534	-10.01246	-4.34125	0.98350	30.28028	113.00	21.76
81/ 1/16	2444620.5	-0.42117	0.81563	0.35366	-27.40720	-11.79692	-5.11501	0.98373	30.27351	117.31	21.07
81/ 1/20	2444624.5	-0.48339	0.78637	0.34098	-26.43354	-13.52132	-5.86272	0.98403	30.26433	121.58	20.27
81/ 1/24	2444628.5	-0.54321	0.75321	0.32660	-25.32969	-15.17681	-6.58056	0.98441	30.25281	125.80	19.38
81/ 1/28	2444632.5	-0.60033	0.71631	0.31060	-24.10168	-16.75495	-7.26485	0.98487	30.23900	129.97	18.38
81/ 2/ 1	2444636.5	-0.65447	0.67586	0.29306	-22.75620	-18.24778	-7.91216	0.98540	30.22298	134.08	17.30
81/ 2/ 5	2444640.5	-0.70538	0.63207	0.27407	-21.30059	-19.64786	-8.51925	0.98600	30.20482	138.14	16.14
81/ 2/ 9	2444644.5	-0.75281	0.58516	0.25373	-19.74273	-20.94834	-9.08316	0.98667	30.18463	142.14	14.90
81/ 2/13	2444648.5	-0.79653	0.53536	0.23214	-18.09102	-22.14295	-9.60116	0.98740	30.16252	146.09	13.60
81/ 2/17	2444652.5	-0.83633	0.48294	0.20941	-16.35432	-23.22606	-10.07081	0.98820	30.13859	150.00	12.23
81/ 2/21	2444656.5	-0.87203	0.42814	0.18565	-14.54184	-24.19272	-10.48997	0.98905	30.11299	153.85	10.82
81/ 2/25	2444660.5	-0.90347	0.37125	0.16098	-12.66313	-25.03862	-10.85677	0.98995	30.08583	157.66	9.36
81/ 3/ 1	2444664.5	-0.93050	0.31255	0.13553	-10.72801	-25.76018	-11.16966	0.99090	30.05726	161.43	7.86
81/ 3/ 5	2444668.5	-0.95300	0.25233	0.10942	-8.74648	-26.35451	-11.42737	0.99189	30.02742	165.17	6.33
81/ 3/ 9	2444672.5	-0.97088	0.19088	0.08277	-6.72864	-26.81941	-11.62897	0.99293	29.99647	168.88	4.78
81/ 3/13	2444676.5	-0.98407	0.12851	0.05573	-4.68472	-27.15339	-11.77379	0.99399	29.96456	172.56	3.21
81/ 3/17	2444680.5	-0.99252	0.06552	0.02842	-2.62489	-27.35564	-11.86150	0.99508	29.93186	176.22	1.64
81/ 3/21	2444684.5	-0.99619	0.00222	0.00097	-0.55931	-27.42604	-11.89204	0.99620	29.89852	179.87	0.06
81/ 3/25	2444688.5	-0.99510	-0.06109	-0.02648	1.50196	-27.36514	-11.86565	0.99733	29.86470	183.51	-1.52
81/ 3/29	2444692.5	-0.98927	-0.12411	-0.05381	3.54905	-27.17412	-11.78283	0.99847	29.83058	187.15	-3.09
81/ 4/ 2	2444696.5	-0.97872	-0.18655	-0.08088	5.57225	-26.85477	-11.64438	0.99962	29.79631	190.79	-4.64
81/ 4/ 6	2444700.5	-0.96355	-0.24810	-0.10757	7.56213	-26.40950	-11.45132	1.00077	29.76206	194.44	-6.17
81/ 4/10	2444704.5	-0.94382	-0.30847	-0.13375	9.50954	-25.84127	-11.20495	1.00192	29.72799	198.10	-7.67
81/ 4/14	2444708.5	-0.91965	-0.36740	-0.15930	11.40564	-25.15359	-10.90677	1.00305	29.69426	201.78	-9.14

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

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81/ 4/18	2444712.5	-0.89117	-0.42460	-0.18410	13.24196	-24.35045	-10.55854	1.00417	29.66103	205.48	-10.56
81/ 4/22	2444716.5	-0.85852	-0.47982	-0.20805	15.01042	-23.43634	-10.16219	1.00527	29.62844	209.20	-11.94
81/ 4/26	2444720.5	-0.82187	-0.53281	-0.23102	16.70335	-22.41617	-9.71985	1.00634	29.59665	212.95	-13.27
81/ 4/30	2444724.5	-0.78141	-0.58332	-0.25292	18.31350	-21.29528	-9.23384	1.00738	29.56581	216.74	-14.54
81/ 5/ 4	2444728.5	-0.73732	-0.63112	-0.27365	19.83410	-20.07936	-8.70662	1.00839	29.53604	220.56	-15.75
81/ 5/ 8	2444732.5	-0.68984	-0.67602	-0.29312	21.25883	-18.77446	-8.14082	1.00936	29.50748	224.42	-16.88
81/ 5/12	2444736.5	-0.63918	-0.71781	-0.31124	22.58187	-17.38693	-7.53919	1.01028	29.48026	228.32	-17.94
81/ 5/16	2444740.5	-0.58559	-0.75630	-0.32793	23.79788	-15.92339	-6.90460	1.01115	29.45448	232.25	-18.92
81/ 5/20	2444744.5	-0.52931	-0.79132	-0.34312	24.90202	-14.39071	-6.24004	1.01197	29.43028	236.22	-19.82
81/ 5/24	2444748.5	-0.47062	-0.82274	-0.35674	25.88998	-12.79599	-5.54857	1.01274	29.40774	240.23	-20.63
81/ 5/28	2444752.5	-0.40978	-0.85040	-0.36874	26.75795	-11.14650	-4.83335	1.01345	29.38696	244.27	-21.34
81/ 6/ 1	2444756.5	-0.34708	-0.87420	-0.37905	27.50263	-9.44966	-4.09760	1.01409	29.36803	248.35	-21.95
81/ 6/ 5	2444760.5	-0.28281	-0.89403	-0.38765	28.12127	-7.71304	-3.34460	1.01467	29.35104	252.45	-22.46
81/ 6/ 9	2444764.5	-0.21725	-0.90981	-0.39450	28.61161	-5.94429	-2.57767	1.01518	29.33604	256.57	-22.87
81/ 6/13	2444768.5	-0.15071	-0.92148	-0.39956	28.97192	-4.15115	-1.80016	1.01562	29.32311	260.71	-23.17
81/ 6/17	2444772.5	-0.08349	-0.92898	-0.40281	29.20098	-2.34141	-1.01545	1.01599	29.31229	264.86	-23.36
81/ 6/21	2444776.5	-0.01589	-0.93229	-0.40424	29.29809	-0.52288	-0.22693	1.01628	29.30364	269.02	-23.44
81/ 6/25	2444780.5	0.05177	-0.93140	-0.40386	29.26307	1.29663	0.56202	1.01650	29.29718	273.18	-23.41
81/ 6/29	2444784.5	0.11921	-0.92631	-0.40165	29.09624	3.10932	1.34800	1.01665	29.29294	277.33	-23.27
81/ 7/ 3	2444788.5	0.18611	-0.91704	-0.39763	28.79843	4.90743	2.12767	1.01672	29.29094	281.47	-23.02
81/ 7/ 7	2444792.5	0.25217	-0.90365	-0.39183	28.37095	6.68329	2.89769	1.01671	29.29119	285.59	-22.67
81/ 7/11	2444796.5	0.31709	-0.88619	-0.38426	27.81564	8.42928	3.65477	1.01662	29.29369	289.69	-22.21
81/ 7/15	2444800.5	0.38059	-0.86473	-0.37495	27.13481	10.13794	4.39565	1.01646	29.29842	293.76	-21.65
81/ 7/19	2444804.5	0.44237	-0.83938	-0.36396	26.33125	11.80189	5.11715	1.01623	29.30537	297.79	-20.99
81/ 7/23	2444808.5	0.50216	-0.81024	-0.35133	25.40824	13.41394	5.81615	1.01592	29.31450	301.79	-20.23
81/ 7/27	2444812.5	0.55968	-0.77745	-0.33711	24.36953	14.96706	6.48959	1.01553	29.32579	305.75	-19.39
81/ 7/31	2444816.5	0.61467	-0.74114	-0.32137	23.21933	16.45443	7.13453	1.01508	29.33917	309.67	-18.46
81/ 8/ 4	2444820.5	0.66688	-0.70148	-0.30417	21.96232	17.86944	7.74809	1.01455	29.35461	313.55	-17.45
81/ 8/ 8	2444824.5	0.71606	-0.65864	-0.28559	20.60361	19.20573	8.32752	1.01396	29.37203	317.39	-16.36
81/ 8/12	2444828.5	0.76200	-0.61281	-0.26572	19.14875	20.45722	8.87018	1.01330	29.39137	321.19	-15.20
81/ 8/16	2444832.5	0.80447	-0.56419	-0.24464	17.60373	21.61810	9.37355	1.01258	29.41253	324.96	-13.98
81/ 8/20	2444836.5	0.84327	-0.51300	-0.22244	15.97494	22.68289	9.83526	1.01180	29.43544	328.69	-12.70
81/ 8/24	2444840.5	0.87822	-0.45946	-0.19923	14.26918	23.64647	10.25308	1.01097	29.45998	332.38	-11.37
81/ 8/28	2444844.5	0.90914	-0.40382	-0.17511	12.49363	24.50405	10.62494	1.01009	29.48607	336.05	-9.98
81/ 9/ 1	2444848.5	0.93589	-0.34633	-0.15018	10.65583	25.25125	10.94894	1.00916	29.51358	339.69	-8.56
81/ 9/ 5	2444852.5	0.95834	-0.28724	-0.12456	8.76367	25.88412	11.22337	1.00818	29.54240	343.31	-7.10
81/ 9/ 9	2444856.5	0.97635	-0.22683	-0.09836	6.82536	26.39914	11.44670	1.00717	29.57240	346.92	-5.60
81/ 9/13	2444860.5	0.98984	-0.16536	-0.07171	4.84943	26.79326	11.61760	1.00612	29.60345	350.52	-4.09
81/ 9/17	2444864.5	0.99873	-0.10313	-0.04472	2.84465	27.06392	11.73498	1.00504	29.63541	354.10	-2.55
81/ 9/21	2444868.5	1.00297	-0.04041	-0.01753	0.82005	27.20908	11.79794	1.00394	29.66813	357.69	-1.00
81/ 9/25	2444872.5	1.00251	0.02249	0.00974	-1.21514	27.22725	11.80583	1.00281	29.70147	1.29	0.56
81/ 9/29	2444876.5	0.99735	0.08529	0.03697	-3.25150	27.11748	11.75825	1.00168	29.73527	4.89	2.12
81/10/ 3	2444880.5	0.98750	0.14768	0.06403	-5.27949	26.87942	11.65504	1.00053	29.76939	8.51	3.67
81/10/ 7	2444884.5	0.97298	0.20938	0.09078	-7.28949	26.51331	11.49631	0.99938	29.80365	12.14	5.21
81/10/11	2444888.5	0.95384	0.27009	0.11710	-9.27180	26.02000	11.28242	0.99823	29.83789	15.81	6.74

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
81/10/15	2444892.5	0.93017	0.32951	0.14287	-11.21676	25.40098	11.01402	0.99709	29.87196	19.51	8.24
81/10/19	2444896.5	0.90205	0.38735	0.16795	-13.11472	24.65836	10.69203	0.99596	29.90568	23.24	9.71
81/10/23	2444900.5	0.86961	0.44334	0.19223	-14.95615	23.79490	10.31765	0.99485	29.93890	27.01	11.14
81/10/27	2444904.5	0.83300	0.49720	0.21558	-16.73169	22.81403	9.89235	0.99377	29.97145	30.83	12.53
81/10/31	2444908.5	0.79237	0.54866	0.23790	-18.43217	21.71977	9.41789	0.99271	30.00317	34.70	13.87
81/11/ 4	2444912.5	0.74790	0.59747	0.25906	-20.04869	20.51684	8.89631	0.99169	30.03390	38.62	15.14
81/11/ 8	2444916.5	0.69981	0.64338	0.27897	-21.57269	19.21053	8.32990	0.99070	30.06348	42.59	16.35
81/11/12	2444920.5	0.64830	0.68616	0.29751	-22.99599	17.80677	7.72124	0.98976	30.09176	46.62	17.49
81/11/16	2444924.5	0.59364	0.72558	0.31461	-24.31085	16.31207	7.07314	0.98887	30.11861	50.71	18.55
81/11/20	2444928.5	0.53607	0.76146	0.33017	-25.51003	14.73351	6.38868	0.98803	30.14387	54.85	19.52
81/11/24	2444932.5	0.47587	0.79360	0.34410	-26.58683	13.07868	5.67114	0.98725	30.16742	59.05	20.40
81/11/28	2444936.5	0.41333	0.82183	0.35635	-27.53519	11.35566	4.92405	0.98653	30.18914	63.30	21.17
81/12/ 2	2444940.5	0.34875	0.84602	0.36683	-28.34966	9.57301	4.15109	0.98587	30.20890	67.60	21.84
81/12/ 6	2444944.5	0.28245	0.86603	0.37551	-29.02553	7.73967	3.35615	0.98529	30.22661	71.94	22.40
81/12/10	2444948.5	0.21475	0.88175	0.38233	-29.55880	5.86491	2.54325	0.98477	30.24216	76.31	22.85
81/12/14	2444952.5	0.14599	0.89310	0.38725	-29.94627	3.95834	1.71656	0.98433	30.25548	80.72	23.17
81/12/18	2444956.5	0.07650	0.90002	0.39025	-30.18552	2.02977	0.88033	0.98396	30.26650	85.14	23.37
81/12/22	2444960.5	0.00664	0.90247	0.39131	-30.27499	0.08920	0.03889	0.98368	30.27514	89.58	23.44
81/12/26	2444964.5	-0.06326	0.90043	0.39043	-30.21394	-1.85329	-0.80338	0.98347	30.28138	94.02	23.39
81/12/30	2444968.5	-0.13285	0.89391	0.38760	-30.00250	-3.78755	-1.64208	0.98334	30.28518	98.45	23.21
82/ 1/ 3	2444972.5	-0.20177	0.88295	0.38285	-29.64166	-5.70346	-2.47283	0.98330	30.28651	102.87	22.91
82/ 1/ 7	2444976.5	-0.26969	0.86758	0.37619	-29.13327	-7.59101	-3.29128	0.98334	30.28537	107.27	22.49
82/ 1/11	2444980.5	-0.33626	0.84790	0.36765	-28.48002	-9.44035	-4.09316	0.98345	30.28177	111.63	21.95
82/ 1/15	2444984.5	-0.40117	0.82400	0.35729	-27.68542	-11.24185	-4.87429	0.98365	30.27574	115.96	21.30
82/ 1/19	2444988.5	-0.46407	0.79600	0.34515	-26.75379	-12.98617	-5.63063	0.98393	30.26730	120.24	20.54
82/ 1/23	2444992.5	-0.52468	0.76405	0.33130	-25.69021	-14.66431	-6.35828	0.98429	30.25651	124.48	19.67
82/ 1/27	2444996.5	-0.58268	0.72831	0.31580	-24.50049	-16.26772	-7.05352	0.98472	30.24343	128.66	18.71
82/ 1/31	2445000.5	-0.63779	0.68895	0.29874	-23.19114	-17.78826	-7.71283	0.98523	30.22811	132.79	17.65
82/ 2/ 4	2445004.5	-0.68974	0.64619	0.28019	-21.76928	-19.21834	-8.33292	0.98580	30.21066	136.87	16.51
82/ 2/ 8	2445008.5	-0.73829	0.60023	0.26027	-20.24264	-20.55090	-8.91073	0.98645	30.19114	140.89	15.30
82/ 2/12	2445012.5	-0.78319	0.55132	0.23906	-18.61946	-21.77949	-9.44346	0.98716	30.16968	144.86	14.01
82/ 2/16	2445016.5	-0.82425	0.49969	0.21667	-16.90845	-22.89829	-9.92858	0.98794	30.14637	148.77	12.67
82/ 2/20	2445020.5	-0.86126	0.44561	0.19322	-15.11872	-23.90211	-10.36385	0.98877	30.12135	152.64	11.27
82/ 2/24	2445024.5	-0.89405	0.38934	0.16883	-13.25972	-24.78646	-10.74731	0.98965	30.09474	156.47	9.82
82/ 2/28	2445028.5	-0.92248	0.33118	0.14361	-11.34119	-25.54751	-11.07732	0.99059	30.06667	160.25	8.34
82/ 3/ 4	2445032.5	-0.94641	0.27140	0.11769	-9.37307	-26.18216	-11.35252	0.99157	30.03730	164.00	6.82
82/ 3/ 8	2445036.5	-0.96575	0.21031	0.09120	-7.36546	-26.68798	-11.57186	0.99258	30.00677	167.71	5.27
82/ 3/12	2445040.5	-0.98042	0.14820	0.06427	-5.32852	-27.06327	-11.73460	0.99364	29.97523	171.40	3.71
82/ 3/16	2445044.5	-0.99036	0.08537	0.03702	-3.27248	-27.30700	-11.84030	0.99472	29.94285	175.07	2.13
82/ 3/20	2445048.5	-0.99553	0.02213	0.00960	-1.20750	-27.41885	-11.88881	0.99582	29.90978	178.73	0.55
82/ 3/24	2445052.5	-0.99594	-0.04122	-0.01786	0.85633	-27.39913	-11.88028	0.99695	29.87619	182.37	-1.03
82/ 3/28	2445056.5	-0.99158	-0.10436	-0.04524	2.90906	-27.24883	-11.81513	0.99809	29.84223	186.01	-2.60
82/ 4/ 1	2445060.5	-0.98251	-0.16702	-0.07241	4.94094	-26.96957	-11.69406	0.99923	29.80808	189.65	-4.16
82/ 4/ 5	2445064.5	-0.96878	-0.22887	-0.09923	6.94243	-26.56355	-11.51802	1.00038	29.77389	193.29	-5.69
82/ 4/ 9	2445068.5	-0.95047	-0.28965	-0.12558	8.90429	-26.03356	-11.28824	1.00153	29.73982	196.95	-7.20

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

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82/ 4/13	2445072.5	-0.92767	-0.34907	-0.15135	10.81757	-25.38294	-11.00614	1.00266	29.70604	200.62	-8.68
82/ 4/17	2445076.5	-0.90053	-0.40684	-0.17640	12.67369	-24.61554	-10.67341	1.00379	29.67269	204.31	-10.12
82/ 4/21	2445080.5	-0.86917	-0.46271	-0.20062	14.46443	-23.73569	-10.29193	1.00489	29.63995	208.03	-11.52
82/ 4/25	2445084.5	-0.83375	-0.51643	-0.22391	16.18199	-22.74818	-9.86376	1.00597	29.60794	211.77	-12.86
82/ 4/29	2445088.5	-0.79446	-0.56774	-0.24616	17.81899	-21.65821	-9.39116	1.00702	29.57682	215.55	-14.15
82/ 5/ 3	2445092.5	-0.75149	-0.61642	-0.26727	19.36849	-20.47137	-8.87656	1.00804	29.54672	219.36	-15.38
82/ 5/ 7	2445096.5	-0.70505	-0.66225	-0.28715	20.82404	-19.19359	-8.32253	1.00902	29.51777	223.21	-16.53
82/ 5/11	2445100.5	-0.65535	-0.70504	-0.30570	22.17964	-17.83115	-7.73178	1.00996	29.49011	227.09	-17.62
82/ 5/15	2445104.5	-0.60265	-0.74458	-0.32284	23.42980	-16.39059	-7.10716	1.01085	29.46386	231.01	-18.63
82/ 5/19	2445108.5	-0.54719	-0.78071	-0.33851	24.56954	-14.87871	-6.45162	1.01169	29.43911	234.97	-19.55
82/ 5/23	2445112.5	-0.48922	-0.81327	-0.35263	25.59437	-13.30253	-5.76820	1.01247	29.41600	238.97	-20.38
82/ 5/27	2445116.5	-0.42902	-0.84213	-0.36514	26.50031	-11.66928	-5.06003	1.01320	29.39460	243.00	-21.12
82/ 5/31	2445120.5	-0.36687	-0.86715	-0.37599	27.28393	-9.98634	-4.33031	1.01386	29.37502	247.07	-21.77
82/ 6/ 4	2445124.5	-0.30306	-0.88824	-0.38514	27.94229	-8.26124	-3.58231	1.01446	29.35733	251.16	-22.31
82/ 6/ 8	2445128.5	-0.23787	-0.90530	-0.39253	28.47298	-6.50161	-2.81934	1.01500	29.34161	255.28	-22.75
82/ 6/12	2445132.5	-0.17160	-0.91826	-0.39815	28.87409	-4.71517	-2.04474	1.01546	29.32792	259.41	-23.08
82/ 6/16	2445136.5	-0.10456	-0.92707	-0.40197	29.14427	-2.90970	-1.26189	1.01586	29.31633	263.57	-23.31
82/ 6/20	2445140.5	-0.03705	-0.93169	-0.40398	29.28265	-1.09300	-0.47417	1.01618	29.30688	267.72	-23.43
82/ 6/24	2445144.5	0.03063	-0.93211	-0.40416	29.28889	0.72710	0.31502	1.01643	29.29961	271.88	-23.43
82/ 6/28	2445148.5	0.09818	-0.92834	-0.40253	29.16316	2.54280	1.10232	1.01660	29.29455	276.04	-23.33
82/ 7/ 2	2445152.5	0.16528	-0.92037	-0.39908	28.90612	4.34634	1.88433	1.01669	29.29172	280.18	-23.11
82/ 7/ 6	2445156.5	0.23163	-0.90827	-0.39383	28.51894	6.12999	2.65773	1.01671	29.29113	284.31	-22.79
82/ 7/10	2445160.5	0.29695	-0.89207	-0.38680	28.00331	7.88614	3.41920	1.01666	29.29279	288.41	-22.36
82/ 7/14	2445164.5	0.36092	-0.87186	-0.37804	27.36139	9.60725	4.16548	1.01652	29.29669	292.49	-21.83
82/ 7/18	2445168.5	0.42327	-0.84772	-0.36757	26.59581	11.28594	4.89336	1.01631	29.30281	296.53	-21.20
82/ 7/22	2445172.5	0.48371	-0.81975	-0.35545	25.70973	12.91494	5.59971	1.01603	29.31113	300.54	-20.48
82/ 7/26	2445176.5	0.54197	-0.78809	-0.34172	24.70673	14.48719	6.28144	1.01567	29.32162	304.52	-19.66
82/ 7/30	2445180.5	0.59778	-0.75287	-0.32645	23.59090	15.99578	6.93557	1.01524	29.33424	308.45	-18.76
82/ 8/ 3	2445184.5	0.65088	-0.71424	-0.30970	22.36675	17.43405	7.55921	1.01474	29.34892	312.34	-17.77
82/ 8/ 7	2445188.5	0.70104	-0.67237	-0.29155	21.03927	18.79555	8.14957	1.01417	29.36561	316.20	-16.71
82/ 8/11	2445192.5	0.74802	-0.62746	-0.27207	19.61389	20.07413	8.70397	1.01354	29.38425	320.01	-15.57
82/ 8/15	2445196.5	0.79159	-0.57969	-0.25136	18.09644	21.26387	9.21986	1.01284	29.40475	323.78	-14.37
82/ 8/19	2445200.5	0.83156	-0.52928	-0.22950	16.49320	22.35922	9.69482	1.01208	29.42703	327.52	-13.11
82/ 8/23	2445204.5	0.86774	-0.47646	-0.20660	14.81084	23.35492	10.12656	1.01127	29.45099	331.23	-11.79
82/ 8/27	2445208.5	0.89994	-0.42146	-0.18275	13.05642	24.24608	10.51299	1.01040	29.47653	334.91	-10.42
82/ 8/31	2445212.5	0.92801	-0.36452	-0.15806	11.23737	25.02821	10.85213	1.00949	29.50354	338.56	-9.01
82/ 9/ 4	2445216.5	0.95181	-0.30591	-0.13265	9.36148	25.69721	11.14222	1.00853	29.53190	342.18	-7.56
82/ 9/ 8	2445220.5	0.97123	-0.24588	-0.10662	7.43684	26.24943	11.38168	1.00752	29.56150	345.79	-6.07
82/ 9/12	2445224.5	0.98614	-0.18472	-0.08010	5.47190	26.68167	11.56912	1.00649	29.59219	349.39	-4.56
82/ 9/16	2445228.5	0.99648	-0.12270	-0.05321	3.47534	26.99122	11.70335	1.00542	29.62385	352.98	-3.03
82/ 9/20	2445232.5	1.00218	-0.06010	-0.02607	1.45612	27.17588	11.78344	1.00432	29.65633	356.57	-1.49
82/ 9/24	2445236.5	1.00320	0.00277	0.00119	-0.57660	27.23397	11.80864	1.00321	29.68949	0.16	0.07
82/ 9/28	2445240.5	0.99952	0.06563	0.02845	-2.61346	27.16438	11.77848	1.00207	29.72317	3.76	1.63
82/10/ 2	2445244.5	0.99113	0.12818	0.05557	-4.64495	26.96657	11.69273	1.00093	29.75721	7.37	3.18
82/10/ 6	2445248.5	0.97807	0.19013	0.08243	-6.66148	26.64059	11.55140	0.99978	29.79146	11.00	4.73

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				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					EARTH-MOON B		
82/10/10	2445252.5	0.96037	0.25117	0.10890	-8.65337	26.18710	11.35478	0.99863	29.82576	14.66	6.26
82/10/14	2445256.5	0.93811	0.31102	0.13485	-10.61095	25.60737	11.10343	0.99748	29.85994	18.34	7.77
82/10/18	2445260.5	0.91138	0.36939	0.16016	-12.52456	24.90334	10.79817	0.99635	29.89384	22.06	9.25
82/10/22	2445264.5	0.88029	0.42599	0.18470	-14.38463	24.07756	10.44013	0.99523	29.92729	25.82	10.70
82/10/26	2445268.5	0.84497	0.48055	0.20836	-16.18174	23.13323	10.03068	0.99413	29.96013	29.63	12.10
82/10/30	2445272.5	0.80558	0.53279	0.23101	-17.90666	22.07420	9.57150	0.99306	29.99220	33.48	13.45
82/11/ 3	2445276.5	0.76229	0.58245	0.25254	-19.55041	20.90495	9.06453	0.99203	30.02334	37.38	14.75
82/11/ 7	2445280.5	0.71531	0.62929	0.27285	-21.10430	19.63060	8.51198	0.99103	30.05338	41.34	15.98
82/11/11	2445284.5	0.66486	0.67307	0.29184	-22.56004	18.25688	7.91635	0.99007	30.08218	45.35	17.14
82/11/15	2445288.5	0.61116	0.71357	0.30940	-23.90975	16.79012	7.28037	0.98916	30.10959	49.42	18.23
82/11/19	2445292.5	0.55448	0.75058	0.32545	-25.14600	15.23720	6.60704	0.98830	30.13547	53.55	19.23
82/11/23	2445296.5	0.49507	0.78391	0.33990	-26.26194	13.60557	5.89957	0.98750	30.15968	57.73	20.13
82/11/27	2445300.5	0.43323	0.81339	0.35268	-27.25129	11.90316	5.16142	0.98675	30.18209	61.96	20.94
82/12/ 1	2445304.5	0.36926	0.83886	0.36373	-28.10841	10.13838	4.39622	0.98608	30.20258	66.24	21.65
82/12/ 5	2445308.5	0.30347	0.86019	0.37298	-28.82834	8.32004	3.60779	0.98546	30.22106	70.57	22.24
82/12/ 9	2445312.5	0.23617	0.87727	0.38038	-29.40685	6.45733	2.80013	0.98492	30.23741	74.93	22.72
82/12/13	2445316.5	0.16771	0.89000	0.38590	-29.84049	4.55975	1.97734	0.98446	30.25154	79.33	23.08
82/12/17	2445320.5	0.09841	0.89832	0.38951	-30.12658	2.63706	1.14367	0.98406	30.26340	83.75	23.32
82/12/21	2445324.5	0.02863	0.90217	0.39118	-30.26330	0.69919	0.30341	0.98375	30.27290	88.18	23.43
82/12/25	2445328.5	-0.04130	0.90155	0.39091	-30.24964	-1.24378	-0.53906	0.98351	30.28000	92.62	23.42
82/12/29	2445332.5	-0.11102	0.89643	0.38869	-30.08545	-3.18172	-1.37935	0.98336	30.28465	97.06	23.28
83/ 1/ 2	2445336.5	-0.18019	0.88686	0.38454	-29.77146	-5.10449	-2.21306	0.98329	30.28685	101.48	23.02
83/ 1/ 6	2445340.5	-0.24846	0.87287	0.37848	-29.30923	-7.00204	-3.03584	0.98330	30.28656	105.89	22.64
83/ 1/10	2445344.5	-0.31549	0.85453	0.37053	-28.70119	-8.86445	-3.84338	0.98339	30.28380	110.26	22.13
83/ 1/14	2445348.5	-0.38096	0.83194	0.36073	-27.95060	-10.68201	-4.63148	0.98356	30.27858	114.60	21.52
83/ 1/18	2445352.5	-0.44453	0.80522	0.34915	-27.06153	-12.44529	-5.39605	0.98381	30.27092	118.90	20.79
83/ 1/22	2445356.5	-0.50589	0.77449	0.33582	-26.03881	-14.14517	-6.13312	0.98414	30.26088	123.15	19.95
83/ 1/26	2445360.5	-0.56474	0.73992	0.32083	-24.88804	-15.77296	-6.83894	0.98455	30.24850	127.35	19.02
83/ 1/30	2445364.5	-0.62079	0.70168	0.30425	-23.61551	-17.32037	-7.50990	0.98504	30.23386	131.50	17.99
83/ 2/ 3	2445368.5	-0.67376	0.65996	0.28616	-22.22815	-18.77964	-8.14265	0.98559	30.21703	135.59	16.88
83/ 2/ 7	2445372.5	-0.72341	0.61498	0.26666	-20.73352	-20.14355	-8.73406	0.98622	30.19810	139.63	15.69
83/ 2/11	2445376.5	-0.76948	0.56697	0.24584	-19.13969	-21.40545	-9.28122	0.98691	30.17718	143.62	14.42
83/ 2/15	2445380.5	-0.81177	0.51616	0.22381	-17.45524	-22.55930	-9.78155	0.98767	30.15438	147.55	13.10
83/ 2/19	2445384.5	-0.85007	0.46282	0.20069	-15.68917	-23.59973	-10.23269	0.98848	30.12981	151.43	11.71
83/ 2/23	2445388.5	-0.88420	0.40722	0.17658	-13.85083	-24.52203	-10.63261	0.98935	30.10361	155.27	10.28
83/ 2/27	2445392.5	-0.91402	0.34962	0.15160	-11.94987	-25.32214	-10.97956	0.99027	30.07592	159.07	8.81
83/ 3/ 3	2445396.5	-0.93937	0.29032	0.12589	-9.99618	-25.99675	-11.27208	0.99124	30.04687	162.83	7.30
83/ 3/ 7	2445400.5	-0.96017	0.22960	0.09956	-7.99982	-26.54322	-11.50905	0.99225	30.01662	166.55	5.76
83/ 3/11	2445404.5	-0.97631	0.16778	0.07276	-5.97094	-26.95961	-11.68961	0.99329	29.98533	170.25	4.20
83/ 3/15	2445408.5	-0.98774	0.10514	0.04560	-3.91976	-27.24469	-11.81323	0.99437	29.95313	173.92	2.63
83/ 3/19	2445412.5	-0.99441	0.04200	0.01822	-1.85645	-27.39791	-11.87969	0.99547	29.92021	177.58	1.05
83/ 3/23	2445416.5	-0.99632	-0.02135	-0.00925	0.20886	-27.41940	-11.88902	0.99659	29.88672	181.23	-0.53
83/ 3/27	2445420.5	-0.99345	-0.08459	-0.03667	2.26617	-27.30993	-11.84157	0.99772	29.85282	184.87	-2.11
83/ 3/31	2445424.5	-0.98586	-0.14743	-0.06392	4.30565	-27.07093	-11.73795	0.99887	29.81867	188.51	-3.67
83/ 4/ 4	2445428.5	-0.97358	-0.20957	-0.09086	6.31772	-26.70441	-11.57905	1.00002	29.78445	192.15	-5.21

1.3 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
83/ 4/ 8	2445432.5	-0.95670	-0.27071	-0.11737	8.29302	-26.21300	-11.36599	1.00117	29.75031	195.80	-6.73
83/ 4/12	2445436.5	-0.93530	-0.33059	-0.14333	10.22251	-25.59985	-11.10015	1.00231	29.71642	199.47	-8.22
83/ 4/16	2445440.5	-0.90951	-0.38890	-0.16862	12.09750	-24.86867	-10.78312	1.00344	29.68292	203.15	-9.67
83/ 4/20	2445444.5	-0.87945	-0.44540	-0.19312	13.90964	-24.02363	-10.41673	1.00455	29.64997	206.86	-11.08
83/ 4/24	2445448.5	-0.84529	-0.49982	-0.21671	15.65101	-23.06938	-10.00298	1.00564	29.61773	210.60	-12.44
83/ 4/28	2445452.5	-0.80720	-0.55191	-0.23930	17.31408	-22.01099	-9.54408	1.00670	29.58632	214.36	-13.75
83/ 5/ 2	2445456.5	-0.76536	-0.60144	-0.26078	18.89178	-20.85395	-9.04240	1.00773	29.55591	218.16	-15.00
83/ 5/ 6	2445460.5	-0.71999	-0.64819	-0.28105	20.37750	-19.60408	-8.50047	1.00872	29.52660	222.00	-16.18
83/ 5/10	2445464.5	-0.67129	-0.69195	-0.30002	21.76510	-18.26755	-7.92096	1.00967	29.49855	225.87	-17.29
83/ 5/14	2445468.5	-0.61950	-0.73253	-0.31762	23.04893	-16.85082	-7.30668	1.01058	29.47186	229.78	-18.32
83/ 5/18	2445472.5	-0.56488	-0.76975	-0.33376	24.22385	-15.36061	-6.66053	1.01143	29.44666	233.73	-19.27
83/ 5/22	2445476.5	-0.50767	-0.80345	-0.34837	25.28521	-13.80387	-5.98554	1.01224	29.42304	237.71	-20.13
83/ 5/26	2445480.5	-0.44814	-0.83348	-0.36139	26.22888	-12.18779	-5.28482	1.01298	29.40111	241.73	-20.90
83/ 5/30	2445484.5	-0.38657	-0.85972	-0.37277	27.05125	-10.51968	-4.56154	1.01367	29.38097	245.79	-21.58
83/ 6/ 3	2445488.5	-0.32325	-0.88205	-0.38246	27.74922	-8.80704	-3.81894	1.01429	29.36268	249.87	-22.15
83/ 6/ 7	2445492.5	-0.25846	-0.90039	-0.39040	28.32021	-7.05747	-3.06033	1.01485	29.34634	253.98	-22.62
83/ 6/11	2445496.5	-0.19250	-0.91464	-0.39659	28.76218	-5.27866	-2.28905	1.01533	29.33201	258.11	-22.99
83/ 6/15	2445500.5	-0.12567	-0.92476	-0.40097	29.07358	-3.47837	-1.50844	1.01575	29.31975	262.26	-23.25
83/ 6/19	2445504.5	-0.05827	-0.93070	-0.40355	29.25340	-1.66440	-0.72191	1.01610	29.30961	266.42	-23.40
83/ 6/23	2445508.5	0.00939	-0.93244	-0.40431	29.30114	0.15542	0.06716	1.01637	29.30162	270.58	-23.44
83/ 6/27	2445512.5	0.07701	-0.92998	-0.40324	29.21678	1.97329	0.85539	1.01656	29.29584	274.73	-23.37
83/ 7/ 1	2445516.5	0.14428	-0.92333	-0.40036	29.00087	3.78142	1.63940	1.01669	29.29227	278.88	-23.19
83/ 7/ 5	2445520.5	0.21090	-0.91253	-0.39567	28.65440	5.57209	2.41583	1.01673	29.29094	283.01	-22.90
83/ 7/ 9	2445524.5	0.27657	-0.89761	-0.38920	28.17890	7.33763	3.18137	1.01670	29.29185	287.13	-22.51
83/ 7/13	2445528.5	0.34100	-0.87865	-0.38098	27.57638	9.07049	3.93274	1.01659	29.29499	291.21	-22.01
83/ 7/17	2445532.5	0.40389	-0.85573	-0.37105	26.84933	10.76323	4.66671	1.01640	29.30037	295.27	-21.41
83/ 7/21	2445536.5	0.46496	-0.82896	-0.35944	26.00073	12.40855	5.38013	1.01614	29.30795	299.29	-20.72
83/ 7/25	2445540.5	0.52393	-0.79844	-0.34621	25.03405	13.99932	6.06989	1.01581	29.31771	303.27	-19.93
83/ 7/29	2445544.5	0.58054	-0.76432	-0.33141	23.95320	15.52858	6.73298	1.01540	29.32960	307.22	-19.05
83/ 8/ 2	2445548.5	0.63452	-0.72675	-0.31512	22.76257	16.98959	7.36648	1.01493	29.34358	311.12	-18.09
83/ 8/ 6	2445552.5	0.68563	-0.68588	-0.29740	21.46701	18.37584	7.96757	1.01438	29.35960	314.99	-17.05
83/ 8/10	2445556.5	0.73363	-0.64191	-0.27834	20.07178	19.68108	8.53352	1.01377	29.37758	318.81	-15.94
83/ 8/14	2445560.5	0.77829	-0.59501	-0.25800	18.58262	20.89933	9.06176	1.01309	29.39747	322.60	-14.75
83/ 8/18	2445564.5	0.81942	-0.54541	-0.23650	17.00566	22.02489	9.54981	1.01235	29.41916	326.35	-13.51
83/ 8/22	2445568.5	0.85680	-0.49333	-0.21391	15.34743	23.05244	9.99536	1.01156	29.44259	330.07	-12.21
83/ 8/26	2445572.5	0.89027	-0.43898	-0.19035	13.61490	23.97696	10.39623	1.01070	29.46764	333.75	-10.86
83/ 8/30	2445576.5	0.91966	-0.38263	-0.16591	11.81536	24.79383	10.75043	1.00980	29.49421	337.41	-9.46
83/ 9/ 3	2445580.5	0.94482	-0.32451	-0.14072	9.95649	25.49883	11.05612	1.00886	29.52219	341.04	-8.02
83/ 9/ 7	2445584.5	0.96562	-0.26490	-0.11487	8.04631	26.08816	11.31166	1.00787	29.55146	344.66	-6.54
83/ 9/11	2445588.5	0.98196	-0.20407	-0.08849	6.09313	26.55847	11.51560	1.00684	29.58188	348.26	-5.04
83/ 9/15	2445592.5	0.99375	-0.14229	-0.06170	4.10557	26.90689	11.66669	1.00578	29.61331	351.85	-3.52
83/ 9/19	2445596.5	1.00091	-0.07985	-0.03463	2.09251	27.13107	11.76390	1.00469	29.64562	355.44	-1.98
83/ 9/23	2445600.5	1.00340	-0.01703	-0.00739	0.06304	27.22915	11.80645	1.00357	29.67866	359.03	-0.42
83/ 9/27	2445604.5	1.00120	0.04586	0.01988	-1.97353	27.19985	11.79376	1.00244	29.71227	2.62	1.14
83/10/ 1	2445608.5	0.99429	0.10854	0.04706	-4.00775	27.04243	11.72551	1.00130	29.74630	6.23	2.69

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83/10/ 5	2445612.5	0.98269	0.17071	0.07401	-6.03005	26.75676	11.60167	1.00015	29.78060	9.86	4.24
83/10/ 9	2445616.5	0.96644	0.23207	0.10062	-8.03076	26.34330	11.42241	0.99899	29.81499	13.50	5.78
83/10/13	2445620.5	0.94561	0.29233	0.12674	-10.00022	25.80314	11.18821	0.99784	29.84933	17.18	7.30
83/10/17	2445624.5	0.92027	0.35119	0.15227	-11.92874	25.13799	10.89982	0.99670	29.88343	20.89	8.79
83/10/21	2445628.5	0.89053	0.40838	0.17706	-13.80674	24.35020	10.55826	0.99558	29.91714	24.64	10.24
83/10/25	2445632.5	0.85652	0.46361	0.20101	-15.62473	23.44279	10.16482	0.99447	29.95029	28.43	11.66
83/10/29	2445636.5	0.81839	0.51661	0.22399	-17.37342	22.41937	9.72109	0.99339	29.98272	32.26	13.03
83/11/ 2	2445640.5	0.77631	0.56711	0.24589	-19.04374	21.28425	9.22893	0.99234	30.01427	36.15	14.35
83/11/ 6	2445644.5	0.73047	0.61486	0.26660	-20.62690	20.04234	8.69045	0.99132	30.04477	40.09	15.60
83/11/10	2445648.5	0.68108	0.65963	0.28601	-22.11447	18.69918	8.10807	0.99035	30.07407	44.08	16.79
83/11/14	2445652.5	0.62837	0.70119	0.30403	-23.49843	17.26090	7.48445	0.98942	30.10203	48.13	17.90
83/11/18	2445656.5	0.57260	0.73932	0.32056	-24.77122	15.73422	6.82251	0.98854	30.12849	52.24	18.92
83/11/22	2445660.5	0.51401	0.77382	0.33552	-25.92578	14.12642	6.12538	0.98772	30.15331	56.41	19.86
83/11/26	2445664.5	0.45291	0.80453	0.34884	-26.95564	12.44528	5.39646	0.98695	30.17637	60.62	20.70
83/11/30	2445668.5	0.38957	0.83127	0.36043	-27.85496	10.69906	4.63931	0.98625	30.19755	64.89	21.44
83/12/ 4	2445672.5	0.32431	0.85392	0.37025	-28.61856	8.89646	3.85772	0.98562	30.21673	69.20	22.06
83/12/ 8	2445676.5	0.25745	0.87234	0.37824	-29.24197	7.04655	3.05561	0.98505	30.23381	73.56	22.58
83/12/12	2445680.5	0.18931	0.88645	0.38436	-29.72148	5.15875	2.23707	0.98456	30.24869	77.94	22.98
83/12/16	2445684.5	0.12024	0.89616	0.38857	-30.05418	3.24273	1.40630	0.98414	30.26131	82.36	23.26
83/12/20	2445688.5	0.05057	0.90142	0.39085	-30.23796	1.30840	0.56758	0.98380	30.27158	86.79	23.41
83/12/24	2445692.5	-0.01936	0.90219	0.39119	-30.27156	-0.63421	-0.27472	0.98354	30.27945	91.23	23.44
83/12/28	2445696.5	-0.08918	0.89849	0.38958	-30.15456	-2.57496	-1.11623	0.98336	30.28488	95.67	23.34
84/ 1/ 1	2445700.5	-0.15856	0.89031	0.38603	-29.88741	-4.50373	-1.95253	0.98327	30.28784	100.10	23.12
84/ 1/ 5	2445704.5	-0.22716	0.87770	0.38057	-29.47142	-6.41040	-2.77926	0.98325	30.28832	104.51	22.77
84/ 1/ 9	2445708.5	-0.29462	0.86071	0.37320	-28.90874	-8.28502	-3.59209	0.98332	30.28630	108.90	22.30
84/ 1/13	2445712.5	-0.36062	0.83945	0.36398	-28.20238	-10.11779	-4.38678	0.98346	30.28181	113.25	21.72
84/ 1/17	2445716.5	-0.42482	0.81401	0.35295	-27.35616	-11.89919	-5.15920	0.98369	30.27486	117.56	21.03
84/ 1/21	2445720.5	-0.48691	0.78452	0.34017	-26.37468	-13.61999	-5.90534	0.98400	30.26550	121.83	20.22
84/ 1/25	2445724.5	-0.54658	0.75113	0.32569	-25.26330	-15.27136	-6.62138	0.98439	30.25378	126.04	19.32
84/ 1/29	2445728.5	-0.60354	0.71402	0.30960	-24.02810	-16.84488	-7.30366	0.98485	30.23976	130.21	18.32
84/ 2/ 2	2445732.5	-0.65751	0.67337	0.29197	-22.67584	-18.33262	-7.94875	0.98539	30.22352	134.32	17.24
84/ 2/ 6	2445736.5	-0.70822	0.62939	0.27290	-21.21386	-19.72718	-8.55343	0.98599	30.20515	138.37	16.07
84/ 2/10	2445740.5	-0.75544	0.58230	0.25249	-19.65011	-21.02172	-9.11475	0.98667	30.18474	142.37	14.83
84/ 2/14	2445744.5	-0.79894	0.53234	0.23083	-17.99300	-22.21003	-9.63001	0.98741	30.16240	146.32	13.52
84/ 2/18	2445748.5	-0.83851	0.47976	0.20803	-16.25141	-23.28650	-10.09678	0.98821	30.13826	150.22	12.15
84/ 2/22	2445752.5	-0.87397	0.42484	0.18422	-14.43460	-24.24623	-10.51293	0.98906	30.11244	154.08	10.73
84/ 2/26	2445756.5	-0.90515	0.36783	0.15950	-12.55213	-25.08495	-10.87661	0.98997	30.08507	157.88	9.27
84/ 3/ 1	2445760.5	-0.93192	0.30903	0.13400	-10.61383	-25.79912	-11.18629	0.99093	30.05630	161.65	7.77
84/ 3/ 5	2445764.5	-0.95416	0.24873	0.10786	-8.62971	-26.38590	-11.44073	0.99193	30.02628	165.39	6.24
84/ 3/ 9	2445768.5	-0.97177	0.18722	0.08119	-6.60991	-26.84312	-11.63899	0.99296	29.99517	169.10	4.69
84/ 3/13	2445772.5	-0.98468	0.12481	0.05412	-4.56461	-27.16934	-11.78046	0.99403	29.96310	172.78	3.12
84/ 3/17	2445776.5	-0.99285	0.06179	0.02680	-2.50403	-27.36379	-11.86479	0.99513	29.93026	176.44	1.54
84/ 3/21	2445780.5	-0.99624	-0.00152	-0.00065	-0.43830	-27.42641	-11.89196	0.99625	29.89680	180.09	-0.04
84/ 3/25	2445784.5	-0.99487	-0.06483	-0.02810	1.62253	-27.35777	-11.86221	0.99738	29.86289	183.73	-1.61
84/ 3/29	2445788.5	-0.98876	-0.12783	-0.05542	3.66858	-27.15909	-11.77608	0.99853	29.82869	187.37	-3.18

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84/ 4/ 2	2445792.5	-0.97794	-0.19022	-0.08247	5.69017	-26.83221	-11.63437	0.99968	29.79437	191.01	-4.73
84/ 4/ 6	2445796.5	-0.96249	-0.25170	-0.10913	7.67789	-26.37957	-11.43812	1.00083	29.76008	194.66	-6.26
84/ 4/10	2445800.5	-0.94250	-0.31200	-0.13528	9.62259	-25.80416	-11.18864	1.00198	29.72599	198.32	-7.76
84/ 4/14	2445804.5	-0.91807	-0.37084	-0.16078	11.51546	-25.10951	-10.88746	1.00311	29.69226	202.00	-9.22
84/ 4/18	2445808.5	-0.88934	-0.42793	-0.18554	13.34806	-24.29967	-10.53633	1.00423	29.65904	205.70	-10.65
84/ 4/22	2445812.5	-0.85645	-0.48302	-0.20943	15.11232	-23.37913	-10.13721	1.00533	29.62649	209.42	-12.02
84/ 4/26	2445816.5	-0.81958	-0.53587	-0.23234	16.80061	-22.35285	-9.69223	1.00640	29.59476	213.18	-13.35
84/ 4/30	2445820.5	-0.77889	-0.58622	-0.25418	18.40569	-21.22617	-9.20372	1.00744	29.56397	216.97	-14.61
84/ 5/ 4	2445824.5	-0.73461	-0.63387	-0.27484	19.92083	-20.00482	-8.67416	1.00845	29.53428	220.79	-15.82
84/ 5/ 8	2445828.5	-0.68693	-0.67859	-0.29423	21.33974	-18.69486	-8.10618	1.00941	29.50581	224.65	-16.95
84/ 5/12	2445832.5	-0.63609	-0.72018	-0.31226	22.65661	-17.30266	-7.50254	1.01033	29.47868	228.55	-18.00
84/ 5/16	2445836.5	-0.58233	-0.75847	-0.32886	23.86615	-15.83486	-6.86612	1.01121	29.45300	232.48	-18.98
84/ 5/20	2445840.5	-0.52590	-0.79329	-0.34396	24.96355	-14.29835	-6.19990	1.01202	29.42890	236.46	-19.87
84/ 5/24	2445844.5	-0.46708	-0.82449	-0.35749	25.94452	-12.70022	-5.50697	1.01279	29.40647	240.47	-20.67
84/ 5/28	2445848.5	-0.40612	-0.85193	-0.36939	26.80529	-11.04776	-4.79048	1.01349	29.38580	244.51	-21.38
84/ 6/ 1	2445852.5	-0.34332	-0.87550	-0.37961	27.54260	-9.34841	-4.05366	1.01413	29.36698	248.59	-21.98
84/ 6/ 5	2445856.5	-0.27896	-0.89509	-0.38810	28.15370	-7.60974	-3.29978	1.01471	29.35009	252.69	-22.49
84/ 6/ 9	2445860.5	-0.21334	-0.91063	-0.39484	28.63639	-5.83940	-2.53217	1.01522	29.33519	256.81	-22.89
84/ 6/13	2445864.5	-0.14675	-0.92205	-0.39980	28.98896	-4.04514	-1.75420	1.01565	29.32235	260.96	-23.18
84/ 6/17	2445868.5	-0.07950	-0.92931	-0.40294	29.21023	-2.23475	-0.96922	1.01602	29.31162	265.11	-23.37
84/ 6/21	2445872.5	-0.01189	-0.93237	-0.40427	29.29954	-0.41604	-0.18064	1.01631	29.30305	269.27	-23.44
84/ 6/25	2445876.5	0.05577	-0.93123	-0.40378	29.25672	1.40317	0.60816	1.01653	29.29666	273.43	-23.40
84/ 6/29	2445880.5	0.12318	-0.92589	-0.40146	29.08213	3.21509	1.39380	1.01667	29.29249	277.58	-23.26
84/ 7/ 3	2445884.5	0.19004	-0.91639	-0.39734	28.77663	5.01198	2.17293	1.01674	29.29055	281.72	-23.00
84/ 7/ 7	2445888.5	0.25604	-0.90275	-0.39143	28.34158	6.78616	2.94220	1.01673	29.29084	285.83	-22.64
84/ 7/11	2445892.5	0.32089	-0.88506	-0.38376	27.77882	8.53002	3.69834	1.01664	29.29338	289.93	-22.18
84/ 7/15	2445896.5	0.38429	-0.86337	-0.37436	27.09071	10.23610	4.43809	1.01648	29.29814	293.99	-21.61
84/ 7/19	2445900.5	0.44596	-0.83780	-0.36327	26.28006	11.89705	5.15828	1.01624	29.30511	298.03	-20.94
84/ 7/23	2445904.5	0.50562	-0.80844	-0.35054	25.35019	13.50568	5.85578	1.01593	29.31426	302.02	-20.18
84/ 7/27	2445908.5	0.56300	-0.77544	-0.33623	24.30487	15.05497	6.52755	1.01554	29.32555	305.98	-19.33
84/ 7/31	2445912.5	0.61783	-0.73894	-0.32040	23.14835	16.53812	7.17065	1.01509	29.33894	309.90	-18.40
84/ 8/ 4	2445916.5	0.66987	-0.69909	-0.30313	21.88532	17.94853	7.78220	1.01456	29.35438	313.78	-17.38
84/ 8/ 8	2445920.5	0.71887	-0.65607	-0.28447	20.52092	19.27987	8.35948	1.01397	29.37179	317.62	-16.29
84/ 8/12	2445924.5	0.76461	-0.61007	-0.26453	19.06074	20.52606	8.89983	1.01331	29.39112	321.41	-15.13
84/ 8/16	2445928.5	0.80687	-0.56130	-0.24338	17.51078	21.68134	9.40077	1.01259	29.41228	325.18	-13.91
84/ 8/20	2445932.5	0.84545	-0.50997	-0.22113	15.87746	22.74024	9.85991	1.01181	29.43518	328.90	-12.62
84/ 8/24	2445936.5	0.88017	-0.45631	-0.19786	14.16759	23.69764	10.27505	1.01098	29.45973	332.60	-11.29
84/ 8/28	2445940.5	0.91086	-0.40056	-0.17369	12.38838	24.54881	10.64413	1.01009	29.48582	336.26	-9.90
84/ 9/ 1	2445944.5	0.93736	-0.34297	-0.14872	10.54739	25.28939	10.96526	1.00916	29.51334	339.90	-8.47
84/ 9/ 5	2445948.5	0.95955	-0.28380	-0.12306	8.65251	25.91544	11.23673	1.00818	29.54218	343.52	-7.01
84/ 9/ 9	2445952.5	0.97731	-0.22332	-0.09684	6.71199	26.42348	11.45703	1.00716	29.57220	347.13	-5.52
84/ 9/13	2445956.5	0.99053	-0.16181	-0.07017	4.73435	26.81049	11.62485	1.00611	29.60327	350.72	-4.00
84/ 9/17	2445960.5	0.99916	-0.09954	-0.04317	2.72838	27.07394	11.73910	1.00503	29.63526	354.31	-2.46
84/ 9/21	2445964.5	1.00312	-0.03682	-0.01597	0.70312	27.21183	11.79890	1.00393	29.66803	357.90	-0.91
84/ 9/25	2445968.5	1.00240	0.02609	0.01130	-1.33219	27.22268	11.80362	1.00280	29.70142	1.49	0.65

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
84/ 9/29	2445972.5	0.99697	0.08886	0.03852	-3.36814	27.10559	11.75287	1.00166	29.73529	5.09	2.20
84/10/ 3	2445976.5	0.98684	0.15122	0.06556	-5.39519	26.86024	11.64651	1.00051	29.76948	8.71	3.76
84/10/ 7	2445980.5	0.97206	0.21287	0.09229	-7.40370	26.48690	11.48464	0.99936	29.80382	12.35	5.30
84/10/11	2445984.5	0.95266	0.27350	0.11858	-9.38400	25.98645	11.26767	0.99821	29.83815	16.02	6.82
84/10/15	2445988.5	0.92873	0.33284	0.14431	-11.32642	25.36041	10.99624	0.99707	29.87232	19.72	8.32
84/10/19	2445992.5	0.90036	0.39058	0.16935	-13.22132	24.61093	10.67129	0.99594	29.90615	23.45	9.79
84/10/23	2445996.5	0.86768	0.44646	0.19357	-15.05918	23.74082	10.29402	0.99482	29.93948	27.23	11.22
84/10/27	2446000.5	0.83084	0.50018	0.21687	-16.83065	22.75350	9.86594	0.99373	29.97214	31.05	12.61
84/10/31	2446004.5	0.78998	0.55150	0.23912	-18.52658	21.65306	9.38881	0.99267	30.00398	34.92	13.94
84/11/ 4	2446008.5	0.74530	0.60015	0.26021	-20.13808	20.44421	8.86468	0.99164	30.03483	38.84	15.21
84/11/ 8	2446012.5	0.69701	0.64588	0.28004	-21.65663	19.13231	8.29586	0.99066	30.06453	42.82	16.42
84/11/12	2446016.5	0.64532	0.68847	0.29851	-23.07404	17.72331	7.68493	0.98971	30.09294	46.85	17.55
84/11/16	2446020.5	0.59048	0.72770	0.31552	-24.38261	16.22373	7.03474	0.98882	30.11991	50.94	18.61
84/11/20	2446024.5	0.53275	0.76336	0.33099	-25.57513	14.64068	6.34835	0.98798	30.14529	55.09	19.57
84/11/24	2446028.5	0.47241	0.79528	0.34483	-26.64493	12.98179	5.62907	0.98719	30.16895	59.29	20.44
84/11/28	2446032.5	0.40974	0.82329	0.35697	-27.58596	11.25517	4.88043	0.98647	30.19077	63.54	21.21
84/12/ 2	2446036.5	0.34505	0.84724	0.36736	-28.39283	9.46938	4.10613	0.98582	30.21063	67.84	21.88
84/12/ 6	2446040.5	0.27866	0.86701	0.37593	-29.06084	7.63339	3.31006	0.98523	30.22843	72.18	22.43
84/12/10	2446044.5	0.21089	0.88248	0.38264	-29.58605	5.75650	2.49625	0.98471	30.24406	76.56	22.87
84/12/14	2446048.5	0.14208	0.89358	0.38745	-29.96528	3.84833	1.66888	0.98427	30.25745	80.97	23.18
84/12/18	2446052.5	0.07256	0.90024	0.39034	-30.19617	1.91869	0.83220	0.98390	30.26851	85.39	23.37
84/12/22	2446056.5	0.00268	0.90243	0.39129	-30.27718	-0.02240	-0.00945	0.98362	30.27719	89.83	23.44
84/12/26	2446060.5	-0.06722	0.90014	0.39030	-30.20764	-1.96484	-0.85168	0.98341	30.28345	94.27	23.38
84/12/30	2446064.5	-0.13678	0.89336	0.38736	-29.98771	-3.89848	-1.69010	0.98329	30.28724	98.70	23.20
85/ 1/ 3	2446068.5	-0.20566	0.88214	0.38249	-29.61842	-5.81320	-2.52031	0.98324	30.28855	103.12	22.89
85/ 1/ 7	2446072.5	-0.27351	0.86653	0.37572	-29.10169	-7.69900	-3.33799	0.98328	30.28737	107.52	22.46
85/ 1/11	2446076.5	-0.34001	0.84660	0.36708	-28.44023	-9.54601	-4.13885	0.98340	30.28371	111.88	21.92
85/ 1/15	2446080.5	-0.40481	0.82246	0.35662	-27.63761	-11.34462	-4.91873	0.98361	30.27758	116.21	21.26
85/ 1/19	2446084.5	-0.46760	0.79423	0.34438	-26.69819	-13.08551	-5.67357	0.98389	30.26902	120.49	20.49
85/ 1/23	2446088.5	-0.52806	0.76205	0.33043	-25.62710	-14.75971	-6.39951	0.98425	30.25807	124.72	19.62
85/ 1/27	2446092.5	-0.58591	0.72609	0.31483	-24.43020	-16.35865	-7.09281	0.98469	30.24480	128.90	18.65
85/ 1/31	2446096.5	-0.64085	0.68653	0.29768	-23.11402	-17.87426	-7.74998	0.98520	30.22928	133.03	17.59
85/ 2/ 4	2446100.5	-0.69261	0.64357	0.27906	-21.68575	-19.29895	-8.36773	0.98579	30.21159	137.10	16.44
85/ 2/ 8	2446104.5	-0.74096	0.59744	0.25905	-20.15314	-20.62572	-8.94302	0.98644	30.19183	141.12	15.23
85/ 2/12	2446108.5	-0.78565	0.54836	0.23777	-18.52445	-21.84813	-9.47307	0.98716	30.17010	145.09	13.94
85/ 2/16	2446112.5	-0.82648	0.49658	0.21532	-16.80845	-22.96039	-9.95536	0.98794	30.14652	149.00	12.59
85/ 2/20	2446116.5	-0.86326	0.44236	0.19181	-15.01426	-23.95738	-10.38766	0.98878	30.12121	152.87	11.19
85/ 2/24	2446120.5	-0.89580	0.38598	0.16737	-13.15137	-24.83462	-10.76804	0.98967	30.09431	156.69	9.74
85/ 2/28	2446124.5	-0.92397	0.32771	0.14210	-11.22953	-25.58835	-11.09487	0.99061	30.06596	160.47	8.25
85/ 3/ 4	2446128.5	-0.94765	0.26785	0.11615	-9.25869	-26.21549	-11.36681	0.99160	30.03630	164.22	6.73
85/ 3/ 8	2446132.5	-0.96672	0.20669	0.08963	-7.24895	-26.71367	-11.58283	0.99262	30.00549	167.93	5.18
85/ 3/12	2446136.5	-0.98112	0.14452	0.06267	-5.21051	-27.08122	-11.74221	0.99368	29.97368	171.62	3.62
85/ 3/16	2446140.5	-0.99078	0.08166	0.03542	-3.15357	-27.31717	-11.84453	0.99477	29.94103	175.29	2.04
85/ 3/20	2446144.5	-0.99568	0.01841	0.00799	-1.08829	-27.42122	-11.88966	0.99588	29.90772	178.94	0.46
85/ 3/24	2446148.5	-0.99581	-0.04493	-0.01947	0.97523	-27.39375	-11.87776	0.99702	29.87390	182.58	-1.12

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85/ 3/28	2446152.5	-0.99119	-0.10806	-0.04684	3.02707	-27.23578	-11.80928	0.99816	29.83974	186.22	-2.69
85/ 4/ 1	2446156.5	-0.98184	-0.17067	-0.07399	5.05748	-26.94896	-11.68492	0.99931	29.80540	189.86	-4.25
85/ 4/ 5	2446160.5	-0.96784	-0.23248	-0.10079	7.05695	-26.53555	-11.50568	1.00046	29.77107	193.51	-5.78
85/ 4/ 9	2446164.5	-0.94927	-0.29318	-0.12711	9.01623	-25.99836	-11.27277	1.00161	29.73689	197.16	-7.29
85/ 4/13	2446168.5	-0.92622	-0.35250	-0.15283	10.92643	-25.34078	-10.98766	1.00275	29.70303	200.84	-8.77
85/ 4/17	2446172.5	-0.89883	-0.41017	-0.17784	12.77896	-24.56666	-10.65202	1.00387	29.66965	204.53	-10.20
85/ 4/21	2446176.5	-0.86723	-0.46592	-0.20201	14.56564	-23.68038	-10.26774	1.00498	29.63689	208.25	-11.60
85/ 4/25	2446180.5	-0.83159	-0.51950	-0.22524	16.27870	-22.68675	-9.83693	1.00606	29.60490	211.99	-12.94
85/ 4/29	2446184.5	-0.79208	-0.57067	-0.24743	17.91078	-21.59099	-9.36183	1.00711	29.57382	215.77	-14.22
85/ 5/ 3	2446188.5	-0.74890	-0.61919	-0.26847	19.45497	-20.39872	-8.84488	1.00813	29.54379	219.58	-15.44
85/ 5/ 7	2446192.5	-0.70226	-0.66485	-0.28827	20.90486	-19.11588	-8.28866	1.00910	29.51494	223.43	-16.60
85/ 5/11	2446196.5	-0.65239	-0.70744	-0.30674	22.25447	-17.74876	-7.69590	1.01004	29.48741	227.32	-17.68
85/ 5/15	2446200.5	-0.59952	-0.74679	-0.32380	23.49836	-16.30392	-7.06944	1.01092	29.46129	231.24	-18.68
85/ 5/19	2446204.5	-0.54390	-0.78272	-0.33938	24.63156	-14.78816	-6.41223	1.01176	29.43672	235.20	-19.60
85/ 5/23	2446208.5	-0.48580	-0.81507	-0.35340	25.64962	-13.20853	-5.72733	1.01254	29.41378	239.20	-20.43
85/ 5/27	2446212.5	-0.42549	-0.84370	-0.36582	26.54860	-11.57226	-5.01786	1.01326	29.39259	243.24	-21.16
85/ 5/31	2446216.5	-0.36323	-0.86850	-0.37657	27.32508	-9.88673	-4.28704	1.01392	29.37322	247.30	-21.80
85/ 6/ 4	2446220.5	-0.29933	-0.88935	-0.38561	27.97615	-8.15948	-3.53812	1.01452	29.35576	251.40	-22.34
85/ 6/ 8	2446224.5	-0.23407	-0.90617	-0.39291	28.49944	-6.39815	-2.77443	1.01504	29.34028	255.52	-22.77
85/ 6/12	2446228.5	-0.16775	-0.91889	-0.39842	28.89308	-4.61044	-1.99930	1.01550	29.32684	259.65	-23.10
85/ 6/16	2446232.5	-0.10068	-0.92746	-0.40214	29.15573	-2.80415	-1.21611	1.01589	29.31550	263.80	-23.32
85/ 6/20	2446236.5	-0.03314	-0.93184	-0.40404	29.28655	-0.98708	-0.42824	1.01620	29.30631	267.96	-23.43
85/ 6/24	2446240.5	0.03454	-0.93202	-0.40412	29.28523	0.83295	0.36091	1.01644	29.29930	272.12	-23.43
85/ 6/28	2446244.5	0.10206	-0.92800	-0.40237	29.15196	2.64815	1.14796	1.01661	29.29449	276.28	-23.32
85/ 7/ 2	2446248.5	0.16913	-0.91979	-0.39882	28.88743	4.45073	1.92955	1.01670	29.29191	280.42	-23.10
85/ 7/ 6	2446252.5	0.23543	-0.90745	-0.39346	28.49286	6.23299	2.70232	1.01671	29.29156	284.54	-22.77
85/ 7/10	2446256.5	0.30068	-0.89102	-0.38634	27.96992	7.98732	3.46299	1.01665	29.29345	288.65	-22.33
85/ 7/14	2446260.5	0.36457	-0.87057	-0.37748	27.32083	9.70619	4.20828	1.01651	29.29757	292.72	-21.80
85/ 7/18	2446264.5	0.42681	-0.84620	-0.36691	26.54825	11.38220	4.93499	1.01629	29.30389	296.77	-21.16
85/ 7/22	2446268.5	0.48713	-0.81802	-0.35469	25.65534	13.00812	5.63999	1.01600	29.31240	300.77	-20.43
85/ 7/26	2446272.5	0.54526	-0.78614	-0.34087	24.64573	14.57688	6.32019	1.01564	29.32306	304.74	-19.61
85/ 7/30	2446276.5	0.60092	-0.75072	-0.32551	23.52351	16.08158	6.97263	1.01520	29.33582	308.68	-18.70
85/ 8/ 3	2446280.5	0.65386	-0.71190	-0.30868	22.29326	17.51558	7.59441	1.01470	29.35064	312.57	-17.71
85/ 8/ 7	2446284.5	0.70384	-0.66985	-0.29045	20.95996	18.87245	8.18275	1.01413	29.36744	316.42	-16.64
85/ 8/11	2446288.5	0.75063	-0.62476	-0.27090	19.52908	20.14602	8.73497	1.01349	29.38616	320.23	-15.50
85/ 8/15	2446292.5	0.79400	-0.57684	-0.25012	18.00648	21.33043	9.24853	1.01279	29.40673	324.00	-14.30
85/ 8/19	2446296.5	0.83376	-0.52628	-0.22820	16.39846	22.42012	9.72103	1.01203	29.42906	327.74	-13.03
85/ 8/23	2446300.5	0.86971	-0.47332	-0.20524	14.71171	23.40985	10.15018	1.01121	29.45304	331.44	-11.71
85/ 8/27	2446304.5	0.90168	-0.41820	-0.18134	12.95332	24.29477	10.53389	1.01035	29.47859	335.12	-10.34
85/ 8/31	2446308.5	0.92951	-0.36116	-0.15660	11.13075	25.07040	10.87021	1.00943	29.50559	338.77	-8.92
85/ 9/ 4	2446312.5	0.95306	-0.30245	-0.13115	9.25180	25.73267	11.15738	1.00847	29.53393	342.39	-7.47
85/ 9/ 8	2446316.5	0.97222	-0.24235	-0.10509	7.32460	26.27795	11.39383	1.00747	29.56349	346.00	-5.99
85/ 9/12	2446320.5	0.98687	-0.18113	-0.07855	5.35759	26.70308	11.57818	1.00643	29.59413	349.60	-4.48
85/ 9/16	2446324.5	0.99695	-0.11907	-0.05164	3.35948	27.00538	11.70927	1.00536	29.62573	353.19	-2.94
85/ 9/20	2446328.5	1.00238	-0.05646	-0.02449	1.33925	27.18268	11.78615	1.00427	29.65813	356.78	-1.40

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
85/ 9/24	2446332.5	1.00313	0.00642	0.00278	-0.69393	27.23333	11.80813	1.00315	29.69121	0.37	0.16
85/ 9/28	2446336.5	0.99917	0.06927	0.03003	-2.73069	27.15626	11.77474	1.00202	29.72480	3.97	1.72
85/10/ 2	2446340.5	0.99051	0.13180	0.05714	-4.76153	26.95096	11.68574	1.00088	29.75875	7.58	3.27
85/10/ 6	2446344.5	0.97718	0.19370	0.08398	-6.77684	26.61753	11.54118	0.99973	29.79290	11.21	4.82
85/10/10	2446348.5	0.95922	0.25468	0.11042	-8.76695	26.15665	11.34136	0.99858	29.82710	14.87	6.35
85/10/14	2446352.5	0.93670	0.31445	0.13634	-10.72217	25.56965	11.08686	0.99744	29.86119	18.56	7.86
85/10/18	2446356.5	0.90972	0.37273	0.16160	-12.63287	24.85848	10.77852	0.99631	29.89499	22.28	9.33
85/10/22	2446360.5	0.87838	0.42922	0.18610	-14.48949	24.02575	10.41747	0.99519	29.92834	26.04	10.78
85/10/26	2446364.5	0.84282	0.48364	0.20970	-16.28261	23.07469	10.00512	0.99410	29.96109	29.85	12.18
85/10/30	2446368.5	0.80320	0.53574	0.23228	-18.00302	22.00918	9.54314	0.99303	29.99307	33.70	13.53
85/11/ 3	2446372.5	0.75970	0.58525	0.25375	-19.64176	20.83375	9.03349	0.99199	30.02412	37.61	14.82
85/11/ 7	2446376.5	0.71252	0.63192	0.27399	-21.19016	19.55354	8.47842	0.99100	30.05408	41.57	16.05
85/11/11	2446380.5	0.66187	0.67552	0.29289	-22.63995	18.17433	7.88042	0.99004	30.08280	45.58	17.21
85/11/15	2446384.5	0.60800	0.71582	0.31037	-23.98328	16.70246	7.24224	0.98913	30.11013	49.66	18.29
85/11/19	2446388.5	0.55115	0.75262	0.32632	-25.21277	15.14486	6.56690	0.98828	30.13593	53.78	19.28
85/11/23	2446392.5	0.49160	0.78573	0.34068	-26.32158	13.50900	5.85761	0.98748	30.16007	57.97	20.18
85/11/27	2446396.5	0.42963	0.81498	0.35337	-27.30347	11.80284	5.11784	0.98674	30.18242	62.20	20.98
85/12/ 1	2446400.5	0.36555	0.84022	0.36431	-28.15284	10.03480	4.35124	0.98606	30.20286	66.49	21.68
85/12/ 5	2446404.5	0.29966	0.86131	0.37345	-28.86477	8.21372	3.56165	0.98545	30.22127	70.82	22.27
85/12/ 9	2446408.5	0.23229	0.87814	0.38075	-29.43508	6.34881	2.75304	0.98491	30.23757	75.18	22.74
85/12/13	2446412.5	0.16377	0.89061	0.38616	-29.86036	4.44957	1.92955	0.98445	30.25166	79.58	23.10
85/12/17	2446416.5	0.09444	0.89868	0.38966	-30.13797	2.52578	1.09542	0.98406	30.26346	84.00	23.33
85/12/21	2446420.5	0.02464	0.90227	0.39122	-30.26614	0.58738	0.25495	0.98375	30.27291	88.44	23.43
85/12/25	2446424.5	-0.04528	0.90139	0.39083	-30.24391	-1.35554	-0.58749	0.98351	30.27997	92.88	23.41
85/12/29	2446428.5	-0.11498	0.89601	0.38850	-30.07117	-3.29286	-1.42749	0.98336	30.28459	97.31	23.27
86/ 1/ 2	2446432.5	-0.18411	0.88618	0.38424	-29.74870	-5.21445	-2.26067	0.98329	30.28674	101.74	23.00
86/ 1/ 6	2446436.5	-0.25232	0.87194	0.37807	-29.27812	-7.11025	-3.08268	0.98330	30.28641	106.14	22.61
86/ 1/10	2446440.5	-0.31927	0.85336	0.37001	-28.66188	-8.97036	-3.88921	0.98339	30.28361	110.51	22.10
86/ 1/14	2446444.5	-0.38464	0.83053	0.36011	-27.90331	-10.78508	-4.67606	0.98357	30.27834	114.85	21.48
86/ 1/18	2446448.5	-0.44809	0.80357	0.34842	-27.00649	-12.54499	-5.43915	0.98382	30.27064	119.14	20.74
86/ 1/22	2446452.5	-0.50931	0.77262	0.33500	-25.97634	-14.24101	-6.17454	0.98416	30.26056	123.39	19.90
86/ 1/26	2446456.5	-0.56801	0.73783	0.31992	-24.81845	-15.86445	-6.87845	0.98457	30.24813	127.59	18.96
86/ 1/30	2446460.5	-0.62389	0.69938	0.30325	-23.53918	-17.40706	-7.54733	0.98505	30.23344	131.73	17.93
86/ 2/ 3	2446464.5	-0.67668	0.65747	0.28508	-22.14549	-18.86110	-8.17780	0.98561	30.21655	135.82	16.81
86/ 2/ 7	2446468.5	-0.72613	0.61231	0.26550	-20.64495	-20.21938	-8.76675	0.98624	30.19757	139.86	15.62
86/ 2/11	2446472.5	-0.77199	0.56413	0.24461	-19.04569	-21.47528	-9.31131	0.98694	30.17659	143.84	14.35
86/ 2/15	2446476.5	-0.81406	0.51317	0.22251	-17.35630	-22.62282	-9.80888	0.98769	30.15372	147.77	13.02
86/ 2/19	2446480.5	-0.85212	0.45969	0.19932	-15.58580	-23.65663	-10.25715	0.98851	30.12909	151.65	11.63
86/ 2/23	2446484.5	-0.88601	0.40396	0.17516	-13.74357	-24.57204	-10.65407	0.98938	30.10282	155.49	10.20
86/ 2/27	2446488.5	-0.91557	0.34625	0.15014	-11.83928	-25.36506	-10.99794	0.99031	30.07506	159.28	8.72
86/ 3/ 3	2446492.5	-0.94067	0.28686	0.12439	-9.88282	-26.03239	-11.28730	0.99128	30.04594	163.04	7.21
86/ 3/ 7	2446496.5	-0.96120	0.22607	0.09803	-7.88426	-26.57143	-11.52104	0.99229	30.01561	166.76	5.67
86/ 3/11	2446500.5	-0.97708	0.16419	0.07120	-5.85376	-26.98029	-11.69834	0.99333	29.98423	170.46	4.11
86/ 3/15	2446504.5	-0.98823	0.10152	0.04403	-3.80155	-27.25778	-11.81867	0.99441	29.95195	174.13	2.54
86/ 3/19	2446508.5	-0.99463	0.03835	0.01664	-1.73779	-27.40338	-11.88182	0.99551	29.91894	177.79	0.96

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							EARTH-MOON B		
86/ 3/23	2446512.5	-0.99626	-0.02500	-0.01083	0.32738	-27.41727	-11.88786	0.99663	29.88536	181.44	-0.62
86/ 3/27	2446516.5	-0.99313	-0.08822	-0.03824	2.38398	-27.30025	-11.83714	0.99777	29.85138	185.08	-2.20
86/ 3/31	2446520.5	-0.98526	-0.15103	-0.06548	4.42219	-27.05378	-11.73030	0.99892	29.81716	188.72	-3.76
86/ 4/ 4	2446524.5	-0.97272	-0.21312	-0.09240	6.43243	-26.67993	-11.56822	1.00007	29.78286	192.36	-5.30
86/ 4/ 8	2446528.5	-0.95557	-0.27421	-0.11889	8.40536	-26.18134	-11.35205	1.00122	29.74865	196.01	-6.82
86/ 4/12	2446532.5	-0.93392	-0.33400	-0.14481	10.33197	-25.56122	-11.08318	1.00236	29.71468	199.68	-8.31
86/ 4/16	2446536.5	-0.90787	-0.39222	-0.17005	12.20358	-24.82327	-10.76323	1.00349	29.68113	203.37	-9.76
86/ 4/20	2446540.5	-0.87758	-0.44860	-0.19450	14.01186	-23.97172	-10.39403	1.00460	29.64813	207.08	-11.16
86/ 4/24	2446544.5	-0.84319	-0.50289	-0.21804	15.74892	-23.01125	-9.97759	1.00569	29.61585	210.81	-12.52
86/ 4/28	2446548.5	-0.80488	-0.55484	-0.24057	17.40726	-21.94695	-9.51614	1.00675	29.58442	214.58	-13.82
86/ 5/ 2	2446552.5	-0.76283	-0.60422	-0.26198	18.97982	-20.78432	-9.01205	1.00778	29.55399	218.38	-15.07
86/ 5/ 6	2446556.5	-0.71725	-0.65080	-0.28217	20.46004	-19.52921	-8.46786	1.00877	29.52470	222.22	-16.24
86/ 5/10	2446560.5	-0.66837	-0.69439	-0.30107	21.84180	-18.18781	-7.88625	1.00972	29.49667	226.09	-17.35
86/ 5/14	2446564.5	-0.61642	-0.73478	-0.31859	23.11948	-16.76659	-7.27003	1.01062	29.47002	230.01	-18.38
86/ 5/18	2446568.5	-0.56163	-0.77180	-0.33464	24.28797	-15.27228	-6.62213	1.01148	29.44487	233.96	-19.32
86/ 5/22	2446572.5	-0.50428	-0.80529	-0.34916	25.34264	-13.71188	-5.94556	1.01228	29.42133	237.94	-20.18
86/ 5/26	2446576.5	-0.44463	-0.83510	-0.36209	26.27942	-12.09253	-5.24344	1.01302	29.39950	241.97	-20.94
86/ 5/30	2446580.5	-0.38296	-0.86112	-0.37337	27.09470	-10.42160	-4.51895	1.01370	29.37947	246.02	-21.61
86/ 6/ 3	2446584.5	-0.31954	-0.88322	-0.38295	27.78543	-8.70657	-3.77533	1.01432	29.36132	250.11	-22.18
86/ 6/ 7	2446588.5	-0.25468	-0.90132	-0.39080	28.34905	-6.95504	-3.01590	1.01487	29.34514	254.22	-22.65
86/ 6/11	2446592.5	-0.18866	-0.91533	-0.39688	28.78355	-5.17472	-2.24397	1.01535	29.33098	258.35	-23.01
86/ 6/15	2446596.5	-0.12179	-0.92521	-0.40116	29.08742	-3.37337	-1.46293	1.01577	29.31890	262.50	-23.26
86/ 6/19	2446600.5	-0.05437	-0.93091	-0.40363	29.25966	-1.55879	-0.67615	1.01611	29.30896	266.66	-23.41
86/ 6/23	2446604.5	0.01330	-0.93241	-0.40428	29.29980	0.26120	0.11298	1.01637	29.30119	270.82	-23.44
86/ 6/27	2446608.5	0.08091	-0.92971	-0.40311	29.20788	2.07878	0.90107	1.01656	29.29562	274.97	-23.36
86/ 7/ 1	2446612.5	0.14815	-0.92281	-0.40012	28.98443	3.88619	1.68474	1.01668	29.29229	279.12	-23.18
86/ 7/ 5	2446616.5	0.21472	-0.91176	-0.39533	28.63050	5.67569	2.46065	1.01671	29.29119	283.25	-22.88
86/ 7/ 9	2446620.5	0.28033	-0.89661	-0.38876	28.14764	7.43963	3.22548	1.01668	29.29234	287.36	-22.48
86/ 7/13	2446624.5	0.34468	-0.87742	-0.38044	27.53787	9.17045	3.97595	1.01656	29.29573	291.45	-21.98
86/ 7/17	2446628.5	0.40747	-0.85427	-0.37041	26.80374	10.86072	4.70885	1.01637	29.30135	295.50	-21.37
86/ 7/21	2446632.5	0.46843	-0.82727	-0.35870	25.94823	12.50316	5.42100	1.01611	29.30916	299.52	-20.67
86/ 7/25	2446636.5	0.52727	-0.79654	-0.34538	24.97485	14.09063	6.10931	1.01577	29.31915	303.50	-19.88
86/ 7/29	2446640.5	0.58373	-0.76222	-0.33049	23.88753	15.61619	6.77079	1.01535	29.33126	307.45	-19.00
86/ 8/ 2	2446644.5	0.63756	-0.72444	-0.31412	22.69069	17.07311	7.40251	1.01487	29.34545	311.35	-18.03
86/ 8/ 6	2446648.5	0.68849	-0.68339	-0.29632	21.38921	18.45488	8.00164	1.01432	29.36166	315.21	-16.99
86/ 8/10	2446652.5	0.73630	-0.63924	-0.27717	19.98838	19.75527	8.56549	1.01370	29.37982	319.04	-15.87
86/ 8/14	2446656.5	0.78077	-0.59218	-0.25677	18.49395	20.96831	9.09146	1.01302	29.39985	322.82	-14.68
86/ 8/18	2446660.5	0.82169	-0.54243	-0.23520	16.91208	22.08834	9.57711	1.01228	29.42166	326.57	-13.44
86/ 8/22	2446664.5	0.85885	-0.49020	-0.21255	15.24935	23.11002	10.02011	1.01148	29.44518	330.28	-12.13
86/ 8/26	2446668.5	0.89209	-0.43573	-0.18894	13.51272	24.02837	10.41832	1.01063	29.47028	333.97	-10.77
86/ 8/30	2446672.5	0.92123	-0.37926	-0.16445	11.70953	24.83880	10.76972	1.00973	29.49688	337.62	-9.37
86/ 9/ 3	2446676.5	0.94614	-0.32105	-0.13922	9.84747	25.53710	11.07252	1.00878	29.52485	341.26	-7.93
86/ 9/ 7	2446680.5	0.96669	-0.26136	-0.11333	7.93458	26.11950	11.32506	1.00779	29.55407	344.87	-6.46
86/ 9/11	2446684.5	0.98277	-0.20046	-0.08693	5.97919	26.58270	11.52591	1.00677	29.58441	348.47	-4.95
86/ 9/15	2446688.5	0.99429	-0.13864	-0.06012	3.98995	26.92385	11.67385	1.00571	29.61574	352.06	-3.43

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86/ 9/19	2446692.5	1.00119	-0.07616	-0.03303	1.97574	27.14061	11.76785	1.00462	29.64791	355.65	-1.88
86/ 9/23	2446696.5	1.00341	-0.01333	-0.00579	-0.05433	27.23119	11.80714	1.00351	29.68079	359.24	-0.33
86/ 9/27	2446700.5	1.00093	0.04956	0.02148	-2.09093	27.19433	11.79118	1.00239	29.71423	2.83	1.23
86/10/ 1	2446704.5	0.99375	0.11221	0.04864	-4.12461	27.02933	11.71965	1.00125	29.74807	6.44	2.78
86/10/ 5	2446708.5	0.98188	0.17434	0.07558	-6.14579	26.73610	11.59252	1.00010	29.78215	10.07	4.33
86/10/ 9	2446712.5	0.96537	0.23565	0.10216	-8.14481	26.31513	11.41001	0.99895	29.81631	13.72	5.87
86/10/13	2446716.5	0.94428	0.29583	0.12826	-10.11199	25.76756	11.17261	0.99781	29.85041	17.40	7.39
86/10/17	2446720.5	0.91868	0.35461	0.15374	-12.03767	25.09515	10.88107	0.99667	29.88427	21.11	8.87
86/10/21	2446724.5	0.88870	0.41168	0.17849	-13.91226	24.30027	10.53643	0.99555	29.91773	24.86	10.33
86/10/25	2446728.5	0.85445	0.46679	0.20239	-15.72630	23.38598	10.14002	0.99445	29.95064	28.65	11.74
86/10/29	2446732.5	0.81609	0.51965	0.22530	-17.47051	22.35596	9.69342	0.99338	29.98283	32.49	13.11
86/11/ 2	2446736.5	0.77379	0.57000	0.24714	-19.13583	21.21453	9.19852	0.99233	30.01415	36.38	14.42
86/11/ 6	2446740.5	0.72774	0.61758	0.26777	-20.71352	19.96664	8.65746	0.99132	30.04444	40.32	15.67
86/11/10	2446744.5	0.67816	0.66217	0.28710	-22.19517	18.61787	8.07266	0.99035	30.07355	44.32	16.85
86/11/14	2446748.5	0.62527	0.70353	0.30504	-23.57277	17.17439	7.44679	0.98943	30.10133	48.37	17.96
86/11/18	2446752.5	0.56933	0.74145	0.32148	-24.83880	15.64296	6.78279	0.98856	30.12763	52.48	18.98
86/11/22	2446756.5	0.51060	0.77575	0.33635	-25.98624	14.03086	6.08382	0.98774	30.15232	56.65	19.91
86/11/26	2446760.5	0.44936	0.80623	0.34956	-27.00867	12.34591	5.35325	0.98698	30.17527	60.87	20.74
86/11/30	2446764.5	0.38591	0.83274	0.36106	-27.90026	10.59639	4.59469	0.98628	30.19634	65.14	21.47
86/12/ 4	2446768.5	0.32056	0.85514	0.37078	-28.65589	8.79101	3.81191	0.98565	30.21544	69.45	22.10
86/12/ 8	2446772.5	0.25362	0.87332	0.37866	-29.27115	6.93886	3.00885	0.98508	30.23245	73.81	22.61
86/12/12	2446776.5	0.18543	0.88717	0.38466	-29.74236	5.04937	2.18960	0.98459	30.24728	78.19	23.00
86/12/16	2446780.5	0.11631	0.89663	0.38876	-30.06665	3.13222	1.35835	0.98418	30.25986	82.61	23.27
86/12/20	2446784.5	0.04662	0.90163	0.39093	-30.24196	1.19732	0.51941	0.98384	30.27011	87.04	23.41
86/12/24	2446788.5	-0.02330	0.90215	0.39116	-30.26709	-0.74530	-0.32288	0.98358	30.27798	91.48	23.43
86/12/28	2446792.5	-0.09311	0.89819	0.38944	-30.14165	-2.68550	-1.16413	0.98340	30.28343	95.92	23.33

1.3 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
86/12/16	2446780.5	0.11631	0.89663	0.38876	-30.06665	3.13222	1.35835	0.98418	30.25986	82.61	23.27
86/12/20	2446784.5	0.04662	0.90163	0.39093	-30.24196	1.19732	0.51941	0.98384	30.27011	87.04	23.41
86/12/24	2446788.5	-0.02330	0.90215	0.39116	-30.26709	-0.74530	-0.32288	0.98358	30.27798	91.48	23.43
86/12/28	2446792.5	-0.09311	0.89819	0.38944	-30.14165	-2.68550	-1.16413	0.98340	30.28343	95.92	23.33
87/ 1/ 1	2446796.5	-0.16245	0.88976	0.38579	-29.86613	-4.61316	-1.99994	0.98330	30.28642	100.35	23.10
87/ 1/ 5	2446800.5	-0.23098	0.87689	0.38021	-29.44190	-6.51819	-2.82594	0.98329	30.28693	104.76	22.75
87/ 1/ 9	2446804.5	-0.29837	0.85966	0.37274	-28.87115	-8.39063	-3.63780	0.98335	30.28497	109.14	22.27
87/ 1/13	2446808.5	-0.36427	0.83816	0.36342	-28.15692	-10.22072	-4.43131	0.98350	30.28055	113.49	21.69
87/ 1/17	2446812.5	-0.42836	0.81248	0.35228	-27.30307	-11.99892	-5.20232	0.98373	30.27368	117.80	20.98
87/ 1/21	2446816.5	-0.49031	0.78277	0.33940	-26.31424	-13.71606	-5.94686	0.98403	30.26441	122.06	20.18
87/ 1/25	2446820.5	-0.54984	0.74916	0.32483	-25.19583	-15.36330	-6.66109	0.98442	30.25279	126.28	19.27
87/ 1/29	2446824.5	-0.60663	0.71184	0.30865	-23.95396	-16.93226	-7.34138	0.98488	30.23887	130.44	18.26
87/ 2/ 2	2446828.5	-0.66042	0.67100	0.29094	-22.59539	-18.41502	-7.98429	0.98541	30.22274	134.55	17.17
87/ 2/ 6	2446832.5	-0.71095	0.62683	0.27179	-21.12753	-19.80423	-8.58665	0.98602	30.20447	138.60	16.00
87/ 2/10	2446836.5	-0.75796	0.57957	0.25130	-19.55831	-21.09306	-9.14548	0.98669	30.18418	142.60	14.76
87/ 2/14	2446840.5	-0.80124	0.52946	0.22957	-17.89621	-22.27533	-9.65811	0.98743	30.16196	146.54	13.44
87/ 2/18	2446844.5	-0.84058	0.47674	0.20671	-16.15010	-23.34549	-10.12213	0.98823	30.13793	150.44	12.07
87/ 2/22	2446848.5	-0.87580	0.42168	0.18284	-14.32926	-24.29862	-10.53541	0.98908	30.11222	154.29	10.65
87/ 2/26	2446852.5	-0.90674	0.36456	0.15808	-12.44329	-25.13053	-10.89614	0.98999	30.08496	158.10	9.19
87/ 3/ 2	2446856.5	-0.93325	0.30567	0.13254	-10.50201	-25.83770	-11.20277	0.99094	30.05629	161.87	7.69
87/ 3/ 6	2446860.5	-0.95523	0.24528	0.10636	-8.51545	-26.41730	-11.45410	0.99194	30.02637	165.60	6.16
87/ 3/10	2446864.5	-0.97257	0.18371	0.07966	-6.49375	-26.86722	-11.64919	0.99297	29.99533	169.30	4.60
87/ 3/14	2446868.5	-0.98521	0.12125	0.05258	-4.44711	-27.18605	-11.78745	0.99404	29.96335	172.98	3.03
87/ 3/18	2446872.5	-0.99311	0.05820	0.02524	-2.38575	-27.37307	-11.86856	0.99513	29.93057	176.65	1.45
87/ 3/22	2446876.5	-0.99623	-0.00513	-0.00221	-0.31980	-27.42822	-11.89249	0.99625	29.89717	180.29	-0.13
87/ 3/26	2446880.5	-0.99459	-0.06843	-0.02966	1.74069	-27.35213	-11.85951	0.99738	29.86330	183.94	-1.70
87/ 3/30	2446884.5	-0.98820	-0.13140	-0.05696	3.78584	-27.14604	-11.77018	0.99852	29.82913	187.57	-3.27
87/ 4/ 3	2446888.5	-0.97712	-0.19375	-0.08400	5.80599	-26.81185	-11.62529	0.99968	29.79483	191.22	-4.82
87/ 4/ 7	2446892.5	-0.96140	-0.25519	-0.11064	7.79172	-26.35200	-11.42592	1.00083	29.76055	194.87	-6.35
87/ 4/11	2446896.5	-0.94115	-0.31541	-0.13675	9.73391	-25.76954	-11.17339	1.00197	29.72647	198.53	-7.84
87/ 4/15	2446900.5	-0.91647	-0.37416	-0.16222	11.62377	-25.06802	-10.86924	1.00311	29.69273	202.21	-9.31
87/ 4/19	2446904.5	-0.88749	-0.43115	-0.18693	13.45285	-24.25152	-10.51524	1.00423	29.65949	205.91	-10.73
87/ 4/23	2446908.5	-0.85436	-0.48612	-0.21077	15.21311	-23.32457	-10.11334	1.00532	29.62692	209.64	-12.10
87/ 4/27	2446912.5	-0.81726	-0.53883	-0.23362	16.89694	-22.29215	-9.66571	1.00640	29.59514	213.40	-13.42
87/ 5/ 1	2446916.5	-0.77636	-0.58904	-0.25539	18.49714	-21.15963	-9.17467	1.00744	29.56431	217.19	-14.69
87/ 5/ 5	2446920.5	-0.73186	-0.63653	-0.27598	20.00698	-19.93275	-8.64273	1.00844	29.53457	221.01	-15.88
87/ 5/ 9	2446924.5	-0.68399	-0.68107	-0.29530	21.42020	-18.61762	-8.07252	1.00941	29.50604	224.88	-17.01
87/ 5/13	2446928.5	-0.63297	-0.72248	-0.31325	22.73104	-17.22061	-7.46681	1.01033	29.47885	228.78	-18.06
87/ 5/17	2446932.5	-0.57905	-0.76058	-0.32977	23.93421	-15.74839	-6.82848	1.01120	29.45312	232.72	-19.03
87/ 5/21	2446936.5	-0.52248	-0.79519	-0.34478	25.02495	-14.20786	-6.16054	1.01202	29.42896	236.69	-19.92
87/ 5/25	2446940.5	-0.46352	-0.82618	-0.35821	25.99899	-12.60614	-5.46607	1.01279	29.40647	240.71	-20.71
87/ 5/29	2446944.5	-0.40244	-0.85340	-0.37002	26.85260	-10.95052	-4.74822	1.01349	29.38574	244.75	-21.41
87/ 6/ 2	2446948.5	-0.33954	-0.87674	-0.38014	27.58255	-9.24846	-4.01024	1.01413	29.36687	248.83	-22.01
87/ 6/ 6	2446952.5	-0.27510	-0.89610	-0.38853	28.18613	-7.50753	-3.25540	1.01471	29.34993	252.93	-22.51
87/ 6/10	2446956.5	-0.20941	-0.91140	-0.39517	28.66115	-5.73540	-2.48703	1.01522	29.33499	257.06	-22.91

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

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87/ 6/14	2446960.5	-0.14278	-0.92258	-0.40002	29.00596	-3.93982	-1.70850	1.01565	29.32212	261.20	-23.19
87/ 6/18	2446964.5	-0.07550	-0.92959	-0.40306	29.21940	-2.12858	-0.92317	1.01602	29.31137	265.36	-23.37
87/ 6/22	2446968.5	-0.00787	-0.93241	-0.40428	29.30084	-0.30950	-0.13445	1.01631	29.30278	269.52	-23.44
87/ 6/26	2446972.5	0.05978	-0.93102	-0.40368	29.25015	1.50961	0.65429	1.01653	29.29639	273.67	-23.40
87/ 6/30	2446976.5	0.12717	-0.92544	-0.40126	29.06773	3.32096	1.43967	1.01667	29.29222	277.82	-23.25
87/ 7/ 4	2446980.5	0.19398	-0.91569	-0.39703	28.75446	5.11680	2.21832	1.01674	29.29030	281.96	-22.99
87/ 7/ 8	2446984.5	0.25993	-0.90182	-0.39102	28.31174	6.88945	2.98692	1.01672	29.29063	286.08	-22.62
87/ 7/12	2446988.5	0.32470	-0.88388	-0.38324	27.74145	8.63134	3.74219	1.01664	29.29321	290.17	-22.15
87/ 7/16	2446992.5	0.38800	-0.86197	-0.37374	27.04596	10.33500	4.48087	1.01647	29.29803	294.23	-21.57
87/ 7/20	2446996.5	0.44956	-0.83617	-0.36255	26.22813	11.99308	5.19980	1.01623	29.30506	298.26	-20.90
87/ 7/24	2447000.5	0.50910	-0.80659	-0.34973	25.29130	13.59841	5.89585	1.01592	29.31429	302.26	-20.14
87/ 7/28	2447004.5	0.56633	-0.77338	-0.33533	24.23928	15.14399	6.56600	1.01553	29.32568	306.21	-19.28
87/ 8/ 1	2447008.5	0.62100	-0.73667	-0.31942	23.07632	16.62302	7.20730	1.01507	29.33917	310.13	-18.34
87/ 8/ 5	2447012.5	0.67287	-0.69663	-0.30206	21.80717	18.02894	7.81690	1.01454	29.35471	314.01	-17.32
87/ 8/ 9	2447016.5	0.72168	-0.65344	-0.28333	20.43698	19.35541	8.39204	1.01394	29.37224	317.84	-16.23
87/ 8/13	2447020.5	0.76722	-0.60727	-0.26331	18.97137	20.59639	8.93013	1.01328	29.39168	321.64	-15.06
87/ 8/17	2447024.5	0.80927	-0.55834	-0.24210	17.41636	21.74612	9.42864	1.01256	29.41296	325.40	-13.83
87/ 8/21	2447028.5	0.84763	-0.50687	-0.21978	15.77839	22.79916	9.88524	1.01178	29.43599	329.12	-12.55
87/ 8/25	2447032.5	0.88211	-0.45308	-0.19646	14.06431	23.75042	10.29771	1.01094	29.46065	332.81	-11.21
87/ 8/29	2447036.5	0.91256	-0.39722	-0.17224	12.28133	24.59519	10.66400	1.01005	29.48686	336.48	-9.82
87/ 9/ 2	2447040.5	0.93881	-0.33953	-0.14722	10.43703	25.32912	10.98224	1.00912	29.51450	340.12	-8.39
87/ 9/ 6	2447044.5	0.96074	-0.28028	-0.12153	8.53934	25.94832	11.25073	1.00814	29.54344	343.74	-6.92
87/ 9/10	2447048.5	0.97823	-0.21973	-0.09528	6.59651	26.44933	11.46797	1.00712	29.57355	347.34	-5.43
87/ 9/14	2447052.5	0.99119	-0.15816	-0.06859	4.61707	26.82914	11.63267	1.00607	29.60471	350.93	-3.91
87/ 9/18	2447056.5	0.99954	-0.09586	-0.04157	2.60983	27.08527	11.74374	1.00499	29.63678	354.52	-2.37
87/ 9/22	2447060.5	1.00323	-0.03312	-0.01437	0.58385	27.21575	11.80032	1.00388	29.66960	358.11	-0.82
87/ 9/26	2447064.5	1.00223	0.02978	0.01290	-1.45163	27.21912	11.80180	1.00276	29.70304	1.70	0.74
87/ 9/30	2447068.5	0.99652	0.09255	0.04012	-3.48718	27.09453	11.74780	1.00162	29.73693	5.31	2.30
87/10/ 4	2447072.5	0.98613	0.15487	0.06714	-5.51327	26.84168	11.63818	1.00047	29.77112	8.93	3.85
87/10/ 8	2447076.5	0.97107	0.21646	0.09385	-7.52025	26.46088	11.47309	0.99932	29.80544	12.57	5.39
87/10/12	2447080.5	0.95140	0.27703	0.12011	-9.49844	25.95306	11.25292	0.99817	29.83974	16.23	6.91
87/10/16	2447084.5	0.92721	0.33628	0.14580	-11.43818	25.31976	10.97835	0.99703	29.87384	19.93	8.41
87/10/20	2447088.5	0.89859	0.39392	0.17079	-13.32984	24.56319	10.65033	0.99590	29.90760	23.67	9.87
87/10/24	2447092.5	0.86567	0.44968	0.19497	-15.16392	23.68616	10.27008	0.99479	29.94083	27.45	11.30
87/10/28	2447096.5	0.82858	0.50327	0.21820	-16.93106	22.69217	9.83911	0.99370	29.97338	31.27	12.68
87/11/ 1	2447100.5	0.78750	0.55444	0.24039	-18.62213	21.58533	9.35921	0.99264	30.00508	35.15	14.01
87/11/ 5	2447104.5	0.74260	0.60292	0.26141	-20.22827	20.37039	8.83245	0.99162	30.03578	39.07	15.28
87/11/ 9	2447108.5	0.69411	0.64848	0.28116	-21.74097	19.05274	8.26115	0.99064	30.06532	43.05	16.49
87/11/13	2447112.5	0.64223	0.69088	0.29955	-23.15209	17.63837	7.64791	0.98970	30.09355	47.09	17.62
87/11/17	2447116.5	0.58722	0.72990	0.31647	-24.45395	16.13384	6.99558	0.98881	30.12033	51.18	18.67
87/11/21	2447120.5	0.52934	0.76536	0.33184	-25.63935	14.54629	6.30725	0.98797	30.14552	55.33	19.63
87/11/25	2447124.5	0.46885	0.79705	0.34559	-26.70170	12.88336	5.58624	0.98719	30.16899	59.53	20.49
87/11/29	2447128.5	0.40606	0.82483	0.35763	-27.63496	11.15321	4.83608	0.98647	30.19061	63.79	21.26
87/12/ 3	2447132.5	0.34127	0.84854	0.36791	-28.43380	9.36441	4.06049	0.98582	30.21027	68.09	21.91
87/12/ 7	2447136.5	0.27480	0.86806	0.37637	-29.09356	7.52594	3.26337	0.98524	30.22787	72.43	22.46

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87/12/11	2447140.5	0.20696	0.88328	0.38297	-29.61033	5.64714	2.44875	0.98473	30.24332	76.81	22.89
87/12/15	2447144.5	0.13810	0.89413	0.38768	-29.98101	3.73761	1.62082	0.98429	30.25653	81.22	23.20
87/12/19	2447148.5	0.06855	0.90053	0.39046	-30.20326	1.80720	0.78382	0.98393	30.26742	85.65	23.38
87/12/23	2447152.5	-0.00134	0.90247	0.39130	-30.27560	-0.13409	-0.05789	0.98365	30.27595	90.08	23.44
87/12/27	2447156.5	-0.07122	0.89991	0.39019	-30.19741	-2.07615	-0.89993	0.98345	30.28207	94.52	23.38
87/12/31	2447160.5	-0.14074	0.89288	0.38714	-29.96890	-4.00883	-1.73791	0.98332	30.28574	98.96	23.19
88/ 1/ 4	2447164.5	-0.20957	0.88141	0.38217	-29.59115	-5.92204	-2.56745	0.98328	30.28694	103.37	22.87
88/ 1/ 8	2447168.5	-0.27735	0.86554	0.37529	-29.06611	-7.80576	-3.38421	0.98333	30.28567	107.77	22.44
88/ 1/12	2447172.5	-0.34375	0.84537	0.36654	-28.39656	-9.65017	-4.18392	0.98345	30.28193	112.13	21.88
88/ 1/16	2447176.5	-0.40844	0.82099	0.35597	-27.58609	-11.44565	-4.96242	0.98365	30.27575	116.45	21.22
88/ 1/20	2447180.5	-0.47110	0.79253	0.34363	-26.63912	-13.18291	-5.71567	0.98394	30.26715	120.73	20.44
88/ 1/24	2447184.5	-0.53142	0.76014	0.32959	-25.56080	-14.85300	-6.43980	0.98430	30.25620	124.96	19.56
88/ 1/28	2447188.5	-0.58911	0.72397	0.31390	-24.35703	-16.44740	-7.13112	0.98474	30.24293	129.14	18.59
88/ 2/ 1	2447192.5	-0.64387	0.68421	0.29667	-23.03439	-17.95804	-7.78612	0.98525	30.22743	133.26	17.52
88/ 2/ 5	2447196.5	-0.69545	0.64106	0.27796	-21.60006	-19.37737	-8.40153	0.98584	30.20978	137.33	16.38
88/ 2/ 9	2447200.5	-0.74359	0.59475	0.25788	-20.06185	-20.69841	-8.97432	0.98649	30.19007	141.35	15.15
88/ 2/13	2447204.5	-0.78807	0.54551	0.23653	-18.42804	-21.91477	-9.50173	0.98721	30.16841	145.31	13.86
88/ 2/17	2447208.5	-0.82867	0.49358	0.21402	-16.70741	-23.02070	-9.98126	0.98799	30.14491	149.22	12.51
88/ 2/21	2447212.5	-0.86520	0.43924	0.19045	-14.90911	-24.01109	-10.41069	0.98883	30.11970	153.08	11.10
88/ 2/25	2447216.5	-0.89750	0.38274	0.16596	-13.04263	-24.88151	-10.78810	0.98972	30.09290	156.90	9.65
88/ 2/29	2447220.5	-0.92542	0.32437	0.14065	-11.11775	-25.62822	-11.11188	0.99066	30.06467	160.68	8.16
88/ 3/ 4	2447224.5	-0.94883	0.26442	0.11466	-9.14441	-26.24820	-11.38071	0.99164	30.03513	164.43	6.64
88/ 3/ 8	2447228.5	-0.96764	0.20319	0.08811	-7.13274	-26.73910	-11.59358	0.99266	30.00444	168.14	5.09
88/ 3/12	2447232.5	-0.98177	0.14098	0.06113	-5.09293	-27.09929	-11.74977	0.99372	29.97277	171.83	3.53
88/ 3/16	2447236.5	-0.99116	0.07809	0.03387	-3.03518	-27.32784	-11.84887	0.99480	29.94025	175.50	1.95
88/ 3/20	2447240.5	-0.99578	0.01482	0.00643	-0.96966	-27.42447	-11.89079	0.99591	29.90707	179.15	0.37
88/ 3/24	2447244.5	-0.99564	-0.04852	-0.02103	1.09355	-27.38960	-11.87569	0.99704	29.87337	182.79	-1.21
88/ 3/28	2447248.5	-0.99074	-0.11163	-0.04839	3.14453	-27.22429	-11.80403	0.99818	29.83932	186.43	-2.78
88/ 4/ 1	2447252.5	-0.98113	-0.17421	-0.07553	5.17352	-26.93022	-11.67654	0.99933	29.80510	190.07	-4.33
88/ 4/ 5	2447256.5	-0.96686	-0.23596	-0.10230	7.17103	-26.50967	-11.49422	1.00048	29.77085	193.71	-5.87
88/ 4/ 9	2447260.5	-0.94803	-0.29660	-0.12859	9.12785	-25.96550	-11.25829	1.00163	29.73674	197.37	-7.38
88/ 4/13	2447264.5	-0.92473	-0.35584	-0.15428	11.03507	-25.30110	-10.97023	1.00277	29.70294	201.05	-8.85
88/ 4/17	2447268.5	-0.89708	-0.41341	-0.17924	12.88415	-24.52039	-10.63174	1.00389	29.66959	204.74	-10.29
88/ 4/21	2447272.5	-0.86525	-0.46905	-0.20336	14.66690	-23.62775	-10.24472	1.00499	29.63685	208.46	-11.67
88/ 4/25	2447276.5	-0.82938	-0.52249	-0.22654	16.37559	-22.62802	-9.81127	1.00607	29.60487	212.21	-13.01
88/ 4/29	2447280.5	-0.78965	-0.57352	-0.24866	18.00287	-21.52646	-9.33366	1.00712	29.57379	215.99	-14.29
88/ 5/ 3	2447284.5	-0.74626	-0.62188	-0.26963	19.54187	-20.32870	-8.81434	1.00814	29.54375	219.81	-15.51
88/ 5/ 7	2447288.5	-0.69943	-0.66737	-0.28936	20.98618	-19.04072	-8.25591	1.00912	29.51489	223.66	-16.66
88/ 5/11	2447292.5	-0.64938	-0.70979	-0.30775	22.32987	-17.66881	-7.66108	1.01005	29.48732	227.55	-17.74
88/ 5/15	2447296.5	-0.59634	-0.74895	-0.32473	23.56751	-16.21955	-7.03271	1.01094	29.46117	231.47	-18.74
88/ 5/19	2447300.5	-0.54057	-0.78468	-0.34022	24.69417	-14.69977	-6.37377	1.01177	29.43655	235.44	-19.65
88/ 5/23	2447304.5	-0.48233	-0.81682	-0.35415	25.70542	-13.11654	-5.68731	1.01255	29.41356	239.44	-20.47
88/ 5/27	2447308.5	-0.42190	-0.84524	-0.36648	26.59736	-11.47708	-4.97647	1.01328	29.39231	243.47	-21.20
88/ 5/31	2447312.5	-0.35954	-0.86981	-0.37713	27.36659	-9.78880	-4.24447	1.01394	29.37289	247.54	-21.84
88/ 6/ 4	2447316.5	-0.29555	-0.89043	-0.38607	28.01026	-8.05924	-3.49456	1.01453	29.35537	251.64	-22.37

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		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							EARTH-MOON B		
88/ 6/ 8	2447320.5	-0.23022	-0.90702	-0.39327	28.52600	-6.29605	-2.73008	1.01506	29.33984	255.76	-22.79
88/ 6/12	2447324.5	-0.16385	-0.91950	-0.39868	28.91199	-4.50695	-1.95436	1.01552	29.32636	259.90	-23.12
88/ 6/16	2447328.5	-0.09674	-0.92783	-0.40229	29.16692	-2.69973	-1.17078	1.01590	29.31499	264.05	-23.33
88/ 6/20	2447332.5	-0.02919	-0.93197	-0.40408	29.28999	-0.88219	-0.38273	1.01622	29.30577	268.21	-23.43
88/ 6/24	2447336.5	0.03849	-0.93190	-0.40406	29.28091	0.93783	0.40640	1.01646	29.29874	272.37	-23.42
88/ 6/28	2447340.5	0.10600	-0.92764	-0.40221	29.13991	2.75254	1.19322	1.01662	29.29393	276.52	-23.31
88/ 7/ 2	2447344.5	0.17303	-0.91920	-0.39855	28.86772	4.55418	1.97438	1.01671	29.29136	280.66	-23.08
88/ 7/ 6	2447348.5	0.23928	-0.90661	-0.39309	28.46556	6.33504	2.74653	1.01672	29.29103	284.78	-22.74
88/ 7/10	2447352.5	0.30445	-0.88995	-0.38587	27.93518	8.08751	3.50637	1.01666	29.29294	288.89	-22.31
88/ 7/14	2447356.5	0.36825	-0.86927	-0.37690	27.27878	9.80407	4.25065	1.01651	29.29710	292.96	-21.76
88/ 7/18	2447360.5	0.43039	-0.84468	-0.36624	26.49908	11.47736	4.97616	1.01630	29.30347	297.00	-21.12
88/ 7/22	2447364.5	0.49059	-0.81628	-0.35393	25.59926	13.10012	5.67977	1.01600	29.31203	301.01	-20.39
88/ 7/26	2447368.5	0.54858	-0.78420	-0.34002	24.58298	14.66532	6.35842	1.01564	29.32276	304.97	-19.56
88/ 7/30	2447372.5	0.60409	-0.74857	-0.32457	23.45437	16.16608	7.00913	1.01520	29.33560	308.90	-18.65
88/ 8/ 3	2447376.5	0.65686	-0.70956	-0.30766	22.21800	17.59575	7.62902	1.01469	29.35050	312.79	-17.65
88/ 8/ 7	2447380.5	0.70666	-0.66733	-0.28935	20.87892	18.94794	8.21532	1.01412	29.36741	316.64	-16.58
88/ 8/11	2447384.5	0.75326	-0.62208	-0.26973	19.44259	20.21649	8.76535	1.01347	29.38626	320.45	-15.43
88/ 8/15	2447388.5	0.79642	-0.57400	-0.24888	17.91490	21.39556	9.27659	1.01277	29.40695	324.22	-14.23
88/ 8/19	2447392.5	0.83596	-0.52330	-0.22690	16.30218	22.47961	9.74663	1.01201	29.42942	327.95	-12.96
88/ 8/23	2447396.5	0.87169	-0.47021	-0.20388	14.61115	23.46343	10.17321	1.01119	29.45356	331.66	-11.63
88/ 8/27	2447400.5	0.90342	-0.41497	-0.17993	12.84889	24.34218	10.55423	1.01032	29.47927	335.33	-10.26
88/ 8/31	2447404.5	0.93100	-0.35782	-0.15515	11.02289	25.11140	10.88777	1.00939	29.50644	338.98	-8.84
88/ 9/ 4	2447408.5	0.95430	-0.29903	-0.12966	9.14097	25.76706	11.17206	1.00843	29.53496	342.60	-7.39
88/ 9/ 8	2447412.5	0.97320	-0.23886	-0.10357	7.21128	26.30554	11.40556	1.00742	29.56469	346.21	-5.90
88/ 9/12	2447416.5	0.98759	-0.17759	-0.07701	5.24227	26.72372	11.58689	1.00638	29.59551	349.81	-4.39
88/ 9/16	2447420.5	0.99740	-0.11548	-0.05008	3.24267	27.01893	11.71490	1.00531	29.62729	353.40	-2.86
88/ 9/20	2447424.5	1.00256	-0.05284	-0.02292	1.22145	27.18903	11.78867	1.00421	29.65987	356.98	-1.31
88/ 9/24	2447428.5	1.00303	0.01004	0.00435	-0.81219	27.23241	11.80750	1.00309	29.69311	0.57	0.25
88/ 9/28	2447432.5	0.99880	0.07288	0.03159	-2.84887	27.14803	11.77093	1.00196	29.72686	4.17	1.81
88/10/ 2	2447436.5	0.98987	0.13538	0.05869	-4.87909	26.93541	11.67876	1.00081	29.76096	7.79	3.36
88/10/ 6	2447440.5	0.97627	0.19723	0.08551	-6.89323	26.59466	11.53103	0.99966	29.79526	11.42	4.91
88/10/10	2447444.5	0.95804	0.25815	0.11192	-8.88162	26.12653	11.32807	0.99851	29.82958	15.08	6.44
88/10/14	2447448.5	0.93526	0.31785	0.13781	-10.83458	25.53236	11.07047	0.99736	29.86377	18.77	7.94
88/10/18	2447452.5	0.90802	0.37603	0.16303	-12.74246	24.81415	10.75908	0.99623	29.89766	22.50	9.42
88/10/22	2447456.5	0.87643	0.43241	0.18748	-14.59572	23.97452	10.39505	0.99511	29.93108	26.26	10.86
88/10/26	2447460.5	0.84063	0.48671	0.21102	-16.38493	23.01676	9.97979	0.99402	29.96387	30.07	12.26
88/10/30	2447464.5	0.80078	0.53866	0.23355	-18.10091	21.94479	9.51501	0.99295	29.99587	33.93	13.60
88/11/ 3	2447468.5	0.75706	0.58802	0.25495	-19.73469	20.76316	9.00269	0.99192	30.02691	37.84	14.89
88/11/ 7	2447472.5	0.70967	0.63452	0.27511	-21.27765	19.47706	8.44508	0.99092	30.05683	41.80	16.12
88/11/11	2447476.5	0.65883	0.67793	0.29393	-22.72151	18.09229	7.84468	0.98997	30.08550	45.82	17.27
88/11/15	2447480.5	0.60477	0.71804	0.31132	-24.05846	16.61525	7.20427	0.98906	30.11275	49.89	18.35
88/11/19	2447484.5	0.54776	0.75463	0.32719	-25.28114	15.05289	6.52686	0.98821	30.13844	54.03	19.34
88/11/23	2447488.5	0.48806	0.78753	0.34145	-26.38276	13.41270	5.81572	0.98742	30.16244	58.21	20.23
88/11/27	2447492.5	0.42596	0.81655	0.35404	-27.35709	11.70269	5.07429	0.98668	30.18463	62.45	21.03
88/12/ 1	2447496.5	0.36176	0.84155	0.36488	-28.19859	9.93130	4.30625	0.98601	30.20488	66.74	21.72

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				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					EARTH-MOON B		
88/12/ 5	2447500.5	0.29578	0.86240	0.37392	-28.90237	8.10739	3.51545	0.98541	30.22309	71.07	22.30
88/12/ 9	2447504.5	0.22833	0.87898	0.38111	-29.46430	6.24020	2.70587	0.98487	30.23916	75.44	22.77
88/12/13	2447508.5	0.15975	0.89120	0.38641	-29.88101	4.33926	1.88166	0.98442	30.25301	79.84	23.11
88/12/17	2447512.5	0.09038	0.89901	0.38979	-30.14992	2.41434	1.04705	0.98403	30.26455	84.26	23.34
88/12/21	2447516.5	0.02057	0.90235	0.39124	-30.26930	0.47540	0.20636	0.98373	30.27374	88.69	23.44
88/12/25	2447520.5	-0.04936	0.90120	0.39074	-30.23825	-1.46746	-0.63603	0.98350	30.28051	93.13	23.41
88/12/29	2447524.5	-0.11903	0.89557	0.38830	-30.05671	-3.40412	-1.47573	0.98336	30.28484	97.57	23.26
89/ 1/ 2	2447528.5	-0.18811	0.88548	0.38393	-29.72552	-5.32445	-2.30835	0.98330	30.28671	101.99	22.98
89/ 1/ 6	2447532.5	-0.25626	0.87099	0.37765	-29.24633	-7.21840	-3.12954	0.98332	30.28609	106.39	22.59
89/ 1/10	2447536.5	-0.32313	0.85216	0.36948	-28.62168	-9.07608	-3.93500	0.98342	30.28300	110.77	22.07
89/ 1/14	2447540.5	-0.38839	0.82909	0.35948	-27.85491	-10.88782	-4.72054	0.98360	30.27745	115.10	21.44
89/ 1/18	2447544.5	-0.45172	0.80190	0.34769	-26.95019	-12.64420	-5.48209	0.98386	30.26948	119.39	20.70
89/ 1/22	2447548.5	-0.51281	0.77072	0.33417	-25.91244	-14.33617	-6.21570	0.98420	30.25913	123.64	19.85
89/ 1/26	2447552.5	-0.57135	0.73572	0.31900	-24.74733	-15.95506	-6.91763	0.98462	30.24645	127.83	18.90
89/ 1/30	2447556.5	-0.62706	0.69706	0.30224	-23.46124	-17.49266	-7.58432	0.98511	30.23152	131.97	17.87
89/ 2/ 3	2447560.5	-0.67966	0.65496	0.28398	-22.06118	-18.94127	-8.21242	0.98568	30.21442	136.06	16.74
89/ 2/ 7	2447564.5	-0.72890	0.60962	0.26433	-20.55475	-20.29372	-8.79883	0.98631	30.19524	140.09	15.55
89/ 2/11	2447568.5	-0.77455	0.56128	0.24337	-18.95010	-21.54345	-9.34070	0.98701	30.17408	144.07	14.27
89/ 2/15	2447572.5	-0.81639	0.51017	0.22121	-17.25585	-22.68448	-9.83544	0.98778	30.15105	148.00	12.94
89/ 2/19	2447576.5	-0.85422	0.45655	0.19796	-15.48104	-23.71152	-10.28076	0.98860	30.12628	151.88	11.55
89/ 2/23	2447580.5	-0.88787	0.40070	0.17374	-13.63506	-24.61993	-10.67465	0.98947	30.09990	155.71	10.11
89/ 2/27	2447584.5	-0.91717	0.34290	0.14868	-11.72760	-25.40576	-11.01538	0.99040	30.07204	159.50	8.63
89/ 3/ 3	2447588.5	-0.94201	0.28342	0.12289	-9.76856	-26.06575	-11.30155	0.99137	30.04285	163.26	7.12
89/ 3/ 7	2447592.5	-0.96227	0.22256	0.09651	-7.76801	-26.59734	-11.53206	0.99238	30.01248	166.98	5.58
89/ 3/11	2447596.5	-0.97788	0.16063	0.06965	-5.73612	-26.99870	-11.70609	0.99343	29.98108	170.67	4.02
89/ 3/15	2447600.5	-0.98876	0.09792	0.04246	-3.68308	-27.26865	-11.82315	0.99450	29.94881	174.34	2.45
89/ 3/19	2447604.5	-0.99489	0.03474	0.01507	-1.61910	-27.40673	-11.88304	0.99561	29.91583	178.00	0.87
89/ 3/23	2447608.5	-0.99624	-0.02861	-0.01240	0.44574	-27.41314	-11.88583	0.99673	29.88230	181.64	-0.71
89/ 3/27	2447612.5	-0.99283	-0.09182	-0.03980	2.50145	-27.28873	-11.83190	0.99786	29.84838	185.28	-2.29
89/ 3/31	2447616.5	-0.98470	-0.15459	-0.06702	4.53823	-27.03499	-11.72190	0.99901	29.81424	188.92	-3.85
89/ 4/ 4	2447620.5	-0.97189	-0.21663	-0.09392	6.54650	-26.65402	-11.55673	1.00016	29.78005	192.57	-5.39
89/ 4/ 8	2447624.5	-0.95448	-0.27765	-0.12037	8.51696	-26.14848	-11.33756	1.00130	29.74596	196.22	-6.90
89/ 4/12	2447628.5	-0.93257	-0.33735	-0.14626	10.44061	-25.52162	-11.06577	1.00244	29.71213	199.89	-8.39
89/ 4/16	2447632.5	-0.90628	-0.39547	-0.17146	12.30879	-24.77717	-10.74301	1.00357	29.67872	203.57	-9.84
89/ 4/20	2447636.5	-0.87575	-0.45174	-0.19586	14.11321	-23.91937	-10.37110	1.00468	29.64589	207.29	-11.24
89/ 4/24	2447640.5	-0.84113	-0.50591	-0.21935	15.84597	-22.95293	-9.95208	1.00576	29.61377	211.03	-12.60
89/ 4/28	2447644.5	-0.80260	-0.55772	-0.24181	17.49961	-21.88296	-9.48817	1.00682	29.58252	214.79	-13.90
89/ 5/ 2	2447648.5	-0.76034	-0.60694	-0.26315	19.06711	-20.71497	-8.98177	1.00784	29.55227	218.60	-15.14
89/ 5/ 6	2447652.5	-0.71457	-0.65335	-0.28328	20.54191	-19.45485	-8.43541	1.00883	29.52316	222.44	-16.31
89/ 5/10	2447656.5	-0.66551	-0.69676	-0.30210	21.91792	-18.10878	-7.85179	1.00977	29.49532	226.31	-17.41
89/ 5/14	2447660.5	-0.61338	-0.73696	-0.31953	23.18956	-16.68326	-7.23372	1.01067	29.46886	230.23	-18.43
89/ 5/18	2447664.5	-0.55845	-0.77379	-0.33550	24.35173	-15.18504	-6.58413	1.01152	29.44389	234.18	-19.37
89/ 5/22	2447668.5	-0.50096	-0.80707	-0.34993	25.39984	-13.62110	-5.90604	1.01231	29.42053	238.17	-20.22
89/ 5/26	2447672.5	-0.44118	-0.83668	-0.36276	26.32983	-11.99863	-5.20258	1.01305	29.39888	242.20	-20.98
89/ 5/30	2447676.5	-0.37940	-0.86247	-0.37395	27.13814	-10.32498	-4.47692	1.01372	29.37902	246.26	-21.65

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89/ 6/ 3	2447680.5	-0.31589	-0.88435	-0.38343	27.82172	-8.60765	-3.73233	1.01434	29.36103	250.34	-22.21
89/ 6/ 7	2447684.5	-0.25095	-0.90221	-0.39118	28.37807	-6.85426	-2.97209	1.01488	29.34500	254.46	-22.67
89/ 6/11	2447688.5	-0.18487	-0.91599	-0.39716	28.80518	-5.07251	-2.19956	1.01536	29.33099	258.59	-23.03
89/ 6/15	2447692.5	-0.11796	-0.92563	-0.40134	29.10157	-3.27016	-1.41810	1.01577	29.31905	262.74	-23.27
89/ 6/19	2447696.5	-0.05052	-0.93109	-0.40370	29.26629	-1.45503	-0.63109	1.01610	29.30923	266.89	-23.41
89/ 6/23	2447700.5	0.01716	-0.93235	-0.40425	29.29888	0.36507	0.15807	1.01636	29.30158	271.05	-23.44
89/ 6/27	2447704.5	0.08475	-0.92941	-0.40297	29.19941	2.18233	0.94600	1.01655	29.29613	275.21	-23.35
89/ 7/ 1	2447708.5	0.15197	-0.92228	-0.39988	28.96845	3.98896	1.72932	1.01666	29.29289	279.36	-23.16
89/ 7/ 5	2447712.5	0.21850	-0.91099	-0.39499	28.60707	5.77724	2.50469	1.01669	29.29188	283.49	-22.86
89/ 7/ 9	2447716.5	0.28404	-0.89561	-0.38832	28.11685	7.53953	3.26879	1.01665	29.29311	287.60	-22.46
89/ 7/13	2447720.5	0.34831	-0.87618	-0.37990	27.49985	9.26826	4.01834	1.01653	29.29658	291.68	-21.95
89/ 7/17	2447724.5	0.41101	-0.85281	-0.36977	26.75862	10.95603	4.75013	1.01634	29.30226	295.73	-21.34
89/ 7/21	2447728.5	0.47185	-0.82560	-0.35797	25.89621	12.59554	5.46099	1.01607	29.31013	299.75	-20.63
89/ 7/25	2447732.5	0.53057	-0.79466	-0.34455	24.91613	14.17967	6.14785	1.01573	29.32017	303.73	-19.83
89/ 7/29	2447736.5	0.58688	-0.76013	-0.32958	23.82234	15.70150	6.80769	1.01531	29.33233	307.67	-18.94
89/ 8/ 2	2447740.5	0.64055	-0.72217	-0.31312	22.61930	17.15430	7.43761	1.01483	29.34657	311.57	-17.97
89/ 8/ 6	2447744.5	0.69131	-0.68093	-0.29524	21.31190	18.53160	8.03479	1.01427	29.36282	315.43	-16.92
89/ 8/10	2447748.5	0.73894	-0.63661	-0.27603	19.90547	19.82715	8.59653	1.01365	29.38101	319.25	-15.80
89/ 8/14	2447752.5	0.78321	-0.58939	-0.25555	18.40578	21.03502	9.12025	1.01297	29.40108	323.04	-14.61
89/ 8/18	2447756.5	0.82392	-0.53949	-0.23392	16.81902	22.14955	9.60350	1.01223	29.42294	326.78	-13.36
89/ 8/22	2447760.5	0.86086	-0.48713	-0.21122	15.15179	23.16545	10.04399	1.01143	29.44650	330.50	-12.05
89/ 8/26	2447764.5	0.89387	-0.43254	-0.18755	13.41106	24.07774	10.43955	1.01057	29.47165	334.18	-10.70
89/ 8/30	2447768.5	0.92277	-0.37596	-0.16302	11.60420	24.88185	10.78821	1.00967	29.49830	337.83	-9.29
89/ 9/ 3	2447772.5	0.94744	-0.31766	-0.13774	9.73892	25.57361	11.08816	1.00872	29.52632	341.46	-7.85
89/ 9/ 7	2447776.5	0.96773	-0.25789	-0.11183	7.82329	26.14927	11.33777	1.00773	29.55560	345.08	-6.37
89/ 9/11	2447780.5	0.98355	-0.19693	-0.08539	5.86564	26.60555	11.53562	1.00670	29.58600	348.68	-4.87
89/ 9/15	2447784.5	0.99481	-0.13506	-0.05857	3.87465	26.93963	11.68049	1.00564	29.61740	352.27	-3.34
89/ 9/19	2447788.5	1.00143	-0.07256	-0.03147	1.85920	27.14921	11.77137	1.00455	29.64965	355.86	-1.80
89/ 9/23	2447792.5	1.00338	-0.00972	-0.00422	-0.17157	27.23253	11.80751	1.00344	29.68261	359.44	-0.24
89/ 9/27	2447796.5	1.00064	0.05317	0.02304	-2.20835	27.18834	11.78837	1.00231	29.71613	3.04	1.32
89/10/ 1	2447800.5	0.99318	0.11580	0.05020	-4.24165	27.01599	11.71366	1.00117	29.75005	6.65	2.87
89/10/ 5	2447804.5	0.98105	0.17789	0.07712	-6.26190	26.71543	11.58336	1.00002	29.78421	10.28	4.42
89/10/ 9	2447808.5	0.96427	0.23914	0.10368	-8.25943	26.28717	11.39769	0.99887	29.81847	13.93	5.96
89/10/13	2447812.5	0.94291	0.29925	0.12974	-10.22456	25.73240	11.15716	0.99773	29.85264	17.61	7.47
89/10/17	2447816.5	0.91706	0.35793	0.15519	-12.14763	25.05290	10.86256	0.99659	29.88658	21.32	8.96
89/10/21	2447820.5	0.88682	0.41491	0.17989	-14.01906	24.25109	10.51492	0.99547	29.92011	25.07	10.41
89/10/25	2447824.5	0.85233	0.46989	0.20373	-15.82939	23.33006	10.11560	0.99437	29.95307	28.87	11.82
89/10/29	2447828.5	0.81374	0.52261	0.22659	-17.56935	22.29352	9.66619	0.99330	29.98530	32.71	13.19
89/11/ 2	2447832.5	0.77122	0.57281	0.24835	-19.22990	21.14584	9.16859	0.99225	30.01664	36.60	14.49
89/11/ 6	2447836.5	0.72496	0.62023	0.26892	-20.80231	19.89200	8.62495	0.99125	30.04693	40.55	15.74
89/11/10	2447840.5	0.67518	0.66464	0.28817	-22.27819	18.53761	8.03773	0.99028	30.07600	44.55	16.92
89/11/14	2447844.5	0.62211	0.70581	0.30602	-23.64957	17.08888	7.40959	0.98936	30.10372	48.61	18.02
89/11/18	2447848.5	0.56600	0.74353	0.32238	-24.90895	15.55258	6.74350	0.98849	30.12994	52.72	19.03
89/11/22	2447852.5	0.50711	0.77761	0.33715	-26.04934	13.93606	6.04261	0.98768	30.15452	56.89	19.96
89/11/26	2447856.5	0.44574	0.80786	0.35027	-27.06435	12.24715	5.31034	0.98692	30.17733	61.11	20.79

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
89/11/30	2447860.5	0.38217	0.83414	0.36167	-27.94820	10.49416	4.55028	0.98623	30.19825	65.38	21.51
89/12/ 4	2447864.5	0.31671	0.85631	0.37128	-28.69580	8.68583	3.76622	0.98560	30.21717	69.70	22.13
89/12/ 8	2447868.5	0.24969	0.87424	0.37905	-29.30278	6.83127	2.96213	0.98505	30.23398	74.06	22.63
89/12/12	2447872.5	0.18143	0.88784	0.38495	-29.76551	4.93992	2.14208	0.98456	30.24859	78.45	23.02
89/12/16	2447876.5	0.11228	0.89704	0.38894	-30.08118	3.02150	1.31029	0.98416	30.26093	82.87	23.28
89/12/20	2447880.5	0.04256	0.90179	0.39100	-30.24777	1.08591	0.47105	0.98383	30.27092	87.30	23.42
89/12/24	2447884.5	-0.02736	0.90205	0.39111	-30.26412	-0.85681	-0.37127	0.98357	30.27852	91.74	23.43
89/12/28	2447888.5	-0.09715	0.89783	0.38928	-30.12990	-2.79651	-1.21229	0.98340	30.28368	96.18	23.32
90/ 1/ 1	2447892.5	-0.16646	0.88914	0.38552	-29.84567	-4.72307	-2.04761	0.98331	30.28637	100.60	23.08
90/ 1/ 5	2447896.5	-0.23494	0.87603	0.37983	-29.41283	-6.62642	-2.87287	0.98331	30.28659	105.01	22.72
90/ 1/ 9	2447900.5	-0.30224	0.85855	0.37225	-28.83363	-8.49660	-3.68375	0.98338	30.28433	109.39	22.24
90/ 1/13	2447904.5	-0.36805	0.83680	0.36282	-28.11116	-10.32386	-4.47601	0.98353	30.27960	113.74	21.65
90/ 1/17	2447908.5	-0.43202	0.81089	0.35159	-27.24934	-12.09870	-5.24555	0.98377	30.27244	118.05	20.94
90/ 1/21	2447912.5	-0.49385	0.78095	0.33861	-26.25286	-13.81194	-5.98838	0.98409	30.26289	122.31	20.13
90/ 1/25	2447916.5	-0.55322	0.74713	0.32395	-25.12715	-15.45479	-6.70069	0.98448	30.25100	126.52	19.21
90/ 1/29	2447920.5	-0.60985	0.70960	0.30768	-23.87838	-17.01888	-7.37885	0.98495	30.23684	130.68	18.20
90/ 2/ 2	2447924.5	-0.66346	0.66856	0.28988	-22.51335	-18.49635	-8.01945	0.98549	30.22048	134.78	17.11
90/ 2/ 6	2447928.5	-0.71378	0.62422	0.27065	-21.03949	-19.87984	-8.61932	0.98610	30.20200	138.83	15.93
90/ 2/10	2447932.5	-0.76059	0.57679	0.25009	-19.46478	-21.16261	-9.17550	0.98678	30.18151	142.83	14.68
90/ 2/14	2447936.5	-0.80365	0.52652	0.22830	-17.79770	-22.33848	-9.68535	0.98752	30.15911	146.77	13.37
90/ 2/18	2447940.5	-0.84275	0.47366	0.20538	-16.04717	-23.40195	-10.14646	0.98832	30.13493	150.66	11.99
90/ 2/22	2447944.5	-0.87773	0.41849	0.18146	-14.22247	-24.34817	-10.55674	0.98918	30.10908	154.51	10.57
90/ 2/26	2447948.5	-0.90842	0.36126	0.15664	-12.33320	-25.17296	-10.91436	0.99009	30.08170	158.31	9.10
90/ 3/ 2	2447952.5	-0.93467	0.30227	0.13107	-10.38921	-25.87284	-11.21784	0.99104	30.05295	162.08	7.60
90/ 3/ 6	2447956.5	-0.95639	0.24182	0.10486	-8.40052	-26.44505	-11.46595	0.99204	30.02295	165.81	6.07
90/ 3/10	2447960.5	-0.97346	0.18019	0.07814	-6.37727	-26.88751	-11.65781	0.99308	29.99187	169.51	4.51
90/ 3/14	2447964.5	-0.98583	0.11769	0.05104	-4.32967	-27.19885	-11.79282	0.99414	29.95987	173.19	2.94
90/ 3/18	2447968.5	-0.99345	0.05462	0.02369	-2.26792	-27.37837	-11.87067	0.99524	29.92710	176.85	1.36
90/ 3/22	2447972.5	-0.99631	-0.00871	-0.00377	-0.20214	-27.42608	-11.89137	0.99635	29.89373	180.50	-0.22
90/ 3/26	2447976.5	-0.99439	-0.07199	-0.03121	1.85762	-27.34261	-11.85521	0.99748	29.85992	184.14	-1.79
90/ 3/30	2447980.5	-0.98774	-0.13494	-0.05850	3.90151	-27.12927	-11.76272	0.99863	29.82584	187.78	-3.36
90/ 4/ 3	2447984.5	-0.97639	-0.19724	-0.08551	5.91988	-26.78796	-11.61476	0.99977	29.79164	191.42	-4.91
90/ 4/ 7	2447988.5	-0.96041	-0.25861	-0.11212	7.90332	-26.32116	-11.41238	1.00092	29.75750	195.07	-6.43
90/ 4/11	2447992.5	-0.93990	-0.31876	-0.13820	9.84275	-25.73196	-11.15693	1.00206	29.72357	198.73	-7.93
90/ 4/15	2447996.5	-0.91498	-0.37741	-0.16363	11.72937	-25.02392	-10.84996	1.00319	29.69000	202.42	-9.39
90/ 4/19	2448000.5	-0.88576	-0.43429	-0.18829	13.55478	-24.20114	-10.49324	1.00431	29.65696	206.12	-10.81
90/ 4/23	2448004.5	-0.85240	-0.48914	-0.21208	15.31096	-23.26818	-10.08874	1.00540	29.62459	209.85	-12.18
90/ 4/27	2448008.5	-0.81507	-0.54172	-0.23487	16.99031	-22.23003	-9.63864	1.00646	29.59304	213.61	-13.50
90/ 5/ 1	2448012.5	-0.77396	-0.59178	-0.25658	18.58566	-21.09208	-9.14527	1.00750	29.56245	217.40	-14.75
90/ 5/ 5	2448016.5	-0.72927	-0.63910	-0.27709	20.09030	-19.86011	-8.61112	1.00850	29.53296	221.23	-15.95
90/ 5/ 9	2448020.5	-0.68121	-0.68347	-0.29633	21.49800	-18.54021	-8.03885	1.00946	29.50469	225.09	-17.07
90/ 5/13	2448024.5	-0.63002	-0.72470	-0.31421	22.80301	-17.13879	-7.43124	1.01037	29.47776	229.00	-18.12
90/ 5/17	2448028.5	-0.57594	-0.76260	-0.33064	24.00008	-15.66252	-6.79117	1.01123	29.45230	232.94	-19.08
90/ 5/21	2448032.5	-0.51922	-0.79701	-0.34556	25.08447	-14.11831	-6.12164	1.01204	29.42842	236.92	-19.97
90/ 5/25	2448036.5	-0.46013	-0.82779	-0.35891	26.05194	-12.51330	-5.42575	1.01280	29.40620	240.93	-20.75

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
90/ 5/29	2448040.5	-0.39894	-0.85479	-0.37061	26.89876	-10.85478	-4.70666	1.01350	29.38575	244.98	-21.45
90/ 6/ 2	2448044.5	-0.33594	-0.87790	-0.38064	27.62175	-9.15023	-3.96761	1.01413	29.36716	249.06	-22.04
90/ 6/ 6	2448048.5	-0.27142	-0.89704	-0.38893	28.21822	-7.40721	-3.21188	1.01470	29.35049	253.17	-22.54
90/ 6/10	2448052.5	-0.20567	-0.91210	-0.39547	28.68601	-5.63341	-2.44280	1.01520	29.33581	257.29	-22.93
90/ 6/14	2448056.5	-0.13898	-0.92305	-0.40021	29.02348	-3.83659	-1.66373	1.01563	29.32319	261.44	-23.21
90/ 6/18	2448060.5	-0.07167	-0.92982	-0.40315	29.22950	-2.02453	-0.87807	1.01599	29.31269	265.59	-23.38
90/ 6/22	2448064.5	-0.00403	-0.93239	-0.40427	29.30348	-0.20506	-0.08918	1.01627	29.30433	269.75	-23.44
90/ 6/26	2448068.5	0.06362	-0.93077	-0.40356	29.24530	1.61399	0.69952	1.01648	29.29816	273.91	-23.39
90/ 6/30	2448072.5	0.13099	-0.92494	-0.40104	29.05540	3.42485	1.48468	1.01662	29.29420	278.06	-23.23
90/ 7/ 4	2448076.5	0.19777	-0.91495	-0.39671	28.73468	5.21976	2.26291	1.01668	29.29246	282.20	-22.97
90/ 7/ 8	2448080.5	0.26365	-0.90084	-0.39059	28.28456	6.99105	3.03091	1.01666	29.29296	286.31	-22.59
90/ 7/12	2448084.5	0.32835	-0.88268	-0.38271	27.70696	8.73114	3.78538	1.01657	29.29569	290.41	-22.12
90/ 7/16	2448088.5	0.39157	-0.86053	-0.37311	27.00428	10.43255	4.52309	1.01640	29.30065	294.47	-21.54
90/ 7/20	2448092.5	0.45303	-0.83451	-0.36183	26.17941	12.08796	5.24085	1.01615	29.30780	298.50	-20.86
90/ 7/24	2448096.5	0.51244	-0.80472	-0.34892	25.23571	13.69020	5.93555	1.01583	29.31712	302.49	-20.09
90/ 7/28	2448100.5	0.56954	-0.77130	-0.33443	24.17702	15.23227	6.60417	1.01544	29.32857	306.44	-19.23
90/ 8/ 1	2448104.5	0.62406	-0.73440	-0.31842	23.00763	16.70737	7.24376	1.01498	29.34211	310.36	-18.28
90/ 8/ 5	2448108.5	0.67576	-0.69417	-0.30098	21.73231	18.10897	7.85147	1.01445	29.35768	314.23	-17.26
90/ 8/ 9	2448112.5	0.72440	-0.65079	-0.28217	20.35625	19.43073	8.42457	1.01385	29.37522	318.06	-16.16
90/ 8/13	2448116.5	0.76974	-0.60446	-0.26209	18.88508	20.66663	8.96044	1.01319	29.39465	321.86	-14.99
90/ 8/17	2448120.5	0.81158	-0.55537	-0.24081	17.32487	21.81092	9.45660	1.01247	29.41589	325.62	-13.76
90/ 8/21	2448124.5	0.84972	-0.50376	-0.21843	15.68209	22.85818	9.91069	1.01169	29.43886	329.34	-12.47
90/ 8/25	2448128.5	0.88398	-0.44984	-0.19505	13.96360	23.80336	10.32051	1.01085	29.46345	333.03	-11.13
90/ 8/29	2448132.5	0.91419	-0.39386	-0.17078	12.17665	24.64174	10.68403	1.00996	29.48957	336.69	-9.74
90/ 9/ 2	2448136.5	0.94019	-0.33607	-0.14572	10.32884	25.36902	10.99938	1.00903	29.51709	340.33	-8.30
90/ 9/ 6	2448140.5	0.96187	-0.27673	-0.11999	8.42813	25.98134	11.26489	1.00805	29.54591	343.95	-6.84
90/ 9/10	2448144.5	0.97910	-0.21612	-0.09371	6.48278	26.47525	11.47905	1.00704	29.57590	347.55	-5.34
90/ 9/14	2448148.5	0.99179	-0.15450	-0.06700	4.50135	26.84779	11.64060	1.00599	29.60692	351.15	-3.82
90/ 9/18	2448152.5	0.99988	-0.09217	-0.03997	2.49267	27.09651	11.74846	1.00491	29.63884	354.73	-2.28
90/ 9/22	2448156.5	1.00330	-0.02940	-0.01276	0.46581	27.21946	11.80178	1.00381	29.67151	358.32	-0.73
90/ 9/26	2448160.5	1.00202	0.03350	0.01451	-1.56999	27.21525	11.79998	1.00269	29.70478	1.91	0.83
90/ 9/30	2448164.5	0.99604	0.09624	0.04172	-3.60529	27.08304	11.74267	1.00155	29.73851	5.52	2.39
90/10/ 4	2448168.5	0.98537	0.15853	0.06873	-5.63053	26.82257	11.62975	1.00041	29.77254	9.14	3.94
90/10/ 8	2448172.5	0.97004	0.22007	0.09541	-7.63607	26.43421	11.46138	0.99926	29.80671	12.78	5.48
90/10/12	2448176.5	0.95011	0.28057	0.12164	-9.61225	25.91890	11.23798	0.99812	29.84086	16.45	7.00
90/10/16	2448180.5	0.92566	0.33973	0.14729	-11.54939	25.27826	10.96023	0.99698	29.87483	20.15	8.50
90/10/20	2448184.5	0.89679	0.39727	0.17224	-13.43789	24.51450	10.62909	0.99585	29.90845	23.89	9.96
90/10/24	2448188.5	0.86362	0.45290	0.19636	-15.26824	23.63051	10.24583	0.99475	29.94156	27.67	11.38
90/10/28	2448192.5	0.82630	0.50636	0.21954	-17.03110	22.62979	9.81195	0.99366	29.97399	31.50	12.76
90/11/ 1	2448196.5	0.78499	0.55738	0.24166	-18.71738	21.51650	9.32927	0.99261	30.00559	35.38	14.09
90/11/ 5	2448200.5	0.73988	0.60569	0.26261	-20.31823	20.29544	8.79986	0.99159	30.03619	39.30	15.36
90/11/ 9	2448204.5	0.69118	0.65107	0.28228	-21.82515	18.97203	8.22607	0.99061	30.06565	43.29	16.56
90/11/13	2448208.5	0.63912	0.69328	0.30058	-23.23005	17.55227	7.61051	0.98968	30.09381	47.33	17.68
90/11/17	2448212.5	0.58394	0.73210	0.31742	-24.52526	16.04279	6.95604	0.98879	30.12052	51.42	18.72
90/11/21	2448216.5	0.52590	0.76734	0.33270	-25.70363	14.45072	6.26576	0.98796	30.14565	55.58	19.68

1.3 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
90/11/25	2448220.5	0.46527	0.79881	0.34634	-26.75860	12.78376	5.54302	0.98718	30.16906	59.78	20.54
90/11/29	2448224.5	0.40236	0.82635	0.35828	-27.68417	11.05007	4.79133	0.98647	30.19063	64.04	21.30
90/12/ 3	2448228.5	0.33747	0.84982	0.36846	-28.47504	9.25825	4.01445	0.98582	30.21025	68.34	21.95
90/12/ 7	2448232.5	0.27090	0.86909	0.37682	-29.12661	7.41731	3.21626	0.98524	30.22781	72.69	22.49
90/12/11	2448236.5	0.20300	0.88406	0.38331	-29.63501	5.53658	2.40082	0.98473	30.24321	77.07	22.91
90/12/15	2448240.5	0.13409	0.89465	0.38790	-29.99717	3.62570	1.57231	0.98429	30.25637	81.48	23.21
90/12/19	2448244.5	0.06452	0.90079	0.39056	-30.21081	1.69450	0.73498	0.98394	30.26722	85.90	23.39
90/12/23	2448248.5	-0.00538	0.90247	0.39129	-30.27450	-0.24699	-0.10680	0.98366	30.27570	90.34	23.44
90/12/27	2448252.5	-0.07525	0.89965	0.39007	-30.18766	-2.18866	-0.94867	0.98346	30.28176	94.78	23.37
90/12/31	2448256.5	-0.14474	0.89236	0.38691	-29.95055	-4.12039	-1.78623	0.98334	30.28537	99.21	23.17
91/ 1/ 4	2448260.5	-0.21351	0.88063	0.38182	-29.56430	-6.03206	-2.61509	0.98330	30.28650	103.63	22.85
91/ 1/ 8	2448264.5	-0.28122	0.86452	0.37484	-29.03090	-7.91367	-3.43092	0.98335	30.28515	108.02	22.41
91/ 1/12	2448268.5	-0.34753	0.84410	0.36599	-28.35318	-9.75541	-4.22947	0.98348	30.28133	112.38	21.85
91/ 1/16	2448272.5	-0.41212	0.81948	0.35531	-27.53478	-11.54770	-5.00657	0.98368	30.27506	116.70	21.17
91/ 1/20	2448276.5	-0.47465	0.79079	0.34287	-26.58016	-13.28123	-5.75821	0.98397	30.26637	120.97	20.39
91/ 1/24	2448280.5	-0.53483	0.75817	0.32873	-25.49452	-14.94711	-6.48050	0.98434	30.25530	125.20	19.51
91/ 1/28	2448284.5	-0.59235	0.72179	0.31296	-24.28379	-16.53681	-7.16977	0.98478	30.24192	129.37	18.53
91/ 2/ 1	2448288.5	-0.64693	0.68183	0.29563	-22.95458	-18.04230	-7.82254	0.98530	30.22631	133.50	17.46
91/ 2/ 5	2448292.5	-0.69832	0.63849	0.27684	-21.51413	-19.45609	-8.43553	0.98588	30.20853	137.56	16.31
91/ 2/ 9	2448296.5	-0.74626	0.59201	0.25669	-19.97026	-20.77120	-9.00575	0.98654	30.18870	141.57	15.08
91/ 2/13	2448300.5	-0.79052	0.54261	0.23527	-18.33129	-21.98129	-9.53044	0.98726	30.16691	145.53	13.79
91/ 2/17	2448304.5	-0.83089	0.49053	0.21269	-16.60601	-23.08064	-10.00711	0.98805	30.14329	149.44	12.43
91/ 2/21	2448308.5	-0.86718	0.43605	0.18907	-14.80360	-24.06419	-10.43357	0.98889	30.11795	153.30	11.02
91/ 2/25	2448312.5	-0.89923	0.37944	0.16453	-12.93356	-24.92754	-10.80791	0.98978	30.09103	157.12	9.57
91/ 3/ 1	2448316.5	-0.92690	0.32098	0.13918	-11.00569	-25.66700	-11.12855	0.99072	30.06267	160.90	8.08
91/ 3/ 5	2448320.5	-0.95005	0.26095	0.11315	-9.02994	-26.27957	-11.39416	0.99171	30.03303	164.64	6.55
91/ 3/ 9	2448324.5	-0.96859	0.19965	0.08658	-7.01644	-26.76297	-11.60377	0.99273	30.00224	168.35	5.00
91/ 3/13	2448328.5	-0.98244	0.13739	0.05958	-4.97538	-27.11559	-11.75668	0.99379	29.97047	172.04	3.44
91/ 3/17	2448332.5	-0.99156	0.07447	0.03230	-2.91696	-27.33654	-11.85250	0.99488	29.93788	175.70	1.86
91/ 3/21	2448336.5	-0.99592	0.01119	0.00486	-0.85135	-27.42560	-11.89113	0.99599	29.90463	179.36	0.28
91/ 3/25	2448340.5	-0.99550	-0.05214	-0.02260	1.21138	-27.38320	-11.87277	0.99712	29.87089	183.00	-1.30
91/ 3/29	2448344.5	-0.99033	-0.11523	-0.04995	3.26131	-27.21046	-11.79789	0.99826	29.83681	186.64	-2.87
91/ 4/ 2	2448348.5	-0.98045	-0.17777	-0.07707	5.28873	-26.90907	-11.66724	0.99941	29.80257	190.28	-4.42
91/ 4/ 6	2448352.5	-0.96592	-0.23946	-0.10382	7.28413	-26.48136	-11.48182	1.00056	29.76832	193.92	-5.96
91/ 4/10	2448356.5	-0.94682	-0.30002	-0.13007	9.23834	-25.93021	-11.24287	1.00170	29.73424	197.58	-7.46
91/ 4/14	2448360.5	-0.92327	-0.35917	-0.15572	11.14245	-25.25906	-10.95189	1.00284	29.70047	201.26	-8.93
91/ 4/18	2448364.5	-0.89539	-0.41664	-0.18064	12.98795	-24.47183	-10.61058	1.00396	29.66718	204.95	-10.37
91/ 4/22	2448368.5	-0.86331	-0.47216	-0.20471	14.76669	-23.57294	-10.22086	1.00506	29.63452	208.67	-11.75
91/ 4/26	2448372.5	-0.82722	-0.52547	-0.22783	16.47094	-22.56726	-9.78484	1.00614	29.60264	212.42	-13.09
91/ 4/30	2448376.5	-0.78728	-0.57635	-0.24988	18.09339	-21.46005	-9.30479	1.00718	29.57167	216.21	-14.37
91/ 5/ 4	2448380.5	-0.74369	-0.62455	-0.27079	19.62718	-20.25698	-8.78318	1.00820	29.54176	220.02	-15.58
91/ 5/ 8	2448384.5	-0.69666	-0.66987	-0.29044	21.06595	-18.96403	-8.22260	1.00917	29.51305	223.88	-16.73
91/ 5/12	2448388.5	-0.64643	-0.71211	-0.30875	22.40377	-17.58753	-7.62580	1.01010	29.48564	227.77	-17.80
91/ 5/16	2448392.5	-0.59323	-0.75107	-0.32564	23.63526	-16.13406	-6.99561	1.01098	29.45967	231.70	-18.79
91/ 5/20	2448396.5	-0.53732	-0.78660	-0.34105	24.75551	-14.61046	-6.33503	1.01181	29.43524	235.66	-19.70

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		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							EARTH-MOON B		
91/ 5/24	2448400.5	-0.47894	-0.81853	-0.35489	25.76011	-13.02381	-5.64710	1.01258	29.41246	239.67	-20.52
91/ 5/28	2448404.5	-0.41839	-0.84673	-0.36712	26.64520	-11.38135	-4.93497	1.01330	29.39142	243.71	-21.24
91/ 6/ 1	2448408.5	-0.35593	-0.87108	-0.37768	27.40740	-9.69049	-4.20186	1.01395	29.37221	247.77	-21.87
91/ 6/ 5	2448412.5	-0.29185	-0.89147	-0.38652	28.04388	-7.95878	-3.45104	1.01454	29.35492	251.87	-22.39
91/ 6/ 9	2448416.5	-0.22645	-0.90783	-0.39361	28.55231	-6.19387	-2.68582	1.01507	29.33960	255.99	-22.82
91/ 6/13	2448420.5	-0.16003	-0.92007	-0.39892	28.93089	-4.40350	-1.90955	1.01552	29.32633	260.13	-23.13
91/ 6/17	2448424.5	-0.09288	-0.92816	-0.40243	29.17834	-2.59544	-1.12562	1.01590	29.31516	264.29	-23.34
91/ 6/21	2448428.5	-0.02532	-0.93206	-0.40412	29.29388	-0.77750	-0.33740	1.01621	29.30613	268.44	-23.43
91/ 6/25	2448432.5	0.04236	-0.93175	-0.40399	29.27725	1.04248	0.45170	1.01644	29.29929	272.60	-23.42
91/ 6/29	2448436.5	0.10985	-0.92724	-0.40203	29.12872	2.85671	1.23831	1.01660	29.29465	276.76	-23.30
91/ 7/ 3	2448440.5	0.17685	-0.91856	-0.39827	28.84904	4.65743	2.01907	1.01668	29.29224	280.90	-23.06
91/ 7/ 7	2448444.5	0.24305	-0.90574	-0.39271	28.43947	6.43694	2.79063	1.01669	29.29207	285.02	-22.72
91/ 7/11	2448448.5	0.30815	-0.88884	-0.38539	27.90177	8.18763	3.54970	1.01662	29.29413	289.12	-22.28
91/ 7/15	2448452.5	0.37186	-0.86794	-0.37632	27.23818	9.90199	4.29301	1.01647	29.29842	293.19	-21.73
91/ 7/19	2448456.5	0.43390	-0.84312	-0.36557	26.45143	11.57264	5.01737	1.01625	29.30492	297.23	-21.08
91/ 7/23	2448460.5	0.49399	-0.81451	-0.35316	25.54475	13.19235	5.71966	1.01596	29.31360	301.24	-20.34
91/ 7/27	2448464.5	0.55184	-0.78222	-0.33916	24.52182	14.75409	6.39680	1.01559	29.32443	305.20	-19.51
91/ 7/31	2448468.5	0.60720	-0.74639	-0.32362	23.38680	16.25100	7.04584	1.01515	29.33736	309.13	-18.59
91/ 8/ 4	2448472.5	0.65981	-0.70719	-0.30663	22.14428	17.67643	7.66388	1.01464	29.35235	313.02	-17.59
91/ 8/ 8	2448476.5	0.70944	-0.66478	-0.28824	20.79934	19.02400	8.24817	1.01406	29.36933	316.86	-16.51
91/ 8/12	2448480.5	0.75584	-0.61935	-0.26855	19.35746	20.28759	8.79604	1.01341	29.38823	320.67	-15.37
91/ 8/16	2448484.5	0.79880	-0.57111	-0.24763	17.82458	21.46135	9.30497	1.01271	29.40897	324.44	-14.15
91/ 8/20	2448488.5	0.83813	-0.52027	-0.22559	16.20704	22.53977	9.77255	1.01194	29.43148	328.17	-12.88
91/ 8/24	2448492.5	0.87363	-0.46705	-0.20251	14.51158	23.51765	10.19655	1.01112	29.45566	331.87	-11.55
91/ 8/28	2448496.5	0.90512	-0.41169	-0.17851	12.74533	24.39019	10.57487	1.01025	29.48140	335.54	-10.18
91/ 9/ 1	2448500.5	0.93246	-0.35444	-0.15369	10.91579	25.15294	10.90560	1.00933	29.50859	339.19	-8.76
91/ 9/ 5	2448504.5	0.95551	-0.29556	-0.12816	9.03079	25.80189	11.18698	1.00836	29.53712	342.81	-7.30
91/ 9/ 9	2448508.5	0.97415	-0.23532	-0.10204	7.09852	26.33346	11.41747	1.00735	29.56685	346.42	-5.81
91/ 9/13	2448512.5	0.98828	-0.17398	-0.07545	5.12744	26.74453	11.59572	1.00631	29.59766	350.02	-4.30
91/ 9/17	2448516.5	0.99782	-0.11184	-0.04850	3.12629	27.03250	11.72059	1.00524	29.62941	353.60	-2.77
91/ 9/21	2448520.5	1.00271	-0.04918	-0.02134	1.10407	27.19523	11.79117	1.00414	29.66195	357.19	-1.22
91/ 9/25	2448524.5	1.00291	0.01371	0.00593	-0.93001	27.23117	11.80678	1.00302	29.69514	0.78	0.34
91/ 9/29	2448528.5	0.99841	0.07654	0.03317	-2.96659	27.13930	11.76696	1.00189	29.72883	4.38	1.90
91/10/ 3	2448532.5	0.98921	0.13901	0.06026	-4.99613	26.91917	11.67154	1.00075	29.76286	8.00	3.45
91/10/ 7	2448536.5	0.97534	0.20082	0.08706	-7.00903	26.57094	11.52058	0.99960	29.79707	11.63	5.00
91/10/11	2448540.5	0.95685	0.26167	0.11344	-8.99560	26.09539	11.31442	0.99845	29.83130	15.29	6.52
91/10/15	2448544.5	0.93381	0.32129	0.13929	-10.94617	25.49391	11.05365	0.99731	29.86538	18.99	8.03
91/10/19	2448548.5	0.90631	0.37937	0.16447	-12.85110	24.76852	10.73916	0.99618	29.89916	22.71	9.50
91/10/23	2448552.5	0.87447	0.43563	0.18887	-14.70085	23.92190	10.37211	0.99506	29.93247	26.48	10.94
91/10/27	2448556.5	0.83843	0.48981	0.21236	-16.48602	22.95736	9.95393	0.99397	29.96515	30.29	12.34
91/10/31	2448560.5	0.79836	0.54162	0.23482	-18.19743	21.87886	9.48634	0.99291	29.99703	34.15	13.68
91/11/ 4	2448564.5	0.75442	0.59081	0.25615	-19.82614	20.69100	8.97133	0.99188	30.02796	38.07	14.97
91/11/ 8	2448568.5	0.70682	0.63714	0.27624	-21.36354	19.39900	8.41117	0.99088	30.05777	42.03	16.19
91/11/12	2448572.5	0.65579	0.68036	0.29498	-22.80139	18.00869	7.80839	0.98993	30.08633	46.05	17.34
91/11/16	2448576.5	0.60156	0.72027	0.31229	-24.13189	16.52651	7.16576	0.98903	30.11348	50.13	18.41

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
91/11/20	2448580.5	0.54438	0.75666	0.32806	-25.34772	14.95943	6.48633	0.98818	30.13908	54.27	19.39
91/11/24	2448584.5	0.48453	0.78933	0.34223	-26.44212	13.31498	5.77335	0.98739	30.16299	58.46	20.28
91/11/28	2448588.5	0.42231	0.81812	0.35471	-27.40892	11.60118	5.03030	0.98666	30.18510	62.70	21.07
91/12/ 2	2448592.5	0.35800	0.84289	0.36545	-28.24259	9.82651	4.26086	0.98599	30.20529	66.99	21.76
91/12/ 6	2448596.5	0.29192	0.86349	0.37438	-28.93831	7.99985	3.46887	0.98539	30.22344	71.32	22.33
91/12/10	2448600.5	0.22440	0.87981	0.38146	-29.49196	6.13044	2.65835	0.98486	30.23946	75.69	22.79
91/12/14	2448604.5	0.15577	0.89179	0.38665	-29.90023	4.22783	1.83343	0.98440	30.25326	80.09	23.13
91/12/18	2448608.5	0.08637	0.89933	0.38993	-30.16059	2.30182	0.99836	0.98402	30.26477	84.51	23.34
91/12/22	2448612.5	0.01653	0.90241	0.39126	-30.27135	0.36236	0.15746	0.98372	30.27393	88.95	23.44
91/12/26	2448616.5	-0.05338	0.90100	0.39065	-30.23165	-1.58045	-0.68489	0.98350	30.28068	93.39	23.40
91/12/30	2448620.5	-0.12303	0.89511	0.38810	-30.04150	-3.51648	-1.52431	0.98335	30.28499	97.83	23.25
92/ 1/ 3	2448624.5	-0.19207	0.88477	0.38362	-29.70176	-5.43559	-2.35639	0.98329	30.28684	102.25	22.96
92/ 1/ 7	2448628.5	-0.26015	0.87002	0.37722	-29.21415	-7.32776	-3.17680	0.98331	30.28621	106.65	22.56
92/ 1/11	2448632.5	-0.32694	0.85094	0.36895	-28.58123	-9.18311	-3.98123	0.98342	30.28311	111.02	22.03
92/ 1/15	2448636.5	-0.39210	0.82763	0.35884	-27.80642	-10.99195	-4.76551	0.98360	30.27755	115.35	21.40
92/ 1/19	2448640.5	-0.45531	0.80020	0.34695	-26.89390	-12.74492	-5.52557	0.98387	30.26956	119.64	20.65
92/ 1/23	2448644.5	-0.51625	0.76879	0.33333	-25.84865	-14.43296	-6.25747	0.98421	30.25919	123.88	19.80
92/ 1/27	2448648.5	-0.57464	0.73357	0.31806	-24.67638	-16.04744	-6.95748	0.98463	30.24649	128.07	18.85
92/ 1/31	2448652.5	-0.63017	0.69471	0.30122	-23.38350	-17.58016	-7.62204	0.98512	30.23153	132.21	17.80
92/ 2/ 4	2448656.5	-0.68259	0.65241	0.28288	-21.97705	-19.02346	-8.24784	0.98569	30.21439	136.30	16.68
92/ 2/ 8	2448660.5	-0.73163	0.60689	0.26314	-20.46468	-20.37019	-8.83176	0.98633	30.19517	140.32	15.47
92/ 2/12	2448664.5	-0.77707	0.55837	0.24211	-18.85456	-21.61382	-9.37099	0.98703	30.17395	144.30	14.20
92/ 2/16	2448668.5	-0.81868	0.50711	0.21988	-17.15535	-22.74843	-9.86294	0.98780	30.15086	148.23	12.86
92/ 2/20	2448672.5	-0.85627	0.45335	0.19657	-15.37609	-23.76873	-10.30534	0.98862	30.12602	152.10	11.47
92/ 2/24	2448676.5	-0.88967	0.39738	0.17230	-13.52622	-24.67014	-10.69619	0.98950	30.09955	155.93	10.03
92/ 2/28	2448680.5	-0.91872	0.33946	0.14719	-11.61543	-25.44874	-11.03379	0.99043	30.07160	159.72	8.55
92/ 3/ 3	2448684.5	-0.94330	0.27989	0.12137	-9.65363	-26.10132	-11.31676	0.99140	30.04231	163.47	7.03
92/ 3/ 7	2448688.5	-0.96329	0.21897	0.09495	-7.65091	-26.62536	-11.54399	0.99242	30.01183	167.19	5.49
92/ 3/11	2448692.5	-0.97862	0.15698	0.06807	-5.61745	-27.01905	-11.71471	0.99347	29.98031	170.89	3.93
92/ 3/15	2448696.5	-0.98923	0.09423	0.04087	-3.56344	-27.28128	-11.82842	0.99455	29.94792	174.56	2.36
92/ 3/19	2448700.5	-0.99508	0.03103	0.01347	-1.49907	-27.41161	-11.88495	0.99565	29.91480	178.21	0.77
92/ 3/23	2448704.5	-0.99616	-0.03232	-0.01400	0.56555	-27.41028	-11.88440	0.99678	29.88114	181.86	-0.80
92/ 3/27	2448708.5	-0.99247	-0.09552	-0.04140	2.62045	-27.27820	-11.82716	0.99792	29.84709	185.50	-2.38
92/ 3/31	2448712.5	-0.98406	-0.15826	-0.06860	4.65585	-27.01689	-11.71388	0.99907	29.81282	189.14	-3.94
92/ 4/ 4	2448716.5	-0.97098	-0.22025	-0.09548	6.66217	-26.62847	-11.54550	1.00022	29.77849	192.78	-5.48
92/ 4/ 8	2448720.5	-0.95331	-0.28119	-0.12191	8.63014	-26.11566	-11.32318	1.00137	29.74427	196.43	-6.99
92/ 4/12	2448724.5	-0.93115	-0.34082	-0.14776	10.55076	-25.48173	-11.04834	1.00251	29.71031	200.10	-8.48
92/ 4/16	2448728.5	-0.90461	-0.39884	-0.17291	12.41539	-24.73045	-10.72263	1.00364	29.67679	203.79	-9.92
92/ 4/20	2448732.5	-0.87383	-0.45499	-0.19726	14.21578	-23.86609	-10.34788	1.00475	29.64384	207.51	-11.32
92/ 4/24	2448736.5	-0.83898	-0.50902	-0.22069	15.94406	-22.89338	-9.92616	1.00583	29.61163	211.25	-12.67
92/ 4/28	2448740.5	-0.80023	-0.56069	-0.24309	17.59278	-21.81747	-9.45970	1.00689	29.58030	215.02	-13.97
92/ 5/ 2	2448744.5	-0.75776	-0.60975	-0.26436	19.15496	-20.64390	-8.95088	1.00791	29.54998	218.82	-15.21
92/ 5/ 6	2448748.5	-0.71180	-0.65600	-0.28442	20.62407	-19.37855	-8.40227	1.00890	29.52082	222.66	-16.37
92/ 5/10	2448752.5	-0.66255	-0.69922	-0.30316	21.99405	-18.02765	-7.81657	1.00984	29.49293	226.54	-17.47
92/ 5/14	2448756.5	-0.61026	-0.73923	-0.32050	23.25935	-16.59769	-7.19660	1.01074	29.46645	230.46	-18.49

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
92/ 5/18	2448760.5	-0.55517	-0.77585	-0.33638	24.41491	-15.09546	-6.54528	1.01159	29.44149	234.41	-19.42
92/ 5/22	2448764.5	-0.49754	-0.80893	-0.35072	25.45616	-13.52793	-5.86565	1.01238	29.41814	238.41	-20.27
92/ 5/26	2448768.5	-0.43764	-0.83831	-0.36347	26.37908	-11.90232	-5.16084	1.01312	29.39652	242.43	-21.02
92/ 5/30	2448772.5	-0.37575	-0.86388	-0.37455	27.18014	-10.22597	-4.43403	1.01379	29.37671	246.49	-21.68
92/ 6/ 3	2448776.5	-0.31216	-0.88553	-0.38394	27.85634	-8.50640	-3.68848	1.01440	29.35880	250.58	-22.24
92/ 6/ 7	2448780.5	-0.24714	-0.90316	-0.39158	28.40518	-6.75122	-2.92748	1.01494	29.34286	254.70	-22.69
92/ 6/11	2448784.5	-0.18101	-0.91670	-0.39745	28.82471	-4.96813	-2.15439	1.01542	29.32896	258.83	-23.04
92/ 6/15	2448788.5	-0.11406	-0.92610	-0.40153	29.11348	-3.16491	-1.37256	1.01582	29.31715	262.98	-23.28
92/ 6/19	2448792.5	-0.04660	-0.93131	-0.40379	29.27054	-1.34935	-0.58539	1.01615	29.30748	267.14	-23.41
92/ 6/23	2448796.5	0.02107	-0.93233	-0.40423	29.29550	0.47072	0.20375	1.01641	29.29998	271.29	-23.43
92/ 6/27	2448800.5	0.08865	-0.92914	-0.40285	29.18842	2.28749	0.99146	1.01659	29.29470	275.45	-23.35
92/ 7/ 1	2448804.5	0.15583	-0.92177	-0.39966	28.94993	4.09320	1.77437	1.01669	29.29165	279.60	-23.15
92/ 7/ 5	2448808.5	0.22231	-0.91024	-0.39466	28.58111	5.88012	2.54913	1.01672	29.29084	283.72	-22.84
92/ 7/ 9	2448812.5	0.28779	-0.89462	-0.38789	28.08356	7.64062	3.31244	1.01667	29.29228	287.83	-22.43
92/ 7/13	2448816.5	0.35197	-0.87497	-0.37937	27.45938	9.36714	4.06102	1.01655	29.29596	291.91	-21.91
92/ 7/17	2448820.5	0.41457	-0.85137	-0.36914	26.71116	11.05228	4.79166	1.01635	29.30186	295.96	-21.30
92/ 7/21	2448824.5	0.47529	-0.82394	-0.35724	25.84194	12.68876	5.50121	1.01607	29.30996	299.98	-20.58
92/ 7/25	2448828.5	0.53387	-0.79279	-0.34374	24.85526	14.26947	6.18657	1.01572	29.32022	303.96	-19.78
92/ 7/29	2448832.5	0.59004	-0.75806	-0.32868	23.75514	15.78749	6.84476	1.01530	29.33261	307.90	-18.89
92/ 8/ 2	2448836.5	0.64355	-0.71990	-0.31214	22.54602	17.23612	7.47286	1.01481	29.34708	311.79	-17.91
92/ 8/ 6	2448840.5	0.69414	-0.67848	-0.29418	21.23284	18.60889	8.06807	1.01425	29.36355	315.65	-16.86
92/ 8/10	2448844.5	0.74157	-0.63398	-0.27489	19.82095	19.89957	8.62769	1.01362	29.38197	319.47	-15.74
92/ 8/14	2448848.5	0.78564	-0.58660	-0.25434	18.31614	21.10224	9.14916	1.01293	29.40226	323.25	-14.54
92/ 8/18	2448852.5	0.82613	-0.53655	-0.23265	16.72461	22.21128	9.63002	1.01218	29.42432	327.00	-13.29
92/ 8/22	2448856.5	0.86286	-0.48406	-0.20988	15.05300	23.22137	10.06799	1.01138	29.44808	330.71	-11.98
92/ 8/26	2448860.5	0.89563	-0.42934	-0.18616	13.30829	24.12760	10.46093	1.01052	29.47342	334.39	-10.62
92/ 8/30	2448864.5	0.92429	-0.37266	-0.16159	11.49788	24.92539	10.80685	1.00961	29.50024	338.04	-9.21
92/ 9/ 3	2448868.5	0.94871	-0.31427	-0.13627	9.62949	25.61060	11.10396	1.00865	29.52843	341.67	-7.76
92/ 9/ 7	2448872.5	0.96875	-0.25442	-0.11032	7.71121	26.17951	11.35065	1.00766	29.55785	345.28	-6.29
92/ 9/11	2448876.5	0.98430	-0.19340	-0.08386	5.75140	26.62885	11.54549	1.00662	29.58839	348.88	-4.78
92/ 9/15	2448880.5	0.99530	-0.13148	-0.05702	3.75873	26.95585	11.68729	1.00556	29.61990	352.47	-3.25
92/ 9/19	2448884.5	1.00165	-0.06895	-0.02991	1.74212	27.15823	11.77506	1.00447	29.65225	356.06	-1.71
92/ 9/23	2448888.5	1.00333	-0.00610	-0.00266	-0.28928	27.23423	11.80804	1.00335	29.68529	359.65	-0.15
92/ 9/27	2448892.5	1.00031	0.05678	0.02461	-2.32616	27.18267	11.78571	1.00222	29.71887	3.25	1.41
92/10/ 1	2448896.5	0.99259	0.11940	0.05176	-4.35901	27.00292	11.70780	1.00108	29.75284	6.86	2.96
92/10/ 5	2448900.5	0.98018	0.18145	0.07866	-6.37826	26.69495	11.57429	0.99993	29.78702	10.49	4.51
92/10/ 9	2448904.5	0.96314	0.24264	0.10519	-8.37423	26.25934	11.38544	0.99878	29.82128	14.14	6.05
92/10/13	2448908.5	0.94152	0.30268	0.13122	-10.33724	25.69727	11.14177	0.99764	29.85544	17.82	7.56
92/10/17	2448912.5	0.91541	0.36127	0.15663	-12.25764	25.01058	10.84406	0.99651	29.88934	21.54	9.04
92/10/21	2448916.5	0.88492	0.41814	0.18128	-14.12584	24.20174	10.49339	0.99539	29.92281	25.29	10.49
92/10/25	2448920.5	0.85019	0.47300	0.20507	-15.93239	23.27385	10.09111	0.99429	29.95570	29.09	11.90
92/10/29	2448924.5	0.81136	0.52559	0.22787	-17.66803	22.23069	9.63884	0.99322	29.98783	32.93	13.26
92/11/ 2	2448928.5	0.76862	0.57563	0.24957	-19.32375	21.07663	9.13850	0.99217	30.01906	36.83	14.57
92/11/ 6	2448932.5	0.72215	0.62289	0.27006	-20.89081	19.81673	8.59225	0.99117	30.04921	40.78	15.81
92/11/10	2448936.5	0.67217	0.66711	0.28923	-22.36086	18.45661	8.00256	0.99021	30.07815	44.78	16.98

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

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92/11/14	2448940.5	0.61891	0.70809	0.30700	-23.72595	17.00252	7.37212	0.98929	30.10572	48.84	18.08
92/11/18	2448944.5	0.56263	0.74561	0.32327	-24.97860	15.46128	6.70390	0.98843	30.13178	52.96	19.09
92/11/22	2448948.5	0.50360	0.77947	0.33795	-26.11188	13.84025	6.00108	0.98762	30.15619	57.13	20.01
92/11/26	2448952.5	0.44208	0.80950	0.35097	-27.11941	12.14729	5.26707	0.98687	30.17882	61.36	20.83
92/11/30	2448956.5	0.37840	0.83554	0.36226	-27.99547	10.39076	4.50549	0.98618	30.19956	65.64	21.55
92/12/ 4	2448960.5	0.31284	0.85746	0.37177	-28.73499	8.57941	3.72015	0.98556	30.21830	69.96	22.16
92/12/ 8	2448964.5	0.24574	0.87515	0.37944	-29.33365	6.72239	2.91500	0.98501	30.23493	74.32	22.66
92/12/12	2448968.5	0.17742	0.88850	0.38523	-29.78788	4.82914	2.09414	0.98453	30.24936	78.71	23.03
92/12/16	2448972.5	0.10822	0.89744	0.38910	-30.09491	2.90939	1.26180	0.98413	30.26153	83.12	23.29
92/12/20	2448976.5	0.03849	0.90192	0.39105	-30.25277	0.97305	0.42226	0.98380	30.27136	87.56	23.42
92/12/24	2448980.5	-0.03144	0.90193	0.39105	-30.26035	-0.96980	-0.42011	0.98356	30.27880	92.00	23.43
92/12/28	2448984.5	-0.10121	0.89745	0.38911	-30.11738	-2.90905	-1.26092	0.98339	30.28381	96.43	23.31
93/ 1/ 1	2448988.5	-0.17048	0.88850	0.38523	-29.82446	-4.83456	-2.09577	0.98331	30.28636	100.86	23.06
93/ 1/ 5	2448992.5	-0.23890	0.87513	0.37943	-29.38304	-6.73626	-2.92030	0.98331	30.28644	105.27	22.70
93/ 1/ 9	2448996.5	-0.30613	0.85740	0.37175	-28.79543	-8.60421	-3.73020	0.98339	30.28405	109.65	22.21
93/ 1/13	2449000.5	-0.37183	0.83541	0.36221	-28.06476	-10.42867	-4.52125	0.98355	30.27920	113.99	21.61
93/ 1/17	2449004.5	-0.43569	0.80926	0.35088	-27.19500	-12.20015	-5.28933	0.98379	30.27191	118.30	20.90
93/ 1/21	2449008.5	-0.49738	0.77909	0.33780	-26.19087	-13.90952	-6.03047	0.98411	30.26223	122.55	20.08
93/ 1/25	2449012.5	-0.55660	0.74505	0.32304	-25.05786	-15.54798	-6.74088	0.98450	30.25021	126.76	19.15
93/ 1/29	2449016.5	-0.61306	0.70731	0.30668	-23.80216	-17.10722	-7.41694	0.98498	30.23592	130.92	18.14
93/ 2/ 2	2449020.5	-0.66648	0.66607	0.28880	-22.43062	-18.57939	-8.05524	0.98552	30.21942	135.02	17.04
93/ 2/ 6	2449024.5	-0.71661	0.62154	0.26949	-20.95071	-19.95718	-8.65263	0.98614	30.20082	139.06	15.86
93/ 2/10	2449028.5	-0.76321	0.57394	0.24885	-19.37044	-21.23386	-9.20619	0.98682	30.18020	143.06	14.61
93/ 2/14	2449032.5	-0.80604	0.52351	0.22699	-17.69830	-22.40332	-9.71325	0.98757	30.15768	147.00	13.29
93/ 2/18	2449036.5	-0.84492	0.47052	0.20401	-15.94325	-23.46007	-10.17145	0.98838	30.13338	150.89	11.91
93/ 2/22	2449040.5	-0.87965	0.41521	0.18003	-14.11458	-24.39931	-10.57870	0.98924	30.10742	154.73	10.49
93/ 2/26	2449044.5	-0.91008	0.35788	0.15518	-12.22192	-25.21690	-10.93321	0.99015	30.07994	158.53	9.02
93/ 3/ 2	2449048.5	-0.93608	0.29880	0.12956	-10.27512	-25.90942	-11.23348	0.99111	30.05107	162.30	7.51
93/ 3/ 6	2449052.5	-0.95752	0.23826	0.10332	-8.28421	-26.47411	-11.47834	0.99211	30.02098	166.03	5.98
93/ 3/10	2449056.5	-0.97433	0.17658	0.07657	-6.25934	-26.90896	-11.66690	0.99315	29.98980	169.73	4.42
93/ 3/14	2449060.5	-0.98642	0.11404	0.04946	-4.21071	-27.21263	-11.79858	0.99422	29.95770	173.41	2.85
93/ 3/18	2449064.5	-0.99377	0.05095	0.02210	-2.14853	-27.38448	-11.87311	0.99532	29.92485	177.07	1.27
93/ 3/22	2449068.5	-0.99635	-0.01239	-0.00536	-0.08291	-27.42453	-11.89049	0.99644	29.89139	180.71	-0.31
93/ 3/26	2449072.5	-0.99416	-0.07566	-0.03279	1.97612	-27.33348	-11.85103	0.99757	29.85751	184.35	-1.88
93/ 3/30	2449076.5	-0.98723	-0.13858	-0.06007	4.01870	-27.11265	-11.75530	0.99872	29.82336	187.99	-3.45
93/ 4/ 3	2449080.5	-0.97561	-0.20084	-0.08706	6.03521	-26.76399	-11.60415	0.99987	29.78911	191.63	-5.00
93/ 4/ 7	2449084.5	-0.95937	-0.26214	-0.11364	8.01626	-26.29003	-11.39867	1.00101	29.75493	195.28	-6.52
93/ 4/11	2449088.5	-0.93861	-0.32221	-0.13969	9.95276	-25.69386	-11.14020	1.00216	29.72097	198.95	-8.01
93/ 4/15	2449092.5	-0.91343	-0.38077	-0.16508	11.83597	-24.97910	-10.83032	1.00329	29.68739	202.63	-9.47
93/ 4/19	2449096.5	-0.88397	-0.43754	-0.18969	13.65748	-24.14986	-10.47080	1.00440	29.65434	206.33	-10.89
93/ 4/23	2449100.5	-0.85038	-0.49226	-0.21342	15.40932	-23.21073	-10.06364	1.00549	29.62198	210.07	-12.25
93/ 4/27	2449104.5	-0.81283	-0.54470	-0.23615	17.08390	-22.16672	-9.61101	1.00656	29.59044	213.83	-13.57
93/ 5/ 1	2449108.5	-0.77151	-0.59460	-0.25779	18.67408	-21.02325	-9.11525	1.00759	29.55988	217.62	-14.82
93/ 5/ 5	2449112.5	-0.72662	-0.64176	-0.27824	20.17319	-19.78611	-8.57888	1.00859	29.53041	221.45	-16.01
93/ 5/ 9	2449116.5	-0.67838	-0.68595	-0.29740	21.57503	-18.46142	-8.00455	1.00954	29.50218	225.32	-17.13

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
93/ 5/13	2449120.5	-0.62702	-0.72699	-0.31519	22.87387	-17.05558	-7.39504	1.01045	29.47530	229.22	-18.18
93/ 5/17	2449124.5	-0.57278	-0.76470	-0.33154	24.06451	-15.57530	-6.75325	1.01132	29.44990	233.17	-19.14
93/ 5/21	2449128.5	-0.51592	-0.79891	-0.34637	25.14222	-14.02749	-6.08218	1.01212	29.42608	237.15	-20.01
93/ 5/25	2449132.5	-0.45670	-0.82947	-0.35962	26.10279	-12.41930	-5.38493	1.01288	29.40395	241.16	-20.80
93/ 5/29	2449136.5	-0.39540	-0.85625	-0.37124	26.94256	-10.75803	-4.66466	1.01357	29.38359	245.21	-21.49
93/ 6/ 2	2449140.5	-0.33231	-0.87914	-0.38116	27.65833	-9.05115	-3.92462	1.01420	29.36510	249.29	-22.08
93/ 6/ 6	2449144.5	-0.26771	-0.89804	-0.38936	28.24747	-7.30625	-3.16809	1.01476	29.34855	253.40	-22.56
93/ 6/10	2449148.5	-0.20190	-0.91287	-0.39579	28.70783	-5.53100	-2.39841	1.01526	29.33401	257.53	-22.94
93/ 6/14	2449152.5	-0.13517	-0.92357	-0.40043	29.03782	-3.73317	-1.61893	1.01568	29.32154	261.67	-23.22
93/ 6/18	2449156.5	-0.06783	-0.93011	-0.40326	29.23633	-1.92054	-0.83303	1.01603	29.31118	265.83	-23.38
93/ 6/22	2449160.5	-0.00019	-0.93244	-0.40428	29.30279	-0.10094	-0.04411	1.01631	29.30300	269.99	-23.44
93/ 6/26	2449164.5	0.06745	-0.93057	-0.40347	29.23713	1.71781	0.74444	1.01652	29.29701	274.15	-23.39
93/ 6/30	2449168.5	0.13479	-0.92451	-0.40084	29.03978	3.52794	1.52926	1.01664	29.29324	278.30	-23.22
93/ 7/ 4	2449172.5	0.20153	-0.91429	-0.39641	28.71170	5.32169	2.30698	1.01670	29.29171	282.43	-22.95
93/ 7/ 8	2449176.5	0.26735	-0.89994	-0.39019	28.25433	7.09140	3.07428	1.01667	29.29242	286.55	-22.57
93/ 7/12	2449180.5	0.33197	-0.88155	-0.38221	27.66960	8.82950	3.82787	1.01657	29.29538	290.64	-22.09
93/ 7/16	2449184.5	0.39510	-0.85918	-0.37252	26.95994	10.52851	4.56452	1.01639	29.30056	294.70	-21.50
93/ 7/20	2449188.5	0.45644	-0.83294	-0.36114	26.12827	12.18113	5.28105	1.01614	29.30795	298.72	-20.82
93/ 7/24	2449192.5	0.51573	-0.80294	-0.34813	25.17797	13.78018	5.97436	1.01582	29.31751	302.71	-20.04
93/ 7/28	2449196.5	0.57269	-0.76931	-0.33356	24.11291	15.31868	6.64142	1.01542	29.32921	306.66	-19.18
93/ 8/ 1	2449200.5	0.62705	-0.73221	-0.31747	22.93740	16.78986	7.27929	1.01495	29.34300	310.58	-18.23
93/ 8/ 5	2449204.5	0.67858	-0.69180	-0.29995	21.65622	18.18717	7.88514	1.01441	29.35882	314.45	-17.20
93/ 8/ 9	2449208.5	0.72704	-0.64824	-0.28107	20.27460	19.50431	8.45622	1.01380	29.37661	318.28	-16.10
93/ 8/13	2449212.5	0.77219	-0.60175	-0.26091	18.79819	20.73525	8.98994	1.01313	29.39629	322.07	-14.92
93/ 8/17	2449216.5	0.81382	-0.55251	-0.23956	17.23308	21.87427	9.48380	1.01240	29.41778	325.83	-13.69
93/ 8/21	2449220.5	0.85175	-0.50075	-0.21712	15.58576	22.91598	9.93547	1.01162	29.44098	329.55	-12.39
93/ 8/25	2449224.5	0.88578	-0.44671	-0.19369	13.86311	23.85530	10.34275	1.01077	29.46581	333.24	-11.05
93/ 8/29	2449228.5	0.91575	-0.39062	-0.16937	12.07240	24.68758	10.70362	1.00988	29.49215	336.90	-9.65
93/ 9/ 2	2449232.5	0.94151	-0.33273	-0.14427	10.22126	25.40852	11.01622	1.00894	29.51989	340.54	-8.22
93/ 9/ 6	2449236.5	0.96293	-0.27331	-0.11851	8.31766	26.01426	11.27887	1.00796	29.54891	344.15	-6.75
93/ 9/10	2449240.5	0.97990	-0.21262	-0.09220	6.36987	26.50141	11.49010	1.00694	29.57909	347.76	-5.25
93/ 9/14	2449244.5	0.99234	-0.15096	-0.06546	4.38649	26.86701	11.64864	1.00588	29.61028	351.35	-3.73
93/ 9/18	2449248.5	1.00015	-0.08859	-0.03842	2.37635	27.10865	11.75343	1.00480	29.64235	354.94	-2.19
93/ 9/22	2449252.5	1.00330	-0.02580	-0.01120	0.34854	27.22439	11.80363	1.00370	29.67515	358.53	-0.64
93/ 9/26	2449256.5	1.00176	0.03710	0.01607	-1.68768	27.21288	11.79867	1.00257	29.70855	2.12	0.92
93/ 9/30	2449260.5	0.99550	0.09983	0.04327	-3.72286	27.07331	11.73818	1.00143	29.74237	5.73	2.48
93/10/ 4	2449264.5	0.98456	0.16209	0.07027	-5.74743	26.80546	11.62207	1.00029	29.77647	9.35	4.03
93/10/ 8	2449268.5	0.96896	0.22359	0.09693	-7.75176	26.40971	11.45051	0.99914	29.81068	12.99	5.57
93/10/12	2449272.5	0.94877	0.28402	0.12313	-9.72615	25.88708	11.22393	0.99799	29.84485	16.67	7.09
93/10/16	2449276.5	0.92406	0.34310	0.14874	-11.66093	25.23917	10.94304	0.99686	29.87881	20.37	8.58
93/10/20	2449280.5	0.89493	0.40054	0.17365	-13.54650	24.46827	10.60883	0.99573	29.91239	24.11	10.04
93/10/24	2449284.5	0.86151	0.45606	0.19772	-15.37336	23.57729	10.22255	0.99463	29.94544	27.90	11.47
93/10/28	2449288.5	0.82395	0.50938	0.22084	-17.13218	22.56979	9.78574	0.99355	29.97778	31.73	12.84
93/11/ 1	2449292.5	0.78242	0.56025	0.24290	-18.81386	21.44995	9.30024	0.99250	30.00927	35.60	14.17
93/11/ 5	2449296.5	0.73709	0.60841	0.26378	-20.40958	20.22263	8.76812	0.99148	30.03973	39.54	15.43

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
93/11/ 9	2449300.5	0.68819	0.65361	0.28337	-21.91086	18.89326	8.19177	0.99051	30.06902	43.52	16.62
93/11/13	2449304.5	0.63593	0.69562	0.30159	-23.30961	17.46791	7.57380	0.98958	30.09698	47.57	17.74
93/11/17	2449308.5	0.58058	0.73425	0.31834	-24.59822	15.95323	6.91709	0.98870	30.12348	51.67	18.78
93/11/21	2449312.5	0.52237	0.76927	0.33353	-25.76956	14.35640	6.22477	0.98787	30.14837	55.82	19.73
93/11/25	2449316.5	0.46161	0.80052	0.34707	-26.81708	12.68514	5.50018	0.98710	30.17152	60.03	20.59
93/11/29	2449320.5	0.39857	0.82783	0.35892	-27.73485	10.94765	4.74687	0.98640	30.19281	64.29	21.34
93/12/ 3	2449324.5	0.33357	0.85106	0.36899	-28.51761	9.15257	3.96859	0.98576	30.21214	68.60	21.98
93/12/ 7	2449328.5	0.26691	0.87008	0.37724	-29.16079	7.30891	3.16924	0.98519	30.22939	72.95	22.51
93/12/11	2449332.5	0.19894	0.88480	0.38362	-29.66059	5.42605	2.35290	0.98469	30.24448	77.33	22.93
93/12/15	2449336.5	0.12998	0.89513	0.38810	-30.01397	3.51362	1.52373	0.98426	30.25732	81.74	23.22
93/12/19	2449340.5	0.06038	0.90102	0.39065	-30.21872	1.58148	0.68602	0.98391	30.26785	86.17	23.39
93/12/23	2449344.5	-0.00952	0.90243	0.39126	-30.27345	-0.36033	-0.15588	0.98364	30.27600	90.60	23.44
93/12/27	2449348.5	-0.07938	0.89935	0.38993	-30.17764	-2.30172	-0.99761	0.98345	30.28173	95.04	23.36
93/12/31	2449352.5	-0.14884	0.89180	0.38666	-29.93162	-4.23253	-1.83475	0.98334	30.28502	99.48	23.15
94/ 1/ 4	2449356.5	-0.21756	0.87981	0.38146	-29.53656	-6.14268	-2.66293	0.98332	30.28584	103.89	22.83
94/ 1/ 8	2449360.5	-0.28519	0.86344	0.37436	-28.99451	-8.02218	-3.47783	0.98337	30.28419	108.28	22.38
94/ 1/12	2449364.5	-0.35141	0.84278	0.36541	-28.30835	-9.86122	-4.27519	0.98351	30.28009	112.63	21.81
94/ 1/16	2449368.5	-0.41588	0.81792	0.35463	-27.48177	-11.65024	-5.05086	0.98372	30.27354	116.95	21.13
94/ 1/20	2449372.5	-0.47828	0.78899	0.34209	-26.51928	-13.37998	-5.80083	0.98402	30.26459	121.22	20.34
94/ 1/24	2449376.5	-0.53831	0.75615	0.32785	-25.42612	-15.04153	-6.52123	0.98439	30.25330	125.45	19.45
94/ 1/28	2449380.5	-0.59566	0.71956	0.31198	-24.20828	-16.62643	-7.20841	0.98484	30.23971	129.62	18.47
94/ 2/ 1	2449384.5	-0.65007	0.67940	0.29457	-22.87238	-18.12667	-7.85888	0.98536	30.22390	133.74	17.39
94/ 2/ 5	2449388.5	-0.70126	0.63588	0.27570	-21.42572	-19.53479	-8.46941	0.98596	30.20596	137.80	16.24
94/ 2/ 9	2449392.5	-0.74898	0.58922	0.25547	-19.87612	-20.84386	-9.03700	0.98662	30.18599	141.81	15.01
94/ 2/13	2449396.5	-0.79302	0.53965	0.23398	-18.23195	-22.04757	-9.55891	0.98734	30.16409	145.76	13.71
94/ 2/17	2449400.5	-0.83315	0.48743	0.21135	-16.50202	-23.14024	-10.03267	0.98813	30.14037	149.67	12.35
94/ 2/21	2449404.5	-0.86920	0.43282	0.18767	-14.69552	-24.11685	-10.45612	0.98897	30.11496	153.53	10.94
94/ 2/25	2449408.5	-0.90100	0.37610	0.16307	-12.82197	-24.97305	-10.82736	0.98987	30.08800	157.34	9.48
94/ 3/ 1	2449412.5	-0.92840	0.31754	0.13768	-10.89117	-25.70518	-11.14481	0.99082	30.05962	161.12	7.99
94/ 3/ 5	2449416.5	-0.95129	0.25743	0.11162	-8.91309	-26.31030	-11.40719	0.99180	30.02997	164.86	6.46
94/ 3/ 9	2449420.5	-0.96955	0.19607	0.08502	-6.89786	-26.78614	-11.61353	0.99283	29.99920	168.57	4.91
94/ 3/13	2449424.5	-0.98313	0.13377	0.05801	-4.85566	-27.13116	-11.76314	0.99389	29.96746	172.25	3.35
94/ 3/17	2449428.5	-0.99198	0.07082	0.03072	-2.79669	-27.34450	-11.85565	0.99498	29.93492	175.92	1.77
94/ 3/21	2449432.5	-0.99605	0.00753	0.00328	-0.73112	-27.42596	-11.89100	0.99609	29.90173	179.57	0.19
94/ 3/25	2449436.5	-0.99536	-0.05580	-0.02418	1.33100	-27.37604	-11.86938	0.99721	29.86806	183.21	-1.39
94/ 3/29	2449440.5	-0.98991	-0.11886	-0.05152	3.37976	-27.19586	-11.79128	0.99835	29.83407	186.85	-2.96
94/ 4/ 2	2449444.5	-0.97976	-0.18135	-0.07862	5.40545	-26.88717	-11.65746	0.99950	29.79992	190.49	-4.51
94/ 4/ 6	2449448.5	-0.96496	-0.24299	-0.10534	7.39860	-26.45232	-11.46895	1.00065	29.76577	194.13	-6.04
94/ 4/10	2449452.5	-0.94561	-0.30348	-0.13157	9.35004	-25.89422	-11.22700	1.00179	29.73179	197.79	-7.55
94/ 4/14	2449456.5	-0.92180	-0.36254	-0.15717	11.25090	-25.21634	-10.93311	1.00292	29.69813	201.47	-9.02
94/ 4/18	2449460.5	-0.89367	-0.41990	-0.18204	13.09267	-24.42262	-10.58900	1.00404	29.66495	205.17	-10.45
94/ 4/22	2449464.5	-0.86136	-0.47529	-0.20606	14.86723	-23.51752	-10.19660	1.00514	29.63240	208.89	-11.83
94/ 4/26	2449468.5	-0.82504	-0.52847	-0.22912	16.56688	-22.50592	-9.75802	1.00621	29.60062	212.64	-13.16
94/ 4/30	2449472.5	-0.78488	-0.57920	-0.25111	18.18433	-21.39311	-9.27556	1.00726	29.56977	216.43	-14.44
94/ 5/ 4	2449476.5	-0.74109	-0.62724	-0.27194	19.71276	-20.18477	-8.75168	1.00826	29.53997	220.24	-15.65

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94/ 5/ 8	2449480.5	-0.69387	-0.67239	-0.29152	21.14581	-18.88691	-8.18898	1.00923	29.51135	224.10	-16.79
94/ 5/12	2449484.5	-0.64346	-0.71444	-0.30975	22.47761	-17.50586	-7.59022	1.01016	29.48405	227.99	-17.86
94/ 5/16	2449488.5	-0.59010	-0.75322	-0.32656	23.70278	-16.04822	-6.95825	1.01104	29.45818	231.92	-18.84
94/ 5/20	2449492.5	-0.53403	-0.78854	-0.34188	24.81645	-14.52086	-6.29605	1.01186	29.43385	235.89	-19.75
94/ 5/24	2449496.5	-0.47553	-0.82026	-0.35563	25.81424	-12.93084	-5.60668	1.01263	29.41117	239.90	-20.56
94/ 5/28	2449500.5	-0.41485	-0.84824	-0.36776	26.69232	-11.28544	-4.89330	1.01334	29.39023	243.94	-21.28
94/ 6/ 1	2449504.5	-0.35229	-0.87236	-0.37822	27.44734	-9.59206	-4.15911	1.01400	29.37111	248.01	-21.90
94/ 6/ 5	2449508.5	-0.28814	-0.89253	-0.38697	28.07649	-7.85826	-3.40740	1.01458	29.35391	252.11	-22.42
94/ 6/ 9	2449512.5	-0.22267	-0.90865	-0.39396	28.57748	-6.09171	-2.64149	1.01510	29.33869	256.23	-22.84
94/ 6/13	2449516.5	-0.15620	-0.92066	-0.39916	28.94854	-4.30012	-1.86472	1.01555	29.32552	260.37	-23.14
94/ 6/17	2449520.5	-0.08902	-0.92850	-0.40257	29.18840	-2.49129	-1.08047	1.01592	29.31445	264.52	-23.34
94/ 6/21	2449524.5	-0.02144	-0.93216	-0.40415	29.29634	-0.67304	-0.29214	1.01623	29.30552	268.68	-23.43
94/ 6/25	2449528.5	0.04624	-0.93161	-0.40392	29.27211	1.14682	0.49689	1.01646	29.29878	272.84	-23.41
94/ 6/29	2449532.5	0.11371	-0.92686	-0.40186	29.11602	2.96048	1.28324	1.01661	29.29426	276.99	-23.28
94/ 7/ 3	2449536.5	0.18066	-0.91794	-0.39799	28.82883	4.76019	2.06354	1.01669	29.29196	281.13	-23.05
94/ 7/ 7	2449540.5	0.24681	-0.90489	-0.39233	28.41185	6.53826	2.83445	1.01669	29.29191	285.26	-22.70
94/ 7/11	2449544.5	0.31184	-0.88776	-0.38491	27.86685	8.28707	3.59268	1.01662	29.29410	289.35	-22.25
94/ 7/15	2449548.5	0.37546	-0.86663	-0.37574	27.19612	9.99912	4.33498	1.01646	29.29852	293.42	-21.69
94/ 7/19	2449552.5	0.43740	-0.84159	-0.36489	26.40241	11.66706	5.05815	1.01624	29.30516	297.46	-21.04
94/ 7/23	2449556.5	0.49736	-0.81276	-0.35239	25.48896	13.28366	5.75907	1.01594	29.31398	301.46	-20.30
94/ 7/27	2449560.5	0.55508	-0.78026	-0.33830	24.45949	14.84188	6.43467	1.01556	29.32496	305.43	-19.46
94/ 7/31	2449564.5	0.61029	-0.74424	-0.32268	23.31818	16.33488	7.08200	1.01512	29.33804	309.35	-18.53
94/ 8/ 4	2449568.5	0.66273	-0.70484	-0.30560	22.06967	17.75604	7.69819	1.01460	29.35318	313.24	-17.53
94/ 8/ 8	2449572.5	0.71218	-0.66226	-0.28714	20.71903	19.09898	8.28046	1.01402	29.37031	317.08	-16.45
94/ 8/12	2449576.5	0.75839	-0.61666	-0.26737	19.27179	20.35760	8.82616	1.01337	29.38937	320.88	-15.30
94/ 8/16	2449580.5	0.80115	-0.56827	-0.24639	17.73390	21.52606	9.33279	1.01266	29.41026	324.65	-14.08
94/ 8/20	2449584.5	0.84026	-0.51728	-0.22428	16.11173	22.59887	9.79794	1.01189	29.43291	328.38	-12.81
94/ 8/24	2449588.5	0.87553	-0.46393	-0.20115	14.41202	23.57086	10.21938	1.01106	29.45721	332.08	-11.48
94/ 8/28	2449592.5	0.90679	-0.40846	-0.17710	12.64194	24.43723	10.59503	1.01019	29.48307	335.75	-10.10
94/ 9/ 1	2449596.5	0.93389	-0.35111	-0.15224	10.80900	25.19357	10.92298	1.00926	29.51037	339.40	-8.68
94/ 9/ 5	2449600.5	0.95669	-0.29214	-0.12667	8.92106	25.83590	11.20149	1.00829	29.53900	343.02	-7.22
94/ 9/ 9	2449604.5	0.97508	-0.23183	-0.10052	6.98631	26.36065	11.42902	1.00728	29.56882	346.63	-5.73
94/ 9/13	2449608.5	0.98894	-0.17044	-0.07391	5.01323	26.76474	11.60425	1.00624	29.59971	350.22	-4.21
94/ 9/17	2449612.5	0.99822	-0.10826	-0.04695	3.01059	27.04558	11.72603	1.00517	29.63152	353.81	-2.68
94/ 9/21	2449616.5	1.00284	-0.04557	-0.01977	0.98740	27.20109	11.79347	1.00407	29.66412	357.40	-1.13
94/ 9/25	2449620.5	1.00277	0.01732	0.00750	-1.04714	27.22972	11.80591	1.00295	29.69737	0.99	0.43
94/ 9/29	2449624.5	0.99800	0.08014	0.03473	-3.08363	27.13048	11.76290	1.00181	29.73109	4.59	1.99
94/10/ 3	2449628.5	0.98853	0.14258	0.06181	-5.11255	26.90298	11.66429	1.00067	29.76515	8.21	3.54
94/10/ 7	2449632.5	0.97439	0.20434	0.08858	-7.12426	26.54740	11.51014	0.99952	29.79938	11.84	5.08
94/10/11	2449636.5	0.95563	0.26514	0.11494	-9.10909	26.06455	11.30081	0.99837	29.83362	15.51	6.61
94/10/15	2449640.5	0.93233	0.32467	0.14076	-11.05738	25.45586	11.03691	0.99723	29.86770	19.20	8.11
94/10/19	2449644.5	0.90458	0.38266	0.16590	-12.95947	24.72338	10.71935	0.99610	29.90147	22.93	9.59
94/10/23	2449648.5	0.87250	0.43881	0.19024	-14.80584	23.86984	10.34930	0.99498	29.93476	26.70	11.02
94/10/27	2449652.5	0.83622	0.49285	0.21367	-16.58711	22.89858	9.92820	0.99389	29.96742	30.51	12.41
94/10/31	2449656.5	0.79591	0.54452	0.23608	-18.29408	21.81359	9.45780	0.99283	29.99927	34.38	13.76

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

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94/11/ 4	2449660.5	0.75176	0.59356	0.25734	-19.91784	20.61952	8.94011	0.99180	30.03016	38.29	15.04
94/11/ 8	2449664.5	0.70396	0.63971	0.27735	-21.44981	19.32163	8.37739	0.99081	30.05995	42.26	16.26
94/11/12	2449668.5	0.65273	0.68275	0.29601	-22.88176	17.92578	7.77221	0.98986	30.08846	46.29	17.40
94/11/16	2449672.5	0.59832	0.72246	0.31323	-24.20591	16.43843	7.12736	0.98896	30.11556	50.37	18.46
94/11/20	2449676.5	0.54098	0.75864	0.32891	-25.41498	14.86660	6.44588	0.98812	30.14111	54.51	19.44
94/11/24	2449680.5	0.48099	0.79109	0.34298	-26.50223	13.21786	5.73106	0.98733	30.16496	58.70	20.33
94/11/28	2449684.5	0.41863	0.81966	0.35537	-27.46152	11.50023	4.98637	0.98660	30.18699	62.94	21.11
94/12/ 2	2449688.5	0.35421	0.84418	0.36600	-28.28737	9.72224	4.21550	0.98593	30.20708	67.24	21.79
94/12/ 6	2449692.5	0.28804	0.86454	0.37483	-28.97499	7.89278	3.42232	0.98534	30.22512	71.57	22.36
94/12/10	2449696.5	0.22044	0.88062	0.38180	-29.52031	6.02111	2.61084	0.98481	30.24102	75.95	22.81
94/12/14	2449700.5	0.15176	0.89233	0.38688	-29.92008	4.11681	1.78520	0.98436	30.25469	80.35	23.14
94/12/18	2449704.5	0.08232	0.89962	0.39004	-30.17179	2.18967	0.94967	0.98398	30.26605	84.77	23.35
94/12/22	2449708.5	0.01247	0.90244	0.39127	-30.27382	0.24967	0.10855	0.98369	30.27504	89.21	23.44
94/12/26	2449712.5	-0.05744	0.90077	0.39054	-30.22535	-1.69310	-0.73376	0.98347	30.28162	93.65	23.40
94/12/30	2449716.5	-0.12707	0.89462	0.38788	-30.02644	-3.62848	-1.57287	0.98333	30.28575	98.08	23.23
95/ 1/ 3	2449720.5	-0.19606	0.88402	0.38328	-29.67800	-5.54637	-2.40440	0.98328	30.28741	102.50	22.94
95/ 1/ 7	2449724.5	-0.26408	0.86902	0.37678	-29.18181	-7.43672	-3.22400	0.98331	30.28658	106.90	22.53
95/ 1/11	2449728.5	-0.33078	0.84969	0.36840	-28.54048	-9.28968	-4.02738	0.98341	30.28328	111.27	22.00
95/ 1/15	2449732.5	-0.39584	0.82613	0.35819	-27.75746	-11.09557	-4.81036	0.98360	30.27752	115.60	21.36
95/ 1/19	2449736.5	-0.45892	0.79847	0.34619	-26.83700	-12.84505	-5.56888	0.98387	30.26933	119.89	20.60
95/ 1/23	2449740.5	-0.51973	0.76683	0.33248	-25.78412	-14.52907	-6.29902	0.98422	30.25876	124.13	19.74
95/ 1/27	2449744.5	-0.57796	0.73139	0.31711	-24.60457	-16.13904	-6.99706	0.98465	30.24587	128.32	18.79
95/ 1/31	2449748.5	-0.63332	0.69233	0.30018	-23.30480	-17.66679	-7.65945	0.98515	30.23072	132.45	17.74
95/ 2/ 4	2449752.5	-0.68555	0.64984	0.28175	-21.89189	-19.10467	-8.28288	0.98572	30.21340	136.53	16.61
95/ 2/ 8	2449756.5	-0.73439	0.60413	0.26194	-20.37351	-20.44559	-8.86427	0.98636	30.19400	140.56	15.40
95/ 2/12	2449760.5	-0.77960	0.55545	0.24083	-18.75788	-21.68304	-9.40080	0.98707	30.17262	144.53	14.12
95/ 2/16	2449764.5	-0.82099	0.50403	0.21854	-17.05367	-22.81113	-9.88992	0.98784	30.14939	148.45	12.78
95/ 2/20	2449768.5	-0.85834	0.45014	0.19517	-15.26997	-23.82463	-10.32936	0.98867	30.12442	152.33	11.39
95/ 2/24	2449772.5	-0.89149	0.39405	0.17085	-13.41620	-24.71899	-10.71714	0.98955	30.09784	156.15	9.94
95/ 2/28	2449776.5	-0.92028	0.33603	0.14570	-11.50209	-25.49034	-11.05158	0.99048	30.06980	159.94	8.46
95/ 3/ 4	2449780.5	-0.94459	0.27637	0.11983	-9.53757	-26.13549	-11.33132	0.99146	30.04044	163.69	6.94
95/ 3/ 8	2449784.5	-0.96431	0.21537	0.09339	-7.53272	-26.65198	-11.55527	0.99248	30.00990	167.41	5.40
95/ 3/12	2449788.5	-0.97937	0.15333	0.06649	-5.49771	-27.03804	-11.72267	0.99353	29.97835	171.10	3.84
95/ 3/16	2449792.5	-0.98970	0.09055	0.03927	-3.44276	-27.29259	-11.83306	0.99461	29.94594	174.77	2.26
95/ 3/20	2449796.5	-0.99527	0.02733	0.01186	-1.37805	-27.41524	-11.88625	0.99572	29.91283	178.43	0.68
95/ 3/24	2449800.5	-0.99607	-0.03602	-0.01561	0.68633	-27.40627	-11.88239	0.99684	29.87919	182.07	-0.90
95/ 3/28	2449804.5	-0.99211	-0.09920	-0.04300	2.74041	-27.26662	-11.82186	0.99798	29.84518	185.71	-2.47
95/ 4/ 1	2449808.5	-0.98342	-0.16190	-0.07018	4.77443	-26.99784	-11.70534	0.99913	29.81096	189.35	-4.03
95/ 4/ 5	2449812.5	-0.97007	-0.22384	-0.09704	6.77882	-26.60209	-11.53378	1.00028	29.77670	192.99	-5.57
95/ 4/ 9	2449816.5	-0.95213	-0.28472	-0.12343	8.74431	-26.08213	-11.30837	1.00143	29.74256	196.65	-7.08
95/ 4/13	2449820.5	-0.92971	-0.34425	-0.14925	10.66195	-25.44125	-11.03052	1.00256	29.70870	200.32	-8.56
95/ 4/17	2449824.5	-0.90291	-0.40217	-0.17436	12.52311	-24.68325	-10.70190	1.00369	29.67527	204.01	-10.00
95/ 4/21	2449828.5	-0.87189	-0.45821	-0.19866	14.31954	-23.81244	-10.32436	1.00480	29.64244	207.72	-11.40
95/ 4/25	2449832.5	-0.83681	-0.51211	-0.22203	16.04341	-22.83356	-9.89997	1.00588	29.61033	211.47	-12.75
95/ 4/29	2449836.5	-0.79783	-0.56363	-0.24436	17.68731	-21.75178	-9.43097	1.00694	29.57911	215.24	-14.04

1.3 1 A.U.=149,599,000 KM.

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		HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM							EARTH-MOON B		
95/ 5/ 3	2449840.5	-0.75515	-0.61254	-0.26557	19.24426	-20.57267	-8.91976	1.00796	29.54891	219.05	-15.28
95/ 5/ 7	2449844.5	-0.70899	-0.65861	-0.28554	20.70775	-19.30213	-8.36892	1.00894	29.51986	222.89	-16.44
95/ 5/11	2449848.5	-0.65955	-0.70166	-0.30421	22.07178	-17.94641	-7.78114	1.00989	29.49208	226.77	-17.53
95/ 5/15	2449852.5	-0.60709	-0.74147	-0.32147	23.33080	-16.51202	-7.15925	1.01078	29.46571	230.69	-18.54
95/ 5/19	2449856.5	-0.55184	-0.77789	-0.33726	24.47978	-15.00575	-6.50619	1.01163	29.44083	234.65	-19.47
95/ 5/23	2449860.5	-0.49407	-0.81075	-0.35151	25.51420	-13.43461	-5.82501	1.01242	29.41758	238.64	-20.32
95/ 5/27	2449864.5	-0.43405	-0.83992	-0.36415	26.43005	-11.80580	-5.11883	1.01315	29.39604	242.67	-21.07
95/ 5/31	2449868.5	-0.37205	-0.86526	-0.37514	27.22384	-10.12670	-4.39084	1.01382	29.37630	246.73	-21.72
95/ 6/ 4	2449872.5	-0.30836	-0.88668	-0.38443	27.89259	-8.40481	-3.64430	1.01443	29.35844	250.82	-22.27
95/ 6/ 8	2449876.5	-0.24327	-0.90407	-0.39197	28.43384	-6.64778	-2.88251	1.01497	29.34255	254.94	-22.72
95/ 6/12	2449880.5	-0.17708	-0.91737	-0.39774	28.84567	-4.86330	-2.10883	1.01544	29.32868	259.07	-23.06
95/ 6/16	2449884.5	-0.11010	-0.92652	-0.40171	29.12666	-3.05916	-1.32662	1.01584	29.31690	263.22	-23.29
95/ 6/20	2449888.5	-0.04261	-0.93149	-0.40386	29.27590	-1.24315	-0.53926	1.01617	29.30725	267.38	-23.42
95/ 6/24	2449892.5	0.02507	-0.93226	-0.40420	29.29302	0.57691	0.24985	1.01643	29.29977	271.54	-23.43
95/ 6/28	2449896.5	0.09263	-0.92883	-0.40271	29.17814	2.39320	1.03733	1.01660	29.29449	275.70	-23.34
95/ 7/ 2	2449900.5	0.15978	-0.92122	-0.39941	28.93188	4.19795	1.81981	1.01671	29.29144	279.84	-23.13
95/ 7/ 6	2449904.5	0.22621	-0.90945	-0.39431	28.55539	5.98346	2.59394	1.01673	29.29062	283.97	-22.82
95/ 7/10	2449908.5	0.29162	-0.89359	-0.38743	28.05029	7.74208	3.35642	1.01668	29.29205	288.07	-22.40
95/ 7/14	2449912.5	0.35571	-0.87371	-0.37881	27.41871	9.46629	4.10398	1.01656	29.29572	292.15	-21.88
95/ 7/18	2449916.5	0.41820	-0.84989	-0.36848	26.66326	11.14867	4.83341	1.01636	29.30160	296.20	-21.26
95/ 7/22	2449920.5	0.47881	-0.82223	-0.35650	25.78703	12.78196	5.54155	1.01608	29.30969	300.21	-20.54
95/ 7/26	2449924.5	0.53726	-0.79087	-0.34290	24.79359	14.35907	6.22534	1.01573	29.31995	304.19	-19.73
95/ 7/30	2449928.5	0.59328	-0.75594	-0.32775	23.68697	15.87309	6.88177	1.01531	29.33234	308.13	-18.83
95/ 8/ 3	2449932.5	0.64662	-0.71759	-0.31113	22.47166	17.31734	7.50796	1.01481	29.34681	312.02	-17.85
95/ 8/ 7	2449936.5	0.69703	-0.67598	-0.29309	21.15261	18.68535	8.10109	1.01425	29.36329	315.88	-16.80
95/ 8/11	2449940.5	0.74427	-0.63132	-0.27372	19.73519	19.97094	8.65849	1.01362	29.38172	319.69	-15.67
95/ 8/15	2449944.5	0.78814	-0.58378	-0.25311	18.22523	21.16819	9.17759	1.01293	29.40203	323.47	-14.47
95/ 8/19	2449948.5	0.82841	-0.53358	-0.23135	16.62895	22.27150	9.65595	1.01218	29.42413	327.21	-13.21
95/ 8/23	2449952.5	0.86491	-0.48095	-0.20853	14.95300	23.27559	10.09131	1.01137	29.44792	330.92	-11.90
95/ 8/27	2449956.5	0.89745	-0.42612	-0.18476	13.20439	24.17556	10.48152	1.01051	29.47331	334.60	-10.54
95/ 8/31	2449960.5	0.92587	-0.36934	-0.16014	11.39053	24.96686	10.82461	1.00960	29.50018	338.25	-9.13
95/ 9/ 4	2449964.5	0.95003	-0.31085	-0.13478	9.51917	25.64538	11.11881	1.00864	29.52843	341.88	-7.68
95/ 9/ 8	2449968.5	0.96981	-0.25094	-0.10881	7.59840	26.20741	11.36251	1.00764	29.55792	345.49	-6.20
95/ 9/12	2449972.5	0.98511	-0.18986	-0.08233	5.63660	26.64973	11.55430	1.00661	29.58854	349.09	-4.69
95/ 9/16	2449976.5	0.99583	-0.12790	-0.05546	3.64246	26.96959	11.69299	1.00554	29.62013	352.68	-3.16
95/ 9/20	2449980.5	1.00192	-0.06535	-0.02834	1.62489	27.16473	11.77762	1.00445	29.65257	356.27	-1.62
95/ 9/24	2449984.5	1.00333	-0.00249	-0.00109	-0.40694	27.23344	11.80743	1.00333	29.68570	359.86	-0.06
95/ 9/28	2449988.5	1.00003	0.06038	0.02617	-2.44371	27.17455	11.78192	1.00220	29.71938	3.46	1.50
95/10/ 2	2449992.5	0.99204	0.12297	0.05331	-4.47592	26.98748	11.70083	1.00105	29.75344	7.07	3.05
95/10/ 6	2449996.5	0.97936	0.18498	0.08019	-6.49399	26.67223	11.56416	0.99990	29.78774	10.70	4.60
95/10/10	2450000.5	0.96205	0.24611	0.10669	-8.48823	26.22939	11.37219	0.99875	29.82210	14.35	6.13
95/10/14	2450004.5	0.94017	0.30607	0.13269	-10.44899	25.66020	11.12543	0.99760	29.85636	18.03	7.64
95/10/18	2450008.5	0.91381	0.36457	0.15806	-12.36659	24.96653	10.82469	0.99646	29.89037	21.75	9.13
95/10/22	2450012.5	0.88307	0.42133	0.18266	-14.23147	24.15087	10.47107	0.99534	29.92394	25.51	10.57
95/10/26	2450016.5	0.84810	0.47606	0.20640	-16.03418	23.21637	10.06592	0.99424	29.95693	29.31	11.98

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95/10/30	2450020.5	0.80905	0.52851	0.22913	-17.76549	22.16682	9.61089	0.99317	29.98916	33.15	13.34
95/11/ 3	2450024.5	0.76608	0.57840	0.25076	-19.41638	21.00665	9.10790	0.99212	30.02048	37.05	14.64
95/11/ 7	2450028.5	0.71940	0.62548	0.27118	-20.97814	19.74093	8.55914	0.99112	30.05072	41.01	15.88
95/11/11	2450032.5	0.66923	0.66953	0.29028	-22.44245	18.37532	7.96708	0.99015	30.07973	45.01	17.05
95/11/15	2450036.5	0.61579	0.71031	0.30796	-23.80137	16.91611	7.33443	0.98923	30.10737	49.08	18.14
95/11/19	2450040.5	0.55935	0.74762	0.32414	-25.04745	15.37014	6.66417	0.98837	30.13349	53.20	19.14
95/11/23	2450044.5	0.50016	0.78127	0.33872	-26.17378	13.74479	5.95949	0.98756	30.15795	57.37	20.06
95/11/27	2450048.5	0.43851	0.81107	0.35165	-27.17403	12.04798	5.22382	0.98681	30.18062	61.60	20.88
95/12/ 1	2450052.5	0.37471	0.83688	0.36284	-28.04249	10.28805	4.46079	0.98612	30.20138	65.88	21.59
95/12/ 5	2450056.5	0.30905	0.85857	0.37224	-28.77414	8.47379	3.67420	0.98550	30.22013	70.20	22.19
95/12/ 9	2450060.5	0.24187	0.87600	0.37980	-29.36471	6.61437	2.86803	0.98495	30.23676	74.56	22.68
95/12/13	2450064.5	0.17349	0.88910	0.38548	-29.81065	4.71926	2.04638	0.98447	30.25118	78.96	23.05
95/12/17	2450068.5	0.10425	0.89779	0.38925	-30.10923	2.79819	1.21348	0.98407	30.26332	83.38	23.30
95/12/21	2450072.5	0.03449	0.90201	0.39108	-30.25854	0.86110	0.37363	0.98375	30.27310	87.81	23.42
95/12/25	2450076.5	-0.03544	0.90176	0.39097	-30.25751	-1.08195	-0.46880	0.98351	30.28048	92.25	23.42
95/12/29	2450080.5	-0.10520	0.89702	0.38892	-30.10592	-3.02081	-1.30942	0.98334	30.28541	96.69	23.30
96/ 1/ 2	2450084.5	-0.17443	0.88781	0.38493	-29.80440	-4.94536	-2.14384	0.98326	30.28787	101.12	23.05
96/ 1/ 6	2450088.5	-0.24279	0.87419	0.37902	-29.35447	-6.84553	-2.96769	0.98326	30.28784	105.52	22.67
96/ 1/10	2450092.5	-0.30994	0.85621	0.37122	-28.75847	-8.71138	-3.77666	0.98335	30.28533	109.90	22.18
96/ 1/14	2450096.5	-0.37556	0.83397	0.36158	-28.01960	-10.53319	-4.56653	0.98351	30.28034	114.24	21.57
96/ 1/18	2450100.5	-0.43930	0.80759	0.35014	-27.14185	-12.30147	-5.33320	0.98376	30.27291	118.54	20.85
96/ 1/22	2450104.5	-0.50086	0.77718	0.33696	-26.13001	-14.00710	-6.07271	0.98408	30.26308	122.80	20.02
96/ 1/26	2450108.5	-0.55993	0.74292	0.32211	-24.98960	-15.64132	-6.78126	0.98448	30.25089	127.00	19.10
96/ 1/30	2450112.5	-0.61622	0.70498	0.30566	-23.72686	-17.19583	-7.45525	0.98496	30.23642	131.16	18.08
96/ 2/ 3	2450116.5	-0.66947	0.66354	0.28769	-22.34868	-18.66282	-8.09130	0.98551	30.21975	135.25	16.97
96/ 2/ 7	2450120.5	-0.71940	0.61882	0.26831	-20.86256	-20.03499	-8.68624	0.98613	30.20096	139.30	15.79
96/ 2/11	2450124.5	-0.76578	0.57105	0.24759	-19.27654	-21.30567	-9.23717	0.98682	30.18015	143.29	14.53
96/ 2/15	2450128.5	-0.80839	0.52046	0.22566	-17.59917	-22.46876	-9.74146	0.98758	30.15745	147.23	13.21
96/ 2/19	2450132.5	-0.84703	0.46732	0.20262	-15.83940	-23.51883	-10.19675	0.98839	30.13296	151.11	11.83
96/ 2/23	2450136.5	-0.88152	0.41189	0.17859	-14.00658	-24.45110	-10.60096	0.98925	30.10682	154.96	10.40
96/ 2/27	2450140.5	-0.91170	0.35444	0.15368	-12.11033	-25.26148	-10.95234	0.99017	30.07917	158.76	8.93
96/ 3/ 2	2450144.5	-0.93743	0.29527	0.12803	-10.16053	-25.94659	-11.24939	0.99114	30.05014	162.52	7.42
96/ 3/ 6	2450148.5	-0.95861	0.23466	0.10175	-8.16722	-26.50373	-11.49097	0.99215	30.01989	166.24	5.89
96/ 3/10	2450152.5	-0.97514	0.17291	0.07498	-6.14057	-26.93091	-11.67620	0.99319	29.98857	169.94	4.33
96/ 3/14	2450156.5	-0.98696	0.11033	0.04784	-4.09076	-27.22685	-11.80452	0.99426	29.95634	173.62	2.76
96/ 3/18	2450160.5	-0.99403	0.04722	0.02048	-2.02801	-27.39093	-11.87568	0.99536	29.92336	177.28	1.18
96/ 3/22	2450164.5	-0.99633	-0.01612	-0.00698	0.03756	-27.42323	-11.88970	0.99649	29.88979	180.93	-0.40
96/ 3/26	2450168.5	-0.99387	-0.07939	-0.03441	2.09594	-27.32448	-11.84691	0.99762	29.85581	184.57	-1.98
96/ 3/30	2450172.5	-0.98666	-0.14227	-0.06167	4.13730	-27.09605	-11.74789	0.99877	29.82157	188.21	-3.54
96/ 4/ 3	2450176.5	-0.97477	-0.20448	-0.08865	6.15200	-26.73991	-11.59350	0.99992	29.78724	191.85	-5.09
96/ 4/ 7	2450180.5	-0.95826	-0.26572	-0.11520	8.13069	-26.25865	-11.38486	1.00107	29.75298	195.50	-6.61
96/ 4/11	2450184.5	-0.93724	-0.32571	-0.14121	10.06429	-25.65537	-11.12332	1.00222	29.71895	199.16	-8.10
96/ 4/15	2450188.5	-0.91181	-0.38417	-0.16655	11.94409	-24.93372	-10.81046	1.00335	29.68532	202.85	-9.56
96/ 4/19	2450192.5	-0.88210	-0.44083	-0.19112	13.76171	-24.09787	-10.44808	1.00447	29.65223	206.55	-10.97
96/ 4/23	2450196.5	-0.84828	-0.49543	-0.21479	15.50919	-23.15242	-10.03819	1.00556	29.61983	210.29	-12.33

1.3 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
96/ 4/27	2450200.5	-0.81050	-0.54772	-0.23746	17.17897	-22.10240	-9.58295	1.00663	29.58828	214.05	-13.64
96/ 5/ 1	2450204.5	-0.76897	-0.59747	-0.25903	18.76395	-20.95327	-9.08475	1.00766	29.55771	217.85	-14.90
96/ 5/ 5	2450208.5	-0.72388	-0.64446	-0.27941	20.25749	-19.71082	-8.54608	1.00866	29.52825	221.68	-16.08
96/ 5/ 9	2450212.5	-0.67545	-0.68847	-0.29849	21.65339	-18.38120	-7.96962	1.00961	29.50005	225.55	-17.20
96/ 5/13	2450216.5	-0.62391	-0.72932	-0.31620	22.94599	-16.97084	-7.35815	1.01052	29.47321	229.45	-18.23
96/ 5/17	2450220.5	-0.56951	-0.76683	-0.33246	24.13008	-15.48644	-6.71457	1.01139	29.44785	233.40	-19.19
96/ 5/21	2450224.5	-0.51251	-0.80082	-0.34720	25.20099	-13.93494	-6.04191	1.01219	29.42409	237.38	-20.06
96/ 5/25	2450228.5	-0.45316	-0.83117	-0.36036	26.15455	-12.32349	-5.34325	1.01294	29.40203	241.40	-20.84
96/ 5/29	2450232.5	-0.39176	-0.85772	-0.37187	26.98710	-10.65940	-4.62177	1.01363	29.38175	245.45	-21.52
96/ 6/ 2	2450236.5	-0.32857	-0.88038	-0.38170	27.69550	-8.95016	-3.88071	1.01426	29.36334	249.53	-22.11
96/ 6/ 6	2450240.5	-0.26389	-0.89905	-0.38979	28.27713	-7.20335	-3.12336	1.01482	29.34689	253.64	-22.59
96/ 6/10	2450244.5	-0.19802	-0.91364	-0.39612	28.72991	-5.42666	-2.35306	1.01531	29.33246	257.77	-22.96
96/ 6/14	2450248.5	-0.13125	-0.92410	-0.40066	29.05223	-3.62784	-1.57316	1.01574	29.32010	261.92	-23.23
96/ 6/18	2450252.5	-0.06389	-0.93039	-0.40338	29.24306	-1.81470	-0.78705	1.01608	29.30988	266.07	-23.39
96/ 6/22	2450256.5	0.00376	-0.93248	-0.40429	29.30182	0.00495	0.00188	1.01636	29.30182	270.23	-23.44
96/ 6/26	2450260.5	0.07139	-0.93037	-0.40337	29.22849	1.82330	0.79024	1.01656	29.29597	274.39	-23.38
96/ 6/30	2450264.5	0.13871	-0.92407	-0.40064	29.02354	3.63255	1.57466	1.01669	29.29233	278.54	-23.21
96/ 7/ 4	2450268.5	0.20539	-0.91360	-0.39610	28.68793	5.42498	2.35179	1.01673	29.29093	282.67	-22.93
96/ 7/ 8	2450272.5	0.27115	-0.89902	-0.38978	28.22314	7.19291	3.11831	1.01671	29.29176	286.78	-22.54
96/ 7/12	2450276.5	0.33570	-0.88039	-0.38171	27.63114	8.92879	3.87092	1.01660	29.29484	290.87	-22.05
96/ 7/16	2450280.5	0.39872	-0.85780	-0.37191	26.91439	10.62517	4.60641	1.01642	29.30013	294.93	-21.46
96/ 7/20	2450284.5	0.45996	-0.83133	-0.36044	26.07582	12.27472	5.32160	1.01617	29.30762	298.95	-20.78
96/ 7/24	2450288.5	0.51911	-0.80112	-0.34734	25.11885	13.87031	6.01340	1.01584	29.31728	302.94	-19.99
96/ 7/28	2450292.5	0.57593	-0.76730	-0.33268	24.04736	15.40496	6.67878	1.01543	29.32907	306.89	-19.12
96/ 8/ 1	2450296.5	0.63013	-0.73000	-0.31651	22.86571	16.87191	7.31480	1.01496	29.34294	310.80	-18.17
96/ 8/ 5	2450300.5	0.68149	-0.68940	-0.29890	21.57869	18.26463	7.91864	1.01442	29.35884	314.67	-17.14
96/ 8/ 9	2450304.5	0.72976	-0.64567	-0.27995	20.19156	19.57684	8.48758	1.01381	29.37670	318.50	-16.03
96/ 8/13	2450308.5	0.77471	-0.59901	-0.25972	18.70999	20.80252	9.01901	1.01314	29.39644	322.29	-14.85
96/ 8/17	2450312.5	0.81614	-0.54963	-0.23831	17.14009	21.93598	9.51045	1.01240	29.41800	326.04	-13.61
96/ 8/21	2450316.5	0.85384	-0.49774	-0.21581	15.48837	22.97184	9.95957	1.01161	29.44126	329.76	-12.32
96/ 8/25	2450320.5	0.88764	-0.44357	-0.19232	13.76174	23.90506	10.36420	1.01077	29.46615	333.45	-10.97
96/ 8/29	2450324.5	0.91737	-0.38737	-0.16796	11.96749	24.73099	10.72231	1.00987	29.49255	337.11	-9.57
96/ 9/ 2	2450328.5	0.94289	-0.32939	-0.14282	10.11325	25.44537	11.03206	1.00893	29.52035	340.74	-8.14
96/ 9/ 6	2450332.5	0.96406	-0.26989	-0.11702	8.20702	26.04437	11.29178	1.00794	29.54943	344.36	-6.67
96/ 9/10	2450336.5	0.98077	-0.20915	-0.09069	6.25710	26.52460	11.50001	1.00692	29.57966	347.96	-5.17
96/ 9/14	2450340.5	0.99294	-0.14743	-0.06393	4.27208	26.88317	11.65549	1.00586	29.61091	351.55	-3.64
96/ 9/18	2450344.5	1.00049	-0.08503	-0.03688	2.26080	27.11766	11.75718	1.00478	29.64305	355.14	-2.10
96/ 9/22	2450348.5	1.00338	-0.02224	-0.00965	0.23237	27.22620	11.80426	1.00367	29.67592	358.73	-0.55
96/ 9/26	2450352.5	1.00156	0.04066	0.01762	-1.80394	27.20743	11.79614	1.00254	29.70938	2.32	1.01
96/ 9/30	2450356.5	0.99504	0.10337	0.04481	-3.83868	27.06059	11.73250	1.00140	29.74328	5.93	2.56
96/10/ 4	2450360.5	0.98383	0.16559	0.07179	-5.86229	26.78549	11.61324	1.00025	29.77745	9.55	4.12
96/10/ 8	2450364.5	0.96797	0.22703	0.09842	-7.86511	26.38255	11.43856	0.99910	29.81174	13.20	5.65
96/10/12	2450368.5	0.94752	0.28739	0.12459	-9.83746	25.85281	11.20891	0.99795	29.84598	16.87	7.17
96/10/16	2450372.5	0.92255	0.34639	0.15017	-11.76968	25.19792	10.92499	0.99681	29.88002	20.58	8.66
96/10/20	2450376.5	0.89318	0.40372	0.17503	-13.65216	24.42019	10.58781	0.99569	29.91369	24.32	10.12

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
96/10/24	2450380.5	0.85952	0.45912	0.19905	-15.47541	23.52256	10.19865	0.99458	29.94682	28.11	11.54
96/10/28	2450384.5	0.82173	0.51232	0.22211	-17.23012	22.50863	9.75907	0.99350	29.97924	31.94	12.92
96/11/ 1	2450388.5	0.77997	0.56303	0.24410	-18.90721	21.38262	9.27089	0.99244	30.01081	35.82	14.24
96/11/ 5	2450392.5	0.73443	0.61103	0.26491	-20.49786	20.14941	8.73623	0.99143	30.04135	39.76	15.50
96/11/ 9	2450396.5	0.68533	0.65605	0.28443	-21.99363	18.81447	8.15747	0.99045	30.07072	43.75	16.69
96/11/13	2450400.5	0.63290	0.69788	0.30257	-23.38643	17.38389	7.53724	0.98952	30.09875	47.80	17.80
96/11/17	2450404.5	0.57737	0.73631	0.31923	-24.66869	15.86436	6.87844	0.98864	30.12532	51.90	18.84
96/11/21	2450408.5	0.51901	0.77112	0.33432	-25.83329	14.26308	6.18419	0.98781	30.15027	56.06	19.78
96/11/25	2450412.5	0.45810	0.80215	0.34778	-26.87373	12.58781	5.45787	0.98704	30.17348	60.27	20.63
96/11/29	2450416.5	0.39494	0.82923	0.35952	-27.78411	10.84676	4.70302	0.98633	30.19482	64.53	21.38
96/12/ 3	2450420.5	0.32983	0.85222	0.36949	-28.55918	9.04860	3.92341	0.98569	30.21419	68.84	22.02
96/12/ 7	2450424.5	0.26310	0.87100	0.37763	-29.19443	7.20236	3.12296	0.98512	30.23146	73.19	22.54
96/12/11	2450428.5	0.19506	0.88547	0.38390	-29.68608	5.31743	2.30573	0.98462	30.24657	77.58	22.95
96/12/15	2450432.5	0.12605	0.89555	0.38827	-30.03115	3.40347	1.47592	0.98420	30.25941	81.99	23.24
96/12/19	2450436.5	0.05642	0.90118	0.39072	-30.22746	1.47036	0.63779	0.98385	30.26992	86.42	23.40
96/12/23	2450440.5	-0.01350	0.90233	0.39122	-30.27368	-0.47187	-0.20429	0.98358	30.27805	90.86	23.44
96/12/27	2450444.5	-0.08334	0.89900	0.38977	-30.16932	-2.41311	-1.04593	0.98340	30.28374	95.30	23.35
96/12/31	2450448.5	-0.15277	0.89119	0.38639	-29.91475	-4.34321	-1.88275	0.98329	30.28697	99.73	23.14
97/ 1/ 4	2450452.5	-0.22144	0.87895	0.38108	-29.51121	-6.25207	-2.71037	0.98327	30.28772	104.14	22.80
97/ 1/ 8	2450456.5	-0.28901	0.86233	0.37388	-28.96078	-8.12971	-3.52445	0.98332	30.28598	108.53	22.35
97/ 1/12	2450460.5	-0.35514	0.84142	0.36481	-28.26639	-9.96632	-4.32074	0.98346	30.28177	112.88	21.77
97/ 1/16	2450464.5	-0.41951	0.81632	0.35393	-27.43180	-11.75237	-5.09511	0.98368	30.27510	117.20	21.09
97/ 1/20	2450468.5	-0.48178	0.78716	0.34129	-26.46153	-13.47858	-5.84354	0.98398	30.26602	121.47	20.29
97/ 1/24	2450472.5	-0.54167	0.75410	0.32695	-25.36089	-15.13610	-6.56219	0.98436	30.25456	125.69	19.40
97/ 1/28	2450476.5	-0.59886	0.71729	0.31100	-24.13590	-16.71647	-7.24739	0.98481	30.24081	129.86	18.41
97/ 2/ 1	2450480.5	-0.65309	0.67693	0.29350	-22.79324	-18.21171	-7.89568	0.98534	30.22482	133.97	17.33
97/ 2/ 5	2450484.5	-0.70409	0.63322	0.27455	-21.34023	-19.61437	-8.50384	0.98594	30.20669	138.03	16.17
97/ 2/ 9	2450488.5	-0.75161	0.58638	0.25424	-19.78475	-20.91757	-9.06887	0.98661	30.18651	142.04	14.93
97/ 2/13	2450492.5	-0.79543	0.53665	0.23268	-18.13518	-22.11504	-9.58807	0.98734	30.16440	145.99	13.63
97/ 2/17	2450496.5	-0.83534	0.48428	0.20998	-16.40037	-23.20113	-10.05897	0.98813	30.14046	149.90	12.27
97/ 2/21	2450500.5	-0.87115	0.42954	0.18624	-14.58953	-24.17085	-10.47942	0.98899	30.11483	153.75	10.85
97/ 2/25	2450504.5	-0.90270	0.37270	0.16160	-12.71222	-25.01991	-10.84756	0.98989	30.08764	157.57	9.40
97/ 3/ 1	2450508.5	-0.92984	0.31404	0.13616	-10.77823	-25.74468	-11.16181	0.99084	30.05903	161.34	7.90
97/ 3/ 5	2450512.5	-0.95246	0.25385	0.11007	-8.79757	-26.34226	-11.42092	0.99183	30.02914	165.08	6.37
97/ 3/ 9	2450516.5	-0.97046	0.19243	0.08344	-6.78036	-26.81044	-11.62392	0.99286	29.99814	168.78	4.82
97/ 3/13	2450520.5	-0.98377	0.13008	0.05641	-4.73680	-27.14770	-11.77017	0.99393	29.96618	172.47	3.25
97/ 3/17	2450524.5	-0.99233	0.06710	0.02910	-2.67708	-27.35324	-11.85930	0.99502	29.93342	176.13	1.68
97/ 3/21	2450528.5	-0.99613	0.00380	0.00166	-0.61137	-27.42691	-11.89126	0.99614	29.90002	179.78	0.10
97/ 3/25	2450532.5	-0.99516	-0.05952	-0.02580	1.45028	-27.36923	-11.86627	0.99727	29.86614	183.42	-1.48
97/ 3/29	2450536.5	-0.98944	-0.12256	-0.05313	3.49798	-27.18138	-11.78485	0.99842	29.83196	187.06	-3.05
97/ 4/ 2	2450540.5	-0.97902	-0.18501	-0.08020	5.52203	-26.86515	-11.64776	0.99957	29.79764	190.70	-4.60
97/ 4/ 6	2450544.5	-0.96395	-0.24659	-0.10690	7.51298	-26.42291	-11.45604	1.00072	29.76333	194.35	-6.13
97/ 4/10	2450548.5	-0.94434	-0.30700	-0.13309	9.46167	-25.85763	-11.21098	1.00187	29.72921	198.01	-7.63
97/ 4/14	2450552.5	-0.92028	-0.36597	-0.15866	11.35925	-25.17279	-10.91407	1.00300	29.69543	201.69	-9.10
97/ 4/18	2450556.5	-0.89190	-0.42322	-0.18348	13.19726	-24.37238	-10.56706	1.00412	29.66215	205.39	-10.53

1.3 1 A.U.=149,599,000 KM.

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					EARTH-MOON B		
97/ 4/22	2450560.5	-0.85935	-0.47849	-0.20745	14.96759	-23.46087	-10.17189	1.00522	29.62952	209.11	-11.91
97/ 4/26	2450564.5	-0.82280	-0.53154	-0.23045	16.66256	-22.44318	-9.73067	1.00630	29.59769	212.86	-13.24
97/ 4/30	2450568.5	-0.78243	-0.58211	-0.25237	18.27492	-21.32463	-9.24573	1.00734	29.56681	216.65	-14.51
97/ 5/ 4	2450572.5	-0.73843	-0.62999	-0.27313	19.79788	-20.11090	-8.71951	1.00835	29.53700	220.47	-15.72
97/ 5/ 8	2450576.5	-0.69103	-0.67496	-0.29263	21.22511	-18.80803	-8.15466	1.00932	29.50840	224.33	-16.85
97/ 5/12	2450580.5	-0.64044	-0.71682	-0.31078	22.55077	-17.42237	-7.55390	1.01024	29.48114	228.22	-17.92
97/ 5/16	2450584.5	-0.58692	-0.75540	-0.32751	23.76951	-15.96054	-6.92012	1.01112	29.45534	232.15	-18.90
97/ 5/20	2450588.5	-0.53071	-0.79051	-0.34273	24.87650	-14.42941	-6.25629	1.01194	29.43109	236.12	-19.80
97/ 5/24	2450592.5	-0.47207	-0.82202	-0.35639	25.86739	-12.83605	-5.56548	1.01271	29.40852	240.13	-20.60
97/ 5/28	2450596.5	-0.41128	-0.84978	-0.36843	26.73838	-11.18775	-4.85085	1.01342	29.38771	244.17	-21.32
97/ 6/ 1	2450600.5	-0.34862	-0.87367	-0.37879	27.48615	-9.49192	-4.11561	1.01406	29.36874	248.25	-21.93
97/ 6/ 5	2450604.5	-0.28438	-0.89360	-0.38743	28.10792	-7.75612	-3.36304	1.01465	29.35171	252.35	-22.45
97/ 6/ 9	2450608.5	-0.21885	-0.90949	-0.39432	28.60144	-5.98802	-2.59646	1.01516	29.33667	256.47	-22.86
97/ 6/13	2450612.5	-0.15233	-0.92125	-0.39942	28.96496	-4.19534	-1.81923	1.01560	29.32369	260.61	-23.16
97/ 6/17	2450616.5	-0.08513	-0.92886	-0.40272	29.19724	-2.38587	-1.03472	1.01597	29.31283	264.76	-23.35
97/ 6/21	2450620.5	-0.01753	-0.93227	-0.40420	29.29759	-0.56743	-0.24631	1.01627	29.30412	268.92	-23.44
97/ 6/25	2450624.5	0.05014	-0.93148	-0.40385	29.26580	1.25217	0.54260	1.01650	29.29760	273.08	-23.41
97/ 6/29	2450628.5	0.11758	-0.92649	-0.40169	29.10219	3.06513	1.32863	1.01664	29.29330	277.23	-23.27
97/ 7/ 3	2450632.5	0.18450	-0.91733	-0.39772	28.80756	4.86370	2.10842	1.01671	29.29124	281.37	-23.03
97/ 7/ 7	2450636.5	0.25058	-0.90403	-0.39196	28.38324	6.64018	2.87864	1.01671	29.29141	285.49	-22.68
97/ 7/11	2450640.5	0.31554	-0.88667	-0.38443	27.83103	8.38699	3.63599	1.01663	29.29383	289.59	-22.22
97/ 7/15	2450644.5	0.37908	-0.86531	-0.37517	27.15324	10.09662	4.37722	1.01647	29.29847	293.66	-21.66
97/ 7/19	2450648.5	0.44090	-0.84005	-0.36422	26.35265	11.76172	5.09916	1.01624	29.30532	297.69	-21.00
97/ 7/23	2450652.5	0.50074	-0.81101	-0.35163	25.43253	13.37508	5.79865	1.01593	29.31434	301.69	-20.25
97/ 7/27	2450656.5	0.55832	-0.77830	-0.33745	24.39662	14.92968	6.47268	1.01555	29.32551	305.65	-19.41
97/ 7/31	2450660.5	0.61338	-0.74208	-0.32174	23.24912	16.41867	7.11826	1.01510	29.33877	309.58	-18.48
97/ 8/ 4	2450664.5	0.66566	-0.70250	-0.30458	21.99469	17.83545	7.73253	1.01458	29.35408	313.46	-17.47
97/ 8/ 8	2450668.5	0.71492	-0.65973	-0.28604	20.63844	19.17367	8.31274	1.01399	29.37136	317.30	-16.39
97/ 8/12	2450672.5	0.76094	-0.61397	-0.26620	19.18593	20.42721	8.85625	1.01334	29.39054	321.10	-15.23
97/ 8/16	2450676.5	0.80350	-0.56542	-0.24515	17.64311	21.59029	9.36053	1.01263	29.41155	324.87	-14.01
97/ 8/20	2450680.5	0.84239	-0.51429	-0.22299	16.01638	22.65741	9.82320	1.01185	29.43429	328.60	-12.73
97/ 8/24	2450684.5	0.87744	-0.46081	-0.19980	14.31252	23.62342	10.24205	1.01102	29.45868	332.29	-11.40
97/ 8/28	2450688.5	0.90847	-0.40523	-0.17570	12.53870	24.48356	10.61499	1.01014	29.48460	335.96	-10.02
97/ 9/ 1	2450692.5	0.93532	-0.34778	-0.15079	10.70247	25.23343	10.94012	1.00922	29.51195	339.60	-8.59
97/ 9/ 5	2450696.5	0.95788	-0.28873	-0.12519	8.81170	25.86907	11.21573	1.00825	29.54061	343.23	-7.13
97/ 9/ 9	2450700.5	0.97600	-0.22834	-0.09901	6.87459	26.38696	11.44029	1.00724	29.57045	346.83	-5.64
97/ 9/13	2450704.5	0.98961	-0.16690	-0.07237	4.89965	26.78402	11.61246	1.00619	29.60135	350.43	-4.12
97/ 9/17	2450708.5	0.99862	-0.10469	-0.04540	2.89567	27.05771	11.73114	1.00512	29.63316	354.02	-2.59
97/ 9/21	2450712.5	1.00297	-0.04198	-0.01821	0.87165	27.20596	11.79544	1.00402	29.66575	357.60	-1.04
97/ 9/25	2450716.5	1.00264	0.02092	0.00906	-1.16318	27.22728	11.80470	1.00290	29.69897	1.20	0.52
97/ 9/29	2450720.5	0.99760	0.08372	0.03629	-3.19941	27.12070	11.75851	1.00176	29.73266	4.80	2.08
97/10/ 3	2450724.5	0.98786	0.14613	0.06334	-5.22752	26.88586	11.65672	1.00062	29.76668	8.41	3.63
97/10/ 7	2450728.5	0.97346	0.20784	0.09010	-7.23787	26.52299	11.49941	0.99947	29.80087	12.05	5.17
97/10/11	2450732.5	0.95444	0.26857	0.11643	-9.22079	26.03292	11.28696	0.99832	29.83506	15.72	6.70
97/10/15	2450736.5	0.93088	0.32803	0.14221	-11.16660	25.41712	11.01999	0.99718	29.86910	19.41	8.20

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
97/10/19	2450740.5	0.90288	0.38591	0.16731	-13.06568	24.67769	10.69943	0.99605	29.90281	23.14	9.67
97/10/23	2450744.5	0.87056	0.44195	0.19160	-14.90849	23.81739	10.32645	0.99494	29.93604	26.92	11.10
97/10/27	2450748.5	0.83405	0.49587	0.21498	-16.68567	22.83959	9.90253	0.99385	29.96863	30.73	12.49
97/10/31	2450752.5	0.79352	0.54739	0.23732	-18.38805	21.74832	9.42942	0.99279	30.00040	34.60	13.83
97/11/ 4	2450756.5	0.74916	0.59627	0.25851	-20.00673	20.54827	8.90914	0.99177	30.03120	38.52	15.11
97/11/ 8	2450760.5	0.70116	0.64225	0.27845	-21.53313	19.24471	8.34399	0.99078	30.06088	42.49	16.32
97/11/12	2450764.5	0.64974	0.68511	0.29703	-22.95908	17.84355	7.73652	0.98983	30.08929	46.52	17.46
97/11/16	2450768.5	0.59516	0.72463	0.31416	-24.27681	16.35129	7.08954	0.98894	30.11627	50.60	18.52
97/11/20	2450772.5	0.53766	0.76059	0.32976	-25.47909	14.77497	6.40612	0.98809	30.14170	54.74	19.50
97/11/24	2450776.5	0.47753	0.79283	0.34374	-26.55919	13.12217	5.68955	0.98731	30.16542	58.94	20.37
97/11/28	2450780.5	0.41505	0.82117	0.35602	-27.51102	11.40097	4.94331	0.98658	30.18733	63.19	21.15
97/12/ 2	2450784.5	0.35052	0.84546	0.36656	-28.32914	9.61989	4.17111	0.98592	30.20730	67.48	21.83
97/12/ 6	2450788.5	0.28427	0.86558	0.37528	-29.00880	7.78786	3.37682	0.98533	30.22522	71.82	22.39
97/12/10	2450792.5	0.21660	0.88141	0.38214	-29.54598	5.91416	2.56446	0.98480	30.24101	76.19	22.83
97/12/14	2450796.5	0.14787	0.89288	0.38712	-29.93745	4.00836	1.73819	0.98436	30.25457	80.60	23.16
97/12/18	2450800.5	0.07840	0.89992	0.39017	-30.18077	2.08027	0.90225	0.98398	30.26583	85.02	23.36
97/12/22	2450804.5	0.00854	0.90248	0.39128	-30.27434	0.13989	0.06097	0.98369	30.27472	89.46	23.44
97/12/26	2450808.5	-0.06137	0.90056	0.39045	-30.21740	-1.80270	-0.78126	0.98348	30.28121	93.90	23.39
97/12/30	2450812.5	-0.13096	0.89416	0.38767	-30.01007	-3.73735	-1.62005	0.98334	30.28525	98.33	23.22
98/ 1/ 3	2450816.5	-0.19991	0.88331	0.38297	-29.65329	-5.65395	-2.45101	0.98329	30.28683	102.75	22.92
98/ 1/ 7	2450820.5	-0.26786	0.86806	0.37636	-29.14889	-7.54248	-3.26981	0.98332	30.28594	107.15	22.50
98/ 1/11	2450824.5	-0.33448	0.84849	0.36787	-28.49953	-9.39307	-4.07215	0.98343	30.28259	111.51	21.97
98/ 1/15	2450828.5	-0.39943	0.82469	0.35756	-27.70870	-11.19608	-4.85387	0.98362	30.27679	115.84	21.32
98/ 1/19	2450832.5	-0.46239	0.79680	0.34547	-26.78069	-12.94217	-5.61090	0.98389	30.26858	120.13	20.56
98/ 1/23	2450836.5	-0.52306	0.76495	0.33166	-25.72056	-14.62232	-6.33936	0.98424	30.25801	124.36	19.69
98/ 1/27	2450840.5	-0.58113	0.72930	0.31620	-24.53411	-16.22796	-7.03550	0.98467	30.24512	128.55	18.73
98/ 1/31	2450844.5	-0.63633	0.69003	0.29918	-23.22781	-17.75093	-7.69581	0.98517	30.22999	132.68	17.68
98/ 2/ 4	2450848.5	-0.68837	0.64735	0.28067	-21.80878	-19.18363	-8.31698	0.98575	30.21269	136.76	16.54
98/ 2/ 8	2450852.5	-0.73701	0.60147	0.26078	-20.28472	-20.51899	-8.89595	0.98639	30.19332	140.78	15.33
98/ 2/12	2450856.5	-0.78202	0.55263	0.23961	-18.66386	-21.75052	-9.42991	0.98710	30.17198	144.75	14.05
98/ 2/16	2450860.5	-0.82317	0.50106	0.21725	-16.95491	-22.87238	-9.91632	0.98787	30.14877	148.67	12.70
98/ 2/20	2450864.5	-0.86029	0.44704	0.19383	-15.16697	-23.87938	-10.35293	0.98869	30.12382	152.54	11.31
98/ 2/24	2450868.5	-0.89320	0.39082	0.16946	-13.30949	-24.76698	-10.73778	0.98958	30.09727	156.37	9.86
98/ 2/28	2450872.5	-0.92174	0.33270	0.14426	-11.39220	-25.53135	-11.06920	0.99051	30.06924	160.15	8.37
98/ 3/ 4	2450876.5	-0.94580	0.27296	0.11836	-9.42504	-26.16936	-11.34584	0.99149	30.03989	163.90	6.86
98/ 3/ 8	2450880.5	-0.96526	0.21189	0.09188	-7.41811	-26.67857	-11.56664	0.99250	30.00936	167.62	5.31
98/ 3/12	2450884.5	-0.98005	0.14979	0.06496	-5.38160	-27.05725	-11.73084	0.99355	29.97781	171.31	3.75
98/ 3/16	2450888.5	-0.99011	0.08698	0.03772	-3.32570	-27.30436	-11.83800	0.99464	29.94539	174.98	2.17
98/ 3/20	2450892.5	-0.99541	0.02374	0.01031	-1.26060	-27.41955	-11.88797	0.99574	29.91228	178.63	0.59
98/ 3/24	2450896.5	-0.99593	-0.03961	-0.01716	0.80360	-27.40312	-11.88088	0.99687	29.87862	182.28	-0.99
98/ 3/28	2450900.5	-0.99170	-0.10277	-0.04455	2.85695	-27.25606	-11.81714	0.99801	29.84459	185.92	-2.56
98/ 4/ 1	2450904.5	-0.98275	-0.16544	-0.07172	4.88968	-26.97995	-11.69746	0.99915	29.81035	189.56	-4.12
98/ 4/ 5	2450908.5	-0.96913	-0.22733	-0.09855	6.89224	-26.57700	-11.52278	1.00030	29.77607	193.20	-5.65
98/ 4/ 9	2450912.5	-0.95093	-0.28814	-0.12492	8.85539	-26.04998	-11.29431	1.00145	29.74190	196.86	-7.17
98/ 4/13	2450916.5	-0.92825	-0.34760	-0.15069	10.77018	-25.40221	-11.01349	1.00259	29.70801	200.53	-8.64

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
98/ 4/17	2450920.5	-0.90122	-0.40542	-0.17576	12.62799	-24.63754	-10.68198	1.00372	29.67456	204.22	-10.09
98/ 4/21	2450924.5	-0.86996	-0.46135	-0.20001	14.42060	-23.76030	-10.30167	1.00483	29.64169	207.94	-11.48
98/ 4/25	2450928.5	-0.83464	-0.51512	-0.22332	16.14020	-22.77526	-9.87462	1.00591	29.60957	211.68	-12.83
98/ 4/29	2450932.5	-0.79545	-0.56650	-0.24560	17.77940	-21.68761	-9.40308	1.00696	29.57833	215.46	-14.12
98/ 5/ 3	2450936.5	-0.75256	-0.61525	-0.26674	19.33125	-20.50295	-8.88948	1.00798	29.54811	219.27	-15.34
98/ 5/ 7	2450940.5	-0.70620	-0.66116	-0.28664	20.78927	-19.22720	-8.33639	1.00897	29.51905	223.11	-16.50
98/ 5/11	2450944.5	-0.65659	-0.70402	-0.30523	22.14748	-17.86663	-7.74651	1.00991	29.49128	227.00	-17.59
98/ 5/15	2450948.5	-0.60395	-0.74365	-0.32241	23.40036	-16.42777	-7.12270	1.01080	29.46492	230.92	-18.60
98/ 5/19	2450952.5	-0.54855	-0.77987	-0.33811	24.54292	-14.91742	-6.46789	1.01164	29.44007	234.88	-19.53
98/ 5/23	2450956.5	-0.49065	-0.81252	-0.35227	25.57066	-13.34260	-5.78512	1.01243	29.41685	238.87	-20.36
98/ 5/27	2450960.5	-0.43050	-0.84147	-0.36482	26.47959	-11.71054	-5.07754	1.01316	29.39536	242.91	-21.11
98/ 5/31	2450964.5	-0.36840	-0.86659	-0.37571	27.26627	-10.02861	-4.34834	1.01383	29.37568	246.97	-21.75
98/ 6/ 4	2450968.5	-0.30462	-0.88777	-0.38490	27.92774	-8.30435	-3.60078	1.01444	29.35790	251.06	-22.30
98/ 6/ 8	2450972.5	-0.23946	-0.90493	-0.39234	28.46158	-6.54538	-2.83816	1.01497	29.34210	255.18	-22.74
98/ 6/12	2450976.5	-0.17321	-0.91799	-0.39800	28.86589	-4.75942	-2.06385	1.01544	29.32834	259.31	-23.08
98/ 6/16	2450980.5	-0.10619	-0.92691	-0.40187	29.13929	-2.95424	-1.28120	1.01584	29.31667	263.46	-23.30
98/ 6/20	2450984.5	-0.03868	-0.93164	-0.40392	29.28090	-1.13765	-0.49361	1.01616	29.30714	267.62	-23.42
98/ 6/24	2450988.5	0.02900	-0.93216	-0.40415	29.29036	0.68253	0.29555	1.01642	29.29980	271.78	-23.43
98/ 6/28	2450992.5	0.09655	-0.92849	-0.40255	29.16784	2.49849	1.08287	1.01659	29.29468	275.94	-23.33
98/ 7/ 2	2450996.5	0.16366	-0.92063	-0.39915	28.91400	4.30246	1.86500	1.01669	29.29178	280.08	-23.12
98/ 7/ 6	2451000.5	0.23004	-0.90862	-0.39394	28.52999	6.08673	2.63859	1.01671	29.29113	284.21	-22.80
98/ 7/10	2451004.5	0.29538	-0.89252	-0.38697	28.01747	7.84367	3.40033	1.01666	29.29273	288.31	-22.37
98/ 7/14	2451008.5	0.35939	-0.87241	-0.37824	27.37860	9.56575	4.14696	1.01653	29.29657	292.39	-21.84
98/ 7/18	2451012.5	0.42179	-0.84836	-0.36782	26.61602	11.24557	4.87527	1.01632	29.30263	296.44	-21.22
98/ 7/22	2451016.5	0.48228	-0.82049	-0.35574	25.73285	12.87588	5.58212	1.01604	29.31089	300.45	-20.49
98/ 7/26	2451020.5	0.54059	-0.78891	-0.34205	24.73268	14.44959	6.26443	1.01569	29.32131	304.42	-19.68
98/ 7/30	2451024.5	0.59646	-0.75377	-0.32681	23.61957	15.95980	6.91921	1.01526	29.33385	308.35	-18.78
98/ 8/ 3	2451028.5	0.64964	-0.71523	-0.31010	22.39805	17.39985	7.54356	1.01476	29.34847	312.25	-17.79
98/ 8/ 7	2451032.5	0.69987	-0.67344	-0.29198	21.07307	18.76328	8.13471	1.01420	29.36509	316.10	-16.73
98/ 8/11	2451036.5	0.74693	-0.62860	-0.27254	19.65006	20.04391	8.68995	1.01357	29.38365	319.92	-15.60
98/ 8/15	2451040.5	0.79059	-0.58090	-0.25186	18.13485	21.23586	9.20675	1.01287	29.40406	323.69	-14.40
98/ 8/19	2451044.5	0.83065	-0.53055	-0.23004	16.53371	22.33353	9.68267	1.01212	29.42625	327.43	-13.14
98/ 8/23	2451048.5	0.86692	-0.47779	-0.20716	14.85329	23.33168	10.11545	1.01131	29.45012	331.14	-11.82
98/ 8/27	2451052.5	0.89922	-0.42283	-0.18333	13.10064	24.22540	10.50295	1.01045	29.47557	334.82	-10.45
98/ 8/31	2451056.5	0.92740	-0.36594	-0.15867	11.28320	25.01020	10.84323	1.00953	29.50248	338.47	-9.04
98/ 9/ 4	2451060.5	0.95131	-0.30736	-0.13327	9.40873	25.68196	11.13450	1.00858	29.53073	342.09	-7.59
98/ 9/ 8	2451064.5	0.97083	-0.24737	-0.10726	7.48533	26.23703	11.37517	1.00758	29.56022	345.71	-6.11
98/ 9/12	2451068.5	0.98586	-0.18623	-0.08076	5.52143	26.67219	11.56386	1.00654	29.59079	349.30	-4.60
98/ 9/16	2451072.5	0.99632	-0.12423	-0.05387	3.52572	26.98474	11.69939	1.00548	29.62233	352.89	-3.07
98/ 9/20	2451076.5	1.00214	-0.06165	-0.02674	1.50713	27.17245	11.78080	1.00439	29.65469	356.48	-1.53
98/ 9/24	2451080.5	1.00327	0.00122	0.00052	-0.52517	27.23365	11.80736	1.00327	29.68773	0.07	0.03
98/ 9/28	2451084.5	0.99971	0.06408	0.02777	-2.56183	27.16720	11.77857	1.00214	29.72128	3.67	1.59
98/10/ 2	2451088.5	0.99144	0.12664	0.05489	-4.59335	26.97256	11.69421	1.00100	29.75521	7.28	3.14
98/10/ 6	2451092.5	0.97850	0.18861	0.08176	-6.61015	26.64976	11.55428	0.99985	29.78934	10.91	4.69
98/10/10	2451096.5	0.96092	0.24968	0.10824	-8.60255	26.19944	11.35907	0.99871	29.82353	14.57	6.22

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
98/10/14	2451100.5	0.93877	0.30956	0.13420	-10.56087	25.62289	11.10912	0.99756	29.85761	18.25	7.73
98/10/18	2451104.5	0.91216	0.36797	0.15952	-12.47547	24.92199	10.80526	0.99643	29.89141	21.97	9.21
98/10/22	2451108.5	0.88117	0.42461	0.18408	-14.33678	24.09930	10.44860	0.99531	29.92478	25.73	10.66
98/10/26	2451112.5	0.84596	0.47922	0.20776	-16.13538	23.15799	10.04051	0.99422	29.95755	29.53	12.06
98/10/30	2451116.5	0.80668	0.53152	0.23043	-17.86203	22.10191	9.58266	0.99315	29.98956	33.38	13.42
98/11/ 3	2451120.5	0.76350	0.58126	0.25200	-19.50776	20.93551	9.07698	0.99211	30.02066	37.28	14.71
98/11/ 7	2451124.5	0.71662	0.62817	0.27234	-21.06387	19.66390	8.52569	0.99111	30.05067	41.24	15.95
98/11/11	2451128.5	0.66625	0.67203	0.29136	-22.52207	18.29279	7.93125	0.99015	30.07947	45.25	17.11
98/11/15	2451132.5	0.61264	0.71262	0.30895	-23.87445	16.82848	7.29641	0.98924	30.10689	49.31	18.20
98/11/19	2451136.5	0.55603	0.74972	0.32504	-25.11360	15.27786	6.62414	0.98838	30.13279	53.44	19.20
98/11/23	2451140.5	0.49670	0.78315	0.33953	-26.23265	13.64834	5.91766	0.98758	30.15705	57.62	20.11
98/11/27	2451144.5	0.43492	0.81273	0.35236	-27.22530	11.94783	5.18041	0.98683	30.17954	61.85	20.92
98/12/ 1	2451148.5	0.37101	0.83830	0.36345	-28.08589	10.18474	4.41602	0.98615	30.20012	66.13	21.63
98/12/ 5	2451152.5	0.30526	0.85974	0.37274	-28.80946	8.36785	3.62830	0.98553	30.21871	70.45	22.22
98/12/ 9	2451156.5	0.23801	0.87693	0.38020	-29.39174	6.50635	2.82124	0.98499	30.23519	74.82	22.71
98/12/13	2451160.5	0.16957	0.88978	0.38577	-29.82927	4.60971	1.99895	0.98452	30.24948	79.21	23.07
98/12/17	2451164.5	0.10030	0.89821	0.38942	-30.11936	2.68769	1.16565	0.98412	30.26150	83.63	23.31
98/12/21	2451168.5	0.03053	0.90218	0.39115	-30.26013	0.75021	0.32564	0.98380	30.27118	88.06	23.43
98/12/25	2451172.5	-0.03940	0.90167	0.39093	-30.25057	-1.19265	-0.51670	0.98356	30.27848	92.50	23.42
98/12/29	2451176.5	-0.10913	0.89668	0.38876	-30.09050	-3.13077	-1.35698	0.98340	30.28335	96.94	23.29
99/ 1/ 2	2451180.5	-0.17831	0.88722	0.38466	-29.78062	-5.05401	-2.19082	0.98332	30.28577	101.36	23.03
99/ 1/ 6	2451184.5	-0.24661	0.87334	0.37865	-29.32246	-6.95232	-3.01385	0.98332	30.28572	105.77	22.65
99/ 1/10	2451188.5	-0.31368	0.85512	0.37075	-28.71844	-8.81579	-3.82178	0.98340	30.28321	110.14	22.15
99/ 1/14	2451192.5	-0.37919	0.83265	0.36100	-27.97176	-10.63469	-4.61038	0.98357	30.27824	114.48	21.53
99/ 1/18	2451196.5	-0.44281	0.80603	0.34946	-27.08648	-12.39958	-5.37557	0.98381	30.27084	118.78	20.81
99/ 1/22	2451200.5	-0.50424	0.77540	0.33619	-26.06741	-14.10135	-6.11339	0.98414	30.26106	123.04	19.97
99/ 1/26	2451204.5	-0.56315	0.74093	0.32124	-24.92012	-15.73126	-6.82007	0.98454	30.24894	127.24	19.04
99/ 1/30	2451208.5	-0.61928	0.70278	0.30470	-23.65087	-17.28104	-7.49200	0.98502	30.23455	131.39	18.02
99/ 2/ 3	2451212.5	-0.67234	0.66115	0.28666	-22.26658	-18.74289	-8.12581	0.98556	30.21796	135.48	16.91
99/ 2/ 7	2451216.5	-0.72208	0.61626	0.26719	-20.77478	-20.10958	-8.71837	0.98618	30.19928	139.52	15.72
99/ 2/11	2451220.5	-0.76825	0.56832	0.24641	-19.18353	-21.37444	-9.26677	0.98687	30.17859	143.51	14.46
99/ 2/15	2451224.5	-0.81064	0.51758	0.22441	-17.50139	-22.53141	-9.76841	0.98762	30.15601	147.44	13.13
99/ 2/19	2451228.5	-0.84905	0.46430	0.20131	-15.73736	-23.57509	-10.22092	0.98843	30.13165	151.33	11.75
99/ 2/23	2451232.5	-0.88330	0.40875	0.17723	-13.90077	-24.50074	-10.62226	0.98929	30.10564	155.17	10.32
99/ 2/27	2451236.5	-0.91323	0.35119	0.15227	-12.00127	-25.30430	-10.97068	0.99021	30.07813	158.97	8.85
99/ 3/ 3	2451240.5	-0.93871	0.29193	0.12658	-10.04875	-25.98241	-11.26470	0.99117	30.04924	162.72	7.34
99/ 3/ 7	2451244.5	-0.95962	0.23125	0.10027	-8.05325	-26.53243	-11.50319	0.99217	30.01912	166.45	5.80
99/ 3/11	2451248.5	-0.97589	0.16944	0.07347	-6.02495	-26.95238	-11.68529	0.99321	29.98794	170.15	4.24
99/ 3/15	2451252.5	-0.98744	0.10682	0.04632	-3.97404	-27.24101	-11.81045	0.99428	29.95584	173.83	2.67
99/ 3/19	2451256.5	-0.99424	0.04368	0.01895	-1.91073	-27.39776	-11.87844	0.99538	29.92299	177.48	1.09
99/ 3/23	2451260.5	-0.99627	-0.01967	-0.00851	0.15485	-27.42273	-11.88929	0.99650	29.88955	181.13	-0.49
99/ 3/27	2451264.5	-0.99353	-0.08292	-0.03594	2.21271	-27.31667	-11.84334	0.99764	29.85568	184.77	-2.06
99/ 3/31	2451268.5	-0.98606	-0.14578	-0.06319	4.25300	-27.08101	-11.74119	0.99878	29.82154	188.41	-3.63
99/ 4/ 4	2451272.5	-0.97390	-0.20795	-0.09014	6.26612	-26.71773	-11.58371	0.99993	29.78731	192.05	-5.17
99/ 4/ 8	2451276.5	-0.95714	-0.26913	-0.11667	8.24270	-26.22944	-11.37204	1.00108	29.75313	195.71	-6.69

1.3 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM EARTH-MOON B

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99/ 4/12	2451280.5	-0.93586	-0.32904	-0.14265	10.17369	-25.61930	-11.10753	1.00222	29.71918	199.37	-8.18
99/ 4/16	2451284.5	-0.91017	-0.38741	-0.16795	12.05038	-24.89099	-10.79179	1.00335	29.68562	203.06	-9.64
99/ 4/20	2451288.5	-0.88023	-0.44396	-0.19247	13.86443	-24.04867	-10.42663	1.00446	29.65258	206.77	-11.05
99/ 4/24	2451292.5	-0.84617	-0.49844	-0.21609	15.60787	-23.09701	-10.01405	1.00555	29.62023	210.50	-12.41
99/ 4/28	2451296.5	-0.80817	-0.55060	-0.23870	17.27318	-22.04105	-9.55625	1.00662	29.58872	214.27	-13.72
99/ 5/ 2	2451300.5	-0.76643	-0.60020	-0.26021	18.85327	-20.88627	-9.05561	1.00765	29.55818	218.07	-14.97
99/ 5/ 6	2451304.5	-0.72113	-0.64703	-0.28051	20.34152	-19.63849	-8.51465	1.00865	29.52874	221.90	-16.15
99/ 5/10	2451308.5	-0.67252	-0.69087	-0.29952	21.73177	-18.30388	-7.93604	1.00960	29.50055	225.77	-17.26
99/ 5/14	2451312.5	-0.62081	-0.73154	-0.31715	23.01837	-16.88889	-7.32257	1.01051	29.47372	229.68	-18.29
99/ 5/18	2451316.5	-0.56625	-0.76885	-0.33333	24.19615	-15.40024	-6.67718	1.01137	29.44836	233.63	-19.24
99/ 5/22	2451320.5	-0.50910	-0.80264	-0.34798	25.26046	-13.84490	-6.00286	1.01218	29.42459	237.61	-20.11
99/ 5/26	2451324.5	-0.44963	-0.83277	-0.36105	26.20716	-12.23002	-5.30273	1.01293	29.40251	241.63	-20.88
99/ 5/30	2451328.5	-0.38811	-0.85911	-0.37247	27.03262	-10.56294	-4.57997	1.01362	29.38221	245.69	-21.56
99/ 6/ 3	2451332.5	-0.32482	-0.88154	-0.38219	27.73374	-8.85114	-3.83782	1.01424	29.36378	249.77	-22.14
99/ 6/ 7	2451336.5	-0.26006	-0.89997	-0.39018	28.30792	-7.10222	-3.07957	1.01480	29.34730	253.88	-22.61
99/ 6/11	2451340.5	-0.19413	-0.91433	-0.39641	28.75311	-5.32388	-2.30857	1.01530	29.33282	258.01	-22.98
99/ 6/15	2451344.5	-0.12732	-0.92455	-0.40084	29.06775	-3.52387	-1.52817	1.01572	29.32042	262.16	-23.24
99/ 6/19	2451348.5	-0.05993	-0.93060	-0.40347	29.25082	-1.71001	-0.74176	1.01607	29.31015	266.32	-23.40
99/ 6/23	2451352.5	0.00773	-0.93245	-0.40427	29.30179	0.10989	0.04727	1.01634	29.30204	270.48	-23.44
99/ 6/27	2451356.5	0.07536	-0.93010	-0.40325	29.22067	1.92802	0.83553	1.01655	29.29613	274.63	-23.37
99/ 7/ 1	2451360.5	0.14264	-0.92355	-0.40041	29.00796	3.73659	1.61965	1.01667	29.29244	278.78	-23.19
99/ 7/ 5	2451364.5	0.20928	-0.91284	-0.39577	28.66466	5.52788	2.39627	1.01672	29.29100	282.91	-22.91
99/ 7/ 9	2451368.5	0.27498	-0.89803	-0.38935	28.19229	7.29422	3.16209	1.01669	29.29180	287.02	-22.52
99/ 7/13	2451372.5	0.33944	-0.87917	-0.38117	27.59283	9.02805	3.91381	1.01659	29.29485	291.11	-22.02
99/ 7/17	2451376.5	0.40237	-0.85635	-0.37128	26.86879	10.72193	4.64821	1.01641	29.30012	295.17	-21.43
99/ 7/21	2451380.5	0.46349	-0.82966	-0.35971	26.02312	12.36855	5.36212	1.01615	29.30761	299.19	-20.73
99/ 7/25	2451384.5	0.52252	-0.79924	-0.34652	25.05927	13.96079	6.05246	1.01582	29.31728	303.18	-19.95
99/ 7/29	2451388.5	0.57919	-0.76521	-0.33177	23.98117	15.49168	6.71620	1.01542	29.32910	307.12	-19.07
99/ 8/ 2	2451392.5	0.63324	-0.72772	-0.31551	22.79318	16.95448	7.35041	1.01494	29.34301	311.03	-18.11
99/ 8/ 6	2451396.5	0.68442	-0.68693	-0.29783	21.50013	18.34268	7.95228	1.01440	29.35895	314.90	-17.07
99/ 8/10	2451400.5	0.73250	-0.64303	-0.27880	20.10730	19.65000	8.51909	1.01379	29.37688	318.72	-15.96
99/ 8/14	2451404.5	0.77725	-0.59621	-0.25850	18.62040	20.87046	9.04825	1.01311	29.39670	322.51	-14.78
99/ 8/18	2451408.5	0.81846	-0.54667	-0.23702	17.04555	21.99839	9.53728	1.01238	29.41835	326.26	-13.54
99/ 8/22	2451412.5	0.85594	-0.49464	-0.21447	15.38929	23.02841	9.98386	1.01159	29.44173	329.98	-12.24
99/ 8/26	2451416.5	0.88951	-0.44035	-0.19093	13.65855	23.95553	10.38583	1.01074	29.46674	333.66	-10.89
99/ 8/30	2451420.5	0.91900	-0.38404	-0.16652	11.86063	24.77510	10.74117	1.00984	29.49327	337.32	-9.49
99/ 9/ 3	2451424.5	0.94426	-0.32597	-0.14134	10.00321	25.48290	11.04806	1.00889	29.52121	340.95	-8.05
99/ 9/ 7	2451428.5	0.96518	-0.26639	-0.11551	8.09429	26.07511	11.30484	1.00791	29.55044	344.57	-6.58
99/ 9/11	2451432.5	0.98163	-0.20558	-0.08915	6.14217	26.54839	11.51005	1.00688	29.58081	348.17	-5.08
99/ 9/15	2451436.5	0.99353	-0.14382	-0.06237	4.15546	26.89985	11.66245	1.00582	29.61221	351.76	-3.56
99/ 9/19	2451440.5	1.00081	-0.08139	-0.03530	2.14304	27.12712	11.76101	1.00473	29.64447	355.35	-2.01
99/ 9/23	2451444.5	1.00342	-0.01858	-0.00807	0.11399	27.22835	11.80492	1.00362	29.67746	358.94	-0.46
99/ 9/27	2451448.5	1.00133	0.04431	0.01920	-1.92239	27.20221	11.79361	1.00249	29.71103	2.53	1.10
99/10/ 1	2451452.5	0.99454	0.10700	0.04638	-3.95665	27.04798	11.72677	1.00135	29.74501	6.14	2.65
99/10/ 5	2451456.5	0.98306	0.16919	0.07334	-5.97921	26.76551	11.60433	1.00020	29.77926	9.77	4.20

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99/10/ 9	2451460.5	0.96693	0.23057	0.09995	-7.98043	26.35524	11.42649	0.99905	29.81360	13.41	5.74
99/10/13	2451464.5	0.94621	0.29086	0.12609	-9.95062	25.81824	11.19370	0.99790	29.84787	17.09	7.26
99/10/17	2451468.5	0.92098	0.34976	0.15163	-11.88012	25.15622	10.90670	0.99676	29.88192	20.80	8.75
99/10/21	2451472.5	0.89136	0.40700	0.17644	-13.75933	24.37151	10.56652	0.99564	29.91557	24.54	10.21
99/10/25	2451476.5	0.85746	0.46228	0.20041	-15.57877	23.46710	10.17443	0.99453	29.94866	28.33	11.63
99/10/29	2451480.5	0.81943	0.51533	0.22341	-17.32914	22.44661	9.73202	0.99345	29.98102	32.17	13.00
99/11/ 2	2451484.5	0.77745	0.56590	0.24534	-19.00136	21.31432	9.24113	0.99240	30.01250	36.05	14.31
99/11/ 6	2451488.5	0.73171	0.61373	0.26607	-20.58666	20.07511	8.70389	0.99139	30.04294	39.99	15.57
99/11/10	2451492.5	0.68241	0.65858	0.28552	-22.07658	18.73453	8.12270	0.99042	30.07218	43.98	16.76
99/11/14	2451496.5	0.62978	0.70022	0.30357	-23.46311	17.29868	7.50020	0.98949	30.10008	48.03	17.87
99/11/18	2451500.5	0.57408	0.73844	0.32014	-24.73866	15.77428	6.83931	0.98861	30.12649	52.14	18.89
99/11/22	2451504.5	0.51557	0.77304	0.33514	-25.89618	14.16857	6.14317	0.98779	30.15127	56.30	19.83
99/11/26	2451508.5	0.45453	0.80384	0.34850	-26.92918	12.48934	5.41515	0.98702	30.17429	60.51	20.68
99/11/30	2451512.5	0.39125	0.83069	0.36014	-27.83180	10.74483	4.65882	0.98632	30.19544	64.78	21.42
99/12/ 4	2451516.5	0.32604	0.85344	0.37001	-28.59885	8.94371	3.87796	0.98569	30.21461	69.09	22.05
99/12/ 8	2451520.5	0.25922	0.87198	0.37804	-29.22585	7.09507	3.07648	0.98512	30.23169	73.44	22.57
99/12/12	2451524.5	0.19112	0.88620	0.38421	-29.70907	5.20829	2.25847	0.98463	30.24658	77.83	22.97
99/12/16	2451528.5	0.12207	0.89602	0.38847	-30.04558	3.29304	1.42812	0.98421	30.25923	82.24	23.25
99/12/20	2451532.5	0.05241	0.90140	0.39080	-30.23326	1.35922	0.58971	0.98386	30.26954	86.67	23.40
99/12/24	2451536.5	-0.01750	0.90229	0.39119	-30.27081	-0.58314	-0.25241	0.98360	30.27748	91.11	23.44

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64/12/31	2438760.5	-1.24237	0.98590	0.48590	-15.09726	-14.78831	-6.38266	1.65879	22.07623	141.57	17.03
65/ 1/ 4	2438764.5	-1.27660	0.95123	0.47091	-14.53239	-15.22271	-6.59723	1.66021	22.05549	143.31	16.48
65/ 1/ 8	2438768.5	-1.30951	0.91557	0.45543	-13.95387	-15.64032	-6.80445	1.66148	22.03703	145.04	15.91
65/ 1/12	2438772.5	-1.34106	0.87898	0.43948	-13.36220	-16.04090	-7.00421	1.66258	22.02085	146.76	15.33
65/ 1/16	2438776.5	-1.37124	0.84147	0.42307	-12.75788	-16.42424	-7.19640	1.66354	22.00698	148.46	14.73
65/ 1/20	2438780.5	-1.40000	0.80310	0.40623	-12.14140	-16.79009	-7.38088	1.66433	21.99541	150.16	14.13
65/ 1/24	2438784.5	-1.42732	0.76391	0.38897	-11.51326	-17.13823	-7.55755	1.66497	21.98615	151.84	13.51
65/ 1/28	2438788.5	-1.45319	0.72393	0.37132	-10.87394	-17.46846	-7.72630	1.66544	21.97920	153.52	12.88
65/ 2/ 1	2438792.5	-1.47756	0.68321	0.35328	-10.22394	-17.78055	-7.88701	1.66576	21.97457	155.18	12.24
65/ 2/ 5	2438796.5	-1.50042	0.64180	0.33488	-9.56375	-18.07430	-8.03957	1.66592	21.97226	156.84	11.60
65/ 2/ 9	2438800.5	-1.52174	0.59972	0.31614	-8.89387	-18.34950	-8.18388	1.66592	21.97227	158.49	10.94
65/ 2/13	2438804.5	-1.54150	0.55703	0.29708	-8.21478	-18.60594	-8.31983	1.66576	21.97460	160.13	10.27
65/ 2/17	2438808.5	-1.55969	0.51377	0.27771	-7.52698	-18.84344	-8.44731	1.66544	21.97926	161.77	9.60
65/ 2/21	2438812.5	-1.57627	0.46998	0.25806	-6.83097	-19.06179	-8.56622	1.66497	21.98622	163.40	8.92
65/ 2/25	2438816.5	-1.59124	0.42571	0.23814	-6.12726	-19.26079	-8.67647	1.66433	21.99551	165.02	8.23
65/ 3/ 1	2438820.5	-1.60458	0.38100	0.21797	-5.41634	-19.44026	-8.77794	1.66353	22.00710	166.64	7.53
65/ 3/ 5	2438824.5	-1.61626	0.33590	0.19759	-4.69872	-19.60000	-8.87053	1.66258	22.02100	168.26	6.83
65/ 3/ 9	2438828.5	-1.62628	0.29046	0.17700	-3.97493	-19.73984	-8.95415	1.66147	22.03719	169.87	6.12
65/ 3/13	2438832.5	-1.63462	0.24471	0.15622	-3.24547	-19.85957	-9.02870	1.66021	22.05568	171.49	5.40
65/ 3/17	2438836.5	-1.64127	0.19872	0.13529	-2.51088	-19.95903	-9.09408	1.65879	22.07645	173.10	4.68
65/ 3/21	2438840.5	-1.64622	0.15251	0.11421	-1.77169	-20.03802	-9.15018	1.65721	22.09948	174.71	3.95
65/ 3/25	2438844.5	-1.64946	0.10615	0.09302	-1.02844	-20.09638	-9.19693	1.65548	22.12477	176.32	3.22
65/ 3/29	2438848.5	-1.65097	0.05968	0.07173	-0.28168	-20.13392	-9.23421	1.65360	22.15231	177.93	2.49
65/ 4/ 2	2438852.5	-1.65076	0.01314	0.05036	0.46802	-20.15047	-9.26194	1.65158	22.18207	179.54	1.75
65/ 4/ 6	2438856.5	-1.64881	-0.03341	0.02894	1.22010	-20.14587	-9.28003	1.64940	22.21405	181.16	1.01
65/ 4/10	2438860.5	-1.64512	-0.07992	0.00749	1.97397	-20.11996	-9.28837	1.64707	22.24822	182.78	0.26
65/ 4/14	2438864.5	-1.63968	-0.12635	-0.01397	2.72904	-20.07256	-9.28689	1.64461	22.28456	184.41	-0.49
65/ 4/18	2438868.5	-1.63251	-0.17265	-0.03541	3.48471	-20.00353	-9.27550	1.64199	22.32307	186.04	-1.24
65/ 4/22	2438872.5	-1.62358	-0.21876	-0.05682	4.24035	-19.91272	-9.25410	1.63924	22.36371	187.67	-1.99
65/ 4/26	2438876.5	-1.61292	-0.26464	-0.07816	4.99534	-19.79998	-9.22262	1.63635	22.40645	189.32	-2.74
65/ 4/30	2438880.5	-1.60050	-0.31023	-0.09942	5.74902	-19.66517	-9.18098	1.63332	22.45129	190.97	-3.49
65/ 5/ 4	2438884.5	-1.58635	-0.35548	-0.12057	6.50072	-19.50816	-9.12910	1.63016	22.49818	192.63	-4.24
65/ 5/ 8	2438888.5	-1.57047	-0.40034	-0.14159	7.24978	-19.32884	-9.06690	1.62687	22.54711	194.30	-4.99
65/ 5/12	2438892.5	-1.55286	-0.44477	-0.16246	7.99549	-19.12708	-8.99431	1.62345	22.59803	195.98	-5.74
65/ 5/16	2438896.5	-1.53353	-0.48870	-0.18314	8.73714	-18.90279	-8.91127	1.61990	22.65092	197.68	-6.49
65/ 5/20	2438900.5	-1.51250	-0.53209	-0.20362	9.47400	-18.65587	-8.81772	1.61624	22.70573	199.38	-7.24
65/ 5/24	2438904.5	-1.48976	-0.57488	-0.22387	10.20531	-18.38625	-8.71360	1.61245	22.76245	201.10	-7.98
65/ 5/28	2438908.5	-1.46535	-0.61702	-0.24387	10.93029	-18.09385	-8.59885	1.60855	22.82102	202.83	-8.72
65/ 6/ 1	2438912.5	-1.43927	-0.65846	-0.26360	11.64817	-17.77863	-8.47343	1.60454	22.88140	204.58	-9.46
65/ 6/ 5	2438916.5	-1.41154	-0.69915	-0.28302	12.35813	-17.44055	-8.33731	1.60042	22.94356	206.35	-10.19
65/ 6/ 9	2438920.5	-1.38217	-0.73903	-0.30211	13.05933	-17.07959	-8.19046	1.59619	23.00744	208.13	-10.91
65/ 6/13	2438924.5	-1.35120	-0.77804	-0.32085	13.75092	-16.69576	-8.03284	1.59187	23.07299	209.93	-11.63
65/ 6/17	2438928.5	-1.31865	-0.81615	-0.33921	14.43203	-16.28908	-7.86446	1.58745	23.14017	211.75	-12.34
65/ 6/21	2438932.5	-1.28453	-0.85329	-0.35718	15.10176	-15.85959	-7.68530	1.58294	23.20891	213.60	-13.04
65/ 6/25	2438936.5	-1.24888	-0.88941	-0.37472	15.75919	-15.40737	-7.49538	1.57834	23.27917	215.46	-13.73

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65/ 6/29	2438940.5	-1.21173	-0.92446	-0.39180	16.40339	-14.93250	-7.29470	1.57366	23.35088	217.34	-14.42
65/ 7/ 3	2438944.5	-1.17310	-0.95838	-0.40841	17.03338	-14.43512	-7.08332	1.56891	23.42397	219.25	-15.09
65/ 7/ 7	2438948.5	-1.13304	-0.99114	-0.42452	17.64820	-13.91538	-6.86126	1.56408	23.49837	221.18	-15.75
65/ 7/11	2438952.5	-1.09158	-1.02266	-0.44010	18.24683	-13.37348	-6.62859	1.55919	23.57403	223.13	-16.40
65/ 7/15	2438956.5	-1.04875	-1.05291	-0.45514	18.82827	-12.80963	-6.38539	1.55423	23.65086	225.11	-17.03
65/ 7/19	2438960.5	-1.00460	-1.08183	-0.46960	19.39146	-12.22411	-6.13175	1.54922	23.72880	227.12	-17.65
65/ 7/23	2438964.5	-0.95917	-1.10937	-0.48346	19.93536	-11.61720	-5.86777	1.54416	23.80774	229.15	-18.25
65/ 7/27	2438968.5	-0.91250	-1.13549	-0.49670	20.45889	-10.98927	-5.59360	1.53906	23.88762	231.21	-18.83
65/ 7/31	2438972.5	-0.86466	-1.16013	-0.50930	20.96097	-10.34069	-5.30937	1.53392	23.96834	233.30	-19.39
65/ 8/ 4	2438976.5	-0.81567	-1.18325	-0.52123	21.44051	-9.67190	-5.01527	1.52875	24.04982	235.42	-19.93
65/ 8/ 8	2438980.5	-0.76561	-1.20480	-0.53246	21.89638	-8.98340	-4.71148	1.52356	24.13195	237.57	-20.46
65/ 8/12	2438984.5	-0.71452	-1.22474	-0.54299	22.32749	-8.27572	-4.39822	1.51835	24.21464	239.74	-20.95
65/ 8/16	2438988.5	-0.66247	-1.24303	-0.55278	22.73272	-7.54946	-4.07573	1.51312	24.29778	241.94	-21.43
65/ 8/20	2438992.5	-0.60951	-1.25961	-0.56181	23.11093	-6.80527	-3.74429	1.50790	24.38127	244.18	-21.87
65/ 8/24	2438996.5	-0.55571	-1.27445	-0.57007	23.46101	-6.04385	-3.40419	1.50267	24.46499	246.44	-22.29
65/ 8/28	2439000.5	-0.50114	-1.28752	-0.57753	23.78186	-5.26599	-3.05575	1.49746	24.54883	248.73	-22.69
65/ 9/ 1	2439004.5	-0.44585	-1.29877	-0.58418	24.07236	-4.47251	-2.69934	1.49227	24.63267	251.05	-23.05
65/ 9/ 5	2439008.5	-0.38994	-1.30817	-0.59000	24.33143	-3.66433	-2.33533	1.48710	24.71638	253.40	-23.37
65/ 9/ 9	2439012.5	-0.33346	-1.31569	-0.59497	24.55800	-2.84240	-1.96413	1.48197	24.79984	255.78	-23.67
65/ 9/13	2439016.5	-0.27650	-1.32130	-0.59907	24.75102	-2.00777	-1.58621	1.47688	24.88293	258.18	-23.93
65/ 9/17	2439020.5	-0.21913	-1.32496	-0.60229	24.90947	-1.16154	-1.20203	1.47183	24.96549	260.61	-24.16
65/ 9/21	2439024.5	-0.16143	-1.32666	-0.60462	25.03238	-0.30488	-0.81211	1.46685	25.04741	263.06	-24.34
65/ 9/25	2439028.5	-0.10350	-1.32636	-0.60604	25.11881	0.56096	-0.41700	1.46193	25.12853	265.54	-24.49
65/ 9/29	2439032.5	-0.04541	-1.32406	-0.60654	25.16785	1.43466	-0.01728	1.45708	25.20871	268.04	-24.60
65/10/ 3	2439036.5	0.01276	-1.31973	-0.60612	25.17868	2.31484	0.38645	1.45232	25.28782	270.55	-24.67
65/10/ 7	2439040.5	0.07090	-1.31336	-0.60475	25.15051	3.20005	0.79353	1.44764	25.36569	273.09	-24.69
65/10/11	2439044.5	0.12893	-1.30494	-0.60245	25.08263	4.08876	1.20329	1.44307	25.44218	275.64	-24.68
65/10/15	2439048.5	0.18676	-1.29447	-0.59919	24.97442	4.97940	1.61501	1.43859	25.51714	278.21	-24.61
65/10/19	2439052.5	0.24429	-1.28193	-0.59499	24.82531	5.87032	2.02796	1.43424	25.59042	280.79	-24.51
65/10/23	2439056.5	0.30143	-1.26734	-0.58982	24.63484	6.75982	2.44137	1.43000	25.66186	283.38	-24.36
65/10/27	2439060.5	0.35808	-1.25070	-0.58371	24.40265	7.64613	2.85443	1.42590	25.73132	285.98	-24.16
65/10/31	2439064.5	0.41414	-1.23202	-0.57664	24.12847	8.52747	3.26634	1.42193	25.79864	288.58	-23.92
65/11/ 4	2439068.5	0.46953	-1.21131	-0.56862	23.81213	9.40197	3.67624	1.41812	25.86367	291.19	-23.64
65/11/ 8	2439072.5	0.52413	-1.18859	-0.55965	23.45360	10.26775	4.08328	1.41445	25.92626	293.80	-23.31
65/11/12	2439076.5	0.57786	-1.16388	-0.54975	23.05295	11.12290	4.48656	1.41094	25.98627	296.40	-22.93
65/11/16	2439080.5	0.63061	-1.13720	-0.53893	22.61038	11.96548	4.88521	1.40760	26.04356	299.01	-22.51
65/11/20	2439084.5	0.68230	-1.10860	-0.52719	22.12623	12.79354	5.27830	1.40444	26.09799	301.61	-22.05
65/11/24	2439088.5	0.73281	-1.07811	-0.51454	21.60095	13.60512	5.66493	1.40146	26.14941	304.20	-21.54
65/11/28	2439092.5	0.78207	-1.04576	-0.50102	21.03516	14.39826	6.04418	1.39866	26.19771	306.79	-20.99
65/12/ 2	2439096.5	0.82997	-1.01160	-0.48662	20.42959	15.17102	6.41515	1.39606	26.24276	309.37	-20.40
65/12/ 6	2439100.5	0.87643	-0.97568	-0.47138	19.78513	15.92148	6.77693	1.39366	26.28443	311.93	-19.77
65/12/10	2439104.5	0.92136	-0.93805	-0.45532	19.10278	16.64775	7.12863	1.39146	26.32264	314.49	-19.10
65/12/14	2439108.5	0.96466	-0.89878	-0.43846	18.38371	17.34800	7.46936	1.38947	26.35726	317.02	-18.39
65/12/18	2439112.5	1.00627	-0.85792	-0.42082	17.62920	18.02043	7.79827	1.38769	26.38821	319.55	-17.65
65/12/22	2439116.5	1.04609	-0.81554	-0.40243	16.84070	18.66331	8.11454	1.38613	26.41541	322.06	-16.88

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65/12/26	2439120.5	1.08405	-0.77171	-0.38334	16.01974	19.27499	8.41735	1.38480	26.43878	324.55	-16.07
65/12/30	2439124.5	1.12008	-0.72651	-0.36355	15.16800	19.85389	8.70595	1.38368	26.45824	327.03	-15.23
66/ 1/ 3	2439128.5	1.15411	-0.68001	-0.34312	14.28729	20.39854	8.97960	1.38279	26.47376	329.49	-14.37
66/ 1/ 7	2439132.5	1.18608	-0.63229	-0.32208	13.37950	20.90755	9.23762	1.38214	26.48529	331.94	-13.48
66/ 1/11	2439136.5	1.21591	-0.58344	-0.30045	12.44664	21.37967	9.47937	1.38171	26.49278	334.37	-12.56
66/ 1/15	2439140.5	1.24357	-0.53354	-0.27829	11.49080	21.81373	9.70428	1.38151	26.49623	336.78	-11.62
66/ 1/19	2439144.5	1.26899	-0.48268	-0.25563	10.51417	22.20871	9.91181	1.38154	26.49563	339.17	-10.66
66/ 1/23	2439148.5	1.29213	-0.43096	-0.23251	9.51897	22.56370	10.10148	1.38180	26.49096	341.56	-9.69
66/ 1/27	2439152.5	1.31296	-0.37846	-0.20897	8.50753	22.87794	10.27287	1.38230	26.48226	343.92	-8.70
66/ 1/31	2439156.5	1.33143	-0.32528	-0.18506	7.48219	23.15079	10.42565	1.38302	26.46954	346.27	-7.69
66/ 2/ 4	2439160.5	1.34752	-0.27153	-0.16082	6.44534	23.38176	10.55951	1.38398	26.45283	348.61	-6.67
66/ 2/ 8	2439164.5	1.36120	-0.21728	-0.13629	5.39938	23.57050	10.67423	1.38515	26.43220	350.93	-5.65
66/ 2/12	2439168.5	1.37246	-0.16265	-0.11151	4.34673	23.71680	10.76965	1.38656	26.40769	353.24	-4.61
66/ 2/16	2439172.5	1.38128	-0.10774	-0.08654	3.28982	23.82057	10.84566	1.38818	26.37936	355.54	-3.57
66/ 2/20	2439176.5	1.38766	-0.05263	-0.06142	2.23103	23.88189	10.90224	1.39001	26.34731	357.83	-2.53
66/ 2/24	2439180.5	1.39159	0.00257	-0.03618	1.17275	23.90095	10.93940	1.39206	26.31162	0.11	-1.49
66/ 2/28	2439184.5	1.39308	0.05777	-0.01089	0.11731	23.87808	10.95724	1.39432	26.27238	2.37	-0.45
66/ 3/ 4	2439188.5	1.39214	0.11287	0.01443	-0.93299	23.81374	10.95591	1.39678	26.22969	4.64	0.59
66/ 3/ 8	2439192.5	1.38877	0.16777	0.03972	-1.97591	23.70850	10.93561	1.39943	26.18368	6.89	1.63
66/ 3/12	2439196.5	1.38301	0.22238	0.06494	-3.00931	23.56306	10.89660	1.40228	26.13445	9.13	2.65
66/ 3/16	2439200.5	1.37488	0.27661	0.09005	-4.03107	23.37822	10.83918	1.40531	26.08215	11.38	3.67
66/ 3/20	2439204.5	1.36440	0.33036	0.11501	-5.03920	23.15486	10.76373	1.40853	26.02689	13.61	4.68
66/ 3/24	2439208.5	1.35161	0.38356	0.13977	-6.03176	22.89398	10.67063	1.41191	25.96881	15.84	5.68
66/ 3/28	2439212.5	1.33654	0.43611	0.16430	-7.00693	22.59667	10.56034	1.41546	25.90805	18.07	6.67
66/ 4/ 1	2439216.5	1.31925	0.48794	0.18855	-7.96298	22.26406	10.43334	1.41917	25.84477	20.30	7.63
66/ 4/ 5	2439220.5	1.29977	0.53895	0.21249	-8.89829	21.89737	10.29014	1.42303	25.77909	22.52	8.59
66/ 4/ 9	2439224.5	1.27815	0.58909	0.23608	-9.81132	21.49790	10.13129	1.42703	25.71118	24.74	9.52
66/ 4/13	2439228.5	1.25445	0.63826	0.25929	-10.70065	21.06696	9.95736	1.43117	25.64118	26.97	10.44
66/ 4/17	2439232.5	1.22873	0.68640	0.28208	-11.56499	20.60594	9.76895	1.43544	25.56924	29.19	11.33
66/ 4/21	2439236.5	1.20104	0.73344	0.30441	-12.40313	20.11623	9.56668	1.43983	25.49552	31.41	12.21
66/ 4/25	2439240.5	1.17144	0.77932	0.32627	-13.21396	19.59929	9.35116	1.44433	25.42017	33.63	13.06
66/ 4/29	2439244.5	1.14001	0.82398	0.34761	-13.99651	19.05656	9.12305	1.44893	25.34334	35.86	13.88
66/ 5/ 3	2439248.5	1.10680	0.86735	0.36841	-14.74989	18.48951	8.88300	1.45363	25.26517	38.08	14.68
66/ 5/ 7	2439252.5	1.07188	0.90939	0.38864	-15.47332	17.89964	8.63166	1.45841	25.18583	40.31	15.46
66/ 5/11	2439256.5	1.03533	0.95004	0.40828	-16.16610	17.28840	8.36970	1.46328	25.10545	42.54	16.20
66/ 5/15	2439260.5	0.99721	0.98925	0.42731	-16.82767	16.65729	8.09777	1.46821	25.02418	44.77	16.92
66/ 5/19	2439264.5	0.95760	1.02699	0.44569	-17.45751	16.00777	7.81654	1.47321	24.94216	47.00	17.61
66/ 5/23	2439268.5	0.91658	1.06320	0.46341	-18.05523	15.34127	7.52666	1.47826	24.85953	49.24	18.27
66/ 5/27	2439272.5	0.87421	1.09786	0.48046	-18.62050	14.65925	7.22877	1.48336	24.77643	51.47	18.90
66/ 5/31	2439276.5	0.83057	1.13092	0.49681	-19.15307	13.96309	6.92353	1.48850	24.69298	53.71	19.50
66/ 6/ 4	2439280.5	0.78574	1.16236	0.51244	-19.65280	13.25420	6.61155	1.49368	24.60933	55.94	20.06
66/ 6/ 8	2439284.5	0.73979	1.19215	0.52735	-20.11958	12.53392	6.29346	1.49887	24.52558	58.18	20.60
66/ 6/12	2439288.5	0.69280	1.22026	0.54152	-20.55338	11.80357	5.96987	1.50408	24.44187	60.41	21.10
66/ 6/16	2439292.5	0.64485	1.24668	0.55493	-20.95425	11.06444	5.64136	1.50930	24.35831	62.65	21.57
66/ 6/20	2439296.5	0.59601	1.27138	0.56758	-21.32228	10.31780	5.30852	1.51453	24.27502	64.88	22.01

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66/ 6/24	2439300.5	0.54636	1.29435	0.57945	-21.65761	9.56484	4.97190	1.51974	24.19211	67.11	22.41
66/ 6/28	2439304.5	0.49597	1.31557	0.59055	-21.96046	8.80676	4.63206	1.52495	24.10968	69.34	22.78
66/ 7/ 2	2439308.5	0.44492	1.33504	0.60085	-22.23106	8.04468	4.28952	1.53013	24.02784	71.57	23.12
66/ 7/ 6	2439312.5	0.39328	1.35274	0.61037	-22.46971	7.27972	3.94480	1.53529	23.94668	73.79	23.43
66/ 7/10	2439316.5	0.34113	1.36867	0.61908	-22.67672	6.51293	3.59839	1.54042	23.86630	76.00	23.70
66/ 7/14	2439320.5	0.28853	1.38283	0.62699	-22.85246	5.74534	3.25077	1.54550	23.78679	78.21	23.93
66/ 7/18	2439324.5	0.23557	1.39521	0.63410	-22.99731	4.97792	2.90240	1.55055	23.70823	80.42	24.14
66/ 7/22	2439328.5	0.18230	1.40583	0.64040	-23.11170	4.21163	2.55373	1.55554	23.63071	82.61	24.31
66/ 7/26	2439332.5	0.12880	1.41468	0.64590	-23.19608	3.44737	2.20519	1.56047	23.55430	84.80	24.45
66/ 7/30	2439336.5	0.07515	1.42176	0.65059	-23.25089	2.68601	1.85718	1.56535	23.47909	86.97	24.56
66/ 8/ 3	2439340.5	0.02140	1.42709	0.65448	-23.27663	1.92837	1.51010	1.57015	23.40514	89.14	24.63
66/ 8/ 7	2439344.5	-0.03238	1.43067	0.65757	-23.27380	1.17526	1.16433	1.57489	23.33253	91.30	24.68
66/ 8/11	2439348.5	-0.08611	1.43252	0.65986	-23.24291	0.42744	0.82024	1.57954	23.26131	93.44	24.69
66/ 8/15	2439352.5	-0.13974	1.43265	0.66136	-23.18450	-0.31437	0.47817	1.58411	23.19156	95.57	24.68
66/ 8/19	2439356.5	-0.19321	1.43108	0.66207	-23.09908	-1.04948	0.13845	1.58860	23.12332	97.69	24.63
66/ 8/23	2439360.5	-0.24645	1.42781	0.66200	-22.98721	-1.77721	-0.19860	1.59299	23.05666	99.79	24.56
66/ 8/27	2439364.5	-0.29940	1.42287	0.66116	-22.84944	-2.49694	-0.53267	1.59729	22.99163	101.88	24.45
66/ 8/31	2439368.5	-0.35200	1.41628	0.65954	-22.68632	-3.20806	-0.86347	1.60148	22.92828	103.96	24.32
66/ 9/ 4	2439372.5	-0.40420	1.40805	0.65717	-22.49841	-3.91000	-1.19072	1.60557	22.86666	106.02	24.16
66/ 9/ 8	2439376.5	-0.45594	1.39822	0.65404	-22.28627	-4.60221	-1.51415	1.60956	22.80681	108.06	23.98
66/ 9/12	2439380.5	-0.50715	1.38680	0.65018	-22.05046	-5.28416	-1.83351	1.61343	22.74878	110.09	23.76
66/ 9/16	2439384.5	-0.55780	1.37381	0.64558	-21.79155	-5.95535	-2.14855	1.61718	22.69261	112.10	23.53
66/ 9/20	2439388.5	-0.60782	1.35929	0.64025	-21.51010	-6.61532	-2.45905	1.62082	22.63833	114.09	23.27
66/ 9/24	2439392.5	-0.65717	1.34326	0.63422	-21.20666	-7.26360	-2.76477	1.62433	22.58598	116.07	22.98
66/ 9/28	2439396.5	-0.70579	1.32574	0.62748	-20.88180	-7.89977	-3.06551	1.62771	22.53560	118.03	22.67
66/10/ 2	2439400.5	-0.75363	1.30677	0.62006	-20.53606	-8.52340	-3.36105	1.63097	22.48721	119.97	22.34
66/10/ 6	2439404.5	-0.80065	1.28637	0.61196	-20.17000	-9.13411	-3.65120	1.63410	22.44086	121.90	21.99
66/10/10	2439408.5	-0.84681	1.26458	0.60319	-19.78417	-9.73151	-3.93578	1.63709	22.39656	123.81	21.62
66/10/14	2439412.5	-0.89205	1.24142	0.59378	-19.37910	-10.31525	-4.21460	1.63995	22.35435	125.70	21.23
66/10/18	2439416.5	-0.93633	1.21693	0.58372	-18.95535	-10.88497	-4.48749	1.64267	22.31424	127.58	20.81
66/10/22	2439420.5	-0.97961	1.19114	0.57305	-18.51344	-11.44034	-4.75429	1.64525	22.27627	129.43	20.38
66/10/26	2439424.5	-1.02186	1.16408	0.56176	-18.05391	-11.98105	-5.01482	1.64768	22.24045	131.28	19.93
66/10/30	2439428.5	-1.06302	1.13579	0.54988	-17.57728	-12.50678	-5.26894	1.64997	22.20680	133.10	19.47
66/11/ 3	2439432.5	-1.10306	1.10630	0.53742	-17.08407	-13.01725	-5.51649	1.65211	22.17534	134.92	18.98
66/11/ 7	2439436.5	-1.14194	1.07566	0.52440	-16.57481	-13.51216	-5.75734	1.65410	22.14610	136.71	18.48
66/11/11	2439440.5	-1.17963	1.04389	0.51083	-16.05001	-13.99124	-5.99134	1.65595	22.11908	138.49	17.97
66/11/15	2439444.5	-1.21608	1.01103	0.49672	-15.51018	-14.45423	-6.21835	1.65764	22.09430	140.26	17.44
66/11/19	2439448.5	-1.25128	0.97712	0.48210	-14.95582	-14.90086	-6.43825	1.65918	22.07178	142.01	16.89
66/11/23	2439452.5	-1.28517	0.94219	0.46698	-14.38745	-15.33089	-6.65090	1.66056	22.05152	143.75	16.33
66/11/27	2439456.5	-1.31774	0.90629	0.45138	-13.80555	-15.74408	-6.85618	1.66179	22.03353	145.48	15.76
66/12/ 1	2439460.5	-1.34895	0.86946	0.43531	-13.21063	-16.14018	-7.05397	1.66287	22.01783	147.20	15.18
66/12/ 5	2439464.5	-1.37877	0.83173	0.41879	-12.60319	-16.51896	-7.24415	1.66378	22.00442	148.90	14.58
66/12/ 9	2439468.5	-1.40717	0.79315	0.40184	-11.98372	-16.88021	-7.42660	1.66454	21.99330	150.59	13.97
66/12/13	2439472.5	-1.43413	0.75376	0.38448	-11.35271	-17.22370	-7.60121	1.66514	21.98450	152.27	13.35
66/12/17	2439476.5	-1.45962	0.71359	0.36673	-10.71066	-17.54921	-7.76786	1.66559	21.97800	153.95	12.72

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66/12/21	2439480.5	-1.48361	0.67269	0.34860	-10.05806	-17.85653	-7.92645	1.66587	21.97382	155.61	12.08
66/12/25	2439484.5	-1.50608	0.63110	0.33011	-9.39540	-18.14546	-8.07686	1.66600	21.97196	157.26	11.43
66/12/29	2439488.5	-1.52701	0.58886	0.31129	-8.72317	-18.41579	-8.21899	1.66596	21.97241	158.91	10.77
67/ 1/ 2	2439492.5	-1.54638	0.54602	0.29215	-8.04187	-18.66731	-8.35274	1.66577	21.97518	160.55	10.10
67/ 1/ 6	2439496.5	-1.56416	0.50263	0.27270	-7.35200	-18.89984	-8.47799	1.66541	21.98027	162.19	9.42
67/ 1/10	2439500.5	-1.58034	0.45871	0.25298	-6.65405	-19.11317	-8.59465	1.66490	21.98767	163.81	8.74
67/ 1/14	2439504.5	-1.59490	0.41433	0.23300	-5.94852	-19.30711	-8.70261	1.66423	21.99739	165.44	8.05
67/ 1/18	2439508.5	-1.60782	0.36952	0.21278	-5.23593	-19.48147	-8.80178	1.66340	22.00941	167.06	7.35
67/ 1/22	2439512.5	-1.61909	0.32434	0.19234	-4.51678	-19.63606	-8.89204	1.66242	22.02373	168.67	6.64
67/ 1/26	2439516.5	-1.62869	0.27881	0.17170	-3.79159	-19.77070	-8.97331	1.66127	22.04035	170.29	5.93
67/ 1/30	2439520.5	-1.63660	0.23300	0.15089	-3.06088	-19.88519	-9.04548	1.65998	22.05925	171.90	5.22
67/ 2/ 3	2439524.5	-1.64282	0.18695	0.12991	-2.32517	-19.97937	-9.10846	1.65852	22.08044	173.51	4.49
67/ 2/ 7	2439528.5	-1.64734	0.14071	0.10881	-1.58501	-20.05305	-9.16215	1.65692	22.10389	175.12	3.77
67/ 2/11	2439532.5	-1.65014	0.09432	0.08759	-0.84094	-20.10605	-9.20645	1.65516	22.12960	176.73	3.03
67/ 2/15	2439536.5	-1.65122	0.04783	0.06628	-0.09350	-20.13820	-9.24127	1.65325	22.15755	178.34	2.30
67/ 2/19	2439540.5	-1.65057	0.00129	0.04490	0.65673	-20.14933	-9.26652	1.65118	22.18773	179.96	1.56
67/ 2/23	2439544.5	-1.64819	-0.04525	0.02347	1.40919	-20.13927	-9.28211	1.64898	22.22012	181.57	0.82
67/ 2/27	2439548.5	-1.64406	-0.09175	0.00202	2.16329	-20.10787	-9.28794	1.64662	22.25470	183.19	0.07
67/ 3/ 3	2439552.5	-1.63819	-0.13814	-0.01943	2.91844	-20.05495	-9.28392	1.64412	22.29147	184.82	-0.68
67/ 3/ 7	2439556.5	-1.63058	-0.18439	-0.04087	3.67402	-19.98037	-9.26997	1.64148	22.33038	186.45	-1.43
67/ 3/11	2439560.5	-1.62122	-0.23044	-0.06226	4.42941	-19.88398	-9.24600	1.63870	22.37143	188.09	-2.18
67/ 3/15	2439564.5	-1.61011	-0.27625	-0.08358	5.18399	-19.76564	-9.21194	1.63577	22.41459	189.74	-2.93
67/ 3/19	2439568.5	-1.59727	-0.32175	-0.10481	5.93709	-19.62520	-9.16769	1.63272	22.45984	191.39	-3.68
67/ 3/23	2439572.5	-1.58268	-0.36690	-0.12593	6.68805	-19.46255	-9.11319	1.62953	22.50714	193.05	-4.43
67/ 3/27	2439576.5	-1.56637	-0.41166	-0.14691	7.43618	-19.27757	-9.04836	1.62621	22.55647	194.72	-5.18
67/ 3/31	2439580.5	-1.54833	-0.45596	-0.16773	8.18079	-19.07014	-8.97314	1.62276	22.60780	196.41	-5.93
67/ 4/ 4	2439584.5	-1.52857	-0.49975	-0.18836	8.92116	-18.84016	-8.88745	1.61919	22.66110	198.10	-6.68
67/ 4/ 8	2439588.5	-1.50711	-0.54299	-0.20878	9.65655	-18.58754	-8.79123	1.61549	22.71632	199.81	-7.43
67/ 4/12	2439592.5	-1.48396	-0.58561	-0.22897	10.38619	-18.31221	-8.68444	1.61168	22.77344	201.54	-8.17
67/ 4/16	2439596.5	-1.45913	-0.62758	-0.24890	11.10933	-18.01411	-8.56702	1.60775	22.83242	203.27	-8.91
67/ 4/20	2439600.5	-1.43264	-0.66883	-0.26855	11.82516	-17.69319	-8.43892	1.60371	22.89320	205.03	-9.64
67/ 4/24	2439604.5	-1.40450	-0.70931	-0.28788	12.53286	-17.34941	-8.30012	1.59957	22.95575	206.79	-10.37
67/ 4/28	2439608.5	-1.37474	-0.74897	-0.30689	13.23160	-16.98277	-8.15058	1.59532	23.02003	208.58	-11.09
67/ 5/ 2	2439612.5	-1.34337	-0.78776	-0.32553	13.92052	-16.59327	-7.99029	1.59097	23.08598	210.39	-11.81
67/ 5/ 6	2439616.5	-1.31043	-0.82562	-0.34380	14.59874	-16.18094	-7.81923	1.58653	23.15354	212.21	-12.52
67/ 5/10	2439620.5	-1.27593	-0.86250	-0.36165	15.26536	-15.74583	-7.63740	1.58199	23.22267	214.06	-13.22
67/ 5/14	2439624.5	-1.23991	-0.89835	-0.37908	15.91946	-15.28802	-7.44482	1.57737	23.29331	215.92	-13.91
67/ 5/18	2439628.5	-1.20239	-0.93312	-0.39604	16.56009	-14.80761	-7.24150	1.57267	23.36539	217.81	-14.59
67/ 5/22	2439632.5	-1.16340	-0.96675	-0.41253	17.18629	-14.30474	-7.02748	1.56789	23.43885	219.73	-15.25
67/ 5/26	2439636.5	-1.12299	-0.99920	-0.42850	17.79707	-13.77956	-6.80281	1.56305	23.51362	221.66	-15.91
67/ 5/30	2439640.5	-1.08119	-1.03040	-0.44395	18.39143	-13.23227	-6.56755	1.55813	23.58963	223.62	-16.55
67/ 6/ 3	2439644.5	-1.03803	-1.06032	-0.45884	18.96835	-12.66311	-6.32178	1.55316	23.66681	225.61	-17.18
67/ 6/ 7	2439648.5	-0.99356	-1.08889	-0.47315	19.52678	-12.07235	-6.06560	1.54813	23.74507	227.62	-17.80
67/ 6/11	2439652.5	-0.94782	-1.11608	-0.48686	20.06566	-11.46030	-5.79913	1.54306	23.82434	229.66	-18.39
67/ 6/15	2439656.5	-0.90087	-1.14183	-0.49994	20.58393	-10.82731	-5.52248	1.53794	23.90453	231.73	-18.97

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67/ 6/19	2439660.5	-0.85274	-1.16609	-0.51236	21.08048	-10.17379	-5.23583	1.53279	23.98555	233.82	-19.53
67/ 6/23	2439664.5	-0.80349	-1.18882	-0.52412	21.55423	-9.50018	-4.93935	1.52761	24.06731	235.95	-20.07
67/ 6/27	2439668.5	-0.75317	-1.20997	-0.53518	22.00406	-8.80698	-4.63324	1.52240	24.14970	238.10	-20.58
67/ 7/ 1	2439672.5	-0.70184	-1.22949	-0.54552	22.42886	-8.09475	-4.31771	1.51718	24.23265	240.28	-21.07
67/ 7/ 5	2439676.5	-0.64956	-1.24735	-0.55512	22.82750	-7.36408	-3.99303	1.51194	24.31602	242.49	-21.54
67/ 7/ 9	2439680.5	-0.59639	-1.26351	-0.56396	23.19888	-6.61566	-3.65945	1.50671	24.39972	244.73	-21.98
67/ 7/13	2439684.5	-0.54239	-1.27791	-0.57202	23.54186	-5.85019	-3.31730	1.50148	24.48364	247.00	-22.39
67/ 7/17	2439688.5	-0.48764	-1.29052	-0.57928	23.85535	-5.06847	-2.96689	1.49627	24.56765	249.30	-22.78
67/ 7/21	2439692.5	-0.43220	-1.30131	-0.58572	24.13823	-4.27136	-2.60859	1.49107	24.65164	251.63	-23.13
67/ 7/25	2439696.5	-0.37614	-1.31025	-0.59133	24.38943	-3.45975	-2.24279	1.48590	24.73548	253.98	-23.45
67/ 7/29	2439700.5	-0.31953	-1.31729	-0.59608	24.60787	-2.63465	-1.86992	1.48076	24.81905	256.37	-23.74
67/ 8/ 2	2439704.5	-0.26247	-1.32241	-0.59996	24.79251	-1.79709	-1.49042	1.47567	24.90220	258.77	-23.99
67/ 8/ 6	2439708.5	-0.20501	-1.32558	-0.60296	24.94236	-0.94821	-1.10479	1.47063	24.98481	261.21	-24.20
67/ 8/10	2439712.5	-0.14725	-1.32678	-0.60506	25.05643	-0.08919	-0.71355	1.46565	25.06674	263.67	-24.38
67/ 8/14	2439716.5	-0.08927	-1.32599	-0.60626	25.13379	0.77870	-0.31725	1.46074	25.14785	266.15	-24.52
67/ 8/18	2439720.5	-0.03115	-1.32318	-0.60653	25.17357	1.65413	0.08352	1.45590	25.22799	268.65	-24.62
67/ 8/22	2439724.5	0.02701	-1.31834	-0.60587	25.17493	2.53571	0.48815	1.45115	25.30702	271.17	-24.68
67/ 8/26	2439728.5	0.08513	-1.31146	-0.60427	25.13712	3.42196	0.89597	1.44648	25.38479	273.71	-24.69
67/ 8/30	2439732.5	0.14312	-1.30253	-0.60173	25.05944	4.31135	1.30630	1.44192	25.46114	276.27	-24.66
67/ 9/ 3	2439736.5	0.20089	-1.29154	-0.59823	24.94127	5.20228	1.71843	1.43747	25.53593	278.84	-24.59
67/ 9/ 7	2439740.5	0.25833	-1.27849	-0.59378	24.78208	6.09310	2.13160	1.43313	25.60900	281.42	-24.48
67/ 9/11	2439744.5	0.31536	-1.26339	-0.58838	24.58142	6.98208	2.54504	1.42891	25.68020	284.02	-24.32
67/ 9/15	2439748.5	0.37187	-1.24623	-0.58203	24.33895	7.86745	2.95796	1.42483	25.74938	286.61	-24.11
67/ 9/19	2439752.5	0.42778	-1.22704	-0.57472	24.05442	8.74740	3.36951	1.42089	25.81639	289.22	-23.86
67/ 9/23	2439756.5	0.48298	-1.20582	-0.56646	23.72771	9.62007	3.77885	1.41710	25.88107	291.83	-23.56
67/ 9/27	2439760.5	0.53738	-1.18260	-0.55726	23.35879	10.48357	4.18512	1.41346	25.94328	294.44	-23.22
67/10/ 1	2439764.5	0.59087	-1.15740	-0.54713	22.94777	11.33597	4.58742	1.40998	26.00286	297.05	-22.83
67/10/ 5	2439768.5	0.64337	-1.13023	-0.53607	22.49488	12.17534	4.98486	1.40667	26.05969	299.65	-22.40
67/10/ 9	2439772.5	0.69478	-1.10115	-0.52410	22.00049	12.99970	5.37653	1.40354	26.11361	302.25	-21.93
67/10/13	2439776.5	0.74499	-1.07018	-0.51123	21.46509	13.80711	5.76152	1.40059	26.16450	304.84	-21.41
67/10/17	2439780.5	0.79392	-1.03737	-0.49748	20.88931	14.59560	6.13890	1.39784	26.21223	307.43	-20.85
67/10/21	2439784.5	0.84148	-1.00276	-0.48287	20.27393	15.36324	6.50778	1.39527	26.25667	310.00	-20.25
67/10/25	2439788.5	0.88756	-0.96641	-0.46742	19.61986	16.10811	6.86725	1.39291	26.29771	312.56	-19.61
67/10/29	2439792.5	0.93210	-0.92836	-0.45115	18.92816	16.82833	7.21641	1.39075	26.33523	315.12	-18.93
67/11/ 2	2439796.5	0.97499	-0.88867	-0.43409	18.20000	17.52207	7.55440	1.38881	26.36915	317.65	-18.21
67/11/ 6	2439800.5	1.01616	-0.84742	-0.41626	17.43673	18.18754	7.88035	1.38707	26.39936	320.17	-17.46
67/11/10	2439804.5	1.05553	-0.80467	-0.39769	16.63980	18.82303	8.19345	1.38556	26.42578	322.68	-16.68
67/11/14	2439808.5	1.09302	-0.76048	-0.37841	15.81079	19.42691	8.49289	1.38427	26.44834	325.17	-15.86
67/11/18	2439812.5	1.12856	-0.71493	-0.35846	14.95142	19.99762	8.77792	1.38321	26.46699	327.65	-15.02
67/11/22	2439816.5	1.16208	-0.66811	-0.33787	14.06350	20.53370	9.04783	1.38237	26.48166	330.10	-14.15
67/11/26	2439820.5	1.19351	-0.62009	-0.31667	13.14897	21.03381	9.30194	1.38176	26.49232	332.55	-13.25
67/11/30	2439824.5	1.22281	-0.57095	-0.29490	12.20987	21.49670	9.53962	1.38138	26.49893	334.97	-12.33
67/12/ 4	2439828.5	1.24991	-0.52079	-0.27261	11.24829	21.92123	9.76030	1.38124	26.50147	337.38	-11.38
67/12/ 8	2439832.5	1.27477	-0.46970	-0.24982	10.26645	22.30642	9.96347	1.38132	26.49995	339.77	-10.42
67/12/12	2439836.5	1.29733	-0.41776	-0.22658	9.26661	22.65139	10.14865	1.38164	26.49435	342.15	-9.44

1.4 1 A.U.=149,599,000 KM.

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67/12/16	2439840.5	1.31757	-0.36507	-0.20294	8.25109	22.95540	10.31546	1.38219	26.48471	344.51	-8.44
67/12/20	2439844.5	1.33544	-0.31173	-0.17894	7.22225	23.21786	10.46355	1.38297	26.47104	346.86	-7.43
67/12/24	2439848.5	1.35093	-0.25783	-0.15461	6.18249	23.43830	10.59265	1.38398	26.45338	349.19	-6.41
67/12/28	2439852.5	1.36400	-0.20347	-0.13001	5.13423	23.61641	10.70254	1.38521	26.43179	351.52	-5.39
68/ 1/ 1	2439856.5	1.37465	-0.14875	-0.10518	4.07988	23.75201	10.79309	1.38667	26.40632	353.82	-4.35
68/ 1/ 5	2439860.5	1.38285	-0.09376	-0.08016	3.02187	23.84505	10.86420	1.38834	26.37705	356.12	-3.31
68/ 1/ 9	2439864.5	1.38861	-0.03861	-0.05500	1.96259	23.89564	10.91585	1.39023	26.34406	358.41	-2.27
68/ 1/13	2439868.5	1.39192	0.01661	-0.02974	0.90442	23.90401	10.94810	1.39234	26.30743	0.68	-1.22
68/ 1/17	2439872.5	1.39279	0.07181	-0.00443	-0.15032	23.87052	10.96104	1.39465	26.26726	2.95	-0.18
68/ 1/21	2439876.5	1.39123	0.12687	0.02089	-1.19934	23.79566	10.95484	1.39716	26.22366	5.21	0.86
68/ 1/25	2439880.5	1.38725	0.18172	0.04617	-2.24042	23.68004	10.92971	1.39987	26.17675	7.46	1.89
68/ 1/29	2439884.5	1.38088	0.23625	0.07138	-3.27142	23.52437	10.88593	1.40277	26.12665	9.71	2.92
68/ 2/ 2	2439888.5	1.37215	0.29038	0.09646	-4.29025	23.32948	10.82382	1.40585	26.07347	11.95	3.93
68/ 2/ 6	2439892.5	1.36107	0.34401	0.12137	-5.29491	23.09629	10.74375	1.40911	26.01736	14.18	4.94
68/ 2/10	2439896.5	1.34770	0.39706	0.14608	-6.28352	22.82583	10.64614	1.41255	25.95846	16.42	5.94
68/ 2/14	2439900.5	1.33206	0.44945	0.17055	-7.25426	22.51919	10.53145	1.41614	25.89690	18.64	6.92
68/ 2/18	2439904.5	1.31419	0.50108	0.19473	-8.20543	22.17753	10.40015	1.41990	25.83283	20.87	7.88
68/ 2/22	2439908.5	1.29416	0.55189	0.21859	-9.13543	21.80211	10.25279	1.42380	25.76641	23.10	8.83
68/ 2/26	2439912.5	1.27200	0.60179	0.24209	-10.04274	21.39421	10.08992	1.42785	25.69777	25.32	9.76
68/ 3/ 1	2439916.5	1.24778	0.65071	0.26520	-10.92600	20.95519	9.91210	1.43203	25.62708	27.54	10.67
68/ 3/ 5	2439920.5	1.22154	0.69859	0.28788	-11.78390	20.48642	9.71996	1.43633	25.55448	29.76	11.56
68/ 3/ 9	2439924.5	1.19335	0.74535	0.31009	-12.61528	19.98933	9.51410	1.44076	25.48012	31.99	12.43
68/ 3/13	2439928.5	1.16327	0.79093	0.33182	-13.41908	19.46535	9.29517	1.44529	25.40417	34.21	13.27
68/ 3/17	2439932.5	1.13137	0.83526	0.35303	-14.19431	18.91597	9.06380	1.44993	25.32676	36.44	14.09
68/ 3/21	2439936.5	1.09771	0.87831	0.37369	-14.94014	18.34265	8.82065	1.45466	25.24806	38.66	14.89
68/ 3/25	2439940.5	1.06237	0.92000	0.39378	-15.65580	17.74687	8.56639	1.45948	25.16821	40.89	15.65
68/ 3/29	2439944.5	1.02540	0.96029	0.41326	-16.34063	17.13012	8.30168	1.46437	25.08735	43.12	16.39
68/ 4/ 2	2439948.5	0.98689	0.99913	0.43213	-16.99408	16.49387	8.02717	1.46934	25.00564	45.35	17.10
68/ 4/ 6	2439952.5	0.94691	1.03648	0.45035	-17.61567	15.83959	7.74352	1.47436	24.92321	47.59	17.79
68/ 4/10	2439956.5	0.90553	1.07230	0.46790	-18.20502	15.16871	7.45140	1.47944	24.84021	49.82	18.44
68/ 4/14	2439960.5	0.86282	1.10655	0.48477	-18.76183	14.48267	7.15144	1.48456	24.75676	52.06	19.06
68/ 4/18	2439964.5	0.81887	1.13920	0.50093	-19.28588	13.78288	6.84429	1.48972	24.67301	54.29	19.65
68/ 4/22	2439968.5	0.77374	1.17022	0.51639	-19.77703	13.07070	6.53057	1.49491	24.58908	56.53	20.21
68/ 4/26	2439972.5	0.72751	1.19959	0.53110	-20.23521	12.34749	6.21091	1.50012	24.50509	58.76	20.73
68/ 4/30	2439976.5	0.68027	1.22727	0.54508	-20.66040	11.61455	5.88589	1.50534	24.42117	61.00	21.23
68/ 5/ 4	2439980.5	0.63208	1.25324	0.55830	-21.05266	10.87318	5.55611	1.51058	24.33743	63.24	21.69
68/ 5/ 8	2439984.5	0.58302	1.27750	0.57075	-21.41209	10.12461	5.22216	1.51581	24.25400	65.47	22.12
68/ 5/12	2439988.5	0.53317	1.30002	0.58242	-21.73888	9.37005	4.88457	1.52103	24.17097	67.70	22.51
68/ 5/16	2439992.5	0.48261	1.32079	0.59331	-22.03322	8.61068	4.54391	1.52624	24.08846	69.93	22.88
68/ 5/20	2439996.5	0.43140	1.33980	0.60341	-22.29539	7.84761	4.20068	1.53143	24.00656	72.15	23.20
68/ 5/24	2440000.5	0.37962	1.35705	0.61272	-22.52567	7.08195	3.85541	1.53659	23.92538	74.37	23.50
68/ 5/28	2440004.5	0.32735	1.37252	0.62123	-22.72440	6.31475	3.50858	1.54172	23.84501	76.59	23.76
68/ 6/ 1	2440008.5	0.27465	1.38622	0.62893	-22.89196	5.54700	3.16067	1.54680	23.76554	78.79	23.99
68/ 6/ 5	2440012.5	0.22160	1.39815	0.63583	-23.02874	4.77970	2.81214	1.55184	23.68705	80.99	24.19
68/ 6/ 9	2440016.5	0.16827	1.40831	0.64192	-23.13517	4.01377	2.46342	1.55683	23.60964	83.19	24.35

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68/ 6/13	2440020.5	0.11473	1.41670	0.64721	-23.21170	3.25010	2.11494	1.56175	23.53337	85.37	24.48
68/ 6/17	2440024.5	0.06105	1.42333	0.65169	-23.25881	2.48956	1.76710	1.56662	23.45832	87.54	24.58
68/ 6/21	2440028.5	0.00729	1.42820	0.65538	-23.27697	1.73297	1.42030	1.57141	23.38456	89.71	24.65
68/ 6/25	2440032.5	-0.04648	1.43134	0.65826	-23.26670	0.98112	1.07490	1.57613	23.31217	91.86	24.69
68/ 6/29	2440036.5	-0.10019	1.43274	0.66034	-23.22851	0.23474	0.73128	1.58077	23.24121	94.00	24.69
68/ 7/ 3	2440040.5	-0.15378	1.43243	0.66164	-23.16294	-0.50542	0.38977	1.58533	23.17173	96.13	24.67
68/ 7/ 7	2440044.5	-0.20719	1.43041	0.66215	-23.07052	-1.23870	0.05070	1.58979	23.10381	98.24	24.61
68/ 7/11	2440048.5	-0.26035	1.42671	0.66187	-22.95180	-1.96444	-0.28561	1.59416	23.03749	100.34	24.53
68/ 7/15	2440052.5	-0.31322	1.42134	0.66083	-22.80733	-2.68201	-0.61887	1.59844	22.97282	102.43	24.42
68/ 7/19	2440056.5	-0.36571	1.41432	0.65902	-22.63767	-3.39082	-0.94878	1.60261	22.90986	104.50	24.28
68/ 7/23	2440060.5	-0.41779	1.40568	0.65645	-22.44337	-4.09030	-1.27507	1.60668	22.84866	106.55	24.12
68/ 7/27	2440064.5	-0.46939	1.39543	0.65313	-22.22500	-4.77991	-1.59748	1.61063	22.78926	108.59	23.92
68/ 7/31	2440068.5	-0.52046	1.38360	0.64907	-21.98312	-5.45913	-1.91575	1.61447	22.73169	110.61	23.71
68/ 8/ 4	2440072.5	-0.57094	1.37022	0.64428	-21.71829	-6.12747	-2.22964	1.61820	22.67600	112.62	23.46
68/ 8/ 8	2440076.5	-0.62079	1.35530	0.63877	-21.43106	-6.78447	-2.53892	1.62180	22.62223	114.61	23.20
68/ 8/12	2440080.5	-0.66995	1.33888	0.63255	-21.12201	-7.42966	-2.84338	1.62528	22.57042	116.58	22.90
68/ 8/16	2440084.5	-0.71836	1.32098	0.62564	-20.79168	-8.06263	-3.14279	1.62864	22.52059	118.54	22.59
68/ 8/20	2440088.5	-0.76599	1.30164	0.61804	-20.44063	-8.68297	-3.43696	1.63186	22.47278	120.48	22.26
68/ 8/24	2440092.5	-0.81279	1.28087	0.60976	-20.06941	-9.29028	-3.72569	1.63495	22.42702	122.40	21.90
68/ 8/28	2440096.5	-0.85871	1.25872	0.60083	-19.67856	-9.88419	-4.00880	1.63791	22.38333	124.30	21.52
68/ 9/ 1	2440100.5	-0.90370	1.23522	0.59125	-19.26863	-10.46434	-4.28611	1.64073	22.34174	126.19	21.12
68/ 9/ 5	2440104.5	-0.94772	1.21039	0.58103	-18.84016	-11.03040	-4.55744	1.64341	22.30228	128.06	20.70
68/ 9/ 9	2440108.5	-0.99073	1.18426	0.57019	-18.39368	-11.58203	-4.82263	1.64595	22.26497	129.92	20.27
68/ 9/13	2440112.5	-1.03269	1.15688	0.55875	-17.92972	-12.11891	-5.08153	1.64834	22.22982	131.75	19.81
68/ 9/17	2440116.5	-1.07356	1.12828	0.54672	-17.44880	-12.64075	-5.33397	1.65059	22.19686	133.58	19.34
68/ 9/21	2440120.5	-1.11330	1.09849	0.53411	-16.95145	-13.14724	-5.57981	1.65269	22.16610	135.38	18.86
68/ 9/25	2440124.5	-1.15187	1.06755	0.52094	-16.43818	-13.63811	-5.81891	1.65464	22.13756	137.18	18.35
68/ 9/29	2440128.5	-1.18924	1.03549	0.50723	-15.90951	-14.11309	-6.05112	1.65644	22.11126	138.95	17.83
68/10/ 3	2440132.5	-1.22537	1.00235	0.49299	-15.36594	-14.57190	-6.27632	1.65809	22.08720	140.72	17.30
68/10/ 7	2440136.5	-1.26022	0.96818	0.47824	-14.80798	-15.01430	-6.49437	1.65959	22.06541	142.47	16.75
68/10/11	2440140.5	-1.29377	0.93299	0.46299	-14.23613	-15.44003	-6.70514	1.66093	22.04589	144.20	16.19
68/10/15	2440144.5	-1.32599	0.89685	0.44726	-13.65090	-15.84886	-6.90851	1.66212	22.02864	145.93	15.61
68/10/19	2440148.5	-1.35684	0.85978	0.43108	-13.05278	-16.24055	-7.10436	1.66315	22.01369	147.64	15.02
68/10/23	2440152.5	-1.38629	0.82183	0.41445	-12.44226	-16.61487	-7.29256	1.66402	22.00103	149.34	14.42
68/10/27	2440156.5	-1.41431	0.78303	0.39739	-11.81984	-16.97159	-7.47301	1.66473	21.99067	151.03	13.81
68/10/31	2440160.5	-1.44089	0.74343	0.37992	-11.18601	-17.31050	-7.64559	1.66529	21.98261	152.71	13.19
68/11/ 4	2440164.5	-1.46599	0.70306	0.36207	-10.54127	-17.63137	-7.81019	1.66569	21.97687	154.38	12.55
68/11/ 8	2440168.5	-1.48959	0.66198	0.34384	-9.88609	-17.93401	-7.96669	1.66593	21.97343	156.04	11.91
68/11/12	2440172.5	-1.51166	0.62021	0.32527	-9.22099	-18.21819	-8.11499	1.66601	21.97230	157.69	11.26
68/11/16	2440176.5	-1.53218	0.57782	0.30636	-8.54644	-18.48372	-8.25498	1.66593	21.97349	159.34	10.60
68/11/20	2440180.5	-1.55114	0.53483	0.28713	-7.86296	-18.73039	-8.38656	1.66569	21.97699	160.98	9.93
68/11/24	2440184.5	-1.56851	0.49129	0.26761	-7.17102	-18.95801	-8.50961	1.66529	21.98280	162.61	9.25
68/11/28	2440188.5	-1.58427	0.44725	0.24782	-6.47114	-19.16639	-8.62405	1.66474	21.99091	164.24	8.56
68/12/ 2	2440192.5	-1.59840	0.40275	0.22777	-5.76381	-19.35532	-8.72975	1.66402	22.00133	165.86	7.87
68/12/ 6	2440196.5	-1.61089	0.35784	0.20749	-5.04954	-19.52462	-8.82664	1.66315	22.01404	167.48	7.17

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68/12/10	2440200.5	-1.62173	0.31255	0.18700	-4.32885	-19.67409	-8.91460	1.66212	22.02905	169.09	6.46
68/12/14	2440204.5	-1.63089	0.26695	0.16631	-3.60225	-19.80356	-8.99353	1.66094	22.04633	170.70	5.75
68/12/18	2440208.5	-1.63836	0.22107	0.14545	-2.87026	-19.91284	-9.06334	1.65960	22.06590	172.32	5.03
68/12/22	2440212.5	-1.64415	0.17496	0.12444	-2.13342	-20.00175	-9.12393	1.65810	22.08772	173.93	4.30
68/12/26	2440216.5	-1.64822	0.12867	0.10330	-1.39227	-20.07011	-9.17520	1.65646	22.11180	175.54	3.58
68/12/30	2440220.5	-1.65057	0.08225	0.08206	-0.64734	-20.11774	-9.21706	1.65466	22.13812	177.15	2.84
69/ 1/ 3	2440224.5	-1.65121	0.03574	0.06073	0.10080	-20.14447	-9.24941	1.65271	22.16667	178.76	2.11
69/ 1/ 7	2440228.5	-1.65011	-0.01081	0.03933	0.85158	-20.15014	-9.27216	1.65061	22.19744	180.38	1.37
69/ 1/11	2440232.5	-1.64727	-0.05735	0.01789	1.60445	-20.13457	-9.28523	1.64837	22.23040	181.99	0.62
69/ 1/15	2440236.5	-1.64269	-0.10382	-0.00356	2.35879	-20.09760	-9.28851	1.64597	22.26553	183.62	-0.12
69/ 1/19	2440240.5	-1.63637	-0.15019	-0.02502	3.11403	-20.03909	-9.28192	1.64344	22.30283	185.24	-0.87
69/ 1/23	2440244.5	-1.62830	-0.19640	-0.04644	3.86954	-19.95887	-9.26538	1.64076	22.34227	186.88	-1.62
69/ 1/27	2440248.5	-1.61849	-0.24239	-0.06782	4.62470	-19.85680	-9.23880	1.63795	22.38383	188.52	-2.37
69/ 1/31	2440252.5	-1.60694	-0.28812	-0.08912	5.37886	-19.73274	-9.20209	1.63499	22.42747	190.17	-3.12
69/ 2/ 4	2440256.5	-1.59364	-0.33355	-0.11033	6.13138	-19.58655	-9.15519	1.63191	22.47319	191.82	-3.88
69/ 2/ 8	2440260.5	-1.57861	-0.37860	-0.13141	6.88158	-19.41811	-9.09801	1.62869	22.52094	193.49	-4.63
69/ 2/12	2440264.5	-1.56185	-0.42325	-0.15235	7.62877	-19.22730	-9.03048	1.62534	22.57070	195.16	-5.38
69/ 2/16	2440268.5	-1.54337	-0.46742	-0.17313	8.37224	-19.01401	-8.95253	1.62186	22.62244	196.85	-6.13
69/ 2/20	2440272.5	-1.52317	-0.51108	-0.19371	9.11128	-18.77815	-8.86411	1.61826	22.67613	198.55	-6.87
69/ 2/24	2440276.5	-1.50127	-0.55417	-0.21408	9.84513	-18.51964	-8.76514	1.61454	22.73173	200.26	-7.62
69/ 2/28	2440280.5	-1.47769	-0.59663	-0.23420	10.57305	-18.23839	-8.65559	1.61071	22.78920	201.99	-8.36
69/ 3/ 4	2440284.5	-1.45243	-0.63842	-0.25406	11.29424	-17.93436	-8.53539	1.60676	22.84850	203.73	-9.10
69/ 3/ 8	2440288.5	-1.42551	-0.67948	-0.27363	12.00791	-17.60750	-8.40451	1.60270	22.90960	205.49	-9.83
69/ 3/12	2440292.5	-1.39695	-0.71975	-0.29288	12.71323	-17.25779	-8.26292	1.59853	22.97244	207.26	-10.56
69/ 3/16	2440296.5	-1.36678	-0.75920	-0.31180	13.40937	-16.88521	-8.11058	1.59426	23.03699	209.05	-11.28
69/ 3/20	2440300.5	-1.33500	-0.79775	-0.33035	14.09545	-16.48978	-7.94749	1.58990	23.10318	210.86	-11.99
69/ 3/24	2440304.5	-1.30166	-0.83537	-0.34851	14.77060	-16.07154	-7.77363	1.58544	23.17097	212.69	-12.70
69/ 3/28	2440308.5	-1.26677	-0.87199	-0.36626	15.43390	-15.63054	-7.58901	1.58089	23.24031	214.54	-13.40
69/ 4/ 1	2440312.5	-1.23036	-0.90757	-0.38357	16.08444	-15.16687	-7.39363	1.57626	23.31113	216.41	-14.08
69/ 4/ 5	2440316.5	-1.19246	-0.94205	-0.40041	16.72125	-14.68064	-7.18754	1.57154	23.38337	218.31	-14.76
69/ 4/ 9	2440320.5	-1.15311	-0.97538	-0.41677	17.34338	-14.17199	-6.97076	1.56676	23.45697	220.23	-15.43
69/ 4/13	2440324.5	-1.11234	-1.00751	-0.43261	17.94983	-13.64110	-6.74335	1.56190	23.53187	222.17	-16.08
69/ 4/17	2440328.5	-1.07019	-1.03839	-0.44791	18.53960	-13.08817	-6.50537	1.55698	23.60798	224.14	-16.72
69/ 4/21	2440332.5	-1.02670	-1.06797	-0.46266	19.11166	-12.51344	-6.25692	1.55200	23.68524	226.13	-17.34
69/ 4/25	2440336.5	-0.98190	-1.09619	-0.47682	19.66496	-11.91720	-5.99809	1.54697	23.76357	228.15	-17.95
69/ 4/29	2440340.5	-0.93585	-1.12301	-0.49036	20.19844	-11.29978	-5.72900	1.54189	23.84288	230.19	-18.54
69/ 5/ 3	2440344.5	-0.88859	-1.14838	-0.50328	20.71102	-10.66153	-5.44979	1.53677	23.92310	232.27	-19.12
69/ 5/ 7	2440348.5	-0.84018	-1.17226	-0.51554	21.20162	-10.00286	-5.16062	1.53162	24.00412	234.37	-19.67
69/ 5/11	2440352.5	-0.79065	-1.19458	-0.52711	21.66913	-9.32425	-4.86167	1.52644	24.08586	236.50	-20.20
69/ 5/15	2440356.5	-0.74008	-1.21532	-0.53799	22.11245	-8.62621	-4.55315	1.52123	24.16822	238.66	-20.71
69/ 5/19	2440360.5	-0.68851	-1.23443	-0.54814	22.53045	-7.90929	-4.23530	1.51602	24.25110	240.85	-21.20
69/ 5/23	2440364.5	-0.63600	-1.25185	-0.55755	22.92203	-7.17413	-3.90835	1.51079	24.33440	243.07	-21.66
69/ 5/27	2440368.5	-0.58262	-1.26756	-0.56620	23.28606	-6.42140	-3.57260	1.50557	24.41799	245.31	-22.09
69/ 5/31	2440372.5	-0.52843	-1.28151	-0.57405	23.62142	-5.65184	-3.22836	1.50035	24.50178	247.59	-22.50
69/ 6/ 4	2440376.5	-0.47350	-1.29366	-0.58111	23.92702	-4.86626	-2.87597	1.49514	24.58564	249.90	-22.87

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69/ 6/ 8	2440380.5	-0.41790	-1.30398	-0.58734	24.20175	-4.06552	-2.51578	1.48996	24.66946	252.23	-23.22
69/ 6/12	2440384.5	-0.36171	-1.31243	-0.59272	24.44453	-3.25055	-2.14821	1.48480	24.75310	254.59	-23.53
69/ 6/16	2440388.5	-0.30499	-1.31899	-0.59726	24.65432	-2.42236	-1.77369	1.47968	24.83645	256.98	-23.81
69/ 6/20	2440392.5	-0.24782	-1.32362	-0.60091	24.83007	-1.58201	-1.39267	1.47461	24.91936	259.40	-24.05
69/ 6/24	2440396.5	-0.19029	-1.32629	-0.60369	24.97078	-0.73065	-1.00565	1.46959	25.00170	261.84	-24.25
69/ 6/28	2440400.5	-0.13247	-1.32698	-0.60556	25.07550	0.13053	-0.61316	1.46463	25.08333	264.30	-24.42
69/ 7/ 2	2440404.5	-0.07446	-1.32568	-0.60651	25.14331	1.00023	-0.21577	1.45974	25.16412	266.79	-24.55
69/ 7/ 6	2440408.5	-0.01633	-1.32236	-0.60655	25.17334	1.87712	0.18593	1.45492	25.24391	269.29	-24.64
69/ 7/10	2440412.5	0.04182	-1.31700	-0.60565	25.16478	2.75977	0.59132	1.45019	25.32256	271.82	-24.69
69/ 7/14	2440416.5	0.09991	-1.30960	-0.60382	25.11689	3.64671	0.99973	1.44556	25.39992	274.36	-24.69
69/ 7/18	2440420.5	0.15784	-1.30015	-0.60103	25.02899	4.53638	1.41047	1.44102	25.47584	276.92	-24.65
69/ 7/22	2440424.5	0.21552	-1.28864	-0.59730	24.90049	5.42717	1.82281	1.43660	25.55017	279.49	-24.57
69/ 7/26	2440428.5	0.27285	-1.27508	-0.59261	24.73088	6.31742	2.23600	1.43229	25.62276	282.08	-24.44
69/ 7/30	2440432.5	0.32975	-1.25946	-0.58697	24.51973	7.20539	2.64926	1.42811	25.69345	284.67	-24.27
69/ 8/ 3	2440436.5	0.38611	-1.24179	-0.58037	24.26673	8.08930	3.06179	1.42406	25.76210	287.27	-24.05
69/ 8/ 7	2440440.5	0.44184	-1.22208	-0.57282	23.97166	8.96733	3.47274	1.42015	25.82854	289.88	-23.79
69/ 8/11	2440444.5	0.49684	-1.20036	-0.56433	23.63441	9.83762	3.88128	1.41640	25.89263	292.48	-23.48
69/ 8/15	2440448.5	0.55101	-1.17664	-0.55489	23.25500	10.69826	4.28651	1.41280	25.95423	295.09	-23.13
69/ 8/19	2440452.5	0.60425	-1.15094	-0.54452	22.83356	11.54733	4.68756	1.40936	26.01318	297.70	-22.73
69/ 8/23	2440456.5	0.65647	-1.12330	-0.53324	22.37036	12.38287	5.08353	1.40609	26.06935	300.30	-22.29
69/ 8/27	2440460.5	0.70758	-1.09374	-0.52104	21.86579	13.20295	5.47350	1.40300	26.12259	302.90	-21.80
69/ 8/31	2440464.5	0.75747	-1.06231	-0.50795	21.32038	14.00559	5.85657	1.40010	26.17278	305.49	-21.27
69/ 9/ 4	2440468.5	0.80606	-1.02904	-0.49399	20.73479	14.78885	6.23182	1.39738	26.21979	308.07	-20.70
69/ 9/ 8	2440472.5	0.85324	-0.99399	-0.47917	20.10984	15.55079	6.59834	1.39486	26.26349	310.64	-20.09
69/ 9/12	2440476.5	0.89894	-0.95721	-0.46351	19.44646	16.28952	6.95524	1.39255	26.30377	313.20	-19.44
69/ 9/16	2440480.5	0.94306	-0.91875	-0.44704	18.74574	17.00315	7.30162	1.39044	26.34053	315.75	-18.75
69/ 9/20	2440484.5	0.98552	-0.87867	-0.42978	18.00891	17.68987	7.63661	1.38854	26.37366	318.28	-18.03
69/ 9/24	2440488.5	1.02624	-0.83704	-0.41176	17.23732	18.34791	7.95938	1.38685	26.40308	320.80	-17.27
69/ 9/28	2440492.5	1.06514	-0.79392	-0.39302	16.43246	18.97558	8.26910	1.38539	26.42870	323.30	-16.48
69/10/ 2	2440496.5	1.10214	-0.74939	-0.37357	15.59594	19.57127	8.56498	1.38414	26.45046	325.79	-15.66
69/10/ 6	2440500.5	1.13718	-0.70352	-0.35345	14.72950	20.13344	8.84628	1.38313	26.46829	328.26	-14.81
69/10/10	2440504.5	1.17018	-0.65639	-0.33271	13.83499	20.66065	9.11230	1.38234	26.48213	330.71	-13.93
69/10/14	2440508.5	1.20108	-0.60809	-0.31136	12.91436	21.15159	9.36236	1.38178	26.49197	333.15	-13.02
69/10/18	2440512.5	1.22983	-0.55869	-0.28946	11.96966	21.60504	9.59586	1.38145	26.49776	335.57	-12.10
69/10/22	2440516.5	1.25637	-0.50830	-0.26704	11.00304	22.01990	9.81223	1.38135	26.49948	337.97	-11.15
69/10/26	2440520.5	1.28065	-0.45699	-0.24414	10.01669	22.39520	10.01098	1.38149	26.49715	340.36	-10.18
69/10/30	2440524.5	1.30263	-0.40485	-0.22080	9.01290	22.73011	10.19165	1.38185	26.49075	342.73	-9.19
69/11/ 3	2440528.5	1.32228	-0.35200	-0.19706	7.99401	23.02391	10.35386	1.38245	26.48031	345.09	-8.20
69/11/ 7	2440532.5	1.33956	-0.29851	-0.17298	6.96237	23.27605	10.49728	1.38327	26.46586	347.44	-7.18
69/11/11	2440536.5	1.35444	-0.24448	-0.14858	5.92039	23.48609	10.62166	1.38433	26.44744	349.77	-6.16
69/11/15	2440540.5	1.36691	-0.19003	-0.12392	4.87050	23.65375	10.72680	1.38560	26.42510	352.09	-5.13
69/11/19	2440544.5	1.37694	-0.13523	-0.09903	3.81510	23.77889	10.81257	1.38710	26.39890	354.39	-4.09
69/11/23	2440548.5	1.38453	-0.08019	-0.07397	2.75661	23.86149	10.87890	1.38882	26.36892	356.69	-3.05
69/11/27	2440552.5	1.38968	-0.02501	-0.04878	1.69743	23.90168	10.92578	1.39076	26.33523	358.97	-2.01
69/12/ 1	2440556.5	1.39238	0.03021	-0.02351	0.63992	23.89974	10.95327	1.39290	26.29793	1.24	-0.97

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69/12/ 5	2440560.5	1.39264	0.08538	0.00181	-0.41361	23.85605	10.96149	1.39525	26.25712	3.51	0.07
69/12/ 9	2440564.5	1.39047	0.14040	0.02712	-1.46088	23.77112	10.95062	1.39780	26.21290	5.77	1.11
69/12/13	2440568.5	1.38589	0.19518	0.05239	-2.49969	23.64559	10.92088	1.40055	26.16539	8.02	2.14
69/12/17	2440572.5	1.37893	0.24962	0.07757	-3.52790	23.48020	10.87256	1.40349	26.11472	10.26	3.17
69/12/21	2440576.5	1.36960	0.30364	0.10261	-4.54347	23.27581	10.80600	1.40660	26.06101	12.50	4.18
69/12/25	2440580.5	1.35795	0.35714	0.12748	-5.54441	23.03336	10.72158	1.40990	26.00439	14.73	5.19

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69/12/17	2440572.5	1.37893	0.24962	0.07757	-3.52790	23.48020	10.87256	1.40349	26.11472	10.26	3.17
69/12/21	2440576.5	1.36960	0.30364	0.10261	-4.54347	23.27581	10.80600	1.40660	26.06101	12.50	4.18
69/12/25	2440580.5	1.35795	0.35714	0.12748	-5.54441	23.03336	10.72158	1.40990	26.00439	14.73	5.19
69/12/29	2440584.5	1.34400	0.41003	0.15214	-6.52885	22.75388	10.61971	1.41337	25.94500	16.97	6.18
70/ 1/ 2	2440588.5	1.32780	0.46224	0.17654	-7.49500	22.43849	10.50088	1.41699	25.88299	19.19	7.16
70/ 1/ 6	2440592.5	1.30938	0.51368	0.20064	-8.44118	22.08838	10.36557	1.42078	25.81850	21.42	8.12
70/ 1/10	2440596.5	1.28881	0.56427	0.22442	-9.36581	21.70479	10.21431	1.42471	25.75167	23.64	9.06
70/ 1/14	2440600.5	1.26613	0.61394	0.24782	-10.26741	21.28905	10.04768	1.42878	25.68266	25.87	9.99
70/ 1/18	2440604.5	1.24139	0.66261	0.27083	-11.14462	20.84250	9.86625	1.43299	25.61163	28.09	10.89
70/ 1/22	2440608.5	1.21466	0.71021	0.29340	-11.99619	20.36655	9.67063	1.43732	25.53871	30.31	11.78
70/ 1/26	2440612.5	1.18598	0.75669	0.31550	-12.82095	19.86261	9.46145	1.44176	25.46407	32.54	12.64
70/ 1/30	2440616.5	1.15544	0.80197	0.33710	-13.61787	19.33214	9.23935	1.44632	25.38786	34.76	13.48
70/ 2/ 3	2440620.5	1.12309	0.84599	0.35818	-14.38601	18.77661	9.00497	1.45097	25.31023	36.99	14.29
70/ 2/ 7	2440624.5	1.08899	0.88870	0.37870	-15.12454	18.19749	8.75896	1.45572	25.23133	39.22	15.08
70/ 2/11	2440628.5	1.05323	0.93005	0.39864	-15.83272	17.59628	8.50200	1.46055	25.15130	41.45	15.84
70/ 2/15	2440632.5	1.01587	0.96999	0.41798	-16.50992	16.97444	8.23474	1.46546	25.07030	43.68	16.57
70/ 2/19	2440636.5	0.97697	1.00846	0.43668	-17.15560	16.33346	7.95785	1.47043	24.98847	45.91	17.28
70/ 2/23	2440640.5	0.93663	1.04544	0.45474	-17.76930	15.67478	7.67198	1.47546	24.90595	48.14	17.95
70/ 2/27	2440644.5	0.89490	1.08087	0.47212	-18.35067	14.99987	7.37779	1.48055	24.82287	50.38	18.60
70/ 3/ 3	2440648.5	0.85186	1.11473	0.48882	-18.89942	14.31013	7.07591	1.48568	24.73937	52.61	19.21
70/ 3/ 7	2440652.5	0.80760	1.14698	0.50481	-19.41536	13.60698	6.76700	1.49085	24.65559	54.85	19.79
70/ 3/11	2440656.5	0.76218	1.17759	0.52008	-19.89836	12.89177	6.45167	1.49604	24.57166	57.09	20.34
70/ 3/15	2440660.5	0.71569	1.20654	0.53461	-20.34835	12.16585	6.13054	1.50125	24.48769	59.32	20.86
70/ 3/19	2440664.5	0.66819	1.23380	0.54840	-20.76535	11.43053	5.80421	1.50648	24.40381	61.56	21.35
70/ 3/23	2440668.5	0.61977	1.25934	0.56143	-21.14943	10.68708	5.47326	1.51171	24.32013	63.80	21.80
70/ 3/27	2440672.5	0.57050	1.28317	0.57369	-21.50071	9.93673	5.13826	1.51694	24.23677	66.03	22.22
70/ 3/31	2440676.5	0.52046	1.30525	0.58517	-21.81937	9.18069	4.79978	1.52216	24.15384	68.26	22.61
70/ 4/ 4	2440680.5	0.46971	1.32558	0.59586	-22.10563	8.42012	4.45834	1.52737	24.07144	70.49	22.96
70/ 4/ 8	2440684.5	0.41834	1.34415	0.60576	-22.35977	7.65613	4.11448	1.53255	23.98967	72.71	23.28
70/ 4/12	2440688.5	0.36643	1.36096	0.61487	-22.58208	6.88981	3.76869	1.53770	23.90863	74.93	23.57
70/ 4/16	2440692.5	0.31403	1.37599	0.62317	-22.77291	6.12220	3.42147	1.54282	23.82842	77.14	23.82
70/ 4/20	2440696.5	0.26123	1.38924	0.63068	-22.93266	5.35431	3.07328	1.54790	23.74911	79.35	24.04
70/ 4/24	2440700.5	0.20810	1.40072	0.63737	-23.06171	4.58711	2.72458	1.55293	23.67081	81.55	24.23
70/ 4/28	2440704.5	0.15470	1.41044	0.64327	-23.16051	3.82151	2.37580	1.55790	23.59359	83.74	24.39
70/ 5/ 2	2440708.5	0.10111	1.41838	0.64835	-23.22951	3.05840	2.02737	1.56282	23.51753	85.92	24.51
70/ 5/ 6	2440712.5	0.04740	1.42457	0.65263	-23.26919	2.29863	1.67969	1.56767	23.44270	88.09	24.60
70/ 5/10	2440716.5	-0.00638	1.42901	0.65611	-23.28004	1.54303	1.33314	1.57245	23.36918	90.26	24.66
70/ 5/14	2440720.5	-0.06014	1.43170	0.65879	-23.26257	0.79235	0.98810	1.57715	23.29703	92.41	24.69
70/ 5/18	2440724.5	-0.11384	1.43267	0.66068	-23.21731	0.04736	0.64492	1.58177	23.22632	94.54	24.69
70/ 5/22	2440728.5	-0.16740	1.43193	0.66178	-23.14479	-0.69125	0.30394	1.58631	23.15710	96.67	24.66
70/ 5/26	2440732.5	-0.22075	1.42948	0.66209	-23.04554	-1.42279	-0.03452	1.59076	23.08945	98.78	24.60
70/ 5/30	2440736.5	-0.27385	1.42536	0.66162	-22.92013	-2.14662	-0.37014	1.59511	23.02340	100.88	24.51
70/ 6/ 3	2440740.5	-0.32663	1.41957	0.66038	-22.76909	-2.86211	-0.70262	1.59937	22.95902	102.96	24.39
70/ 6/ 7	2440744.5	-0.37904	1.41214	0.65837	-22.59299	-3.56869	-1.03168	1.60352	22.89636	105.02	24.24
70/ 6/11	2440748.5	-0.43100	1.40309	0.65561	-22.39240	-4.26580	-1.35705	1.60756	22.83546	107.08	24.07

1.4 1 A.U.=149,599,000 KM.

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70/ 6/15	2440752.5	-0.48248	1.39244	0.65211	-22.16787	-4.95288	-1.67846	1.61150	22.77636	109.11	23.87
70/ 6/19	2440756.5	-0.53341	1.38022	0.64786	-21.91997	-5.62945	-1.99567	1.61532	22.71912	111.13	23.65
70/ 6/23	2440760.5	-0.58374	1.36644	0.64289	-21.64925	-6.29500	-2.30844	1.61902	22.66376	113.13	23.40
70/ 6/27	2440764.5	-0.63342	1.35114	0.63720	-21.35629	-6.94909	-2.61654	1.62260	22.61033	115.12	23.12
70/ 7/ 1	2440768.5	-0.68240	1.33434	0.63080	-21.04163	-7.59125	-2.91975	1.62605	22.55886	117.09	22.83
70/ 7/ 5	2440772.5	-0.73062	1.31607	0.62371	-20.70584	-8.22108	-3.21787	1.62938	22.50939	119.04	22.51
70/ 7/ 9	2440776.5	-0.77805	1.29637	0.61594	-20.34946	-8.83817	-3.51069	1.63258	22.46194	120.97	22.17
70/ 7/13	2440780.5	-0.82463	1.27525	0.60750	-19.97305	-9.44212	-3.79802	1.63564	22.41654	122.89	21.80
70/ 7/17	2440784.5	-0.87032	1.25275	0.59840	-19.57715	-10.03258	-4.07968	1.63857	22.37322	124.79	21.42
70/ 7/21	2440788.5	-0.91507	1.22891	0.58865	-19.16231	-10.60918	-4.35549	1.64136	22.33202	126.67	21.02
70/ 7/25	2440792.5	-0.95884	1.20374	0.57828	-18.72906	-11.17159	-4.62528	1.64401	22.29294	128.54	20.59
70/ 7/29	2440796.5	-1.00159	1.17730	0.56729	-18.27793	-11.71949	-4.88888	1.64652	22.25602	130.39	20.15
70/ 8/ 2	2440800.5	-1.04328	1.14961	0.55569	-17.80947	-12.25256	-5.14614	1.64888	22.22127	132.22	19.69
70/ 8/ 6	2440804.5	-1.08386	1.12070	0.54351	-17.32418	-12.77049	-5.39691	1.65110	22.18872	134.04	19.22
70/ 8/10	2440808.5	-1.12331	1.09061	0.53076	-16.82259	-13.27301	-5.64104	1.65317	22.15838	135.85	18.73
70/ 8/14	2440812.5	-1.16158	1.05939	0.51746	-16.30522	-13.75983	-5.87839	1.65509	22.13027	137.63	18.22
70/ 8/18	2440816.5	-1.19863	1.02705	0.50361	-15.77258	-14.23069	-6.10882	1.65686	22.10440	139.41	17.70
70/ 8/22	2440820.5	-1.23444	0.99365	0.48924	-15.22518	-14.68531	-6.33219	1.65847	22.08079	141.17	17.16
70/ 8/26	2440824.5	-1.26897	0.95921	0.47436	-14.66352	-15.12345	-6.54838	1.65993	22.05944	142.91	16.60
70/ 8/30	2440828.5	-1.30218	0.92379	0.45899	-14.08811	-15.54486	-6.75726	1.66124	22.04037	144.65	16.04
70/ 9/ 3	2440832.5	-1.33405	0.88740	0.44314	-13.49944	-15.94931	-6.95871	1.66239	22.02360	146.37	15.46
70/ 9/ 7	2440836.5	-1.36454	0.85011	0.42684	-12.89801	-16.33655	-7.15260	1.66338	22.00912	148.08	14.87
70/ 9/11	2440840.5	-1.39363	0.81194	0.41010	-12.28432	-16.70637	-7.33883	1.66422	21.99694	149.77	14.27
70/ 9/15	2440844.5	-1.42129	0.77293	0.39294	-11.65885	-17.05853	-7.51727	1.66490	21.98708	151.46	13.65
70/ 9/19	2440848.5	-1.44749	0.73313	0.37537	-11.02211	-17.39283	-7.68780	1.66542	21.97953	153.14	13.03
70/ 9/23	2440852.5	-1.47221	0.69258	0.35742	-10.37458	-17.70904	-7.85033	1.66578	21.97430	154.81	12.39
70/ 9/27	2440856.5	-1.49542	0.65133	0.33911	-9.71676	-18.00696	-8.00474	1.66598	21.97139	156.46	11.74
70/10/ 1	2440860.5	-1.51709	0.60940	0.32045	-9.04913	-18.28639	-8.15092	1.66602	21.97080	158.12	11.09
70/10/ 5	2440864.5	-1.53722	0.56685	0.30146	-8.37219	-18.54711	-8.28877	1.66590	21.97254	159.76	10.43
70/10/ 9	2440868.5	-1.55577	0.52372	0.28216	-7.68643	-18.78893	-8.41817	1.66563	21.97659	161.40	9.75
70/10/13	2440872.5	-1.57273	0.48005	0.26257	-6.99235	-19.01165	-8.53903	1.66519	21.98297	163.03	9.07
70/10/17	2440876.5	-1.58807	0.43589	0.24271	-6.29046	-19.21507	-8.65125	1.66460	21.99166	164.65	8.38
70/10/21	2440880.5	-1.60179	0.39129	0.22260	-5.58126	-19.39901	-8.75471	1.66384	22.00266	166.27	7.69
70/10/25	2440884.5	-1.61385	0.34628	0.20227	-4.86524	-19.56327	-8.84933	1.66293	22.01597	167.89	6.99
70/10/29	2440888.5	-1.62426	0.30091	0.18172	-4.14294	-19.70767	-8.93500	1.66186	22.03158	169.50	6.28
70/11/ 2	2440892.5	-1.63299	0.25524	0.16099	-3.41486	-19.83202	-9.01162	1.66064	22.04948	171.12	5.56
70/11/ 6	2440896.5	-1.64003	0.20930	0.14009	-2.68154	-19.93613	-9.07909	1.65926	22.06966	172.73	4.84
70/11/10	2440900.5	-1.64538	0.16314	0.11905	-1.94349	-20.01983	-9.13732	1.65773	22.09212	174.34	4.12
70/11/14	2440904.5	-1.64901	0.11682	0.09788	-1.20127	-20.08295	-9.18621	1.65604	22.11683	175.95	3.39
70/11/18	2440908.5	-1.65092	0.07037	0.07661	-0.45542	-20.12529	-9.22567	1.65420	22.14380	177.56	2.65
70/11/22	2440912.5	-1.65111	0.02385	0.05526	0.29350	-20.14670	-9.25559	1.65221	22.17300	179.17	1.92
70/11/26	2440916.5	-1.64957	-0.02270	0.03386	1.04493	-20.14700	-9.27590	1.65007	22.20441	180.79	1.18
70/11/30	2440920.5	-1.64628	-0.06922	0.01241	1.79828	-20.12603	-9.28649	1.64778	22.23803	182.41	0.43
70/12/ 4	2440924.5	-1.64126	-0.11567	-0.00904	2.55297	-20.08363	-9.28728	1.64535	22.27383	184.03	-0.31
70/12/ 8	2440928.5	-1.63449	-0.16200	-0.03049	3.30839	-20.01964	-9.27819	1.64278	22.31179	185.66	-1.06

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70/12/12	2440932.5	-1.62597	-0.20815	-0.05190	4.06392	-19.93391	-9.25911	1.64006	22.35190	187.30	-1.81
70/12/16	2440936.5	-1.61571	-0.25408	-0.07326	4.81894	-19.82630	-9.22998	1.63721	22.39412	188.94	-2.56
70/12/20	2440940.5	-1.60371	-0.29974	-0.09454	5.57281	-19.69666	-9.19070	1.63421	22.43844	190.59	-3.32
70/12/24	2440944.5	-1.58996	-0.34507	-0.11572	6.32485	-19.54487	-9.14121	1.63109	22.48482	192.25	-4.07
70/12/28	2440948.5	-1.57449	-0.39003	-0.13677	7.07441	-19.37079	-9.08143	1.62783	22.53325	193.91	-4.82
71/ 1/ 1	2440952.5	-1.55728	-0.43456	-0.15767	7.82078	-19.17432	-9.01128	1.62444	22.58367	195.59	-5.57
71/ 1/ 5	2440956.5	-1.53835	-0.47860	-0.17840	8.56326	-18.95535	-8.93069	1.62093	22.63608	197.28	-6.32
71/ 1/ 9	2440960.5	-1.51772	-0.52212	-0.19893	9.30112	-18.71378	-8.83961	1.61730	22.69042	198.98	-7.07
71/ 1/13	2440964.5	-1.49538	-0.56505	-0.21923	10.03360	-18.44954	-8.73797	1.61354	22.74666	200.70	-7.81
71/ 1/17	2440968.5	-1.47136	-0.60734	-0.23929	10.75995	-18.16254	-8.62573	1.60967	22.80477	202.43	-8.55
71/ 1/21	2440972.5	-1.44567	-0.64895	-0.25908	11.47937	-17.85274	-8.50284	1.60569	22.86470	204.17	-9.29
71/ 1/25	2440976.5	-1.41833	-0.68981	-0.27857	12.19106	-17.52010	-8.36925	1.60159	22.92641	205.94	-10.02
71/ 1/29	2440980.5	-1.38935	-0.72988	-0.29774	12.89419	-17.16460	-8.22494	1.59740	22.98986	207.71	-10.74
71/ 2/ 2	2440984.5	-1.35876	-0.76910	-0.31656	13.58792	-16.78624	-8.06988	1.59310	23.05498	209.51	-11.46
71/ 2/ 6	2440988.5	-1.32658	-0.80742	-0.33501	14.27137	-16.38502	-7.90406	1.58870	23.12174	211.33	-12.17
71/ 2/10	2440992.5	-1.29283	-0.84479	-0.35307	14.94365	-15.96100	-7.72747	1.58422	23.19008	213.16	-12.88
71/ 2/14	2440996.5	-1.25754	-0.88115	-0.37071	15.60386	-15.51424	-7.54011	1.57964	23.25995	215.02	-13.57
71/ 2/18	2441000.5	-1.22075	-0.91645	-0.38790	16.25105	-15.04482	-7.34201	1.57498	23.33127	216.90	-14.26
71/ 2/22	2441004.5	-1.18247	-0.95064	-0.40462	16.88427	-14.55287	-7.13319	1.57025	23.40400	218.80	-14.93
71/ 2/26	2441008.5	-1.14275	-0.98367	-0.42085	17.50255	-14.03854	-6.91370	1.56544	23.47805	220.72	-15.60
71/ 3/ 2	2441012.5	-1.10161	-1.01549	-0.43656	18.10489	-13.50201	-6.68358	1.56056	23.55338	222.67	-16.24
71/ 3/ 6	2441016.5	-1.05911	-1.04604	-0.45172	18.69028	-12.94349	-6.44292	1.55563	23.62989	224.64	-16.88
71/ 3/10	2441020.5	-1.01527	-1.07528	-0.46632	19.25768	-12.36324	-6.19180	1.55063	23.70752	226.64	-17.50
71/ 3/14	2441024.5	-0.97015	-1.10315	-0.48032	19.80605	-11.76155	-5.93033	1.54558	23.78618	228.67	-18.11
71/ 3/18	2441028.5	-0.92378	-1.12960	-0.49371	20.33431	-11.13875	-5.65864	1.54049	23.86579	230.72	-18.69
71/ 3/22	2441032.5	-0.87621	-1.15460	-0.50646	20.84139	-10.49524	-5.37686	1.53536	23.94627	232.81	-19.26
71/ 3/26	2441036.5	-0.82750	-1.17808	-0.51855	21.32619	-9.83142	-5.08516	1.53020	24.02753	234.92	-19.81
71/ 3/30	2441040.5	-0.77769	-1.20001	-0.52995	21.78761	-9.14777	-4.78374	1.52502	24.10946	237.05	-20.33
71/ 4/ 3	2441044.5	-0.72685	-1.22033	-0.54064	22.22455	-8.44483	-4.47280	1.51981	24.19197	239.22	-20.84
71/ 4/ 7	2441048.5	-0.67503	-1.23901	-0.55061	22.63587	-7.72316	-4.15258	1.51459	24.27496	241.42	-21.32
71/ 4/11	2441052.5	-0.62229	-1.25600	-0.55982	23.02047	-6.98341	-3.82335	1.50936	24.35832	243.64	-21.77
71/ 4/15	2441056.5	-0.56869	-1.27126	-0.56827	23.37721	-6.22628	-3.48538	1.50414	24.44194	245.90	-22.20
71/ 4/19	2441060.5	-0.51430	-1.28476	-0.57592	23.70500	-5.45251	-3.13900	1.49893	24.52571	248.18	-22.60
71/ 4/23	2441064.5	-0.45919	-1.29644	-0.58276	24.00272	-4.66294	-2.78457	1.49373	24.60950	250.50	-22.96
71/ 4/27	2441068.5	-0.40342	-1.30629	-0.58878	24.26929	-3.85844	-2.42244	1.48856	24.69320	252.84	-23.30
71/ 5/ 1	2441072.5	-0.34708	-1.31426	-0.59395	24.50362	-3.03997	-2.05303	1.48341	24.77668	255.21	-23.60
71/ 5/ 5	2441076.5	-0.29023	-1.32032	-0.59826	24.70467	-2.20854	-1.67679	1.47831	24.85981	257.60	-23.87
71/ 5/ 9	2441080.5	-0.23296	-1.32445	-0.60169	24.87142	-1.36524	-1.29418	1.47326	24.94246	260.02	-24.11
71/ 5/13	2441084.5	-0.17534	-1.32662	-0.60424	25.00287	-0.51124	-0.90570	1.46826	25.02449	262.47	-24.30
71/ 5/17	2441088.5	-0.11747	-1.32681	-0.60587	25.09808	0.35225	-0.51190	1.46332	25.10577	264.94	-24.46
71/ 5/21	2441092.5	-0.05941	-1.32499	-0.60660	25.15614	1.22393	-0.11334	1.45845	25.18615	267.43	-24.58
71/ 5/25	2441096.5	-0.00127	-1.32115	-0.60639	25.17620	2.10242	0.28937	1.45367	25.26548	269.95	-24.65
71/ 5/29	2441100.5	0.05688	-1.31527	-0.60526	25.15746	2.98630	0.69559	1.44897	25.34363	272.48	-24.69
71/ 6/ 2	2441104.5	0.11494	-1.30735	-0.60318	25.09921	3.87405	1.10465	1.44437	25.42044	275.02	-24.68
71/ 6/ 6	2441108.5	0.17282	-1.29737	-0.60015	25.00079	4.76413	1.51585	1.43987	25.49577	277.59	-24.63

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71/ 6/10	2441112.5	0.23042	-1.28534	-0.59617	24.86162	5.65489	1.92846	1.43548	25.56946	280.16	-24.54
71/ 6/14	2441116.5	0.28766	-1.27124	-0.59124	24.68123	6.54466	2.34172	1.43121	25.64136	282.75	-24.40
71/ 6/18	2441120.5	0.34443	-1.25510	-0.58535	24.45921	7.43168	2.75484	1.42707	25.71131	285.35	-24.22
71/ 6/22	2441124.5	0.40063	-1.23691	-0.57851	24.19527	8.31417	3.16700	1.42307	25.77918	287.95	-23.99
71/ 6/26	2441128.5	0.45618	-1.21669	-0.57072	23.88923	9.19029	3.57737	1.41921	25.84481	290.55	-23.71
71/ 6/30	2441132.5	0.51098	-1.19445	-0.56199	23.54102	10.05817	3.98509	1.41550	25.90805	293.16	-23.39
71/ 7/ 4	2441136.5	0.56492	-1.17023	-0.55231	23.15068	10.91590	4.38928	1.41195	25.96876	295.77	-23.03
71/ 7/ 8	2441140.5	0.61791	-1.14403	-0.54171	22.71837	11.76155	4.78905	1.40857	26.02679	298.37	-22.62
71/ 7/12	2441144.5	0.66985	-1.11589	-0.53019	22.24441	12.59318	5.18350	1.40536	26.08200	300.98	-22.16
71/ 7/16	2441148.5	0.72066	-1.08586	-0.51777	21.72921	13.40882	5.57172	1.40232	26.13425	303.57	-21.67
71/ 7/20	2441152.5	0.77022	-1.05395	-0.50445	21.17335	14.20652	5.95280	1.39947	26.18343	306.16	-21.13
71/ 7/24	2441156.5	0.81845	-1.02023	-0.49027	20.57753	14.98433	6.32582	1.39682	26.22939	308.74	-20.55
71/ 7/28	2441160.5	0.86526	-0.98474	-0.47523	19.94259	15.74034	6.68989	1.39436	26.27203	311.30	-19.93
71/ 8/ 1	2441164.5	0.91057	-0.94752	-0.45937	19.26951	16.47264	7.04409	1.39210	26.31123	313.86	-19.27
71/ 8/ 5	2441168.5	0.95427	-0.90865	-0.44269	18.55941	17.17938	7.38756	1.39005	26.34690	316.40	-18.57
71/ 8/ 9	2441172.5	0.99629	-0.86817	-0.42524	17.81356	17.85875	7.71942	1.38822	26.37892	318.93	-17.84
71/ 8/13	2441176.5	1.03655	-0.82616	-0.40704	17.03334	18.50901	8.03885	1.38659	26.40722	321.44	-17.07
71/ 8/17	2441180.5	1.07496	-0.78268	-0.38811	16.22027	19.12849	8.34502	1.38519	26.43172	323.94	-16.27
71/ 8/21	2441184.5	1.11147	-0.73780	-0.36849	15.37601	19.71559	8.63717	1.38401	26.45235	326.42	-15.44
71/ 8/25	2441188.5	1.14598	-0.69161	-0.34821	14.50231	20.26881	8.91455	1.38306	26.46905	328.89	-14.58
71/ 8/29	2441192.5	1.17845	-0.64418	-0.32731	13.60105	20.78673	9.17648	1.38233	26.48178	331.34	-13.70
71/ 9/ 2	2441196.5	1.20881	-0.59560	-0.30583	12.67420	21.26808	9.42230	1.38184	26.49049	333.77	-12.79
71/ 9/ 6	2441200.5	1.23699	-0.54594	-0.28379	11.72385	21.71165	9.65142	1.38157	26.49517	336.19	-11.85
71/ 9/10	2441204.5	1.26296	-0.49531	-0.26125	10.75214	22.11639	9.86328	1.38154	26.49580	338.59	-10.90
71/ 9/14	2441208.5	1.28666	-0.44379	-0.23823	9.76131	22.48136	10.05740	1.38173	26.49238	340.97	-9.93
71/ 9/18	2441212.5	1.30805	-0.39147	-0.21479	8.75364	22.80576	10.23334	1.38216	26.48491	343.34	-8.94
71/ 9/22	2441216.5	1.32709	-0.33845	-0.19097	7.73147	23.08892	10.39075	1.38282	26.47341	345.69	-7.94
71/ 9/26	2441220.5	1.34376	-0.28482	-0.16680	6.69719	23.33031	10.52931	1.38370	26.45793	348.03	-6.92
71/ 9/30	2441224.5	1.35803	-0.23069	-0.14233	5.65319	23.52955	10.64878	1.38481	26.43851	350.36	-5.90
71/10/ 4	2441228.5	1.36987	-0.17614	-0.11761	4.60190	23.68637	10.74897	1.38615	26.41519	352.67	-4.87
71/10/ 8	2441232.5	1.37928	-0.12128	-0.09268	3.54572	23.80068	10.82979	1.38770	26.38804	354.97	-3.83
71/10/12	2441236.5	1.38625	-0.06621	-0.06759	2.48706	23.87249	10.89116	1.38948	26.35714	357.27	-2.79
71/10/16	2441240.5	1.39077	-0.01101	-0.04238	1.42832	23.90198	10.93310	1.39146	26.32256	359.55	-1.75
71/10/20	2441244.5	1.39285	0.04420	-0.01709	0.37183	23.88943	10.95570	1.39366	26.28442	1.82	-0.70
71/10/24	2441248.5	1.39250	0.09933	0.00823	-0.68010	23.83528	10.95907	1.39606	26.24279	4.08	0.34
71/10/28	2441252.5	1.38972	0.15429	0.03353	-1.72521	23.74006	10.94340	1.39866	26.19780	6.34	1.37
71/11/ 1	2441256.5	1.38453	0.20899	0.05877	-2.76132	23.60443	10.90896	1.40145	26.14956	8.58	2.40
71/11/ 5	2441260.5	1.37697	0.26332	0.08392	-3.78632	23.42918	10.85602	1.40443	26.09820	10.83	3.43
71/11/ 9	2441264.5	1.36705	0.31721	0.10892	-4.79818	23.21517	10.78493	1.40759	26.04383	13.06	4.44
71/11/13	2441268.5	1.35481	0.37056	0.13374	-5.79494	22.96336	10.69610	1.41092	25.98661	15.30	5.44
71/11/17	2441272.5	1.34029	0.42328	0.15833	-6.77475	22.67482	10.58995	1.41443	25.92666	17.53	6.43
71/11/21	2441276.5	1.32352	0.47529	0.18265	-7.73586	22.35068	10.46695	1.41809	25.86413	19.75	7.40
71/11/25	2441280.5	1.30456	0.52652	0.20667	-8.67660	21.99213	10.32761	1.42191	25.79916	21.98	8.36
71/11/29	2441284.5	1.28345	0.57688	0.23036	-9.59543	21.60045	10.17248	1.42587	25.73191	24.20	9.30
71/12/ 3	2441288.5	1.26024	0.62630	0.25366	-10.49090	21.17695	10.00212	1.42997	25.66252	26.43	10.22

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71/12/ 7	2441292.5	1.23500	0.67470	0.27656	-11.36166	20.72301	9.81712	1.43420	25.59114	28.65	11.12
71/12/11	2441296.5	1.20777	0.72202	0.29901	-12.20650	20.24001	9.61808	1.43855	25.51792	30.87	12.00
71/12/15	2441300.5	1.17862	0.76820	0.32099	-13.02428	19.72940	9.40565	1.44302	25.44302	33.10	12.85
71/12/19	2441304.5	1.14761	0.81316	0.34246	-13.81399	19.19262	9.18045	1.44759	25.36659	35.32	13.68
71/12/23	2441308.5	1.11482	0.85685	0.36339	-14.57471	18.63116	8.94314	1.45226	25.28878	37.55	14.49
71/12/27	2441312.5	1.08030	0.89922	0.38377	-15.30565	18.04648	8.69438	1.45703	25.20973	39.77	15.27
71/12/31	2441316.5	1.04412	0.94022	0.40356	-16.00608	17.44008	8.43482	1.46187	25.12961	42.00	16.02
72/ 1/ 4	2441320.5	1.00637	0.97979	0.42273	-16.67540	16.81342	8.16514	1.46679	25.04854	44.23	16.75
72/ 1/ 8	2441324.5	0.96710	1.01789	0.44128	-17.31309	16.16798	7.88598	1.47177	24.96668	46.47	17.45
72/ 1/12	2441328.5	0.92640	1.05448	0.45916	-17.91872	15.50521	7.59801	1.47681	24.88416	48.70	18.11
72/ 1/16	2441332.5	0.88433	1.08952	0.47638	-18.49195	14.82655	7.30187	1.48190	24.80113	50.93	18.75
72/ 1/20	2441336.5	0.84098	1.12297	0.49289	-19.03252	14.13342	6.99822	1.48703	24.71771	53.17	19.36
72/ 1/24	2441340.5	0.79642	1.15481	0.50870	-19.54024	13.42720	6.68768	1.49220	24.63404	55.41	19.93
72/ 1/28	2441344.5	0.75073	1.18500	0.52379	-20.01501	12.70927	6.37087	1.49739	24.55024	57.64	20.48
72/ 2/ 1	2441348.5	0.70397	1.21352	0.53814	-20.45678	11.98095	6.04842	1.50260	24.46643	59.88	20.99
72/ 2/ 5	2441352.5	0.65623	1.24035	0.55173	-20.86558	11.24354	5.72090	1.50782	24.38274	62.12	21.46
72/ 2/ 9	2441356.5	0.60759	1.26546	0.56456	-21.24148	10.49830	5.38891	1.51304	24.29929	64.35	21.91
72/ 2/13	2441360.5	0.55812	1.28885	0.57663	-21.58463	9.74647	5.05302	1.51826	24.21617	66.59	22.32
72/ 2/17	2441364.5	0.50789	1.31049	0.58791	-21.89522	8.98923	4.71376	1.52347	24.13351	68.82	22.70
72/ 2/21	2441368.5	0.45698	1.33038	0.59840	-22.17347	8.22773	4.37169	1.52867	24.05140	71.04	23.05
72/ 2/25	2441372.5	0.40546	1.34850	0.60811	-22.41967	7.46309	4.02731	1.53384	23.96995	73.27	23.36
72/ 2/29	2441376.5	0.35342	1.36486	0.61701	-22.63414	6.69637	3.68113	1.53898	23.88925	75.48	23.64
72/ 3/ 4	2441380.5	0.30091	1.37944	0.62511	-22.81722	5.92861	3.33363	1.54408	23.80939	77.69	23.88
72/ 3/ 8	2441384.5	0.24802	1.39225	0.63241	-22.96930	5.16081	2.98527	1.54914	23.73046	79.90	24.09
72/ 3/12	2441388.5	0.19481	1.40329	0.63891	-23.09080	4.39391	2.63651	1.55415	23.65254	82.10	24.27
72/ 3/16	2441392.5	0.14135	1.41255	0.64459	-23.18215	3.62884	2.28778	1.55910	23.57572	84.29	24.42
72/ 3/20	2441396.5	0.08772	1.42006	0.64948	-23.24381	2.86647	1.93950	1.56399	23.50006	86.47	24.54
72/ 3/24	2441400.5	0.03398	1.42580	0.65356	-23.27627	2.10765	1.59205	1.56882	23.42566	88.63	24.62
72/ 3/28	2441404.5	-0.01980	1.42980	0.65683	-23.28002	1.35318	1.24584	1.57358	23.35257	90.79	24.67
72/ 4/ 1	2441408.5	-0.07356	1.43206	0.65931	-23.25557	0.60384	0.90122	1.57826	23.28086	92.94	24.69
72/ 4/ 5	2441412.5	-0.12723	1.43259	0.66100	-23.20346	-0.13966	0.55854	1.58285	23.21060	95.08	24.68
72/ 4/ 9	2441416.5	-0.18075	1.43142	0.66190	-23.12421	-0.87659	0.21815	1.58737	23.14185	97.20	24.64
72/ 4/13	2441420.5	-0.23405	1.42855	0.66201	-23.01837	-1.60630	-0.11964	1.59179	23.07466	99.30	24.58
72/ 4/17	2441424.5	-0.28708	1.42400	0.66134	-22.88649	-2.32814	-0.45452	1.59611	23.00909	101.40	24.48
72/ 4/21	2441428.5	-0.33978	1.41780	0.65991	-22.72913	-3.04150	-0.78619	1.60034	22.94520	103.48	24.35
72/ 4/25	2441432.5	-0.39208	1.40996	0.65771	-22.54684	-3.74580	-1.11437	1.60446	22.88302	105.54	24.20
72/ 4/29	2441436.5	-0.44393	1.40050	0.65477	-22.34018	-4.44048	-1.43878	1.60847	22.82262	107.59	24.02
72/ 5/ 3	2441440.5	-0.49528	1.38945	0.65107	-22.10973	-5.12502	-1.75919	1.61238	22.76402	109.62	23.82
72/ 5/ 7	2441444.5	-0.54607	1.37683	0.64664	-21.85603	-5.79891	-2.07532	1.61616	22.70728	111.63	23.58
72/ 5/11	2441448.5	-0.59624	1.36266	0.64149	-21.57965	-6.46167	-2.38696	1.61983	22.65242	113.63	23.33
72/ 5/15	2441452.5	-0.64576	1.34698	0.63562	-21.28116	-7.11285	-2.69387	1.62338	22.59950	115.61	23.05
72/ 5/19	2441456.5	-0.69455	1.32981	0.62904	-20.96111	-7.75199	-2.99584	1.62680	22.54854	117.58	22.75
72/ 5/23	2441460.5	-0.74259	1.31117	0.62178	-20.62006	-8.37869	-3.29265	1.63010	22.49958	119.53	22.42
72/ 5/27	2441464.5	-0.78981	1.29111	0.61383	-20.25856	-8.99255	-3.58413	1.63326	22.45264	121.46	22.08
72/ 5/31	2441468.5	-0.83617	1.26963	0.60522	-19.87716	-9.59317	-3.87006	1.63629	22.40777	123.37	21.71

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72/ 6/ 4	2441472.5	-0.88163	1.24679	0.59596	-19.47641	-10.18021	-4.15028	1.63919	22.36497	125.26	21.32
72/ 6/ 8	2441476.5	-0.92615	1.22261	0.58605	-19.05683	-10.75331	-4.42460	1.64194	22.32428	127.14	20.91
72/ 6/12	2441480.5	-0.96967	1.19712	0.57552	-18.61898	-11.31212	-4.69285	1.64456	22.28572	129.01	20.48
72/ 6/16	2441484.5	-1.01216	1.17035	0.56437	-18.16338	-11.85633	-4.95488	1.64703	22.24932	130.85	20.04
72/ 6/20	2441488.5	-1.05358	1.14235	0.55263	-17.69057	-12.38564	-5.21053	1.64936	22.21508	132.69	19.58
72/ 6/24	2441492.5	-1.09388	1.11314	0.54030	-17.20107	-12.89973	-5.45965	1.65154	22.18304	134.50	19.10
72/ 6/28	2441496.5	-1.13304	1.08276	0.52741	-16.69539	-13.39833	-5.70208	1.65358	22.15321	136.30	18.60
72/ 7/ 2	2441500.5	-1.17101	1.05125	0.51396	-16.17405	-13.88115	-5.93769	1.65546	22.12561	138.08	18.09
72/ 7/ 6	2441504.5	-1.20776	1.01864	0.49998	-15.63758	-14.34793	-6.16635	1.65719	22.10024	139.86	17.56
72/ 7/10	2441508.5	-1.24325	0.98497	0.48548	-15.08646	-14.79841	-6.38792	1.65877	22.07713	141.61	17.02
72/ 7/14	2441512.5	-1.27745	0.95028	0.47047	-14.52122	-15.23234	-6.60227	1.66020	22.05629	143.36	16.46
72/ 7/18	2441516.5	-1.31033	0.91460	0.45498	-13.94234	-15.64947	-6.80927	1.66147	22.03772	145.09	15.89
72/ 7/22	2441520.5	-1.34186	0.87798	0.43902	-13.35033	-16.04957	-7.00881	1.66258	22.02143	146.80	15.31
72/ 7/26	2441524.5	-1.37201	0.84046	0.42260	-12.74569	-16.43240	-7.20076	1.66354	22.00744	148.51	14.72
72/ 7/30	2441528.5	-1.40074	0.80207	0.40575	-12.12892	-16.79774	-7.38501	1.66434	21.99576	150.20	14.11
72/ 8/ 3	2441532.5	-1.42804	0.76286	0.38849	-11.50049	-17.14537	-7.56144	1.66498	21.98637	151.89	13.49
72/ 8/ 7	2441536.5	-1.45387	0.72287	0.37082	-10.86092	-17.47507	-7.72994	1.66547	21.97930	153.56	12.86
72/ 8/11	2441540.5	-1.47821	0.68214	0.35278	-10.21068	-17.78663	-7.89040	1.66579	21.97455	155.23	12.23
72/ 8/15	2441544.5	-1.50104	0.64070	0.33437	-9.55028	-18.07984	-8.04271	1.66596	21.97211	156.89	11.58
72/ 8/19	2441548.5	-1.52233	0.59861	0.31562	-8.88020	-18.35449	-8.18676	1.66597	21.97199	158.53	10.92
72/ 8/23	2441552.5	-1.54206	0.55591	0.29655	-8.20094	-18.61038	-8.32245	1.66581	21.97419	160.18	10.25
72/ 8/27	2441556.5	-1.56021	0.51264	0.27718	-7.51299	-18.84732	-8.44967	1.66550	21.97871	161.81	9.58
72/ 8/31	2441560.5	-1.57677	0.46885	0.25752	-6.81686	-19.06511	-8.56832	1.66503	21.98554	163.44	8.90
72/ 9/ 4	2441564.5	-1.59170	0.42457	0.23760	-6.11304	-19.26355	-8.67829	1.66440	21.99469	165.06	8.21
72/ 9/ 8	2441568.5	-1.60501	0.37986	0.21743	-5.40203	-19.44245	-8.77949	1.66361	22.00614	166.68	7.51
72/ 9/12	2441572.5	-1.61666	0.33475	0.19704	-4.68435	-19.60163	-8.87181	1.66267	22.01990	168.30	6.81
72/ 9/16	2441576.5	-1.62664	0.28931	0.17644	-3.96052	-19.74089	-8.95516	1.66157	22.03595	169.92	6.10
72/ 9/20	2441580.5	-1.63495	0.24356	0.15567	-3.23105	-19.86005	-9.02943	1.66031	22.05429	171.53	5.38
72/ 9/24	2441584.5	-1.64157	0.19756	0.13473	-2.49647	-19.95893	-9.09453	1.65889	22.07491	173.14	4.66
72/ 9/28	2441588.5	-1.64648	0.15136	0.11366	-1.75731	-20.03735	-9.15036	1.65733	22.09780	174.75	3.93
72/10/ 2	2441592.5	-1.64969	0.10500	0.09246	-1.01412	-20.09514	-9.19683	1.65561	22.12294	176.36	3.20
72/10/ 6	2441596.5	-1.65117	0.05853	0.07117	-0.26744	-20.13211	-9.23383	1.65374	22.15033	177.97	2.47
72/10/10	2441600.5	-1.65092	0.01200	0.04981	0.48216	-20.14810	-9.26129	1.65171	22.17995	179.58	1.73
72/10/14	2441604.5	-1.64894	-0.03455	0.02839	1.23411	-20.14295	-9.27910	1.64954	22.21178	181.20	0.99
72/10/18	2441608.5	-1.64522	-0.08105	0.00694	1.98783	-20.11649	-9.28718	1.64723	22.24581	182.82	0.24
72/10/22	2441612.5	-1.63975	-0.12748	-0.01451	2.74274	-20.06855	-9.28543	1.64476	22.28202	184.45	-0.51
72/10/26	2441616.5	-1.63254	-0.17376	-0.03595	3.49821	-19.99899	-9.27377	1.64216	22.32039	186.08	-1.25
72/10/30	2441620.5	-1.62359	-0.21986	-0.05736	4.25364	-19.90766	-9.25212	1.63941	22.36090	187.71	-2.00
72/11/ 3	2441624.5	-1.61289	-0.26572	-0.07869	5.00839	-19.79440	-9.22039	1.63653	22.40352	189.36	-2.76
72/11/ 7	2441628.5	-1.60045	-0.31130	-0.09995	5.76182	-19.65910	-9.17850	1.63350	22.44824	191.01	-3.51
72/11/11	2441632.5	-1.58627	-0.35654	-0.12109	6.51325	-19.50161	-9.12637	1.63035	22.49501	192.67	-4.26
72/11/15	2441636.5	-1.57036	-0.40139	-0.14211	7.26202	-19.32181	-9.06393	1.62706	22.54383	194.34	-5.01
72/11/19	2441640.5	-1.55272	-0.44580	-0.16297	8.00742	-19.11960	-8.99111	1.62365	22.59464	196.02	-5.76
72/11/23	2441644.5	-1.53336	-0.48971	-0.18364	8.74874	-18.89487	-8.90785	1.62011	22.64743	197.71	-6.51
72/11/27	2441648.5	-1.51230	-0.53308	-0.20411	9.48525	-18.64752	-8.81408	1.61644	22.70216	199.42	-7.25

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72/12/ 1	2441652.5	-1.48954	-0.57585	-0.22436	10.21620	-18.37749	-8.70974	1.61266	22.75879	201.14	-8.00
72/12/ 5	2441656.5	-1.46510	-0.61797	-0.24435	10.94082	-18.08471	-8.59479	1.60876	22.81728	202.87	-8.74
72/12/ 9	2441660.5	-1.43900	-0.65939	-0.26406	11.65831	-17.76911	-8.46918	1.60476	22.87760	204.62	-9.47
72/12/13	2441664.5	-1.41124	-0.70005	-0.28347	12.36787	-17.43068	-8.33287	1.60064	22.93969	206.38	-10.20
72/12/17	2441668.5	-1.38186	-0.73991	-0.30255	13.06866	-17.06938	-8.18583	1.59642	23.00351	208.17	-10.92
72/12/21	2441672.5	-1.35087	-0.77890	-0.32128	13.75984	-16.68523	-8.02805	1.59209	23.06902	209.97	-11.64
72/12/25	2441676.5	-1.31829	-0.81698	-0.33964	14.44052	-16.27825	-7.85950	1.58768	23.13616	211.79	-12.35
72/12/29	2441680.5	-1.28416	-0.85410	-0.35759	15.10980	-15.84848	-7.68019	1.58317	23.20487	213.63	-13.05
73/ 1/ 2	2441684.5	-1.24849	-0.89019	-0.37511	15.76679	-15.39600	-7.49012	1.57857	23.27510	215.49	-13.75
73/ 1/ 6	2441688.5	-1.21132	-0.92521	-0.39219	16.41053	-14.92091	-7.28931	1.57389	23.34680	217.37	-14.43
73/ 1/10	2441692.5	-1.17268	-0.95911	-0.40879	17.04006	-14.42332	-7.07780	1.56913	23.41988	219.28	-15.10
73/ 1/14	2441696.5	-1.13260	-0.99184	-0.42488	17.65441	-13.90339	-6.85563	1.56431	23.49430	221.21	-15.76
73/ 1/18	2441700.5	-1.09112	-1.02334	-0.44045	18.25258	-13.36132	-6.62286	1.55941	23.56998	223.16	-16.41
73/ 1/22	2441704.5	-1.04828	-1.05356	-0.45547	18.83355	-12.79734	-6.37957	1.55445	23.64684	225.14	-17.04
73/ 1/26	2441708.5	-1.00412	-1.08245	-0.46992	19.39627	-12.21169	-6.12584	1.54944	23.72481	227.15	-17.65
73/ 1/30	2441712.5	-0.95868	-1.10996	-0.48377	19.93971	-11.60469	-5.86180	1.54438	23.80381	229.18	-18.25
73/ 2/ 3	2441716.5	-0.91201	-1.13605	-0.49700	20.46278	-10.97667	-5.58756	1.53927	23.88375	231.24	-18.84
73/ 2/ 7	2441720.5	-0.86415	-1.16066	-0.50958	20.96440	-10.32804	-5.30329	1.53413	23.96455	233.33	-19.40
73/ 2/11	2441724.5	-0.81516	-1.18375	-0.52149	21.44349	-9.65922	-5.00914	1.52896	24.04610	235.45	-19.94
73/ 2/15	2441728.5	-0.76509	-1.20528	-0.53271	21.89892	-8.97070	-4.70532	1.52376	24.12833	237.59	-20.46
73/ 2/19	2441732.5	-0.71400	-1.22519	-0.54322	22.32959	-8.26303	-4.39203	1.51854	24.21112	239.77	-20.96
73/ 2/23	2441736.5	-0.66194	-1.24344	-0.55300	22.73439	-7.53679	-4.06954	1.51331	24.29438	241.97	-21.43
73/ 2/27	2441740.5	-0.60898	-1.25999	-0.56202	23.11218	-6.79264	-3.73809	1.50808	24.37799	244.20	-21.88
73/ 3/ 3	2441744.5	-0.55518	-1.27481	-0.57026	23.46186	-6.03128	-3.39799	1.50285	24.46184	246.47	-22.30
73/ 3/ 7	2441748.5	-0.50060	-1.28785	-0.57771	23.78232	-5.25348	-3.04957	1.49763	24.54583	248.76	-22.69
73/ 3/11	2441752.5	-0.44532	-1.29907	-0.58435	24.07244	-4.46009	-2.69317	1.49243	24.62982	251.08	-23.05
73/ 3/15	2441756.5	-0.38940	-1.30844	-0.59015	24.33114	-3.65199	-2.32918	1.48726	24.71369	253.43	-23.38
73/ 3/19	2441760.5	-0.33292	-1.31593	-0.59510	24.55735	-2.83017	-1.95801	1.48212	24.79732	255.80	-23.67
73/ 3/23	2441764.5	-0.27596	-1.32151	-0.59919	24.75002	-1.99564	-1.58012	1.47702	24.88057	258.20	-23.93
73/ 3/27	2441768.5	-0.21860	-1.32515	-0.60240	24.90814	-1.14953	-1.19598	1.47197	24.96332	260.63	-24.16
73/ 3/31	2441772.5	-0.16090	-1.32681	-0.60471	25.03072	-0.29300	-0.80610	1.46697	25.04541	263.09	-24.34
73/ 4/ 4	2441776.5	-0.10297	-1.32649	-0.60612	25.11683	0.57271	-0.41103	1.46204	25.12672	265.56	-24.49
73/ 4/ 8	2441780.5	-0.04488	-1.32416	-0.60661	25.16557	1.44627	-0.01136	1.45719	25.20709	268.06	-24.60
73/ 4/12	2441784.5	0.01327	-1.31981	-0.60617	25.17610	2.32631	0.39232	1.45241	25.28639	270.58	-24.67
73/ 4/16	2441788.5	0.07141	-1.31341	-0.60479	25.14764	3.21137	0.79934	1.44773	25.36446	273.11	-24.69
73/ 4/20	2441792.5	0.12943	-1.30496	-0.60248	25.07949	4.09994	1.20904	1.44314	25.44115	275.66	-24.68
73/ 4/24	2441796.5	0.18725	-1.29446	-0.59921	24.97100	4.99042	1.62071	1.43866	25.51631	278.23	-24.61
73/ 4/28	2441800.5	0.24478	-1.28191	-0.59499	24.82163	5.88119	2.03359	1.43430	25.58979	280.81	-24.51
73/ 5/ 2	2441804.5	0.30191	-1.26729	-0.58981	24.63091	6.77053	2.44694	1.43005	25.66143	283.40	-24.36
73/ 5/ 6	2441808.5	0.35855	-1.25063	-0.58368	24.39846	7.65669	2.85994	1.42594	25.73109	286.00	-24.16
73/ 5/10	2441812.5	0.41460	-1.23192	-0.57660	24.12402	8.53787	3.27178	1.42197	25.79861	288.60	-23.92
73/ 5/14	2441816.5	0.46998	-1.21118	-0.56857	23.80744	9.41221	3.68162	1.41814	25.86384	291.21	-23.64
73/ 5/18	2441820.5	0.52457	-1.18844	-0.55959	23.44866	10.27783	4.08859	1.41446	25.92662	293.82	-23.30
73/ 5/22	2441824.5	0.57828	-1.16371	-0.54968	23.04776	11.13282	4.49180	1.41095	25.98682	296.42	-22.93
73/ 5/26	2441828.5	0.63103	-1.13701	-0.53884	22.60494	11.97524	4.89037	1.40760	26.04429	299.03	-22.51

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73/ 5/30	2441832.5	0.68270	-1.10839	-0.52709	22.12054	12.80313	5.28339	1.40443	26.09890	301.63	-22.04
73/ 6/ 3	2441836.5	0.73320	-1.07787	-0.51443	21.59501	13.61454	5.66994	1.40144	26.15050	304.22	-21.54
73/ 6/ 7	2441840.5	0.78244	-1.04550	-0.50090	21.02897	14.40751	6.04912	1.39863	26.19896	306.81	-20.99
73/ 6/11	2441844.5	0.83033	-1.01132	-0.48649	20.42313	15.18010	6.42001	1.39602	26.24417	309.39	-20.39
73/ 6/15	2441848.5	0.87677	-0.97538	-0.47124	19.77840	15.93038	6.78170	1.39361	26.28600	311.95	-19.76
73/ 6/19	2441852.5	0.92168	-0.93773	-0.45516	19.09577	16.65648	7.13331	1.39141	26.32434	314.51	-19.09
73/ 6/23	2441856.5	0.96497	-0.89844	-0.43829	18.37642	17.35654	7.47395	1.38941	26.35910	317.04	-18.39
73/ 6/27	2441860.5	1.00656	-0.85756	-0.42064	17.62163	18.02876	7.80277	1.38763	26.39017	319.57	-17.65
73/ 7/ 1	2441864.5	1.04637	-0.81516	-0.40225	16.83282	18.67143	8.11893	1.38606	26.41748	322.08	-16.87
73/ 7/ 5	2441868.5	1.08431	-0.77132	-0.38314	16.01156	19.28289	8.42164	1.38472	26.44095	324.57	-16.06
73/ 7/ 9	2441872.5	1.12032	-0.72609	-0.36335	15.15952	19.86155	8.71012	1.38360	26.46051	327.05	-15.23
73/ 7/13	2441876.5	1.15433	-0.67957	-0.34291	14.27850	20.40595	8.98365	1.38271	26.47611	329.51	-14.36
73/ 7/17	2441880.5	1.18627	-0.63184	-0.32185	13.37039	20.91470	9.24154	1.38204	26.48770	331.96	-13.47
73/ 7/21	2441884.5	1.21609	-0.58297	-0.30022	12.43722	21.38654	9.48316	1.38161	26.49526	334.39	-12.55
73/ 7/25	2441888.5	1.24372	-0.53305	-0.27805	11.48107	21.82031	9.70792	1.38141	26.49876	336.80	-11.61
73/ 7/29	2441892.5	1.26912	-0.48218	-0.25538	10.50412	22.21497	9.91529	1.38144	26.49820	339.20	-10.65
73/ 8/ 2	2441896.5	1.29224	-0.43044	-0.23225	9.50862	22.56963	10.10480	1.38170	26.49357	341.58	-9.68
73/ 8/ 6	2441900.5	1.31304	-0.37793	-0.20871	8.49688	22.88352	10.27603	1.38219	26.48489	343.94	-8.68
73/ 8/10	2441904.5	1.33148	-0.32475	-0.18479	7.47124	23.15601	10.42862	1.38292	26.47218	346.29	-7.68
73/ 8/14	2441908.5	1.34755	-0.27098	-0.16054	6.43410	23.38659	10.56229	1.38387	26.45548	348.63	-6.66
73/ 8/18	2441912.5	1.36121	-0.21672	-0.13600	5.38787	23.57493	10.67682	1.38504	26.43484	350.95	-5.64
73/ 8/22	2441916.5	1.37244	-0.16209	-0.11122	4.33497	23.72080	10.77202	1.38644	26.41032	353.26	-4.60
73/ 8/26	2441920.5	1.38123	-0.10716	-0.08624	3.27781	23.82414	10.84782	1.38806	26.38198	355.56	-3.56
73/ 8/30	2441924.5	1.38758	-0.05204	-0.06112	2.21880	23.88500	10.90417	1.38990	26.34990	357.85	-2.52
73/ 9/ 3	2441928.5	1.39148	0.00317	-0.03588	1.16032	23.90360	10.94111	1.39195	26.31418	0.13	-1.48
73/ 9/ 7	2441932.5	1.39294	0.05837	-0.01058	0.10470	23.88025	10.95871	1.39421	26.27491	2.40	-0.43
73/ 9/11	2441936.5	1.39197	0.11347	0.01474	-0.94576	23.81542	10.95714	1.39667	26.23218	4.66	0.60
73/ 9/15	2441940.5	1.38858	0.16837	0.04003	-1.98884	23.70968	10.93659	1.39932	26.18613	6.91	1.64
73/ 9/19	2441944.5	1.38279	0.22299	0.06526	-3.02235	23.56372	10.89732	1.40217	26.13686	9.16	2.67
73/ 9/23	2441948.5	1.37462	0.27722	0.09037	-4.04421	23.37835	10.83965	1.40521	26.08450	11.40	3.69
73/ 9/27	2441952.5	1.36411	0.33097	0.11533	-5.05241	23.15446	10.76393	1.40842	26.02918	13.64	4.70
73/10/ 1	2441956.5	1.35129	0.38417	0.14009	-6.04502	22.89305	10.67057	1.41181	25.97104	15.87	5.69
73/10/ 5	2441960.5	1.33620	0.43672	0.16461	-7.02021	22.59519	10.56001	1.41536	25.91022	18.10	6.68
73/10/ 9	2441964.5	1.31887	0.48854	0.18887	-7.97625	22.26203	10.43273	1.41907	25.84686	20.33	7.65
73/10/13	2441968.5	1.29936	0.53955	0.21280	-8.91152	21.89480	10.28926	1.42293	25.78112	22.55	8.60
73/10/17	2441972.5	1.27771	0.58967	0.23639	-9.82448	21.49478	10.13014	1.42694	25.71314	24.77	9.54
73/10/21	2441976.5	1.25399	0.63884	0.25960	-10.71373	21.06330	9.95594	1.43108	25.64307	27.00	10.45
73/10/25	2441980.5	1.22823	0.68697	0.28238	-11.57794	20.60173	9.76725	1.43535	25.57107	29.22	11.35
73/10/29	2441984.5	1.20051	0.73400	0.30472	-12.41593	20.11150	9.56471	1.43974	25.49728	31.44	12.22
73/11/ 2	2441988.5	1.17089	0.77987	0.32656	-13.22658	19.59402	9.34893	1.44424	25.42185	33.67	13.07
73/11/ 6	2441992.5	1.13942	0.82452	0.34790	-14.00893	19.05078	9.12055	1.44884	25.34495	35.89	13.89
73/11/10	2441996.5	1.10618	0.86788	0.36870	-14.76207	18.48322	8.88024	1.45354	25.26672	38.12	14.69
73/11/14	2442000.5	1.07124	0.90990	0.38892	-15.48523	17.89285	8.62865	1.45833	25.18730	40.34	15.47
73/11/18	2442004.5	1.03466	0.95053	0.40855	-16.17773	17.28113	8.36644	1.46320	25.10685	42.57	16.21
73/11/22	2442008.5	0.99652	0.98973	0.42757	-16.83897	16.64955	8.09427	1.46814	25.02550	44.80	16.93

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73/11/26	2442012.5	0.95688	1.02744	0.44595	-17.46847	15.99957	7.81280	1.47314	24.94341	47.04	17.62
73/11/30	2442016.5	0.91583	1.06364	0.46366	-18.06582	15.33263	7.52269	1.47819	24.86070	49.27	18.28
73/12/ 4	2442020.5	0.87344	1.09827	0.48070	-18.63070	14.65019	7.22458	1.48330	24.77752	51.51	18.91
73/12/ 8	2442024.5	0.82978	1.13132	0.49704	-19.16288	13.95363	6.91913	1.48844	24.69401	53.74	19.51
73/12/12	2442028.5	0.78492	1.16273	0.51266	-19.66218	13.24435	6.60695	1.49361	24.61028	55.98	20.07
73/12/16	2442032.5	0.73895	1.19250	0.52756	-20.12851	12.52370	6.28866	1.49881	24.52646	58.21	20.61
73/12/20	2442036.5	0.69195	1.22059	0.54171	-20.56186	11.79300	5.96488	1.50402	24.44268	60.45	21.11
73/12/24	2442040.5	0.64398	1.24698	0.55511	-20.96226	11.05354	5.63620	1.50925	24.35906	62.69	21.58
73/12/28	2442044.5	0.59512	1.27166	0.56775	-21.32980	10.30658	5.30319	1.51447	24.27570	64.92	22.02
74/ 1/ 1	2442048.5	0.54545	1.29460	0.57961	-21.66464	9.55333	4.96641	1.51969	24.19273	67.15	22.42
74/ 1/ 5	2442052.5	0.49505	1.31579	0.59069	-21.96698	8.79497	4.62642	1.52489	24.11023	69.38	22.79
74/ 1/ 9	2442056.5	0.44398	1.33523	0.60099	-22.23706	8.03264	4.28374	1.53008	24.02833	71.61	23.13
74/ 1/13	2442060.5	0.39233	1.35290	0.61049	-22.47518	7.26744	3.93888	1.53524	23.94711	73.83	23.43
74/ 1/17	2442064.5	0.34016	1.36881	0.61918	-22.68165	6.50044	3.59235	1.54037	23.86667	76.04	23.70
74/ 1/21	2442068.5	0.28756	1.38294	0.62708	-22.85685	5.73265	3.24462	1.54546	23.78710	78.25	23.94
74/ 1/25	2442072.5	0.23458	1.39529	0.63418	-23.00116	4.96505	2.89615	1.55050	23.70849	80.46	24.14
74/ 1/29	2442076.5	0.18131	1.40588	0.64046	-23.11500	4.19860	2.54738	1.55549	23.63092	82.65	24.31
74/ 2/ 2	2442080.5	0.12780	1.41469	0.64595	-23.19882	3.43420	2.19876	1.56043	23.55447	84.84	24.45
74/ 2/ 6	2442084.5	0.07414	1.42175	0.65062	-23.25307	2.67271	1.85067	1.56530	23.47922	87.01	24.56
74/ 2/10	2442088.5	0.02039	1.42705	0.65450	-23.27826	1.91497	1.50353	1.57011	23.40524	89.18	24.64
74/ 2/14	2442092.5	-0.03339	1.43060	0.65757	-23.27487	1.16177	1.15770	1.57484	23.33259	91.34	24.68
74/ 2/18	2442096.5	-0.08713	1.43242	0.65985	-23.24343	0.41388	0.81356	1.57950	23.26134	93.48	24.69
74/ 2/22	2442100.5	-0.14076	1.43252	0.66133	-23.18445	-0.32798	0.47145	1.58407	23.19156	95.61	24.68
74/ 2/26	2442104.5	-0.19423	1.43091	0.66203	-23.09848	-1.06311	0.13170	1.58855	23.12330	97.73	24.63
74/ 3/ 2	2442108.5	-0.24746	1.42761	0.66194	-22.98606	-1.79086	-0.20537	1.59294	23.05663	99.83	24.55
74/ 3/ 6	2442112.5	-0.30041	1.42264	0.66108	-22.84774	-2.51059	-0.53945	1.59724	22.99159	101.92	24.45
74/ 3/10	2442116.5	-0.35301	1.41602	0.65945	-22.68408	-3.22169	-0.87026	1.60143	22.92824	104.00	24.32
74/ 3/14	2442120.5	-0.40520	1.40776	0.65706	-22.49564	-3.92360	-1.19750	1.60552	22.86662	106.06	24.16
74/ 3/18	2442124.5	-0.45693	1.39790	0.65392	-22.28298	-4.61575	-1.52093	1.60951	22.80679	108.10	23.97
74/ 3/22	2442128.5	-0.50814	1.38644	0.65004	-22.04666	-5.29765	-1.84027	1.61337	22.74878	110.13	23.76
74/ 3/26	2442132.5	-0.55877	1.37343	0.64542	-21.78724	-5.96877	-2.15529	1.61713	22.69263	112.14	23.52
74/ 3/30	2442136.5	-0.60879	1.35887	0.64008	-21.50528	-6.62865	-2.46575	1.62076	22.63838	114.13	23.26
74/ 4/ 3	2442140.5	-0.65812	1.34281	0.63403	-21.20135	-7.27684	-2.77144	1.62427	22.58607	116.11	22.98
74/ 4/ 7	2442144.5	-0.70673	1.32526	0.62728	-20.87600	-7.91289	-3.07213	1.62766	22.53574	118.07	22.67
74/ 4/11	2442148.5	-0.75456	1.30626	0.61984	-20.52979	-8.53640	-3.36763	1.63091	22.48740	120.01	22.34
74/ 4/15	2442152.5	-0.80157	1.28583	0.61173	-20.16326	-9.14698	-3.65773	1.63404	22.44111	121.94	21.99
74/ 4/19	2442156.5	-0.84770	1.26401	0.60295	-19.77697	-9.74423	-3.94224	1.63703	22.39687	123.85	21.61
74/ 4/23	2442160.5	-0.89293	1.24082	0.59352	-19.37146	-10.32781	-4.22100	1.63988	22.35473	125.74	21.22
74/ 4/27	2442164.5	-0.93719	1.21630	0.58345	-18.94726	-10.89737	-4.49382	1.64260	22.31469	127.62	20.81
74/ 5/ 1	2442168.5	-0.98046	1.19048	0.57276	-18.50492	-11.45256	-4.76053	1.64517	22.27680	129.47	20.37
74/ 5/ 5	2442172.5	-1.02268	1.16340	0.56146	-18.04496	-11.99308	-5.02098	1.64760	22.24106	131.32	19.92
74/ 5/ 9	2442176.5	-1.06382	1.13508	0.54956	-17.56792	-12.51862	-5.27501	1.64989	22.20750	133.14	19.46
74/ 5/13	2442180.5	-1.10384	1.10557	0.53709	-17.07430	-13.02887	-5.52247	1.65203	22.17614	134.96	18.97
74/ 5/17	2442184.5	-1.14269	1.07489	0.52405	-16.56464	-13.52356	-5.76322	1.65402	22.14698	136.75	18.47
74/ 5/21	2442188.5	-1.18036	1.04310	0.51047	-16.03945	-14.00241	-5.99711	1.65586	22.12005	138.53	17.96

1.4 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MARS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
74/ 5/25	2442192.5	-1.21679	1.01021	0.49635	-15.49923	-14.46515	-6.22401	1.65755	22.09536	140.30	17.42
74/ 5/29	2442196.5	-1.25196	0.97627	0.48172	-14.94450	-14.91153	-6.44379	1.65908	22.07293	142.05	16.88
74/ 6/ 2	2442200.5	-1.28583	0.94133	0.46658	-14.37576	-15.34129	-6.65632	1.66047	22.05276	143.79	16.32
74/ 6/ 6	2442204.5	-1.31837	0.90540	0.45097	-13.79350	-15.75419	-6.86147	1.66169	22.03486	145.52	15.75
74/ 6/10	2442208.5	-1.34955	0.86855	0.43489	-13.19824	-16.15000	-7.05913	1.66277	22.01925	147.24	15.16
74/ 6/14	2442212.5	-1.37934	0.83080	0.41836	-12.59047	-16.52848	-7.24916	1.66368	22.00593	148.94	14.56
74/ 6/18	2442216.5	-1.40771	0.79220	0.40140	-11.97067	-16.88941	-7.43147	1.66444	21.99491	150.63	13.96
74/ 6/22	2442220.5	-1.43464	0.75278	0.38403	-11.33935	-17.23257	-7.60592	1.66504	21.98619	152.31	13.33
74/ 6/26	2442224.5	-1.46010	0.71259	0.36626	-10.69700	-17.55774	-7.77242	1.66548	21.97978	153.99	12.70
74/ 6/30	2442228.5	-1.48406	0.67167	0.34812	-10.04410	-17.86472	-7.93084	1.66576	21.97568	155.65	12.06
74/ 7/ 4	2442232.5	-1.50650	0.63006	0.32963	-9.38116	-18.15329	-8.08108	1.66588	21.97389	157.30	11.41
74/ 7/ 8	2442236.5	-1.52739	0.58781	0.31079	-8.70866	-18.42324	-8.22304	1.66585	21.97442	158.95	10.75
74/ 7/12	2442240.5	-1.54673	0.54495	0.29164	-8.02711	-18.67438	-8.35660	1.66565	21.97726	160.59	10.08
74/ 7/16	2442244.5	-1.56447	0.50154	0.27219	-7.33698	-18.90651	-8.48167	1.66530	21.98241	162.23	9.41
74/ 7/20	2442248.5	-1.58062	0.45761	0.25246	-6.63880	-19.11944	-8.59814	1.66478	21.98987	163.85	8.72
74/ 7/24	2442252.5	-1.59514	0.41322	0.23247	-5.93305	-19.31296	-8.70590	1.66411	21.99964	165.48	8.03
74/ 7/28	2442256.5	-1.60803	0.36840	0.21224	-5.22025	-19.48689	-8.80486	1.66328	22.01171	167.10	7.33
74/ 8/ 1	2442260.5	-1.61926	0.32320	0.19179	-4.50091	-19.64104	-8.89492	1.66230	22.02608	168.71	6.63
74/ 8/ 5	2442264.5	-1.62882	0.27766	0.17115	-3.77554	-19.77522	-8.97597	1.66116	22.04274	170.33	5.91
74/ 8/ 9	2442268.5	-1.63670	0.23184	0.15033	-3.04466	-19.88925	-9.04792	1.65986	22.06167	171.94	5.20
74/ 8/13	2442272.5	-1.64288	0.18578	0.12935	-2.30880	-19.98295	-9.11068	1.65840	22.08288	173.55	4.47
74/ 8/17	2442276.5	-1.64736	0.13953	0.10824	-1.56851	-20.05614	-9.16413	1.65680	22.10634	175.16	3.75
74/ 8/21	2442280.5	-1.65013	0.09313	0.08702	-0.82432	-20.10864	-9.20820	1.65504	22.13205	176.77	3.01
74/ 8/25	2442284.5	-1.65117	0.04664	0.06570	-0.07678	-20.14028	-9.24277	1.65313	22.16000	178.38	2.28
74/ 8/29	2442288.5	-1.65048	0.00009	0.04432	0.67353	-20.15088	-9.26777	1.65107	22.19016	180.00	1.54
74/ 9/ 2	2442292.5	-1.64805	-0.04645	0.02289	1.42604	-20.14029	-9.28310	1.64887	22.22253	181.61	0.80
74/ 9/ 6	2442296.5	-1.64389	-0.09294	0.00144	2.18017	-20.10834	-9.28866	1.64651	22.25708	183.24	0.05
74/ 9/10	2442300.5	-1.63798	-0.13934	-0.02002	2.93533	-20.05487	-9.28438	1.64402	22.29381	184.86	-0.70
74/ 9/14	2442304.5	-1.63033	-0.18559	-0.04145	3.69089	-19.97974	-9.27016	1.64138	22.33267	186.49	-1.45
74/ 9/18	2442308.5	-1.62093	-0.23164	-0.06284	4.44625	-19.88278	-9.24592	1.63860	22.37367	188.13	-2.20
74/ 9/22	2442312.5	-1.60978	-0.27744	-0.08416	5.20076	-19.76386	-9.21158	1.63568	22.41676	189.78	-2.95
74/ 9/26	2442316.5	-1.59690	-0.32294	-0.10539	5.95377	-19.62285	-9.16705	1.63263	22.46194	191.43	-3.70
74/ 9/30	2442320.5	-1.58228	-0.36808	-0.12651	6.70461	-19.45962	-9.11227	1.62944	22.50916	193.10	-4.45
74/10/ 4	2442324.5	-1.56592	-0.41283	-0.14749	7.45260	-19.27405	-9.04715	1.62613	22.55840	194.77	-5.20
74/10/ 8	2442328.5	-1.54784	-0.45712	-0.16830	8.19703	-19.06603	-8.97164	1.62269	22.60963	196.45	-5.95
74/10/12	2442332.5	-1.52805	-0.50090	-0.18893	8.93720	-18.83547	-8.88566	1.61912	22.66282	198.15	-6.70
74/10/16	2442336.5	-1.50656	-0.54413	-0.20935	9.67235	-18.58227	-8.78916	1.61543	22.71793	199.86	-7.45
74/10/20	2442340.5	-1.48337	-0.58674	-0.22953	10.40174	-18.30635	-8.68208	1.61162	22.77492	201.58	-8.19
74/10/24	2442344.5	-1.45850	-0.62869	-0.24946	11.12458	-18.00767	-8.56437	1.60770	22.83377	203.32	-8.93
74/10/28	2442348.5	-1.43197	-0.66993	-0.26910	11.84008	-17.68617	-8.43599	1.60367	22.89441	205.07	-9.66
74/11/ 1	2442352.5	-1.40380	-0.71039	-0.28843	12.54743	-17.34183	-8.29690	1.59953	22.95682	206.84	-10.39
74/11/ 5	2442356.5	-1.37401	-0.75004	-0.30742	13.24579	-16.97463	-8.14708	1.59529	23.02094	208.63	-11.11
74/11/ 9	2442360.5	-1.34261	-0.78880	-0.32606	13.93430	-16.58457	-7.98651	1.59095	23.08673	210.43	-11.83
74/11/13	2442364.5	-1.30963	-0.82664	-0.34431	14.61208	-16.17170	-7.81518	1.58652	23.15413	212.26	-12.53
74/11/17	2442368.5	-1.27511	-0.86350	-0.36216	15.27823	-15.73606	-7.63308	1.58199	23.22309	214.11	-13.23

1.4 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MARS

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74/11/21	2442372.5	-1.23905	-0.89933	-0.37957	15.93183	-15.27773	-7.44023	1.57738	23.29354	215.97	-13.92
74/11/25	2442376.5	-1.20151	-0.93408	-0.39653	16.57192	-14.79682	-7.23665	1.57269	23.36544	217.86	-14.60
74/11/29	2442380.5	-1.16250	-0.96768	-0.41300	17.19756	-14.29346	-7.02238	1.56792	23.43870	219.77	-15.27
74/12/ 3	2442384.5	-1.12206	-1.00010	-0.42897	17.80775	-13.76781	-6.79747	1.56308	23.51328	221.71	-15.93
74/12/ 7	2442388.5	-1.08023	-1.03128	-0.44440	18.40149	-13.22008	-6.56198	1.55818	23.58909	223.67	-16.57
74/12/11	2442392.5	-1.03705	-1.06116	-0.45928	18.97776	-12.65050	-6.31599	1.55322	23.66606	225.66	-17.20
74/12/15	2442396.5	-0.99256	-1.08971	-0.47357	19.53552	-12.05934	-6.05960	1.54820	23.74412	227.67	-17.81
74/12/19	2442400.5	-0.94680	-1.11687	-0.48727	20.07371	-11.44693	-5.79292	1.54313	23.82318	229.71	-18.41
74/12/23	2442404.5	-0.89983	-1.14258	-0.50033	20.59125	-10.81360	-5.51610	1.53802	23.90316	231.78	-18.98
74/12/27	2442408.5	-0.85168	-1.16681	-0.51275	21.08707	-10.15977	-5.22927	1.53288	23.98396	233.87	-19.54
74/12/31	2442412.5	-0.80242	-1.18951	-0.52449	21.56005	-9.48589	-4.93263	1.52771	24.06551	236.00	-20.08
75/ 1/ 4	2442416.5	-0.75209	-1.21063	-0.53553	22.00911	-8.79245	-4.62638	1.52251	24.14770	238.15	-20.59
75/ 1/ 8	2442420.5	-0.70075	-1.23012	-0.54585	22.43312	-8.08001	-4.31072	1.51730	24.23043	240.33	-21.09
75/ 1/12	2442424.5	-0.64846	-1.24794	-0.55544	22.83096	-7.34917	-3.98593	1.51208	24.31359	242.54	-21.55
75/ 1/16	2442428.5	-0.59528	-1.26406	-0.56426	23.20152	-6.60061	-3.65226	1.50685	24.39709	244.78	-21.99
75/ 1/20	2442432.5	-0.54128	-1.27843	-0.57231	23.54369	-5.83505	-3.31003	1.50163	24.48080	247.05	-22.40
75/ 1/24	2442436.5	-0.48652	-1.29101	-0.57955	23.85635	-5.05328	-2.95957	1.49642	24.56461	249.35	-22.79
75/ 1/28	2442440.5	-0.43108	-1.30176	-0.58597	24.13840	-4.25614	-2.60123	1.49124	24.64840	251.68	-23.14
75/ 2/ 1	2442444.5	-0.37502	-1.31066	-0.59156	24.38877	-3.44455	-2.23541	1.48608	24.73205	254.03	-23.46
75/ 2/ 5	2442448.5	-0.31842	-1.31767	-0.59630	24.60640	-2.61951	-1.86253	1.48095	24.81543	256.41	-23.74
75/ 2/ 9	2442452.5	-0.26136	-1.32276	-0.60016	24.79024	-1.78205	-1.48305	1.47587	24.89841	258.82	-23.99
75/ 2/13	2442456.5	-0.20391	-1.32589	-0.60315	24.93928	-0.93330	-1.09745	1.47084	24.98086	261.26	-24.21
75/ 2/17	2442460.5	-0.14615	-1.32706	-0.60523	25.05256	-0.07445	-0.70626	1.46586	25.06263	263.72	-24.39
75/ 2/21	2442464.5	-0.08818	-1.32623	-0.60640	25.12915	0.79324	-0.31002	1.46096	25.14358	266.20	-24.52
75/ 2/25	2442468.5	-0.03008	-1.32339	-0.60666	25.16818	1.66844	0.09067	1.45612	25.22358	268.70	-24.62
75/ 3/ 1	2442472.5	0.02807	-1.31852	-0.60598	25.16881	2.54974	0.49519	1.45138	25.30247	271.22	-24.68
75/ 3/ 5	2442476.5	0.08618	-1.31160	-0.60437	25.13028	3.43569	0.90289	1.44672	25.38012	273.76	-24.69
75/ 3/ 9	2442480.5	0.14415	-1.30264	-0.60181	25.05192	4.32474	1.31309	1.44216	25.45636	276.31	-24.66
75/ 3/13	2442484.5	0.20190	-1.29162	-0.59830	24.93309	5.21530	1.72506	1.43771	25.53105	278.88	-24.59
75/ 3/17	2442488.5	0.25932	-1.27854	-0.59384	24.77328	6.10572	2.13807	1.43338	25.60403	281.47	-24.47
75/ 3/21	2442492.5	0.31633	-1.26341	-0.58842	24.57203	6.99427	2.55134	1.42917	25.67516	284.06	-24.31
75/ 3/25	2442496.5	0.37282	-1.24623	-0.58205	24.32901	7.87920	2.96406	1.42509	25.74428	286.65	-24.11
75/ 3/29	2442500.5	0.42870	-1.22701	-0.57473	24.04397	8.75869	3.37541	1.42115	25.81124	289.26	-23.85
75/ 4/ 2	2442504.5	0.48388	-1.20577	-0.56646	23.71678	9.63087	3.78454	1.41735	25.87589	291.87	-23.56
75/ 4/ 6	2442508.5	0.53825	-1.18252	-0.55724	23.34742	10.49388	4.19059	1.41372	25.93809	294.47	-23.21
75/ 4/10	2442512.5	0.59172	-1.15729	-0.54710	22.93600	11.34577	4.59267	1.41024	25.99768	297.08	-22.83
75/ 4/14	2442516.5	0.64419	-1.13011	-0.53603	22.48276	12.18461	4.98987	1.40693	26.05452	299.68	-22.40
75/ 4/18	2442520.5	0.69557	-1.10101	-0.52405	21.98806	13.00845	5.38130	1.40380	26.10848	302.28	-21.92
75/ 4/22	2442524.5	0.74575	-1.07002	-0.51117	21.45238	13.81533	5.76605	1.40085	26.15942	304.87	-21.40
75/ 4/26	2442528.5	0.79465	-1.03719	-0.49741	20.87638	14.60329	6.14320	1.39809	26.20722	307.46	-20.84
75/ 4/30	2442532.5	0.84218	-1.00256	-0.48279	20.26081	15.37041	6.51183	1.39552	26.25174	310.03	-20.24
75/ 5/ 4	2442536.5	0.88824	-0.96619	-0.46733	19.60659	16.11476	6.87106	1.39316	26.29288	312.59	-19.60
75/ 5/ 8	2442540.5	0.93274	-0.92813	-0.45105	18.91478	16.83448	7.21998	1.39100	26.33053	315.14	-18.92
75/ 5/12	2442544.5	0.97560	-0.88843	-0.43398	18.18655	17.52772	7.55773	1.38904	26.36458	317.68	-18.21
75/ 5/16	2442548.5	1.01674	-0.84716	-0.41614	17.42324	18.19271	7.88346	1.38731	26.39494	320.20	-17.46

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75/ 5/20	2442552.5	1.05608	-0.80440	-0.39757	16.62629	18.82774	8.19633	1.38579	26.42153	322.70	-16.67
75/ 5/24	2442556.5	1.09353	-0.76020	-0.37828	15.79730	19.43117	8.49556	1.38449	26.44427	325.19	-15.86
75/ 5/28	2442560.5	1.12904	-0.71464	-0.35833	14.93796	20.00146	8.78038	1.38342	26.46311	327.67	-15.01
75/ 6/ 1	2442564.5	1.16253	-0.66781	-0.33773	14.05011	20.53713	9.05009	1.38257	26.47798	330.13	-14.14
75/ 6/ 5	2442568.5	1.19394	-0.61978	-0.31652	13.13566	21.03685	9.30400	1.38196	26.48885	332.57	-13.24
75/ 6/ 9	2442572.5	1.22320	-0.57064	-0.29475	12.19665	21.49936	9.54150	1.38157	26.49568	334.99	-12.32
75/ 6/13	2442576.5	1.25027	-0.52048	-0.27245	11.23519	21.92355	9.76200	1.38142	26.49846	337.40	-11.37
75/ 6/17	2442580.5	1.27510	-0.46938	-0.24966	10.25348	22.30841	9.96499	1.38149	26.49717	339.79	-10.41
75/ 6/21	2442584.5	1.29763	-0.41743	-0.22642	9.25377	22.65306	10.15001	1.38180	26.49181	342.17	-9.43
75/ 6/25	2442588.5	1.31784	-0.36474	-0.20278	8.23839	22.95678	10.31667	1.38234	26.48241	344.53	-8.44
75/ 6/29	2442592.5	1.33569	-0.31140	-0.17877	7.20970	23.21896	10.46461	1.38311	26.46900	346.88	-7.43
75/ 7/ 3	2442596.5	1.35115	-0.25750	-0.15444	6.17009	23.43914	10.59357	1.38411	26.45159	349.21	-6.41
75/ 7/ 7	2442600.5	1.36419	-0.20313	-0.12984	5.12198	23.61699	10.70332	1.38533	26.43025	351.53	-5.38
75/ 7/11	2442604.5	1.37481	-0.14841	-0.10501	4.06779	23.75235	10.79374	1.38677	26.40504	353.84	-4.34
75/ 7/15	2442608.5	1.38298	-0.09342	-0.07998	3.00992	23.84517	10.86472	1.38844	26.37601	356.14	-3.30
75/ 7/19	2442612.5	1.38871	-0.03827	-0.05482	1.95080	23.89554	10.91626	1.39032	26.34326	358.42	-2.26
75/ 7/23	2442616.5	1.39200	0.01695	-0.02956	0.89277	23.90370	10.94838	1.39241	26.30687	0.70	-1.22
75/ 7/27	2442620.5	1.39284	0.07214	-0.00425	-0.16182	23.87001	10.96121	1.39471	26.26693	2.96	-0.17
75/ 7/31	2442624.5	1.39125	0.12721	0.02107	-1.21069	23.79495	10.95489	1.39721	26.22356	5.22	0.86
75/ 8/ 4	2442628.5	1.38725	0.18205	0.04635	-2.25164	23.67913	10.92965	1.39991	26.17686	7.48	1.90
75/ 8/ 8	2442632.5	1.38086	0.23658	0.07155	-3.28249	23.52326	10.88576	1.40280	26.12697	9.72	2.92
75/ 8/12	2442636.5	1.37209	0.29071	0.09663	-4.30118	23.32818	10.82354	1.40588	26.07400	11.96	3.94
75/ 8/16	2442640.5	1.36099	0.34434	0.12155	-5.30572	23.09480	10.74336	1.40913	26.01808	14.20	4.95
75/ 8/20	2442644.5	1.34759	0.39738	0.14626	-6.29419	22.82415	10.64564	1.41255	25.95936	16.43	5.94
75/ 8/24	2442648.5	1.33193	0.44976	0.17072	-7.26481	22.51730	10.53083	1.41614	25.89797	18.66	6.92
75/ 8/28	2442652.5	1.31404	0.50140	0.19490	-8.21585	22.17545	10.39943	1.41989	25.83406	20.89	7.89
75/ 9/ 1	2442656.5	1.29398	0.55220	0.21876	-9.14571	21.79981	10.25195	1.42379	25.76778	23.11	8.84
75/ 9/ 5	2442660.5	1.27180	0.60209	0.24226	-10.05290	21.39170	10.08895	1.42783	25.69927	25.33	9.77
75/ 9/ 9	2442664.5	1.24755	0.65101	0.26536	-10.93602	20.95245	9.91102	1.43200	25.62870	27.56	10.68
75/ 9/13	2442668.5	1.22129	0.69888	0.28804	-11.79379	20.48346	9.71875	1.43630	25.55620	29.78	11.57
75/ 9/17	2442672.5	1.19308	0.74563	0.31025	-12.62503	19.98613	9.51276	1.44072	25.48194	32.00	12.44
75/ 9/21	2442676.5	1.16298	0.79120	0.33198	-13.42867	19.46192	9.29370	1.44525	25.40607	34.23	13.28
75/ 9/25	2442680.5	1.13106	0.83553	0.35318	-14.20375	18.91229	9.06220	1.44988	25.32873	36.45	14.10
75/ 9/29	2442684.5	1.09738	0.87856	0.37384	-14.94941	18.33872	8.81892	1.45460	25.25009	38.68	14.89
75/10/ 3	2442688.5	1.06201	0.92024	0.39392	-15.66489	17.74270	8.56453	1.45942	25.17028	40.91	15.66
75/10/ 7	2442692.5	1.02503	0.96052	0.41340	-16.34955	17.12569	8.29967	1.46430	25.08947	43.14	16.40
75/10/11	2442696.5	0.98650	0.99936	0.43226	-17.00280	16.48918	8.02503	1.46926	25.00778	45.37	17.11
75/10/15	2442700.5	0.94649	1.03670	0.45048	-17.62419	15.83463	7.74124	1.47428	24.92538	47.60	17.79
75/10/19	2442704.5	0.90509	1.07251	0.46802	-18.21332	15.16350	7.44898	1.47936	24.84238	49.84	18.44
75/10/23	2442708.5	0.86236	1.10675	0.48489	-18.76990	14.47720	7.14889	1.48448	24.75894	52.07	19.06
75/10/27	2442712.5	0.81839	1.13938	0.50105	-19.29371	13.77714	6.84160	1.48963	24.67518	54.31	19.66
75/10/31	2442716.5	0.77325	1.17039	0.51649	-19.78460	13.06471	6.52774	1.49482	24.59123	56.55	20.21
75/11/ 4	2442720.5	0.72701	1.19974	0.53120	-20.24251	12.34125	6.20794	1.50003	24.50723	58.79	20.74
75/11/ 8	2442724.5	0.67974	1.22740	0.54517	-20.66742	11.60808	5.88280	1.50525	24.42329	61.02	21.23
75/11/12	2442728.5	0.63154	1.25337	0.55838	-21.05938	10.86647	5.55290	1.51048	24.33952	63.26	21.70

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75/11/16	2442732.5	0.58247	1.27761	0.57082	-21.41852	10.11767	5.21882	1.51571	24.25606	65.49	22.12
75/11/20	2442736.5	0.53260	1.30011	0.58249	-21.74499	9.36290	4.88111	1.52094	24.17300	67.72	22.52
75/11/24	2442740.5	0.48202	1.32086	0.59337	-22.03902	8.60331	4.54033	1.52614	24.09045	69.95	22.88
75/11/28	2442744.5	0.43080	1.33986	0.60347	-22.30085	7.84004	4.19700	1.53133	24.00852	72.18	23.21
75/12/ 2	2442748.5	0.37901	1.35708	0.61276	-22.53079	7.07418	3.85162	1.53649	23.92730	74.40	23.50
75/12/ 6	2442752.5	0.32672	1.37254	0.62126	-22.72917	6.30679	3.50469	1.54162	23.84688	76.61	23.77
75/12/10	2442756.5	0.27402	1.38622	0.62896	-22.89637	5.53887	3.15669	1.54670	23.76737	78.82	23.99
75/12/14	2442760.5	0.22096	1.39813	0.63585	-23.03279	4.77140	2.80806	1.55174	23.68884	81.02	24.19
75/12/18	2442764.5	0.16762	1.40827	0.64193	-23.13885	4.00532	2.45926	1.55673	23.61137	83.21	24.35
75/12/22	2442768.5	0.11407	1.41664	0.64721	-23.21500	3.24152	2.11070	1.56165	23.53506	85.40	24.48
75/12/26	2442772.5	0.06038	1.42325	0.65168	-23.26172	2.48085	1.76279	1.56652	23.45996	87.57	24.58
75/12/30	2442776.5	0.00662	1.42811	0.65535	-23.27950	1.72415	1.41592	1.57131	23.38616	89.73	24.65
76/ 1/ 3	2442780.5	-0.04716	1.43122	0.65823	-23.26883	0.97219	1.07047	1.57603	23.31372	91.89	24.69
76/ 1/ 7	2442784.5	-0.10087	1.43260	0.66030	-23.23025	0.22574	0.72679	1.58067	23.24271	94.03	24.69
76/ 1/11	2442788.5	-0.15447	1.43227	0.66159	-23.16427	-0.51451	0.38523	1.58523	23.17318	96.16	24.67
76/ 1/15	2442792.5	-0.20788	1.43023	0.66208	-23.07144	-1.24785	0.04612	1.58969	23.10521	98.27	24.61
76/ 1/19	2442796.5	-0.26104	1.42651	0.66180	-22.95231	-1.97363	-0.29022	1.59407	23.03883	100.37	24.53
76/ 1/23	2442800.5	-0.31391	1.42112	0.66074	-22.80742	-2.69123	-0.62351	1.59834	22.97411	102.46	24.42
76/ 1/27	2442804.5	-0.36640	1.41408	0.65892	-22.63734	-3.40006	-0.95344	1.60251	22.91110	104.53	24.28
76/ 1/31	2442808.5	-0.41848	1.40541	0.65634	-22.44262	-4.09954	-1.27974	1.60658	22.84984	106.58	24.11
76/ 2/ 4	2442812.5	-0.47008	1.39515	0.65301	-22.22383	-4.78914	-1.60215	1.61054	22.79038	108.62	23.92
76/ 2/ 8	2442816.5	-0.52114	1.38330	0.64894	-21.98153	-5.46833	-1.92042	1.61438	22.73276	110.64	23.70
76/ 2/12	2442820.5	-0.57162	1.36989	0.64414	-21.71628	-6.13664	-2.23430	1.61811	22.67702	112.65	23.46
76/ 2/16	2442824.5	-0.62146	1.35495	0.63862	-21.42864	-6.79358	-2.54357	1.62171	22.62320	114.64	23.19
76/ 2/20	2442828.5	-0.67061	1.33851	0.63239	-21.11918	-7.43871	-2.84800	1.62519	22.57134	116.61	22.90
76/ 2/24	2442832.5	-0.71902	1.32059	0.62547	-20.78844	-8.07161	-3.14738	1.62855	22.52146	118.57	22.59
76/ 2/28	2442836.5	-0.76665	1.30122	0.61786	-20.43698	-8.69186	-3.44152	1.63177	22.47360	120.51	22.25
76/ 3/ 3	2442840.5	-0.81343	1.28044	0.60957	-20.06536	-9.29907	-3.73021	1.63486	22.42779	122.43	21.89
76/ 3/ 7	2442844.5	-0.85934	1.25827	0.60063	-19.67412	-9.89288	-4.01328	1.63782	22.38406	124.33	21.51
76/ 3/11	2442848.5	-0.90432	1.23474	0.59103	-19.26379	-10.47292	-4.29054	1.64064	22.34243	126.22	21.12
76/ 3/15	2442852.5	-0.94833	1.20989	0.58081	-18.83493	-11.03885	-4.56181	1.64332	22.30293	128.09	20.70
76/ 3/19	2442856.5	-0.99133	1.18375	0.56996	-18.38806	-11.59034	-4.82695	1.64586	22.26558	129.94	20.26
76/ 3/23	2442860.5	-1.03328	1.15635	0.55851	-17.92371	-12.12708	-5.08578	1.64826	22.23039	131.78	19.81
76/ 3/27	2442864.5	-1.07413	1.12773	0.54647	-17.44241	-12.64876	-5.33815	1.65050	22.19740	133.61	19.34
76/ 3/31	2442868.5	-1.11386	1.09792	0.53385	-16.94468	-13.15509	-5.58392	1.65260	22.16661	135.41	18.85
76/ 4/ 4	2442872.5	-1.15241	1.06696	0.52067	-16.43104	-13.64579	-5.82294	1.65456	22.13805	137.20	18.34
76/ 4/ 8	2442876.5	-1.18976	1.03489	0.50695	-15.90200	-14.12058	-6.05507	1.65636	22.11172	138.98	17.82
76/ 4/12	2442880.5	-1.22587	1.00173	0.49270	-15.35806	-14.57921	-6.28018	1.65801	22.08764	140.75	17.29
76/ 4/16	2442884.5	-1.26071	0.96754	0.47794	-14.79974	-15.02141	-6.49814	1.65950	22.06583	142.50	16.74
76/ 4/20	2442888.5	-1.29424	0.93234	0.46268	-14.22754	-15.44694	-6.70881	1.66084	22.04629	144.23	16.18
76/ 4/24	2442892.5	-1.32643	0.89618	0.44695	-13.64195	-15.85555	-6.91209	1.66203	22.02903	145.96	15.60
76/ 4/28	2442896.5	-1.35726	0.85910	0.43075	-13.04348	-16.24701	-7.10783	1.66306	22.01406	147.67	15.01
76/ 5/ 2	2442900.5	-1.38669	0.82113	0.41411	-12.43262	-16.62110	-7.29593	1.66393	22.00139	149.37	14.41
76/ 5/ 6	2442904.5	-1.41470	0.78231	0.39705	-11.80986	-16.97758	-7.47627	1.66464	21.99103	151.06	13.80
76/ 5/10	2442908.5	-1.44125	0.74270	0.37958	-11.17570	-17.31623	-7.64873	1.66520	21.98298	152.74	13.18

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76/ 5/14	2442912.5	-1.46632	0.70232	0.36172	-10.53063	-17.63685	-7.81320	1.66559	21.97724	154.41	12.54
76/ 5/18	2442916.5	-1.48990	0.66122	0.34348	-9.87514	-17.93922	-7.96958	1.66583	21.97381	156.07	11.90
76/ 5/22	2442920.5	-1.51194	0.61945	0.32490	-9.20973	-18.22314	-8.11775	1.66591	21.97270	157.72	11.25
76/ 5/26	2442924.5	-1.53244	0.57704	0.30598	-8.53488	-18.48839	-8.25761	1.66583	21.97392	159.37	10.58
76/ 5/30	2442928.5	-1.55137	0.53404	0.28675	-7.85109	-18.73479	-8.38905	1.66558	21.97744	161.00	9.91
76/ 6/ 3	2442932.5	-1.56871	0.49049	0.26723	-7.15886	-18.96212	-8.51197	1.66519	21.98329	162.64	9.23
76/ 6/ 7	2442936.5	-1.58444	0.44644	0.24743	-6.45869	-19.17020	-8.62627	1.66463	21.99144	164.26	8.55
76/ 6/11	2442940.5	-1.59854	0.40194	0.22738	-5.75109	-19.35882	-8.73183	1.66391	22.00191	165.89	7.85
76/ 6/15	2442944.5	-1.61101	0.35702	0.20709	-5.03655	-19.52781	-8.82857	1.66304	22.01468	167.50	7.15
76/ 6/19	2442948.5	-1.62181	0.31173	0.18660	-4.31559	-19.67698	-8.91638	1.66200	22.02974	169.12	6.45
76/ 6/23	2442952.5	-1.63094	0.26612	0.16590	-3.58874	-19.80612	-8.99516	1.66082	22.04710	170.73	5.73
76/ 6/27	2442956.5	-1.63839	0.22023	0.14504	-2.85650	-19.91508	-9.06481	1.65947	22.06673	172.34	5.01
76/ 7/ 1	2442960.5	-1.64414	0.17412	0.12403	-2.11942	-20.00365	-9.12524	1.65797	22.08864	173.95	4.29
76/ 7/ 5	2442964.5	-1.64818	0.12782	0.10289	-1.37804	-20.07167	-9.17635	1.65632	22.11281	175.57	3.56
76/ 7/ 9	2442968.5	-1.65050	0.08139	0.08164	-0.63288	-20.11895	-9.21804	1.65452	22.13922	177.18	2.83
76/ 7/13	2442972.5	-1.65110	0.03488	0.06030	0.11547	-20.14533	-9.25023	1.65257	22.16787	178.79	2.09
76/ 7/17	2442976.5	-1.64996	-0.01167	0.03891	0.86647	-20.15063	-9.27281	1.65046	22.19873	180.41	1.35
76/ 7/21	2442980.5	-1.64709	-0.05820	0.01747	1.61954	-20.13469	-9.28569	1.64821	22.23179	182.02	0.61
76/ 7/25	2442984.5	-1.64248	-0.10468	-0.00399	2.37407	-20.09734	-9.28879	1.64582	22.26704	183.65	-0.14
76/ 7/29	2442988.5	-1.63612	-0.15104	-0.02544	3.12949	-20.03844	-9.28202	1.64328	22.30445	185.27	-0.89
76/ 8/ 2	2442992.5	-1.62802	-0.19725	-0.04687	3.88517	-19.95782	-9.26528	1.64060	22.34400	186.91	-1.64
76/ 8/ 6	2442996.5	-1.61817	-0.24324	-0.06824	4.64048	-19.85534	-9.23850	1.63777	22.38567	188.55	-2.39
76/ 8/10	2443000.5	-1.60658	-0.28897	-0.08955	5.39478	-19.73085	-9.20160	1.63482	22.42944	190.20	-3.14
76/ 8/14	2443004.5	-1.59325	-0.33439	-0.11075	6.14743	-19.58424	-9.15449	1.63172	22.47527	191.85	-3.89
76/ 8/18	2443008.5	-1.57818	-0.37944	-0.13183	6.89773	-19.41536	-9.09710	1.62850	22.52315	193.52	-4.64
76/ 8/22	2443012.5	-1.56138	-0.42408	-0.15277	7.64502	-19.22411	-9.02936	1.62514	22.57304	195.20	-5.39
76/ 8/26	2443016.5	-1.54286	-0.46824	-0.17355	8.38857	-19.01038	-8.95119	1.62166	22.62491	196.88	-6.14
76/ 8/30	2443020.5	-1.52263	-0.51189	-0.19412	9.12767	-18.77407	-8.86255	1.61806	22.67873	198.58	-6.89
76/ 9/ 3	2443024.5	-1.50069	-0.55497	-0.21449	9.86157	-18.51509	-8.76336	1.61433	22.73446	200.29	-7.64
76/ 9/ 7	2443028.5	-1.47707	-0.59742	-0.23461	10.58951	-18.23337	-8.65357	1.61049	22.79206	202.02	-8.38
76/ 9/11	2443032.5	-1.45177	-0.63920	-0.25446	11.31071	-17.92886	-8.53314	1.60653	22.85149	203.76	-9.11
76/ 9/15	2443036.5	-1.42481	-0.68024	-0.27402	12.02436	-17.60151	-8.40203	1.60247	22.91272	205.52	-9.85
76/ 9/19	2443040.5	-1.39622	-0.72050	-0.29327	12.72965	-17.25130	-8.26019	1.59830	22.97569	207.30	-10.57
76/ 9/23	2443044.5	-1.36600	-0.75993	-0.31218	13.42573	-16.87823	-8.10761	1.59403	23.04036	209.09	-11.29
76/ 9/27	2443048.5	-1.33419	-0.79847	-0.33072	14.11173	-16.48229	-7.94427	1.58966	23.10667	210.90	-12.01
76/10/ 1	2443052.5	-1.30081	-0.83607	-0.34888	14.78677	-16.06354	-7.77016	1.58519	23.17458	212.73	-12.71
76/10/ 5	2443056.5	-1.26588	-0.87267	-0.36662	15.44994	-15.62203	-7.58529	1.58064	23.24403	214.58	-13.41
76/10/ 9	2443060.5	-1.22944	-0.90823	-0.38392	16.10032	-15.15784	-7.38966	1.57600	23.31496	216.45	-14.10
76/10/13	2443064.5	-1.19150	-0.94269	-0.40075	16.73696	-14.67108	-7.18331	1.57129	23.38731	218.35	-14.78
76/10/17	2443068.5	-1.15212	-0.97600	-0.41710	17.35888	-14.16191	-6.96627	1.56650	23.46101	220.27	-15.44
76/10/21	2443072.5	-1.11131	-1.00810	-0.43293	17.96509	-13.63048	-6.73860	1.56164	23.53599	222.21	-16.09
76/10/25	2443076.5	-1.06913	-1.03896	-0.44822	18.55458	-13.07701	-6.50036	1.55672	23.61219	224.18	-16.73
76/10/29	2443080.5	-1.02560	-1.06851	-0.46295	19.12633	-12.50175	-6.25164	1.55174	23.68952	226.17	-17.36
76/11/ 2	2443084.5	-0.98077	-1.09670	-0.47710	19.67929	-11.90498	-5.99254	1.54670	23.76791	228.19	-17.97
76/11/ 6	2443088.5	-0.93469	-1.12350	-0.49063	20.21239	-11.28702	-5.72318	1.54162	23.84727	230.24	-18.56

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76/11/10	2443092.5	-0.88740	-1.14884	-0.50354	20.72455	-10.64824	-5.44371	1.53651	23.92752	232.32	-19.13
76/11/14	2443096.5	-0.83895	-1.17268	-0.51578	21.21470	-9.98906	-5.15428	1.53135	24.00857	234.42	-19.68
76/11/18	2443100.5	-0.78940	-1.19498	-0.52734	21.68172	-9.30994	-4.85507	1.52617	24.09032	236.55	-20.21
76/11/22	2443104.5	-0.73879	-1.21568	-0.53820	22.12451	-8.61139	-4.54630	1.52097	24.17268	238.71	-20.72
76/11/26	2443108.5	-0.68719	-1.23475	-0.54834	22.54194	-7.89398	-4.22819	1.51576	24.25555	240.90	-21.21
76/11/30	2443112.5	-0.63466	-1.25214	-0.55773	22.93291	-7.15834	-3.90101	1.51053	24.33882	243.12	-21.67
76/12/ 4	2443116.5	-0.58126	-1.26781	-0.56636	23.29629	-6.40515	-3.56502	1.50531	24.42238	245.37	-22.10
76/12/ 8	2443120.5	-0.52704	-1.28172	-0.57420	23.63097	-5.63514	-3.22055	1.50009	24.50611	247.65	-22.51
76/12/12	2443124.5	-0.47210	-1.29383	-0.58123	23.93584	-4.84914	-2.86793	1.49489	24.58991	249.95	-22.88
76/12/16	2443128.5	-0.41648	-1.30411	-0.58744	24.20980	-4.04800	-2.50754	1.48971	24.67364	252.29	-23.22
76/12/20	2443132.5	-0.36026	-1.31253	-0.59281	24.45178	-3.23266	-2.13977	1.48457	24.75719	254.65	-23.54
76/12/24	2443136.5	-0.30353	-1.31904	-0.59732	24.66072	-2.40412	-1.76506	1.47945	24.84042	257.04	-23.81
76/12/28	2443140.5	-0.24635	-1.32362	-0.60096	24.83559	-1.56346	-1.38387	1.47439	24.92320	259.46	-24.05
77/ 1/ 1	2443144.5	-0.18880	-1.32625	-0.60371	24.97539	-0.71181	-0.99670	1.46938	25.00540	261.90	-24.26
77/ 1/ 5	2443148.5	-0.13098	-1.32690	-0.60556	25.07917	0.14960	-0.60407	1.46442	25.08689	264.36	-24.43
77/ 1/ 9	2443152.5	-0.07296	-1.32556	-0.60650	25.14600	1.01951	-0.20656	1.45954	25.16751	266.85	-24.55
77/ 1/13	2443156.5	-0.01483	-1.32219	-0.60651	25.17503	1.89657	0.19525	1.45474	25.24712	269.36	-24.64
77/ 1/17	2443160.5	0.04333	-1.31679	-0.60559	25.16545	2.77934	0.60072	1.45002	25.32558	271.88	-24.69
77/ 1/21	2443164.5	0.10142	-1.30934	-0.60374	25.11651	3.66636	1.00919	1.44539	25.40275	274.43	-24.69
77/ 1/25	2443168.5	0.15935	-1.29985	-0.60093	25.02754	4.55606	1.41997	1.44087	25.47846	276.99	-24.65
77/ 1/29	2443172.5	0.21702	-1.28829	-0.59717	24.89795	5.44683	1.83233	1.43646	25.55256	279.56	-24.57
77/ 2/ 2	2443176.5	0.27435	-1.27468	-0.59246	24.72724	6.33700	2.24552	1.43216	25.62492	282.15	-24.44
77/ 2/ 6	2443180.5	0.33124	-1.25902	-0.58680	24.51498	7.22484	2.65875	1.42800	25.69536	284.74	-24.26
77/ 2/10	2443184.5	0.38759	-1.24130	-0.58018	24.26087	8.10856	3.07121	1.42396	25.76375	287.34	-24.04
77/ 2/14	2443188.5	0.44330	-1.22156	-0.57261	23.96468	8.98635	3.48208	1.42007	25.82993	289.95	-23.78
77/ 2/18	2443192.5	0.49828	-1.19979	-0.56409	23.62633	9.85633	3.89050	1.41633	25.89375	292.55	-23.47
77/ 2/22	2443196.5	0.55243	-1.17602	-0.55464	23.24582	10.71661	4.29559	1.41274	25.95507	295.16	-23.12
77/ 2/26	2443200.5	0.60565	-1.15028	-0.54425	22.82330	11.56525	4.69647	1.40932	26.01374	297.77	-22.72
77/ 3/ 2	2443204.5	0.65785	-1.12260	-0.53294	22.35903	12.40032	5.09223	1.40607	26.06962	300.37	-22.27
77/ 3/ 6	2443208.5	0.70893	-1.09300	-0.52073	21.85342	13.21985	5.48198	1.40299	26.12257	302.97	-21.79
77/ 3/10	2443212.5	0.75879	-1.06153	-0.50762	21.30701	14.02190	5.86479	1.40010	26.17247	305.56	-21.26
77/ 3/14	2443216.5	0.80734	-1.02823	-0.49363	20.72045	14.80451	6.23976	1.39740	26.21917	308.14	-20.69
77/ 3/18	2443220.5	0.85449	-0.99315	-0.47880	20.09456	15.56575	6.60598	1.39490	26.26258	310.71	-20.07
77/ 3/22	2443224.5	0.90016	-0.95633	-0.46312	19.43030	16.30372	6.96254	1.39260	26.30256	313.27	-19.42
77/ 3/26	2443228.5	0.94424	-0.91784	-0.44663	18.72875	17.01654	7.30856	1.39050	26.33902	315.81	-18.74
77/ 3/30	2443232.5	0.98666	-0.87773	-0.42936	17.99114	17.70242	7.64318	1.38862	26.37186	318.34	-18.01
77/ 4/ 3	2443236.5	1.02734	-0.83607	-0.41133	17.21882	18.35958	7.96554	1.38695	26.40098	320.86	-17.25
77/ 4/ 7	2443240.5	1.06619	-0.79292	-0.39257	16.41330	18.98633	8.27484	1.38550	26.42632	323.36	-16.46
77/ 4/11	2443244.5	1.10315	-0.74837	-0.37311	15.57619	19.58107	8.57029	1.38427	26.44779	325.85	-15.64
77/ 4/15	2443248.5	1.13814	-0.70248	-0.35298	14.70922	20.14226	8.85115	1.38327	26.46535	328.32	-14.78
77/ 4/19	2443252.5	1.17109	-0.65533	-0.33222	13.81425	20.66849	9.11670	1.38249	26.47894	330.77	-13.90
77/ 4/23	2443256.5	1.20194	-0.60701	-0.31087	12.89323	21.15842	9.36630	1.38194	26.48852	333.21	-13.00
77/ 4/27	2443260.5	1.23064	-0.55760	-0.28896	11.94821	21.61085	9.59932	1.38163	26.49406	335.62	-12.07
77/ 5/ 1	2443264.5	1.25713	-0.50719	-0.26653	10.98133	22.02468	9.81522	1.38154	26.49556	338.03	-11.12
77/ 5/ 5	2443268.5	1.28136	-0.45587	-0.24362	9.99480	22.39896	10.01348	1.38169	26.49300	340.42	-10.16

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77/ 5/ 9	2443272.5	1.30330	-0.40373	-0.22028	8.99089	22.73284	10.19367	1.38207	26.48640	342.79	-9.17
77/ 5/13	2443276.5	1.32289	-0.35087	-0.19654	7.97195	23.02563	10.35540	1.38267	26.47576	345.15	-8.17
77/ 5/17	2443280.5	1.34012	-0.29738	-0.17245	6.94033	23.27677	10.49834	1.38351	26.46113	347.49	-7.16
77/ 5/21	2443284.5	1.35495	-0.24335	-0.14805	5.89844	23.48583	10.62225	1.38457	26.44254	349.82	-6.14
77/ 5/25	2443288.5	1.36737	-0.18890	-0.12339	4.84869	23.65253	10.72693	1.38586	26.42005	352.13	-5.11
77/ 5/29	2443292.5	1.37735	-0.13410	-0.09850	3.79349	23.77673	10.81225	1.38737	26.39371	354.44	-4.07
77/ 6/ 2	2443296.5	1.38489	-0.07907	-0.07344	2.73527	23.85842	10.87813	1.38909	26.36361	356.73	-3.03
77/ 6/ 6	2443300.5	1.38999	-0.02390	-0.04826	1.67640	23.89775	10.92459	1.39103	26.32982	359.01	-1.99
77/ 6/10	2443304.5	1.39264	0.03131	-0.02298	0.61925	23.89497	10.95167	1.39318	26.29243	1.29	-0.95
77/ 6/14	2443308.5	1.39285	0.08647	0.00233	-0.43387	23.85047	10.95949	1.39554	26.25155	3.55	0.10
77/ 6/18	2443312.5	1.39064	0.14148	0.02764	-1.48070	23.76479	10.94824	1.39809	26.20728	5.81	1.13
77/ 6/22	2443316.5	1.38602	0.19624	0.05290	-2.51903	23.63854	10.91814	1.40084	26.15974	8.06	2.16
77/ 6/26	2443320.5	1.37901	0.25067	0.07807	-3.54674	23.47248	10.86948	1.40378	26.10904	10.30	3.19
77/ 6/30	2443324.5	1.36964	0.30466	0.10311	-4.56176	23.26745	10.80260	1.40690	26.05533	12.54	4.20
77/ 7/ 4	2443328.5	1.35794	0.35814	0.12797	-5.56214	23.02441	10.71787	1.41020	25.99873	14.77	5.21
77/ 7/ 8	2443332.5	1.34395	0.41101	0.15261	-6.54600	22.74439	10.61573	1.41366	25.93937	17.00	6.20
77/ 7/12	2443336.5	1.32771	0.46320	0.17700	-7.51155	22.42850	10.49663	1.41729	25.87741	19.23	7.17
77/ 7/16	2443340.5	1.30926	0.51462	0.20110	-8.45713	22.07794	10.36107	1.42107	25.81299	21.46	8.14
77/ 7/20	2443344.5	1.28866	0.56518	0.22486	-9.38114	21.69395	10.20960	1.42500	25.74625	23.68	9.08
77/ 7/24	2443348.5	1.26594	0.61482	0.24826	-10.28213	21.27784	10.04276	1.42907	25.67734	25.90	10.00
77/ 7/28	2443352.5	1.24117	0.66347	0.27125	-11.15874	20.83097	9.86115	1.43327	25.60642	28.13	10.91
77/ 8/ 1	2443356.5	1.21440	0.71105	0.29381	-12.00969	20.35472	9.66537	1.43760	25.53364	30.35	11.79
77/ 8/ 5	2443360.5	1.18570	0.75749	0.31590	-12.83385	19.85053	9.45604	1.44204	25.45914	32.57	12.65
77/ 8/ 9	2443364.5	1.15512	0.80274	0.33749	-13.63018	19.31984	9.23380	1.44659	25.38308	34.80	13.49
77/ 8/13	2443368.5	1.12274	0.84674	0.35855	-14.39773	18.76412	8.99930	1.45124	25.30562	37.02	14.30
77/ 8/17	2443372.5	1.08862	0.88942	0.37906	-15.13569	18.18485	8.75320	1.45598	25.22689	39.25	15.09
77/ 8/21	2443376.5	1.05284	0.93074	0.39899	-15.84330	17.58350	8.49615	1.46080	25.14705	41.48	15.85
77/ 8/25	2443380.5	1.01545	0.97065	0.41831	-16.51995	16.96156	8.22881	1.46570	25.06624	43.71	16.58
77/ 8/29	2443384.5	0.97653	1.00910	0.43700	-17.16509	16.32050	7.95186	1.47067	24.98461	45.94	17.29
77/ 9/ 2	2443388.5	0.93616	1.04604	0.45504	-17.77826	15.66177	7.66593	1.47569	24.90230	48.17	17.96
77/ 9/ 6	2443392.5	0.89441	1.08145	0.47241	-18.35912	14.98683	7.37170	1.48077	24.81943	50.41	18.60
77/ 9/10	2443396.5	0.85136	1.11527	0.48910	-18.90738	14.29708	7.06979	1.48589	24.73615	52.64	19.22
77/ 9/14	2443400.5	0.80708	1.14749	0.50507	-19.42283	13.59393	6.76086	1.49105	24.65259	54.88	19.80
77/ 9/18	2443404.5	0.76165	1.17807	0.52033	-19.90536	12.87874	6.44551	1.49623	24.56888	57.12	20.35
77/ 9/22	2443408.5	0.71514	1.20699	0.53485	-20.35489	12.15285	6.12437	1.50144	24.48513	59.35	20.87
77/ 9/26	2443412.5	0.66763	1.23422	0.54862	-20.77145	11.41758	5.79803	1.50665	24.40146	61.59	21.35
77/ 9/30	2443416.5	0.61919	1.25974	0.56163	-21.15509	10.67418	5.46709	1.51188	24.31800	63.82	21.81
77/10/ 4	2443420.5	0.56991	1.28353	0.57388	-21.50594	9.92391	5.13210	1.51710	24.23485	66.06	22.23
77/10/ 8	2443424.5	0.51985	1.30558	0.58534	-21.82419	9.16795	4.79364	1.52231	24.15213	68.29	22.61
77/10/12	2443428.5	0.46910	1.32589	0.59602	-22.11004	8.40747	4.45222	1.52751	24.06993	70.52	22.97
77/10/16	2443432.5	0.41772	1.34443	0.60591	-22.36378	7.64358	4.10839	1.53268	23.98837	72.74	23.29
77/10/20	2443436.5	0.36579	1.36120	0.61501	-22.58571	6.87737	3.76263	1.53782	23.90753	74.96	23.57
77/10/24	2443440.5	0.31339	1.37620	0.62330	-22.77617	6.10988	3.41544	1.54293	23.82750	77.17	23.83
77/10/28	2443444.5	0.26058	1.38943	0.63079	-22.93555	5.34211	3.06730	1.54800	23.74839	79.38	24.05
77/11/ 1	2443448.5	0.20744	1.40089	0.63747	-23.06424	4.57503	2.71864	1.55302	23.67026	81.58	24.23

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77/11/ 5	2443452.5	0.15404	1.41057	0.64335	-23.16269	3.80956	2.36991	1.55799	23.59320	83.77	24.39
77/11/ 9	2443456.5	0.10045	1.41849	0.64842	-23.23134	3.04658	2.02153	1.56290	23.51730	85.95	24.51
77/11/13	2443460.5	0.04673	1.42465	0.65269	-23.27068	2.28696	1.67389	1.56774	23.44262	88.12	24.60
77/11/17	2443464.5	-0.00705	1.42906	0.65615	-23.28119	1.53149	1.32740	1.57251	23.36924	90.28	24.66
77/11/21	2443468.5	-0.06082	1.43173	0.65882	-23.26339	0.78096	0.98241	1.57721	23.29722	92.43	24.69
77/11/25	2443472.5	-0.11451	1.43267	0.66069	-23.21780	0.03611	0.63928	1.58183	23.22663	94.57	24.69
77/11/29	2443476.5	-0.16807	1.43190	0.66178	-23.14495	-0.70234	0.29836	1.58636	23.15753	96.69	24.66
77/12/ 3	2443480.5	-0.22143	1.42943	0.66207	-23.04538	-1.43373	-0.04003	1.59080	23.08997	98.81	24.59
77/12/ 7	2443484.5	-0.27453	1.42528	0.66159	-22.91964	-2.15740	-0.37559	1.59515	23.02402	100.90	24.50
77/12/11	2443488.5	-0.32731	1.41947	0.66034	-22.76829	-2.87274	-0.70801	1.59940	22.95972	102.98	24.39
77/12/15	2443492.5	-0.37971	1.41202	0.65833	-22.59188	-3.57916	-1.03700	1.60355	22.89713	105.05	24.24
77/12/19	2443496.5	-0.43167	1.40294	0.65555	-22.39097	-4.27610	-1.36230	1.60759	22.83630	107.10	24.07
77/12/23	2443500.5	-0.48314	1.39227	0.65203	-22.16613	-4.96302	-1.68365	1.61152	22.77726	109.14	23.87
77/12/27	2443504.5	-0.53407	1.38002	0.64778	-21.91791	-5.63942	-2.00079	1.61533	22.72005	111.16	23.64
77/12/31	2443508.5	-0.58439	1.36622	0.64279	-21.64688	-6.30480	-2.31348	1.61903	22.66473	113.16	23.39
78/ 1/ 4	2443512.5	-0.63407	1.35090	0.63709	-21.35360	-6.95870	-2.62150	1.62261	22.61133	115.14	23.12
78/ 1/ 8	2443516.5	-0.68304	1.33408	0.63068	-21.03864	-7.60068	-2.92464	1.62606	22.55988	117.11	22.82
78/ 1/12	2443520.5	-0.73126	1.31579	0.62358	-20.70254	-8.23031	-3.22267	1.62938	22.51042	119.06	22.50
78/ 1/16	2443524.5	-0.77868	1.29606	0.61580	-20.34587	-8.84720	-3.51540	1.63258	22.46297	121.00	22.16
78/ 1/20	2443528.5	-0.82525	1.27492	0.60734	-19.96916	-9.45095	-3.80264	1.63564	22.41758	122.91	21.80
78/ 1/24	2443532.5	-0.87093	1.25240	0.59823	-19.57297	-10.04120	-4.08421	1.63857	22.37427	124.81	21.41
78/ 1/28	2443536.5	-0.91567	1.22854	0.58848	-19.15785	-10.61760	-4.35992	1.64136	22.33305	126.70	21.01
78/ 2/ 1	2443540.5	-0.95943	1.20336	0.57809	-18.72431	-11.17980	-4.62961	1.64401	22.29397	128.57	20.59
78/ 2/ 5	2443544.5	-1.00217	1.17689	0.56709	-18.27292	-11.72747	-4.89311	1.64651	22.25703	130.42	20.15
78/ 2/ 9	2443548.5	-1.04384	1.14918	0.55549	-17.80418	-12.26032	-5.15027	1.64888	22.22227	132.25	19.69
78/ 2/13	2443552.5	-1.08441	1.12026	0.54330	-17.31862	-12.77802	-5.40093	1.65109	22.18970	134.07	19.21
78/ 2/17	2443556.5	-1.12385	1.09016	0.53054	-16.81677	-13.28031	-5.64495	1.65316	22.15933	135.87	18.72
78/ 2/21	2443560.5	-1.16210	1.05891	0.51723	-16.29915	-13.76689	-5.88218	1.65508	22.13119	137.66	18.21
78/ 2/25	2443564.5	-1.19914	1.02656	0.50337	-15.76626	-14.23749	-6.11249	1.65685	22.10529	139.43	17.69
78/ 3/ 1	2443568.5	-1.23494	0.99314	0.48899	-15.21861	-14.69187	-6.33575	1.65847	22.08164	141.19	17.15
78/ 3/ 5	2443572.5	-1.26945	0.95869	0.47410	-14.65671	-15.12975	-6.55181	1.65993	22.06025	142.94	16.60
78/ 3/ 9	2443576.5	-1.30264	0.92325	0.45872	-14.08106	-15.55090	-6.76057	1.66123	22.04114	144.67	16.03
78/ 3/13	2443580.5	-1.33450	0.88685	0.44287	-13.49217	-15.95507	-6.96189	1.66239	22.02432	146.39	15.45
78/ 3/17	2443584.5	-1.36497	0.84954	0.42656	-12.89051	-16.34204	-7.15565	1.66338	22.00980	148.10	14.86
78/ 3/21	2443588.5	-1.39405	0.81136	0.40982	-12.27660	-16.71158	-7.34174	1.66422	21.99757	149.80	14.26
78/ 3/25	2443592.5	-1.42169	0.77234	0.39265	-11.65093	-17.06346	-7.52004	1.66490	21.98765	151.49	13.64
78/ 3/29	2443596.5	-1.44787	0.73254	0.37508	-11.01398	-17.39746	-7.69044	1.66542	21.98004	153.16	13.02
78/ 4/ 2	2443600.5	-1.47257	0.69198	0.35712	-10.36626	-17.71337	-7.85282	1.66578	21.97475	154.83	12.38
78/ 4/ 6	2443604.5	-1.49576	0.65071	0.33880	-9.70824	-18.01099	-8.00707	1.66598	21.97177	156.49	11.73
78/ 4/10	2443608.5	-1.51741	0.60877	0.32013	-9.04043	-18.29009	-8.15310	1.66602	21.97112	158.14	11.08
78/ 4/14	2443612.5	-1.53752	0.56622	0.30114	-8.36333	-18.55050	-8.29079	1.66591	21.97279	159.78	10.41
78/ 4/18	2443616.5	-1.55605	0.52308	0.28183	-7.67741	-18.79199	-8.42004	1.66563	21.97677	161.42	9.74
78/ 4/22	2443620.5	-1.57299	0.47940	0.26224	-6.98319	-19.01438	-8.54073	1.66520	21.98308	163.05	9.06
78/ 4/26	2443624.5	-1.58831	0.43524	0.24238	-6.28116	-19.21747	-8.65278	1.66460	21.99170	164.68	8.37
78/ 4/30	2443628.5	-1.60200	0.39063	0.22227	-5.57182	-19.40107	-8.75608	1.66385	22.00263	166.30	7.68

1.4 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MARS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
78/ 5/ 4	2443632.5	-1.61405	0.34562	0.20193	-4.85569	-19.56499	-8.85053	1.66294	22.01587	167.91	6.97
78/ 5/ 8	2443636.5	-1.62443	0.30025	0.18138	-4.13328	-19.70904	-8.93603	1.66187	22.03141	169.53	6.27
78/ 5/12	2443640.5	-1.63314	0.25457	0.16065	-3.40510	-19.83304	-9.01247	1.66065	22.04924	171.14	5.55
78/ 5/16	2443644.5	-1.64016	0.20863	0.13975	-2.67169	-19.93680	-9.07977	1.65927	22.06935	172.75	4.83
78/ 5/20	2443648.5	-1.64548	0.16247	0.11870	-1.93357	-20.02015	-9.13782	1.65774	22.09174	174.36	4.11
78/ 5/24	2443652.5	-1.64909	0.11614	0.09753	-1.19128	-20.08290	-9.18653	1.65605	22.11639	175.97	3.38
78/ 5/28	2443656.5	-1.65098	0.06969	0.07626	-0.44538	-20.12489	-9.22581	1.65421	22.14328	177.58	2.64
78/ 6/ 1	2443660.5	-1.65115	0.02317	0.05492	0.30359	-20.14594	-9.25555	1.65222	22.17242	179.20	1.90
78/ 6/ 5	2443664.5	-1.64958	-0.02337	0.03351	1.05505	-20.14588	-9.27568	1.65008	22.20377	180.81	1.16
78/ 6/ 9	2443668.5	-1.64627	-0.06989	0.01207	1.80842	-20.12454	-9.28609	1.64780	22.23733	182.43	0.42
78/ 6/13	2443672.5	-1.64122	-0.11634	-0.00939	2.56312	-20.08178	-9.28670	1.64536	22.27308	184.05	-0.33
78/ 6/17	2443676.5	-1.63443	-0.16266	-0.03083	3.31854	-20.01743	-9.27742	1.64279	22.31099	185.68	-1.08
78/ 6/21	2443680.5	-1.62589	-0.20881	-0.05225	4.07407	-19.93133	-9.25816	1.64007	22.35105	187.32	-1.83
78/ 6/25	2443684.5	-1.61560	-0.25473	-0.07360	4.82908	-19.82335	-9.22884	1.63722	22.39323	188.96	-2.58
78/ 6/29	2443688.5	-1.60358	-0.30038	-0.09488	5.58292	-19.69335	-9.18938	1.63422	22.43751	190.61	-3.33
78/ 7/ 3	2443692.5	-1.58981	-0.34570	-0.11605	6.33493	-19.54119	-9.13970	1.63110	22.48385	192.27	-4.08
78/ 7/ 7	2443696.5	-1.57431	-0.39065	-0.13710	7.08444	-19.36675	-9.07973	1.62784	22.53224	193.94	-4.83
78/ 7/11	2443700.5	-1.55708	-0.43517	-0.15800	7.83075	-19.16992	-9.00939	1.62445	22.58264	195.61	-5.58
78/ 7/15	2443704.5	-1.53813	-0.47921	-0.17872	8.57315	-18.95058	-8.92862	1.62093	22.63502	197.30	-6.33
78/ 7/19	2443708.5	-1.51747	-0.52271	-0.19924	9.31093	-18.70866	-8.83736	1.61730	22.68934	199.01	-7.08
78/ 7/23	2443712.5	-1.49511	-0.56563	-0.21954	10.04332	-18.44406	-8.73554	1.61354	22.74558	200.72	-7.82
78/ 7/27	2443716.5	-1.47107	-0.60791	-0.23959	10.76956	-18.15671	-8.62312	1.60966	22.80368	202.45	-8.56
78/ 7/31	2443720.5	-1.44536	-0.64950	-0.25938	11.48887	-17.84657	-8.50005	1.60568	22.86362	204.20	-9.30
78/ 8/ 4	2443724.5	-1.41800	-0.69035	-0.27886	12.20044	-17.51359	-8.36629	1.60158	22.92534	205.96	-10.03
78/ 8/ 8	2443728.5	-1.38900	-0.73040	-0.29802	12.90344	-17.15775	-8.22180	1.59738	22.98881	207.74	-10.75
78/ 8/12	2443732.5	-1.35839	-0.76961	-0.31684	13.59703	-16.77905	-8.06657	1.59308	23.05397	209.53	-11.47
78/ 8/16	2443736.5	-1.32618	-0.80791	-0.33528	14.28034	-16.37751	-7.90057	1.58868	23.12077	211.35	-12.18
78/ 8/20	2443740.5	-1.29241	-0.84526	-0.35333	14.95247	-15.95316	-7.72381	1.58418	23.18916	213.19	-12.89
78/ 8/24	2443744.5	-1.25711	-0.88160	-0.37096	15.61252	-15.50608	-7.53629	1.57960	23.25908	215.04	-13.58
78/ 8/28	2443748.5	-1.22029	-0.91689	-0.38815	16.25954	-15.03634	-7.33802	1.57494	23.33047	216.92	-14.27
78/ 9/ 1	2443752.5	-1.18199	-0.95106	-0.40486	16.89259	-14.54408	-7.12904	1.57020	23.40327	218.82	-14.94
78/ 9/ 5	2443756.5	-1.14225	-0.98407	-0.42108	17.51069	-14.02944	-6.90939	1.56538	23.47742	220.75	-15.60
78/ 9/ 9	2443760.5	-1.10110	-1.01586	-0.43677	18.11285	-13.49260	-6.67911	1.56050	23.55284	222.69	-16.25
78/ 9/13	2443764.5	-1.05858	-1.04639	-0.45193	18.69806	-12.93378	-6.43829	1.55556	23.62947	224.67	-16.89
78/ 9/17	2443768.5	-1.01472	-1.07560	-0.46651	19.26527	-12.35323	-6.18702	1.55055	23.70722	226.67	-17.51
78/ 9/21	2443772.5	-0.96958	-1.10345	-0.48051	19.81344	-11.75124	-5.92539	1.54550	23.78601	228.69	-18.11
78/ 9/25	2443776.5	-0.92319	-1.12988	-0.49388	20.34150	-11.12815	-5.65354	1.54040	23.86577	230.75	-18.70
78/ 9/29	2443780.5	-0.87561	-1.15485	-0.50662	20.84838	-10.48432	-5.37160	1.53526	23.94640	232.83	-19.27
78/10/ 3	2443784.5	-0.82688	-1.17831	-0.51869	21.33297	-9.82020	-5.07975	1.53009	24.02781	234.94	-19.82
78/10/ 7	2443788.5	-0.77706	-1.20021	-0.53008	21.79417	-9.13625	-4.77817	1.52490	24.10991	237.08	-20.34
78/10/11	2443792.5	-0.72620	-1.22051	-0.54076	22.23087	-8.43301	-4.46707	1.51968	24.19260	239.25	-20.84
78/10/15	2443796.5	-0.67437	-1.23916	-0.55072	22.64195	-7.71104	-4.14670	1.51445	24.27577	241.44	-21.32
78/10/19	2443800.5	-0.62161	-1.25612	-0.55992	23.02629	-6.97099	-3.81731	1.50922	24.35932	243.67	-21.78
78/10/23	2443804.5	-0.56800	-1.27135	-0.56835	23.38278	-6.21355	-3.47918	1.50399	24.44314	245.93	-22.20
78/10/27	2443808.5	-0.51360	-1.28482	-0.57598	23.71029	-5.43949	-3.13265	1.49876	24.52712	248.21	-22.60

1.4 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MARS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
78/10/31	2443812.5	-0.45847	-1.29647	-0.58281	24.00773	-4.64961	-2.77806	1.49356	24.61112	250.52	-22.97
78/11/ 4	2443816.5	-0.40270	-1.30629	-0.58881	24.27399	-3.84481	-2.41578	1.48837	24.69504	252.87	-23.30
78/11/ 8	2443820.5	-0.34634	-1.31423	-0.59397	24.50801	-3.02604	-2.04622	1.48322	24.77875	255.24	-23.61
78/11/12	2443824.5	-0.28949	-1.32026	-0.59826	24.70873	-2.19431	-1.66982	1.47811	24.86211	257.63	-23.88
78/11/16	2443828.5	-0.23221	-1.32436	-0.60168	24.87512	-1.35071	-1.28705	1.47304	24.94499	260.06	-24.11
78/11/20	2443832.5	-0.17458	-1.32649	-0.60421	25.00620	-0.49641	-0.89842	1.46803	25.02726	262.50	-24.30
78/11/24	2443836.5	-0.11670	-1.32664	-0.60583	25.10101	0.36737	-0.50447	1.46309	25.10877	264.97	-24.46
78/11/28	2443840.5	-0.05863	-1.32479	-0.60653	25.15865	1.23933	-0.10576	1.45821	25.18938	267.47	-24.58
78/12/ 2	2443844.5	-0.00048	-1.32091	-0.60631	25.17827	2.11811	0.29709	1.45342	25.26895	269.98	-24.66
78/12/ 6	2443848.5	0.05767	-1.31500	-0.60516	25.15907	3.00226	0.70345	1.44871	25.34733	272.51	-24.69
78/12/10	2443852.5	0.11573	-1.30704	-0.60306	25.10032	3.89029	1.11265	1.44410	25.42437	275.06	-24.68
78/12/14	2443856.5	0.17361	-1.29702	-0.60001	25.00138	4.78062	1.52398	1.43959	25.49992	277.62	-24.63
78/12/18	2443860.5	0.23121	-1.28495	-0.59602	24.86167	5.67163	1.93672	1.43520	25.57383	280.20	-24.54
78/12/22	2443864.5	0.28845	-1.27082	-0.59107	24.68069	6.56162	2.35010	1.43092	25.64594	282.79	-24.40
78/12/26	2443868.5	0.34521	-1.25463	-0.58516	24.45806	7.44886	2.76333	1.42677	25.71611	285.38	-24.21
78/12/30	2443872.5	0.40142	-1.23640	-0.57830	24.19348	8.33155	3.17560	1.42277	25.78417	287.99	-23.98
79/ 1/ 3	2443876.5	0.45696	-1.21614	-0.57049	23.88676	9.20784	3.58606	1.41890	25.84998	290.59	-23.71
79/ 1/ 7	2443880.5	0.51175	-1.19387	-0.56173	23.53784	10.07586	3.99386	1.41519	25.91339	293.20	-23.39
79/ 1/11	2443884.5	0.56569	-1.16960	-0.55204	23.14675	10.93371	4.39812	1.41163	25.97425	295.81	-23.02
79/ 1/15	2443888.5	0.61867	-1.14336	-0.54141	22.71368	11.77944	4.79794	1.40824	26.03242	298.42	-22.61
79/ 1/19	2443892.5	0.67060	-1.11518	-0.52987	22.23892	12.61111	5.19242	1.40503	26.08775	301.02	-22.16
79/ 1/23	2443896.5	0.72139	-1.08510	-0.51743	21.72290	13.42675	5.58066	1.40199	26.14011	303.62	-21.66
79/ 1/27	2443900.5	0.77093	-1.05316	-0.50410	21.16618	14.22441	5.96173	1.39914	26.18937	306.20	-21.12
79/ 1/31	2443904.5	0.81915	-1.01940	-0.48989	20.56949	15.00213	6.33472	1.39648	26.23541	308.78	-20.54
79/ 2/ 4	2443908.5	0.86594	-0.98386	-0.47483	19.93366	15.75800	6.69873	1.39403	26.27809	311.35	-19.91
79/ 2/ 8	2443912.5	0.91122	-0.94661	-0.45895	19.25967	16.49011	7.05286	1.39177	26.31732	313.91	-19.25
79/ 2/12	2443916.5	0.95490	-0.90769	-0.44225	18.54866	17.19660	7.39622	1.38972	26.35298	316.45	-18.56
79/ 2/16	2443920.5	0.99690	-0.86717	-0.42478	17.80188	17.87567	7.72795	1.38789	26.38499	318.98	-17.82
79/ 2/20	2443924.5	1.03713	-0.82512	-0.40656	17.02073	18.52556	8.04722	1.38627	26.41324	321.49	-17.05
79/ 2/24	2443928.5	1.07551	-0.78160	-0.38761	16.20674	19.14461	8.35320	1.38487	26.43767	323.99	-16.25
79/ 2/28	2443932.5	1.11198	-0.73669	-0.36797	15.36155	19.73123	8.64513	1.38370	26.45821	326.48	-15.42
79/ 3/ 4	2443936.5	1.14647	-0.69046	-0.34768	14.48695	20.28389	8.92227	1.38275	26.47480	328.94	-14.56
79/ 3/ 8	2443940.5	1.17890	-0.64300	-0.32676	13.58480	20.80121	9.18392	1.38203	26.48739	331.39	-13.68
79/ 3/12	2443944.5	1.20921	-0.59438	-0.30526	12.65709	21.28189	9.42944	1.38155	26.49595	333.82	-12.77
79/ 3/16	2443948.5	1.23736	-0.54470	-0.28321	11.70591	21.72474	9.65822	1.38129	26.50045	336.24	-11.83
79/ 3/20	2443952.5	1.26328	-0.49404	-0.26065	10.73341	22.12870	9.86973	1.38126	26.50088	338.64	-10.88
79/ 3/24	2443956.5	1.28694	-0.44249	-0.23762	9.74182	22.49284	10.06347	1.38147	26.49725	341.03	-9.90
79/ 3/28	2443960.5	1.30828	-0.39014	-0.21417	8.73343	22.81636	10.23901	1.38191	26.48956	343.39	-8.92
79/ 4/ 1	2443964.5	1.32728	-0.33710	-0.19033	7.71061	23.09859	10.39599	1.38258	26.47782	345.75	-7.91
79/ 4/ 5	2443968.5	1.34390	-0.28345	-0.16615	6.67572	23.33901	10.53410	1.38348	26.46209	348.09	-6.90
79/ 4/ 9	2443972.5	1.35811	-0.22930	-0.14167	5.63117	23.53723	10.65310	1.38460	26.44239	350.42	-5.87
79/ 4/13	2443976.5	1.36991	-0.17473	-0.11694	4.57939	23.69301	10.75281	1.38595	26.41879	352.73	-4.84
79/ 4/17	2443980.5	1.37927	-0.11986	-0.09200	3.52279	23.80623	10.83311	1.38752	26.39135	355.03	-3.80
79/ 4/21	2443984.5	1.38618	-0.06477	-0.06690	2.46379	23.87694	10.89397	1.38931	26.36014	357.32	-2.76
79/ 4/25	2443988.5	1.39065	-0.00957	-0.04168	1.40477	23.90530	10.93538	1.39131	26.32526	359.61	-1.72

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79/ 4/29	2443992.5	1.39267	0.04564	-0.01639	0.34808	23.89161	10.95743	1.39352	26.28679	1.88	-0.67
79/ 5/ 3	2443996.5	1.39226	0.10078	0.00893	-0.70397	23.83630	10.96026	1.39593	26.24484	4.14	0.37
79/ 5/ 7	2444000.5	1.38943	0.15574	0.03423	-1.74913	23.73992	10.94404	1.39855	26.19953	6.40	1.40
79/ 5/11	2444004.5	1.38419	0.21044	0.05948	-2.78522	23.60314	10.90904	1.40136	26.15096	8.64	2.43
79/ 5/15	2444008.5	1.37657	0.26477	0.08462	-3.81012	23.42673	10.85555	1.40435	26.09926	10.89	3.45
79/ 5/19	2444012.5	1.36659	0.31865	0.10962	-4.82180	23.21157	10.78391	1.40753	26.04457	13.13	4.47
79/ 5/23	2444016.5	1.35430	0.37199	0.13443	-5.81831	22.95864	10.69453	1.41088	25.98701	15.36	5.47
79/ 5/27	2444020.5	1.33972	0.42470	0.15902	-6.79780	22.66899	10.58784	1.41440	25.92674	17.59	6.46
79/ 5/31	2444024.5	1.32291	0.47670	0.18334	-7.75852	22.34376	10.46432	1.41807	25.86388	19.82	7.43
79/ 6/ 4	2444028.5	1.30389	0.52791	0.20736	-8.69881	21.98416	10.32447	1.42191	25.79859	22.04	8.39
79/ 6/ 8	2444032.5	1.28273	0.57825	0.23103	-9.61712	21.59146	10.16884	1.42588	25.73102	24.27	9.32
79/ 6/12	2444036.5	1.25948	0.62764	0.25433	-10.51201	21.16699	9.99799	1.43000	25.66132	26.49	10.24
79/ 6/16	2444040.5	1.23418	0.67602	0.27721	-11.38215	20.71210	9.81252	1.43424	25.58965	28.71	11.14
79/ 6/20	2444044.5	1.20691	0.72332	0.29966	-12.22631	20.22821	9.61304	1.43861	25.51614	30.93	12.02
79/ 6/24	2444048.5	1.17771	0.76946	0.32162	-13.04336	19.71675	9.40018	1.44309	25.44097	33.16	12.88
79/ 6/28	2444052.5	1.14666	0.81439	0.34308	-13.83231	19.17918	9.17458	1.44768	25.36428	35.38	13.71
79/ 7/ 2	2444056.5	1.11383	0.85806	0.36400	-14.59223	18.61697	8.93688	1.45237	25.28621	37.61	14.51
79/ 7/ 6	2444060.5	1.07927	0.90039	0.38436	-15.32233	18.03159	8.68776	1.45714	25.20693	39.84	15.29
79/ 7/10	2444064.5	1.04305	0.94135	0.40413	-16.02189	17.42453	8.42787	1.46200	25.12657	42.07	16.05
79/ 7/14	2444068.5	1.00526	0.98089	0.42329	-16.69033	16.79728	8.15787	1.46692	25.04529	44.30	16.77
79/ 7/18	2444072.5	0.96596	1.01895	0.44182	-17.32711	16.15129	7.87842	1.47192	24.96322	46.53	17.47
79/ 7/22	2444076.5	0.92523	1.05550	0.45969	-17.93182	15.48802	7.59018	1.47697	24.88051	48.76	18.13
79/ 7/26	2444080.5	0.88314	1.09050	0.47688	-18.50411	14.80892	7.29381	1.48207	24.79730	51.00	18.77
79/ 7/30	2444084.5	0.83976	1.12391	0.49338	-19.04374	14.11540	6.98993	1.48721	24.71371	53.23	19.37
79/ 8/ 3	2444088.5	0.79517	1.15570	0.50917	-19.55051	13.40884	6.67920	1.49238	24.62989	55.47	19.95
79/ 8/ 7	2444092.5	0.74945	1.18585	0.52424	-20.02434	12.69061	6.36222	1.49758	24.54595	57.71	20.49
79/ 8/11	2444096.5	0.70268	1.21433	0.53856	-20.46516	11.96204	6.03961	1.50280	24.46202	59.94	21.00
79/ 8/15	2444100.5	0.65492	1.24112	0.55214	-20.87302	11.22443	5.71197	1.50803	24.37822	62.18	21.48
79/ 8/19	2444104.5	0.60626	1.26619	0.56495	-21.24800	10.47904	5.37987	1.51326	24.29466	64.41	21.92
79/ 8/23	2444108.5	0.55678	1.28953	0.57699	-21.59023	9.72709	5.04389	1.51849	24.21147	66.65	22.33
79/ 8/27	2444112.5	0.50653	1.31112	0.58825	-21.89991	8.96977	4.70456	1.52370	24.12873	68.88	22.71
79/ 8/31	2444116.5	0.45562	1.33097	0.59873	-22.17727	8.20823	4.36244	1.52890	24.04656	71.10	23.05
79/ 9/ 4	2444120.5	0.40409	1.34905	0.60841	-22.42259	7.44359	4.01803	1.53407	23.96506	73.32	23.37
79/ 9/ 8	2444124.5	0.35204	1.36536	0.61729	-22.63620	6.67690	3.67183	1.53921	23.88432	75.54	23.64
79/ 9/12	2444128.5	0.29953	1.37990	0.62537	-22.81845	5.90921	3.32433	1.54432	23.80444	77.75	23.89
79/ 9/16	2444132.5	0.24663	1.39266	0.63265	-22.96972	5.14151	2.97599	1.54938	23.72550	79.96	24.10
79/ 9/20	2444136.5	0.19342	1.40365	0.63912	-23.09043	4.37474	2.62726	1.55439	23.64759	82.15	24.28
79/ 9/24	2444140.5	0.13997	1.41287	0.64479	-23.18102	3.60983	2.27858	1.55934	23.57079	84.34	24.42
79/ 9/28	2444144.5	0.08634	1.42033	0.64965	-23.24195	2.84764	1.93035	1.56424	23.49518	86.52	24.54
79/10/ 2	2444148.5	0.03261	1.42603	0.65371	-23.27370	2.08902	1.58297	1.56907	23.42082	88.69	24.62
79/10/ 6	2444152.5	-0.02117	1.42999	0.65696	-23.27677	1.33476	1.23684	1.57382	23.34779	90.85	24.67
79/10/10	2444156.5	-0.07492	1.43221	0.65942	-23.25167	0.58565	0.89230	1.57850	23.27616	92.99	24.69
79/10/14	2444160.5	-0.12858	1.43270	0.66109	-23.19893	-0.15759	0.54972	1.58310	23.20598	95.13	24.68
79/10/18	2444164.5	-0.18208	1.43148	0.66196	-23.11909	-0.89426	0.20944	1.58761	23.13732	97.25	24.64
79/10/22	2444168.5	-0.23537	1.42857	0.66206	-23.01268	-1.62369	-0.12824	1.59202	23.07024	99.36	24.57

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79/10/26	2444172.5	-0.28839	1.42399	0.66137	-22.88025	-2.34524	-0.46300	1.59635	23.00479	101.45	24.48
79/10/30	2444176.5	-0.34107	1.41774	0.65992	-22.72236	-3.05830	-0.79455	1.60057	22.94102	103.53	24.35
79/11/ 3	2444180.5	-0.39336	1.40986	0.65771	-22.53958	-3.76229	-1.12259	1.60469	22.87898	105.59	24.20
79/11/ 7	2444184.5	-0.44519	1.40037	0.65474	-22.33245	-4.45665	-1.44688	1.60870	22.81871	107.64	24.02
79/11/11	2444188.5	-0.49652	1.38928	0.65102	-22.10154	-5.14087	-1.76714	1.61259	22.76026	109.67	23.81
79/11/15	2444192.5	-0.54729	1.37662	0.64658	-21.84742	-5.81443	-2.08314	1.61638	22.70367	111.68	23.58
79/11/19	2444196.5	-0.59745	1.36242	0.64140	-21.57064	-6.47686	-2.39463	1.62004	22.64898	113.68	23.32
79/11/23	2444200.5	-0.64694	1.34671	0.63551	-21.27176	-7.12770	-2.70139	1.62358	22.59623	115.66	23.04
79/11/27	2444204.5	-0.69571	1.32950	0.62892	-20.95135	-7.76651	-3.00321	1.62700	22.54544	117.62	22.74
79/12/ 1	2444208.5	-0.74372	1.31083	0.62164	-20.60995	-8.39286	-3.29988	1.63029	22.49665	119.57	22.41
79/12/ 5	2444212.5	-0.79092	1.29073	0.61368	-20.24811	-9.00637	-3.59120	1.63345	22.44989	121.50	22.07
79/12/ 9	2444216.5	-0.83726	1.26923	0.60505	-19.86639	-9.60665	-3.87698	1.63647	22.40518	123.41	21.70
79/12/13	2444220.5	-0.88270	1.24636	0.59577	-19.46534	-10.19333	-4.15703	1.63936	22.36256	125.31	21.31
79/12/17	2444224.5	-0.92718	1.22214	0.58585	-19.04548	-10.76607	-4.43119	1.64211	22.32205	127.19	20.90
79/12/21	2444228.5	-0.97068	1.19662	0.57530	-18.60737	-11.32453	-4.69928	1.64472	22.28368	129.05	20.47
79/12/25	2444232.5	-1.01314	1.16983	0.56414	-18.15152	-11.86838	-4.96115	1.64719	22.24745	130.89	20.03
79/12/29	2444236.5	-1.05453	1.14180	0.55239	-17.67847	-12.39733	-5.21663	1.64951	22.21340	132.72	19.57
80/ 1/ 2	2444240.5	-1.09481	1.11256	0.54005	-17.18874	-12.91106	-5.46558	1.65168	22.18154	134.54	19.08
80/ 1/ 6	2444244.5	-1.13394	1.08216	0.52714	-16.68285	-13.40929	-5.70784	1.65371	22.15189	136.34	18.59
80/ 1/10	2444248.5	-1.17188	1.05062	0.51368	-16.16131	-13.89175	-5.94329	1.65559	22.12445	138.12	18.08
80/ 1/14	2444252.5	-1.20860	1.01799	0.49968	-15.62464	-14.35817	-6.17178	1.65731	22.09926	139.89	17.55
80/ 1/18	2444256.5	-1.24406	0.98429	0.48517	-15.07335	-14.80829	-6.39317	1.65889	22.07632	141.65	17.01
80/ 1/22	2444260.5	-1.27823	0.94958	0.47015	-14.50793	-15.24185	-6.60735	1.66031	22.05563	143.39	16.45
80/ 1/26	2444264.5	-1.31108	0.91388	0.45465	-13.92889	-15.65861	-6.81418	1.66157	22.03722	145.12	15.88
80/ 1/30	2444268.5	-1.34258	0.87724	0.43867	-13.33673	-16.05834	-7.01354	1.66268	22.02109	146.84	15.30
80/ 2/ 3	2444272.5	-1.37269	0.83970	0.42225	-12.73194	-16.44080	-7.20532	1.66363	22.00724	148.55	14.70
80/ 2/ 7	2444276.5	-1.40139	0.80129	0.40539	-12.11502	-16.80576	-7.38939	1.66443	21.99569	150.24	14.10
80/ 2/11	2444280.5	-1.42866	0.76207	0.38811	-11.48647	-17.15301	-7.56564	1.66506	21.98644	151.92	13.48
80/ 2/15	2444284.5	-1.45446	0.72206	0.37044	-10.84677	-17.48233	-7.73396	1.66554	21.97950	153.60	12.85
80/ 2/19	2444288.5	-1.47877	0.68131	0.35238	-10.19642	-17.79350	-7.89423	1.66586	21.97486	155.26	12.21
80/ 2/23	2444292.5	-1.50156	0.63986	0.33397	-9.53590	-18.08632	-8.04636	1.66602	21.97253	156.92	11.56
80/ 2/27	2444296.5	-1.52282	0.59775	0.31521	-8.86572	-18.36057	-8.19022	1.66603	21.97251	158.57	10.91
80/ 3/ 2	2444300.5	-1.54252	0.55504	0.29614	-8.18636	-18.61607	-8.32571	1.66587	21.97480	160.21	10.24
80/ 3/ 6	2444304.5	-1.56064	0.51176	0.27675	-7.49833	-18.85260	-8.45274	1.66555	21.97940	161.84	9.56
80/ 3/10	2444308.5	-1.57716	0.46795	0.25709	-6.80211	-19.06997	-8.57119	1.66508	21.98631	163.47	8.88
80/ 3/14	2444312.5	-1.59206	0.42366	0.23716	-6.09822	-19.26799	-8.68096	1.66445	21.99552	165.10	8.19
80/ 3/18	2444316.5	-1.60533	0.37894	0.21698	-5.38716	-19.44647	-8.78195	1.66365	22.00703	166.72	7.49
80/ 3/22	2444320.5	-1.61694	0.33383	0.19659	-4.66944	-19.60521	-8.87406	1.66271	22.02083	168.33	6.79
80/ 3/26	2444324.5	-1.62690	0.28837	0.17599	-3.94557	-19.74404	-8.95720	1.66160	22.03692	169.95	6.08
80/ 3/30	2444328.5	-1.63517	0.24262	0.15521	-3.21608	-19.86276	-9.03126	1.66034	22.05529	171.56	5.36
80/ 4/ 3	2444332.5	-1.64175	0.19661	0.13427	-2.48149	-19.96119	-9.09614	1.65892	22.07593	173.17	4.64
80/ 4/ 7	2444336.5	-1.64663	0.15041	0.11319	-1.74233	-20.03916	-9.15175	1.65736	22.09883	174.78	3.92
80/ 4/11	2444340.5	-1.64980	0.10404	0.09199	-0.99915	-20.09649	-9.19799	1.65563	22.12398	176.39	3.19
80/ 4/15	2444344.5	-1.65124	0.05757	0.07070	-0.25251	-20.13301	-9.23477	1.65376	22.15136	178.00	2.45
80/ 4/19	2444348.5	-1.65096	0.01104	0.04933	0.49705	-20.14854	-9.26200	1.65174	22.18097	179.62	1.71

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80/ 4/23	2444352.5	-1.64895	-0.03551	0.02791	1.24895	-20.14292	-9.27958	1.64956	22.21279	181.23	0.97
80/ 4/27	2444356.5	-1.64519	-0.08201	0.00646	2.00260	-20.11599	-9.28743	1.64725	22.24679	182.85	0.22
80/ 5/ 1	2444360.5	-1.63969	-0.12843	-0.01499	2.75741	-20.06758	-9.28545	1.64478	22.28297	184.48	-0.52
80/ 5/ 5	2444364.5	-1.63245	-0.17472	-0.03643	3.51279	-19.99755	-9.27356	1.64218	22.32130	186.11	-1.27
80/ 5/ 9	2444368.5	-1.62346	-0.22081	-0.05783	4.26810	-19.90574	-9.25167	1.63943	22.36177	187.75	-2.02
80/ 5/13	2444372.5	-1.61273	-0.26667	-0.07917	5.02271	-19.79202	-9.21970	1.63655	22.40434	189.39	-2.77
80/ 5/17	2444376.5	-1.60026	-0.31224	-0.10042	5.77599	-19.65624	-9.17757	1.63352	22.44900	191.04	-3.52
80/ 5/21	2444380.5	-1.58604	-0.35747	-0.12156	6.52726	-19.49828	-9.12521	1.63037	22.49572	192.70	-4.28
80/ 5/25	2444384.5	-1.57010	-0.40231	-0.14257	7.27584	-19.31801	-9.06254	1.62708	22.54447	194.37	-5.03
80/ 5/29	2444388.5	-1.55243	-0.44671	-0.16343	8.02104	-19.11533	-8.98948	1.62367	22.59521	196.05	-5.78
80/ 6/ 2	2444392.5	-1.53304	-0.49062	-0.18410	8.76214	-18.89013	-8.90598	1.62013	22.64793	197.75	-6.52
80/ 6/ 6	2444396.5	-1.51195	-0.53397	-0.20457	9.49841	-18.64232	-8.81197	1.61647	22.70257	199.45	-7.27
80/ 6/10	2444400.5	-1.48916	-0.57673	-0.22481	10.22910	-18.37183	-8.70740	1.61269	22.75912	201.17	-8.01
80/ 6/14	2444404.5	-1.46469	-0.61884	-0.24479	10.95344	-18.07858	-8.59222	1.60879	22.81752	202.90	-8.75
80/ 6/18	2444408.5	-1.43856	-0.66024	-0.26450	11.67063	-17.76254	-8.46638	1.60478	22.87774	204.65	-9.49
80/ 6/22	2444412.5	-1.41078	-0.70089	-0.28390	12.37987	-17.42366	-8.32984	1.60067	22.93973	206.42	-10.22
80/ 6/26	2444416.5	-1.38137	-0.74073	-0.30298	13.08032	-17.06194	-8.18258	1.59645	23.00346	208.20	-10.94
80/ 6/30	2444420.5	-1.35035	-0.77971	-0.32170	13.77114	-16.67736	-8.02457	1.59213	23.06886	210.00	-11.66
80/ 7/ 4	2444424.5	-1.31775	-0.81777	-0.34004	14.45144	-16.26997	-7.85581	1.58771	23.13589	211.82	-12.37
80/ 7/ 8	2444428.5	-1.28359	-0.85486	-0.35799	15.12033	-15.83980	-7.67629	1.58320	23.20450	213.66	-13.07
80/ 7/12	2444432.5	-1.24789	-0.89094	-0.37550	15.77690	-15.38693	-7.48601	1.57861	23.27463	215.52	-13.76
80/ 7/16	2444436.5	-1.21070	-0.92594	-0.39257	16.42021	-14.91145	-7.28500	1.57393	23.34622	217.41	-14.44
80/ 7/20	2444440.5	-1.17204	-0.95982	-0.40915	17.04929	-14.41350	-7.07330	1.56918	23.41920	219.32	-15.11
80/ 7/24	2444444.5	-1.13194	-0.99252	-0.42524	17.66318	-13.89322	-6.85094	1.56435	23.49351	221.25	-15.77
80/ 7/28	2444448.5	-1.09044	-1.02399	-0.44080	18.26087	-13.35082	-6.61799	1.55946	23.56908	223.20	-16.42
80/ 8/ 1	2444452.5	-1.04758	-1.05418	-0.45581	18.84134	-12.78651	-6.37452	1.55451	23.64583	225.18	-17.05
80/ 8/ 5	2444456.5	-1.00340	-1.08305	-0.47024	19.40356	-12.20056	-6.12063	1.54950	23.72370	227.19	-17.67
80/ 8/ 9	2444460.5	-0.95794	-1.11054	-0.48408	19.94647	-11.59327	-5.85643	1.54444	23.80259	229.22	-18.27
80/ 8/13	2444464.5	-0.91126	-1.13660	-0.49730	20.46901	-10.96500	-5.58204	1.53933	23.88244	231.28	-18.85
80/ 8/17	2444468.5	-0.86339	-1.16119	-0.50986	20.97010	-10.31611	-5.29762	1.53419	23.96314	233.37	-19.41
80/ 8/21	2444472.5	-0.81439	-1.18425	-0.52176	21.44863	-9.64706	-5.00334	1.52902	24.04460	235.48	-19.95
80/ 8/25	2444476.5	-0.76431	-1.20574	-0.53297	21.90351	-8.95833	-4.69939	1.52382	24.12674	237.63	-20.47
80/ 8/29	2444480.5	-0.71320	-1.22562	-0.54347	22.33362	-8.25046	-4.38600	1.51861	24.20945	239.80	-20.97
80/ 9/ 2	2444484.5	-0.66114	-1.24385	-0.55323	22.73784	-7.52404	-4.06339	1.51338	24.29263	242.01	-21.44
80/ 9/ 6	2444488.5	-0.60817	-1.26037	-0.56224	23.11506	-6.77973	-3.73184	1.50815	24.37616	244.24	-21.89
80/ 9/10	2444492.5	-0.55436	-1.27516	-0.57047	23.46415	-6.01823	-3.39166	1.50292	24.45995	246.50	-22.31
80/ 9/14	2444496.5	-0.49978	-1.28817	-0.57790	23.78402	-5.24031	-3.04315	1.49771	24.54386	248.80	-22.70
80/ 9/18	2444500.5	-0.44449	-1.29936	-0.58452	24.07355	-4.44682	-2.68668	1.49251	24.62779	251.11	-23.06
80/ 9/22	2444504.5	-0.38857	-1.30870	-0.59031	24.33165	-3.63865	-2.32263	1.48733	24.71161	253.46	-23.38
80/ 9/26	2444508.5	-0.33210	-1.31616	-0.59525	24.55727	-2.81676	-1.95141	1.48219	24.79519	255.84	-23.68
80/ 9/30	2444512.5	-0.27514	-1.32171	-0.59932	24.74935	-1.98220	-1.57348	1.47709	24.87840	258.24	-23.94
80/10/ 4	2444516.5	-0.21777	-1.32531	-0.60251	24.90687	-1.13607	-1.18930	1.47204	24.96112	260.67	-24.16
80/10/ 8	2444520.5	-0.16008	-1.32695	-0.60481	25.02887	-0.27953	-0.79940	1.46704	25.04319	263.12	-24.35
80/10/12	2444524.5	-0.10216	-1.32660	-0.60620	25.11439	0.58616	-0.40432	1.46211	25.12449	265.60	-24.49
80/10/16	2444528.5	-0.04408	-1.32423	-0.60668	25.16256	1.45969	-0.00464	1.45726	25.20486	268.09	-24.60

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80/10/20	2444532.5	0.01407	-1.31985	-0.60622	25.17252	2.33968	0.39903	1.45248	25.28416	270.61	-24.67
80/10/24	2444536.5	0.07220	-1.31342	-0.60483	25.14350	3.22468	0.80605	1.44779	25.36225	273.15	-24.69
80/10/28	2444540.5	0.13021	-1.30494	-0.60249	25.07479	4.11317	1.21573	1.44320	25.43897	275.70	-24.67
80/11/ 1	2444544.5	0.18802	-1.29441	-0.59921	24.96576	5.00357	1.62737	1.43872	25.51417	278.26	-24.61
80/11/ 5	2444548.5	0.24553	-1.28183	-0.59497	24.81585	5.89423	2.04022	1.43435	25.58771	280.84	-24.51
80/11/ 9	2444552.5	0.30265	-1.26718	-0.58978	24.62460	6.78345	2.45353	1.43010	25.65942	283.43	-24.36
80/11/13	2444556.5	0.35928	-1.25049	-0.58364	24.39164	7.66948	2.86648	1.42598	25.72916	286.03	-24.16
80/11/17	2444560.5	0.41532	-1.23175	-0.57654	24.11670	8.55052	3.27827	1.42200	25.79678	288.63	-23.92
80/11/21	2444564.5	0.47067	-1.21099	-0.56849	23.79962	9.42472	3.68805	1.41817	25.86211	291.24	-23.63
80/11/25	2444568.5	0.52525	-1.18821	-0.55950	23.44035	10.29019	4.09496	1.41449	25.92502	293.85	-23.30
80/11/29	2444572.5	0.57894	-1.16345	-0.54958	23.03898	11.14502	4.49811	1.41096	25.98536	296.46	-22.92
80/12/ 3	2444576.5	0.63166	-1.13673	-0.53872	22.59569	11.98727	4.89661	1.40761	26.04298	299.06	-22.50
80/12/ 7	2444580.5	0.68331	-1.10808	-0.52696	22.11083	12.81499	5.28956	1.40443	26.09774	301.66	-22.04
80/12/11	2444584.5	0.73379	-1.07753	-0.51429	21.58485	13.62623	5.67604	1.40143	26.14951	304.25	-21.53
80/12/15	2444588.5	0.78301	-1.04513	-0.50074	21.01835	14.41901	6.05513	1.39862	26.19816	306.84	-20.98
80/12/19	2444592.5	0.83087	-1.01092	-0.48632	20.41207	15.19141	6.42594	1.39600	26.24356	309.42	-20.39
80/12/23	2444596.5	0.87729	-0.97496	-0.47105	19.76689	15.94150	6.78755	1.39358	26.28559	311.98	-19.76
80/12/27	2444600.5	0.92217	-0.93729	-0.45496	19.08383	16.66738	7.13906	1.39137	26.32414	314.53	-19.09
80/12/31	2444604.5	0.96543	-0.89797	-0.43808	18.36404	17.36722	7.47961	1.38936	26.35912	317.07	-18.38
81/ 1/ 4	2444608.5	1.00699	-0.85707	-0.42042	17.60882	18.03922	7.80832	1.38757	26.39041	319.60	-17.64
81/ 1/ 8	2444612.5	1.04677	-0.81465	-0.40201	16.81959	18.68166	8.12438	1.38599	26.41795	322.11	-16.86
81/ 1/12	2444616.5	1.08468	-0.77078	-0.38289	15.99790	19.29286	8.42697	1.38464	26.44165	324.60	-16.05
81/ 1/16	2444620.5	1.12066	-0.72553	-0.36308	15.14543	19.87127	8.71533	1.38351	26.46145	327.08	-15.21
81/ 1/20	2444624.5	1.15464	-0.67899	-0.34263	14.26398	20.41540	8.98873	1.38261	26.47729	329.54	-14.35
81/ 1/24	2444628.5	1.18654	-0.63123	-0.32157	13.35546	20.92386	9.24649	1.38193	26.48913	331.99	-13.46
81/ 1/28	2444632.5	1.21632	-0.58234	-0.29992	12.42187	21.39539	9.48796	1.38149	26.49692	334.42	-12.54
81/ 2/ 1	2444636.5	1.24392	-0.53241	-0.27774	11.46530	21.82883	9.71257	1.38128	26.50066	336.83	-11.60
81/ 2/ 5	2444640.5	1.26928	-0.48152	-0.25506	10.48794	22.22315	9.91978	1.38130	26.50033	339.23	-10.64
81/ 2/ 9	2444644.5	1.29236	-0.42976	-0.23192	9.49203	22.57745	10.10912	1.38155	26.49592	341.61	-9.66
81/ 2/13	2444648.5	1.31312	-0.37723	-0.20837	8.47989	22.89095	10.28016	1.38203	26.48747	343.97	-8.67
81/ 2/17	2444652.5	1.33153	-0.32403	-0.18444	7.45386	23.16303	10.43256	1.38275	26.47498	346.32	-7.67
81/ 2/21	2444656.5	1.34756	-0.27024	-0.16018	6.41634	23.39319	10.56603	1.38369	26.45849	348.66	-6.65
81/ 2/25	2444660.5	1.36117	-0.21597	-0.13563	5.36974	23.58107	10.68034	1.38486	26.43805	350.98	-5.62
81/ 3/ 1	2444664.5	1.37236	-0.16132	-0.11085	4.31648	23.72647	10.77532	1.38625	26.41372	353.30	-4.59
81/ 3/ 5	2444668.5	1.38111	-0.10638	-0.08586	3.25898	23.82930	10.85088	1.38786	26.38557	355.60	-3.55
81/ 3/ 9	2444672.5	1.38742	-0.05125	-0.06073	2.19964	23.88964	10.90698	1.38969	26.35366	357.88	-2.50
81/ 3/13	2444676.5	1.39127	0.00396	-0.03548	1.14085	23.90768	10.94365	1.39173	26.31809	0.16	-1.46
81/ 3/17	2444680.5	1.39269	0.05917	-0.01018	0.08494	23.88375	10.96097	1.39398	26.27896	2.43	-0.42
81/ 3/21	2444684.5	1.39167	0.11428	0.01514	-0.96578	23.81832	10.95911	1.39644	26.23637	4.69	0.62
81/ 3/25	2444688.5	1.38823	0.16919	0.04044	-2.00908	23.71195	10.93826	1.39909	26.19042	6.95	1.66
81/ 3/29	2444692.5	1.38240	0.22381	0.06567	-3.04279	23.56534	10.89868	1.40193	26.14125	9.20	2.68
81/ 4/ 2	2444696.5	1.37418	0.27804	0.09078	-4.06482	23.37929	10.84068	1.40497	26.08897	11.44	3.70
81/ 4/ 6	2444700.5	1.36363	0.33180	0.11574	-5.07314	23.15471	10.76463	1.40818	26.03372	13.68	4.71
81/ 4/10	2444704.5	1.35076	0.38500	0.14051	-6.06584	22.89259	10.67092	1.41156	25.97564	15.91	5.71
81/ 4/14	2444708.5	1.33561	0.43754	0.16503	-7.04107	22.59400	10.56001	1.41511	25.91485	18.14	6.70

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81/ 4/18	2444712.5	1.31824	0.48936	0.18928	-7.99712	22.26011	10.43238	1.41882	25.85152	20.37	7.67
81/ 4/22	2444716.5	1.29868	0.54037	0.21322	-8.93234	21.89213	10.28855	1.42268	25.78578	22.59	8.62
81/ 4/26	2444720.5	1.27699	0.59049	0.23681	-9.84521	21.49135	10.12906	1.42669	25.71778	24.82	9.55
81/ 4/30	2444724.5	1.25321	0.63964	0.26001	-10.73432	21.05910	9.95448	1.43083	25.64767	27.04	10.47
81/ 5/ 4	2444728.5	1.22741	0.68776	0.28279	-11.59835	20.59677	9.76543	1.43510	25.57562	29.26	11.36
81/ 5/ 8	2444732.5	1.19964	0.73478	0.30512	-12.43610	20.10576	9.56250	1.43949	25.50176	31.49	12.24
81/ 5/12	2444736.5	1.16997	0.78064	0.32696	-13.24647	19.58752	9.34635	1.44400	25.42625	33.71	13.09
81/ 5/16	2444740.5	1.13846	0.82526	0.34829	-14.02848	19.04352	9.11760	1.44861	25.34925	35.94	13.91
81/ 5/20	2444744.5	1.10518	0.86861	0.36908	-14.78124	18.47522	8.87692	1.45331	25.27090	38.17	14.71
81/ 5/24	2444748.5	1.07019	0.91061	0.38930	-15.50397	17.88411	8.62497	1.45810	25.19136	40.39	15.49
81/ 5/28	2444752.5	1.03357	0.95122	0.40892	-16.19600	17.27168	8.36240	1.46298	25.11077	42.62	16.23
81/ 6/ 1	2444756.5	0.99538	0.99039	0.42793	-16.85673	16.63939	8.08988	1.46792	25.02928	44.86	16.95
81/ 6/ 5	2444760.5	0.95571	1.02809	0.44629	-17.48568	15.98873	7.80807	1.47293	24.94703	47.09	17.64
81/ 6/ 9	2444764.5	0.91462	1.06426	0.46400	-18.08244	15.32114	7.51763	1.47799	24.86416	49.32	18.30
81/ 6/13	2444768.5	0.87218	1.09886	0.48102	-18.64669	14.63806	7.21921	1.48310	24.78081	51.56	18.93
81/ 6/17	2444772.5	0.82849	1.13188	0.49735	-19.17820	13.94089	6.91344	1.48825	24.69712	53.80	19.52
81/ 6/21	2444776.5	0.78360	1.16327	0.51296	-19.67680	13.23104	6.60097	1.49343	24.61320	56.03	20.09
81/ 6/25	2444780.5	0.73760	1.19300	0.52784	-20.14241	12.50984	6.28240	1.49864	24.52919	58.27	20.62
81/ 6/29	2444784.5	0.69056	1.22106	0.54198	-20.57500	11.77863	5.95836	1.50386	24.44522	60.51	21.12
81/ 7/ 3	2444788.5	0.64256	1.24742	0.55537	-20.97461	11.03869	5.62942	1.50909	24.36139	62.75	21.59
81/ 7/ 7	2444792.5	0.59368	1.27205	0.56799	-21.34135	10.29128	5.29617	1.51433	24.27783	64.98	22.03
81/ 7/11	2444796.5	0.54398	1.29496	0.57983	-21.67536	9.53762	4.95918	1.51955	24.19464	67.21	22.43
81/ 7/15	2444800.5	0.49355	1.31612	0.59090	-21.97685	8.77888	4.61898	1.52477	24.11194	69.44	22.80
81/ 7/19	2444804.5	0.44246	1.33552	0.60117	-22.24607	8.01621	4.27612	1.52997	24.02983	71.67	23.14
81/ 7/23	2444808.5	0.39079	1.35315	0.61065	-22.48332	7.25071	3.93109	1.53514	23.94840	73.89	23.44
81/ 7/27	2444812.5	0.33861	1.36902	0.61934	-22.68891	6.48344	3.58441	1.54027	23.86775	76.11	23.71
81/ 7/31	2444816.5	0.28599	1.38311	0.62721	-22.86321	5.71542	3.23654	1.54537	23.78797	78.32	23.95
81/ 8/ 4	2444820.5	0.23300	1.39543	0.63429	-23.00662	4.94763	2.88795	1.55043	23.70915	80.52	24.15
81/ 8/ 8	2444824.5	0.17971	1.40597	0.64056	-23.11955	4.18103	2.53909	1.55543	23.63137	82.72	24.32
81/ 8/12	2444828.5	0.12620	1.41474	0.64602	-23.20247	3.41651	2.19037	1.56038	23.55472	84.90	24.46
81/ 8/16	2444832.5	0.07253	1.42176	0.65068	-23.25582	2.65494	1.84223	1.56526	23.47926	87.08	24.56
81/ 8/20	2444836.5	0.01877	1.42701	0.65453	-23.28011	1.89716	1.49503	1.57007	23.40508	89.25	24.64
81/ 8/24	2444840.5	-0.03501	1.43053	0.65759	-23.27583	1.14395	1.14918	1.57482	23.33224	91.40	24.68
81/ 8/28	2444844.5	-0.08875	1.43230	0.65984	-23.24350	0.39609	0.80502	1.57948	23.26081	93.55	24.69
81/ 9/ 1	2444848.5	-0.14238	1.43236	0.66131	-23.18365	-0.34571	0.46291	1.58406	23.19085	95.68	24.68
81/ 9/ 5	2444852.5	-0.19585	1.43071	0.66198	-23.09682	-1.08076	0.12318	1.58856	23.12242	97.79	24.63
81/ 9/ 9	2444856.5	-0.24908	1.42737	0.66188	-22.98356	-1.80839	-0.21386	1.59296	23.05558	99.90	24.55
81/ 9/13	2444860.5	-0.30202	1.42236	0.66100	-22.84441	-2.52797	-0.54790	1.59726	22.99038	101.99	24.45
81/ 9/17	2444864.5	-0.35461	1.41570	0.65935	-22.67993	-3.23890	-0.87864	1.60147	22.92688	104.06	24.31
81/ 9/21	2444868.5	-0.40679	1.40740	0.65694	-22.49069	-3.94060	-1.20582	1.60556	22.86512	106.12	24.15
81/ 9/25	2444872.5	-0.45850	1.39750	0.65378	-22.27725	-4.63254	-1.52915	1.60955	22.80514	108.16	23.97
81/ 9/29	2444876.5	-0.50970	1.38601	0.64988	-22.04016	-5.31418	-1.84840	1.61343	22.74700	110.19	23.75
81/10/ 3	2444880.5	-0.56032	1.37296	0.64524	-21.78000	-5.98503	-2.16332	1.61719	22.69072	112.20	23.52
81/10/ 7	2444884.5	-0.61031	1.35836	0.63989	-21.49732	-6.64462	-2.47366	1.62083	22.63636	114.19	23.25
81/10/11	2444888.5	-0.65963	1.34226	0.63382	-21.19269	-7.29250	-2.77922	1.62435	22.58394	116.17	22.97

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81/10/15	2444892.5	-0.70821	1.32468	0.62705	-20.86665	-7.92822	-3.07978	1.62774	22.53351	118.13	22.66
81/10/19	2444896.5	-0.75602	1.30564	0.61959	-20.51978	-8.55139	-3.37512	1.63100	22.48508	120.07	22.33
81/10/23	2444900.5	-0.80301	1.28518	0.61146	-20.15261	-9.16160	-3.66507	1.63413	22.43870	122.00	21.97
81/10/27	2444904.5	-0.84912	1.26332	0.60266	-19.76570	-9.75848	-3.94943	1.63713	22.39439	123.91	21.60
81/10/31	2444908.5	-0.89432	1.24010	0.59322	-19.35959	-10.34166	-4.22801	1.63999	22.35218	125.80	21.21
81/11/ 4	2444912.5	-0.93855	1.21555	0.58313	-18.93482	-10.91081	-4.50066	1.64271	22.31208	127.67	20.79
81/11/ 8	2444916.5	-0.98179	1.18970	0.57243	-18.49192	-11.46559	-4.76719	1.64529	22.27413	129.53	20.36
81/11/12	2444920.5	-1.02398	1.16259	0.56111	-18.03143	-12.00568	-5.02745	1.64772	22.23835	131.37	19.91
81/11/16	2444924.5	-1.06509	1.13424	0.54920	-17.55388	-12.53077	-5.28128	1.65001	22.20475	133.20	19.44
81/11/20	2444928.5	-1.10507	1.10470	0.53672	-17.05978	-13.04057	-5.52854	1.65215	22.17335	135.01	18.96
81/11/24	2444932.5	-1.14390	1.07400	0.52366	-16.54966	-13.53480	-5.76908	1.65415	22.14417	136.80	18.46
81/11/28	2444936.5	-1.18152	1.04218	0.51007	-16.02402	-14.01318	-6.00276	1.65599	22.11723	138.59	17.94
81/12/ 2	2444940.5	-1.21792	1.00927	0.49594	-15.48339	-14.47545	-6.22945	1.65768	22.09253	140.35	17.41
81/12/ 6	2444944.5	-1.25305	0.97531	0.48129	-14.92827	-14.92134	-6.44901	1.65922	22.07010	142.10	16.86
81/12/10	2444948.5	-1.28688	0.94034	0.46614	-14.35915	-15.35062	-6.66132	1.66060	22.04994	143.84	16.30
81/12/14	2444952.5	-1.31939	0.90440	0.45052	-13.77655	-15.76304	-6.86625	1.66183	22.03207	145.57	15.73
81/12/18	2444956.5	-1.35053	0.86752	0.43443	-13.18096	-16.15835	-7.06368	1.66290	22.01648	147.28	15.14
81/12/22	2444960.5	-1.38028	0.82975	0.41789	-12.57288	-16.53634	-7.25349	1.66382	22.00320	148.99	14.55
81/12/26	2444964.5	-1.40861	0.79113	0.40092	-11.95279	-16.89678	-7.43556	1.66457	21.99222	150.68	13.94
81/12/30	2444968.5	-1.43549	0.75170	0.38354	-11.32120	-17.23944	-7.60979	1.66517	21.98355	152.36	13.32
82/ 1/ 3	2444972.5	-1.46091	0.71149	0.36576	-10.67860	-17.56411	-7.77605	1.66561	21.97720	154.03	12.69
82/ 1/ 7	2444976.5	-1.48483	0.67056	0.34762	-10.02547	-17.87058	-7.93424	1.66589	21.97317	155.70	12.04
82/ 1/11	2444980.5	-1.50722	0.62894	0.32911	-9.36232	-18.15865	-8.08425	1.66601	21.97145	157.35	11.39
82/ 1/15	2444984.5	-1.52807	0.58668	0.31027	-8.68962	-18.42811	-8.22597	1.66597	21.97205	159.00	10.73
82/ 1/19	2444988.5	-1.54736	0.54381	0.29111	-8.00789	-18.67875	-8.35930	1.66578	21.97498	160.64	10.06
82/ 1/23	2444992.5	-1.56507	0.50039	0.27165	-7.31761	-18.91038	-8.48413	1.66542	21.98022	162.27	9.39
82/ 1/27	2444996.5	-1.58117	0.45645	0.25192	-6.61928	-19.12280	-8.60036	1.66490	21.98778	163.90	8.70
82/ 1/31	2445000.5	-1.59565	0.41205	0.23192	-5.91340	-19.31582	-8.70789	1.66423	21.99765	165.52	8.01
82/ 2/ 4	2445004.5	-1.60848	0.36722	0.21169	-5.20049	-19.48925	-8.80661	1.66340	22.00982	167.14	7.31
82/ 2/ 8	2445008.5	-1.61967	0.32202	0.19124	-4.48104	-19.64290	-8.89643	1.66241	22.02430	168.76	6.61
82/ 2/12	2445012.5	-1.62918	0.27648	0.17059	-3.75559	-19.77658	-8.97724	1.66126	22.04106	170.37	5.89
82/ 2/16	2445016.5	-1.63702	0.23066	0.14977	-3.02465	-19.89011	-9.04895	1.65996	22.06011	171.98	5.18
82/ 2/20	2445020.5	-1.64315	0.18460	0.12879	-2.28875	-19.98330	-9.11146	1.65850	22.08143	173.59	4.45
82/ 2/24	2445024.5	-1.64759	0.13834	0.10768	-1.54843	-20.05599	-9.16468	1.65689	22.10501	175.20	3.73
82/ 2/28	2445028.5	-1.65031	0.09195	0.08645	-0.80422	-20.10799	-9.20850	1.65512	22.13085	176.81	2.99
82/ 3/ 4	2445032.5	-1.65130	0.04545	0.06514	-0.05670	-20.13913	-9.24284	1.65321	22.15892	178.42	2.26
82/ 3/ 8	2445036.5	-1.65057	-0.00109	0.04376	0.69359	-20.14924	-9.26760	1.65115	22.18922	180.04	1.52
82/ 3/12	2445040.5	-1.64809	-0.04763	0.02233	1.44607	-20.13816	-9.28268	1.64893	22.22172	181.66	0.78
82/ 3/16	2445044.5	-1.64388	-0.09412	0.00087	2.20014	-20.10572	-9.28801	1.64658	22.25641	183.28	0.03
82/ 3/20	2445048.5	-1.63793	-0.14051	-0.02058	2.95523	-20.05177	-9.28349	1.64407	22.29327	184.90	-0.72
82/ 3/24	2445052.5	-1.63023	-0.18675	-0.04201	3.71071	-19.97614	-9.26903	1.64143	22.33228	186.53	-1.47
82/ 3/28	2445056.5	-1.62078	-0.23279	-0.06340	4.46597	-19.87870	-9.24455	1.63864	22.37341	188.17	-2.22
82/ 4/ 1	2445060.5	-1.60959	-0.27858	-0.08472	5.22036	-19.75931	-9.20997	1.63572	22.41665	189.82	-2.97
82/ 4/ 5	2445064.5	-1.59666	-0.32406	-0.10594	5.97323	-19.61782	-9.16521	1.63266	22.46196	191.47	-3.72
82/ 4/ 9	2445068.5	-1.58200	-0.36920	-0.12705	6.72392	-19.45412	-9.11020	1.62947	22.50932	193.14	-4.47

1.4 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MARS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
82/ 4/13	2445072.5	-1.56560	-0.41393	-0.14803	7.47174	-19.26807	-9.04485	1.62615	22.55870	194.81	-5.22
82/ 4/17	2445076.5	-1.54748	-0.45821	-0.16884	8.21599	-19.05959	-8.96910	1.62270	22.61007	196.49	-5.97
82/ 4/21	2445080.5	-1.52764	-0.50198	-0.18946	8.95595	-18.82856	-8.88289	1.61913	22.66339	198.19	-6.72
82/ 4/25	2445084.5	-1.50610	-0.54518	-0.20987	9.69088	-18.57489	-8.78616	1.61543	22.71863	199.90	-7.46
82/ 4/29	2445088.5	-1.48287	-0.58778	-0.23005	10.42003	-18.29852	-8.67884	1.61162	22.77576	201.62	-8.21
82/ 5/ 3	2445092.5	-1.45796	-0.62971	-0.24996	11.14262	-17.99937	-8.56090	1.60769	22.83472	203.36	-8.94
82/ 5/ 7	2445096.5	-1.43139	-0.67093	-0.26959	11.85786	-17.67741	-8.43229	1.60366	22.89548	205.11	-9.68
82/ 5/11	2445100.5	-1.40318	-0.71137	-0.28891	12.56492	-17.33261	-8.29297	1.59951	22.95800	206.88	-10.41
82/ 5/15	2445104.5	-1.37335	-0.75099	-0.30790	13.26296	-16.96494	-8.14292	1.59527	23.02222	208.67	-11.13
82/ 5/19	2445108.5	-1.34191	-0.78974	-0.32653	13.95114	-16.57444	-7.98212	1.59092	23.08810	210.48	-11.84
82/ 5/23	2445112.5	-1.30890	-0.82755	-0.34477	14.62857	-16.16111	-7.81055	1.58648	23.15558	212.30	-12.55
82/ 5/27	2445116.5	-1.27433	-0.86439	-0.36261	15.29434	-15.72502	-7.62822	1.58195	23.22462	214.15	-13.25
82/ 5/31	2445120.5	-1.23824	-0.90019	-0.38001	15.94754	-15.26625	-7.43515	1.57734	23.29514	216.02	-13.94
82/ 6/ 4	2445124.5	-1.20066	-0.93491	-0.39695	16.58722	-14.78489	-7.23134	1.57264	23.36710	217.91	-14.62
82/ 6/ 8	2445128.5	-1.16161	-0.96849	-0.41341	17.21242	-14.28109	-7.01685	1.56787	23.44042	219.82	-15.29
82/ 6/12	2445132.5	-1.12114	-1.00087	-0.42936	17.82216	-13.75502	-6.79171	1.56303	23.51504	221.76	-15.94
82/ 6/16	2445136.5	-1.07928	-1.03202	-0.44478	18.41542	-13.20687	-6.55600	1.55812	23.59089	223.72	-16.59
82/ 6/20	2445140.5	-1.03607	-1.06188	-0.45965	18.99119	-12.63687	-6.30980	1.55316	23.66789	225.70	-17.21
82/ 6/24	2445144.5	-0.99155	-1.09039	-0.47393	19.54842	-12.04531	-6.05319	1.54814	23.74597	227.72	-17.83
82/ 6/28	2445148.5	-0.94576	-1.11752	-0.48761	20.08606	-11.43249	-5.78631	1.54307	23.82505	229.76	-18.42
82/ 7/ 2	2445152.5	-0.89876	-1.14320	-0.50066	20.60304	-10.79878	-5.50928	1.53796	23.90504	231.83	-19.00
82/ 7/ 6	2445156.5	-0.85059	-1.16739	-0.51305	21.09826	-10.14457	-5.22226	1.53282	23.98585	233.92	-19.56
82/ 7/10	2445160.5	-0.80130	-1.19005	-0.52478	21.57064	-9.47032	-4.92543	1.52764	24.06739	236.05	-20.09
82/ 7/14	2445164.5	-0.75094	-1.21113	-0.53580	22.01906	-8.77654	-4.61898	1.52245	24.14956	238.20	-20.61
82/ 7/18	2445168.5	-0.69958	-1.23059	-0.54611	22.44241	-8.06376	-4.30315	1.51724	24.23227	240.38	-21.10
82/ 7/22	2445172.5	-0.64727	-1.24838	-0.55568	22.83957	-7.33261	-3.97819	1.51201	24.31541	242.59	-21.56
82/ 7/26	2445176.5	-0.59407	-1.26446	-0.56449	23.20944	-6.58375	-3.64436	1.50679	24.39888	244.83	-22.00
82/ 7/30	2445180.5	-0.54006	-1.27878	-0.57251	23.55089	-5.81790	-3.30197	1.50157	24.48255	247.10	-22.41
82/ 8/ 3	2445184.5	-0.48528	-1.29132	-0.57974	23.86281	-5.03586	-2.95136	1.49637	24.56632	249.40	-22.79
82/ 8/ 7	2445188.5	-0.42983	-1.30204	-0.58614	24.14410	-4.23848	-2.59288	1.49118	24.65006	251.73	-23.15
82/ 8/11	2445192.5	-0.37375	-1.31090	-0.59171	24.39369	-3.42667	-2.22693	1.48602	24.73365	254.09	-23.46
82/ 8/15	2445196.5	-0.31714	-1.31786	-0.59643	24.61051	-2.60143	-1.85394	1.48090	24.81697	256.47	-23.75
82/ 8/19	2445200.5	-0.26007	-1.32291	-0.60027	24.79353	-1.76380	-1.47435	1.47582	24.89988	258.88	-24.00
82/ 8/23	2445204.5	-0.20262	-1.32600	-0.60323	24.94173	-0.91490	-1.08867	1.47079	24.98224	261.31	-24.21
82/ 8/27	2445208.5	-0.14486	-1.32713	-0.60530	25.05416	-0.05594	-0.69740	1.46582	25.06393	263.77	-24.39
82/ 8/31	2445212.5	-0.08689	-1.32625	-0.60645	25.12988	0.81183	-0.30110	1.46092	25.14479	266.25	-24.53
82/ 9/ 4	2445216.5	-0.02878	-1.32337	-0.60668	25.16802	1.68707	0.09963	1.45609	25.22470	268.75	-24.62
82/ 9/ 8	2445220.5	0.02937	-1.31845	-0.60599	25.16776	2.56839	0.50419	1.45135	25.30349	271.28	-24.68
82/ 9/12	2445224.5	0.08747	-1.31150	-0.60435	25.12833	3.45431	0.91190	1.44669	25.38104	273.82	-24.69
82/ 9/16	2445228.5	0.14544	-1.30249	-0.60177	25.04906	4.34330	1.32209	1.44214	25.45717	276.37	-24.66
82/ 9/20	2445232.5	0.20318	-1.29143	-0.59824	24.92932	5.23376	1.73405	1.43770	25.53175	278.94	-24.59
82/ 9/24	2445236.5	0.26059	-1.27831	-0.59376	24.76859	6.12404	2.14702	1.43337	25.60462	281.52	-24.47
82/ 9/28	2445240.5	0.31759	-1.26314	-0.58832	24.56642	7.01242	2.56022	1.42916	25.67563	284.11	-24.31
82/10/ 2	2445244.5	0.37407	-1.24591	-0.58193	24.32249	7.89713	2.97287	1.42509	25.74463	286.71	-24.10
82/10/ 6	2445248.5	0.42993	-1.22665	-0.57459	24.03653	8.77636	3.38412	1.42115	25.81147	289.32	-23.85

1.4 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MARS

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82/10/10	2445252.5	0.48509	-1.20537	-0.56630	23.70844	9.64825	3.79313	1.41736	25.87599	291.92	-23.55
82/10/14	2445256.5	0.53944	-1.18208	-0.55706	23.33820	10.51092	4.19904	1.41373	25.93806	294.53	-23.21
82/10/18	2445260.5	0.59289	-1.15681	-0.54690	22.92591	11.36243	4.60096	1.41026	25.99752	297.14	-22.82
82/10/22	2445264.5	0.64534	-1.12959	-0.53581	22.47181	12.20085	4.99799	1.40696	26.05423	299.74	-22.39
82/10/26	2445268.5	0.69668	-1.10045	-0.52381	21.97627	13.02424	5.38922	1.40383	26.10806	302.34	-21.91
82/10/30	2445272.5	0.74684	-1.06943	-0.51092	21.43979	13.83062	5.77375	1.40089	26.15888	304.93	-21.39
82/11/ 3	2445276.5	0.79571	-1.03657	-0.49714	20.86299	14.61806	6.15067	1.39813	26.20654	307.51	-20.83
82/11/ 7	2445280.5	0.84321	-1.00191	-0.48250	20.24666	15.38461	6.51906	1.39557	26.25094	310.08	-20.23
82/11/11	2445284.5	0.88923	-0.96550	-0.46703	19.59171	16.12837	6.87802	1.39321	26.29195	312.65	-19.59
82/11/15	2445288.5	0.93370	-0.92741	-0.45073	18.89919	16.84745	7.22666	1.39105	26.32947	315.19	-18.91
82/11/19	2445292.5	0.97652	-0.88768	-0.43365	18.17029	17.54004	7.56411	1.38911	26.36339	317.73	-18.19
82/11/23	2445296.5	1.01762	-0.84639	-0.41579	17.40635	18.20434	7.88952	1.38738	26.39362	320.25	-17.44
82/11/27	2445300.5	1.05692	-0.80359	-0.39720	16.60881	18.83865	8.20207	1.38586	26.42009	322.75	-16.66
82/12/ 1	2445304.5	1.09434	-0.75937	-0.37791	15.77926	19.44135	8.50096	1.38457	26.44272	325.24	-15.84
82/12/ 5	2445308.5	1.12980	-0.71379	-0.35794	14.91941	20.01087	8.78544	1.38350	26.46143	327.72	-14.99
82/12/ 9	2445312.5	1.16325	-0.66694	-0.33733	14.03108	20.54577	9.05478	1.38266	26.47620	330.17	-14.12
82/12/13	2445316.5	1.19461	-0.61889	-0.31611	13.11621	21.04469	9.30833	1.38205	26.48696	332.61	-13.22
82/12/17	2445320.5	1.22383	-0.56973	-0.29433	12.17681	21.50640	9.54545	1.38166	26.49369	335.04	-12.30
82/12/21	2445324.5	1.25085	-0.51955	-0.27202	11.21501	21.92977	9.76557	1.38151	26.49637	337.44	-11.36
82/12/25	2445328.5	1.27563	-0.46844	-0.24923	10.23300	22.31380	9.96818	1.38159	26.49499	339.84	-10.39
82/12/29	2445332.5	1.29812	-0.41649	-0.22598	9.23304	22.65763	10.15281	1.38190	26.48956	342.21	-9.41
83/ 1/ 2	2445336.5	1.31828	-0.36379	-0.20233	8.21745	22.96052	10.31907	1.38244	26.48009	344.57	-8.42
83/ 1/ 6	2445340.5	1.33608	-0.31043	-0.17832	7.18860	23.22187	10.46662	1.38321	26.46661	346.92	-7.41
83/ 1/10	2445344.5	1.35149	-0.25653	-0.15398	6.14887	23.44123	10.59519	1.38421	26.44915	349.25	-6.39
83/ 1/14	2445348.5	1.36448	-0.20216	-0.12938	5.10067	23.61827	10.70456	1.38543	26.42777	351.57	-5.36
83/ 1/18	2445352.5	1.37505	-0.14743	-0.10454	4.04644	23.75283	10.79459	1.38688	26.40253	353.88	-4.32
83/ 1/22	2445356.5	1.38317	-0.09245	-0.07952	2.98857	23.84485	10.86519	1.38854	26.37349	356.18	-3.28
83/ 1/26	2445360.5	1.38886	-0.03729	-0.05435	1.92948	23.89445	10.91635	1.39042	26.34073	358.46	-2.24
83/ 1/30	2445364.5	1.39209	0.01792	-0.02910	0.87152	23.90185	10.94811	1.39251	26.30436	0.74	-1.20
83/ 2/ 3	2445368.5	1.39288	0.07311	-0.00379	-0.18298	23.86742	10.96058	1.39481	26.26445	3.00	-0.16
83/ 2/ 7	2445372.5	1.39125	0.12817	0.02153	-1.23173	23.79163	10.95391	1.39731	26.22112	5.26	0.88
83/ 2/11	2445376.5	1.38720	0.18300	0.04681	-2.27252	23.67511	10.92832	1.40000	26.17448	7.52	1.92
83/ 2/15	2445380.5	1.38076	0.23752	0.07201	-3.30320	23.51856	10.88410	1.40289	26.12465	9.76	2.94
83/ 2/19	2445384.5	1.37195	0.29164	0.09708	-4.32168	23.32281	10.82155	1.40596	26.07176	12.00	3.96
83/ 2/23	2445388.5	1.36080	0.34525	0.12200	-5.32599	23.08879	10.74105	1.40921	26.01593	14.24	4.97
83/ 2/27	2445392.5	1.34735	0.39829	0.14670	-6.31422	22.81751	10.64302	1.41263	25.95731	16.47	5.96
83/ 3/ 3	2445396.5	1.33164	0.45065	0.17116	-7.28456	22.51006	10.52791	1.41621	25.89603	18.70	6.94
83/ 3/ 7	2445400.5	1.31371	0.50226	0.19533	-8.23532	22.16762	10.39622	1.41995	25.83225	20.92	7.91
83/ 3/11	2445404.5	1.29361	0.55305	0.21918	-9.16487	21.79142	10.24846	1.42384	25.76610	23.15	8.86
83/ 3/15	2445408.5	1.27138	0.60292	0.24267	-10.07174	21.38277	10.08519	1.42787	25.69774	25.37	9.78
83/ 3/19	2445412.5	1.24709	0.65182	0.26576	-10.95452	20.94299	9.90699	1.43204	25.62731	27.59	10.70
83/ 3/23	2445416.5	1.22079	0.69966	0.28843	-11.81193	20.47349	9.71446	1.43633	25.55497	29.82	11.58
83/ 3/27	2445420.5	1.19254	0.74639	0.31064	-12.64280	19.97568	9.50823	1.44074	25.48087	32.04	12.45
83/ 3/31	2445424.5	1.16240	0.79194	0.33235	-13.44606	19.45100	9.28893	1.44526	25.40516	34.27	13.29
83/ 4/ 4	2445428.5	1.13043	0.83624	0.35355	-14.22075	18.90092	9.05720	1.44989	25.32800	36.49	14.11

1.4 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MARS

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83/ 4/ 8	2445432.5	1.09671	0.87925	0.37419	-14.96600	18.32692	8.81370	1.45460	25.24952	38.72	14.91
83/ 4/12	2445436.5	1.06131	0.92090	0.39426	-15.68107	17.73047	8.55909	1.45941	25.16989	40.95	15.67
83/ 4/16	2445440.5	1.02428	0.96115	0.41373	-16.36528	17.11307	8.29403	1.46429	25.08925	43.18	16.41
83/ 4/20	2445444.5	0.98572	0.99996	0.43257	-17.01809	16.47618	8.01918	1.46924	25.00774	45.41	17.12
83/ 4/24	2445448.5	0.94568	1.03726	0.45077	-17.63901	15.82127	7.73521	1.47425	24.92551	47.64	17.80
83/ 4/28	2445452.5	0.90424	1.07304	0.46831	-18.22768	15.14979	7.44277	1.47932	24.84268	49.88	18.46
83/ 5/ 2	2445456.5	0.86149	1.10725	0.48516	-18.78378	14.46316	7.14250	1.48443	24.75941	52.12	19.08
83/ 5/ 6	2445460.5	0.81748	1.13986	0.50130	-19.30710	13.76279	6.83504	1.48958	24.67583	54.35	19.67
83/ 5/10	2445464.5	0.77231	1.17083	0.51673	-19.79750	13.05006	6.52103	1.49476	24.59205	56.59	20.22
83/ 5/14	2445468.5	0.72604	1.20014	0.53143	-20.25489	12.32632	6.20108	1.49996	24.50821	58.83	20.75
83/ 5/18	2445472.5	0.67875	1.22777	0.54538	-20.67928	11.59287	5.87579	1.50518	24.42442	61.06	21.24
83/ 5/22	2445476.5	0.63052	1.25370	0.55857	-21.07072	10.85101	5.54575	1.51040	24.34081	63.30	21.70
83/ 5/26	2445480.5	0.58142	1.27790	0.57100	-21.42932	10.10197	5.21154	1.51563	24.25749	65.54	22.13
83/ 5/30	2445484.5	0.53153	1.30037	0.58265	-21.75525	9.34697	4.87372	1.52084	24.17457	67.77	22.53
83/ 6/ 3	2445488.5	0.48093	1.32109	0.59351	-22.04871	8.58718	4.53282	1.52605	24.09215	70.00	22.89
83/ 6/ 7	2445492.5	0.42968	1.34004	0.60359	-22.30998	7.82372	4.18938	1.53123	24.01034	72.22	23.22
83/ 6/11	2445496.5	0.37787	1.35723	0.61287	-22.53934	7.05769	3.84390	1.53638	23.92924	74.44	23.51
83/ 6/15	2445500.5	0.32557	1.37265	0.62135	-22.73714	6.29014	3.49688	1.54151	23.84893	76.66	23.77
83/ 6/19	2445504.5	0.27284	1.38630	0.62902	-22.90374	5.52208	3.14879	1.54659	23.76951	78.87	24.00
83/ 6/23	2445508.5	0.21977	1.39817	0.63590	-23.03955	4.75448	2.80009	1.55162	23.69106	81.07	24.19
83/ 6/27	2445512.5	0.16641	1.40826	0.64196	-23.14500	3.98829	2.45122	1.55660	23.61368	83.26	24.36
83/ 7/ 1	2445516.5	0.11285	1.41659	0.64722	-23.22053	3.22440	2.10260	1.56153	23.53743	85.45	24.49
83/ 7/ 5	2445520.5	0.05915	1.42316	0.65168	-23.26661	2.46366	1.75464	1.56639	23.46239	87.62	24.58
83/ 7/ 9	2445524.5	0.00537	1.42798	0.65533	-23.28375	1.70690	1.40772	1.57118	23.38863	89.78	24.65
83/ 7/13	2445528.5	-0.04841	1.43105	0.65818	-23.27243	0.95490	1.06224	1.57590	23.31622	91.94	24.69
83/ 7/17	2445532.5	-0.10213	1.43240	0.66024	-23.23319	0.20843	0.71854	1.58054	23.24523	94.08	24.69
83/ 7/21	2445536.5	-0.15573	1.43202	0.66150	-23.16656	-0.53181	0.37696	1.58510	23.17572	96.21	24.67
83/ 7/25	2445540.5	-0.20915	1.42995	0.66198	-23.07307	-1.26513	0.03785	1.58956	23.10775	98.32	24.61
83/ 7/29	2445544.5	-0.26232	1.42618	0.66168	-22.95327	-1.99087	-0.29849	1.59394	23.04138	100.42	24.53
83/ 8/ 2	2445548.5	-0.31518	1.42075	0.66061	-22.80772	-2.70841	-0.63176	1.59821	22.97665	102.51	24.41
83/ 8/ 6	2445552.5	-0.36768	1.41368	0.65876	-22.63697	-3.41715	-0.96167	1.60238	22.91363	104.58	24.27
83/ 8/10	2445556.5	-0.41975	1.40497	0.65617	-22.44159	-4.11653	-1.28794	1.60645	22.85234	106.63	24.11
83/ 8/14	2445560.5	-0.47135	1.39466	0.65282	-22.22214	-4.80600	-1.61031	1.61041	22.79285	108.67	23.91
83/ 8/18	2445564.5	-0.52241	1.38277	0.64873	-21.97918	-5.48506	-1.92852	1.61426	22.73520	110.70	23.70
83/ 8/22	2445568.5	-0.57288	1.36933	0.64391	-21.71327	-6.15320	-2.24234	1.61798	22.67942	112.70	23.45
83/ 8/26	2445572.5	-0.62271	1.35435	0.63837	-21.42497	-6.80996	-2.55154	1.62159	22.62555	114.69	23.18
83/ 8/30	2445576.5	-0.67186	1.33787	0.63212	-21.11486	-7.45489	-2.85589	1.62508	22.57363	116.66	22.89
83/ 9/ 3	2445580.5	-0.72026	1.31992	0.62518	-20.78347	-8.08757	-3.15519	1.62844	22.52369	118.62	22.58
83/ 9/ 7	2445584.5	-0.76787	1.30052	0.61755	-20.43138	-8.70757	-3.44922	1.63166	22.47577	120.56	22.24
83/ 9/11	2445588.5	-0.81464	1.27970	0.60925	-20.05912	-9.31453	-3.73781	1.63476	22.42989	122.48	21.88
83/ 9/15	2445592.5	-0.86053	1.25749	0.60028	-19.66725	-9.90805	-4.02075	1.63772	22.38608	124.38	21.50
83/ 9/19	2445596.5	-0.90550	1.23393	0.59067	-19.25630	-10.48779	-4.29788	1.64055	22.34437	126.27	21.10
83/ 9/23	2445600.5	-0.94949	1.20904	0.58043	-18.82683	-11.05340	-4.56902	1.64323	22.30478	128.14	20.68
83/ 9/27	2445604.5	-0.99247	1.18287	0.56957	-18.37936	-11.60455	-4.83401	1.64578	22.26733	130.00	20.25
83/10/ 1	2445608.5	-1.03439	1.15544	0.55810	-17.91442	-12.14093	-5.09269	1.64818	22.23205	131.84	19.79

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83/10/ 5	2445612.5	-1.07523	1.12679	0.54604	-17.43255	-12.66223	-5.34490	1.65043	22.19896	133.66	19.32
83/10/ 9	2445616.5	-1.11493	1.09695	0.53341	-16.93425	-13.16817	-5.59049	1.65254	22.16806	135.47	18.83
83/10/13	2445620.5	-1.15346	1.06596	0.52022	-16.42005	-13.65845	-5.82933	1.65449	22.13938	137.26	18.33
83/10/17	2445624.5	-1.19078	1.03385	0.50648	-15.89047	-14.13281	-6.06127	1.65630	22.11294	139.04	17.81
83/10/21	2445628.5	-1.22686	1.00067	0.49222	-15.34601	-14.59098	-6.28617	1.65796	22.08874	140.80	17.27
83/10/25	2445632.5	-1.26167	0.96645	0.47744	-14.78718	-15.03271	-6.50392	1.65946	22.06681	142.55	16.72
83/10/29	2445636.5	-1.29518	0.93123	0.46217	-14.21449	-15.45775	-6.71438	1.66080	22.04714	144.28	16.16
83/11/ 2	2445640.5	-1.32734	0.89504	0.44643	-13.62843	-15.86586	-6.91742	1.66199	22.02976	146.01	15.58
83/11/ 6	2445644.5	-1.35813	0.85793	0.43022	-13.02950	-16.25681	-7.11293	1.66303	22.01467	147.72	14.99
83/11/10	2445648.5	-1.38753	0.81994	0.41357	-12.41821	-16.63036	-7.30079	1.66391	22.00187	149.42	14.39
83/11/14	2445652.5	-1.41550	0.78111	0.39649	-11.79504	-16.98630	-7.48088	1.66463	21.99138	151.11	13.78
83/11/18	2445656.5	-1.44202	0.74147	0.37901	-11.16049	-17.32440	-7.65308	1.66519	21.98320	152.79	13.16
83/11/22	2445660.5	-1.46706	0.70108	0.36114	-10.51505	-17.64445	-7.81730	1.66559	21.97733	154.46	12.52
83/11/26	2445664.5	-1.49059	0.65996	0.34290	-9.85921	-17.94624	-7.97341	1.66583	21.97377	156.12	11.88
83/11/30	2445668.5	-1.51260	0.61817	0.32431	-9.19346	-18.22956	-8.12131	1.66592	21.97254	157.77	11.23
83/12/ 4	2445672.5	-1.53306	0.57575	0.30538	-8.51831	-18.49422	-8.26089	1.66584	21.97362	159.42	10.56
83/12/ 8	2445676.5	-1.55195	0.53274	0.28614	-7.83424	-18.74000	-8.39205	1.66561	21.97702	161.05	9.89
83/12/12	2445680.5	-1.56925	0.48918	0.26661	-7.14175	-18.96672	-8.51468	1.66521	21.98274	162.69	9.21
83/12/16	2445684.5	-1.58495	0.44512	0.24681	-6.44135	-19.17418	-8.62869	1.66466	21.99078	164.31	8.53
83/12/20	2445688.5	-1.59901	0.40060	0.22675	-5.73353	-19.36218	-8.73396	1.66395	22.00112	165.94	7.83
83/12/24	2445692.5	-1.61143	0.35568	0.20646	-5.01881	-19.53054	-8.83040	1.66308	22.01378	167.55	7.13
83/12/28	2445696.5	-1.62219	0.31038	0.18596	-4.29769	-19.67907	-8.91791	1.66206	22.02873	169.17	6.42
84/ 1/ 1	2445700.5	-1.63128	0.26477	0.16527	-3.57069	-19.80758	-8.99639	1.66087	22.04598	170.78	5.71
84/ 1/ 5	2445704.5	-1.63869	0.21888	0.14440	-2.83834	-19.91589	-9.06574	1.65953	22.06550	172.39	4.99
84/ 1/ 9	2445708.5	-1.64439	0.17276	0.12339	-2.10117	-20.00382	-9.12587	1.65804	22.08731	174.00	4.27
84/ 1/13	2445712.5	-1.64839	0.12647	0.10224	-1.35972	-20.07119	-9.17667	1.65639	22.11137	175.61	3.54
84/ 1/17	2445716.5	-1.65067	0.08004	0.08099	-0.61453	-20.11783	-9.21805	1.65460	22.13768	177.22	2.81
84/ 1/21	2445720.5	-1.65123	0.03354	0.05966	0.13384	-20.14356	-9.24993	1.65265	22.16624	178.84	2.07
84/ 1/25	2445724.5	-1.65005	-0.01301	0.03826	0.88482	-20.14822	-9.27220	1.65055	22.19701	180.45	1.33
84/ 1/29	2445728.5	-1.64714	-0.05954	0.01683	1.63784	-20.13164	-9.28478	1.64830	22.22999	182.07	0.58
84/ 2/ 2	2445732.5	-1.64248	-0.10601	-0.00463	2.39231	-20.09366	-9.28757	1.64591	22.26516	183.69	-0.16
84/ 2/ 6	2445736.5	-1.63609	-0.15236	-0.02608	3.14763	-20.03412	-9.28049	1.64337	22.30249	185.32	-0.91
84/ 2/10	2445740.5	-1.62794	-0.19856	-0.04750	3.90319	-19.95288	-9.26345	1.64069	22.34198	186.95	-1.66
84/ 2/14	2445744.5	-1.61805	-0.24454	-0.06887	4.65836	-19.84979	-9.23637	1.63787	22.38359	188.59	-2.41
84/ 2/18	2445748.5	-1.60642	-0.29025	-0.09017	5.41250	-19.72470	-9.19917	1.63492	22.42730	190.24	-3.16
84/ 2/22	2445752.5	-1.59304	-0.33565	-0.11137	6.16495	-19.57749	-9.15177	1.63183	22.47308	191.90	-3.91
84/ 2/26	2445756.5	-1.57794	-0.38069	-0.13244	6.91504	-19.40803	-9.09409	1.62860	22.52092	193.56	-4.66
84/ 3/ 1	2445760.5	-1.56110	-0.42531	-0.15338	7.66209	-19.21620	-9.02607	1.62525	22.57077	195.24	-5.42
84/ 3/ 5	2445764.5	-1.54254	-0.46946	-0.17414	8.40539	-19.00190	-8.94762	1.62177	22.62262	196.93	-6.16
84/ 3/ 9	2445768.5	-1.52226	-0.51309	-0.19471	9.14421	-18.76503	-8.85870	1.61817	22.67641	198.63	-6.91
84/ 3/13	2445772.5	-1.50029	-0.55614	-0.21506	9.87781	-18.50551	-8.75924	1.61444	22.73213	200.34	-7.66
84/ 3/17	2445776.5	-1.47663	-0.59857	-0.23517	10.60544	-18.22327	-8.64919	1.61060	22.78972	202.07	-8.40
84/ 3/21	2445780.5	-1.45130	-0.64032	-0.25502	11.32630	-17.91825	-8.52851	1.60664	22.84916	203.81	-9.13
84/ 3/25	2445784.5	-1.42430	-0.68134	-0.27457	12.03961	-17.59040	-8.39714	1.60258	22.91040	205.56	-9.87
84/ 3/29	2445788.5	-1.39568	-0.72158	-0.29380	12.74453	-17.23971	-8.25506	1.59841	22.97339	207.34	-10.59

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84/ 4/ 2	2445792.5	-1.36543	-0.76098	-0.31270	13.44023	-16.86616	-8.10224	1.59413	23.03809	209.13	-11.31
84/ 4/ 6	2445796.5	-1.33358	-0.79949	-0.33123	14.12584	-16.46976	-7.93867	1.58976	23.10444	210.94	-12.03
84/ 4/10	2445800.5	-1.30017	-0.83706	-0.34937	14.80048	-16.05057	-7.76433	1.58530	23.17239	212.77	-12.73
84/ 4/14	2445804.5	-1.26521	-0.87363	-0.36710	15.46324	-15.60862	-7.57923	1.58074	23.24189	214.63	-13.43
84/ 4/18	2445808.5	-1.22873	-0.90916	-0.38438	16.11318	-15.14401	-7.38339	1.57610	23.31288	216.50	-14.12
84/ 4/22	2445812.5	-1.19077	-0.94358	-0.40120	16.74937	-14.65686	-7.17683	1.57139	23.38529	218.39	-14.79
84/ 4/26	2445816.5	-1.15136	-0.97686	-0.41753	17.37083	-14.14729	-6.95959	1.56659	23.45906	220.31	-15.46
84/ 4/30	2445820.5	-1.11052	-1.00893	-0.43335	17.97657	-13.61550	-6.73172	1.56173	23.53413	222.26	-16.11
84/ 5/ 4	2445824.5	-1.06831	-1.03975	-0.44863	18.56559	-13.06168	-6.49329	1.55680	23.61041	224.22	-16.75
84/ 5/ 8	2445828.5	-1.02476	-1.06926	-0.46334	19.13685	-12.48608	-6.24440	1.55182	23.68784	226.22	-17.37
84/ 5/12	2445832.5	-0.97991	-1.09742	-0.47747	19.68931	-11.88899	-5.98513	1.54678	23.76634	228.24	-17.98
84/ 5/16	2445836.5	-0.93380	-1.12418	-0.49099	20.22191	-11.27073	-5.71560	1.54170	23.84582	230.29	-18.57
84/ 5/20	2445840.5	-0.88649	-1.14948	-0.50387	20.73356	-10.63167	-5.43597	1.53658	23.92619	232.36	-19.14
84/ 5/24	2445844.5	-0.83802	-1.17329	-0.51610	21.22319	-9.97222	-5.14640	1.53142	24.00738	234.46	-19.69
84/ 5/28	2445848.5	-0.78845	-1.19554	-0.52764	21.68968	-9.29284	-4.84705	1.52623	24.08927	236.60	-20.23
84/ 6/ 1	2445852.5	-0.73783	-1.21621	-0.53849	22.13193	-8.59406	-4.53815	1.52103	24.17178	238.76	-20.73
84/ 6/ 5	2445856.5	-0.68621	-1.23524	-0.54860	22.54882	-7.87643	-4.21991	1.51580	24.25479	240.95	-21.22
84/ 6/ 9	2445860.5	-0.63367	-1.25259	-0.55798	22.93923	-7.14059	-3.89261	1.51058	24.33822	243.17	-21.68
84/ 6/13	2445864.5	-0.58025	-1.26821	-0.56658	23.30205	-6.38721	-3.55652	1.50535	24.42193	245.41	-22.11
84/ 6/17	2445868.5	-0.52602	-1.28208	-0.57440	23.63616	-5.61704	-3.21194	1.50013	24.50583	247.69	-22.51
84/ 6/21	2445872.5	-0.47106	-1.29415	-0.58142	23.94045	-4.83088	-2.85924	1.49492	24.58979	250.00	-22.89
84/ 6/25	2445876.5	-0.41543	-1.30439	-0.58761	24.21382	-4.02961	-2.49876	1.48973	24.67369	252.33	-23.23
84/ 6/29	2445880.5	-0.35921	-1.31276	-0.59296	24.45521	-3.21415	-2.13091	1.48458	24.75740	254.70	-23.54
84/ 7/ 3	2445884.5	-0.30247	-1.31923	-0.59745	24.66355	-2.38550	-1.75613	1.47946	24.84080	257.09	-23.82
84/ 7/ 7	2445888.5	-0.24528	-1.32377	-0.60106	24.83781	-1.54475	-1.37488	1.47439	24.92375	259.50	-24.06
84/ 7/11	2445892.5	-0.18774	-1.32636	-0.60379	24.97698	-0.69303	-0.98765	1.46937	25.00611	261.94	-24.26
84/ 7/15	2445896.5	-0.12991	-1.32697	-0.60562	25.08013	0.16845	-0.59497	1.46441	25.08775	264.41	-24.43
84/ 7/19	2445900.5	-0.07188	-1.32558	-0.60654	25.14631	1.03840	-0.19742	1.45952	25.16852	266.90	-24.56
84/ 7/23	2445904.5	-0.01375	-1.32217	-0.60653	25.17468	1.91548	0.20442	1.45471	25.24828	269.40	-24.64
84/ 7/27	2445908.5	0.04440	-1.31672	-0.60559	25.16443	2.79826	0.60991	1.44999	25.32687	271.93	-24.69
84/ 7/31	2445912.5	0.10249	-1.30923	-0.60371	25.11480	3.68526	1.01840	1.44536	25.40417	274.48	-24.69
84/ 8/ 4	2445916.5	0.16041	-1.29969	-0.60089	25.02514	4.57492	1.42918	1.44083	25.48000	277.04	-24.65
84/ 8/ 8	2445920.5	0.21808	-1.28810	-0.59711	24.89485	5.46563	1.84153	1.43641	25.55422	279.61	-24.56
84/ 8/12	2445924.5	0.27540	-1.27444	-0.59238	24.72342	6.35572	2.25470	1.43211	25.62668	282.19	-24.43
84/ 8/16	2445928.5	0.33228	-1.25873	-0.58669	24.51044	7.24345	2.66790	1.42794	25.69722	284.79	-24.26
84/ 8/20	2445932.5	0.38862	-1.24098	-0.58005	24.25559	8.12705	3.08032	1.42390	25.76570	287.39	-24.04
84/ 8/24	2445936.5	0.44432	-1.22119	-0.57246	23.95867	9.00468	3.49113	1.42001	25.83195	289.99	-23.77
84/ 8/28	2445940.5	0.49928	-1.19938	-0.56392	23.61956	9.87448	3.89948	1.41626	25.89584	292.60	-23.46
84/ 9/ 1	2445944.5	0.55341	-1.17557	-0.55444	23.23829	10.73454	4.30449	1.41267	25.95722	295.21	-23.11
84/ 9/ 5	2445948.5	0.60662	-1.14979	-0.54404	22.81501	11.58294	4.70527	1.40925	26.01593	297.82	-22.71
84/ 9/ 9	2445952.5	0.65879	-1.12206	-0.53271	22.34998	12.41774	5.10093	1.40599	26.07185	300.42	-22.26
84/ 9/13	2445956.5	0.70985	-1.09243	-0.52047	21.84361	13.23697	5.49055	1.40292	26.12483	303.02	-21.78
84/ 9/17	2445960.5	0.75969	-1.06092	-0.50735	21.29642	14.03868	5.87322	1.40003	26.17473	305.61	-21.25
84/ 9/21	2445964.5	0.80822	-1.02758	-0.49334	20.70911	14.82092	6.24803	1.39733	26.22145	308.19	-20.67
84/ 9/25	2445968.5	0.85534	-0.99246	-0.47848	20.08247	15.58175	6.61406	1.39482	26.26485	310.76	-20.06

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84/ 9/29	2445972.5	0.90097	-0.95560	-0.46279	19.41746	16.31929	6.97043	1.39252	26.30483	313.31	-19.41
84/10/ 3	2445976.5	0.94503	-0.91707	-0.44629	18.71518	17.03165	7.31625	1.39042	26.34127	315.86	-18.72
84/10/ 7	2445980.5	0.98742	-0.87693	-0.42900	17.97684	17.71702	7.65064	1.38854	26.37408	318.39	-18.00
84/10/11	2445984.5	1.02806	-0.83524	-0.41095	17.20382	18.37365	7.97277	1.38687	26.40317	320.91	-17.24
84/10/15	2445988.5	1.06688	-0.79206	-0.39217	16.39761	18.99983	8.28181	1.38542	26.42846	323.41	-16.44
84/10/19	2445992.5	1.10380	-0.74748	-0.37269	15.55982	19.59397	8.57699	1.38419	26.44988	325.89	-15.62
84/10/23	2445996.5	1.13875	-0.70156	-0.35255	14.69221	20.15453	8.85756	1.38319	26.46738	328.36	-14.77
84/10/27	2446000.5	1.17166	-0.65438	-0.33178	13.79661	20.68008	9.12281	1.38242	26.48090	330.82	-13.89
84/10/31	2446004.5	1.20247	-0.60604	-0.31041	12.87500	21.16932	9.37208	1.38188	26.49040	333.25	-12.98
84/11/ 4	2446008.5	1.23113	-0.55660	-0.28849	11.92942	21.62102	9.60476	1.38156	26.49587	335.67	-12.05
84/11/ 8	2446012.5	1.25758	-0.50617	-0.26605	10.96201	22.03410	9.82031	1.38148	26.49728	338.08	-11.10
84/11/12	2446016.5	1.28176	-0.45483	-0.24313	9.97500	22.40759	10.01821	1.38163	26.49462	340.46	-10.14
84/11/16	2446020.5	1.30365	-0.40267	-0.21978	8.97065	22.74067	10.19802	1.38201	26.48792	342.84	-9.15
84/11/20	2446024.5	1.32320	-0.34979	-0.19603	7.95129	23.03263	10.35936	1.38262	26.47719	345.19	-8.15
84/11/24	2446028.5	1.34038	-0.29628	-0.17193	6.91932	23.28292	10.50191	1.38346	26.46245	347.54	-7.14
84/11/28	2446032.5	1.35516	-0.24225	-0.14752	5.87711	23.49112	10.62541	1.38452	26.44376	349.86	-6.12
84/12/ 2	2446036.5	1.36753	-0.18778	-0.12285	4.82709	23.65694	10.72967	1.38581	26.42116	352.18	-5.09
84/12/ 6	2446040.5	1.37746	-0.13298	-0.09796	3.77168	23.78025	10.81456	1.38733	26.39471	354.49	-4.05
84/12/10	2446044.5	1.38495	-0.07794	-0.07290	2.71328	23.86105	10.88002	1.38906	26.36449	356.78	-3.01
84/12/14	2446048.5	1.39000	-0.02276	-0.04770	1.65430	23.89947	10.92604	1.39100	26.33059	359.06	-1.97
84/12/18	2446052.5	1.39260	0.03245	-0.02243	0.59709	23.89578	10.95268	1.39315	26.29308	1.34	-0.92
84/12/22	2446056.5	1.39276	0.08761	0.00289	-0.45605	23.85038	10.96007	1.39551	26.25209	3.60	0.12
84/12/26	2446060.5	1.39049	0.14262	0.02820	-1.50283	23.76379	10.94838	1.39807	26.20770	5.86	1.16
84/12/30	2446064.5	1.38582	0.19738	0.05346	-2.54107	23.63665	10.91785	1.40083	26.16004	8.11	2.19
85/ 1/ 3	2446068.5	1.37876	0.25180	0.07863	-3.56863	23.46971	10.86876	1.40377	26.10924	10.35	3.21
85/ 1/ 7	2446072.5	1.36934	0.30579	0.10366	-4.58347	23.26381	10.80145	1.40689	26.05541	12.59	4.23
85/ 1/11	2446076.5	1.35759	0.35926	0.12852	-5.58361	23.01991	10.71631	1.41019	25.99870	14.82	5.23
85/ 1/15	2446080.5	1.34356	0.41212	0.15316	-6.56719	22.73905	10.61375	1.41366	25.93923	17.05	6.22
85/ 1/19	2446084.5	1.32727	0.46429	0.17754	-7.53242	22.42233	10.49424	1.41729	25.87716	19.28	7.20
85/ 1/23	2446088.5	1.30877	0.51569	0.20163	-8.47763	22.07096	10.35829	1.42108	25.81263	21.51	8.16
85/ 1/27	2446092.5	1.28811	0.56624	0.22539	-9.40124	21.68619	10.20642	1.42501	25.74578	23.73	9.10
85/ 1/31	2446096.5	1.26535	0.61586	0.24878	-10.30178	21.26932	10.03921	1.42909	25.67676	25.95	10.03
85/ 2/ 4	2446100.5	1.24053	0.66449	0.27176	-11.17790	20.82170	9.85723	1.43329	25.60574	28.18	10.93
85/ 2/ 8	2446104.5	1.21372	0.71205	0.29431	-12.02834	20.34475	9.66109	1.43762	25.53285	30.40	11.81
85/ 2/12	2446108.5	1.18498	0.75847	0.31639	-12.85195	19.83987	9.45141	1.44207	25.45825	32.62	12.67
85/ 2/16	2446112.5	1.15436	0.80369	0.33797	-13.64770	19.30853	9.22884	1.44662	25.38209	34.85	13.51
85/ 2/20	2446116.5	1.12194	0.84766	0.35902	-14.41465	18.75218	8.99403	1.45127	25.30453	37.07	14.32
85/ 2/24	2446120.5	1.08779	0.89032	0.37952	-15.15198	18.17232	8.74762	1.45601	25.22571	39.30	15.11
85/ 2/28	2446124.5	1.05196	0.93161	0.39943	-15.85895	17.57041	8.49027	1.46084	25.14578	41.53	15.87
85/ 3/ 4	2446128.5	1.01454	0.97148	0.41874	-16.53492	16.94793	8.22266	1.46574	25.06488	43.76	16.60
85/ 3/ 8	2446132.5	0.97559	1.00990	0.43742	-17.17938	16.30636	7.94544	1.47071	24.98316	45.99	17.30
85/ 3/12	2446136.5	0.93519	1.04681	0.45544	-17.79186	15.64716	7.65927	1.47574	24.90077	48.22	17.98
85/ 3/16	2446140.5	0.89341	1.08218	0.47280	-18.37200	14.97177	7.36480	1.48082	24.81783	50.46	18.62
85/ 3/20	2446144.5	0.85033	1.11597	0.48946	-18.91953	14.28161	7.06267	1.48594	24.73448	52.69	19.23
85/ 3/24	2446148.5	0.80602	1.14816	0.50542	-19.43426	13.57807	6.75353	1.49110	24.65085	54.93	19.81

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85/ 3/28	2446152.5	0.76056	1.17870	0.52066	-19.91604	12.86254	6.43800	1.49629	24.56708	57.17	20.36
85/ 4/ 1	2446156.5	0.71402	1.20758	0.53517	-20.36484	12.13633	6.11668	1.50149	24.48328	59.40	20.88
85/ 4/ 5	2446160.5	0.66649	1.23477	0.54892	-20.78066	11.40077	5.79018	1.50671	24.39958	61.64	21.37
85/ 4/ 9	2446164.5	0.61804	1.26025	0.56192	-21.16357	10.65711	5.45909	1.51193	24.31609	63.88	21.82
85/ 4/13	2446168.5	0.56873	1.28400	0.57414	-21.51369	9.90661	5.12398	1.51715	24.23293	66.11	22.24
85/ 4/17	2446172.5	0.51866	1.30601	0.58559	-21.83121	9.15044	4.78539	1.52236	24.15020	68.34	22.62
85/ 4/21	2446176.5	0.46789	1.32628	0.59625	-22.11634	8.38977	4.44387	1.52756	24.06800	70.57	22.97
85/ 4/25	2446180.5	0.41650	1.34477	0.60612	-22.36936	7.62572	4.09993	1.53273	23.98644	72.79	23.29
85/ 4/29	2446184.5	0.36456	1.36151	0.61519	-22.59058	6.85937	3.75409	1.53788	23.90562	75.01	23.58
85/ 5/ 3	2446188.5	0.31215	1.37647	0.62346	-22.78035	6.09177	3.40683	1.54298	23.82562	77.22	23.83
85/ 5/ 7	2446192.5	0.25933	1.38965	0.63093	-22.93903	5.32391	3.05861	1.54805	23.74654	79.43	24.05
85/ 5/11	2446196.5	0.20618	1.40107	0.63759	-23.06704	4.55675	2.70990	1.55307	23.66846	81.63	24.24
85/ 5/15	2446200.5	0.15278	1.41071	0.64345	-23.16482	3.79122	2.36113	1.55803	23.59146	83.82	24.39
85/ 5/19	2446204.5	0.09918	1.41858	0.64850	-23.23281	3.02821	2.01271	1.56294	23.51562	86.00	24.51
85/ 5/23	2446208.5	0.04546	1.42470	0.65275	-23.27150	2.26857	1.66505	1.56778	23.44102	88.17	24.60
85/ 5/27	2446212.5	-0.00832	1.42907	0.65620	-23.28137	1.51310	1.31854	1.57255	23.36772	90.33	24.66
85/ 5/31	2446216.5	-0.06209	1.43170	0.65884	-23.26294	0.76258	0.97354	1.57724	23.29579	92.48	24.69
85/ 6/ 4	2446220.5	-0.11578	1.43260	0.66070	-23.21673	0.01776	0.63042	1.58185	23.22529	94.62	24.69
85/ 6/ 8	2446224.5	-0.16934	1.43178	0.66176	-23.14327	-0.72065	0.28950	1.58638	23.15630	96.75	24.65
85/ 6/12	2446228.5	-0.22269	1.42927	0.66204	-23.04310	-1.45198	-0.04888	1.59082	23.08885	98.86	24.59
85/ 6/16	2446232.5	-0.27579	1.42508	0.66153	-22.91677	-2.17558	-0.38442	1.59516	23.02302	100.95	24.50
85/ 6/20	2446236.5	-0.32856	1.41923	0.66026	-22.76483	-2.89083	-0.71681	1.59941	22.95884	103.03	24.38
85/ 6/24	2446240.5	-0.38095	1.41173	0.65823	-22.58785	-3.59715	-1.04577	1.60355	22.89638	105.10	24.24
85/ 6/28	2446244.5	-0.43290	1.40261	0.65543	-22.38638	-4.29397	-1.37102	1.60758	22.83567	107.15	24.06
85/ 7/ 2	2446248.5	-0.48436	1.39190	0.65189	-22.16098	-4.98076	-1.69232	1.61151	22.77677	109.19	23.86
85/ 7/ 6	2446252.5	-0.53528	1.37961	0.64762	-21.91223	-5.65701	-2.00940	1.61532	22.71971	111.21	23.64
85/ 7/10	2446256.5	-0.58559	1.36577	0.64261	-21.64067	-6.32223	-2.32203	1.61901	22.66453	113.21	23.39
85/ 7/14	2446260.5	-0.63525	1.35041	0.63689	-21.34687	-6.97596	-2.62998	1.62258	22.61127	115.19	23.11
85/ 7/18	2446264.5	-0.68420	1.33355	0.63047	-21.03139	-7.61776	-2.93304	1.62603	22.55997	117.16	22.81
85/ 7/22	2446268.5	-0.73240	1.31522	0.62334	-20.69479	-8.24720	-3.23099	1.62935	22.51066	119.11	22.49
85/ 7/26	2446272.5	-0.77980	1.29545	0.61554	-20.33761	-8.86388	-3.52363	1.63254	22.46337	121.05	22.15
85/ 7/30	2446276.5	-0.82635	1.27428	0.60707	-19.96042	-9.46742	-3.81078	1.63560	22.41812	122.96	21.79
85/ 8/ 3	2446280.5	-0.87201	1.25172	0.59794	-19.56374	-10.05744	-4.09224	1.63852	22.37496	124.86	21.40
85/ 8/ 7	2446284.5	-0.91673	1.22782	0.58817	-19.14814	-10.63359	-4.36785	1.64130	22.33389	126.75	21.00
85/ 8/11	2446288.5	-0.96047	1.20260	0.57776	-18.71413	-11.19554	-4.63743	1.64395	22.29495	128.61	20.58
85/ 8/15	2446292.5	-1.00318	1.17610	0.56674	-18.26227	-11.74295	-4.90081	1.64645	22.25815	130.46	20.13
85/ 8/19	2446296.5	-1.04483	1.14836	0.55512	-17.79307	-12.27551	-5.15785	1.64881	22.22352	132.30	19.67
85/ 8/23	2446300.5	-1.08538	1.11940	0.54292	-17.30706	-12.79293	-5.40838	1.65102	22.19108	134.12	19.20
85/ 8/27	2446304.5	-1.12479	1.08926	0.53014	-16.80476	-13.29491	-5.65226	1.65308	22.16084	135.92	18.71
85/ 8/31	2446308.5	-1.16301	1.05798	0.51681	-16.28669	-13.78118	-5.88935	1.65500	22.13282	137.71	18.20
85/ 9/ 4	2446312.5	-1.20002	1.02560	0.50293	-15.75337	-14.25145	-6.11952	1.65676	22.10703	139.48	17.67
85/ 9/ 8	2446316.5	-1.23579	0.99215	0.48854	-15.20529	-14.70548	-6.34262	1.65837	22.08349	141.24	17.13
85/ 9/12	2446320.5	-1.27027	0.95767	0.47363	-14.64296	-15.14301	-6.55852	1.65983	22.06221	142.99	16.58
85/ 9/16	2446324.5	-1.30343	0.92219	0.45824	-14.06689	-15.56379	-6.76711	1.66113	22.04320	144.72	16.01
85/ 9/20	2446328.5	-1.33525	0.88577	0.44237	-13.47758	-15.96757	-6.96825	1.66228	22.02646	146.44	15.43

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85/ 9/24	2446332.5	-1.36569	0.84843	0.42605	-12.87553	-16.35414	-7.16183	1.66327	22.01202	148.15	14.84
85/ 9/28	2446336.5	-1.39473	0.81022	0.40929	-12.26123	-16.72325	-7.34773	1.66411	21.99986	149.85	14.24
85/10/ 2	2446340.5	-1.42234	0.77118	0.39211	-11.63517	-17.07469	-7.52583	1.66478	21.99001	151.53	13.62
85/10/ 6	2446344.5	-1.44848	0.73134	0.37452	-10.99786	-17.40825	-7.69602	1.66530	21.98246	153.21	13.00
85/10/10	2446348.5	-1.47314	0.69076	0.35656	-10.34978	-17.72370	-7.85819	1.66566	21.97722	154.88	12.36
85/10/14	2446352.5	-1.49629	0.64947	0.33822	-9.69142	-18.02083	-8.01223	1.66586	21.97430	156.54	11.71
85/10/18	2446356.5	-1.51791	0.60751	0.31954	-9.02328	-18.29945	-8.15803	1.66590	21.97368	158.19	11.06
85/10/22	2446360.5	-1.53798	0.56493	0.30054	-8.34585	-18.55934	-8.29548	1.66578	21.97538	159.83	10.39
85/10/26	2446364.5	-1.55646	0.52177	0.28122	-7.65964	-18.80032	-8.42449	1.66551	21.97940	161.47	9.72
85/10/30	2446368.5	-1.57336	0.47808	0.26162	-6.96513	-19.02217	-8.54494	1.66507	21.98572	163.10	9.04
85/11/ 3	2446372.5	-1.58864	0.43390	0.24175	-6.26283	-19.22472	-8.65673	1.66448	21.99436	164.72	8.35
85/11/ 7	2446376.5	-1.60229	0.38927	0.22163	-5.55324	-19.40775	-8.75977	1.66373	22.00529	166.34	7.66
85/11/11	2446380.5	-1.61429	0.34425	0.20128	-4.83688	-19.57110	-8.85395	1.66282	22.01853	167.96	6.95
85/11/15	2446384.5	-1.62463	0.29886	0.18073	-4.11425	-19.71456	-8.93917	1.66175	22.03406	169.58	6.24
85/11/19	2446388.5	-1.63330	0.25317	0.15999	-3.38588	-19.83796	-9.01533	1.66053	22.05187	171.19	5.53
85/11/23	2446392.5	-1.64027	0.20722	0.13908	-2.65229	-19.94111	-9.08234	1.65915	22.07196	172.80	4.81
85/11/27	2446396.5	-1.64555	0.16105	0.11803	-1.91402	-20.02384	-9.14010	1.65762	22.09432	174.41	4.08
85/12/ 1	2446400.5	-1.64911	0.11472	0.09686	-1.17160	-20.08596	-9.18852	1.65593	22.11893	176.02	3.35
85/12/ 5	2446404.5	-1.65096	0.06827	0.07558	-0.42559	-20.12730	-9.22749	1.65410	22.14579	177.63	2.62
85/12/ 9	2446408.5	-1.65108	0.02174	0.05423	0.32346	-20.14769	-9.25693	1.65211	22.17487	179.25	1.88
85/12/13	2446412.5	-1.64946	-0.02481	0.03282	1.07498	-20.14696	-9.27674	1.64998	22.20616	180.86	1.14
85/12/17	2446416.5	-1.64611	-0.07133	0.01138	1.82839	-20.12496	-9.28683	1.64769	22.23965	182.48	0.40
85/12/21	2446420.5	-1.64101	-0.11778	-0.01008	2.58310	-20.08151	-9.28711	1.64527	22.27532	184.11	-0.35
85/12/25	2446424.5	-1.63417	-0.16410	-0.03153	3.33850	-20.01646	-9.27750	1.64269	22.31314	185.73	-1.10
85/12/29	2446428.5	-1.62559	-0.21024	-0.05294	4.09398	-19.92967	-9.25791	1.63998	22.35311	187.37	-1.85
86/ 1/ 2	2446432.5	-1.61526	-0.25616	-0.07429	4.84890	-19.82099	-9.22825	1.63713	22.39518	189.01	-2.60
86/ 1/ 6	2446436.5	-1.60319	-0.30181	-0.09557	5.60263	-19.69028	-9.18846	1.63414	22.43935	190.66	-3.35
86/ 1/10	2446440.5	-1.58937	-0.34712	-0.11674	6.35450	-19.53742	-9.13844	1.63102	22.48558	192.32	-4.10
86/ 1/14	2446444.5	-1.57383	-0.39206	-0.13778	7.10384	-19.36227	-9.07813	1.62777	22.53385	193.99	-4.86
86/ 1/18	2446448.5	-1.55655	-0.43656	-0.15868	7.84995	-19.16473	-9.00745	1.62439	22.58413	195.67	-5.61
86/ 1/22	2446452.5	-1.53756	-0.48059	-0.17939	8.59212	-18.94470	-8.92634	1.62088	22.63638	197.36	-6.35
86/ 1/26	2446456.5	-1.51686	-0.52408	-0.19991	9.32963	-18.70207	-8.83473	1.61725	22.69057	199.06	-7.10
86/ 1/30	2446460.5	-1.49446	-0.56698	-0.22020	10.06173	-18.43677	-8.73258	1.61350	22.74667	200.78	-7.84
86/ 2/ 3	2446464.5	-1.47038	-0.60924	-0.24025	10.78765	-18.14873	-8.61982	1.60963	22.80463	202.51	-8.58
86/ 2/ 7	2446468.5	-1.44462	-0.65082	-0.26002	11.50660	-17.83791	-8.49641	1.60565	22.86442	204.25	-9.32
86/ 2/11	2446472.5	-1.41722	-0.69164	-0.27950	12.21778	-17.50425	-8.36231	1.60156	22.92599	206.01	-10.05
86/ 2/15	2446476.5	-1.38818	-0.73168	-0.29865	12.92037	-17.14774	-8.21750	1.59737	22.98931	207.79	-10.78
86/ 2/19	2446480.5	-1.35753	-0.77086	-0.31746	13.61350	-16.76839	-8.06194	1.59307	23.05431	209.59	-11.49
86/ 2/23	2446484.5	-1.32529	-0.80913	-0.33589	14.29633	-16.36620	-7.89563	1.58868	23.12096	211.41	-12.21
86/ 2/27	2446488.5	-1.29148	-0.84646	-0.35393	14.96795	-15.94123	-7.71856	1.58420	23.18919	213.24	-12.91
86/ 3/ 3	2446492.5	-1.25614	-0.88277	-0.37155	15.62745	-15.49354	-7.53073	1.57963	23.25895	215.10	-13.60
86/ 3/ 7	2446496.5	-1.21929	-0.91802	-0.38872	16.27391	-15.02321	-7.33216	1.57497	23.33019	216.98	-14.29
86/ 3/11	2446500.5	-1.18096	-0.95217	-0.40542	16.90637	-14.53037	-7.12289	1.57024	23.40283	218.88	-14.96
86/ 3/15	2446504.5	-1.14119	-0.98514	-0.42162	17.52384	-14.01517	-6.90295	1.56543	23.47682	220.80	-15.62
86/ 3/19	2446508.5	-1.10000	-1.01690	-0.43730	18.12535	-13.47779	-6.67240	1.56056	23.55207	222.75	-16.27

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86/ 3/23	2446512.5	-1.05745	-1.04740	-0.45244	18.70987	-12.91846	-6.43132	1.55562	23.62853	224.73	-16.91
86/ 3/27	2446516.5	-1.01357	-1.07657	-0.46701	19.27637	-12.33741	-6.17979	1.55063	23.70612	226.73	-17.53
86/ 3/31	2446520.5	-0.96840	-1.10438	-0.48098	19.82380	-11.73496	-5.91792	1.54558	23.78475	228.75	-18.13
86/ 4/ 4	2446524.5	-0.92200	-1.13078	-0.49434	20.35111	-11.11143	-5.64584	1.54049	23.86434	230.81	-18.72
86/ 4/ 8	2446528.5	-0.87439	-1.15571	-0.50706	20.85720	-10.46720	-5.36368	1.53536	23.94481	232.89	-19.28
86/ 4/12	2446532.5	-0.82564	-1.17912	-0.51912	21.34098	-9.80270	-5.07163	1.53020	24.02606	235.00	-19.83
86/ 4/16	2446536.5	-0.77581	-1.20098	-0.53049	21.80136	-9.11841	-4.76986	1.52501	24.10801	237.14	-20.36
86/ 4/20	2446540.5	-0.72493	-1.22124	-0.54115	22.23722	-8.41485	-4.45859	1.51980	24.19055	239.31	-20.86
86/ 4/24	2446544.5	-0.67308	-1.23985	-0.55108	22.64744	-7.69260	-4.13806	1.51458	24.27357	241.50	-21.34
86/ 4/28	2446548.5	-0.62032	-1.25677	-0.56026	23.03092	-6.95231	-3.80853	1.50935	24.35698	243.73	-21.79
86/ 5/ 2	2446552.5	-0.56669	-1.27196	-0.56867	23.38652	-6.19467	-3.47028	1.50413	24.44067	245.99	-22.21
86/ 5/ 6	2446556.5	-0.51228	-1.28538	-0.57629	23.71315	-5.42043	-3.12364	1.49891	24.52451	248.27	-22.61
86/ 5/10	2446560.5	-0.45715	-1.29699	-0.58310	24.00969	-4.63042	-2.76895	1.49371	24.60839	250.58	-22.98
86/ 5/14	2446564.5	-0.40137	-1.30676	-0.58908	24.27505	-3.82552	-2.40660	1.48853	24.69219	252.93	-23.31
86/ 5/18	2446568.5	-0.34502	-1.31465	-0.59421	24.50816	-3.00668	-2.03698	1.48339	24.77578	255.29	-23.61
86/ 5/22	2446572.5	-0.28816	-1.32064	-0.59848	24.70797	-2.17493	-1.66054	1.47828	24.85904	257.69	-23.88
86/ 5/26	2446576.5	-0.23089	-1.32469	-0.60188	24.87347	-1.33135	-1.27775	1.47322	24.94182	260.11	-24.11
86/ 5/30	2446580.5	-0.17327	-1.32678	-0.60438	25.00365	-0.47710	-0.88912	1.46822	25.02400	262.56	-24.31
86/ 6/ 3	2446584.5	-0.11539	-1.32689	-0.60598	25.09758	0.38660	-0.49518	1.46327	25.10544	265.03	-24.46
86/ 6/ 7	2446588.5	-0.05734	-1.32499	-0.60667	25.15435	1.25844	-0.09651	1.45840	25.18599	267.52	-24.58
86/ 6/11	2446592.5	0.00080	-1.32107	-0.60642	25.17310	2.13706	0.30630	1.45361	25.26551	270.03	-24.66
86/ 6/15	2446596.5	0.05894	-1.31511	-0.60525	25.15306	3.02103	0.71260	1.44890	25.34385	272.57	-24.69
86/ 6/19	2446600.5	0.11699	-1.30711	-0.60313	25.09348	3.90884	1.12172	1.44430	25.42086	275.11	-24.68
86/ 6/23	2446604.5	0.17485	-1.29705	-0.60006	24.99372	4.79893	1.53297	1.43979	25.49639	277.68	-24.63
86/ 6/27	2446608.5	0.23244	-1.28494	-0.59605	24.85321	5.68966	1.94560	1.43540	25.57029	280.25	-24.53
86/ 7/ 1	2446612.5	0.28965	-1.27076	-0.59107	24.67146	6.57935	2.35886	1.43112	25.64241	282.84	-24.39
86/ 7/ 5	2446616.5	0.34640	-1.25454	-0.58515	24.44808	7.46625	2.77196	1.42698	25.71259	285.44	-24.21
86/ 7/ 9	2446620.5	0.40258	-1.23627	-0.57827	24.18278	8.34858	3.18408	1.42297	25.78069	288.04	-23.98
86/ 7/13	2446624.5	0.45810	-1.21597	-0.57044	23.87537	9.22449	3.59439	1.41910	25.84655	290.64	-23.70
86/ 7/17	2446628.5	0.51286	-1.19366	-0.56166	23.52579	10.09210	4.00202	1.41538	25.91002	293.25	-23.38
86/ 7/21	2446632.5	0.56676	-1.16935	-0.55195	23.13407	10.94952	4.40609	1.41182	25.97096	295.86	-23.01
86/ 7/25	2446636.5	0.61971	-1.14308	-0.54131	22.70040	11.79480	4.80572	1.40843	26.02922	298.46	-22.60
86/ 7/29	2446640.5	0.67161	-1.11487	-0.52975	22.22506	12.62600	5.20001	1.40521	26.08466	301.07	-22.15
86/ 8/ 2	2446644.5	0.72237	-1.08475	-0.51729	21.70850	13.44116	5.58803	1.40217	26.13714	303.66	-21.65
86/ 8/ 6	2446648.5	0.77188	-1.05278	-0.50394	21.15129	14.23832	5.96888	1.39932	26.18652	306.25	-21.11
86/ 8/10	2446652.5	0.82006	-1.01898	-0.48971	20.55412	15.01553	6.34165	1.39666	26.23270	308.83	-20.53
86/ 8/14	2446656.5	0.86682	-0.98342	-0.47464	19.91784	15.77087	6.70542	1.39419	26.27553	311.39	-19.90
86/ 8/18	2446660.5	0.91206	-0.94613	-0.45874	19.24345	16.50244	7.05930	1.39193	26.31491	313.95	-19.24
86/ 8/22	2446664.5	0.95570	-0.90719	-0.44203	18.53206	17.20838	7.40242	1.38988	26.35073	316.49	-18.54
86/ 8/26	2446668.5	0.99766	-0.86665	-0.42455	17.78493	17.88689	7.73390	1.38803	26.38291	319.02	-17.81
86/ 8/30	2446672.5	1.03785	-0.82457	-0.40631	17.00346	18.53623	8.05290	1.38641	26.41134	321.53	-17.04
86/ 9/ 3	2446676.5	1.07620	-0.78103	-0.38735	16.18918	19.15472	8.35863	1.38501	26.43595	324.03	-16.24
86/ 9/ 7	2446680.5	1.11263	-0.73609	-0.36770	15.34374	19.74076	8.65029	1.38382	26.45667	326.51	-15.41
86/ 9/11	2446684.5	1.14707	-0.68984	-0.34739	14.46889	20.29286	8.92717	1.38287	26.47345	328.98	-14.55
86/ 9/15	2446688.5	1.17946	-0.64236	-0.32647	13.56653	20.80961	9.18855	1.38214	26.48623	331.43	-13.66

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86/ 9/19	2446692.5	1.20973	-0.59372	-0.30495	12.63864	21.28971	9.43380	1.38165	26.49497	333.86	-12.75
86/ 9/23	2446696.5	1.23783	-0.54402	-0.28289	11.68728	21.73199	9.66231	1.38138	26.49966	336.27	-11.82
86/ 9/27	2446700.5	1.26371	-0.49334	-0.26032	10.71463	22.13537	9.87354	1.38135	26.50028	338.67	-10.86
86/10/ 1	2446704.5	1.28732	-0.44178	-0.23729	9.72292	22.49893	10.06700	1.38155	26.49682	341.06	-9.89
86/10/ 5	2446708.5	1.30862	-0.38942	-0.21382	8.71444	22.82187	10.24227	1.38198	26.48930	343.43	-8.90
86/10/ 9	2446712.5	1.32758	-0.33637	-0.18998	7.69153	23.10352	10.39896	1.38264	26.47774	345.78	-7.90
86/10/13	2446716.5	1.34415	-0.28271	-0.16579	6.65658	23.34335	10.53679	1.38353	26.46217	348.12	-6.88
86/10/17	2446720.5	1.35832	-0.22854	-0.14131	5.61200	23.54098	10.65550	1.38465	26.44262	350.45	-5.86
86/10/21	2446724.5	1.37008	-0.17397	-0.11657	4.56021	23.69617	10.75493	1.38599	26.41917	352.76	-4.82
86/10/25	2446728.5	1.37939	-0.11909	-0.09163	3.50362	23.80880	10.83494	1.38755	26.39186	355.07	-3.79
86/10/29	2446732.5	1.38626	-0.06400	-0.06653	2.44464	23.87892	10.89551	1.38933	26.36078	357.36	-2.74
86/11/ 2	2446736.5	1.39069	-0.00880	-0.04131	1.38567	23.90668	10.93663	1.39133	26.32602	359.64	-1.70
86/11/ 6	2446740.5	1.39267	0.04642	-0.01601	0.32905	23.89239	10.95839	1.39353	26.28766	1.91	-0.66
86/11/10	2446744.5	1.39221	0.10156	0.00931	-0.72291	23.83648	10.96092	1.39594	26.24581	4.17	0.38
86/11/14	2446748.5	1.38933	0.15653	0.03462	-1.76796	23.73951	10.94441	1.39855	26.20057	6.43	1.42
86/11/18	2446752.5	1.38405	0.21122	0.05986	-2.80390	23.60213	10.90911	1.40135	26.15208	8.68	2.45
86/11/22	2446756.5	1.37638	0.26555	0.08501	-3.82864	23.42512	10.85533	1.40434	26.10044	10.92	3.47
86/11/26	2446760.5	1.36637	0.31942	0.11000	-4.84013	23.20938	10.78340	1.40751	26.04580	13.16	4.48
86/11/30	2446764.5	1.35403	0.37275	0.13482	-5.83644	22.95586	10.69373	1.41086	25.98829	15.39	5.48
86/12/ 4	2446768.5	1.33942	0.42546	0.15940	-6.81570	22.66563	10.58675	1.41437	25.92805	17.62	6.47
86/12/ 8	2446772.5	1.32256	0.47745	0.18372	-7.77616	22.33982	10.46294	1.41805	25.86522	19.85	7.44
86/12/12	2446776.5	1.30350	0.52865	0.20773	-8.71617	21.97966	10.32280	1.42188	25.79995	22.08	8.40
86/12/16	2446780.5	1.28230	0.57898	0.23140	-9.63419	21.58640	10.16689	1.42585	25.73239	24.30	9.34
86/12/20	2446784.5	1.25901	0.62836	0.25469	-10.52876	21.16137	9.99577	1.42997	25.66269	26.52	10.26
86/12/24	2446788.5	1.23367	0.67673	0.27757	-11.39856	20.70595	9.81002	1.43421	25.59101	28.75	11.16
86/12/28	2446792.5	1.20636	0.72401	0.30001	-12.24235	20.22152	9.61027	1.43858	25.51750	30.97	12.04

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86/12/16	2446780.5	1.28230	0.57898	0.23140	-9.63419	21.58640	10.16689	1.42585	25.73239	24.30	9.34
86/12/20	2446784.5	1.25901	0.62836	0.25469	-10.52876	21.16137	9.99577	1.42997	25.66269	26.52	10.26
86/12/24	2446788.5	1.23367	0.67673	0.27757	-11.39856	20.70595	9.81002	1.43421	25.59101	28.75	11.16
86/12/28	2446792.5	1.20636	0.72401	0.30001	-12.24235	20.22152	9.61027	1.43858	25.51750	30.97	12.04
87/ 1/ 1	2446796.5	1.17713	0.77014	0.32197	-13.05902	19.70954	9.39715	1.44306	25.44230	33.19	12.89
87/ 1/ 5	2446800.5	1.14605	0.81505	0.34342	-13.84756	19.17146	9.17129	1.44764	25.36558	35.42	13.72
87/ 1/ 9	2446804.5	1.11317	0.85870	0.36433	-14.60706	18.60875	8.93334	1.45233	25.28748	37.65	14.53
87/ 1/13	2446808.5	1.07858	0.90101	0.38468	-15.33672	18.02290	8.68398	1.45710	25.20816	39.87	15.31
87/ 1/17	2446812.5	1.04234	0.94195	0.40445	-16.03583	17.41538	8.42384	1.46195	25.12776	42.10	16.06
87/ 1/21	2446816.5	1.00451	0.98146	0.42360	-16.70378	16.78767	8.15361	1.46688	25.04643	44.34	16.78
87/ 1/25	2446820.5	0.96518	1.01950	0.44211	-17.34007	16.14126	7.87394	1.47188	24.96432	46.57	17.48
87/ 1/29	2446824.5	0.92442	1.05603	0.45997	-17.94427	15.47758	7.58549	1.47693	24.88156	48.80	18.15
87/ 2/ 2	2446828.5	0.88230	1.09100	0.47715	-18.51604	14.79808	7.28891	1.48203	24.79829	51.04	18.78
87/ 2/ 6	2446832.5	0.83889	1.12439	0.49364	-19.05513	14.10419	6.98484	1.48717	24.71465	53.27	19.39
87/ 2/10	2446836.5	0.79428	1.15616	0.50942	-19.56136	13.39727	6.67391	1.49234	24.63077	55.51	19.96
87/ 2/14	2446840.5	0.74854	1.18628	0.52447	-20.03462	12.67871	6.35676	1.49755	24.54677	57.75	20.50
87/ 2/18	2446844.5	0.70174	1.21473	0.53879	-20.47487	11.94983	6.03398	1.50276	24.46278	59.99	21.01
87/ 2/22	2446848.5	0.65396	1.24148	0.55235	-20.88214	11.21193	5.70618	1.50799	24.37892	62.22	21.49
87/ 2/26	2446852.5	0.60528	1.26653	0.56515	-21.25652	10.46627	5.37393	1.51322	24.29530	64.46	21.93
87/ 3/ 2	2446856.5	0.55578	1.28984	0.57717	-21.59815	9.71408	5.03781	1.51845	24.21204	66.69	22.34
87/ 3/ 6	2446860.5	0.50552	1.31140	0.58842	-21.90722	8.95654	4.69837	1.52367	24.12925	68.92	22.72
87/ 3/10	2446864.5	0.45458	1.33122	0.59888	-22.18397	8.19480	4.35613	1.52887	24.04702	71.15	23.06
87/ 3/14	2446868.5	0.40304	1.34927	0.60855	-22.42868	7.42998	4.01161	1.53404	23.96546	73.37	23.37
87/ 3/18	2446872.5	0.35098	1.36554	0.61741	-22.64167	6.66314	3.66532	1.53919	23.88467	75.59	23.65
87/ 3/22	2446876.5	0.29846	1.38005	0.62548	-22.82330	5.89532	3.31774	1.54429	23.80473	77.80	23.89
87/ 3/26	2446880.5	0.24555	1.39278	0.63274	-22.97395	5.12750	2.96933	1.54936	23.72574	80.00	24.10
87/ 3/30	2446884.5	0.19233	1.40374	0.63920	-23.09404	4.36064	2.62054	1.55437	23.64777	82.20	24.28
87/ 4/ 3	2446888.5	0.13887	1.41293	0.64485	-23.18401	3.59565	2.27180	1.55932	23.57091	84.39	24.43
87/ 4/ 7	2446892.5	0.08524	1.42036	0.64970	-23.24432	2.83340	1.92352	1.56422	23.49525	86.57	24.54
87/ 4/11	2446896.5	0.03150	1.42603	0.65374	-23.27546	2.07474	1.57612	1.56905	23.42084	88.73	24.62
87/ 4/15	2446900.5	-0.02228	1.42995	0.65698	-23.27791	1.32048	1.22995	1.57381	23.34775	90.89	24.67
87/ 4/19	2446904.5	-0.07603	1.43213	0.65942	-23.25221	0.57136	0.88540	1.57849	23.27607	93.04	24.69
87/ 4/23	2446908.5	-0.12969	1.43259	0.66107	-23.19886	-0.17186	0.54282	1.58308	23.20585	95.17	24.68
87/ 4/27	2446912.5	-0.18320	1.43134	0.66193	-23.11841	-0.90849	0.20253	1.58759	23.13714	97.29	24.64
87/ 5/ 1	2446916.5	-0.23649	1.42840	0.66201	-23.01140	-1.63787	-0.13514	1.59201	23.07001	99.40	24.57
87/ 5/ 5	2446920.5	-0.28950	1.42378	0.66131	-22.87838	-2.35935	-0.46988	1.59634	23.00452	101.49	24.47
87/ 5/ 9	2446924.5	-0.34218	1.41750	0.65984	-22.71991	-3.07232	-0.80140	1.60056	22.94070	103.57	24.35
87/ 5/13	2446928.5	-0.39446	1.40959	0.65761	-22.53654	-3.77621	-1.12942	1.60468	22.87862	105.63	24.19
87/ 5/17	2446932.5	-0.44628	1.40006	0.65463	-22.32884	-4.47047	-1.45367	1.60869	22.81831	107.68	24.01
87/ 5/21	2446936.5	-0.49760	1.38895	0.65090	-22.09736	-5.15455	-1.77388	1.61259	22.75982	109.71	23.81
87/ 5/25	2446940.5	-0.54836	1.37626	0.64643	-21.84267	-5.82797	-2.08982	1.61637	22.70319	111.72	23.57
87/ 5/29	2446944.5	-0.59851	1.36203	0.64124	-21.56533	-6.49024	-2.40125	1.62004	22.64846	113.72	23.32
87/ 6/ 2	2446948.5	-0.64799	1.34628	0.63534	-21.26591	-7.14090	-2.70795	1.62358	22.59567	115.70	23.04
87/ 6/ 6	2446952.5	-0.69675	1.32904	0.62874	-20.94495	-7.77951	-3.00969	1.62700	22.54485	117.67	22.73
87/ 6/10	2446956.5	-0.74474	1.31034	0.62144	-20.60302	-8.40567	-3.30628	1.63029	22.49603	119.61	22.41

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87/ 6/14	2446960.5	-0.79192	1.29021	0.61346	-20.24067	-9.01897	-3.59750	1.63344	22.44924	121.54	22.06
87/ 6/18	2446964.5	-0.83825	1.26868	0.60482	-19.85844	-9.61902	-3.88319	1.63647	22.40452	123.45	21.69
87/ 6/22	2446968.5	-0.88366	1.24578	0.59553	-19.45689	-10.20547	-4.16315	1.63936	22.36189	125.35	21.30
87/ 6/26	2446972.5	-0.92813	1.22154	0.58559	-19.03654	-10.77797	-4.43720	1.64210	22.32137	127.23	20.89
87/ 6/30	2446976.5	-0.97160	1.19600	0.57503	-18.59795	-11.33617	-4.70518	1.64471	22.28298	129.09	20.46
87/ 7/ 4	2446980.5	-1.01404	1.16918	0.56386	-18.14163	-11.87977	-4.96694	1.64718	22.24675	130.94	20.02
87/ 7/ 8	2446984.5	-1.05541	1.14112	0.55209	-17.66812	-12.40844	-5.22230	1.64950	22.21270	132.77	19.55
87/ 7/12	2446988.5	-1.09566	1.11186	0.53973	-17.17794	-12.92189	-5.47112	1.65167	22.18085	134.58	19.07
87/ 7/16	2446992.5	-1.13477	1.08143	0.52681	-16.67161	-13.41984	-5.71326	1.65370	22.15121	136.38	18.58
87/ 7/20	2446996.5	-1.17268	1.04986	0.51334	-16.14965	-13.90201	-5.94858	1.65557	22.12380	138.16	18.06
87/ 7/24	2447000.5	-1.20937	1.01721	0.49933	-15.61256	-14.36813	-6.17693	1.65729	22.09863	139.93	17.54
87/ 7/28	2447004.5	-1.24481	0.98349	0.48481	-15.06085	-14.81793	-6.39819	1.65887	22.07572	141.69	16.99
87/ 8/ 1	2447008.5	-1.27895	0.94876	0.46978	-14.49504	-15.25118	-6.61222	1.66028	22.05507	143.43	16.44
87/ 8/ 5	2447012.5	-1.31177	0.91304	0.45426	-13.91561	-15.66762	-6.81891	1.66154	22.03670	145.16	15.87
87/ 8/ 9	2447016.5	-1.34323	0.87638	0.43828	-13.32307	-16.06703	-7.01813	1.66265	22.02062	146.88	15.28
87/ 8/13	2447020.5	-1.37332	0.83882	0.42184	-12.71792	-16.44915	-7.20975	1.66360	22.00683	148.58	14.69
87/ 8/17	2447024.5	-1.40198	0.80039	0.40497	-12.10064	-16.81378	-7.39366	1.66439	21.99534	150.28	14.08
87/ 8/21	2447028.5	-1.42922	0.76114	0.38769	-11.47174	-17.16068	-7.56976	1.66502	21.98615	151.96	13.46
87/ 8/25	2447032.5	-1.45498	0.72112	0.37000	-10.83170	-17.48964	-7.73791	1.66550	21.97927	153.64	12.84
87/ 8/29	2447036.5	-1.47925	0.68035	0.35194	-10.18102	-17.80045	-7.89802	1.66581	21.97471	155.30	12.20
87/ 9/ 2	2447040.5	-1.50201	0.63889	0.33352	-9.52019	-18.09290	-8.04997	1.66597	21.97246	156.96	11.55
87/ 9/ 6	2447044.5	-1.52323	0.59677	0.31475	-8.84971	-18.36678	-8.19366	1.66597	21.97253	158.61	10.89
87/ 9/10	2447048.5	-1.54289	0.55404	0.29567	-8.17007	-18.62189	-8.32897	1.66580	21.97491	160.25	10.22
87/ 9/14	2447052.5	-1.56097	0.51074	0.27628	-7.48176	-18.85804	-8.45582	1.66548	21.97961	161.88	9.55
87/ 9/18	2447056.5	-1.57746	0.46692	0.25660	-6.78528	-19.07502	-8.57408	1.66500	21.98662	163.51	8.87
87/ 9/22	2447060.5	-1.59232	0.42262	0.23667	-6.08114	-19.27265	-8.68367	1.66436	21.99594	165.14	8.18
87/ 9/26	2447064.5	-1.60555	0.37789	0.21649	-5.36985	-19.45072	-8.78447	1.66357	22.00756	166.76	7.48
87/ 9/30	2447068.5	-1.61712	0.33277	0.19609	-4.65190	-19.60906	-8.87639	1.66261	22.02148	168.37	6.77
87/10/ 4	2447072.5	-1.62704	0.28731	0.17548	-3.92781	-19.74747	-8.95933	1.66150	22.03770	169.99	6.06
87/10/ 8	2447076.5	-1.63527	0.24155	0.15470	-3.19812	-19.86578	-9.03319	1.66023	22.05619	171.60	5.35
87/10/12	2447080.5	-1.64181	0.19554	0.13375	-2.46334	-19.96379	-9.09787	1.65881	22.07696	173.21	4.62
87/10/16	2447084.5	-1.64665	0.14932	0.11267	-1.72401	-20.04133	-9.15328	1.65724	22.10000	174.82	3.90
87/10/20	2447088.5	-1.64977	0.10295	0.09147	-0.98066	-20.09823	-9.19932	1.65551	22.12528	176.43	3.17
87/10/24	2447092.5	-1.65117	0.05648	0.07017	-0.23387	-20.13431	-9.23589	1.65363	22.15281	178.04	2.43
87/10/28	2447096.5	-1.65085	0.00994	0.04880	0.51583	-20.14940	-9.26291	1.65160	22.18256	179.65	1.69
87/11/ 1	2447100.5	-1.64879	-0.03660	0.02738	1.26785	-20.14333	-9.28027	1.64942	22.21451	181.27	0.95
87/11/ 5	2447104.5	-1.64499	-0.08311	0.00593	2.02161	-20.11594	-9.28790	1.64710	22.24867	182.89	0.21
87/11/ 9	2447108.5	-1.63945	-0.12953	-0.01552	2.77653	-20.06707	-9.28570	1.64463	22.28499	184.52	-0.54
87/11/13	2447112.5	-1.63216	-0.17581	-0.03696	3.53199	-19.99657	-9.27358	1.64202	22.32347	186.15	-1.29
87/11/17	2447116.5	-1.62313	-0.22190	-0.05836	4.28738	-19.90428	-9.25147	1.63927	22.36407	187.78	-2.04
87/11/21	2447120.5	-1.61235	-0.26776	-0.07970	5.04205	-19.79007	-9.21926	1.63638	22.40678	189.43	-2.79
87/11/25	2447124.5	-1.59983	-0.31332	-0.10095	5.79537	-19.65379	-9.17690	1.63335	22.45158	191.08	-3.54
87/11/29	2447128.5	-1.58558	-0.35855	-0.12209	6.54666	-19.49533	-9.12429	1.63019	22.49843	192.74	-4.30
87/12/ 3	2447132.5	-1.56959	-0.40338	-0.14310	7.29524	-19.31455	-9.06137	1.62690	22.54730	194.41	-5.05
87/12/ 7	2447136.5	-1.55187	-0.44777	-0.16395	8.04043	-19.11135	-8.98806	1.62348	22.59817	196.09	-5.80

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87/12/11	2447140.5	-1.53244	-0.49167	-0.18462	8.78150	-18.88562	-8.90431	1.61994	22.65101	197.79	-6.54
87/12/15	2447144.5	-1.51130	-0.53501	-0.20508	9.51771	-18.63728	-8.81004	1.61627	22.70577	199.49	-7.29
87/12/19	2447148.5	-1.48847	-0.57776	-0.22532	10.24833	-18.36625	-8.70521	1.61249	22.76243	201.21	-8.03
87/12/23	2447152.5	-1.46396	-0.61985	-0.24530	10.97257	-18.07246	-8.58976	1.60859	22.82094	202.95	-8.77
87/12/27	2447156.5	-1.43778	-0.66124	-0.26500	11.68965	-17.75586	-8.46365	1.60458	22.88126	204.70	-9.51
87/12/31	2447160.5	-1.40995	-0.70187	-0.28439	12.39874	-17.41643	-8.32685	1.60046	22.94335	206.46	-10.24
88/ 1/ 4	2447164.5	-1.38050	-0.74170	-0.30346	13.09903	-17.05414	-8.17931	1.59624	23.00716	208.25	-10.96
88/ 1/ 8	2447168.5	-1.34944	-0.78065	-0.32218	13.78965	-16.66900	-8.02103	1.59192	23.07264	210.05	-11.68
88/ 1/12	2447172.5	-1.31679	-0.81869	-0.34051	14.46973	-16.26103	-7.85198	1.58750	23.13974	211.87	-12.39
88/ 1/16	2447176.5	-1.28259	-0.85577	-0.35845	15.13838	-15.83028	-7.67218	1.58299	23.20842	213.71	-13.09
88/ 1/20	2447180.5	-1.24686	-0.89182	-0.37595	15.79467	-15.37683	-7.48162	1.57840	23.27860	215.57	-13.78
88/ 1/24	2447184.5	-1.20963	-0.92680	-0.39301	16.43767	-14.90077	-7.28033	1.57372	23.35023	217.46	-14.46
88/ 1/28	2447188.5	-1.17092	-0.96065	-0.40958	17.06642	-14.40224	-7.06834	1.56897	23.42325	219.37	-15.13
88/ 2/ 1	2447192.5	-1.13078	-0.99332	-0.42566	17.67994	-13.88138	-6.84569	1.56414	23.49759	221.30	-15.79
88/ 2/ 5	2447196.5	-1.08925	-1.02477	-0.44120	18.27723	-13.33840	-6.61245	1.55925	23.57317	223.25	-16.44
88/ 2/ 9	2447200.5	-1.04635	-1.05493	-0.45620	18.85727	-12.77351	-6.36870	1.55430	23.64994	225.23	-17.07
88/ 2/13	2447204.5	-1.00213	-1.08377	-0.47062	19.41902	-12.18699	-6.11452	1.54929	23.72780	227.24	-17.68
88/ 2/17	2447208.5	-0.95664	-1.11123	-0.48444	19.96144	-11.57913	-5.85004	1.54424	23.80668	229.28	-18.28
88/ 2/21	2447212.5	-0.90992	-1.13725	-0.49764	20.48344	-10.95028	-5.57537	1.53914	23.88649	231.34	-18.86
88/ 2/25	2447216.5	-0.86202	-1.16180	-0.51020	20.98394	-10.30084	-5.29067	1.53400	23.96715	233.43	-19.43
88/ 2/29	2447220.5	-0.81299	-1.18483	-0.52208	21.46186	-9.63125	-4.99612	1.52883	24.04857	235.54	-19.97
88/ 3/ 4	2447224.5	-0.76288	-1.20629	-0.53327	21.91608	-8.94199	-4.69190	1.52364	24.13064	237.69	-20.49
88/ 3/ 8	2447228.5	-0.71174	-1.22613	-0.54375	22.34549	-8.23361	-4.37825	1.51843	24.21326	239.87	-20.98
88/ 3/12	2447232.5	-0.65965	-1.24432	-0.55349	22.74897	-7.50669	-4.05539	1.51321	24.29635	242.07	-21.46
88/ 3/16	2447236.5	-0.60666	-1.26080	-0.56248	23.12542	-6.76191	-3.72360	1.50799	24.37978	244.30	-21.90
88/ 3/20	2447240.5	-0.55283	-1.27555	-0.57069	23.47370	-5.99996	-3.38318	1.50277	24.46344	246.57	-22.32
88/ 3/24	2447244.5	-0.49822	-1.28851	-0.57811	23.79271	-5.22163	-3.03445	1.49756	24.54723	248.86	-22.71
88/ 3/28	2447248.5	-0.44292	-1.29966	-0.58471	24.08135	-4.42774	-2.67778	1.49237	24.63101	251.18	-23.07
88/ 4/ 1	2447252.5	-0.38698	-1.30896	-0.59047	24.33853	-3.61921	-2.31353	1.48721	24.71467	253.53	-23.39
88/ 4/ 5	2447256.5	-0.33049	-1.31637	-0.59539	24.56319	-2.79701	-1.94214	1.48207	24.79809	255.91	-23.69
88/ 4/ 9	2447260.5	-0.27352	-1.32187	-0.59944	24.75427	-1.96216	-1.56405	1.47698	24.88112	258.31	-23.94
88/ 4/13	2447264.5	-0.21614	-1.32543	-0.60261	24.91078	-1.11578	-1.17973	1.47194	24.96365	260.74	-24.17
88/ 4/17	2447268.5	-0.15845	-1.32702	-0.60489	25.03172	-0.25905	-0.78971	1.46696	25.04552	263.19	-24.35
88/ 4/21	2447272.5	-0.10052	-1.32662	-0.60626	25.11617	0.60680	-0.39453	1.46204	25.12660	265.67	-24.50
88/ 4/25	2447276.5	-0.04243	-1.32421	-0.60671	25.16324	1.48043	0.00523	1.45720	25.20675	268.16	-24.60
88/ 4/29	2447280.5	0.01572	-1.31977	-0.60623	25.17208	2.36048	0.40896	1.45243	25.28582	270.68	-24.67
88/ 5/ 3	2447284.5	0.07384	-1.31330	-0.60481	25.14193	3.24547	0.81600	1.44776	25.36367	273.22	-24.69
88/ 5/ 7	2447288.5	0.13185	-1.30477	-0.60246	25.07208	4.13391	1.22568	1.44318	25.44014	275.77	-24.67
88/ 5/11	2447292.5	0.18965	-1.29420	-0.59915	24.96190	5.02420	1.63730	1.43871	25.51509	278.34	-24.61
88/ 5/15	2447296.5	0.24715	-1.28156	-0.59489	24.81084	5.91469	2.05011	1.43436	25.58836	280.92	-24.50
88/ 5/19	2447300.5	0.30426	-1.26687	-0.58968	24.61843	6.80370	2.46334	1.43012	25.65981	283.50	-24.35
88/ 5/23	2447304.5	0.36087	-1.25013	-0.58351	24.38432	7.68945	2.87620	1.42602	25.72927	286.10	-24.15
88/ 5/27	2447308.5	0.41689	-1.23135	-0.57639	24.10824	8.57015	3.28786	1.42205	25.79660	288.70	-23.91
88/ 5/31	2447312.5	0.47222	-1.21054	-0.56832	23.79003	9.44395	3.69748	1.41823	25.86165	291.31	-23.62
88/ 6/ 4	2447316.5	0.52677	-1.18772	-0.55931	23.42966	10.30896	4.10420	1.41456	25.92427	293.92	-23.29

1.4 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — MARS

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88/ 6/ 8	2447320.5	0.58044	-1.16291	-0.54936	23.02719	11.16328	4.50714	1.41106	25.98432	296.53	-22.91
88/ 6/12	2447324.5	0.63313	-1.13615	-0.53849	22.58285	12.00496	4.90540	1.40772	26.04164	299.13	-22.49
88/ 6/16	2447328.5	0.68475	-1.10746	-0.52670	22.09697	12.83206	5.29807	1.40455	26.09611	301.73	-22.02
88/ 6/20	2447332.5	0.73520	-1.07687	-0.51401	21.57000	13.64261	5.68426	1.40156	26.14759	304.32	-21.51
88/ 6/24	2447336.5	0.78438	-1.04444	-0.50044	21.00257	14.43466	6.06304	1.39877	26.19595	306.91	-20.96
88/ 6/28	2447340.5	0.83221	-1.01020	-0.48601	20.39540	15.20628	6.43350	1.39616	26.24106	309.48	-20.37
88/ 7/ 2	2447344.5	0.87859	-0.97420	-0.47072	19.74938	15.95555	6.79475	1.39376	26.28281	312.05	-19.74
88/ 7/ 6	2447348.5	0.92343	-0.93649	-0.45462	19.06554	16.68058	7.14588	1.39155	26.32110	314.60	-19.07
88/ 7/10	2447352.5	0.96665	-0.89715	-0.43772	18.34503	17.37953	7.48602	1.38956	26.35581	317.14	-18.36
88/ 7/14	2447356.5	1.00816	-0.85622	-0.42004	17.58914	18.05060	7.81432	1.38778	26.38685	319.66	-17.62
88/ 7/18	2447360.5	1.04789	-0.81377	-0.40162	16.79931	18.69208	8.12994	1.38621	26.41414	322.17	-16.84
88/ 7/22	2447364.5	1.08575	-0.76988	-0.38249	15.97710	19.30232	8.43209	1.38487	26.43761	324.66	-16.03
88/ 7/26	2447368.5	1.12168	-0.72461	-0.36267	15.12417	19.87973	8.71999	1.38375	26.45719	327.14	-15.19
88/ 7/30	2447372.5	1.15561	-0.67805	-0.34221	14.24234	20.42286	8.99293	1.38286	26.47282	329.60	-14.33
88/ 8/ 3	2447376.5	1.18747	-0.63028	-0.32113	13.33350	20.93032	9.25022	1.38219	26.48446	332.04	-13.43
88/ 8/ 7	2447380.5	1.21720	-0.58137	-0.29948	12.39966	21.40084	9.49123	1.38176	26.49209	334.47	-12.52
88/ 8/11	2447384.5	1.24474	-0.53143	-0.27729	11.44291	21.83328	9.71537	1.38155	26.49567	336.88	-11.58
88/ 8/15	2447388.5	1.27005	-0.48053	-0.25461	10.46544	22.22661	9.92211	1.38158	26.49521	339.28	-10.62
88/ 8/19	2447392.5	1.29308	-0.42876	-0.23146	9.46948	22.57993	10.11099	1.38184	26.49069	341.66	-9.64
88/ 8/23	2447396.5	1.31379	-0.37623	-0.20791	8.45735	22.89248	10.28158	1.38233	26.48213	344.02	-8.65
88/ 8/27	2447400.5	1.33215	-0.32302	-0.18397	7.43140	23.16362	10.43353	1.38304	26.46956	346.37	-7.64
88/ 8/31	2447404.5	1.34812	-0.26924	-0.15971	6.39400	23.39286	10.56656	1.38399	26.45300	348.71	-6.63
88/ 9/ 4	2447408.5	1.36168	-0.21497	-0.13517	5.34758	23.57986	10.68044	1.38516	26.43252	351.03	-5.60
88/ 9/ 8	2447412.5	1.37282	-0.16032	-0.11038	4.29455	23.72440	10.77501	1.38655	26.40817	353.34	-4.57
88/ 9/12	2447416.5	1.38152	-0.10539	-0.08540	3.23732	23.82642	10.85017	1.38816	26.38001	355.64	-3.53
88/ 9/16	2447420.5	1.38778	-0.05027	-0.06026	2.17830	23.88597	10.90589	1.38999	26.34812	357.93	-2.48
88/ 9/20	2447424.5	1.39159	0.00494	-0.03502	1.11987	23.90327	10.94220	1.39204	26.31259	0.20	-1.44
88/ 9/24	2447428.5	1.39295	0.06014	-0.00972	0.06435	23.87864	10.95918	1.39429	26.27351	2.47	-0.40
88/ 9/28	2447432.5	1.39189	0.11523	0.01560	-0.98595	23.81255	10.95699	1.39674	26.23099	4.73	0.64
88/10/ 2	2447436.5	1.38840	0.17013	0.04089	-2.02881	23.70556	10.93583	1.39939	26.18515	6.99	1.67
88/10/ 6	2447440.5	1.38252	0.22473	0.06611	-3.06205	23.55838	10.89595	1.40223	26.13609	9.23	2.70
88/10/10	2447444.5	1.37427	0.27895	0.09122	-4.08358	23.37180	10.83768	1.40525	26.08394	11.47	3.72
88/10/14	2447448.5	1.36366	0.33269	0.11617	-5.09139	23.14672	10.76138	1.40846	26.02883	13.71	4.73
88/10/18	2447452.5	1.35075	0.38586	0.14092	-6.08357	22.88414	10.66743	1.41184	25.97091	15.94	5.73
88/10/22	2447456.5	1.33557	0.43839	0.16544	-7.05827	22.58514	10.55630	1.41538	25.91029	18.17	6.71
88/10/26	2447460.5	1.31816	0.49019	0.18969	-8.01378	22.25087	10.42846	1.41908	25.84714	20.40	7.68
88/10/30	2447464.5	1.29856	0.54117	0.21361	-8.94845	21.88254	10.28444	1.42294	25.78159	22.62	8.63
88/11/ 3	2447468.5	1.27683	0.59127	0.23719	-9.86078	21.48146	10.12478	1.42694	25.71379	24.85	9.57
88/11/ 7	2447472.5	1.25302	0.64040	0.26038	-10.74933	21.04894	9.95005	1.43107	25.64390	27.07	10.48
88/11/11	2447476.5	1.22718	0.68850	0.28315	-11.61282	20.58636	9.76085	1.43533	25.57206	29.29	11.38
88/11/15	2447480.5	1.19938	0.73549	0.30547	-12.45003	20.09514	9.55780	1.43972	25.49842	31.52	12.25
88/11/19	2447484.5	1.16968	0.78132	0.32730	-13.25987	19.57672	9.34153	1.44421	25.42314	33.74	13.10
88/11/23	2447488.5	1.13814	0.82593	0.34862	-14.04135	19.03255	9.11268	1.44881	25.34637	35.97	13.92
88/11/27	2447492.5	1.10483	0.86924	0.36940	-14.79360	18.46412	8.87191	1.45351	25.26826	38.19	14.72
88/12/ 1	2447496.5	1.06981	0.91122	0.38960	-15.51582	17.87289	8.61987	1.45829	25.18895	40.42	15.50

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88/12/ 5	2447500.5	1.03316	0.95180	0.40922	-16.20735	17.26035	8.35723	1.46315	25.10859	42.65	16.24
88/12/ 9	2447504.5	0.99495	0.99095	0.42821	-16.86759	16.62798	8.08465	1.46809	25.02732	44.88	16.96
88/12/13	2447508.5	0.95525	1.02862	0.44656	-17.49605	15.97725	7.80278	1.47308	24.94530	47.12	17.65
88/12/17	2447512.5	0.91414	1.06476	0.46426	-18.09234	15.30961	7.51229	1.47814	24.86265	49.35	18.31
88/12/21	2447516.5	0.87168	1.09934	0.48127	-18.65612	14.62648	7.21382	1.48324	24.77951	51.59	18.93
88/12/25	2447520.5	0.82797	1.13233	0.49758	-19.18717	13.92929	6.90802	1.48838	24.69602	53.83	19.53
88/12/29	2447524.5	0.78306	1.16369	0.51318	-19.68532	13.21941	6.59552	1.49355	24.61230	56.06	20.10
89/ 1/ 2	2447528.5	0.73704	1.19340	0.52805	-20.15048	12.49821	6.27693	1.49875	24.52849	58.30	20.63
89/ 1/ 6	2447532.5	0.68998	1.22143	0.54218	-20.58262	11.76699	5.95286	1.50397	24.44469	60.54	21.13
89/ 1/10	2447536.5	0.64196	1.24776	0.55555	-20.98180	11.02706	5.62390	1.50919	24.36104	62.77	21.60
89/ 1/14	2447540.5	0.59306	1.27237	0.56816	-21.34810	10.27966	5.29064	1.51442	24.27764	65.01	22.03
89/ 1/18	2447544.5	0.54335	1.29525	0.57999	-21.68169	9.52601	4.95363	1.51964	24.19460	67.24	22.44
89/ 1/22	2447548.5	0.49291	1.31638	0.59104	-21.98275	8.76730	4.61343	1.52484	24.11204	69.47	22.81
89/ 1/26	2447552.5	0.44181	1.33575	0.60130	-22.25154	8.00466	4.27056	1.53003	24.03005	71.70	23.14
89/ 1/30	2447556.5	0.39013	1.35336	0.61077	-22.48836	7.23920	3.92553	1.53520	23.94874	73.92	23.44
89/ 2/ 3	2447560.5	0.33793	1.36920	0.61944	-22.69353	6.47197	3.57885	1.54033	23.86820	76.14	23.71
89/ 2/ 7	2447564.5	0.28530	1.38327	0.62731	-22.86741	5.70401	3.23099	1.54542	23.78852	78.35	23.95
89/ 2/11	2447568.5	0.23230	1.39556	0.63437	-23.01040	4.93628	2.88242	1.55047	23.70978	80.55	24.15
89/ 2/15	2447572.5	0.17900	1.40607	0.64062	-23.12293	4.16974	2.53357	1.55547	23.63209	82.74	24.32
89/ 2/19	2447576.5	0.12549	1.41482	0.64607	-23.20543	3.40529	2.18488	1.56041	23.55550	84.93	24.46
89/ 2/23	2447580.5	0.07181	1.42181	0.65072	-23.25837	2.64380	1.83675	1.56529	23.48010	87.11	24.56
89/ 2/27	2447584.5	0.01805	1.42704	0.65456	-23.28225	1.88610	1.48959	1.57010	23.40597	89.28	24.64
89/ 3/ 3	2447588.5	-0.03574	1.43053	0.65760	-23.27757	1.13298	1.14376	1.57484	23.33317	91.43	24.68
89/ 3/ 7	2447592.5	-0.08948	1.43228	0.65985	-23.24483	0.38521	0.79963	1.57950	23.26177	93.57	24.69
89/ 3/11	2447596.5	-0.14312	1.43231	0.66130	-23.18458	-0.35649	0.45756	1.58408	23.19183	95.71	24.67
89/ 3/15	2447600.5	-0.19658	1.43064	0.66196	-23.09734	-1.09143	0.11786	1.58857	23.12342	97.82	24.63
89/ 3/19	2447604.5	-0.24982	1.42728	0.66185	-22.98368	-1.81895	-0.21913	1.59297	23.05658	99.93	24.55
89/ 3/23	2447608.5	-0.30276	1.42224	0.66095	-22.84413	-2.53841	-0.55312	1.59728	22.99138	102.02	24.44
89/ 3/27	2447612.5	-0.35534	1.41555	0.65929	-22.67926	-3.24921	-0.88382	1.60148	22.92787	104.09	24.31
89/ 3/31	2447616.5	-0.40752	1.40723	0.65687	-22.48962	-3.95078	-1.21094	1.60557	22.86609	106.15	24.15
89/ 4/ 4	2447620.5	-0.45924	1.39731	0.65370	-22.27578	-4.64257	-1.53422	1.60956	22.80609	108.19	23.96
89/ 4/ 8	2447624.5	-0.51043	1.38579	0.64979	-22.03831	-5.32407	-1.85340	1.61344	22.74792	110.22	23.75
89/ 4/12	2447628.5	-0.56104	1.37272	0.64514	-21.77776	-5.99476	-2.16825	1.61720	22.69161	112.23	23.51
89/ 4/16	2447632.5	-0.61103	1.35810	0.63977	-21.49469	-6.65419	-2.47853	1.62084	22.63721	114.22	23.25
89/ 4/20	2447636.5	-0.66034	1.34198	0.63369	-21.18968	-7.30189	-2.78401	1.62435	22.58474	116.20	22.96
89/ 4/24	2447640.5	-0.70892	1.32438	0.62691	-20.86326	-7.93743	-3.08449	1.62775	22.53425	118.16	22.65
89/ 4/28	2447644.5	-0.75672	1.30532	0.61945	-20.51601	-8.56040	-3.37975	1.63101	22.48577	120.10	22.32
89/ 5/ 2	2447648.5	-0.80369	1.28483	0.61130	-20.14847	-9.17041	-3.66961	1.63414	22.43933	122.03	21.97
89/ 5/ 6	2447652.5	-0.84980	1.26296	0.60249	-19.76120	-9.76707	-3.95387	1.63714	22.39495	123.94	21.59
89/ 5/10	2447656.5	-0.89498	1.23972	0.59304	-19.35473	-10.35004	-4.23236	1.63999	22.35267	125.83	21.20
89/ 5/14	2447660.5	-0.93921	1.21515	0.58294	-18.92961	-10.91895	-4.50490	1.64272	22.31250	127.70	20.79
89/ 5/18	2447664.5	-0.98243	1.18928	0.57223	-18.48637	-11.47349	-4.77132	1.64529	22.27448	129.56	20.35
89/ 5/22	2447668.5	-1.02461	1.16215	0.56090	-18.02555	-12.01333	-5.03147	1.64773	22.23862	131.40	19.90
89/ 5/26	2447672.5	-1.06570	1.13378	0.54899	-17.54767	-12.53817	-5.28518	1.65002	22.20495	133.23	19.43
89/ 5/30	2447676.5	-1.10567	1.10423	0.53649	-17.05326	-13.04771	-5.53232	1.65216	22.17347	135.04	18.95

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89/ 6/ 3	2447680.5	-1.14448	1.07351	0.52343	-16.54283	-13.54167	-5.77274	1.65416	22.14422	136.83	18.45
89/ 6/ 7	2447684.5	-1.18209	1.04167	0.50982	-16.01689	-14.01978	-6.00629	1.65600	22.11720	138.61	17.93
89/ 6/11	2447688.5	-1.21847	1.00875	0.49568	-15.47597	-14.48176	-6.23285	1.65769	22.09243	140.38	17.40
89/ 6/15	2447692.5	-1.25359	0.97477	0.48103	-14.92057	-14.92737	-6.45227	1.65923	22.06992	142.13	16.85
89/ 6/19	2447696.5	-1.28740	0.93979	0.46588	-14.35119	-15.35635	-6.66444	1.66062	22.04969	143.87	16.29
89/ 6/23	2447700.5	-1.31988	0.90384	0.45024	-13.76833	-15.76846	-6.86923	1.66184	22.03174	145.60	15.72
89/ 6/27	2447704.5	-1.35100	0.86695	0.43415	-13.17249	-16.16347	-7.06651	1.66292	22.01608	147.31	15.13
89/ 7/ 1	2447708.5	-1.38073	0.82917	0.41760	-12.56417	-16.54114	-7.25617	1.66383	22.00272	149.01	14.54
89/ 7/ 5	2447712.5	-1.40905	0.79054	0.40063	-11.94386	-16.90126	-7.43810	1.66459	21.99167	150.71	13.93
89/ 7/ 9	2447716.5	-1.43591	0.75109	0.38324	-11.31206	-17.24360	-7.61217	1.66519	21.98294	152.39	13.31
89/ 7/13	2447720.5	-1.46130	0.71088	0.36546	-10.66925	-17.56795	-7.77827	1.66563	21.97652	154.06	12.67
89/ 7/17	2447724.5	-1.48520	0.66994	0.34731	-10.01594	-17.87410	-7.93631	1.66591	21.97242	155.72	12.03
89/ 7/21	2447728.5	-1.50757	0.62831	0.32880	-9.35260	-18.16183	-8.08616	1.66603	21.97064	157.38	11.38
89/ 7/25	2447732.5	-1.52840	0.58604	0.30995	-8.67974	-18.43095	-8.22771	1.66599	21.97119	159.02	10.72
89/ 7/29	2447736.5	-1.54767	0.54316	0.29079	-7.99785	-18.68125	-8.36088	1.66579	21.97405	160.66	10.05
89/ 8/ 2	2447740.5	-1.56535	0.49974	0.27133	-7.30742	-18.91253	-8.48554	1.66544	21.97923	162.29	9.38
89/ 8/ 6	2447744.5	-1.58143	0.45580	0.25159	-6.60896	-19.12461	-8.60160	1.66492	21.98674	163.92	8.69
89/ 8/10	2447748.5	-1.59588	0.41139	0.23159	-5.90297	-19.31728	-8.70896	1.66424	21.99655	165.54	8.00
89/ 8/14	2447752.5	-1.60869	0.36656	0.21136	-5.18996	-19.49036	-8.80751	1.66341	22.00868	167.16	7.30
89/ 8/18	2447756.5	-1.61985	0.32135	0.19091	-4.47043	-19.64366	-8.89716	1.66242	22.02311	168.78	6.59
89/ 8/22	2447760.5	-1.62934	0.27581	0.17026	-3.74490	-19.77699	-8.97780	1.66127	22.03983	170.39	5.88
89/ 8/26	2447764.5	-1.63715	0.22999	0.14943	-3.01389	-19.89017	-9.04934	1.65997	22.05885	172.00	5.16
89/ 8/30	2447768.5	-1.64327	0.18393	0.12845	-2.27793	-19.98302	-9.11167	1.65851	22.08014	173.61	4.44
89/ 9/ 3	2447772.5	-1.64767	0.13768	0.10734	-1.53756	-20.05537	-9.16472	1.65690	22.10371	175.22	3.71
89/ 9/ 7	2447776.5	-1.65037	0.09128	0.08612	-0.79333	-20.10703	-9.20837	1.65513	22.12953	176.83	2.98
89/ 9/11	2447780.5	-1.65134	0.04479	0.06480	-0.04578	-20.13783	-9.24254	1.65321	22.15759	178.45	2.25
89/ 9/15	2447784.5	-1.65058	-0.00174	0.04342	0.70453	-20.14760	-9.26713	1.65115	22.18788	180.06	1.51
89/ 9/19	2447788.5	-1.64808	-0.04828	0.02199	1.45701	-20.13619	-9.28204	1.64893	22.22038	181.68	0.76
89/ 9/23	2447792.5	-1.64384	-0.09476	0.00054	2.21109	-20.10342	-9.28720	1.64657	22.25508	183.30	0.02
89/ 9/27	2447796.5	-1.63786	-0.14115	-0.02091	2.96616	-20.04913	-9.28252	1.64407	22.29195	184.93	-0.73
89/10/ 1	2447800.5	-1.63014	-0.18738	-0.04234	3.72163	-19.97319	-9.26789	1.64142	22.33098	186.56	-1.48
89/10/ 5	2447804.5	-1.62067	-0.23341	-0.06372	4.47686	-19.87543	-9.24325	1.63863	22.37214	188.20	-2.23
89/10/ 9	2447808.5	-1.60945	-0.27920	-0.08504	5.23122	-19.75572	-9.20851	1.63570	22.41541	189.84	-2.98
89/10/13	2447812.5	-1.59650	-0.32468	-0.10626	5.98407	-19.61392	-9.16359	1.63264	22.46077	191.50	-3.73
89/10/17	2447816.5	-1.58181	-0.36980	-0.12737	6.73472	-19.44990	-9.10842	1.62945	22.50818	193.16	-4.48
89/10/21	2447820.5	-1.56538	-0.41452	-0.14834	7.48251	-19.26355	-9.04291	1.62612	22.55762	194.83	-5.23
89/10/25	2447824.5	-1.54724	-0.45879	-0.16914	8.22672	-19.05475	-8.96700	1.62267	22.60906	196.52	-5.98
89/10/29	2447828.5	-1.52738	-0.50255	-0.18976	8.96663	-18.82341	-8.88063	1.61909	22.66245	198.21	-6.73
89/11/ 2	2447832.5	-1.50581	-0.54574	-0.21017	9.70152	-18.56943	-8.78374	1.61539	22.71778	199.92	-7.48
89/11/ 6	2447836.5	-1.48256	-0.58833	-0.23034	10.43061	-18.29275	-8.67627	1.61157	22.77499	201.64	-8.22
89/11/10	2447840.5	-1.45763	-0.63024	-0.25025	11.15315	-17.99330	-8.55817	1.60764	22.83405	203.38	-8.96
89/11/14	2447844.5	-1.43103	-0.67144	-0.26987	11.86832	-17.67104	-8.42941	1.60360	22.89492	205.14	-9.69
89/11/18	2447848.5	-1.40280	-0.71187	-0.28918	12.57531	-17.32593	-8.28993	1.59945	22.95756	206.91	-10.42
89/11/22	2447852.5	-1.37294	-0.75148	-0.30816	13.27329	-16.95797	-8.13973	1.59519	23.02191	208.69	-11.14
89/11/26	2447856.5	-1.34148	-0.79021	-0.32678	13.96140	-16.56716	-7.97877	1.59084	23.08793	210.50	-11.85

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89/11/30	2447860.5	-1.30844	-0.82801	-0.34502	14.63876	-16.15353	-7.80705	1.58639	23.15556	212.33	-12.56
89/12/ 4	2447864.5	-1.27385	-0.86483	-0.36285	15.30445	-15.71714	-7.62457	1.58186	23.22475	214.17	-13.26
89/12/ 8	2447868.5	-1.23774	-0.90061	-0.38024	15.95757	-15.25806	-7.43134	1.57723	23.29544	216.04	-13.95
89/12/12	2447872.5	-1.20013	-0.93531	-0.39717	16.59717	-14.77641	-7.22738	1.57253	23.36757	217.93	-14.63
89/12/16	2447876.5	-1.16106	-0.96886	-0.41363	17.22228	-14.27230	-7.01273	1.56775	23.44108	219.84	-15.30
89/12/20	2447880.5	-1.12057	-1.00123	-0.42957	17.83192	-13.74592	-6.78744	1.56290	23.51589	221.78	-15.95
89/12/24	2447884.5	-1.07869	-1.03236	-0.44498	18.42509	-13.19745	-6.55157	1.55799	23.59194	223.74	-16.60
89/12/28	2447888.5	-1.03545	-1.06219	-0.45983	19.00075	-12.62714	-6.30521	1.55301	23.66915	225.73	-17.22
90/ 1/ 1	2447892.5	-0.99091	-1.09068	-0.47410	19.55786	-12.03525	-6.04844	1.54799	23.74744	227.74	-17.83
90/ 1/ 5	2447896.5	-0.94510	-1.11778	-0.48777	20.09538	-11.42211	-5.78139	1.54291	23.82674	229.78	-18.43
90/ 1/ 9	2447900.5	-0.89808	-1.14344	-0.50081	20.61222	-10.78807	-5.50420	1.53779	23.90695	231.85	-19.01
90/ 1/13	2447904.5	-0.84988	-1.16761	-0.51319	21.10730	-10.13352	-5.21701	1.53264	23.98799	233.95	-19.56
90/ 1/17	2447908.5	-0.80057	-1.19025	-0.52490	21.57952	-9.45893	-4.92001	1.52746	24.06976	236.07	-20.10
90/ 1/21	2447912.5	-0.75020	-1.21130	-0.53592	22.02777	-8.76479	-4.61339	1.52225	24.15217	238.23	-20.61
90/ 1/25	2447916.5	-0.69882	-1.23073	-0.54621	22.45093	-8.05165	-4.29738	1.51703	24.23511	240.41	-21.10
90/ 1/29	2447920.5	-0.64649	-1.24849	-0.55577	22.84788	-7.32014	-3.97223	1.51180	24.31848	242.62	-21.57
90/ 2/ 2	2447924.5	-0.59327	-1.26454	-0.56456	23.21751	-6.57090	-3.63821	1.50657	24.40218	244.87	-22.01
90/ 2/ 6	2447928.5	-0.53924	-1.27883	-0.57257	23.55870	-5.80468	-3.29564	1.50134	24.48607	247.14	-22.42
90/ 2/10	2447932.5	-0.48444	-1.29134	-0.57978	23.87033	-5.02226	-2.94484	1.49613	24.57006	249.44	-22.80
90/ 2/14	2447936.5	-0.42897	-1.30203	-0.58617	24.15132	-4.22450	-2.58617	1.49093	24.65402	251.76	-23.15
90/ 2/18	2447940.5	-0.37288	-1.31085	-0.59172	24.40057	-3.41231	-2.22003	1.48577	24.73783	254.12	-23.47
90/ 2/22	2447944.5	-0.31626	-1.31778	-0.59642	24.61702	-2.58668	-1.84685	1.48064	24.82135	256.50	-23.75
90/ 2/26	2447948.5	-0.25917	-1.32279	-0.60025	24.79963	-1.74867	-1.46708	1.47555	24.90445	258.91	-24.00
90/ 3/ 2	2447952.5	-0.20170	-1.32585	-0.60319	24.94740	-0.89941	-1.08120	1.47051	24.98701	261.35	-24.22
90/ 3/ 6	2447956.5	-0.14393	-1.32694	-0.60524	25.05935	-0.04008	-0.68974	1.46554	25.06888	263.81	-24.39
90/ 3/10	2447960.5	-0.08594	-1.32603	-0.60638	25.13457	0.82806	-0.29326	1.46063	25.14991	266.29	-24.53
90/ 3/14	2447964.5	-0.02783	-1.32311	-0.60659	25.17216	1.70365	0.10765	1.45580	25.22998	268.80	-24.62
90/ 3/18	2447968.5	0.03033	-1.31816	-0.60588	25.17131	2.58531	0.51237	1.45105	25.30892	271.32	-24.68
90/ 3/22	2447972.5	0.08844	-1.31116	-0.60422	25.13126	3.47155	0.92025	1.44639	25.38659	273.86	-24.69
90/ 3/26	2447976.5	0.14641	-1.30211	-0.60162	25.05132	4.36084	1.33060	1.44183	25.46284	276.42	-24.66
90/ 3/30	2447980.5	0.20416	-1.29101	-0.59807	24.93088	5.25159	1.74270	1.43739	25.53752	278.99	-24.59
90/ 4/ 3	2447984.5	0.26157	-1.27785	-0.59357	24.76941	6.14212	2.15581	1.43305	25.61048	281.57	-24.47
90/ 4/ 7	2447988.5	0.31857	-1.26263	-0.58811	24.56647	7.03073	2.56913	1.42885	25.68157	284.16	-24.31
90/ 4/11	2447992.5	0.37505	-1.24537	-0.58170	24.32172	7.91563	2.98188	1.42477	25.75063	286.76	-24.10
90/ 4/15	2447996.5	0.43091	-1.22606	-0.57434	24.03492	8.79502	3.39323	1.42084	25.81751	289.36	-23.84
90/ 4/19	2448000.5	0.48606	-1.20474	-0.56602	23.70594	9.66704	3.80232	1.41705	25.88206	291.97	-23.54
90/ 4/23	2448004.5	0.54041	-1.18141	-0.55677	23.33478	10.52979	4.20828	1.41342	25.94413	294.58	-23.20
90/ 4/27	2448008.5	0.59385	-1.15609	-0.54658	22.92154	11.38134	4.61024	1.40995	26.00358	297.19	-22.81
90/ 5/ 1	2448012.5	0.64628	-1.12883	-0.53547	22.46647	12.21975	5.00728	1.40665	26.06027	299.79	-22.38
90/ 5/ 5	2448016.5	0.69762	-1.09965	-0.52345	21.96992	13.04308	5.39851	1.40353	26.11405	302.39	-21.90
90/ 5/ 9	2448020.5	0.74776	-1.06858	-0.51054	21.43242	13.84935	5.78301	1.40059	26.16479	304.98	-21.38
90/ 5/13	2448024.5	0.79661	-1.03567	-0.49674	20.85459	14.63662	6.15987	1.39784	26.21237	307.57	-20.82
90/ 5/17	2448028.5	0.84408	-1.00097	-0.48208	20.23721	15.40294	6.52817	1.39528	26.25666	310.14	-20.21
90/ 5/21	2448032.5	0.89008	-0.96452	-0.46658	19.58121	16.14640	6.88701	1.39293	26.29755	312.70	-19.57
90/ 5/25	2448036.5	0.93453	-0.92639	-0.45027	18.88764	16.86513	7.23551	1.39078	26.33492	315.25	-18.89

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90/ 5/29	2448040.5	0.97732	-0.88662	-0.43316	18.15770	17.55730	7.57278	1.38884	26.36869	317.79	-18.17
90/ 6/ 2	2448044.5	1.01839	-0.84529	-0.41529	17.39272	18.22112	7.89799	1.38712	26.39875	320.31	-17.42
90/ 6/ 6	2448048.5	1.05766	-0.80246	-0.39668	16.59417	18.85489	8.21030	1.38562	26.42503	322.81	-16.64
90/ 6/10	2448052.5	1.09504	-0.75820	-0.37737	15.76363	19.45698	8.50892	1.38433	26.44745	325.30	-15.82
90/ 6/14	2448056.5	1.13047	-0.71258	-0.35738	14.90282	20.02583	8.79310	1.38328	26.46595	327.78	-14.97
90/ 6/18	2448060.5	1.16388	-0.66570	-0.33675	14.01357	20.55999	9.06212	1.38245	26.48047	330.23	-14.10
90/ 6/22	2448064.5	1.19520	-0.61762	-0.31552	13.09781	21.05813	9.31530	1.38185	26.49098	332.67	-13.20
90/ 6/26	2448068.5	1.22437	-0.56843	-0.29372	12.15758	21.51899	9.55204	1.38147	26.49745	335.10	-12.28
90/ 6/30	2448072.5	1.25135	-0.51822	-0.27140	11.19500	21.94146	9.77175	1.38134	26.49986	337.50	-11.33
90/ 7/ 4	2448076.5	1.27608	-0.46708	-0.24859	10.21227	22.32454	9.97392	1.38143	26.49820	339.90	-10.37
90/ 7/ 8	2448080.5	1.29852	-0.41510	-0.22533	9.21165	22.66738	10.15810	1.38175	26.49248	342.27	-9.39
90/ 7/12	2448084.5	1.31863	-0.36238	-0.20167	8.19546	22.96923	10.32388	1.38231	26.48271	344.63	-8.39
90/ 7/16	2448088.5	1.33638	-0.30901	-0.17764	7.16608	23.22952	10.47094	1.38309	26.46892	346.98	-7.38
90/ 7/20	2448092.5	1.35173	-0.25509	-0.15330	6.12589	23.44778	10.59899	1.38411	26.45116	349.31	-6.36
90/ 7/24	2448096.5	1.36467	-0.20071	-0.12869	5.07732	23.62371	10.70784	1.38534	26.42947	351.63	-5.33
90/ 7/28	2448100.5	1.37519	-0.14597	-0.10384	4.02278	23.75713	10.79733	1.38681	26.40390	353.94	-4.29
90/ 8/ 1	2448104.5	1.38326	-0.09097	-0.07882	2.96469	23.84800	10.86739	1.38849	26.37454	356.24	-3.25
90/ 8/ 5	2448108.5	1.38888	-0.03582	-0.05365	1.90544	23.89643	10.91800	1.39038	26.34147	358.52	-2.21
90/ 8/ 9	2448112.5	1.39206	0.01940	-0.02839	0.84741	23.90267	10.94921	1.39249	26.30476	0.80	-1.17
90/ 8/13	2448116.5	1.39280	0.07459	-0.00307	-0.20708	23.86706	10.96111	1.39480	26.26453	3.07	-0.13
90/ 8/17	2448120.5	1.39111	0.12965	0.02224	-1.25575	23.79012	10.95389	1.39732	26.22088	5.32	0.91
90/ 8/21	2448124.5	1.38701	0.18448	0.04752	-2.29639	23.67245	10.92775	1.40003	26.17392	7.58	1.95
90/ 8/25	2448128.5	1.38051	0.23899	0.07272	-3.32683	23.51478	10.88298	1.40293	26.12378	9.82	2.97
90/ 8/29	2448132.5	1.37164	0.29309	0.09779	-4.34502	23.31792	10.81990	1.40601	26.07058	12.06	3.99
90/ 9/ 2	2448136.5	1.36044	0.34670	0.12270	-5.34896	23.08282	10.73888	1.40928	26.01445	14.30	4.99
90/ 9/ 6	2448140.5	1.34694	0.39972	0.14740	-6.33675	22.81049	10.64033	1.41271	25.95553	16.53	5.99
90/ 9/10	2448144.5	1.33118	0.45206	0.17185	-7.30660	22.50203	10.52473	1.41631	25.89397	18.76	6.97
90/ 9/14	2448148.5	1.31320	0.50366	0.19601	-8.25681	22.15862	10.39255	1.42006	25.82991	20.98	7.93
90/ 9/18	2448152.5	1.29305	0.55442	0.21985	-9.18576	21.78149	10.24432	1.42397	25.76350	23.21	8.88
90/ 9/22	2448156.5	1.27078	0.60427	0.24333	-10.09198	21.37195	10.08061	1.42801	25.69488	25.43	9.81
90/ 9/26	2448160.5	1.24644	0.65314	0.26642	-10.97406	20.93133	9.90199	1.43219	25.62421	27.65	10.72
90/ 9/30	2448164.5	1.22009	0.70096	0.28907	-11.83074	20.46104	9.70906	1.43650	25.55164	29.88	11.61
90/10/ 4	2448168.5	1.19180	0.74766	0.31127	-12.66084	19.96248	9.50245	1.44092	25.47733	32.10	12.48
90/10/ 8	2448172.5	1.16161	0.79317	0.33297	-13.46330	19.43711	9.28279	1.44545	25.40142	34.33	13.32
90/10/12	2448176.5	1.12961	0.83744	0.35415	-14.23716	18.88640	9.05073	1.45009	25.32407	36.55	14.14
90/10/16	2448180.5	1.09586	0.88041	0.37477	-14.98157	18.31181	8.80692	1.45481	25.24543	38.78	14.93
90/10/20	2448184.5	1.06042	0.92203	0.39483	-15.69577	17.71483	8.55202	1.45963	25.16564	41.01	15.69
90/10/24	2448188.5	1.02336	0.96225	0.41428	-16.37912	17.09694	8.28670	1.46452	25.08486	43.24	16.43
90/10/28	2448192.5	0.98476	1.00101	0.43311	-17.03105	16.45962	8.01162	1.46948	25.00323	45.47	17.14
90/11/ 1	2448196.5	0.94470	1.03828	0.45129	-17.65109	15.80433	7.72743	1.47450	24.92090	47.70	17.82
90/11/ 5	2448200.5	0.90323	1.07402	0.46880	-18.23888	15.13251	7.43480	1.47957	24.83799	49.94	18.47
90/11/ 9	2448204.5	0.86045	1.10819	0.48563	-18.79410	14.44559	7.13436	1.48469	24.75464	52.17	19.09
90/11/13	2448208.5	0.81642	1.14075	0.50176	-19.31656	13.74497	6.82675	1.48984	24.67100	54.41	19.68
90/11/17	2448212.5	0.77123	1.17169	0.51717	-19.80609	13.03204	6.51261	1.49503	24.58718	56.65	20.24
90/11/21	2448216.5	0.72494	1.20096	0.53185	-20.26264	12.30813	6.19255	1.50023	24.50331	58.88	20.76

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90/11/25	2448220.5	0.67763	1.22855	0.54578	-20.68620	11.57456	5.86717	1.50545	24.41952	61.12	21.26
90/11/29	2448224.5	0.62938	1.25443	0.55895	-21.07682	10.83261	5.53706	1.51068	24.33592	63.36	21.72
90/12/ 3	2448228.5	0.58027	1.27859	0.57136	-21.43462	10.08352	5.20280	1.51590	24.25262	65.59	22.14
90/12/ 7	2448232.5	0.53037	1.30101	0.58299	-21.75977	9.32851	4.86493	1.52112	24.16974	67.82	22.54
90/12/11	2448236.5	0.47976	1.32169	0.59383	-22.05247	8.56873	4.52402	1.52633	24.08737	70.05	22.90
90/12/15	2448240.5	0.42851	1.34060	0.60389	-22.31300	7.80531	4.18057	1.53151	24.00562	72.27	23.22
90/12/19	2448244.5	0.37669	1.35775	0.61315	-22.54164	7.03935	3.83510	1.53666	23.92459	74.49	23.52
90/12/23	2448248.5	0.32438	1.37313	0.62161	-22.73874	6.27190	3.48810	1.54178	23.84437	76.71	23.78
90/12/27	2448252.5	0.27166	1.38673	0.62926	-22.90467	5.50396	3.14004	1.54686	23.76504	78.92	24.00
90/12/31	2448256.5	0.21858	1.39856	0.63612	-23.03982	4.73651	2.79138	1.55190	23.68670	81.12	24.20
91/ 1/ 4	2448260.5	0.16523	1.40861	0.64216	-23.14463	3.97049	2.44256	1.55688	23.60942	83.31	24.36
91/ 1/ 8	2448264.5	0.11167	1.41690	0.64740	-23.21955	3.20678	2.09401	1.56180	23.53329	85.49	24.49
91/ 1/12	2448268.5	0.05797	1.42343	0.65184	-23.26504	2.44625	1.74612	1.56666	23.45838	87.67	24.59
91/ 1/16	2448272.5	0.00420	1.42821	0.65547	-23.28161	1.68972	1.39929	1.57144	23.38475	89.83	24.65
91/ 1/20	2448276.5	-0.04958	1.43124	0.65830	-23.26976	0.93796	1.05390	1.57616	23.31249	91.98	24.69
91/ 1/24	2448280.5	-0.10330	1.43255	0.66034	-23.23000	0.19174	0.71030	1.58079	23.24165	94.12	24.69
91/ 1/28	2448284.5	-0.15689	1.43213	0.66159	-23.16287	-0.54824	0.36883	1.58534	23.17229	96.25	24.67
91/ 2/ 1	2448288.5	-0.21030	1.43002	0.66205	-23.06890	-1.28128	0.02983	1.58981	23.10447	98.37	24.61
91/ 2/ 5	2448292.5	-0.26346	1.42622	0.66173	-22.94864	-2.00674	-0.30640	1.59417	23.03825	100.47	24.53
91/ 2/ 9	2448296.5	-0.31631	1.42075	0.66063	-22.80266	-2.72399	-0.63954	1.59845	22.97369	102.55	24.41
91/ 2/13	2448300.5	-0.36879	1.41364	0.65877	-22.63149	-3.43243	-0.96932	1.60261	22.91082	104.62	24.27
91/ 2/17	2448304.5	-0.42085	1.40490	0.65616	-22.43571	-4.13150	-1.29546	1.60668	22.84969	106.68	24.10
91/ 2/21	2448308.5	-0.47244	1.39456	0.65279	-22.21587	-4.82066	-1.61769	1.61063	22.79036	108.71	23.91
91/ 2/25	2448312.5	-0.52348	1.38264	0.64869	-21.97254	-5.49940	-1.93577	1.61447	22.73286	110.74	23.69
91/ 3/ 1	2448316.5	-0.57394	1.36916	0.64385	-21.70628	-6.16721	-2.24945	1.61819	22.67724	112.74	23.45
91/ 3/ 5	2448320.5	-0.62376	1.35415	0.63830	-21.41765	-6.82364	-2.55850	1.62179	22.62352	114.73	23.18
91/ 3/ 9	2448324.5	-0.67288	1.33764	0.63203	-21.10721	-7.46824	-2.86270	1.62527	22.57175	116.70	22.88
91/ 3/13	2448328.5	-0.72126	1.31965	0.62507	-20.77552	-8.10057	-3.16184	1.62863	22.52196	118.66	22.57
91/ 3/17	2448332.5	-0.76885	1.30022	0.61743	-20.42313	-8.72023	-3.45573	1.63185	22.47418	120.60	22.23
91/ 3/21	2448336.5	-0.81561	1.27937	0.60911	-20.05059	-9.32683	-3.74415	1.63494	22.42843	122.52	21.87
91/ 3/25	2448340.5	-0.86148	1.25714	0.60013	-19.65844	-9.92000	-4.02694	1.63790	22.38475	124.42	21.49
91/ 3/29	2448344.5	-0.90642	1.23355	0.59051	-19.24724	-10.49937	-4.30390	1.64072	22.34316	126.31	21.09
91/ 4/ 2	2448348.5	-0.95039	1.20864	0.58025	-18.81752	-11.06461	-4.57488	1.64340	22.30368	128.18	20.68
91/ 4/ 6	2448352.5	-0.99335	1.18244	0.56938	-18.36981	-11.61539	-4.83969	1.64593	22.26634	130.03	20.24
91/ 4/10	2448356.5	-1.03526	1.15498	0.55790	-17.90464	-12.15139	-5.09819	1.64833	22.23115	131.87	19.78
91/ 4/14	2448360.5	-1.07606	1.12631	0.54583	-17.42255	-12.67231	-5.35022	1.65058	22.19814	133.69	19.31
91/ 4/18	2448364.5	-1.11574	1.09644	0.53318	-16.92406	-13.17785	-5.59564	1.65268	22.16733	135.50	18.82
91/ 4/22	2448368.5	-1.15425	1.06543	0.51998	-16.40967	-13.66774	-5.83429	1.65463	22.13873	137.29	18.32
91/ 4/26	2448372.5	-1.19155	1.03331	0.50623	-15.87992	-14.14170	-6.06604	1.65644	22.11236	139.07	17.80
91/ 4/30	2448376.5	-1.22761	1.00011	0.49196	-15.33529	-14.59947	-6.29076	1.65809	22.08822	140.83	17.26
91/ 5/ 4	2448380.5	-1.26239	0.96586	0.47717	-14.77632	-15.04080	-6.50832	1.65958	22.06634	142.58	16.71
91/ 5/ 8	2448384.5	-1.29587	0.93062	0.46189	-14.20348	-15.46543	-6.71858	1.66093	22.04672	144.32	16.15
91/ 5/12	2448388.5	-1.32801	0.89442	0.44613	-13.61730	-15.87313	-6.92143	1.66212	22.02937	146.04	15.57
91/ 5/16	2448392.5	-1.35878	0.85730	0.42992	-13.01826	-16.26366	-7.11674	1.66315	22.01431	147.75	14.98
91/ 5/20	2448396.5	-1.38815	0.81929	0.41326	-12.40687	-16.63679	-7.30440	1.66402	22.00153	149.45	14.38

1.4 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MARS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
91/ 5/24	2448400.5	-1.41609	0.78044	0.39617	-11.78361	-16.99230	-7.48429	1.66474	21.99105	151.14	13.77
91/ 5/28	2448404.5	-1.44258	0.74080	0.37868	-11.14898	-17.32998	-7.65629	1.66530	21.98288	152.82	13.14
91/ 6/ 1	2448408.5	-1.46759	0.70039	0.36081	-10.50348	-17.64961	-7.82030	1.66570	21.97701	154.49	12.51
91/ 6/ 5	2448412.5	-1.49110	0.65926	0.34256	-9.84759	-17.95097	-7.97621	1.66594	21.97344	156.15	11.87
91/ 6/ 9	2448416.5	-1.51309	0.61746	0.32396	-9.18181	-18.23387	-8.12390	1.66602	21.97219	157.80	11.21
91/ 6/13	2448420.5	-1.53352	0.57503	0.30503	-8.50663	-18.49809	-8.26328	1.66595	21.97326	159.45	10.55
91/ 6/17	2448424.5	-1.55238	0.53201	0.28579	-7.82255	-18.74345	-8.39423	1.66571	21.97663	161.08	9.88
91/ 6/21	2448428.5	-1.56966	0.48844	0.26625	-7.13006	-18.96974	-8.51665	1.66532	21.98231	162.71	9.20
91/ 6/25	2448432.5	-1.58532	0.44438	0.24644	-6.42967	-19.17677	-8.63044	1.66477	21.99031	164.34	8.51
91/ 6/29	2448436.5	-1.59936	0.39985	0.22638	-5.72188	-19.36434	-8.73551	1.66405	22.00060	165.96	7.82
91/ 7/ 3	2448440.5	-1.61175	0.35492	0.20609	-5.00719	-19.53226	-8.83173	1.66319	22.01320	167.58	7.12
91/ 7/ 7	2448444.5	-1.62249	0.30962	0.18558	-4.28613	-19.68036	-8.91903	1.66216	22.02809	169.20	6.41
91/ 7/11	2448448.5	-1.63155	0.26401	0.16489	-3.55920	-19.80844	-8.99730	1.66098	22.04526	170.81	5.70
91/ 7/15	2448452.5	-1.63893	0.21812	0.14402	-2.82694	-19.91633	-9.06643	1.65964	22.06472	172.42	4.98
91/ 7/19	2448456.5	-1.64461	0.17200	0.12300	-2.08987	-20.00383	-9.12635	1.65815	22.08645	174.03	4.25
91/ 7/23	2448460.5	-1.64858	0.12571	0.10186	-1.34853	-20.07079	-9.17694	1.65650	22.11043	175.64	3.53
91/ 7/27	2448464.5	-1.65084	0.07928	0.08061	-0.60347	-20.11701	-9.21812	1.65470	22.13667	177.25	2.79
91/ 7/31	2448468.5	-1.65137	0.03278	0.05928	0.14476	-20.14234	-9.24979	1.65275	22.16514	178.86	2.06
91/ 8/ 4	2448472.5	-1.65017	-0.01376	0.03788	0.89559	-20.14660	-9.27185	1.65066	22.19583	180.48	1.31
91/ 8/ 8	2448476.5	-1.64723	-0.06029	0.01645	1.64844	-20.12963	-9.28423	1.64841	22.22873	182.10	0.57
91/ 8/12	2448480.5	-1.64255	-0.10675	-0.00501	2.40273	-20.09127	-9.28682	1.64602	22.26381	183.72	-0.17
91/ 8/16	2448484.5	-1.63612	-0.15310	-0.02646	3.15786	-20.03135	-9.27955	1.64349	22.30106	185.35	-0.92
91/ 8/20	2448488.5	-1.62796	-0.19929	-0.04788	3.91321	-19.94975	-9.26232	1.64081	22.34046	186.98	-1.67
91/ 8/24	2448492.5	-1.61804	-0.24526	-0.06924	4.66815	-19.84629	-9.23506	1.63799	22.38198	188.62	-2.42
91/ 8/28	2448496.5	-1.60639	-0.29097	-0.09054	5.42206	-19.72086	-9.19767	1.63504	22.42561	190.27	-3.17
91/ 9/ 1	2448500.5	-1.59299	-0.33636	-0.11173	6.17427	-19.57331	-9.15009	1.63195	22.47132	191.92	-3.93
91/ 9/ 5	2448504.5	-1.57786	-0.38139	-0.13281	6.92411	-19.40352	-9.09224	1.62873	22.51908	193.59	-4.68
91/ 9/ 9	2448508.5	-1.56100	-0.42600	-0.15373	7.67090	-19.21138	-9.02404	1.62537	22.56885	195.26	-5.43
91/ 9/13	2448512.5	-1.54242	-0.47013	-0.17449	8.41392	-18.99678	-8.94544	1.62190	22.62062	196.95	-6.18
91/ 9/17	2448516.5	-1.52213	-0.51375	-0.19506	9.15246	-18.75962	-8.85636	1.61829	22.67435	198.65	-6.92
91/ 9/21	2448520.5	-1.50014	-0.55679	-0.21540	9.88578	-18.49982	-8.75674	1.61457	22.72999	200.36	-7.67
91/ 9/25	2448524.5	-1.47646	-0.59921	-0.23551	10.61311	-18.21731	-8.64654	1.61073	22.78752	202.09	-8.41
91/ 9/29	2448528.5	-1.45111	-0.64095	-0.25534	11.33367	-17.91202	-8.52571	1.60678	22.84689	203.83	-9.14
91/10/ 3	2448532.5	-1.42410	-0.68195	-0.27489	12.04666	-17.58393	-8.39420	1.60271	22.90806	205.59	-9.88
91/10/ 7	2448536.5	-1.39546	-0.72217	-0.29412	12.75126	-17.23300	-8.25199	1.59854	22.97099	207.36	-10.60
91/10/11	2448540.5	-1.36519	-0.76156	-0.31301	13.44663	-16.85922	-8.09904	1.59427	23.03562	209.15	-11.32
91/10/15	2448544.5	-1.33334	-0.80005	-0.33153	14.13191	-16.46262	-7.93535	1.58990	23.10192	210.97	-12.04
91/10/19	2448548.5	-1.29991	-0.83760	-0.34967	14.80620	-16.04323	-7.76089	1.58543	23.16982	212.80	-12.74
91/10/23	2448552.5	-1.26494	-0.87416	-0.36738	15.46861	-15.60111	-7.57569	1.58088	23.23927	214.65	-13.44
91/10/27	2448556.5	-1.22845	-0.90967	-0.38466	16.11821	-15.13633	-7.37974	1.57624	23.31021	216.52	-14.12
91/10/31	2448560.5	-1.19047	-0.94408	-0.40147	16.75404	-14.64903	-7.17309	1.57152	23.38258	218.42	-14.80
91/11/ 4	2448564.5	-1.15105	-0.97733	-0.41779	17.37515	-14.13933	-6.95575	1.56673	23.45632	220.33	-15.47
91/11/ 8	2448568.5	-1.11021	-1.00939	-0.43360	17.98053	-13.60741	-6.72780	1.56187	23.53135	222.28	-16.12
91/11/12	2448572.5	-1.06799	-1.04019	-0.44887	18.56919	-13.05348	-6.48930	1.55694	23.60761	224.24	-16.76
91/11/16	2448576.5	-1.02442	-1.06968	-0.46358	19.14009	-12.47778	-6.24033	1.55196	23.68501	226.24	-17.38

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91/11/20	2448580.5	-0.97957	-1.09782	-0.47769	19.69219	-11.88060	-5.98100	1.54692	23.76349	228.26	-17.99
91/11/24	2448584.5	-0.93345	-1.12456	-0.49120	20.22443	-11.26227	-5.71142	1.54183	23.84296	230.31	-18.58
91/11/28	2448588.5	-0.88614	-1.14984	-0.50408	20.73573	-10.62314	-5.43173	1.53671	23.92333	232.38	-19.15
91/12/ 2	2448592.5	-0.83767	-1.17362	-0.51629	21.22501	-9.96364	-5.14211	1.53155	24.00451	234.48	-19.70
91/12/ 6	2448596.5	-0.78809	-1.19586	-0.52783	21.69116	-9.28422	-4.84272	1.52636	24.08640	236.61	-20.23
91/12/10	2448600.5	-0.73746	-1.21651	-0.53866	22.13307	-8.58540	-4.53378	1.52115	24.16893	238.78	-20.74
91/12/14	2448604.5	-0.68585	-1.23551	-0.54877	22.54963	-7.86775	-4.21552	1.51592	24.25197	240.96	-21.22
91/12/18	2448608.5	-0.63330	-1.25284	-0.55813	22.93972	-7.13189	-3.88818	1.51069	24.33542	243.18	-21.68
91/12/22	2448612.5	-0.57988	-1.26845	-0.56673	23.30223	-6.37850	-3.55206	1.50546	24.41918	245.43	-22.11
91/12/26	2448616.5	-0.52565	-1.28230	-0.57453	23.63603	-5.60831	-3.20747	1.50023	24.50312	247.71	-22.52
91/12/30	2448620.5	-0.47069	-1.29435	-0.58154	23.94002	-4.82215	-2.85474	1.49502	24.58714	250.02	-22.89
92/ 1/ 3	2448624.5	-0.41507	-1.30457	-0.58772	24.21311	-4.02087	-2.49424	1.48983	24.67110	252.35	-23.23
92/ 1/ 7	2448628.5	-0.35885	-1.31292	-0.59306	24.45421	-3.20541	-2.12638	1.48467	24.75489	254.71	-23.54
92/ 1/11	2448632.5	-0.30210	-1.31937	-0.59754	24.66228	-2.37677	-1.75158	1.47955	24.83837	257.10	-23.82
92/ 1/15	2448636.5	-0.24492	-1.32389	-0.60114	24.83627	-1.53602	-1.37031	1.47447	24.92142	259.52	-24.06
92/ 1/19	2448640.5	-0.18738	-1.32646	-0.60386	24.97519	-0.68430	-0.98307	1.46944	25.00389	261.96	-24.26
92/ 1/23	2448644.5	-0.12956	-1.32705	-0.60568	25.07808	0.17717	-0.59039	1.46448	25.08565	264.42	-24.43
92/ 1/27	2448648.5	-0.07154	-1.32563	-0.60659	25.14403	1.04712	-0.19282	1.45958	25.16656	266.91	-24.56
92/ 1/31	2448652.5	-0.01341	-1.32220	-0.60657	25.17216	1.92420	0.20903	1.45476	25.24646	269.42	-24.64
92/ 2/ 4	2448656.5	0.04474	-1.31674	-0.60562	25.16168	2.80698	0.61453	1.45003	25.32522	271.95	-24.69
92/ 2/ 8	2448660.5	0.10281	-1.30923	-0.60373	25.11184	3.69398	1.02303	1.44539	25.40269	274.49	-24.69
92/ 2/12	2448664.5	0.16073	-1.29967	-0.60089	25.02196	4.58366	1.43383	1.44085	25.47870	277.05	-24.65
92/ 2/16	2448668.5	0.21839	-1.28805	-0.59710	24.89146	5.47439	1.84619	1.43642	25.55312	279.62	-24.56
92/ 2/20	2448672.5	0.27571	-1.27438	-0.59236	24.71981	6.36450	2.25938	1.43211	25.62579	282.21	-24.43
92/ 2/24	2448676.5	0.33258	-1.25865	-0.58666	24.50662	7.25226	2.67260	1.42793	25.69655	284.80	-24.26
92/ 2/28	2448680.5	0.38890	-1.24087	-0.58001	24.25156	8.13589	3.08504	1.42388	25.76525	287.40	-24.04
92/ 3/ 3	2448684.5	0.44459	-1.22106	-0.57241	23.95441	9.01356	3.49588	1.41997	25.83175	290.01	-23.77
92/ 3/ 7	2448688.5	0.49955	-1.19923	-0.56386	23.61509	9.88340	3.90425	1.41621	25.89589	292.61	-23.46
92/ 3/11	2448692.5	0.55367	-1.17540	-0.55437	23.23360	10.74352	4.30928	1.41261	25.95753	295.22	-23.11
92/ 3/15	2448696.5	0.60686	-1.14960	-0.54396	22.81009	11.59197	4.71010	1.40917	26.01651	297.83	-22.71
92/ 3/19	2448700.5	0.65903	-1.12186	-0.53262	22.34482	12.42683	5.10578	1.40590	26.07271	300.43	-22.26
92/ 3/23	2448704.5	0.71007	-1.09220	-0.52037	21.83819	13.24613	5.49543	1.40281	26.12597	303.03	-21.77
92/ 3/27	2448708.5	0.75990	-1.06067	-0.50723	21.29074	14.04791	5.87814	1.39991	26.17617	305.62	-21.24
92/ 3/31	2448712.5	0.80841	-1.02731	-0.49322	20.70315	14.83021	6.25298	1.39719	26.22318	308.20	-20.67
92/ 4/ 4	2448716.5	0.85552	-0.99216	-0.47835	20.07621	15.59111	6.61905	1.39468	26.26687	310.77	-20.06
92/ 4/ 8	2448720.5	0.90114	-0.95529	-0.46264	19.41088	16.32870	6.97544	1.39236	26.30714	313.33	-19.41
92/ 4/12	2448724.5	0.94518	-0.91674	-0.44613	18.70825	17.04112	7.32128	1.39025	26.34387	315.88	-18.72
92/ 4/16	2448728.5	0.98755	-0.87657	-0.42882	17.96956	17.72653	7.65569	1.38836	26.37697	318.41	-17.99
92/ 4/20	2448732.5	1.02818	-0.83486	-0.41076	17.19616	18.38318	7.97783	1.38667	26.40634	320.92	-17.23
92/ 4/24	2448736.5	1.06698	-0.79166	-0.39197	16.38954	19.00937	8.28688	1.38521	26.43191	323.43	-16.44
92/ 4/28	2448740.5	1.10388	-0.74705	-0.37249	15.55134	19.60350	8.58205	1.38397	26.45360	325.91	-15.61
92/ 5/ 2	2448744.5	1.13881	-0.70111	-0.35233	14.68328	20.16403	8.86260	1.38296	26.47135	328.38	-14.76
92/ 5/ 6	2448748.5	1.17170	-0.65391	-0.33155	13.78723	20.68953	9.12782	1.38218	26.48512	330.83	-13.88
92/ 5/10	2448752.5	1.20249	-0.60555	-0.31017	12.86514	21.17868	9.37705	1.38162	26.49486	333.27	-12.97
92/ 5/14	2448756.5	1.23112	-0.55609	-0.28824	11.91907	21.63027	9.60969	1.38130	26.50054	335.69	-12.04

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92/ 5/18	2448760.5	1.25754	-0.50564	-0.26578	10.95116	22.04320	9.82516	1.38120	26.50216	338.10	-11.09
92/ 5/22	2448764.5	1.28171	-0.45427	-0.24285	9.96363	22.41652	10.02298	1.38134	26.49970	340.48	-10.13
92/ 5/26	2448768.5	1.30357	-0.40209	-0.21949	8.95876	22.74938	10.20268	1.38172	26.49318	342.86	-9.14
92/ 5/30	2448772.5	1.32309	-0.34919	-0.19573	7.93889	23.04109	10.36390	1.38232	26.48260	345.22	-8.14
92/ 6/ 3	2448776.5	1.34024	-0.29567	-0.17162	6.90639	23.29108	10.50631	1.38315	26.46801	347.56	-7.13
92/ 6/ 7	2448780.5	1.35499	-0.24161	-0.14720	5.86367	23.49895	10.62966	1.38421	26.44944	349.89	-6.10
92/ 6/11	2448784.5	1.36732	-0.18713	-0.12252	4.81314	23.66440	10.73374	1.38550	26.42694	352.21	-5.07
92/ 6/15	2448788.5	1.37722	-0.13231	-0.09762	3.75724	23.78730	10.81844	1.38700	26.40059	354.51	-4.04
92/ 6/19	2448792.5	1.38468	-0.07725	-0.07255	2.69837	23.86764	10.88368	1.38873	26.37044	356.81	-2.99
92/ 6/23	2448796.5	1.38969	-0.02206	-0.04735	1.63892	23.90558	10.92947	1.39067	26.33659	359.09	-1.95
92/ 6/27	2448800.5	1.39225	0.03316	-0.02207	0.58126	23.90136	10.95586	1.39282	26.29912	1.36	-0.91
92/ 7/ 1	2448804.5	1.39238	0.08834	0.00325	-0.47228	23.85540	10.96298	1.39518	26.25814	3.63	0.13
92/ 7/ 5	2448808.5	1.39008	0.14335	0.02857	-1.51946	23.76821	10.95101	1.39774	26.21376	5.89	1.17
92/ 7/ 9	2448812.5	1.38537	0.19812	0.05384	-2.55805	23.64043	10.92018	1.40050	26.16608	8.14	2.20
92/ 7/13	2448816.5	1.37827	0.25255	0.07901	-3.58593	23.47282	10.87077	1.40344	26.11524	10.38	3.23
92/ 7/17	2448820.5	1.36881	0.30654	0.10405	-4.60104	23.26623	10.80313	1.40657	26.06136	12.62	4.24
92/ 7/21	2448824.5	1.35702	0.36002	0.12891	-5.60142	23.02161	10.71763	1.40987	26.00458	14.86	5.25
92/ 7/25	2448828.5	1.34294	0.41288	0.15356	-6.58518	22.74001	10.61472	1.41334	25.94503	17.09	6.24
92/ 7/29	2448832.5	1.32661	0.46506	0.17794	-7.55055	22.42253	10.49484	1.41698	25.88286	19.32	7.21
92/ 8/ 2	2448836.5	1.30807	0.51646	0.20203	-8.49585	22.07038	10.35852	1.42077	25.81821	21.55	8.18
92/ 8/ 6	2448840.5	1.28737	0.56701	0.22579	-9.41950	21.68482	10.20627	1.42471	25.75124	23.77	9.12
92/ 8/10	2448844.5	1.26457	0.61662	0.24918	-10.32004	21.26715	10.03867	1.42879	25.68209	25.99	10.04
92/ 8/14	2448848.5	1.23971	0.66524	0.27216	-11.19609	20.81873	9.85630	1.43300	25.61091	28.22	10.95
92/ 8/18	2448852.5	1.21286	0.71279	0.29471	-12.04642	20.34097	9.65976	1.43734	25.53786	30.44	11.83
92/ 8/22	2448856.5	1.18407	0.75920	0.31678	-12.86986	19.83529	9.44970	1.44179	25.46309	32.67	12.69
92/ 8/26	2448860.5	1.15341	0.80442	0.33836	-13.66539	19.30315	9.22674	1.44635	25.38675	34.89	13.53
92/ 8/30	2448864.5	1.12095	0.84837	0.35940	-14.43206	18.74602	8.99153	1.45101	25.30899	37.12	14.34
92/ 9/ 3	2448868.5	1.08676	0.89101	0.37989	-15.16906	18.16537	8.74474	1.45577	25.22997	39.35	15.13
92/ 9/ 7	2448872.5	1.05089	0.93229	0.39980	-15.87565	17.56270	8.48702	1.46060	25.14983	41.58	15.89
92/ 9/11	2448876.5	1.01343	0.97214	0.41910	-16.55121	16.93949	8.21904	1.46552	25.06873	43.81	16.62
92/ 9/15	2448880.5	0.97444	1.01054	0.43777	-17.19519	16.29720	7.94146	1.47050	24.98679	46.04	17.32
92/ 9/19	2448884.5	0.93400	1.04743	0.45578	-17.80715	15.63731	7.65494	1.47554	24.90418	48.28	17.99
92/ 9/23	2448888.5	0.89219	1.08277	0.47313	-18.38675	14.96125	7.36013	1.48063	24.82102	50.51	18.64
92/ 9/27	2448892.5	0.84908	1.11654	0.48978	-18.93369	14.27045	7.05768	1.48576	24.73745	52.75	19.25
92/10/ 1	2448896.5	0.80474	1.14870	0.50573	-19.44779	13.56631	6.74823	1.49093	24.65360	54.99	19.83
92/10/ 5	2448900.5	0.75925	1.17921	0.52096	-19.92893	12.85019	6.43240	1.49613	24.56960	57.22	20.38
92/10/ 9	2448904.5	0.71268	1.20806	0.53545	-20.37704	12.12344	6.11080	1.50135	24.48557	59.46	20.89
92/10/13	2448908.5	0.66512	1.23522	0.54919	-20.79214	11.38736	5.78404	1.50658	24.40165	61.70	21.38
92/10/17	2448912.5	0.61664	1.26067	0.56217	-21.17431	10.64323	5.45269	1.51181	24.31793	63.93	21.83
92/10/21	2448916.5	0.56732	1.28439	0.57438	-21.52367	9.89228	5.11734	1.51704	24.23454	66.17	22.25
92/10/25	2448920.5	0.51722	1.30637	0.58581	-21.84040	9.13570	4.77854	1.52227	24.15158	68.40	22.63
92/10/29	2448924.5	0.46643	1.32660	0.59646	-22.12474	8.37467	4.43681	1.52748	24.06916	70.63	22.98
92/11/ 2	2448928.5	0.41502	1.34506	0.60631	-22.37695	7.61029	4.09270	1.53266	23.98738	72.85	23.30
92/11/ 6	2448932.5	0.36307	1.36176	0.61536	-22.59734	6.84364	3.74669	1.53782	23.90634	75.07	23.59
92/11/10	2448936.5	0.31064	1.37668	0.62362	-22.78627	6.07578	3.39928	1.54294	23.82613	77.28	23.84

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92/11/14	2448940.5	0.25781	1.38983	0.63107	-22.94412	5.30769	3.05093	1.54801	23.74683	79.49	24.06
92/11/18	2448944.5	0.20465	1.40121	0.63771	-23.07128	4.54035	2.70210	1.55304	23.66855	81.69	24.24
92/11/22	2448948.5	0.15123	1.41081	0.64355	-23.16821	3.77467	2.35323	1.55802	23.59135	83.88	24.40
92/11/26	2448952.5	0.09763	1.41865	0.64859	-23.23535	3.01154	2.00473	1.56293	23.51531	86.06	24.52
92/11/30	2448956.5	0.04390	1.42473	0.65282	-23.27318	2.25180	1.65700	1.56778	23.44051	88.24	24.61
92/12/ 4	2448960.5	-0.00988	1.42906	0.65624	-23.28221	1.49628	1.31044	1.57256	23.36701	90.40	24.66
92/12/ 8	2448964.5	-0.06365	1.43164	0.65887	-23.26294	0.74575	0.96541	1.57727	23.29490	92.55	24.69
92/12/12	2448968.5	-0.11734	1.43251	0.66071	-23.21589	0.00095	0.62226	1.58189	23.22423	94.68	24.69
92/12/16	2448972.5	-0.17089	1.43165	0.66175	-23.14160	-0.73741	0.28134	1.58643	23.15506	96.81	24.65
92/12/20	2448976.5	-0.22424	1.42910	0.66201	-23.04062	-1.46866	-0.05703	1.59087	23.08745	98.92	24.59
92/12/24	2448980.5	-0.27733	1.42487	0.66149	-22.91350	-2.19215	-0.39254	1.59523	23.02147	101.01	24.50
92/12/28	2448984.5	-0.33009	1.41898	0.66020	-22.76078	-2.90727	-0.72489	1.59948	22.95715	103.10	24.38
93/ 1/ 1	2448988.5	-0.38247	1.41145	0.65814	-22.58303	-3.61343	-1.05380	1.60363	22.89455	105.16	24.23
93/ 1/ 5	2448992.5	-0.43441	1.40229	0.65533	-22.38081	-4.31006	-1.37899	1.60767	22.83372	107.21	24.06
93/ 1/ 9	2448996.5	-0.48586	1.39154	0.65177	-22.15468	-4.99664	-1.70021	1.61160	22.77470	109.25	23.86
93/ 1/13	2449000.5	-0.53676	1.37922	0.64748	-21.90521	-5.67266	-2.01720	1.61542	22.71753	111.26	23.63
93/ 1/17	2449004.5	-0.58705	1.36534	0.64246	-21.63296	-6.33763	-2.32974	1.61912	22.66226	113.27	23.38
93/ 1/21	2449008.5	-0.63669	1.34994	0.63672	-21.33849	-6.99108	-2.63758	1.62269	22.60892	115.25	23.10
93/ 1/25	2449012.5	-0.68563	1.33305	0.63027	-21.02235	-7.63259	-2.94052	1.62615	22.55754	117.22	22.80
93/ 1/29	2449016.5	-0.73381	1.31469	0.62313	-20.68512	-8.26172	-3.23834	1.62947	22.50815	119.17	22.48
93/ 2/ 2	2449020.5	-0.78118	1.29489	0.61531	-20.32733	-8.87807	-3.53085	1.63266	22.46080	121.10	22.14
93/ 2/ 6	2449024.5	-0.82771	1.27368	0.60683	-19.94955	-9.48126	-3.81785	1.63573	22.41550	123.02	21.78
93/ 2/10	2449028.5	-0.87334	1.25109	0.59768	-19.55231	-10.07092	-4.09916	1.63865	22.37229	124.92	21.39
93/ 2/14	2449032.5	-0.91804	1.22716	0.58789	-19.13616	-10.64670	-4.37461	1.64144	22.33119	126.80	20.99
93/ 2/18	2449036.5	-0.96175	1.20191	0.57747	-18.70163	-11.20826	-4.64402	1.64409	22.29222	128.67	20.56
93/ 2/22	2449040.5	-1.00443	1.17538	0.56644	-18.24927	-11.75527	-4.90723	1.64659	22.25541	130.52	20.12
93/ 2/26	2449044.5	-1.04605	1.14761	0.55480	-17.77959	-12.28743	-5.16408	1.64895	22.22077	132.35	19.66
93/ 3/ 2	2449048.5	-1.08657	1.11862	0.54258	-17.29313	-12.80442	-5.41443	1.65116	22.18832	134.17	19.18
93/ 3/ 6	2449052.5	-1.12594	1.08846	0.52979	-16.79039	-13.30597	-5.65812	1.65323	22.15808	135.97	18.69
93/ 3/10	2449056.5	-1.16413	1.05716	0.51645	-16.27192	-13.79179	-5.89501	1.65514	22.13007	137.76	18.18
93/ 3/14	2449060.5	-1.20111	1.02475	0.50256	-15.73820	-14.26162	-6.12497	1.65691	22.10430	139.53	17.66
93/ 3/18	2449064.5	-1.23684	0.99127	0.48815	-15.18976	-14.71518	-6.34786	1.65852	22.08078	141.29	17.12
93/ 3/22	2449068.5	-1.27128	0.95677	0.47324	-14.62710	-15.15224	-6.56356	1.65997	22.05953	143.03	16.56
93/ 3/26	2449072.5	-1.30441	0.92128	0.45783	-14.05072	-15.57255	-6.77193	1.66128	22.04055	144.77	16.00
93/ 3/30	2449076.5	-1.33619	0.88483	0.44195	-13.46112	-15.97586	-6.97285	1.66242	22.02386	146.49	15.42
93/ 4/ 3	2449080.5	-1.36659	0.84748	0.42562	-12.85881	-16.36194	-7.16621	1.66341	22.00947	148.20	14.83
93/ 4/ 7	2449084.5	-1.39559	0.80925	0.40885	-12.24426	-16.73058	-7.35188	1.66425	21.99737	149.89	14.22
93/ 4/11	2449088.5	-1.42316	0.77019	0.39166	-11.61799	-17.08154	-7.52976	1.66492	21.98758	151.58	13.61
93/ 4/15	2449092.5	-1.44926	0.73034	0.37407	-10.98048	-17.41460	-7.69972	1.66544	21.98010	153.25	12.98
93/ 4/19	2449096.5	-1.47388	0.68974	0.35609	-10.33222	-17.72956	-7.86166	1.66579	21.97494	154.92	12.34
93/ 4/23	2449100.5	-1.49699	0.64844	0.33775	-9.67371	-18.02621	-8.01547	1.66599	21.97209	156.58	11.70
93/ 4/27	2449104.5	-1.51857	0.60647	0.31906	-9.00544	-18.30434	-8.16103	1.66603	21.97156	158.23	11.04
93/ 5/ 1	2449108.5	-1.53859	0.56388	0.30005	-8.32790	-18.56375	-8.29826	1.66591	21.97334	159.87	10.38
93/ 5/ 5	2449112.5	-1.55704	0.52071	0.28073	-7.64159	-18.80424	-8.42703	1.66563	21.97744	161.51	9.70
93/ 5/ 9	2449116.5	-1.57389	0.47701	0.26112	-6.94701	-19.02561	-8.54725	1.66519	21.98386	163.14	9.02

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93/ 5/13	2449120.5	-1.58913	0.43282	0.24124	-6.24465	-19.22767	-8.65881	1.66460	21.99259	164.76	8.33
93/ 5/17	2449124.5	-1.60274	0.38819	0.22112	-5.53503	-19.41022	-8.76162	1.66384	22.00362	166.38	7.64
93/ 5/21	2449128.5	-1.61470	0.34316	0.20077	-4.81865	-19.57309	-8.85557	1.66293	22.01695	168.00	6.93
93/ 5/25	2449132.5	-1.62500	0.29777	0.18021	-4.09602	-19.71608	-8.94056	1.66186	22.03258	169.62	6.23
93/ 5/29	2449136.5	-1.63362	0.25208	0.15947	-3.36766	-19.83900	-9.01649	1.66063	22.05049	171.23	5.51
93/ 6/ 2	2449140.5	-1.64056	0.20612	0.13856	-2.63411	-19.94168	-9.08327	1.65925	22.07068	172.84	4.79
93/ 6/ 6	2449144.5	-1.64579	0.15995	0.11750	-1.89588	-20.02393	-9.14080	1.65771	22.09313	174.45	4.06
93/ 6/10	2449148.5	-1.64931	0.11362	0.09633	-1.15353	-20.08558	-9.18898	1.65603	22.11783	176.06	3.33
93/ 6/14	2449152.5	-1.65112	0.06717	0.07506	-0.40760	-20.12646	-9.22772	1.65419	22.14478	177.67	2.60
93/ 6/18	2449156.5	-1.65119	0.02065	0.05370	0.34135	-20.14638	-9.25693	1.65220	22.17395	179.28	1.86
93/ 6/22	2449160.5	-1.64954	-0.02590	0.03229	1.09275	-20.14520	-9.27651	1.65006	22.20533	180.90	1.12
93/ 6/26	2449164.5	-1.64614	-0.07242	0.01085	1.84602	-20.12273	-9.28637	1.64777	22.23890	182.52	0.38
93/ 6/30	2449168.5	-1.64101	-0.11886	-0.01061	2.60057	-20.07883	-9.28643	1.64534	22.27465	184.14	-0.37
93/ 7/ 4	2449172.5	-1.63413	-0.16517	-0.03205	3.35581	-20.01334	-9.27659	1.64277	22.31256	185.77	-1.12
93/ 7/ 8	2449176.5	-1.62550	-0.21131	-0.05346	4.11110	-19.92610	-9.25678	1.64005	22.35260	187.41	-1.87
93/ 7/12	2449180.5	-1.61513	-0.25722	-0.07481	4.86582	-19.81698	-9.22690	1.63720	22.39475	189.05	-2.62
93/ 7/16	2449184.5	-1.60302	-0.30285	-0.09608	5.61934	-19.68584	-9.18688	1.63421	22.43899	190.70	-3.37
93/ 7/20	2449188.5	-1.58917	-0.34816	-0.11725	6.37098	-19.53254	-9.13665	1.63108	22.48528	192.36	-4.12
93/ 7/24	2449192.5	-1.57359	-0.39308	-0.13829	7.12007	-19.35697	-9.07612	1.62782	22.53361	194.03	-4.87
93/ 7/28	2449196.5	-1.55628	-0.43758	-0.15918	7.86592	-19.15901	-9.00522	1.62444	22.58394	195.70	-5.62
93/ 8/ 1	2449200.5	-1.53725	-0.48159	-0.17989	8.60781	-18.93855	-8.92390	1.62093	22.63624	197.39	-6.37
93/ 8/ 5	2449204.5	-1.51651	-0.52506	-0.20040	9.34503	-18.69552	-8.83208	1.61730	22.69047	199.10	-7.12
93/ 8/ 9	2449208.5	-1.49407	-0.56795	-0.22069	10.07682	-18.42981	-8.72971	1.61354	22.74661	200.81	-7.86
93/ 8/13	2449212.5	-1.46995	-0.61020	-0.24073	10.80242	-18.14138	-8.61675	1.60968	22.80461	202.54	-8.60
93/ 8/17	2449216.5	-1.44417	-0.65175	-0.26049	11.52103	-17.83015	-8.49313	1.60570	22.86442	204.29	-9.34
93/ 8/21	2449220.5	-1.41673	-0.69256	-0.27996	12.23187	-17.49611	-8.35884	1.60161	22.92602	206.05	-10.07
93/ 8/25	2449224.5	-1.38766	-0.73257	-0.29910	12.93409	-17.13922	-8.21382	1.59741	22.98935	207.83	-10.79
93/ 8/29	2449228.5	-1.35698	-0.77173	-0.31790	13.62685	-16.75949	-8.05807	1.59312	23.05437	209.63	-11.51
93/ 9/ 2	2449232.5	-1.32471	-0.80999	-0.33633	14.30928	-16.35693	-7.89156	1.58872	23.12102	211.44	-12.22
93/ 9/ 6	2449236.5	-1.29087	-0.84729	-0.35436	14.98049	-15.93159	-7.71429	1.58424	23.18924	213.28	-12.93
93/ 9/10	2449240.5	-1.25550	-0.88358	-0.37196	15.63957	-15.48354	-7.52628	1.57967	23.25900	215.14	-13.62
93/ 9/14	2449244.5	-1.21862	-0.91881	-0.38912	16.28558	-15.01286	-7.32753	1.57501	23.33021	217.02	-14.30
93/ 9/18	2449248.5	-1.18027	-0.95293	-0.40581	16.91758	-14.51969	-7.11807	1.57028	23.40283	218.92	-14.98
93/ 9/22	2449252.5	-1.14047	-0.98588	-0.42200	17.53458	-14.00416	-6.89795	1.56548	23.47679	220.84	-15.64
93/ 9/26	2449256.5	-1.09926	-1.01762	-0.43767	18.13559	-13.46647	-6.66723	1.56060	23.55202	222.79	-16.29
93/ 9/30	2449260.5	-1.05669	-1.04808	-0.45280	18.71960	-12.90683	-6.42599	1.55567	23.62844	224.77	-16.92
93/10/ 4	2449264.5	-1.01278	-1.07723	-0.46735	19.28559	-12.32550	-6.17430	1.55067	23.70598	226.77	-17.54
93/10/ 8	2449268.5	-0.96760	-1.10502	-0.48132	19.83248	-11.72277	-5.91227	1.54563	23.78457	228.79	-18.14
93/10/12	2449272.5	-0.92117	-1.13138	-0.49466	20.35924	-11.09898	-5.64004	1.54054	23.86411	230.85	-18.73
93/10/16	2449276.5	-0.87355	-1.15628	-0.50737	20.86476	-10.45450	-5.35775	1.53541	23.94453	232.93	-19.30
93/10/20	2449280.5	-0.82478	-1.17967	-0.51941	21.34797	-9.78978	-5.06556	1.53025	24.02573	235.04	-19.84
93/10/24	2449284.5	-0.77493	-1.20150	-0.53077	21.80776	-9.10528	-4.76367	1.52507	24.10761	237.18	-20.37
93/10/28	2449288.5	-0.72404	-1.22172	-0.54141	22.24301	-8.40153	-4.45229	1.51986	24.19008	239.35	-20.87
93/11/ 1	2449292.5	-0.67218	-1.24030	-0.55133	22.65263	-7.67911	-4.13165	1.51464	24.27304	241.54	-21.35
93/11/ 5	2449296.5	-0.61940	-1.25719	-0.56050	23.03547	-6.93867	-3.80202	1.50942	24.35639	243.77	-21.80

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93/11/ 9	2449300.5	-0.56577	-1.27235	-0.56889	23.39045	-6.18090	-3.46369	1.50419	24.44000	246.03	-22.22
93/11/13	2449304.5	-0.51135	-1.28573	-0.57649	23.71643	-5.40656	-3.11697	1.49898	24.52377	248.31	-22.62
93/11/17	2449308.5	-0.45621	-1.29731	-0.58329	24.01232	-4.61646	-2.76222	1.49378	24.60758	250.63	-22.98
93/11/21	2449312.5	-0.40043	-1.30705	-0.58925	24.27703	-3.81151	-2.39982	1.48860	24.69131	252.97	-23.32
93/11/25	2449316.5	-0.34407	-1.31491	-0.59437	24.50949	-2.99264	-2.03016	1.48346	24.77483	255.34	-23.62
93/11/29	2449320.5	-0.28721	-1.32087	-0.59862	24.70864	-2.16087	-1.65369	1.47836	24.85802	257.73	-23.89
93/12/ 3	2449324.5	-0.22993	-1.32489	-0.60200	24.87347	-1.31731	-1.27088	1.47330	24.94073	260.15	-24.12
93/12/ 7	2449328.5	-0.17231	-1.32695	-0.60449	25.00299	-0.46309	-0.88224	1.46830	25.02283	262.60	-24.31
93/12/11	2449332.5	-0.11444	-1.32702	-0.60608	25.09624	0.40054	-0.48831	1.46336	25.10419	265.07	-24.47
93/12/15	2449336.5	-0.05639	-1.32509	-0.60674	25.15234	1.27229	-0.08965	1.45849	25.18466	267.56	-24.58
93/12/19	2449340.5	0.00175	-1.32114	-0.60649	25.17043	2.15079	0.31312	1.45370	25.26410	270.08	-24.66
93/12/23	2449344.5	0.05988	-1.31515	-0.60529	25.14972	3.03461	0.71937	1.44899	25.34236	272.61	-24.69
93/12/27	2449348.5	0.11792	-1.30711	-0.60316	25.08949	3.92224	1.12843	1.44439	25.41928	275.15	-24.68
93/12/31	2449352.5	0.17577	-1.29703	-0.60008	24.98909	4.81212	1.53960	1.43988	25.49474	277.72	-24.63
94/ 1/ 4	2449356.5	0.23334	-1.28488	-0.59605	24.84795	5.70261	1.95215	1.43549	25.56856	280.29	-24.53
94/ 1/ 8	2449360.5	0.29054	-1.27068	-0.59106	24.66557	6.59204	2.36531	1.43122	25.64060	282.88	-24.39
94/ 1/12	2449364.5	0.34727	-1.25443	-0.58512	24.44158	7.47866	2.77829	1.42708	25.71070	285.47	-24.21
94/ 1/16	2449368.5	0.40344	-1.23613	-0.57822	24.17569	8.36067	3.19028	1.42307	25.77872	288.08	-23.97
94/ 1/20	2449372.5	0.45894	-1.21580	-0.57038	23.86770	9.23624	3.60044	1.41920	25.84450	290.68	-23.70
94/ 1/24	2449376.5	0.51368	-1.19346	-0.56159	23.51755	10.10350	4.00791	1.41549	25.90790	293.29	-23.37
94/ 1/28	2449380.5	0.56757	-1.16913	-0.55186	23.12529	10.96053	4.41182	1.41193	25.96876	295.89	-23.01
94/ 2/ 1	2449384.5	0.62050	-1.14283	-0.54121	22.69110	11.80541	4.81128	1.40854	26.02695	298.50	-22.60
94/ 2/ 5	2449388.5	0.67238	-1.11459	-0.52964	22.21526	12.63619	5.20537	1.40532	26.08231	301.10	-22.14
94/ 2/ 9	2449392.5	0.72311	-1.08446	-0.51716	21.69823	13.45090	5.59320	1.40228	26.13472	303.70	-21.64
94/ 2/13	2449396.5	0.77260	-1.05246	-0.50380	21.14056	14.24761	5.97384	1.39943	26.18405	306.28	-21.10
94/ 2/17	2449400.5	0.82076	-1.01864	-0.48957	20.54297	15.02436	6.34640	1.39676	26.23017	308.86	-20.52
94/ 2/21	2449404.5	0.86749	-0.98306	-0.47449	19.90630	15.77923	6.70996	1.39430	26.27296	311.43	-19.90
94/ 2/25	2449408.5	0.91270	-0.94576	-0.45857	19.23153	16.51032	7.06362	1.39204	26.31230	313.98	-19.23
94/ 3/ 1	2449412.5	0.95631	-0.90679	-0.44186	18.51980	17.21578	7.40651	1.38998	26.34810	316.52	-18.54
94/ 3/ 5	2449416.5	0.99824	-0.86623	-0.42436	17.77235	17.89380	7.73776	1.38814	26.38025	319.05	-17.80
94/ 3/ 9	2449420.5	1.03840	-0.82414	-0.40612	16.99059	18.54265	8.05654	1.38651	26.40867	321.56	-17.03
94/ 3/13	2449424.5	1.07672	-0.78058	-0.38715	16.17604	19.16064	8.36203	1.38511	26.43327	324.06	-16.23
94/ 3/17	2449428.5	1.11312	-0.73564	-0.36749	15.33035	19.74620	8.65347	1.38392	26.45400	326.54	-15.40
94/ 3/21	2449432.5	1.14753	-0.68938	-0.34718	14.45528	20.29781	8.93011	1.38296	26.47079	329.00	-14.54
94/ 3/25	2449436.5	1.17988	-0.64188	-0.32624	13.55272	20.81407	9.19126	1.38223	26.48360	331.45	-13.65
94/ 3/29	2449440.5	1.21013	-0.59324	-0.30472	12.62466	21.29369	9.43628	1.38173	26.49239	333.88	-12.74
94/ 4/ 2	2449444.5	1.23820	-0.54353	-0.28266	11.67315	21.73549	9.66456	1.38146	26.49713	336.30	-11.81
94/ 4/ 6	2449448.5	1.26404	-0.49284	-0.26008	10.70037	22.13841	9.87557	1.38143	26.49781	338.70	-10.85
94/ 4/10	2449452.5	1.28762	-0.44127	-0.23704	9.70854	22.50151	10.06881	1.38162	26.49443	341.08	-9.88
94/ 4/14	2449456.5	1.30889	-0.38891	-0.21358	8.69996	22.82400	10.24385	1.38205	26.48699	343.45	-8.89
94/ 4/18	2449460.5	1.32781	-0.33585	-0.18973	7.67697	23.10521	10.40034	1.38270	26.47553	345.81	-7.89
94/ 4/22	2449464.5	1.34435	-0.28218	-0.16554	6.64196	23.34461	10.53795	1.38358	26.46006	348.15	-6.87
94/ 4/26	2449468.5	1.35849	-0.22802	-0.14105	5.59732	23.54183	10.65646	1.38469	26.44064	350.47	-5.85
94/ 4/30	2449472.5	1.37020	-0.17345	-0.11632	4.54548	23.69660	10.75567	1.38603	26.41732	352.79	-4.81
94/ 5/ 4	2449476.5	1.37949	-0.11856	-0.09137	3.48886	23.80884	10.83549	1.38758	26.39016	355.09	-3.78

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94/ 5/ 8	2449480.5	1.38632	-0.06347	-0.06627	2.42986	23.87856	10.89586	1.38936	26.35924	357.38	-2.73
94/ 5/12	2449484.5	1.39071	-0.00827	-0.04104	1.37087	23.90594	10.93679	1.39134	26.32464	359.66	-1.69
94/ 5/16	2449488.5	1.39266	0.04695	-0.01575	0.31425	23.89129	10.95836	1.39354	26.28646	1.93	-0.65
94/ 5/20	2449492.5	1.39217	0.10208	0.00957	-0.73771	23.83502	10.96071	1.39594	26.24480	4.19	0.39
94/ 5/24	2449496.5	1.38926	0.15704	0.03488	-1.78275	23.73769	10.94402	1.39854	26.19976	6.45	1.43
94/ 5/28	2449500.5	1.38394	0.21173	0.06012	-2.81868	23.59997	10.90855	1.40133	26.15148	8.70	2.46
94/ 6/ 1	2449504.5	1.37624	0.26605	0.08527	-3.84340	23.42262	10.85459	1.40431	26.10006	10.94	3.48
94/ 6/ 5	2449508.5	1.36619	0.31992	0.11026	-4.85488	23.20654	10.78249	1.40747	26.04564	13.18	4.49
94/ 6/ 9	2449512.5	1.35382	0.37325	0.13507	-5.85116	22.95268	10.69264	1.41081	25.98835	15.41	5.49
94/ 6/13	2449516.5	1.33917	0.42594	0.15965	-6.83039	22.66212	10.58549	1.41432	25.92833	17.64	6.48
94/ 6/17	2449520.5	1.32228	0.47793	0.18397	-7.79082	22.33598	10.46151	1.41798	25.86573	19.87	7.45
94/ 6/21	2449524.5	1.30319	0.52912	0.20798	-8.73079	21.97548	10.32120	1.42180	25.80069	22.10	8.41
94/ 6/25	2449528.5	1.28195	0.57943	0.23164	-9.64875	21.58189	10.16512	1.42577	25.73336	24.32	9.35
94/ 6/29	2449532.5	1.25863	0.62881	0.25493	-10.54327	21.15652	9.99382	1.42987	25.66389	26.55	10.27
94/ 7/ 3	2449536.5	1.23326	0.67716	0.27781	-11.41300	20.70075	9.80790	1.43410	25.59243	28.77	11.17
94/ 7/ 7	2449540.5	1.20591	0.72443	0.30024	-12.25672	20.21598	9.60797	1.43846	25.51913	30.99	12.05
94/ 7/11	2449544.5	1.17665	0.77055	0.32219	-13.07330	19.70365	9.39467	1.44293	25.44415	33.22	12.90
94/ 7/15	2449548.5	1.14553	0.81545	0.34363	-13.86174	19.16521	9.16863	1.44751	25.36764	35.45	13.73
94/ 7/19	2449552.5	1.11263	0.85908	0.36454	-14.62112	18.60215	8.93050	1.45218	25.28974	37.67	14.54
94/ 7/23	2449556.5	1.07800	0.90138	0.38489	-15.35065	18.01593	8.68095	1.45695	25.21061	39.90	15.32
94/ 7/27	2449560.5	1.04172	0.94230	0.40464	-16.04961	17.40804	8.42063	1.46180	25.13040	42.13	16.07
94/ 7/31	2449564.5	1.00387	0.98179	0.42378	-16.71740	16.77996	8.15021	1.46672	25.04925	44.36	16.79
94/ 8/ 4	2449568.5	0.96451	1.01981	0.44229	-17.35351	16.13317	7.87035	1.47171	24.96730	46.60	17.49
94/ 8/ 8	2449572.5	0.92372	1.05632	0.46014	-17.95750	15.46912	7.58171	1.47675	24.88469	48.83	18.16
94/ 8/12	2449576.5	0.88156	1.09128	0.47731	-18.52905	14.78925	7.28494	1.48185	24.80157	51.07	18.79
94/ 8/16	2449580.5	0.83813	1.12464	0.49379	-19.06789	14.09498	6.98068	1.48698	24.71806	53.30	19.39
94/ 8/20	2449584.5	0.79349	1.15639	0.50956	-19.57384	13.38770	6.66957	1.49215	24.63431	55.54	19.97
94/ 8/24	2449588.5	0.74772	1.18649	0.52460	-20.04681	12.66878	6.35223	1.49735	24.55042	57.78	20.51
94/ 8/28	2449592.5	0.70089	1.21492	0.53891	-20.48675	11.93954	6.02927	1.50256	24.46654	60.02	21.02
94/ 9/ 1	2449596.5	0.65309	1.24165	0.55246	-20.89369	11.20128	5.70129	1.50779	24.38277	62.26	21.49
94/ 9/ 5	2449600.5	0.60438	1.26666	0.56525	-21.26771	10.45527	5.36886	1.51301	24.29924	64.49	21.94
94/ 9/ 9	2449604.5	0.55485	1.28995	0.57726	-21.60896	9.70273	5.03257	1.51824	24.21605	66.73	22.35
94/ 9/13	2449608.5	0.50456	1.31149	0.58850	-21.91763	8.94486	4.69295	1.52346	24.13331	68.96	22.72
94/ 9/17	2449612.5	0.45361	1.33127	0.59894	-22.19395	8.18280	4.35054	1.52865	24.05113	71.18	23.07
94/ 9/21	2449616.5	0.40204	1.34929	0.60860	-22.43822	7.41767	4.00587	1.53383	23.96961	73.41	23.38
94/ 9/25	2449620.5	0.34996	1.36554	0.61745	-22.65074	6.65053	3.65942	1.53897	23.88884	75.63	23.65
94/ 9/29	2449624.5	0.29741	1.38002	0.62550	-22.83188	5.88241	3.31169	1.54407	23.80892	77.84	23.90
94/10/ 3	2449628.5	0.24449	1.39272	0.63275	-22.98202	5.11432	2.96313	1.54914	23.72993	80.04	24.11
94/10/ 7	2449632.5	0.19125	1.40365	0.63919	-23.10157	4.34720	2.61420	1.55415	23.65195	82.24	24.29
94/10/11	2449636.5	0.13778	1.41281	0.64483	-23.19099	3.58197	2.26534	1.55911	23.57508	84.43	24.43
94/10/15	2449640.5	0.08413	1.42020	0.64966	-23.25073	2.81951	1.91695	1.56401	23.49938	86.61	24.54
94/10/19	2449644.5	0.03037	1.42584	0.65369	-23.28128	2.06065	1.56943	1.56884	23.42493	88.78	24.62
94/10/23	2449648.5	-0.02342	1.42973	0.65691	-23.28314	1.30620	1.22316	1.57360	23.35180	90.94	24.67
94/10/27	2449652.5	-0.07718	1.43188	0.65934	-23.25681	0.55692	0.87852	1.57828	23.28006	93.09	24.69
94/10/31	2449656.5	-0.13085	1.43231	0.66097	-23.20283	-0.18644	0.53585	1.58288	23.20976	95.22	24.68

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94/11/ 4	2449660.5	-0.18437	1.43102	0.66182	-23.12173	-0.92319	0.19549	1.58739	23.14098	97.34	24.64
94/11/ 8	2449664.5	-0.23766	1.42805	0.66188	-23.01406	-1.65266	-0.14224	1.59182	23.07376	99.45	24.57
94/11/12	2449668.5	-0.29068	1.42339	0.66116	-22.88037	-2.37420	-0.47703	1.59614	23.00816	101.54	24.47
94/11/16	2449672.5	-0.34336	1.41708	0.65968	-22.72121	-3.08722	-0.80859	1.60037	22.94424	103.62	24.34
94/11/20	2449676.5	-0.39564	1.40914	0.65743	-22.53716	-3.79112	-1.13663	1.60450	22.88204	105.68	24.19
94/11/24	2449680.5	-0.44747	1.39957	0.65443	-22.32876	-4.48536	-1.46089	1.60851	22.82162	107.73	24.01
94/11/28	2449684.5	-0.49879	1.38842	0.65068	-22.09659	-5.16941	-1.78111	1.61242	22.76300	109.76	23.80
94/12/ 2	2449688.5	-0.54955	1.37570	0.64620	-21.84120	-5.84277	-2.09703	1.61621	22.70624	111.78	23.57
94/12/ 6	2449692.5	-0.59969	1.36143	0.64100	-21.56317	-6.50495	-2.40844	1.61988	22.65138	113.77	23.31
94/12/10	2449696.5	-0.64916	1.34565	0.63508	-21.26305	-7.15549	-2.71510	1.62342	22.59845	115.75	23.03
94/12/14	2449700.5	-0.69791	1.32838	0.62846	-20.94140	-7.79397	-3.01679	1.62685	22.54749	117.72	22.72
94/12/18	2449704.5	-0.74590	1.30965	0.62114	-20.59877	-8.41997	-3.31332	1.63014	22.49852	119.66	22.40
94/12/22	2449708.5	-0.79307	1.28949	0.61315	-20.23574	-9.03308	-3.60447	1.63331	22.45159	121.59	22.05
94/12/26	2449712.5	-0.83938	1.26792	0.60449	-19.85283	-9.63292	-3.89008	1.63634	22.40671	123.50	21.68
94/12/30	2449716.5	-0.88478	1.24499	0.59518	-19.45060	-10.21913	-4.16994	1.63923	22.36392	125.40	21.29
95/ 1/ 3	2449720.5	-0.92923	1.22072	0.58523	-19.02959	-10.79137	-4.44388	1.64199	22.32324	127.28	20.88
95/ 1/ 7	2449724.5	-0.97269	1.19514	0.57465	-18.59034	-11.34929	-4.71175	1.64460	22.28470	129.14	20.45
95/ 1/11	2449728.5	-1.01511	1.16829	0.56347	-18.13338	-11.89258	-4.97337	1.64708	22.24832	130.99	20.00
95/ 1/15	2449732.5	-1.05646	1.14021	0.55168	-17.65925	-12.42092	-5.22860	1.64940	22.21411	132.82	19.54
95/ 1/19	2449736.5	-1.09669	1.11092	0.53931	-17.16845	-12.93403	-5.47727	1.65158	22.18210	134.63	19.06
95/ 1/23	2449740.5	-1.13577	1.08046	0.52638	-16.66152	-13.43161	-5.71925	1.65362	22.15230	136.43	18.56
95/ 1/27	2449744.5	-1.17366	1.04887	0.51289	-16.13897	-13.91339	-5.95440	1.65550	22.12473	138.21	18.05
95/ 1/31	2449748.5	-1.21033	1.01619	0.49887	-15.60131	-14.37910	-6.18257	1.65723	22.09940	139.98	17.52
95/ 2/ 4	2449752.5	-1.24574	0.98245	0.48433	-15.04905	-14.82848	-6.40364	1.65881	22.07633	141.74	16.98
95/ 2/ 8	2449756.5	-1.27985	0.94769	0.46929	-14.48270	-15.26128	-6.61748	1.66023	22.05552	143.48	16.42
95/ 2/12	2449760.5	-1.31264	0.91195	0.45376	-13.90276	-15.67725	-6.82396	1.66150	22.03700	145.21	15.85
95/ 2/16	2449764.5	-1.34408	0.87526	0.43777	-13.30972	-16.07617	-7.02296	1.66261	22.02076	146.93	15.27
95/ 2/20	2449768.5	-1.37413	0.83768	0.42132	-12.70410	-16.45780	-7.21436	1.66356	22.00682	148.63	14.67
95/ 2/24	2449772.5	-1.40276	0.79924	0.40444	-12.08638	-16.82192	-7.39804	1.66436	21.99519	150.33	14.06
95/ 2/28	2449776.5	-1.42996	0.75997	0.38715	-11.45705	-17.16829	-7.57389	1.66500	21.98586	152.01	13.45
95/ 3/ 4	2449780.5	-1.45569	0.71993	0.36945	-10.81662	-17.49672	-7.74180	1.66548	21.97885	153.68	12.82
95/ 3/ 8	2449784.5	-1.47993	0.67914	0.35138	-10.16556	-17.80699	-7.90166	1.66580	21.97416	155.35	12.18
95/ 3/12	2449788.5	-1.50265	0.63767	0.33295	-9.50439	-18.09888	-8.05335	1.66596	21.97178	157.01	11.53
95/ 3/16	2449792.5	-1.52384	0.59554	0.31418	-8.83358	-18.37220	-8.19678	1.66597	21.97173	158.65	10.87
95/ 3/20	2449796.5	-1.54346	0.55280	0.29508	-8.15363	-18.62674	-8.33183	1.66581	21.97400	160.29	10.20
95/ 3/24	2449800.5	-1.56150	0.50949	0.27569	-7.46505	-18.86231	-8.45841	1.66549	21.97859	161.93	9.53
95/ 3/28	2449804.5	-1.57794	0.46566	0.25601	-6.76832	-19.07871	-8.57640	1.66502	21.98549	163.56	8.84
95/ 4/ 1	2449808.5	-1.59277	0.42135	0.23607	-6.06395	-19.27575	-8.68571	1.66438	21.99472	165.18	8.15
95/ 4/ 5	2449812.5	-1.60596	0.37661	0.21589	-5.35244	-19.45323	-8.78624	1.66359	22.00625	166.80	7.46
95/ 4/ 9	2449816.5	-1.61749	0.33149	0.19548	-4.63431	-19.61098	-8.87788	1.66264	22.02008	168.42	6.75
95/ 4/13	2449820.5	-1.62736	0.28602	0.17487	-3.91007	-19.74880	-8.96054	1.66154	22.03622	170.03	6.04
95/ 4/17	2449824.5	-1.63555	0.24026	0.15409	-3.18024	-19.86651	-9.03412	1.66027	22.05464	171.64	5.33
95/ 4/21	2449828.5	-1.64205	0.19424	0.13314	-2.44535	-19.96393	-9.09852	1.65885	22.07535	173.25	4.60
95/ 4/25	2449832.5	-1.64685	0.14803	0.11206	-1.70593	-20.04088	-9.15364	1.65728	22.09833	174.86	3.88
95/ 4/29	2449836.5	-1.64993	0.10166	0.09085	-0.96252	-20.09719	-9.19940	1.65556	22.12357	176.47	3.15

1.4 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MARS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
95/ 5/ 3	2449840.5	-1.65129	0.05519	0.06956	-0.21567	-20.13267	-9.23569	1.65368	22.15105	178.09	2.41
95/ 5/ 7	2449844.5	-1.65093	0.00866	0.04819	0.53405	-20.14717	-9.26242	1.65165	22.18076	179.70	1.67
95/ 5/11	2449848.5	-1.64882	-0.03788	0.02677	1.28607	-20.14052	-9.27951	1.64948	22.21269	181.32	0.93
95/ 5/15	2449852.5	-1.64498	-0.08438	0.00532	2.03982	-20.11254	-9.28685	1.64715	22.24682	182.94	0.19
95/ 5/19	2449856.5	-1.63940	-0.13079	-0.01613	2.79469	-20.06309	-9.28437	1.64469	22.28312	184.56	-0.56
95/ 5/23	2449860.5	-1.63207	-0.17706	-0.03757	3.55009	-19.99202	-9.27197	1.64208	22.32159	186.19	-1.31
95/ 5/27	2449864.5	-1.62300	-0.22314	-0.05896	4.30539	-19.89916	-9.24958	1.63932	22.36219	187.83	-2.06
95/ 5/31	2449868.5	-1.61218	-0.26898	-0.08029	5.05995	-19.78439	-9.21710	1.63643	22.40491	189.47	-2.81
95/ 6/ 4	2449872.5	-1.59962	-0.31454	-0.10154	5.81314	-19.64756	-9.17446	1.63341	22.44972	191.12	-3.56
95/ 6/ 8	2449876.5	-1.58532	-0.35975	-0.12268	6.56429	-19.48855	-9.12159	1.63025	22.49659	192.79	-4.32
95/ 6/12	2449880.5	-1.56929	-0.40456	-0.14368	7.31271	-19.30723	-9.05840	1.62696	22.54550	194.46	-5.07
95/ 6/16	2449884.5	-1.55154	-0.44894	-0.16452	8.05771	-19.10350	-8.98483	1.62354	22.59641	196.14	-5.82
95/ 6/20	2449888.5	-1.53207	-0.49281	-0.18518	8.79858	-18.87725	-8.90082	1.61999	22.64929	197.83	-6.56
95/ 6/24	2449892.5	-1.51089	-0.53614	-0.20564	9.53457	-18.62840	-8.80630	1.61633	22.70410	199.54	-7.31
95/ 6/28	2449896.5	-1.48802	-0.57886	-0.22586	10.26495	-18.35686	-8.70121	1.61254	22.76082	201.26	-8.05
95/ 7/ 2	2449900.5	-1.46346	-0.62094	-0.24583	10.98894	-18.06258	-8.58552	1.60864	22.81939	202.99	-8.79
95/ 7/ 6	2449904.5	-1.43725	-0.66230	-0.26552	11.70574	-17.74550	-8.45916	1.60463	22.87978	204.74	-9.52
95/ 7/10	2449908.5	-1.40939	-0.70291	-0.28491	12.41455	-17.40559	-8.32212	1.60051	22.94195	206.51	-10.25
95/ 7/14	2449912.5	-1.37990	-0.74270	-0.30397	13.11453	-17.04283	-8.17435	1.59628	23.00585	208.29	-10.98
95/ 7/18	2449916.5	-1.34880	-0.78163	-0.32267	13.80483	-16.65724	-8.01584	1.59196	23.07142	210.09	-11.69
95/ 7/22	2449920.5	-1.31612	-0.81965	-0.34099	14.48458	-16.24883	-7.84657	1.58754	23.13863	211.91	-12.40
95/ 7/26	2449924.5	-1.28189	-0.85669	-0.35891	15.15287	-15.81765	-7.66654	1.58303	23.20740	213.76	-13.10
95/ 7/30	2449928.5	-1.24612	-0.89271	-0.37641	15.80880	-15.36377	-7.47577	1.57843	23.27769	215.62	-13.80
95/ 8/ 3	2449932.5	-1.20885	-0.92766	-0.39345	16.45143	-14.88730	-7.27426	1.57375	23.34943	217.50	-14.48
95/ 8/ 7	2449936.5	-1.17012	-0.96148	-0.41001	17.07978	-14.38836	-7.06206	1.56899	23.42256	219.41	-15.15
95/ 8/11	2449940.5	-1.12995	-0.99412	-0.42607	17.69289	-13.86711	-6.83921	1.56416	23.49701	221.34	-15.81
95/ 8/15	2449944.5	-1.08838	-1.02553	-0.44160	18.28975	-13.32373	-6.60577	1.55927	23.57272	223.30	-16.45
95/ 8/19	2449948.5	-1.04546	-1.05567	-0.45658	18.86934	-12.75847	-6.36182	1.55431	23.64960	225.28	-17.08
95/ 8/23	2449952.5	-1.00122	-1.08447	-0.47099	19.43063	-12.17158	-6.10745	1.54930	23.72757	227.29	-17.70
95/ 8/27	2449956.5	-0.95570	-1.11189	-0.48479	19.97256	-11.56337	-5.84278	1.54424	23.80657	229.32	-18.30
95/ 8/31	2449960.5	-0.90895	-1.13788	-0.49797	20.49406	-10.93419	-5.56793	1.53913	23.88650	231.38	-18.88
95/ 9/ 4	2449964.5	-0.86102	-1.16239	-0.51051	20.99405	-10.28442	-5.28306	1.53399	23.96727	233.47	-19.44
95/ 9/ 8	2449968.5	-0.81197	-1.18538	-0.52238	21.47143	-9.61451	-4.98833	1.52882	24.04880	235.59	-19.98
95/ 9/12	2449972.5	-0.76184	-1.20680	-0.53355	21.92510	-8.92495	-4.68395	1.52362	24.13098	237.74	-20.50
95/ 9/16	2449976.5	-0.71069	-1.22660	-0.54401	22.35394	-8.21628	-4.37014	1.51841	24.21372	239.91	-20.99
95/ 9/20	2449980.5	-0.65857	-1.24475	-0.55373	22.75684	-7.48910	-4.04713	1.51319	24.29690	242.12	-21.47
95/ 9/24	2449984.5	-0.60556	-1.26119	-0.56270	23.13268	-6.74405	-3.71519	1.50796	24.38044	244.35	-21.91
95/ 9/28	2449988.5	-0.55171	-1.27589	-0.57089	23.48034	-5.98186	-3.37463	1.50273	24.46420	246.62	-22.33
95/10/ 2	2449992.5	-0.49710	-1.28882	-0.57829	23.79871	-5.20330	-3.02578	1.49752	24.54808	248.91	-22.72
95/10/ 6	2449996.5	-0.44178	-1.29992	-0.58487	24.08669	-4.40921	-2.66898	1.49233	24.63195	251.23	-23.07
95/10/10	2450000.5	-0.38583	-1.30918	-0.59061	24.34319	-3.60048	-2.30462	1.48716	24.71570	253.58	-23.40
95/10/14	2450004.5	-0.32933	-1.31655	-0.59551	24.56715	-2.77810	-1.93312	1.48202	24.79919	255.96	-23.69
95/10/18	2450008.5	-0.27235	-1.32200	-0.59954	24.75753	-1.94310	-1.55493	1.47693	24.88230	258.36	-23.95
95/10/22	2450012.5	-0.21497	-1.32552	-0.60269	24.91331	-1.09659	-1.17053	1.47188	24.96489	260.79	-24.17
95/10/26	2450016.5	-0.15727	-1.32706	-0.60494	25.03352	-0.23974	-0.78043	1.46690	25.04683	263.24	-24.36

1.4 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MARS

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95/10/30	2450020.5	-0.09933	-1.32662	-0.60629	25.11721	0.62619	-0.38518	1.46197	25.12797	265.72	-24.50
95/11/ 3	2450024.5	-0.04125	-1.32416	-0.60672	25.16350	1.49990	0.01464	1.45713	25.20817	268.22	-24.61
95/11/ 7	2450028.5	0.01690	-1.31968	-0.60622	25.17156	2.37999	0.41841	1.45236	25.28728	270.73	-24.67
95/11/11	2450032.5	0.07502	-1.31316	-0.60478	25.14061	3.26502	0.82549	1.44768	25.36517	273.27	-24.69
95/11/15	2450036.5	0.13303	-1.30459	-0.60240	25.06994	4.15345	1.23520	1.44310	25.44167	275.82	-24.67
95/11/19	2450040.5	0.19083	-1.29397	-0.59908	24.95893	5.04370	1.64682	1.43863	25.51665	278.39	-24.61
95/11/23	2450044.5	0.24832	-1.28129	-0.59479	24.80703	5.93413	2.05963	1.43428	25.58993	280.97	-24.50
95/11/27	2450048.5	0.30541	-1.26655	-0.58956	24.61378	6.82304	2.47284	1.43004	25.66139	283.56	-24.35
95/12/ 1	2450052.5	0.36201	-1.24977	-0.58337	24.37881	7.70867	2.88566	1.42593	25.73086	286.15	-24.15
95/12/ 5	2450056.5	0.41802	-1.23094	-0.57623	24.10187	8.58920	3.29726	1.42197	25.79819	288.76	-23.91
95/12/ 9	2450060.5	0.47334	-1.21009	-0.56814	23.78279	9.46281	3.70682	1.41815	25.86323	291.36	-23.62
95/12/13	2450064.5	0.52787	-1.18723	-0.55910	23.42155	10.32759	4.11345	1.41448	25.92583	293.97	-23.28
95/12/17	2450068.5	0.58152	-1.16238	-0.54913	23.01823	11.18164	4.51628	1.41097	25.98586	296.58	-22.90
95/12/21	2450072.5	0.63419	-1.13557	-0.53824	22.57303	12.02301	4.91442	1.40763	26.04316	299.18	-22.48
95/12/25	2450076.5	0.68578	-1.10684	-0.52643	22.08629	12.84976	5.30696	1.40447	26.09759	301.78	-22.01
95/12/29	2450080.5	0.73620	-1.07621	-0.51372	21.55848	13.65994	5.69299	1.40148	26.14903	304.37	-21.50
96/ 1/ 2	2450084.5	0.78536	-1.04374	-0.50013	20.99021	14.45157	6.07159	1.39868	26.19734	306.96	-20.95
96/ 1/ 6	2450088.5	0.83316	-1.00946	-0.48568	20.38222	15.22274	6.44185	1.39608	26.24241	309.53	-20.36
96/ 1/10	2450092.5	0.87950	-0.97342	-0.47038	19.73540	15.97151	6.80288	1.39368	26.28411	312.10	-19.73
96/ 1/14	2450096.5	0.92431	-0.93568	-0.45425	19.05078	16.69600	7.15378	1.39148	26.32233	314.65	-19.05
96/ 1/18	2450100.5	0.96750	-0.89630	-0.43733	18.32951	17.39438	7.49367	1.38948	26.35698	317.19	-18.35
96/ 1/22	2450104.5	1.00897	-0.85534	-0.41964	17.57290	18.06485	7.82169	1.38771	26.38796	319.71	-17.60
96/ 1/26	2450108.5	1.04866	-0.81286	-0.40120	16.78237	18.70569	8.13702	1.38614	26.41518	322.22	-16.82
96/ 1/30	2450112.5	1.08649	-0.76893	-0.38205	15.95948	19.31525	8.43887	1.38480	26.43858	324.71	-16.02
96/ 2/ 3	2450116.5	1.12238	-0.72364	-0.36222	15.10592	19.89197	8.72645	1.38369	26.45808	327.19	-15.18
96/ 2/ 7	2450120.5	1.15626	-0.67705	-0.34175	14.22349	20.43436	8.99905	1.38280	26.47364	329.65	-14.31
96/ 2/11	2450124.5	1.18807	-0.62925	-0.32066	13.31408	20.94105	9.25599	1.38214	26.48520	332.09	-13.41
96/ 2/15	2450128.5	1.21776	-0.58033	-0.29899	12.37972	21.41079	9.49663	1.38171	26.49274	334.52	-12.50
96/ 2/19	2450132.5	1.24526	-0.53036	-0.27679	11.42249	21.84242	9.72040	1.38150	26.49624	336.93	-11.56
96/ 2/23	2450136.5	1.27052	-0.47944	-0.25410	10.44458	22.23491	9.92675	1.38153	26.49567	339.33	-10.60
96/ 2/27	2450140.5	1.29350	-0.42766	-0.23094	9.44824	22.58737	10.11522	1.38180	26.49106	341.71	-9.62
96/ 3/ 2	2450144.5	1.31416	-0.37511	-0.20737	8.43577	22.89905	10.28539	1.38229	26.48241	344.07	-8.63
96/ 3/ 6	2450148.5	1.33246	-0.32189	-0.18343	7.40952	23.16930	10.43693	1.38301	26.46973	346.42	-7.62
96/ 3/10	2450152.5	1.34839	-0.26809	-0.15917	6.37189	23.39764	10.56953	1.38396	26.45308	348.75	-6.60
96/ 3/14	2450156.5	1.36190	-0.21381	-0.13461	5.32528	23.58373	10.68298	1.38514	26.43250	351.08	-5.58
96/ 3/18	2450160.5	1.37298	-0.15916	-0.10982	4.27212	23.72736	10.77711	1.38653	26.40804	353.39	-4.54
96/ 3/22	2450164.5	1.38163	-0.10422	-0.08483	3.21481	23.82846	10.85182	1.38815	26.37977	355.69	-3.50
96/ 3/26	2450168.5	1.38784	-0.04909	-0.05970	2.15576	23.88709	10.90710	1.38999	26.34777	357.97	-2.46
96/ 3/30	2450172.5	1.39159	0.00612	-0.03445	1.09734	23.90347	10.94296	1.39203	26.31213	0.25	-1.42
96/ 4/ 3	2450176.5	1.39291	0.06132	-0.00915	0.04190	23.87792	10.95949	1.39429	26.27294	2.52	-0.38
96/ 4/ 7	2450180.5	1.39179	0.11641	0.01617	-1.00828	23.81092	10.95685	1.39675	26.23031	4.78	0.66
96/ 4/11	2450184.5	1.38826	0.17130	0.04146	-2.05096	23.70303	10.93525	1.39940	26.18434	7.03	1.70
96/ 4/15	2450188.5	1.38232	0.22590	0.06668	-3.08398	23.55496	10.89494	1.40225	26.13516	9.28	2.73
96/ 4/19	2450192.5	1.37402	0.28010	0.09178	-4.10525	23.36751	10.83624	1.40528	26.08290	11.52	3.74
96/ 4/23	2450196.5	1.36337	0.33383	0.11673	-5.11275	23.14158	10.75951	1.40849	26.02768	13.76	4.75

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96/ 4/27	2450200.5	1.35041	0.38700	0.14148	-6.10458	22.87817	10.66515	1.41187	25.96963	15.99	5.75
96/ 5/ 1	2450204.5	1.33517	0.43951	0.16599	-7.07890	22.57835	10.55362	1.41542	25.90891	18.22	6.73
96/ 5/ 5	2450208.5	1.31771	0.49129	0.19023	-8.03399	22.24329	10.42539	1.41913	25.84566	20.45	7.70
96/ 5/ 9	2450212.5	1.29807	0.54225	0.21415	-8.96822	21.87421	10.28099	1.42299	25.78001	22.67	8.66
96/ 5/13	2450216.5	1.27629	0.59233	0.23772	-9.88007	21.47239	10.12096	1.42699	25.71212	24.90	9.59
96/ 5/17	2450220.5	1.25244	0.64144	0.26090	-10.76813	21.03916	9.94587	1.43113	25.64214	27.12	10.50
96/ 5/21	2450224.5	1.22656	0.68951	0.28366	-11.63109	20.57590	9.75633	1.43539	25.57021	29.34	11.40
96/ 5/25	2450228.5	1.19872	0.73649	0.30597	-12.46775	20.08403	9.55295	1.43978	25.49651	31.57	12.27
96/ 5/29	2450232.5	1.16898	0.78229	0.32779	-13.27702	19.56498	9.33636	1.44427	25.42116	33.79	13.12
96/ 6/ 2	2450236.5	1.13740	0.82686	0.34910	-14.05792	19.02022	9.10721	1.44888	25.34433	36.02	13.94
96/ 6/ 6	2450240.5	1.10405	0.87015	0.36986	-14.80956	18.45122	8.86615	1.45357	25.26617	38.24	14.74
96/ 6/10	2450244.5	1.06899	0.91210	0.39005	-15.53117	17.85946	8.61384	1.45836	25.18682	40.47	15.51
96/ 6/14	2450248.5	1.03231	0.95265	0.40965	-16.22208	17.24641	8.35094	1.46322	25.10643	42.70	16.26
96/ 6/18	2450252.5	0.99407	0.99177	0.42863	-16.88168	16.61357	8.07810	1.46816	25.02514	44.93	16.97
96/ 6/22	2450256.5	0.95434	1.02940	0.44697	-17.50951	15.96239	7.79601	1.47316	24.94311	47.17	17.66
96/ 6/26	2450260.5	0.91319	1.06550	0.46464	-18.10515	15.29433	7.50530	1.47821	24.86046	49.40	18.32
96/ 6/30	2450264.5	0.87071	1.10005	0.48164	-18.66828	14.61081	7.20662	1.48331	24.77733	51.64	18.95
96/ 7/ 4	2450268.5	0.82696	1.13300	0.49793	-19.19868	13.91325	6.90063	1.48846	24.69386	53.87	19.54
96/ 7/ 8	2450272.5	0.78203	1.16433	0.51352	-19.69617	13.20304	6.58794	1.49363	24.61017	56.11	20.11
96/ 7/12	2450276.5	0.73599	1.19400	0.52837	-20.16067	12.48151	6.26918	1.49882	24.52639	58.35	20.64
96/ 7/16	2450280.5	0.68891	1.22199	0.54248	-20.59217	11.75001	5.94495	1.50404	24.44264	60.59	21.14
96/ 7/20	2450284.5	0.64087	1.24828	0.55583	-20.99069	11.00982	5.61585	1.50926	24.35904	62.82	21.61
96/ 7/24	2450288.5	0.59195	1.27285	0.56842	-21.35634	10.26218	5.28246	1.51448	24.27571	65.06	22.04
96/ 7/28	2450292.5	0.54222	1.29569	0.58024	-21.68928	9.50833	4.94533	1.51970	24.19276	67.29	22.45
96/ 8/ 1	2450296.5	0.49176	1.31678	0.59127	-21.98971	8.74942	4.60502	1.52490	24.11028	69.52	22.81
96/ 8/ 5	2450300.5	0.44064	1.33611	0.60151	-22.25787	7.98661	4.26205	1.53009	24.02840	71.75	23.15
96/ 8/ 9	2450304.5	0.38895	1.35368	0.61096	-22.49406	7.22100	3.91694	1.53525	23.94719	73.97	23.45
96/ 8/13	2450308.5	0.33674	1.36947	0.61961	-22.69861	6.45364	3.57017	1.54038	23.86676	76.19	23.72
96/ 8/17	2450312.5	0.28409	1.38349	0.62745	-22.87188	5.68556	3.22224	1.54547	23.78721	78.40	23.95
96/ 8/21	2450316.5	0.23109	1.39574	0.63449	-23.01426	4.91774	2.87360	1.55051	23.70860	80.60	24.16
96/ 8/25	2450320.5	0.17778	1.40622	0.64073	-23.12618	4.15112	2.52470	1.55550	23.63104	82.79	24.32
96/ 8/29	2450324.5	0.12426	1.41492	0.64616	-23.20808	3.38661	2.17596	1.56044	23.55459	84.98	24.46
96/ 9/ 2	2450328.5	0.07058	1.42187	0.65078	-23.26043	2.62507	1.82780	1.56531	23.47934	87.16	24.57
96/ 9/ 6	2450332.5	0.01681	1.42705	0.65461	-23.28372	1.86734	1.48060	1.57012	23.40536	89.33	24.64
96/ 9/10	2450336.5	-0.03698	1.43050	0.65763	-23.27845	1.11421	1.13475	1.57485	23.33271	91.48	24.68
96/ 9/14	2450340.5	-0.09072	1.43221	0.65985	-23.24514	0.36643	0.79061	1.57951	23.26146	93.62	24.69
96/ 9/18	2450344.5	-0.14436	1.43220	0.66128	-23.18431	-0.37526	0.44853	1.58408	23.19168	95.76	24.67
96/ 9/22	2450348.5	-0.19782	1.43048	0.66192	-23.09650	-1.11017	0.10883	1.58857	23.12342	97.87	24.63
96/ 9/26	2450352.5	-0.25105	1.42707	0.66179	-22.98226	-1.83764	-0.22816	1.59296	23.05674	99.98	24.55
96/ 9/30	2450356.5	-0.30399	1.42199	0.66087	-22.84215	-2.55705	-0.56213	1.59726	22.99170	102.07	24.44
96/10/ 4	2450360.5	-0.35657	1.41526	0.65919	-22.67671	-3.26778	-0.89281	1.60145	22.92834	104.14	24.31
96/10/ 8	2450364.5	-0.40875	1.40690	0.65675	-22.48651	-3.96926	-1.21990	1.60554	22.86671	106.20	24.15
96/10/12	2450368.5	-0.46045	1.39693	0.65356	-22.27211	-4.66096	-1.54315	1.60953	22.80686	108.24	23.96
96/10/16	2450372.5	-0.51163	1.38538	0.64962	-22.03408	-5.34233	-1.86230	1.61339	22.74883	110.27	23.74
96/10/20	2450376.5	-0.56224	1.37226	0.64496	-21.77297	-6.01290	-2.17709	1.61715	22.69266	112.28	23.50

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96/10/24	2450380.5	-0.61221	1.35760	0.63957	-21.48936	-6.67217	-2.48731	1.62078	22.63840	114.27	23.24
96/10/28	2450384.5	-0.66151	1.34144	0.63347	-21.18379	-7.31970	-2.79273	1.62429	22.58607	116.25	22.95
96/11/ 1	2450388.5	-0.71007	1.32379	0.62667	-20.85684	-7.95506	-3.09313	1.62768	22.53571	118.21	22.64
96/11/ 5	2450392.5	-0.75786	1.30469	0.61918	-20.50905	-8.57784	-3.38832	1.63094	22.48735	120.15	22.31
96/11/ 9	2450396.5	-0.80482	1.28417	0.61102	-20.14098	-9.18763	-3.67808	1.63406	22.44103	122.08	21.96
96/11/13	2450400.5	-0.85090	1.26225	0.60219	-19.75318	-9.78407	-3.96225	1.63706	22.39677	123.98	21.58
96/11/17	2450404.5	-0.89607	1.23897	0.59271	-19.34619	-10.36679	-4.24063	1.63991	22.35460	125.88	21.19
96/11/21	2450408.5	-0.94027	1.21437	0.58260	-18.92055	-10.93544	-4.51306	1.64263	22.31454	127.75	20.77
96/11/25	2450412.5	-0.98347	1.18846	0.57187	-18.47680	-11.48970	-4.77936	1.64520	22.27662	129.61	20.34
96/11/29	2450416.5	-1.02563	1.16129	0.56052	-18.01547	-12.02925	-5.03938	1.64763	22.24085	131.45	19.89
96/12/ 3	2450420.5	-1.06670	1.13289	0.54859	-17.53709	-12.55377	-5.29296	1.64992	22.20725	133.28	19.42
96/12/ 7	2450424.5	-1.10664	1.10330	0.53607	-17.04218	-13.06298	-5.53995	1.65206	22.17586	135.09	18.93
96/12/11	2450428.5	-1.14543	1.07255	0.52300	-16.53127	-13.55660	-5.78022	1.65405	22.14667	136.88	18.43
96/12/15	2450432.5	-1.18301	1.04068	0.50937	-16.00486	-14.03434	-6.01361	1.65589	22.11971	138.66	17.92
96/12/19	2450436.5	-1.21936	1.00772	0.49522	-15.46347	-14.49594	-6.23999	1.65758	22.09499	140.43	17.38
96/12/23	2450440.5	-1.25445	0.97371	0.48055	-14.90761	-14.94116	-6.45924	1.65912	22.07253	142.18	16.84
96/12/27	2450444.5	-1.28823	0.93870	0.46538	-14.33777	-15.36972	-6.67122	1.66050	22.05233	143.92	16.28
96/12/31	2450448.5	-1.32068	0.90271	0.44973	-13.75447	-15.78141	-6.87582	1.66173	22.03441	145.65	15.70
97/ 1/ 4	2450452.5	-1.35177	0.86579	0.43362	-13.15820	-16.17597	-7.07290	1.66280	22.01877	147.36	15.12
97/ 1/ 8	2450456.5	-1.38147	0.82799	0.41706	-12.54946	-16.55319	-7.26235	1.66372	22.00542	149.06	14.52
97/ 1/12	2450460.5	-1.40975	0.78933	0.40007	-11.92874	-16.91282	-7.44406	1.66447	21.99437	150.76	13.91
97/ 1/16	2450464.5	-1.43658	0.74986	0.38267	-11.29653	-17.25467	-7.61790	1.66507	21.98562	152.44	13.29
97/ 1/20	2450468.5	-1.46193	0.70962	0.36488	-10.65334	-17.57850	-7.78377	1.66551	21.97918	154.11	12.65
97/ 1/24	2450472.5	-1.48579	0.66865	0.34671	-9.99966	-17.88411	-7.94156	1.66580	21.97506	155.77	12.01
97/ 1/28	2450476.5	-1.50813	0.62700	0.32819	-9.33597	-18.17130	-8.09116	1.66592	21.97324	157.42	11.36
97/ 2/ 1	2450480.5	-1.52892	0.58471	0.30933	-8.66278	-18.43986	-8.23246	1.66588	21.97374	159.07	10.70
97/ 2/ 5	2450484.5	-1.54814	0.54182	0.29016	-7.98057	-18.68958	-8.36535	1.66569	21.97656	160.71	10.03
97/ 2/ 9	2450488.5	-1.56578	0.49837	0.27069	-7.28984	-18.92028	-8.48975	1.66533	21.98169	162.34	9.35
97/ 2/13	2450492.5	-1.58182	0.45441	0.25094	-6.59110	-19.13176	-8.60553	1.66482	21.98913	163.97	8.67
97/ 2/17	2450496.5	-1.59623	0.40999	0.23093	-5.88484	-19.32382	-8.71260	1.66414	21.99888	165.60	7.98
97/ 2/21	2450500.5	-1.60900	0.36515	0.21069	-5.17158	-19.49628	-8.81086	1.66331	22.01094	167.21	7.28
97/ 2/25	2450504.5	-1.62012	0.31993	0.19023	-4.45183	-19.64894	-8.90021	1.66233	22.02529	168.83	6.57
97/ 3/ 1	2450508.5	-1.62957	0.27438	0.16958	-3.72609	-19.78163	-8.98055	1.66118	22.04193	170.44	5.86
97/ 3/ 5	2450512.5	-1.63733	0.22854	0.14875	-2.99490	-19.89415	-9.05178	1.65988	22.06086	172.05	5.14
97/ 3/ 9	2450516.5	-1.64340	0.18247	0.12776	-2.25879	-19.98634	-9.11381	1.65843	22.08206	173.66	4.42
97/ 3/13	2450520.5	-1.64777	0.13621	0.10664	-1.51828	-20.05801	-9.16653	1.65682	22.10553	175.27	3.69
97/ 3/17	2450524.5	-1.65041	0.08981	0.08542	-0.77394	-20.10899	-9.20986	1.65506	22.13125	176.89	2.96
97/ 3/21	2450528.5	-1.65134	0.04332	0.06410	-0.02630	-20.13911	-9.24371	1.65315	22.15921	178.50	2.22
97/ 3/25	2450532.5	-1.65053	-0.00322	0.04271	0.72407	-20.14820	-9.26797	1.65109	22.18940	180.11	1.48
97/ 3/29	2450536.5	-1.64799	-0.04976	0.02129	1.47659	-20.13608	-9.28256	1.64888	22.22179	181.73	0.74
97/ 4/ 2	2450540.5	-1.64371	-0.09624	-0.00017	2.23068	-20.10261	-9.28738	1.64652	22.25638	183.35	-0.01
97/ 4/ 6	2450544.5	-1.63768	-0.14262	-0.02162	2.98575	-20.04762	-9.28236	1.64403	22.29314	184.98	-0.75
97/ 4/10	2450548.5	-1.62991	-0.18885	-0.04305	3.74117	-19.97096	-9.26740	1.64138	22.33205	186.61	-1.50
97/ 4/14	2450552.5	-1.62040	-0.23488	-0.06443	4.49634	-19.87249	-9.24242	1.63860	22.37309	188.25	-2.25
97/ 4/18	2450556.5	-1.60914	-0.28065	-0.08574	5.25061	-19.75206	-9.20733	1.63568	22.41623	189.89	-3.00

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97/ 4/22	2450560.5	-1.59614	-0.32612	-0.10696	6.00332	-19.60954	-9.16206	1.63262	22.46146	191.55	-3.76
97/ 4/26	2450564.5	-1.58140	-0.37124	-0.12807	6.75382	-19.44480	-9.10654	1.62943	22.50874	193.21	-4.51
97/ 4/30	2450568.5	-1.56494	-0.41594	-0.14903	7.50141	-19.25774	-9.04069	1.62612	22.55805	194.88	-5.26
97/ 5/ 4	2450572.5	-1.54675	-0.46020	-0.16983	8.24540	-19.04823	-8.96444	1.62267	22.60935	196.57	-6.01
97/ 5/ 8	2450576.5	-1.52684	-0.50394	-0.19044	8.98506	-18.81618	-8.87772	1.61910	22.66261	198.27	-6.75
97/ 5/12	2450580.5	-1.50524	-0.54712	-0.21084	9.71966	-18.56150	-8.78049	1.61540	22.71779	199.97	-7.50
97/ 5/16	2450584.5	-1.48194	-0.58968	-0.23100	10.44845	-18.28413	-8.67268	1.61159	22.77487	201.70	-8.24
97/ 5/20	2450588.5	-1.45697	-0.63158	-0.25090	11.17064	-17.98399	-8.55425	1.60767	22.83380	203.44	-8.98
97/ 5/24	2450592.5	-1.43033	-0.67275	-0.27052	11.88544	-17.66105	-8.42515	1.60363	22.89453	205.19	-9.71
97/ 5/28	2450596.5	-1.40206	-0.71316	-0.28982	12.59203	-17.31528	-8.28535	1.59949	22.95703	206.96	-10.44
97/ 6/ 1	2450600.5	-1.37216	-0.75274	-0.30879	13.28958	-16.94666	-8.13482	1.59524	23.02124	208.75	-11.16
97/ 6/ 5	2450604.5	-1.34066	-0.79144	-0.32740	13.97722	-16.55521	-7.97354	1.59090	23.08712	210.55	-11.88
97/ 6/ 9	2450608.5	-1.30759	-0.82921	-0.34562	14.65409	-16.14096	-7.80151	1.58646	23.15462	212.38	-12.58
97/ 6/13	2450612.5	-1.27297	-0.86600	-0.36344	15.31926	-15.70396	-7.61873	1.58193	23.22368	214.23	-13.28
97/ 6/17	2450616.5	-1.23682	-0.90175	-0.38082	15.97184	-15.24429	-7.42520	1.57731	23.29424	216.10	-13.97
97/ 6/21	2450620.5	-1.19918	-0.93642	-0.39773	16.61086	-14.76206	-7.22095	1.57261	23.36624	217.99	-14.65
97/ 6/25	2450624.5	-1.16008	-0.96994	-0.41417	17.23538	-14.25740	-7.00602	1.56784	23.43963	219.90	-15.32
97/ 6/29	2450628.5	-1.11956	-1.00228	-0.43010	17.84439	-13.73049	-6.78046	1.56299	23.51432	221.84	-15.97
97/ 7/ 3	2450632.5	-1.07765	-1.03337	-0.44549	18.43691	-13.18151	-6.54433	1.55809	23.59025	223.80	-16.61
97/ 7/ 7	2450636.5	-1.03439	-1.06316	-0.46033	19.01190	-12.61071	-6.29771	1.55312	23.66735	225.79	-17.24
97/ 7/11	2450640.5	-0.98982	-1.09161	-0.47458	19.56833	-12.01836	-6.04070	1.54809	23.74554	227.80	-17.85
97/ 7/15	2450644.5	-0.94399	-1.11867	-0.48823	20.10514	-11.40477	-5.77342	1.54302	23.82473	229.84	-18.45
97/ 7/19	2450648.5	-0.89694	-1.14429	-0.50125	20.62124	-10.77032	-5.49601	1.53791	23.90484	231.91	-19.02
97/ 7/23	2450652.5	-0.84873	-1.16842	-0.51361	21.11557	-10.11538	-5.20861	1.53276	23.98579	234.01	-19.58
97/ 7/27	2450656.5	-0.79940	-1.19101	-0.52531	21.58701	-9.44043	-4.91141	1.52758	24.06747	236.13	-20.11
97/ 7/31	2450660.5	-0.74901	-1.21202	-0.53630	22.03447	-8.74597	-4.60461	1.52238	24.14979	238.28	-20.63
97/ 8/ 4	2450664.5	-0.69761	-1.23141	-0.54657	22.45683	-8.03254	-4.28844	1.51716	24.23266	240.47	-21.12
97/ 8/ 8	2450668.5	-0.64527	-1.24912	-0.55611	22.85297	-7.30076	-3.96314	1.51193	24.31596	242.68	-21.58
97/ 8/12	2450672.5	-0.59204	-1.26513	-0.56488	23.22178	-6.55129	-3.62898	1.50670	24.39959	244.92	-22.02
97/ 8/16	2450676.5	-0.53800	-1.27938	-0.57287	23.56214	-5.78487	-3.28629	1.50148	24.48344	247.19	-22.43
97/ 8/20	2450680.5	-0.48320	-1.29184	-0.58005	23.87293	-5.00229	-2.93538	1.49626	24.56738	249.49	-22.81
97/ 8/24	2450684.5	-0.42772	-1.30248	-0.58642	24.15308	-4.20439	-2.57662	1.49107	24.65131	251.82	-23.16
97/ 8/28	2450688.5	-0.37163	-1.31126	-0.59195	24.40148	-3.39210	-2.21041	1.48591	24.73509	254.18	-23.48
97/ 9/ 1	2450692.5	-0.31500	-1.31814	-0.59663	24.61709	-2.56641	-1.83717	1.48077	24.81859	256.56	-23.76
97/ 9/ 5	2450696.5	-0.25792	-1.32311	-0.60044	24.79886	-1.72837	-1.45735	1.47569	24.90170	258.97	-24.01
97/ 9/ 9	2450700.5	-0.20045	-1.32612	-0.60336	24.94579	-0.87910	-1.07144	1.47065	24.98426	261.40	-24.22
97/ 9/13	2450704.5	-0.14269	-1.32716	-0.60538	25.05691	-0.01981	-0.67998	1.46567	25.06614	263.86	-24.40
97/ 9/17	2450708.5	-0.08471	-1.32620	-0.60650	25.13130	0.84825	-0.28350	1.46076	25.14721	266.35	-24.53
97/ 9/21	2450712.5	-0.02660	-1.32323	-0.60669	25.16808	1.72375	0.11739	1.45593	25.22731	268.85	-24.63
97/ 9/25	2450716.5	0.03155	-1.31824	-0.60595	25.16643	2.60527	0.52208	1.45118	25.30630	271.37	-24.68
97/ 9/29	2450720.5	0.08965	-1.31119	-0.60428	25.12559	3.49135	0.92990	1.44652	25.38404	273.91	-24.69
97/10/ 3	2450724.5	0.14761	-1.30210	-0.60165	25.04487	4.38045	1.34019	1.44196	25.46036	276.47	-24.66
97/10/ 7	2450728.5	0.20533	-1.29095	-0.59808	24.92367	5.27097	1.75221	1.43751	25.53513	279.04	-24.59
97/10/11	2450732.5	0.26273	-1.27775	-0.59356	24.76145	6.16126	2.16522	1.43317	25.60818	281.62	-24.47
97/10/15	2450736.5	0.31971	-1.26249	-0.58808	24.55778	7.04959	2.57845	1.42896	25.67936	284.21	-24.30

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97/10/19	2450740.5	0.37616	-1.24518	-0.58164	24.31231	7.93420	2.99108	1.42488	25.74852	286.81	-24.09
97/10/23	2450744.5	0.43201	-1.22583	-0.57426	24.02481	8.81326	3.40229	1.42094	25.81551	289.41	-23.84
97/10/27	2450748.5	0.48714	-1.20446	-0.56593	23.69516	9.68492	3.81124	1.41715	25.88018	292.02	-23.54
97/10/31	2450752.5	0.54145	-1.18109	-0.55665	23.32334	10.54729	4.21705	1.41351	25.94238	294.63	-23.19
97/11/ 4	2450756.5	0.59486	-1.15574	-0.54644	22.90946	11.39844	4.61883	1.41004	26.00195	297.24	-22.80
97/11/ 8	2450760.5	0.64727	-1.12844	-0.53532	22.45377	12.23643	5.01570	1.40673	26.05877	299.84	-22.37
97/11/12	2450764.5	0.69858	-1.09922	-0.52328	21.95663	13.05931	5.40673	1.40360	26.11268	302.44	-21.89
97/11/16	2450768.5	0.74869	-1.06811	-0.51034	21.41855	13.86511	5.79103	1.40066	26.16356	305.03	-21.37
97/11/20	2450772.5	0.79751	-1.03517	-0.49652	20.84017	14.65189	6.16767	1.39790	26.21127	307.61	-20.81
97/11/24	2450776.5	0.84495	-1.00043	-0.48185	20.22226	15.41771	6.53575	1.39534	26.25570	310.18	-20.20
97/11/28	2450780.5	0.89091	-0.96395	-0.46633	19.56575	16.16065	6.89436	1.39298	26.29672	312.74	-19.56
97/12/ 2	2450784.5	0.93532	-0.92578	-0.45000	18.87170	16.87884	7.24261	1.39083	26.33423	315.29	-18.88
97/12/ 6	2450788.5	0.97808	-0.88599	-0.43288	18.14129	17.57044	7.57964	1.38888	26.36812	317.83	-18.16
97/12/10	2450792.5	1.01911	-0.84462	-0.41499	17.37587	18.23369	7.90458	1.38715	26.39831	320.35	-17.41
97/12/14	2450796.5	1.05833	-0.80176	-0.39637	16.57689	18.86687	8.21662	1.38564	26.42470	322.85	-16.62
97/12/18	2450800.5	1.09568	-0.75748	-0.37704	15.74596	19.46834	8.51497	1.38435	26.44724	325.34	-15.80
97/12/22	2450804.5	1.13106	-0.71184	-0.35704	14.88478	20.03658	8.79886	1.38329	26.46585	327.82	-14.96
97/12/26	2450808.5	1.16443	-0.66493	-0.33640	13.99519	20.57011	9.06759	1.38245	26.48048	330.27	-14.08
97/12/30	2450812.5	1.19571	-0.61682	-0.31515	13.07911	21.06760	9.32048	1.38185	26.49110	332.71	-13.18
98/ 1/ 3	2450816.5	1.22484	-0.56762	-0.29334	12.13858	21.52781	9.55691	1.38147	26.49766	335.14	-12.26
98/ 1/ 7	2450820.5	1.25177	-0.51739	-0.27101	11.17572	21.94962	9.77631	1.38133	26.50016	337.54	-11.31
98/ 1/11	2450824.5	1.27646	-0.46623	-0.24819	10.19274	22.33203	9.97817	1.38142	26.49859	339.94	-10.35
98/ 1/15	2450828.5	1.29885	-0.41424	-0.22492	9.19189	22.67418	10.16203	1.38174	26.49295	342.31	-9.37
98/ 1/19	2450832.5	1.31892	-0.36150	-0.20125	8.17551	22.97535	10.32749	1.38229	26.48325	344.67	-8.37
98/ 1/23	2450836.5	1.33662	-0.30812	-0.17722	7.14595	23.23493	10.47421	1.38307	26.46952	347.02	-7.36
98/ 1/27	2450840.5	1.35192	-0.25418	-0.15287	6.10561	23.45249	10.60193	1.38408	26.45181	349.35	-6.34
98/ 1/31	2450844.5	1.36482	-0.19979	-0.12825	5.05692	23.62770	10.71043	1.38531	26.43017	351.67	-5.31
98/ 2/ 4	2450848.5	1.37529	-0.14504	-0.10340	4.00228	23.76039	10.79958	1.38677	26.40464	353.98	-4.28
98/ 2/ 8	2450852.5	1.38331	-0.09004	-0.07837	2.94412	23.85054	10.86929	1.38845	26.37532	356.28	-3.24
98/ 2/12	2450856.5	1.38889	-0.03488	-0.05319	1.88484	23.89824	10.91955	1.39034	26.34227	358.56	-2.19
98/ 2/16	2450860.5	1.39202	0.02035	-0.02793	0.82680	23.90374	10.95040	1.39245	26.30559	0.84	-1.15
98/ 2/20	2450864.5	1.39271	0.07553	-0.00261	-0.22766	23.86741	10.96196	1.39476	26.26537	3.10	-0.11
98/ 2/24	2450868.5	1.39097	0.13059	0.02270	-1.27628	23.78974	10.95438	1.39727	26.22173	5.36	0.93
98/ 2/28	2450872.5	1.38682	0.18542	0.04798	-2.31682	23.67134	10.92789	1.39998	26.17477	7.62	1.96
98/ 3/ 4	2450876.5	1.38027	0.23993	0.07318	-3.34715	23.51294	10.88277	1.40288	26.12463	9.86	2.99
98/ 3/ 8	2450880.5	1.37136	0.29403	0.09825	-4.36519	23.31536	10.81933	1.40597	26.07142	12.10	4.01
98/ 3/12	2450884.5	1.36012	0.34762	0.12316	-5.36896	23.07955	10.73796	1.40923	26.01528	14.34	5.01
98/ 3/16	2450888.5	1.34657	0.40063	0.14785	-6.35654	22.80651	10.63907	1.41266	25.95635	16.57	6.01
98/ 3/20	2450892.5	1.33076	0.45297	0.17230	-7.32615	22.49735	10.52311	1.41626	25.89477	18.80	6.99
98/ 3/24	2450896.5	1.31274	0.50455	0.19646	-8.27609	22.15325	10.39059	1.42002	25.83069	21.02	7.95
98/ 3/28	2450900.5	1.29254	0.55530	0.22029	-9.20474	21.77545	10.24203	1.42392	25.76425	23.25	8.90
98/ 4/ 1	2450904.5	1.27022	0.60514	0.24377	-10.11062	21.36525	10.07799	1.42796	25.69561	25.47	9.83
98/ 4/ 5	2450908.5	1.24584	0.65399	0.26685	-10.99235	20.92399	9.89905	1.43214	25.62492	27.70	10.74
98/ 4/ 9	2450912.5	1.21945	0.70179	0.28950	-11.84865	20.45307	9.70581	1.43645	25.55233	29.92	11.63
98/ 4/13	2450916.5	1.19112	0.74847	0.31168	-12.67834	19.95391	9.49889	1.44087	25.47799	32.14	12.49

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98/ 4/17	2450920.5	1.16090	0.79396	0.33337	-13.48037	19.42795	9.27893	1.44541	25.40205	34.37	13.33
98/ 4/21	2450924.5	1.12886	0.83821	0.35454	-14.25378	18.87666	9.04658	1.45004	25.32467	36.60	14.15
98/ 4/25	2450928.5	1.09506	0.88116	0.37516	-14.99771	18.30152	8.80249	1.45477	25.24600	38.82	14.94
98/ 4/29	2450932.5	1.05959	0.92276	0.39521	-15.71141	17.70401	8.54732	1.45959	25.16619	41.05	15.71
98/ 5/ 3	2450936.5	1.02249	0.96295	0.41465	-16.39423	17.08561	8.28174	1.46448	25.08538	43.28	16.45
98/ 5/ 7	2450940.5	0.98386	1.00168	0.43346	-17.04562	16.44780	8.00640	1.46944	25.00371	45.51	17.16
98/ 5/11	2450944.5	0.94376	1.03893	0.45163	-17.66510	15.79203	7.72197	1.47446	24.92134	47.75	17.84
98/ 5/15	2450948.5	0.90227	1.07464	0.46913	-18.25231	15.11977	7.42910	1.47953	24.83839	49.98	18.49
98/ 5/19	2450952.5	0.85946	1.10877	0.48595	-18.80693	14.43243	7.12844	1.48465	24.75501	52.22	19.11
98/ 5/23	2450956.5	0.81540	1.14131	0.50206	-19.32877	13.73141	6.82063	1.48981	24.67132	54.46	19.69
98/ 5/27	2450960.5	0.77018	1.17221	0.51746	-19.81768	13.01810	6.50629	1.49499	24.58746	56.69	20.25
98/ 5/31	2450964.5	0.72386	1.20145	0.53212	-20.27359	12.29384	6.18604	1.50020	24.50355	58.93	20.78
98/ 6/ 4	2450968.5	0.67653	1.22900	0.54604	-20.69649	11.55994	5.86048	1.50542	24.41971	61.17	21.27
98/ 6/ 8	2450972.5	0.62826	1.25485	0.55920	-21.08644	10.81769	5.53020	1.51065	24.33605	63.40	21.73
98/ 6/12	2450976.5	0.57913	1.27898	0.57159	-21.44356	10.06832	5.19578	1.51588	24.25270	65.64	22.15
98/ 6/16	2450980.5	0.52921	1.30137	0.58320	-21.76802	9.31304	4.85777	1.52110	24.16976	67.87	22.54
98/ 6/20	2450984.5	0.47858	1.32200	0.59403	-22.06003	8.55302	4.51671	1.52630	24.08733	70.10	22.90
98/ 6/24	2450988.5	0.42731	1.34088	0.60407	-22.31984	7.78940	4.17314	1.53149	24.00553	72.32	23.23
98/ 6/28	2450992.5	0.37548	1.35799	0.61331	-22.54778	7.02325	3.82756	1.53664	23.92443	74.54	23.52
98/ 7/ 2	2450996.5	0.32315	1.37333	0.62175	-22.74417	6.25563	3.48046	1.54176	23.84415	76.76	23.78
98/ 7/ 6	2451000.5	0.27041	1.38690	0.62939	-22.90938	5.48755	3.13231	1.54685	23.76477	78.97	24.01
98/ 7/10	2451004.5	0.21733	1.39869	0.63622	-23.04382	4.71999	2.78357	1.55188	23.68637	81.17	24.20
98/ 7/14	2451008.5	0.16397	1.40870	0.64225	-23.14792	3.95386	2.43468	1.55686	23.60904	83.36	24.36
98/ 7/18	2451012.5	0.11040	1.41696	0.64747	-23.22213	3.19007	2.08607	1.56178	23.53286	85.54	24.49
98/ 7/22	2451016.5	0.05670	1.42345	0.65189	-23.26692	2.42948	1.73813	1.56664	23.45790	87.72	24.59
98/ 7/26	2451020.5	0.00292	1.42818	0.65550	-23.28278	1.67291	1.39126	1.57143	23.38423	89.88	24.65
98/ 7/30	2451024.5	-0.05086	1.43118	0.65832	-23.27023	0.92113	1.04584	1.57615	23.31192	92.04	24.69
98/ 8/ 3	2451028.5	-0.10457	1.43244	0.66034	-23.22977	0.17491	0.70222	1.58078	23.24104	94.18	24.69
98/ 8/ 7	2451032.5	-0.15817	1.43199	0.66156	-23.16195	-0.56505	0.36074	1.58533	23.17165	96.30	24.66
98/ 8/11	2451036.5	-0.21157	1.42984	0.66200	-23.06729	-1.29806	0.02173	1.58980	23.10380	98.42	24.61
98/ 8/15	2451040.5	-0.26473	1.42600	0.66167	-22.94636	-2.02347	-0.31449	1.59416	23.03755	100.52	24.52
98/ 8/19	2451044.5	-0.31757	1.42050	0.66055	-22.79970	-2.74065	-0.64763	1.59843	22.97296	102.60	24.41
98/ 8/23	2451048.5	-0.37005	1.41334	0.65868	-22.62787	-3.44901	-0.97739	1.60260	22.91007	104.67	24.27
98/ 8/27	2451052.5	-0.42210	1.40457	0.65604	-22.43143	-4.14798	-1.30350	1.60666	22.84894	106.73	24.10
98/ 8/31	2451056.5	-0.47367	1.39419	0.65266	-22.21095	-4.83703	-1.62569	1.61062	22.78960	108.77	23.91
98/ 9/ 4	2451060.5	-0.52470	1.38223	0.64853	-21.96698	-5.51563	-1.94373	1.61445	22.73210	110.79	23.68
98/ 9/ 8	2451064.5	-0.57515	1.36871	0.64368	-21.70008	-6.18330	-2.25735	1.61817	22.67648	112.79	23.44
98/ 9/12	2451068.5	-0.62495	1.35367	0.63811	-21.41083	-6.83957	-2.56635	1.62177	22.62277	114.78	23.17
98/ 9/16	2451072.5	-0.67406	1.33712	0.63183	-21.09978	-7.48399	-2.87048	1.62525	22.57101	116.75	22.88
98/ 9/20	2451076.5	-0.72242	1.31910	0.62485	-20.76748	-8.11614	-3.16955	1.62860	22.52123	118.71	22.56
98/ 9/24	2451080.5	-0.76999	1.29963	0.61718	-20.41450	-8.73560	-3.46336	1.63182	22.47348	120.65	22.22
98/ 9/28	2451084.5	-0.81673	1.27875	0.60885	-20.04137	-9.34198	-3.75170	1.63491	22.42776	122.57	21.86
98/10/ 2	2451088.5	-0.86258	1.25648	0.59985	-19.64866	-9.93492	-4.03439	1.63786	22.38412	124.47	21.48
98/10/ 6	2451092.5	-0.90750	1.23285	0.59021	-19.23690	-10.51406	-4.31125	1.64068	22.34258	126.36	21.08
98/10/10	2451096.5	-0.95144	1.20791	0.57994	-18.80663	-11.07905	-4.58212	1.64336	22.30315	128.23	20.66

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98/10/14	2451100.5	-0.99438	1.18168	0.56905	-18.35839	-11.62957	-4.84683	1.64589	22.26588	130.08	20.23
98/10/18	2451104.5	-1.03625	1.15419	0.55755	-17.89271	-12.16530	-5.10521	1.64828	22.23076	131.92	19.77
98/10/22	2451108.5	-1.07703	1.12548	0.54546	-17.41011	-12.68594	-5.35712	1.65053	22.19783	133.74	19.30
98/10/26	2451112.5	-1.11668	1.09559	0.53280	-16.91112	-13.19120	-5.60241	1.65262	22.16711	135.55	18.81
98/10/30	2451116.5	-1.15516	1.06454	0.51958	-16.39625	-13.68079	-5.84094	1.65457	22.13860	137.34	18.30
98/11/ 3	2451120.5	-1.19243	1.03239	0.50582	-15.86602	-14.15445	-6.07256	1.65637	22.11232	139.11	17.78
98/11/ 7	2451124.5	-1.22845	0.99916	0.49153	-15.32093	-14.61191	-6.29714	1.65802	22.08829	140.88	17.25
98/11/11	2451128.5	-1.26320	0.96489	0.47673	-14.76150	-15.05291	-6.51455	1.65951	22.06652	142.63	16.69
98/11/15	2451132.5	-1.29665	0.92962	0.46144	-14.18823	-15.47721	-6.72467	1.66085	22.04702	144.36	16.13
98/11/19	2451136.5	-1.32875	0.89339	0.44567	-13.60162	-15.88458	-6.92736	1.66203	22.02980	146.08	15.55
98/11/23	2451140.5	-1.35948	0.85624	0.42944	-13.00216	-16.27476	-7.12252	1.66305	22.01487	147.80	14.96
98/11/27	2451144.5	-1.38881	0.81821	0.41277	-12.39036	-16.64755	-7.31002	1.66392	22.00223	149.50	14.36
98/12/ 1	2451148.5	-1.41672	0.77934	0.39567	-11.76670	-17.00270	-7.48974	1.66464	21.99190	151.18	13.75
98/12/ 5	2451152.5	-1.44317	0.73966	0.37817	-11.13168	-17.34002	-7.66158	1.66519	21.98387	152.86	13.13
98/12/ 9	2451156.5	-1.46814	0.69923	0.36028	-10.48580	-17.65927	-7.82542	1.66558	21.97814	154.53	12.49
98/12/13	2451160.5	-1.49161	0.65809	0.34202	-9.82954	-17.96025	-7.98115	1.66582	21.97473	156.19	11.85
98/12/17	2451164.5	-1.51355	0.61627	0.32341	-9.16339	-18.24275	-8.12866	1.66590	21.97363	157.85	11.19
98/12/21	2451168.5	-1.53394	0.57381	0.30447	-8.48786	-18.50657	-8.26785	1.66581	21.97485	159.49	10.53
98/12/25	2451172.5	-1.55276	0.53077	0.28521	-7.80344	-18.75150	-8.39860	1.66557	21.97838	161.13	9.86
98/12/29	2451176.5	-1.56999	0.48719	0.26567	-7.11063	-18.97736	-8.52083	1.66517	21.98422	162.76	9.18
99/ 1/ 2	2451180.5	-1.58561	0.44311	0.24585	-6.40992	-19.18395	-8.63442	1.66461	21.99237	164.39	8.49
99/ 1/ 6	2451184.5	-1.59960	0.39857	0.22578	-5.70183	-19.37107	-8.73927	1.66390	22.00282	166.01	7.80
99/ 1/10	2451188.5	-1.61195	0.35362	0.20548	-4.98685	-19.53854	-8.83528	1.66302	22.01558	167.63	7.10
99/ 1/14	2451192.5	-1.62264	0.30831	0.18497	-4.26551	-19.68617	-8.92236	1.66199	22.03062	169.24	6.39
99/ 1/18	2451196.5	-1.63165	0.26268	0.16426	-3.53832	-19.81377	-9.00040	1.66080	22.04795	170.85	5.68
99/ 1/22	2451200.5	-1.63898	0.21678	0.14339	-2.80580	-19.92116	-9.06931	1.65946	22.06756	172.47	4.96
99/ 1/26	2451204.5	-1.64461	0.17065	0.12236	-2.06849	-20.00816	-9.12898	1.65796	22.08944	174.08	4.23
99/ 1/30	2451208.5	-1.64853	0.12435	0.10122	-1.32693	-20.07459	-9.17933	1.65631	22.11358	175.69	3.50
99/ 2/ 3	2451212.5	-1.65074	0.07792	0.07996	-0.58165	-20.12029	-9.22026	1.65451	22.13995	177.30	2.77
99/ 2/ 7	2451216.5	-1.65122	0.03140	0.05862	0.16677	-20.14507	-9.25167	1.65256	22.16856	178.91	2.03
99/ 2/11	2451220.5	-1.64997	-0.01515	0.03722	0.91778	-20.14877	-9.27347	1.65046	22.19938	180.53	1.29
99/ 2/15	2451224.5	-1.64698	-0.06168	0.01578	1.67079	-20.13123	-9.28558	1.64821	22.23240	182.14	0.55
99/ 2/19	2451228.5	-1.64225	-0.10814	-0.00567	2.42523	-20.09228	-9.28790	1.64581	22.26761	183.77	-0.20
99/ 2/23	2451232.5	-1.63577	-0.15449	-0.02712	3.18048	-20.03177	-9.28034	1.64327	22.30497	185.40	-0.95
99/ 2/27	2451236.5	-1.62755	-0.20068	-0.04854	3.93594	-19.94954	-9.26282	1.64059	22.34448	187.03	-1.70
99/ 3/ 3	2451240.5	-1.61759	-0.24665	-0.06991	4.69098	-19.84546	-9.23526	1.63778	22.38611	188.67	-2.45
99/ 3/ 7	2451244.5	-1.60588	-0.29236	-0.09121	5.44495	-19.71939	-9.19757	1.63482	22.42983	190.32	-3.20
99/ 3/11	2451248.5	-1.59243	-0.33774	-0.11240	6.19721	-19.57118	-9.14968	1.63173	22.47561	191.97	-3.95
99/ 3/15	2451252.5	-1.57725	-0.38276	-0.13347	6.94708	-19.40072	-9.09151	1.62851	22.52344	193.64	-4.70
99/ 3/19	2451256.5	-1.56033	-0.42736	-0.15440	7.69386	-19.20789	-9.02299	1.62515	22.57328	195.32	-5.45
99/ 3/23	2451260.5	-1.54170	-0.47149	-0.17515	8.43686	-18.99258	-8.94405	1.62167	22.62509	197.01	-6.20
99/ 3/27	2451264.5	-1.52136	-0.51510	-0.19572	9.17534	-18.75471	-8.85463	1.61807	22.67885	198.71	-6.95
99/ 3/31	2451268.5	-1.49931	-0.55813	-0.21606	9.90856	-18.49418	-8.75467	1.61435	22.73452	200.42	-7.69
99/ 4/ 4	2451272.5	-1.47558	-0.60053	-0.23616	10.63577	-18.21093	-8.64412	1.61051	22.79207	202.15	-8.43
99/ 4/ 8	2451276.5	-1.45018	-0.64225	-0.25599	11.35618	-17.90490	-8.52293	1.60656	22.85144	203.89	-9.17

1.4 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM MARS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
99/ 4/12	2451280.5	-1.42312	-0.68324	-0.27553	12.06898	-17.57605	-8.39106	1.60250	22.91261	205.65	-9.90
99/ 4/16	2451284.5	-1.39442	-0.72344	-0.29475	12.77336	-17.22435	-8.24848	1.59833	22.97552	207.42	-10.63
99/ 4/20	2451288.5	-1.36411	-0.76281	-0.31363	13.46847	-16.84981	-8.09516	1.59406	23.04013	209.21	-11.35
99/ 4/24	2451292.5	-1.33220	-0.80128	-0.33214	14.15345	-16.45244	-7.93110	1.58969	23.10639	211.03	-12.06
99/ 4/28	2451296.5	-1.29872	-0.83880	-0.35027	14.82741	-16.03227	-7.75627	1.58523	23.17424	212.86	-12.77
99/ 5/ 2	2451300.5	-1.26370	-0.87533	-0.36797	15.48944	-15.58937	-7.57069	1.58068	23.24363	214.71	-13.46
99/ 5/ 6	2451304.5	-1.22716	-0.91082	-0.38524	16.13862	-15.12382	-7.37437	1.57605	23.31451	216.58	-14.15
99/ 5/10	2451308.5	-1.18914	-0.94519	-0.40204	16.77399	-14.63574	-7.16733	1.57133	23.38680	218.48	-14.82
99/ 5/14	2451312.5	-1.14967	-0.97842	-0.41835	17.39459	-14.12527	-6.94963	1.56655	23.46044	220.40	-15.49
99/ 5/18	2451316.5	-1.10879	-1.01044	-0.43414	17.99943	-13.59260	-6.72131	1.56169	23.53538	222.34	-16.14
99/ 5/22	2451320.5	-1.06652	-1.04121	-0.44939	18.58749	-13.03792	-6.48243	1.55677	23.61152	224.31	-16.78
99/ 5/26	2451324.5	-1.02292	-1.07066	-0.46408	19.15775	-12.46149	-6.23310	1.55179	23.68881	226.31	-17.40
99/ 5/30	2451328.5	-0.97802	-1.09877	-0.47818	19.70916	-11.86359	-5.97341	1.54676	23.76715	228.33	-18.01
99/ 6/ 3	2451332.5	-0.93187	-1.12546	-0.49167	20.24067	-11.24454	-5.70348	1.54168	23.84647	230.38	-18.60
99/ 6/ 7	2451336.5	-0.88452	-1.15070	-0.50453	20.75120	-10.60473	-5.42346	1.53657	23.92669	232.45	-19.17
99/ 6/11	2451340.5	-0.83601	-1.17444	-0.51672	21.23965	-9.94456	-5.13349	1.53142	24.00770	234.56	-19.72
99/ 6/15	2451344.5	-0.78640	-1.19664	-0.52824	21.70493	-9.26450	-4.83378	1.52624	24.08942	236.69	-20.25
99/ 6/19	2451348.5	-0.73575	-1.21723	-0.53905	22.14592	-8.56507	-4.52453	1.52104	24.17175	238.85	-20.76
99/ 6/23	2451352.5	-0.68410	-1.23619	-0.54914	22.56152	-7.84683	-4.20596	1.51582	24.25459	241.04	-21.24
99/ 6/27	2451356.5	-0.63152	-1.25348	-0.55848	22.95061	-7.11042	-3.87834	1.51060	24.33783	243.26	-21.70
99/ 7/ 1	2451360.5	-0.57808	-1.26903	-0.56705	23.31207	-6.35652	-3.54196	1.50538	24.42137	245.51	-22.13
99/ 7/ 5	2451364.5	-0.52384	-1.28283	-0.57483	23.64478	-5.58587	-3.19711	1.50017	24.50509	247.79	-22.53
99/ 7/ 9	2451368.5	-0.46886	-1.29483	-0.58181	23.94765	-4.79927	-2.84415	1.49497	24.58886	250.09	-22.90
99/ 7/13	2451372.5	-0.41321	-1.30499	-0.58797	24.21958	-3.99761	-2.48344	1.48979	24.67259	252.43	-23.25
99/ 7/17	2451376.5	-0.35698	-1.31329	-0.59328	24.45949	-3.18182	-2.11539	1.48464	24.75612	254.79	-23.55
99/ 7/21	2451380.5	-0.30023	-1.31969	-0.59774	24.66633	-2.35290	-1.74043	1.47953	24.83935	257.18	-23.83
99/ 7/25	2451384.5	-0.24304	-1.32415	-0.60132	24.83908	-1.51193	-1.35902	1.47446	24.92213	259.60	-24.07
99/ 7/29	2451388.5	-0.18549	-1.32666	-0.60401	24.97673	-0.66004	-0.97166	1.46945	25.00434	262.04	-24.27
99/ 8/ 2	2451392.5	-0.12766	-1.32719	-0.60580	25.07833	0.20154	-0.57889	1.46449	25.08582	264.51	-24.44
99/ 8/ 6	2451396.5	-0.06965	-1.32573	-0.60668	25.14297	1.07153	-0.18127	1.45961	25.16645	266.99	-24.56
99/ 8/10	2451400.5	-0.01152	-1.32224	-0.60664	25.16980	1.94859	0.22061	1.45480	25.24607	269.50	-24.64
99/ 8/14	2451404.5	0.04662	-1.31672	-0.60566	25.15799	2.83130	0.62612	1.45008	25.32455	272.03	-24.69
99/ 8/18	2451408.5	0.10468	-1.30915	-0.60374	25.10683	3.71816	1.03458	1.44546	25.40173	274.57	-24.69
99/ 8/22	2451412.5	0.16259	-1.29954	-0.60088	25.01563	4.60762	1.44532	1.44093	25.47746	277.13	-24.65
99/ 8/26	2451416.5	0.22023	-1.28786	-0.59706	24.88382	5.49808	1.85759	1.43652	25.55160	279.70	-24.56
99/ 8/30	2451420.5	0.27753	-1.27413	-0.59230	24.71089	6.38785	2.27065	1.43222	25.62398	282.29	-24.43
99/ 9/ 3	2451424.5	0.33438	-1.25835	-0.58657	24.49642	7.27521	2.68372	1.42805	25.69447	284.88	-24.25
99/ 9/ 7	2451428.5	0.39068	-1.24052	-0.57990	24.24011	8.15837	3.09598	1.42401	25.76290	287.48	-24.03
99/ 9/11	2451432.5	0.44634	-1.22066	-0.57227	23.94175	9.03551	3.50660	1.42012	25.82913	290.09	-23.76
99/ 9/15	2451436.5	0.50127	-1.19878	-0.56370	23.60124	9.90477	3.91474	1.41637	25.89301	292.69	-23.45
99/ 9/19	2451440.5	0.55535	-1.17491	-0.55419	23.21860	10.76424	4.31951	1.41278	25.95439	295.30	-23.10
99/ 9/23	2451444.5	0.60851	-1.14906	-0.54374	22.79398	11.61200	4.72002	1.40935	26.01313	297.90	-22.69
99/ 9/27	2451448.5	0.66064	-1.12126	-0.53238	22.32765	12.44611	5.11539	1.40610	26.06908	300.51	-22.25
99/10/ 1	2451452.5	0.71164	-1.09156	-0.52011	21.82001	13.26460	5.50469	1.40302	26.12210	303.10	-21.76
99/10/ 5	2451456.5	0.76142	-1.05999	-0.50695	21.27161	14.06553	5.88702	1.40012	26.17208	305.69	-21.23

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99/10/ 9	2451460.5	0.80989	-1.02659	-0.49292	20.68312	14.84695	6.26147	1.39742	26.21887	308.27	-20.65
99/10/13	2451464.5	0.85696	-0.99141	-0.47803	20.05534	15.60692	6.62713	1.39491	26.26236	310.84	-20.04
99/10/17	2451468.5	0.90253	-0.95450	-0.46231	19.38925	16.34355	6.98310	1.39260	26.30244	313.40	-19.39
99/10/21	2451472.5	0.94651	-0.91592	-0.44577	18.68592	17.05497	7.32849	1.39050	26.33900	315.94	-18.70
99/10/25	2451476.5	0.98883	-0.87572	-0.42846	17.94660	17.73937	7.66245	1.38861	26.37193	318.47	-17.97
99/10/29	2451480.5	1.02941	-0.83398	-0.41038	17.17264	18.39499	7.98412	1.38694	26.40116	320.99	-17.21
99/11/ 2	2451484.5	1.06815	-0.79075	-0.39158	16.36554	19.02015	8.29269	1.38548	26.42660	323.49	-16.42
99/11/ 6	2451488.5	1.10500	-0.74612	-0.37207	15.52692	19.61322	8.58738	1.38425	26.44819	325.97	-15.59
99/11/10	2451492.5	1.13987	-0.70016	-0.35191	14.65852	20.17269	8.86744	1.38324	26.46585	328.44	-14.74
99/11/14	2451496.5	1.17270	-0.65294	-0.33112	13.76219	20.69714	9.13218	1.38246	26.47954	330.89	-13.86
99/11/18	2451500.5	1.20343	-0.60456	-0.30973	12.83990	21.18524	9.38092	1.38191	26.48923	333.33	-12.95
99/11/22	2451504.5	1.23201	-0.55509	-0.28779	11.89370	21.63579	9.61307	1.38159	26.49488	335.75	-12.02
99/11/26	2451508.5	1.25837	-0.50462	-0.26533	10.92573	22.04770	9.82806	1.38150	26.49648	338.15	-11.07
99/11/30	2451512.5	1.28247	-0.45325	-0.24239	9.93821	22.42001	10.02540	1.38164	26.49403	340.54	-10.10
99/12/ 4	2451516.5	1.30428	-0.40107	-0.21902	8.93340	22.75189	10.20464	1.38201	26.48753	342.91	-9.12
99/12/ 8	2451520.5	1.32374	-0.34816	-0.19526	7.91366	23.04265	10.36541	1.38261	26.47700	345.26	-8.12
99/12/12	2451524.5	1.34083	-0.29463	-0.17114	6.88133	23.29172	10.50738	1.38345	26.46246	347.61	-7.11
99/12/16	2451528.5	1.35552	-0.24058	-0.14672	5.83884	23.49869	10.63029	1.38450	26.44397	349.94	-6.08
99/12/20	2451532.5	1.36780	-0.18609	-0.12204	4.78858	23.66329	10.73396	1.38579	26.42157	352.25	-5.05
99/12/24	2451536.5	1.37765	-0.13128	-0.09714	3.73299	23.78536	10.81826	1.38729	26.39533	354.56	-4.02

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64/12/31	2438760.5	2.86538	3.80209	1.56107	-10.87012	7.34435	3.41645	5.01031	13.55622	53.00	18.15
65/ 1/ 4	2438764.5	2.84021	3.81899	1.56893	-10.91663	7.28222	3.39093	5.01129	13.55367	53.36	18.24
65/ 1/ 8	2438768.5	2.81494	3.83574	1.57674	-10.96270	7.21985	3.36530	5.01227	13.55109	53.73	18.34
65/ 1/12	2438772.5	2.78956	3.85234	1.58448	-11.00833	7.15724	3.33955	5.01326	13.54851	54.09	18.42
65/ 1/16	2438776.5	2.76408	3.86881	1.59217	-11.05352	7.09440	3.31370	5.01426	13.54590	54.46	18.51
65/ 1/20	2438780.5	2.73849	3.88512	1.59979	-11.09827	7.03134	3.28774	5.01526	13.54329	54.82	18.60
65/ 1/24	2438784.5	2.71280	3.90129	1.60736	-11.14258	6.96805	3.26167	5.01627	13.54065	55.19	18.69
65/ 1/28	2438788.5	2.68701	3.91732	1.61486	-11.18644	6.90454	3.23550	5.01729	13.53800	55.55	18.78
65/ 2/ 1	2438792.5	2.66112	3.93319	1.62231	-11.22986	6.84081	3.20922	5.01831	13.53534	55.92	18.86
65/ 2/ 5	2438796.5	2.63512	3.94892	1.62969	-11.27283	6.77686	3.18284	5.01934	13.53266	56.28	18.95
65/ 2/ 9	2438800.5	2.60903	3.96451	1.63701	-11.31535	6.71269	3.15635	5.02038	13.52996	56.65	19.03
65/ 2/13	2438804.5	2.58284	3.97994	1.64427	-11.35742	6.64832	3.12976	5.02142	13.52725	57.02	19.11
65/ 2/17	2438808.5	2.55656	3.99522	1.65147	-11.39905	6.58373	3.10307	5.02247	13.52453	57.38	19.20
65/ 2/21	2438812.5	2.53018	4.01036	1.65861	-11.44022	6.51894	3.07628	5.02352	13.52179	57.75	19.28
65/ 2/25	2438816.5	2.50370	4.02534	1.66569	-11.48094	6.45395	3.04940	5.02458	13.51903	58.12	19.36
65/ 3/ 1	2438820.5	2.47713	4.04018	1.67270	-11.52120	6.38876	3.02242	5.02565	13.51626	58.49	19.44
65/ 3/ 5	2438824.5	2.45047	4.05486	1.67965	-11.56102	6.32337	2.99534	5.02672	13.51348	58.85	19.52
65/ 3/ 9	2438828.5	2.42372	4.06939	1.68654	-11.60037	6.25778	2.96816	5.02780	13.51068	59.22	19.60
65/ 3/13	2438832.5	2.39687	4.08377	1.69337	-11.63927	6.19200	2.94089	5.02889	13.50786	59.59	19.68
65/ 3/17	2438836.5	2.36994	4.09800	1.70013	-11.67771	6.12603	2.91353	5.02998	13.50503	59.96	19.76
65/ 3/21	2438840.5	2.34292	4.11208	1.70683	-11.71568	6.05988	2.88608	5.03107	13.50218	60.33	19.83
65/ 3/25	2438844.5	2.31581	4.12600	1.71346	-11.75320	5.99355	2.85854	5.03218	13.49932	60.70	19.91
65/ 3/29	2438848.5	2.28861	4.13977	1.72004	-11.79025	5.92703	2.83091	5.03329	13.49644	61.06	19.98
65/ 4/ 2	2438852.5	2.26133	4.15339	1.72654	-11.82684	5.86034	2.80320	5.03440	13.49354	61.43	20.06
65/ 4/ 6	2438856.5	2.23397	4.16685	1.73299	-11.86297	5.79348	2.77540	5.03552	13.49064	61.80	20.13
65/ 4/10	2438860.5	2.20652	4.18015	1.73937	-11.89863	5.72645	2.74751	5.03665	13.48772	62.17	20.20
65/ 4/14	2438864.5	2.17899	4.19331	1.74568	-11.93383	5.65925	2.71954	5.03778	13.48478	62.54	20.27
65/ 4/18	2438868.5	2.15138	4.20630	1.75193	-11.96856	5.59188	2.69149	5.03892	13.48183	62.91	20.35
65/ 4/22	2438872.5	2.12370	4.21914	1.75812	-12.00283	5.52435	2.66336	5.04006	13.47887	63.28	20.42
65/ 4/26	2438876.5	2.09593	4.23183	1.76424	-12.03663	5.45667	2.63515	5.04121	13.47589	63.65	20.49
65/ 4/30	2438880.5	2.06808	4.24435	1.77029	-12.06996	5.38883	2.60686	5.04236	13.47290	64.02	20.55
65/ 5/ 4	2438884.5	2.04016	4.25672	1.77628	-12.10282	5.32083	2.57849	5.04352	13.46990	64.39	20.62
65/ 5/ 8	2438888.5	2.01216	4.26894	1.78221	-12.13521	5.25269	2.55005	5.04469	13.46688	64.76	20.69
65/ 5/12	2438892.5	1.98409	4.28099	1.78806	-12.16713	5.18440	2.52154	5.04586	13.46384	65.13	20.75
65/ 5/16	2438896.5	1.95595	4.29289	1.79386	-12.19858	5.11596	2.49295	5.04703	13.46080	65.50	20.82
65/ 5/20	2438900.5	1.92773	4.30463	1.79958	-12.22955	5.04739	2.46428	5.04822	13.45774	65.88	20.88
65/ 5/24	2438904.5	1.89944	4.31621	1.80524	-12.26006	4.97868	2.43555	5.04940	13.45467	66.25	20.95
65/ 5/28	2438908.5	1.87109	4.32763	1.81083	-12.29009	4.90983	2.40675	5.05059	13.45159	66.62	21.01
65/ 6/ 1	2438912.5	1.84266	4.33890	1.81636	-12.31965	4.84085	2.37788	5.05179	13.44849	66.99	21.07
65/ 6/ 5	2438916.5	1.81416	4.35000	1.82182	-12.34873	4.77174	2.34894	5.05299	13.44538	67.36	21.13
65/ 6/ 9	2438920.5	1.78560	4.36094	1.82721	-12.37734	4.70250	2.31994	5.05420	13.44225	67.73	21.19
65/ 6/13	2438924.5	1.75698	4.37173	1.83254	-12.40547	4.63314	2.29087	5.05541	13.43911	68.11	21.25
65/ 6/17	2438928.5	1.72829	4.38235	1.83780	-12.43312	4.56367	2.26174	5.05663	13.43596	68.48	21.31
65/ 6/21	2438932.5	1.69953	4.39281	1.84299	-12.46030	4.49407	2.23255	5.05785	13.43280	68.85	21.37
65/ 6/25	2438936.5	1.67072	4.40311	1.84811	-12.48700	4.42437	2.20330	5.05907	13.42962	69.22	21.43

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65/ 6/29	2438940.5	1.64184	4.41325	1.85317	-12.51323	4.35455	2.17398	5.06031	13.42643	69.59	21.48
65/ 7/ 3	2438944.5	1.61290	4.42323	1.85816	-12.53897	4.28463	2.14462	5.06154	13.42324	69.97	21.54
65/ 7/ 7	2438948.5	1.58390	4.43305	1.86308	-12.56424	4.21460	2.11519	5.06278	13.42003	70.34	21.59
65/ 7/11	2438952.5	1.55485	4.44271	1.86793	-12.58904	4.14447	2.08571	5.06403	13.41681	70.71	21.65
65/ 7/15	2438956.5	1.52574	4.45220	1.87272	-12.61335	4.07425	2.05618	5.06528	13.41358	71.08	21.70
65/ 7/19	2438960.5	1.49657	4.46153	1.87743	-12.63719	4.00393	2.02659	5.06653	13.41034	71.46	21.75
65/ 7/23	2438964.5	1.46735	4.47070	1.88208	-12.66055	3.93351	1.99696	5.06779	13.40709	71.83	21.80
65/ 7/27	2438968.5	1.43808	4.47971	1.88666	-12.68344	3.86301	1.96727	5.06905	13.40383	72.20	21.85
65/ 7/31	2438972.5	1.40875	4.48855	1.89117	-12.70584	3.79242	1.93753	5.07032	13.40056	72.58	21.90
65/ 8/ 4	2438976.5	1.37937	4.49723	1.89561	-12.72777	3.72175	1.90775	5.07159	13.39728	72.95	21.95
65/ 8/ 8	2438980.5	1.34994	4.50574	1.89998	-12.74922	3.65099	1.87792	5.07287	13.39399	73.32	22.00
65/ 8/12	2438984.5	1.32047	4.51410	1.90429	-12.77020	3.58016	1.84805	5.07415	13.39070	73.69	22.04
65/ 8/16	2438988.5	1.29094	4.52229	1.90852	-12.79069	3.50925	1.81813	5.07544	13.38739	74.07	22.09
65/ 8/20	2438992.5	1.26137	4.53031	1.91269	-12.81071	3.43826	1.78816	5.07672	13.38408	74.44	22.13
65/ 8/24	2438996.5	1.23175	4.53817	1.91678	-12.83025	3.36721	1.75816	5.07802	13.38076	74.81	22.18
65/ 8/28	2439000.5	1.20209	4.54587	1.92081	-12.84932	3.29609	1.72811	5.07932	13.37743	75.19	22.22
65/ 9/ 1	2439004.5	1.17238	4.55340	1.92477	-12.86790	3.22490	1.69803	5.08062	13.37409	75.56	22.26
65/ 9/ 5	2439008.5	1.14263	4.56077	1.92866	-12.88601	3.15365	1.66790	5.08192	13.37074	75.93	22.30
65/ 9/ 9	2439012.5	1.11285	4.56797	1.93247	-12.90364	3.08234	1.63774	5.08323	13.36738	76.31	22.34
65/ 9/13	2439016.5	1.08302	4.57501	1.93622	-12.92079	3.01097	1.60754	5.08454	13.36402	76.68	22.38
65/ 9/17	2439020.5	1.05315	4.58188	1.93990	-12.93746	2.93956	1.57731	5.08586	13.36064	77.06	22.42
65/ 9/21	2439024.5	1.02324	4.58859	1.94351	-12.95365	2.86809	1.54705	5.08718	13.35726	77.43	22.46
65/ 9/25	2439028.5	0.99330	4.59513	1.94705	-12.96936	2.79657	1.51675	5.08851	13.35386	77.80	22.50
65/ 9/29	2439032.5	0.96332	4.60151	1.95052	-12.98460	2.72501	1.48642	5.08983	13.35047	78.18	22.53
65/10/ 3	2439036.5	0.93330	4.60772	1.95392	-12.99936	2.65341	1.45607	5.09117	13.34706	78.55	22.57
65/10/ 7	2439040.5	0.90326	4.61377	1.95725	-13.01364	2.58177	1.42568	5.09250	13.34365	78.92	22.60
65/10/11	2439044.5	0.87318	4.61965	1.96050	-13.02744	2.51009	1.39527	5.09384	13.34022	79.30	22.64
65/10/15	2439048.5	0.84307	4.62537	1.96369	-13.04077	2.43837	1.36483	5.09518	13.33680	79.67	22.67
65/10/19	2439052.5	0.81292	4.63092	1.96681	-13.05362	2.36663	1.33436	5.09653	13.33336	80.04	22.70
65/10/23	2439056.5	0.78275	4.63630	1.96986	-13.06600	2.29485	1.30388	5.09788	13.32992	80.42	22.73
65/10/27	2439060.5	0.75256	4.64152	1.97283	-13.07790	2.22305	1.27337	5.09923	13.32647	80.79	22.76
65/10/31	2439064.5	0.72233	4.64658	1.97574	-13.08932	2.15123	1.24283	5.10059	13.32301	81.16	22.79
65/11/ 4	2439068.5	0.69208	4.65146	1.97858	-13.10026	2.07938	1.21228	5.10194	13.31955	81.54	22.82
65/11/ 8	2439072.5	0.66180	4.65618	1.98134	-13.11074	2.00752	1.18171	5.10331	13.31608	81.91	22.85
65/11/12	2439076.5	0.63150	4.66074	1.98404	-13.12073	1.93564	1.15111	5.10467	13.31260	82.28	22.87
65/11/16	2439080.5	0.60118	4.66513	1.98666	-13.13025	1.86375	1.12051	5.10604	13.30912	82.66	22.90
65/11/20	2439084.5	0.57084	4.66935	1.98921	-13.13929	1.79185	1.08988	5.10741	13.30562	83.03	22.92
65/11/24	2439088.5	0.54047	4.67341	1.99170	-13.14787	1.71994	1.05924	5.10878	13.30213	83.40	22.95
65/11/28	2439092.5	0.51009	4.67730	1.99411	-13.15596	1.64803	1.02859	5.11016	13.29862	83.78	22.97
65/12/ 2	2439096.5	0.47969	4.68102	1.99645	-13.16358	1.57611	0.99792	5.11154	13.29511	84.15	22.99
65/12/ 6	2439100.5	0.44927	4.68458	1.99872	-13.17073	1.50419	0.96725	5.11292	13.29158	84.52	23.01
65/12/10	2439104.5	0.41883	4.68797	2.00092	-13.17740	1.43228	0.93656	5.11431	13.28805	84.89	23.03
65/12/14	2439108.5	0.38839	4.69120	2.00305	-13.18359	1.36038	0.90586	5.11570	13.28451	85.27	23.05
65/12/18	2439112.5	0.35792	4.69425	2.00510	-13.18931	1.28849	0.87516	5.11709	13.28097	85.64	23.07
65/12/22	2439116.5	0.32745	4.69715	2.00709	-13.19456	1.21661	0.84445	5.11848	13.27741	86.01	23.09

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65/12/26	2439120.5	0.29696	4.69988	2.00901	-13.19934	1.14474	0.81374	5.11988	13.27385	86.38	23.10
65/12/30	2439124.5	0.26646	4.70244	2.01085	-13.20365	1.07290	0.78302	5.12127	13.27029	86.76	23.12
66/ 1/ 3	2439128.5	0.23595	4.70483	2.01262	-13.20748	1.00107	0.75230	5.12267	13.26671	87.13	23.13
66/ 1/ 7	2439132.5	0.20544	4.70706	2.01433	-13.21085	0.92927	0.72158	5.12408	13.26314	87.50	23.15
66/ 1/11	2439136.5	0.17492	4.70913	2.01596	-13.21375	0.85750	0.69086	5.12548	13.25955	87.87	23.16
66/ 1/15	2439140.5	0.14439	4.71102	2.01752	-13.21618	0.78576	0.66014	5.12689	13.25596	88.24	23.17
66/ 1/19	2439144.5	0.11385	4.71276	2.01901	-13.21814	0.71404	0.62942	5.12830	13.25236	88.62	23.18
66/ 1/23	2439148.5	0.08331	4.71432	2.02043	-13.21963	0.64237	0.59871	5.12971	13.24876	88.99	23.20
66/ 1/27	2439152.5	0.05277	4.71573	2.02177	-13.22066	0.57073	0.56800	5.13112	13.24516	89.36	23.20
66/ 1/31	2439156.5	0.02223	4.71696	2.02305	-13.22122	0.49913	0.53730	5.13254	13.24155	89.73	23.21
66/ 2/ 4	2439160.5	-0.00831	4.71803	2.02426	-13.22132	0.42757	0.50660	5.13396	13.23793	90.10	23.22
66/ 2/ 8	2439164.5	-0.03886	4.71894	2.02539	-13.22096	0.35606	0.47592	5.13538	13.23431	90.47	23.23
66/ 2/12	2439168.5	-0.06940	4.71968	2.02645	-13.22013	0.28459	0.44524	5.13680	13.23068	90.84	23.23
66/ 2/16	2439172.5	-0.09994	4.72025	2.02745	-13.21884	0.21318	0.41457	5.13822	13.22706	91.21	23.24
66/ 2/20	2439176.5	-0.13047	4.72066	2.02837	-13.21709	0.14182	0.38391	5.13965	13.22342	91.58	23.24
66/ 2/24	2439180.5	-0.16100	4.72091	2.02922	-13.21488	0.07051	0.35327	5.14107	13.21979	91.95	23.25
66/ 2/28	2439184.5	-0.19153	4.72099	2.03000	-13.21221	-0.00074	0.32263	5.14250	13.21615	92.32	23.25
66/ 3/ 4	2439188.5	-0.22205	4.72090	2.03071	-13.20908	-0.07193	0.29202	5.14393	13.21250	92.69	23.25
66/ 3/ 8	2439192.5	-0.25256	4.72066	2.03135	-13.20549	-0.14305	0.26142	5.14536	13.20885	93.06	23.25
66/ 3/12	2439196.5	-0.28306	4.72024	2.03192	-13.20145	-0.21411	0.23083	5.14680	13.20520	93.43	23.25
66/ 3/16	2439200.5	-0.31356	4.71967	2.03242	-13.19694	-0.28510	0.20027	5.14823	13.20154	93.80	23.25
66/ 3/20	2439204.5	-0.34404	4.71893	2.03285	-13.19199	-0.35602	0.16972	5.14967	13.19788	94.17	23.25
66/ 3/24	2439208.5	-0.37451	4.71802	2.03320	-13.18658	-0.42687	0.13919	5.15111	13.19422	94.54	23.25
66/ 3/28	2439212.5	-0.40496	4.71695	2.03349	-13.18072	-0.49764	0.10869	5.15254	13.19056	94.91	23.24
66/ 4/ 1	2439216.5	-0.43541	4.71572	2.03370	-13.17441	-0.56833	0.07821	5.15399	13.18690	95.28	23.24
66/ 4/ 5	2439220.5	-0.46583	4.71433	2.03385	-13.16765	-0.63894	0.04775	5.15543	13.18323	95.64	23.24
66/ 4/ 9	2439224.5	-0.49624	4.71277	2.03393	-13.16045	-0.70947	0.01732	5.15687	13.17957	96.01	23.23
66/ 4/13	2439228.5	-0.52664	4.71105	2.03393	-13.15279	-0.77992	-0.01309	5.15831	13.17590	96.38	23.22
66/ 4/17	2439232.5	-0.55702	4.70917	2.03386	-13.14469	-0.85028	-0.04347	5.15976	13.17223	96.75	23.21
66/ 4/21	2439236.5	-0.58737	4.70712	2.03373	-13.13615	-0.92055	-0.07383	5.16121	13.16857	97.11	23.21
66/ 4/25	2439240.5	-0.61771	4.70491	2.03352	-13.12716	-0.99072	-0.10415	5.16265	13.16490	97.48	23.20
66/ 4/29	2439244.5	-0.64802	4.70254	2.03325	-13.11772	-1.06081	-0.13445	5.16410	13.16123	97.85	23.19
66/ 5/ 3	2439248.5	-0.67832	4.70001	2.03290	-13.10785	-1.13080	-0.16471	5.16555	13.15757	98.21	23.18
66/ 5/ 7	2439252.5	-0.70859	4.69732	2.03249	-13.09754	-1.20069	-0.19495	5.16700	13.15390	98.58	23.16
66/ 5/11	2439256.5	-0.73883	4.69446	2.03200	-13.08678	-1.27048	-0.22515	5.16845	13.15024	98.94	23.15
66/ 5/15	2439260.5	-0.76905	4.69145	2.03145	-13.07559	-1.34017	-0.25532	5.16990	13.14657	99.31	23.14
66/ 5/19	2439264.5	-0.79924	4.68827	2.03082	-13.06396	-1.40976	-0.28546	5.17136	13.14291	99.67	23.12
66/ 5/23	2439268.5	-0.82941	4.68494	2.03013	-13.05190	-1.47924	-0.31556	5.17281	13.13924	100.04	23.11
66/ 5/27	2439272.5	-0.85955	4.68144	2.02936	-13.03940	-1.54861	-0.34563	5.17426	13.13558	100.40	23.09
66/ 5/31	2439276.5	-0.88966	4.67778	2.02853	-13.02646	-1.61787	-0.37566	5.17572	13.13192	100.77	23.07
66/ 6/ 4	2439280.5	-0.91974	4.67396	2.02763	-13.01309	-1.68702	-0.40565	5.17717	13.12825	101.13	23.06
66/ 6/ 8	2439284.5	-0.94978	4.66999	2.02666	-12.99928	-1.75606	-0.43560	5.17863	13.12459	101.50	23.04
66/ 6/12	2439288.5	-0.97980	4.66585	2.02562	-12.98505	-1.82497	-0.46552	5.18008	13.12092	101.86	23.02
66/ 6/16	2439292.5	-1.00978	4.66155	2.02451	-12.97038	-1.89377	-0.49539	5.18154	13.11726	102.22	23.00
66/ 6/20	2439296.5	-1.03972	4.65710	2.02333	-12.95529	-1.96244	-0.52522	5.18300	13.11360	102.59	22.98

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66/ 6/24	2439300.5	-1.06963	4.65249	2.02208	-12.93976	-2.03099	-0.55500	5.18445	13.10994	102.95	22.96
66/ 6/28	2439304.5	-1.09951	4.64772	2.02076	-12.92381	-2.09941	-0.58475	5.18591	13.10628	103.31	22.93
66/ 7/ 2	2439308.5	-1.12935	4.64279	2.01938	-12.90744	-2.16771	-0.61445	5.18737	13.10262	103.67	22.91
66/ 7/ 6	2439312.5	-1.15915	4.63770	2.01792	-12.89064	-2.23587	-0.64410	5.18882	13.09896	104.03	22.89
66/ 7/10	2439316.5	-1.18891	4.63246	2.01640	-12.87342	-2.30391	-0.67371	5.19028	13.09530	104.39	22.86
66/ 7/14	2439320.5	-1.21863	4.62706	2.01481	-12.85578	-2.37180	-0.70326	5.19174	13.09165	104.75	22.84
66/ 7/18	2439324.5	-1.24830	4.62150	2.01315	-12.83772	-2.43956	-0.73278	5.19320	13.08799	105.12	22.81
66/ 7/22	2439328.5	-1.27794	4.61578	2.01143	-12.81924	-2.50719	-0.76224	5.19465	13.08434	105.48	22.78
66/ 7/26	2439332.5	-1.30753	4.60991	2.00963	-12.80034	-2.57467	-0.79165	5.19611	13.08069	105.84	22.75
66/ 7/30	2439336.5	-1.33708	4.60389	2.00777	-12.78103	-2.64201	-0.82101	5.19757	13.07704	106.19	22.72
66/ 8/ 3	2439340.5	-1.36659	4.59771	2.00584	-12.76130	-2.70920	-0.85032	5.19902	13.07339	106.55	22.69
66/ 8/ 7	2439344.5	-1.39604	4.59137	2.00384	-12.74116	-2.77625	-0.87957	5.20048	13.06975	106.91	22.66
66/ 8/11	2439348.5	-1.42545	4.58488	2.00177	-12.72060	-2.84315	-0.90878	5.20194	13.06610	107.27	22.63
66/ 8/15	2439352.5	-1.45482	4.57823	1.99964	-12.69963	-2.90990	-0.93792	5.20339	13.06246	107.63	22.60
66/ 8/19	2439356.5	-1.48413	4.57144	1.99744	-12.67825	-2.97649	-0.96702	5.20485	13.05882	107.99	22.57
66/ 8/23	2439360.5	-1.51339	4.56448	1.99517	-12.65647	-3.04293	-0.99605	5.20630	13.05518	108.34	22.53
66/ 8/27	2439364.5	-1.54261	4.55738	1.99284	-12.63427	-3.10922	-1.02503	5.20776	13.05154	108.70	22.50
66/ 8/31	2439368.5	-1.57177	4.55012	1.99044	-12.61167	-3.17534	-1.05395	5.20921	13.04790	109.06	22.46
66/ 9/ 4	2439372.5	-1.60088	4.54270	1.98797	-12.58866	-3.24130	-1.08281	5.21066	13.04426	109.41	22.43
66/ 9/ 8	2439376.5	-1.62993	4.53514	1.98543	-12.56525	-3.30710	-1.11161	5.21211	13.04063	109.77	22.39
66/ 9/12	2439380.5	-1.65893	4.52743	1.98283	-12.54143	-3.37273	-1.14035	5.21357	13.03699	110.12	22.35
66/ 9/16	2439384.5	-1.68788	4.51956	1.98016	-12.51722	-3.43819	-1.16903	5.21502	13.03336	110.48	22.32
66/ 9/20	2439388.5	-1.71677	4.51154	1.97743	-12.49260	-3.50348	-1.19764	5.21647	13.02973	110.83	22.28
66/ 9/24	2439392.5	-1.74560	4.50337	1.97463	-12.46760	-3.56860	-1.22619	5.21791	13.02610	111.19	22.24
66/ 9/28	2439396.5	-1.77437	4.49505	1.97177	-12.44219	-3.63355	-1.25467	5.21936	13.02248	111.54	22.20
66/10/ 2	2439400.5	-1.80308	4.48658	1.96883	-12.41639	-3.69832	-1.28309	5.22081	13.01886	111.89	22.15
66/10/ 6	2439404.5	-1.83174	4.47796	1.96584	-12.39020	-3.76291	-1.31144	5.22225	13.01524	112.25	22.11
66/10/10	2439408.5	-1.86033	4.46920	1.96278	-12.36362	-3.82732	-1.33972	5.22370	13.01163	112.60	22.07
66/10/14	2439412.5	-1.88886	4.46028	1.95965	-12.33665	-3.89155	-1.36794	5.22514	13.00802	112.95	22.03
66/10/18	2439416.5	-1.91733	4.45122	1.95645	-12.30930	-3.95560	-1.39608	5.22659	13.00441	113.30	21.98
66/10/22	2439420.5	-1.94574	4.44200	1.95320	-12.28156	-4.01946	-1.42416	5.22803	13.00081	113.65	21.94
66/10/26	2439424.5	-1.97408	4.43265	1.94987	-12.25343	-4.08314	-1.45217	5.22947	12.99721	114.01	21.89
66/10/30	2439428.5	-2.00235	4.42314	1.94649	-12.22493	-4.14663	-1.48010	5.23091	12.99362	114.36	21.85
66/11/ 3	2439432.5	-2.03056	4.41349	1.94304	-12.19604	-4.20993	-1.50796	5.23234	12.99003	114.71	21.80
66/11/ 7	2439436.5	-2.05870	4.40369	1.93952	-12.16677	-4.27304	-1.53575	5.23378	12.98644	115.06	21.75
66/11/11	2439440.5	-2.08677	4.39374	1.93594	-12.13713	-4.33595	-1.56347	5.23521	12.98287	115.41	21.70
66/11/15	2439444.5	-2.11478	4.38365	1.93230	-12.10711	-4.39867	-1.59111	5.23665	12.97929	115.75	21.65
66/11/19	2439448.5	-2.14271	4.37342	1.92859	-12.07672	-4.46120	-1.61867	5.23808	12.97573	116.10	21.60
66/11/23	2439452.5	-2.17058	4.36304	1.92482	-12.04595	-4.52353	-1.64616	5.23951	12.97216	116.45	21.55
66/11/27	2439456.5	-2.19837	4.35252	1.92098	-12.01481	-4.58565	-1.67358	5.24094	12.96860	116.80	21.50
66/12/ 1	2439460.5	-2.22609	4.34186	1.91709	-11.98330	-4.64758	-1.70092	5.24237	12.96505	117.14	21.45
66/12/ 5	2439464.5	-2.25374	4.33105	1.91312	-11.95142	-4.70930	-1.72817	5.24379	12.96150	117.49	21.40
66/12/ 9	2439468.5	-2.28131	4.32010	1.90910	-11.91917	-4.77081	-1.75535	5.24521	12.95796	117.84	21.34
66/12/13	2439472.5	-2.30881	4.30900	1.90501	-11.88656	-4.83212	-1.78245	5.24664	12.95442	118.18	21.29
66/12/17	2439476.5	-2.33623	4.29777	1.90087	-11.85359	-4.89322	-1.80947	5.24806	12.95088	118.53	21.24

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66/12/21	2439480.5	-2.36357	4.28640	1.89665	-11.82026	-4.95411	-1.83640	5.24947	12.94736	118.87	21.18
66/12/25	2439484.5	-2.39084	4.27488	1.89238	-11.78657	-5.01479	-1.86326	5.25089	12.94384	119.22	21.12
66/12/29	2439488.5	-2.41803	4.26323	1.88805	-11.75252	-5.07525	-1.89003	5.25230	12.94033	119.56	21.07
67/ 1/ 2	2439492.5	-2.44514	4.25143	1.88365	-11.71811	-5.13550	-1.91672	5.25372	12.93682	119.90	21.01
67/ 1/ 6	2439496.5	-2.47217	4.23950	1.87919	-11.68335	-5.19554	-1.94332	5.25512	12.93332	120.25	20.95
67/ 1/10	2439500.5	-2.49912	4.22743	1.87467	-11.64824	-5.25536	-1.96984	5.25653	12.92983	120.59	20.89
67/ 1/14	2439504.5	-2.52599	4.21522	1.87009	-11.61278	-5.31495	-1.99628	5.25794	12.92635	120.93	20.83
67/ 1/18	2439508.5	-2.55278	4.20287	1.86545	-11.57696	-5.37433	-2.02262	5.25934	12.92287	121.27	20.77
67/ 1/22	2439512.5	-2.57948	4.19039	1.86074	-11.54080	-5.43349	-2.04889	5.26074	12.91940	121.62	20.71
67/ 1/26	2439516.5	-2.60610	4.17777	1.85598	-11.50429	-5.49242	-2.07506	5.26214	12.91593	121.96	20.65
67/ 1/30	2439520.5	-2.63263	4.16501	1.85116	-11.46744	-5.55113	-2.10115	5.26354	12.91248	122.30	20.59
67/ 2/ 3	2439524.5	-2.65908	4.15212	1.84627	-11.43024	-5.60962	-2.12715	5.26493	12.90903	122.64	20.53
67/ 2/ 7	2439528.5	-2.68545	4.13909	1.84133	-11.39271	-5.66787	-2.15305	5.26633	12.90559	122.98	20.47
67/ 2/11	2439532.5	-2.71172	4.12593	1.83632	-11.35483	-5.72590	-2.17887	5.26771	12.90216	123.31	20.40
67/ 2/15	2439536.5	-2.73791	4.11264	1.83126	-11.31661	-5.78370	-2.20460	5.26910	12.89873	123.65	20.34
67/ 2/19	2439540.5	-2.76401	4.09921	1.82614	-11.27806	-5.84127	-2.23024	5.27049	12.89531	123.99	20.27
67/ 2/23	2439544.5	-2.79002	4.08565	1.82096	-11.23917	-5.89860	-2.25579	5.27187	12.89189	124.33	20.21
67/ 2/27	2439548.5	-2.81594	4.07195	1.81571	-11.19994	-5.95570	-2.28124	5.27325	12.88849	124.67	20.14
67/ 3/ 3	2439552.5	-2.84176	4.05813	1.81042	-11.16038	-6.01256	-2.30660	5.27462	12.88508	125.00	20.07
67/ 3/ 7	2439556.5	-2.86750	4.04417	1.80506	-11.12049	-6.06918	-2.33187	5.27600	12.88169	125.34	20.01
67/ 3/11	2439560.5	-2.89314	4.03009	1.79964	-11.08027	-6.12556	-2.35704	5.27737	12.87830	125.67	19.94
67/ 3/15	2439564.5	-2.91870	4.01587	1.79417	-11.03973	-6.18169	-2.38211	5.27874	12.87492	126.01	19.87
67/ 3/19	2439568.5	-2.94415	4.00153	1.78864	-10.99886	-6.23759	-2.40709	5.28010	12.87154	126.34	19.80
67/ 3/23	2439572.5	-2.96951	3.98705	1.78305	-10.95767	-6.29324	-2.43197	5.28146	12.86817	126.68	19.73
67/ 3/27	2439576.5	-2.99478	3.97245	1.77740	-10.91616	-6.34865	-2.45675	5.28282	12.86481	127.01	19.66
67/ 3/31	2439580.5	-3.01995	3.95772	1.77169	-10.87432	-6.40380	-2.48144	5.28418	12.86146	127.35	19.59
67/ 4/ 4	2439584.5	-3.04502	3.94286	1.76593	-10.83217	-6.45871	-2.50603	5.28553	12.85812	127.68	19.52
67/ 4/ 8	2439588.5	-3.07000	3.92788	1.76012	-10.78971	-6.51337	-2.53051	5.28688	12.85478	128.01	19.45
67/ 4/12	2439592.5	-3.09488	3.91277	1.75424	-10.74693	-6.56778	-2.55490	5.28823	12.85145	128.34	19.37
67/ 4/16	2439596.5	-3.11965	3.89753	1.74831	-10.70384	-6.62194	-2.57919	5.28957	12.84813	128.67	19.30
67/ 4/20	2439600.5	-3.14433	3.88217	1.74233	-10.66043	-6.67584	-2.60337	5.29091	12.84481	129.01	19.23
67/ 4/24	2439604.5	-3.16891	3.86669	1.73628	-10.61672	-6.72948	-2.62745	5.29225	12.84151	129.34	19.15
67/ 4/28	2439608.5	-3.19338	3.85108	1.73019	-10.57271	-6.78287	-2.65143	5.29359	12.83821	129.67	19.08
67/ 5/ 2	2439612.5	-3.21776	3.83535	1.72403	-10.52839	-6.83601	-2.67531	5.29492	12.83492	130.00	19.00
67/ 5/ 6	2439616.5	-3.24203	3.81950	1.71783	-10.48376	-6.88888	-2.69909	5.29625	12.83164	130.32	18.93
67/ 5/10	2439620.5	-3.26620	3.80352	1.71156	-10.43884	-6.94149	-2.72276	5.29757	12.82837	130.65	18.85
67/ 5/14	2439624.5	-3.29026	3.78742	1.70525	-10.39361	-6.99385	-2.74632	5.29889	12.82511	130.98	18.77
67/ 5/18	2439628.5	-3.31422	3.77121	1.69887	-10.34809	-7.04594	-2.76978	5.30021	12.82185	131.31	18.69
67/ 5/22	2439632.5	-3.33807	3.75487	1.69245	-10.30227	-7.09777	-2.79314	5.30152	12.81861	131.64	18.62
67/ 5/26	2439636.5	-3.36182	3.73841	1.68597	-10.25615	-7.14933	-2.81638	5.30283	12.81537	131.96	18.54
67/ 5/30	2439640.5	-3.38546	3.72184	1.67944	-10.20975	-7.20062	-2.83952	5.30414	12.81214	132.29	18.46
67/ 6/ 3	2439644.5	-3.40899	3.70514	1.67285	-10.16305	-7.25165	-2.86256	5.30544	12.80891	132.62	18.38
67/ 6/ 7	2439648.5	-3.43241	3.68833	1.66621	-10.11607	-7.30240	-2.88548	5.30674	12.80570	132.94	18.30
67/ 6/11	2439652.5	-3.45573	3.67140	1.65952	-10.06880	-7.35289	-2.90829	5.30804	12.80250	133.27	18.22
67/ 6/15	2439656.5	-3.47893	3.65436	1.65277	-10.02125	-7.40310	-2.93100	5.30933	12.79930	133.59	18.14

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67/ 6/19	2439660.5	-3.50203	3.63720	1.64597	-9.97342	-7.45305	-2.95359	5.31062	12.79612	133.92	18.06
67/ 6/23	2439664.5	-3.52502	3.61992	1.63913	-9.92531	-7.50272	-2.97608	5.31190	12.79295	134.24	17.97
67/ 6/27	2439668.5	-3.54789	3.60253	1.63222	-9.87692	-7.55211	-2.99845	5.31318	12.78979	134.56	17.89
67/ 7/ 1	2439672.5	-3.57065	3.58503	1.62527	-9.82826	-7.60123	-3.02071	5.31446	12.78664	134.88	17.81
67/ 7/ 5	2439676.5	-3.59330	3.56741	1.61827	-9.77932	-7.65008	-3.04287	5.31573	12.78350	135.21	17.72
67/ 7/ 9	2439680.5	-3.61583	3.54969	1.61121	-9.73011	-7.69865	-3.06490	5.31700	12.78037	135.53	17.64
67/ 7/13	2439684.5	-3.63825	3.53184	1.60411	-9.68063	-7.74694	-3.08683	5.31827	12.77725	135.85	17.56
67/ 7/17	2439688.5	-3.66056	3.51389	1.59695	-9.63088	-7.79495	-3.10864	5.31953	12.77415	136.17	17.47
67/ 7/21	2439692.5	-3.68275	3.49583	1.58974	-9.58087	-7.84269	-3.13034	5.32079	12.77106	136.49	17.38
67/ 7/25	2439696.5	-3.70483	3.47766	1.58249	-9.53059	-7.89014	-3.15193	5.32204	12.76798	136.81	17.30
67/ 7/29	2439700.5	-3.72679	3.45937	1.57518	-9.48005	-7.93732	-3.17340	5.32329	12.76491	137.13	17.21
67/ 8/ 2	2439704.5	-3.74863	3.44098	1.56783	-9.42926	-7.98421	-3.19476	5.32453	12.76185	137.45	17.12
67/ 8/ 6	2439708.5	-3.77035	3.42248	1.56042	-9.37820	-8.03082	-3.21601	5.32577	12.75881	137.77	17.04
67/ 8/10	2439712.5	-3.79196	3.40388	1.55297	-9.32688	-8.07715	-3.23713	5.32701	12.75578	138.09	16.95
67/ 8/14	2439716.5	-3.81345	3.38517	1.54546	-9.27531	-8.12319	-3.25815	5.32824	12.75277	138.40	16.86
67/ 8/18	2439720.5	-3.83481	3.36635	1.53791	-9.22348	-8.16895	-3.27905	5.32947	12.74976	138.72	16.77
67/ 8/22	2439724.5	-3.85606	3.34742	1.53031	-9.17140	-8.21442	-3.29983	5.33070	12.74677	139.04	16.68
67/ 8/26	2439728.5	-3.87719	3.32839	1.52267	-9.11906	-8.25960	-3.32049	5.33191	12.74379	139.36	16.59
67/ 8/30	2439732.5	-3.89820	3.30926	1.51497	-9.06648	-8.30450	-3.34103	5.33313	12.74081	139.67	16.50
67/ 9/ 3	2439736.5	-3.91908	3.29002	1.50723	-9.01366	-8.34911	-3.36146	5.33434	12.73786	139.99	16.41
67/ 9/ 7	2439740.5	-3.93984	3.27068	1.49944	-8.96059	-8.39342	-3.38177	5.33555	12.73491	140.30	16.32
67/ 9/11	2439744.5	-3.96048	3.25124	1.49160	-8.90727	-8.43745	-3.40196	5.33675	12.73198	140.62	16.23
67/ 9/15	2439748.5	-3.98100	3.23170	1.48372	-8.85372	-8.48118	-3.42203	5.33794	12.72906	140.93	16.14
67/ 9/19	2439752.5	-4.00139	3.21206	1.47579	-8.79992	-8.52462	-3.44198	5.33914	12.72615	141.24	16.05
67/ 9/23	2439756.5	-4.02165	3.19231	1.46782	-8.74589	-8.56777	-3.46181	5.34032	12.72326	141.56	15.95
67/ 9/27	2439760.5	-4.04180	3.17247	1.45980	-8.69162	-8.61062	-3.48152	5.34151	12.72038	141.87	15.86
67/10/ 1	2439764.5	-4.06181	3.15253	1.45173	-8.63712	-8.65318	-3.50111	5.34269	12.71751	142.18	15.77
67/10/ 5	2439768.5	-4.08170	3.13249	1.44362	-8.58238	-8.69544	-3.52058	5.34386	12.71466	142.50	15.67
67/10/ 9	2439772.5	-4.10147	3.11235	1.43547	-8.52741	-8.73741	-3.53993	5.34503	12.71181	142.81	15.58
67/10/13	2439776.5	-4.12110	3.09212	1.42727	-8.47222	-8.77908	-3.55915	5.34619	12.70898	143.12	15.48
67/10/17	2439780.5	-4.14061	3.07179	1.41902	-8.41680	-8.82045	-3.57826	5.34735	12.70617	143.43	15.39
67/10/21	2439784.5	-4.15999	3.05137	1.41073	-8.36115	-8.86152	-3.59724	5.34851	12.70337	143.74	15.29
67/10/25	2439788.5	-4.17924	3.03085	1.40240	-8.30528	-8.90230	-3.61609	5.34966	12.70058	144.05	15.20
67/10/29	2439792.5	-4.19836	3.01024	1.39403	-8.24918	-8.94277	-3.63483	5.35080	12.69780	144.36	15.10
67/11/ 2	2439796.5	-4.21736	2.98953	1.38561	-8.19287	-8.98294	-3.65344	5.35194	12.69504	144.67	15.00
67/11/ 6	2439800.5	-4.23622	2.96873	1.37715	-8.13634	-9.02281	-3.67193	5.35308	12.69229	144.98	14.91
67/11/10	2439804.5	-4.25495	2.94784	1.36864	-8.07959	-9.06238	-3.69029	5.35421	12.68955	145.29	14.81
67/11/14	2439808.5	-4.27355	2.92686	1.36010	-8.02262	-9.10164	-3.70852	5.35533	12.68682	145.59	14.71
67/11/18	2439812.5	-4.29202	2.90579	1.35151	-7.96544	-9.14060	-3.72664	5.35645	12.68411	145.90	14.61
67/11/22	2439816.5	-4.31035	2.88463	1.34288	-7.90804	-9.17925	-3.74462	5.35757	12.68140	146.21	14.52
67/11/26	2439820.5	-4.32855	2.86338	1.33421	-7.85044	-9.21759	-3.76248	5.35868	12.67871	146.51	14.42
67/11/30	2439824.5	-4.34662	2.84204	1.32549	-7.79263	-9.25562	-3.78021	5.35978	12.67603	146.82	14.32
67/12/ 4	2439828.5	-4.36456	2.82061	1.31674	-7.73462	-9.29335	-3.79781	5.36088	12.67336	147.13	14.22
67/12/ 8	2439832.5	-4.38236	2.79910	1.30795	-7.67640	-9.33076	-3.81528	5.36197	12.67070	147.43	14.12
67/12/12	2439836.5	-4.40003	2.77750	1.29911	-7.61798	-9.36787	-3.83263	5.36306	12.66806	147.74	14.02

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67/12/16	2439840.5	-4.41756	2.75582	1.29024	-7.55936	-9.40466	-3.84985	5.36415	12.66542	148.04	13.92
67/12/20	2439844.5	-4.43495	2.73405	1.28133	-7.50054	-9.44114	-3.86694	5.36522	12.66280	148.35	13.82
67/12/24	2439848.5	-4.45221	2.71220	1.27237	-7.44153	-9.47731	-3.88390	5.36630	12.66019	148.65	13.72
67/12/28	2439852.5	-4.46933	2.69026	1.26338	-7.38233	-9.51317	-3.90073	5.36736	12.65760	148.95	13.61
68/ 1/ 1	2439856.5	-4.48632	2.66824	1.25435	-7.32293	-9.54871	-3.91743	5.36843	12.65502	149.26	13.51
68/ 1/ 5	2439860.5	-4.50317	2.64614	1.24528	-7.26335	-9.58394	-3.93400	5.36948	12.65245	149.56	13.41
68/ 1/ 9	2439864.5	-4.51988	2.62396	1.23617	-7.20357	-9.61885	-3.95043	5.37053	12.64989	149.86	13.31
68/ 1/13	2439868.5	-4.53645	2.60170	1.22703	-7.14362	-9.65345	-3.96674	5.37158	12.64735	150.17	13.20
68/ 1/17	2439872.5	-4.55289	2.57936	1.21785	-7.08348	-9.68773	-3.98292	5.37262	12.64482	150.47	13.10
68/ 1/21	2439876.5	-4.56918	2.55694	1.20863	-7.02315	-9.72169	-3.99896	5.37365	12.64230	150.77	13.00
68/ 1/25	2439880.5	-4.58533	2.53444	1.19937	-6.96265	-9.75534	-4.01488	5.37468	12.63980	151.07	12.89
68/ 1/29	2439884.5	-4.60135	2.51187	1.19008	-6.90197	-9.78867	-4.03066	5.37570	12.63731	151.37	12.79
68/ 2/ 2	2439888.5	-4.61722	2.48922	1.18075	-6.84112	-9.82169	-4.04631	5.37672	12.63484	151.67	12.69
68/ 2/ 6	2439892.5	-4.63296	2.46649	1.17138	-6.78009	-9.85438	-4.06183	5.37773	12.63238	151.97	12.58
68/ 2/10	2439896.5	-4.64855	2.44369	1.16198	-6.71889	-9.88676	-4.07722	5.37874	12.62993	152.27	12.48
68/ 2/14	2439900.5	-4.66400	2.42081	1.15254	-6.65751	-9.91881	-4.09247	5.37974	12.62749	152.57	12.37
68/ 2/18	2439904.5	-4.67931	2.39786	1.14307	-6.59597	-9.95055	-4.10759	5.38073	12.62507	152.87	12.27
68/ 2/22	2439908.5	-4.69448	2.37483	1.13356	-6.53426	-9.98196	-4.12257	5.38172	12.62266	153.17	12.16
68/ 2/26	2439912.5	-4.70950	2.35174	1.12402	-6.47239	-10.01305	-4.13742	5.38270	12.62027	153.46	12.05
68/ 3/ 1	2439916.5	-4.72438	2.32857	1.11445	-6.41036	-10.04382	-4.15214	5.38368	12.61789	153.76	11.95
68/ 3/ 5	2439920.5	-4.73912	2.30533	1.10484	-6.34816	-10.07427	-4.16672	5.38465	12.61553	154.06	11.84
68/ 3/ 9	2439924.5	-4.75371	2.28202	1.09520	-6.28581	-10.10439	-4.18116	5.38562	12.61318	154.36	11.73
68/ 3/13	2439928.5	-4.76816	2.25865	1.08552	-6.22330	-10.13419	-4.19548	5.38658	12.61084	154.65	11.63
68/ 3/17	2439932.5	-4.78247	2.23520	1.07581	-6.16064	-10.16367	-4.20965	5.38753	12.60852	154.95	11.52
68/ 3/21	2439936.5	-4.79663	2.21169	1.06607	-6.09783	-10.19282	-4.22370	5.38848	12.60622	155.25	11.41
68/ 3/25	2439940.5	-4.81064	2.18811	1.05630	-6.03487	-10.22165	-4.23760	5.38942	12.60393	155.54	11.30
68/ 3/29	2439944.5	-4.82451	2.16446	1.04649	-5.97175	-10.25016	-4.25137	5.39035	12.60166	155.84	11.19
68/ 4/ 2	2439948.5	-4.83823	2.14075	1.03665	-5.90849	-10.27834	-4.26501	5.39128	12.59940	156.13	11.09
68/ 4/ 6	2439952.5	-4.85181	2.11697	1.02679	-5.84509	-10.30620	-4.27851	5.39221	12.59716	156.43	10.98
68/ 4/10	2439956.5	-4.86524	2.09313	1.01689	-5.78154	-10.33373	-4.29187	5.39312	12.59493	156.72	10.87
68/ 4/14	2439960.5	-4.87852	2.06923	1.00696	-5.71785	-10.36093	-4.30510	5.39404	12.59272	157.02	10.76
68/ 4/18	2439964.5	-4.89166	2.04526	0.99700	-5.65402	-10.38781	-4.31819	5.39494	12.59053	157.31	10.65
68/ 4/22	2439968.5	-4.90464	2.02123	0.98700	-5.59006	-10.41437	-4.33115	5.39584	12.58836	157.60	10.54
68/ 4/26	2439972.5	-4.91748	1.99714	0.97698	-5.52596	-10.44060	-4.34396	5.39673	12.58620	157.90	10.43
68/ 4/30	2439976.5	-4.93018	1.97299	0.96693	-5.46172	-10.46650	-4.35665	5.39762	12.58406	158.19	10.32
68/ 5/ 4	2439980.5	-4.94272	1.94878	0.95686	-5.39735	-10.49208	-4.36919	5.39850	12.58193	158.48	10.21
68/ 5/ 8	2439984.5	-4.95511	1.92452	0.94675	-5.33284	-10.51733	-4.38160	5.39937	12.57982	158.77	10.10
68/ 5/12	2439988.5	-4.96736	1.90019	0.93661	-5.26821	-10.54225	-4.39387	5.40024	12.57772	159.07	9.99
68/ 5/16	2439992.5	-4.97945	1.87581	0.92645	-5.20345	-10.56684	-4.40600	5.40110	12.57564	159.36	9.88
68/ 5/20	2439996.5	-4.99140	1.85137	0.91625	-5.13856	-10.59110	-4.41800	5.40196	12.57358	159.65	9.77
68/ 5/24	2440000.5	-5.00320	1.82687	0.90603	-5.07355	-10.61503	-4.42985	5.40281	12.57153	159.94	9.65
68/ 5/28	2440004.5	-5.01484	1.80232	0.89579	-5.00841	-10.63863	-4.44157	5.40365	12.56950	160.23	9.54
68/ 6/ 1	2440008.5	-5.02634	1.77772	0.88551	-4.94316	-10.66190	-4.45315	5.40449	12.56748	160.52	9.43
68/ 6/ 5	2440012.5	-5.03768	1.75306	0.87521	-4.87778	-10.68484	-4.46459	5.40532	12.56548	160.81	9.32
68/ 6/ 9	2440016.5	-5.04887	1.72835	0.86488	-4.81229	-10.70745	-4.47589	5.40614	12.56349	161.10	9.21

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68/ 6/13	2440020.5	-5.05991	1.70359	0.85453	-4.74669	-10.72973	-4.48705	5.40696	12.56152	161.39	9.09
68/ 6/17	2440024.5	-5.07080	1.67878	0.84415	-4.68097	-10.75168	-4.49807	5.40777	12.55957	161.68	8.98
68/ 6/21	2440028.5	-5.08154	1.65391	0.83375	-4.61514	-10.77329	-4.50895	5.40857	12.55763	161.97	8.87
68/ 6/25	2440032.5	-5.09213	1.62900	0.82332	-4.54920	-10.79458	-4.51970	5.40937	12.55571	162.26	8.75
68/ 6/29	2440036.5	-5.10256	1.60404	0.81287	-4.48316	-10.81553	-4.53030	5.41016	12.55380	162.55	8.64
68/ 7/ 3	2440040.5	-5.11284	1.57903	0.80239	-4.41701	-10.83614	-4.54076	5.41094	12.55191	162.84	8.53
68/ 7/ 7	2440044.5	-5.12297	1.55397	0.79189	-4.35075	-10.85643	-4.55108	5.41172	12.55003	163.13	8.41
68/ 7/11	2440048.5	-5.13294	1.52887	0.78136	-4.28440	-10.87638	-4.56126	5.41249	12.54818	163.41	8.30
68/ 7/15	2440052.5	-5.14276	1.50372	0.77081	-4.21794	-10.89599	-4.57130	5.41326	12.54633	163.70	8.19
68/ 7/19	2440056.5	-5.15243	1.47852	0.76024	-4.15138	-10.91528	-4.58120	5.41401	12.54451	163.99	8.07
68/ 7/23	2440060.5	-5.16195	1.45329	0.74964	-4.08473	-10.93423	-4.59096	5.41477	12.54270	164.28	7.96
68/ 7/27	2440064.5	-5.17130	1.42801	0.73903	-4.01799	-10.95284	-4.60058	5.41551	12.54091	164.56	7.84
68/ 7/31	2440068.5	-5.18051	1.40268	0.72839	-3.95115	-10.97113	-4.61006	5.41625	12.53913	164.85	7.73
68/ 8/ 4	2440072.5	-5.18956	1.37732	0.71773	-3.88421	-10.98907	-4.61939	5.41698	12.53737	165.14	7.61
68/ 8/ 8	2440076.5	-5.19846	1.35191	0.70705	-3.81719	-11.00668	-4.62859	5.41770	12.53562	165.42	7.50
68/ 8/12	2440080.5	-5.20720	1.32646	0.69634	-3.75008	-11.02396	-4.63764	5.41842	12.53389	165.71	7.38
68/ 8/16	2440084.5	-5.21578	1.30097	0.68562	-3.68289	-11.04089	-4.64655	5.41913	12.53217	165.99	7.27
68/ 8/20	2440088.5	-5.22421	1.27545	0.67487	-3.61561	-11.05749	-4.65531	5.41984	12.53047	166.28	7.15
68/ 8/24	2440092.5	-5.23249	1.24988	0.66411	-3.54825	-11.07376	-4.66394	5.42053	12.52879	166.57	7.04
68/ 8/28	2440096.5	-5.24061	1.22428	0.65332	-3.48081	-11.08969	-4.67242	5.42122	12.52712	166.85	6.92
68/ 9/ 1	2440100.5	-5.24857	1.19865	0.64252	-3.41330	-11.10528	-4.68076	5.42191	12.52546	167.14	6.81
68/ 9/ 5	2440104.5	-5.25638	1.17297	0.63170	-3.34571	-11.12053	-4.68895	5.42258	12.52383	167.42	6.69
68/ 9/ 9	2440108.5	-5.26403	1.14727	0.62086	-3.27804	-11.13545	-4.69701	5.42325	12.52220	167.70	6.57
68/ 9/13	2440112.5	-5.27152	1.12152	0.61000	-3.21031	-11.15003	-4.70492	5.42392	12.52060	167.99	6.46
68/ 9/17	2440116.5	-5.27886	1.09575	0.59912	-3.14250	-11.16427	-4.71269	5.42457	12.51901	168.27	6.34
68/ 9/21	2440120.5	-5.28604	1.06994	0.58822	-3.07463	-11.17818	-4.72031	5.42522	12.51744	168.56	6.22
68/ 9/25	2440124.5	-5.29307	1.04410	0.57731	-3.00669	-11.19175	-4.72779	5.42586	12.51589	168.84	6.11
68/ 9/29	2440128.5	-5.29994	1.01823	0.56638	-2.93869	-11.20498	-4.73513	5.42650	12.51435	169.12	5.99
68/10/ 3	2440132.5	-5.30665	0.99233	0.55543	-2.87063	-11.21788	-4.74233	5.42713	12.51283	169.41	5.87
68/10/ 7	2440136.5	-5.31320	0.96640	0.54447	-2.80251	-11.23044	-4.74938	5.42775	12.51133	169.69	5.76
68/10/11	2440140.5	-5.31959	0.94044	0.53349	-2.73433	-11.24266	-4.75629	5.42836	12.50985	169.97	5.64
68/10/15	2440144.5	-5.32583	0.91446	0.52249	-2.66609	-11.25455	-4.76306	5.42897	12.50838	170.26	5.52
68/10/19	2440148.5	-5.33191	0.88844	0.51148	-2.59779	-11.26610	-4.76969	5.42957	12.50694	170.54	5.41
68/10/23	2440152.5	-5.33783	0.86240	0.50045	-2.52945	-11.27732	-4.77617	5.43016	12.50551	170.82	5.29
68/10/27	2440156.5	-5.34360	0.83634	0.48941	-2.46104	-11.28820	-4.78251	5.43075	12.50410	171.10	5.17
68/10/31	2440160.5	-5.34921	0.81025	0.47836	-2.39259	-11.29874	-4.78871	5.43133	12.50271	171.39	5.05
68/11/ 4	2440164.5	-5.35465	0.78413	0.46729	-2.32409	-11.30895	-4.79476	5.43190	12.50134	171.67	4.94
68/11/ 8	2440168.5	-5.35994	0.75800	0.45620	-2.25554	-11.31882	-4.80067	5.43246	12.49998	171.95	4.82
68/11/12	2440172.5	-5.36507	0.73184	0.44511	-2.18695	-11.32835	-4.80643	5.43302	12.49864	172.23	4.70
68/11/16	2440176.5	-5.37005	0.70566	0.43400	-2.11831	-11.33754	-4.81206	5.43357	12.49732	172.51	4.58
68/11/20	2440180.5	-5.37486	0.67945	0.42287	-2.04963	-11.34640	-4.81753	5.43412	12.49602	172.80	4.46
68/11/24	2440184.5	-5.37952	0.65323	0.41174	-1.98091	-11.35492	-4.82287	5.43465	12.49473	173.08	4.34
68/11/28	2440188.5	-5.38401	0.62699	0.40059	-1.91216	-11.36311	-4.82806	5.43518	12.49347	173.36	4.23
68/12/ 2	2440192.5	-5.38835	0.60073	0.38943	-1.84336	-11.37095	-4.83311	5.43570	12.49222	173.64	4.11
68/12/ 6	2440196.5	-5.39253	0.57445	0.37826	-1.77454	-11.37846	-4.83801	5.43622	12.49099	173.92	3.99

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68/12/10	2440200.5	-5.39655	0.54816	0.36708	-1.70568	-11.38564	-4.84277	5.43673	12.48977	174.20	3.87
68/12/14	2440204.5	-5.40041	0.52185	0.35588	-1.63678	-11.39247	-4.84739	5.43723	12.48858	174.48	3.75
68/12/18	2440208.5	-5.40411	0.49552	0.34468	-1.56786	-11.39897	-4.85186	5.43772	12.48741	174.76	3.63
68/12/22	2440212.5	-5.40766	0.46918	0.33347	-1.49891	-11.40514	-4.85619	5.43821	12.48625	175.04	3.52
68/12/26	2440216.5	-5.41104	0.44283	0.32224	-1.42994	-11.41096	-4.86037	5.43868	12.48511	175.32	3.40
68/12/30	2440220.5	-5.41426	0.41646	0.31101	-1.36094	-11.41645	-4.86442	5.43916	12.48399	175.60	3.28
69/ 1/ 3	2440224.5	-5.41733	0.39008	0.29977	-1.29191	-11.42161	-4.86831	5.43962	12.48289	175.88	3.16
69/ 1/ 7	2440228.5	-5.42023	0.36369	0.28852	-1.22287	-11.42642	-4.87207	5.44008	12.48181	176.16	3.04
69/ 1/11	2440232.5	-5.42298	0.33729	0.27726	-1.15380	-11.43090	-4.87568	5.44053	12.48075	176.44	2.92
69/ 1/15	2440236.5	-5.42556	0.31087	0.26599	-1.08472	-11.43505	-4.87914	5.44097	12.47970	176.72	2.80
69/ 1/19	2440240.5	-5.42799	0.28445	0.25471	-1.01562	-11.43886	-4.88247	5.44140	12.47868	177.00	2.68
69/ 1/23	2440244.5	-5.43026	0.25802	0.24343	-0.94651	-11.44233	-4.88565	5.44183	12.47767	177.28	2.56
69/ 1/27	2440248.5	-5.43236	0.23158	0.23214	-0.87738	-11.44546	-4.88868	5.44225	12.47668	177.56	2.44
69/ 1/31	2440252.5	-5.43431	0.20514	0.22084	-0.80823	-11.44826	-4.89157	5.44266	12.47571	177.84	2.33
69/ 2/ 4	2440256.5	-5.43610	0.17869	0.20954	-0.73908	-11.45072	-4.89432	5.44307	12.47475	178.12	2.21
69/ 2/ 8	2440260.5	-5.43772	0.15223	0.19823	-0.66992	-11.45284	-4.89692	5.44347	12.47381	178.40	2.09
69/ 2/12	2440264.5	-5.43919	0.12577	0.18692	-0.60075	-11.45462	-4.89937	5.44386	12.47289	178.68	1.97
69/ 2/16	2440268.5	-5.44050	0.09931	0.17559	-0.53158	-11.45606	-4.90168	5.44424	12.47199	178.95	1.85
69/ 2/20	2440272.5	-5.44165	0.07284	0.16427	-0.46241	-11.45717	-4.90385	5.44461	12.47110	179.23	1.73
69/ 2/24	2440276.5	-5.44264	0.04637	0.15294	-0.39323	-11.45794	-4.90587	5.44498	12.47022	179.51	1.61
69/ 2/28	2440280.5	-5.44347	0.01990	0.14160	-0.32406	-11.45837	-4.90774	5.44534	12.46937	179.79	1.49
69/ 3/ 4	2440284.5	-5.44413	-0.00657	0.13026	-0.25489	-11.45846	-4.90948	5.44570	12.46853	180.07	1.37
69/ 3/ 8	2440288.5	-5.44464	-0.03304	0.11892	-0.18573	-11.45822	-4.91106	5.44604	12.46771	180.35	1.25
69/ 3/12	2440292.5	-5.44499	-0.05951	0.10757	-0.11658	-11.45764	-4.91250	5.44638	12.46690	180.63	1.13
69/ 3/16	2440296.5	-5.44518	-0.08598	0.09622	-0.04743	-11.45672	-4.91380	5.44671	12.46611	180.90	1.01
69/ 3/20	2440300.5	-5.44521	-0.11244	0.08487	0.02171	-11.45546	-4.91495	5.44703	12.46534	181.18	0.89
69/ 3/24	2440304.5	-5.44508	-0.13890	0.07351	0.09083	-11.45387	-4.91596	5.44735	12.46459	181.46	0.77
69/ 3/28	2440308.5	-5.44479	-0.16536	0.06215	0.15994	-11.45194	-4.91682	5.44766	12.46385	181.74	0.65
69/ 4/ 1	2440312.5	-5.44434	-0.19182	0.05079	0.22903	-11.44967	-4.91753	5.44796	12.46313	182.02	0.53
69/ 4/ 5	2440316.5	-5.44373	-0.21826	0.03943	0.29810	-11.44707	-4.91810	5.44825	12.46242	182.30	0.41
69/ 4/ 9	2440320.5	-5.44296	-0.24471	0.02807	0.36715	-11.44413	-4.91853	5.44854	12.46174	182.57	0.30
69/ 4/13	2440324.5	-5.44204	-0.27114	0.01671	0.43618	-11.44086	-4.91882	5.44881	12.46107	182.85	0.18
69/ 4/17	2440328.5	-5.44095	-0.29757	0.00534	0.50519	-11.43725	-4.91895	5.44908	12.46042	183.13	0.06
69/ 4/21	2440332.5	-5.43970	-0.32398	-0.00602	0.57417	-11.43331	-4.91895	5.44935	12.45979	183.41	-0.06
69/ 4/25	2440336.5	-5.43830	-0.35039	-0.01738	0.64313	-11.42903	-4.91880	5.44960	12.45917	183.69	-0.18
69/ 4/29	2440340.5	-5.43673	-0.37679	-0.02875	0.71205	-11.42442	-4.91851	5.44985	12.45857	183.96	-0.30
69/ 5/ 3	2440344.5	-5.43501	-0.40318	-0.04011	0.78095	-11.41947	-4.91807	5.45009	12.45799	184.24	-0.42
69/ 5/ 7	2440348.5	-5.43312	-0.42955	-0.05147	0.84982	-11.41418	-4.91748	5.45032	12.45742	184.52	-0.54
69/ 5/11	2440352.5	-5.43108	-0.45591	-0.06283	0.91864	-11.40856	-4.91675	5.45054	12.45687	184.80	-0.66
69/ 5/15	2440356.5	-5.42888	-0.48226	-0.07419	0.98744	-11.40261	-4.91588	5.45076	12.45634	185.08	-0.78
69/ 5/19	2440360.5	-5.42652	-0.50860	-0.08554	1.05619	-11.39632	-4.91486	5.45097	12.45582	185.35	-0.90
69/ 5/23	2440364.5	-5.42400	-0.53492	-0.09689	1.12490	-11.38970	-4.91370	5.45117	12.45533	185.63	-1.02
69/ 5/27	2440368.5	-5.42132	-0.56122	-0.10824	1.19358	-11.38275	-4.91240	5.45137	12.45485	185.91	-1.14
69/ 5/31	2440372.5	-5.41848	-0.58751	-0.11959	1.26220	-11.37546	-4.91095	5.45155	12.45438	186.19	-1.26
69/ 6/ 4	2440376.5	-5.41549	-0.61378	-0.13093	1.33078	-11.36784	-4.90936	5.45173	12.45394	186.47	-1.38

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					JUPITER		
69/ 6/ 8	2440380.5	-5.41234	-0.64003	-0.14227	1.39932	-11.35989	-4.90762	5.45190	12.45351	186.74	-1.50
69/ 6/12	2440384.5	-5.40902	-0.66627	-0.15361	1.46780	-11.35161	-4.90574	5.45207	12.45311	187.02	-1.61
69/ 6/16	2440388.5	-5.40555	-0.69248	-0.16494	1.53624	-11.34300	-4.90372	5.45222	12.45272	187.30	-1.73
69/ 6/20	2440392.5	-5.40193	-0.71867	-0.17627	1.60462	-11.33406	-4.90156	5.45237	12.45235	187.58	-1.85
69/ 6/24	2440396.5	-5.39814	-0.74485	-0.18759	1.67295	-11.32479	-4.89925	5.45251	12.45200	187.86	-1.97
69/ 6/28	2440400.5	-5.39420	-0.77100	-0.19890	1.74122	-11.31519	-4.89680	5.45265	12.45167	188.13	-2.09
69/ 7/ 2	2440404.5	-5.39009	-0.79713	-0.21021	1.80944	-11.30526	-4.89421	5.45277	12.45135	188.41	-2.21
69/ 7/ 6	2440408.5	-5.38584	-0.82323	-0.22151	1.87760	-11.29500	-4.89147	5.45289	12.45106	188.69	-2.33
69/ 7/10	2440412.5	-5.38142	-0.84931	-0.23281	1.94569	-11.28442	-4.88859	5.45300	12.45079	188.97	-2.45
69/ 7/14	2440416.5	-5.37685	-0.87537	-0.24410	2.01373	-11.27351	-4.88557	5.45310	12.45054	189.25	-2.57
69/ 7/18	2440420.5	-5.37212	-0.90140	-0.25538	2.08171	-11.26227	-4.88241	5.45320	12.45031	189.53	-2.68
69/ 7/22	2440424.5	-5.36723	-0.92741	-0.26666	2.14962	-11.25070	-4.87911	5.45329	12.45009	189.80	-2.80
69/ 7/26	2440428.5	-5.36218	-0.95338	-0.27793	2.21746	-11.23881	-4.87567	5.45337	12.44990	190.08	-2.92
69/ 7/30	2440432.5	-5.35698	-0.97933	-0.28919	2.28524	-11.22658	-4.87208	5.45344	12.44973	190.36	-3.04
69/ 8/ 3	2440436.5	-5.35163	-1.00525	-0.30044	2.35295	-11.21403	-4.86835	5.45350	12.44957	190.64	-3.16
69/ 8/ 7	2440440.5	-5.34611	-1.03115	-0.31168	2.42059	-11.20116	-4.86448	5.45356	12.44943	190.92	-3.28
69/ 8/11	2440444.5	-5.34044	-1.05701	-0.32291	2.48816	-11.18795	-4.86047	5.45361	12.44931	191.20	-3.39
69/ 8/15	2440448.5	-5.33462	-1.08284	-0.33414	2.55565	-11.17443	-4.85632	5.45365	12.44921	191.47	-3.51
69/ 8/19	2440452.5	-5.32863	-1.10864	-0.34535	2.62306	-11.16057	-4.85202	5.45368	12.44913	191.75	-3.63
69/ 8/23	2440456.5	-5.32250	-1.13440	-0.35656	2.69040	-11.14639	-4.84758	5.45371	12.44907	192.03	-3.75
69/ 8/27	2440460.5	-5.31620	-1.16014	-0.36775	2.75766	-11.13189	-4.84301	5.45373	12.44903	192.31	-3.87
69/ 8/31	2440464.5	-5.30975	-1.18584	-0.37893	2.82484	-11.11706	-4.83829	5.45374	12.44901	192.59	-3.98
69/ 9/ 4	2440468.5	-5.30315	-1.21150	-0.39010	2.89193	-11.10191	-4.83343	5.45374	12.44900	192.87	-4.10
69/ 9/ 8	2440472.5	-5.29639	-1.23713	-0.40126	2.95894	-11.08644	-4.82843	5.45374	12.44902	193.15	-4.22
69/ 9/12	2440476.5	-5.28948	-1.26272	-0.41241	3.02587	-11.07064	-4.82328	5.45373	12.44905	193.43	-4.34
69/ 9/16	2440480.5	-5.28241	-1.28828	-0.42355	3.09271	-11.05451	-4.81800	5.45371	12.44911	193.71	-4.45
69/ 9/20	2440484.5	-5.27519	-1.31380	-0.43467	3.15946	-11.03807	-4.81258	5.45368	12.44918	193.99	-4.57
69/ 9/24	2440488.5	-5.26781	-1.33928	-0.44578	3.22612	-11.02130	-4.80701	5.45365	12.44927	194.26	-4.69
69/ 9/28	2440492.5	-5.26028	-1.36472	-0.45688	3.29269	-11.00421	-4.80131	5.45360	12.44938	194.54	-4.81
69/10/ 2	2440496.5	-5.25260	-1.39012	-0.46797	3.35916	-10.98680	-4.79547	5.45355	12.44951	194.82	-4.92
69/10/ 6	2440500.5	-5.24476	-1.41548	-0.47904	3.42554	-10.96907	-4.78948	5.45350	12.44966	195.10	-5.04
69/10/10	2440504.5	-5.23677	-1.44080	-0.49010	3.49182	-10.95102	-4.78336	5.45343	12.44983	195.38	-5.16
69/10/14	2440508.5	-5.22863	-1.46608	-0.50114	3.55801	-10.93265	-4.77710	5.45336	12.45002	195.66	-5.27
69/10/18	2440512.5	-5.22033	-1.49132	-0.51217	3.62409	-10.91396	-4.77069	5.45328	12.45022	195.94	-5.39
69/10/22	2440516.5	-5.21189	-1.51651	-0.52318	3.69008	-10.89495	-4.76415	5.45319	12.45045	196.22	-5.51
69/10/26	2440520.5	-5.20329	-1.54165	-0.53418	3.75596	-10.87561	-4.75747	5.45309	12.45069	196.50	-5.62
69/10/30	2440524.5	-5.19453	-1.56676	-0.54516	3.82173	-10.85596	-4.75064	5.45299	12.45095	196.78	-5.74
69/11/ 3	2440528.5	-5.18563	-1.59181	-0.55613	3.88740	-10.83598	-4.74368	5.45288	12.45122	197.06	-5.85
69/11/ 7	2440532.5	-5.17657	-1.61682	-0.56708	3.95296	-10.81569	-4.73658	5.45276	12.45152	197.35	-5.97
69/11/11	2440536.5	-5.16736	-1.64178	-0.57801	4.01841	-10.79508	-4.72934	5.45263	12.45183	197.63	-6.09
69/11/15	2440540.5	-5.15801	-1.66670	-0.58893	4.08375	-10.77415	-4.72196	5.45250	12.45215	197.91	-6.20
69/11/19	2440544.5	-5.14850	-1.69156	-0.59983	4.14897	-10.75290	-4.71443	5.45236	12.45250	198.19	-6.32
69/11/23	2440548.5	-5.13884	-1.71638	-0.61071	4.21407	-10.73134	-4.70678	5.45221	12.45286	198.47	-6.43
69/11/27	2440552.5	-5.12903	-1.74115	-0.62158	4.27906	-10.70946	-4.69898	5.45205	12.45324	198.75	-6.55
69/12/ 1	2440556.5	-5.11906	-1.76586	-0.63243	4.34392	-10.68726	-4.69104	5.45189	12.45364	199.03	-6.66

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69/12/ 5	2440560.5	-5.10895	-1.79053	-0.64325	4.40867	-10.66475	-4.68297	5.45171	12.45405	199.31	-6.78
69/12/ 9	2440564.5	-5.09870	-1.81514	-0.65406	4.47329	-10.64192	-4.67475	5.45153	12.45448	199.60	-6.89
69/12/13	2440568.5	-5.08829	-1.83970	-0.66485	4.53779	-10.61878	-4.66640	5.45135	12.45493	199.88	-7.01
69/12/17	2440572.5	-5.07773	-1.86420	-0.67562	4.60216	-10.59533	-4.65791	5.45115	12.45540	200.16	-7.12
69/12/21	2440576.5	-5.06702	-1.88865	-0.68637	4.66640	-10.57157	-4.64929	5.45095	12.45589	200.44	-7.23
69/12/25	2440580.5	-5.05617	-1.91304	-0.69710	4.73051	-10.54749	-4.64053	5.45074	12.45639	200.72	-7.35

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
69/12/17	2440572.5	-5.07773	-1.86420	-0.67562	4.60216	-10.59533	-4.65791	5.45115	12.45540	200.16	-7.12
69/12/21	2440576.5	-5.06702	-1.88865	-0.68637	4.66640	-10.57157	-4.64929	5.45095	12.45589	200.44	-7.23
69/12/25	2440580.5	-5.05617	-1.91304	-0.69710	4.73051	-10.54749	-4.64053	5.45074	12.45639	200.72	-7.35
69/12/29	2440584.5	-5.04517	-1.93738	-0.70781	4.79449	-10.52310	-4.63163	5.45052	12.45691	201.01	-7.46
70/ 1/ 2	2440588.5	-5.03402	-1.96166	-0.71850	4.85833	-10.49840	-4.62259	5.45029	12.45745	201.29	-7.58
70/ 1/ 6	2440592.5	-5.02272	-1.98589	-0.72917	4.92204	-10.47339	-4.61342	5.45006	12.45801	201.57	-7.69
70/ 1/10	2440596.5	-5.01128	-2.01005	-0.73982	4.98562	-10.44807	-4.60411	5.44982	12.45859	201.86	-7.80
70/ 1/14	2440600.5	-4.99968	-2.03416	-0.75044	5.04906	-10.42245	-4.59467	5.44957	12.45919	202.14	-7.92
70/ 1/18	2440604.5	-4.98795	-2.05821	-0.76105	5.11236	-10.39651	-4.58509	5.44932	12.45981	202.42	-8.03
70/ 1/22	2440608.5	-4.97606	-2.08220	-0.77163	5.17552	-10.37027	-4.57538	5.44905	12.46044	202.71	-8.14
70/ 1/26	2440612.5	-4.96403	-2.10612	-0.78219	5.23854	-10.34371	-4.56552	5.44878	12.46109	202.99	-8.25
70/ 1/30	2440616.5	-4.95186	-2.12999	-0.79272	5.30142	-10.31685	-4.55554	5.44850	12.46176	203.27	-8.37
70/ 2/ 3	2440620.5	-4.93954	-2.15379	-0.80324	5.36414	-10.28969	-4.54542	5.44822	12.46244	203.56	-8.48
70/ 2/ 7	2440624.5	-4.92708	-2.17753	-0.81372	5.42672	-10.26221	-4.53516	5.44792	12.46315	203.84	-8.59
70/ 2/11	2440628.5	-4.91447	-2.20121	-0.82419	5.48915	-10.23443	-4.52477	5.44762	12.46387	204.13	-8.70
70/ 2/15	2440632.5	-4.90171	-2.22482	-0.83463	5.55143	-10.20635	-4.51424	5.44731	12.46461	204.41	-8.81
70/ 2/19	2440636.5	-4.88882	-2.24836	-0.84505	5.61356	-10.17797	-4.50358	5.44700	12.46536	204.70	-8.92
70/ 2/23	2440640.5	-4.87578	-2.27184	-0.85544	5.67553	-10.14928	-4.49279	5.44667	12.46614	204.98	-9.04
70/ 2/27	2440644.5	-4.86259	-2.29525	-0.86580	5.73735	-10.12029	-4.48186	5.44634	12.46693	205.27	-9.15
70/ 3/ 3	2440648.5	-4.84927	-2.31860	-0.87615	5.79901	-10.09099	-4.47080	5.44600	12.46775	205.55	-9.26
70/ 3/ 7	2440652.5	-4.83580	-2.34188	-0.88646	5.86051	-10.06140	-4.45961	5.44566	12.46858	205.84	-9.37
70/ 3/11	2440656.5	-4.82219	-2.36509	-0.89675	5.92185	-10.03151	-4.44828	5.44530	12.46943	206.13	-9.48
70/ 3/15	2440660.5	-4.80844	-2.38823	-0.90701	5.98303	-10.00131	-4.43682	5.44494	12.47030	206.41	-9.59
70/ 3/19	2440664.5	-4.79455	-2.41130	-0.91725	6.04405	-9.97082	-4.42523	5.44457	12.47118	206.70	-9.70
70/ 3/23	2440668.5	-4.78051	-2.43430	-0.92746	6.10490	-9.94003	-4.41351	5.44420	12.47209	206.99	-9.81
70/ 3/27	2440672.5	-4.76634	-2.45722	-0.93764	6.16558	-9.90894	-4.40166	5.44382	12.47301	207.27	-9.92
70/ 3/31	2440676.5	-4.75203	-2.48008	-0.94780	6.22610	-9.87756	-4.38967	5.44343	12.47396	207.56	-10.03
70/ 4/ 4	2440680.5	-4.73757	-2.50286	-0.95792	6.28645	-9.84588	-4.37756	5.44303	12.47492	207.85	-10.14
70/ 4/ 8	2440684.5	-4.72298	-2.52557	-0.96802	6.34663	-9.81390	-4.36531	5.44262	12.47590	208.14	-10.25
70/ 4/12	2440688.5	-4.70825	-2.54820	-0.97809	6.40663	-9.78163	-4.35293	5.44221	12.47691	208.42	-10.35
70/ 4/16	2440692.5	-4.69338	-2.57076	-0.98813	6.46647	-9.74906	-4.34042	5.44179	12.47793	208.71	-10.46
70/ 4/20	2440696.5	-4.67837	-2.59325	-0.99815	6.52613	-9.71620	-4.32778	5.44136	12.47897	209.00	-10.57
70/ 4/24	2440700.5	-4.66323	-2.61566	-1.00813	6.58561	-9.68304	-4.31501	5.44093	12.48002	209.29	-10.68
70/ 4/28	2440704.5	-4.64795	-2.63799	-1.01808	6.64492	-9.64959	-4.30211	5.44048	12.48109	209.58	-10.79
70/ 5/ 2	2440708.5	-4.63253	-2.66024	-1.02801	6.70404	-9.61584	-4.28908	5.44004	12.48218	209.87	-10.89
70/ 5/ 6	2440712.5	-4.61697	-2.68242	-1.03790	6.76299	-9.58181	-4.27592	5.43958	12.48329	210.16	-11.00
70/ 5/10	2440716.5	-4.60128	-2.70451	-1.04776	6.82175	-9.54748	-4.26263	5.43911	12.48441	210.45	-11.11
70/ 5/14	2440720.5	-4.58545	-2.72653	-1.05760	6.88032	-9.51286	-4.24921	5.43864	12.48556	210.74	-11.21
70/ 5/18	2440724.5	-4.56949	-2.74846	-1.06740	6.93871	-9.47795	-4.23566	5.43816	12.48671	211.03	-11.32
70/ 5/22	2440728.5	-4.55339	-2.77032	-1.07717	6.99690	-9.44275	-4.22198	5.43768	12.48789	211.32	-11.43
70/ 5/26	2440732.5	-4.53716	-2.79209	-1.08690	7.05491	-9.40727	-4.20818	5.43719	12.48908	211.61	-11.53
70/ 5/30	2440736.5	-4.52080	-2.81378	-1.09661	7.11273	-9.37149	-4.19424	5.43668	12.49029	211.90	-11.64
70/ 6/ 3	2440740.5	-4.50430	-2.83539	-1.10628	7.17035	-9.33543	-4.18018	5.43618	12.49152	212.19	-11.74
70/ 6/ 7	2440744.5	-4.48767	-2.85692	-1.11592	7.22778	-9.29908	-4.16599	5.43566	12.49276	212.48	-11.85
70/ 6/11	2440748.5	-4.47090	-2.87836	-1.12553	7.28500	-9.26244	-4.15167	5.43514	12.49402	212.77	-11.95

1.5 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
70/ 6/15	2440752.5	-4.45401	-2.89971	-1.13510	7.34203	-9.22552	-4.13723	5.43461	12.49530	213.07	-12.06
70/ 6/19	2440756.5	-4.43698	-2.92098	-1.14465	7.39886	-9.18832	-4.12266	5.43407	12.49659	213.36	-12.16
70/ 6/23	2440760.5	-4.41982	-2.94217	-1.15415	7.45549	-9.15083	-4.10796	5.43353	12.49790	213.65	-12.26
70/ 6/27	2440764.5	-4.40254	-2.96326	-1.16363	7.51191	-9.11307	-4.09314	5.43298	12.49922	213.94	-12.37
70/ 7/ 1	2440768.5	-4.38512	-2.98427	-1.17306	7.56813	-9.07502	-4.07819	5.43242	12.50057	214.24	-12.47
70/ 7/ 5	2440772.5	-4.36757	-3.00519	-1.18247	7.62414	-9.03669	-4.06311	5.43186	12.50193	214.53	-12.57
70/ 7/ 9	2440776.5	-4.34989	-3.02602	-1.19184	7.67995	-8.99808	-4.04792	5.43128	12.50331	214.82	-12.68
70/ 7/13	2440780.5	-4.33208	-3.04677	-1.20117	7.73555	-8.95919	-4.03259	5.43070	12.50470	215.12	-12.78
70/ 7/17	2440784.5	-4.31415	-3.06742	-1.21047	7.79093	-8.92002	-4.01714	5.43012	12.50611	215.41	-12.88
70/ 7/21	2440788.5	-4.29609	-3.08798	-1.21973	7.84610	-8.88057	-4.00157	5.42952	12.50754	215.71	-12.98
70/ 7/25	2440792.5	-4.27790	-3.10845	-1.22896	7.90106	-8.84085	-3.98587	5.42892	12.50898	216.00	-13.08
70/ 7/29	2440796.5	-4.25958	-3.12883	-1.23815	7.95580	-8.80085	-3.97005	5.42831	12.51043	216.30	-13.18
70/ 8/ 2	2440800.5	-4.24114	-3.14911	-1.24730	8.01032	-8.76058	-3.95410	5.42770	12.51191	216.59	-13.29
70/ 8/ 6	2440804.5	-4.22257	-3.16930	-1.25642	8.06462	-8.72003	-3.93803	5.42708	12.51339	216.89	-13.39
70/ 8/10	2440808.5	-4.20388	-3.18940	-1.26550	8.11869	-8.67921	-3.92184	5.42645	12.51490	217.19	-13.49
70/ 8/14	2440812.5	-4.18506	-3.20940	-1.27454	8.17255	-8.63811	-3.90553	5.42581	12.51642	217.48	-13.59
70/ 8/18	2440816.5	-4.16612	-3.22931	-1.28354	8.22618	-8.59675	-3.88910	5.42517	12.51795	217.78	-13.69
70/ 8/22	2440820.5	-4.14705	-3.24912	-1.29251	8.27958	-8.55512	-3.87254	5.42452	12.51950	218.08	-13.78
70/ 8/26	2440824.5	-4.12786	-3.26884	-1.30143	8.33275	-8.51322	-3.85586	5.42386	12.52107	218.38	-13.88
70/ 8/30	2440828.5	-4.10855	-3.28846	-1.31032	8.38570	-8.47105	-3.83907	5.42320	12.52266	218.67	-13.98
70/ 9/ 3	2440832.5	-4.08912	-3.30798	-1.31917	8.43841	-8.42861	-3.82215	5.42253	12.52426	218.97	-14.08
70/ 9/ 7	2440836.5	-4.06956	-3.32740	-1.32798	8.49089	-8.38591	-3.80511	5.42185	12.52588	219.27	-14.18
70/ 9/11	2440840.5	-4.04989	-3.34672	-1.33675	8.54313	-8.34294	-3.78796	5.42117	12.52751	219.57	-14.28
70/ 9/15	2440844.5	-4.03009	-3.36595	-1.34548	8.59515	-8.29972	-3.77068	5.42048	12.52916	219.87	-14.37
70/ 9/19	2440848.5	-4.01018	-3.38507	-1.35417	8.64692	-8.25623	-3.75329	5.41978	12.53083	220.17	-14.47
70/ 9/23	2440852.5	-3.99014	-3.40409	-1.36282	8.69845	-8.21248	-3.73578	5.41907	12.53251	220.47	-14.57
70/ 9/27	2440856.5	-3.96999	-3.42302	-1.37143	8.74975	-8.16847	-3.71816	5.41836	12.53422	220.77	-14.66
70/10/ 1	2440860.5	-3.94971	-3.44183	-1.38000	8.80081	-8.12420	-3.70041	5.41764	12.53594	221.07	-14.76
70/10/ 5	2440864.5	-3.92932	-3.46055	-1.38853	8.85163	-8.07967	-3.68255	5.41692	12.53768	221.37	-14.85
70/10/ 9	2440868.5	-3.90882	-3.47917	-1.39702	8.90220	-8.03488	-3.66458	5.41619	12.53944	221.67	-14.95
70/10/13	2440872.5	-3.88819	-3.49768	-1.40546	8.95253	-7.98984	-3.64648	5.41545	12.54122	221.97	-15.04
70/10/17	2440876.5	-3.86745	-3.51608	-1.41387	9.00261	-7.94454	-3.62827	5.41471	12.54301	222.28	-15.14
70/10/21	2440880.5	-3.84660	-3.53438	-1.42223	9.05245	-7.89898	-3.60995	5.41395	12.54482	222.58	-15.23
70/10/25	2440884.5	-3.82563	-3.55258	-1.43054	9.10203	-7.85317	-3.59151	5.41320	12.54664	222.88	-15.32
70/10/29	2440888.5	-3.80454	-3.57067	-1.43882	9.15137	-7.80711	-3.57295	5.41243	12.54849	223.18	-15.42
70/11/ 2	2440892.5	-3.78335	-3.58865	-1.44705	9.20045	-7.76080	-3.55428	5.41166	12.55035	223.49	-15.51
70/11/ 6	2440896.5	-3.76203	-3.60652	-1.45524	9.24928	-7.71423	-3.53550	5.41088	12.55222	223.79	-15.60
70/11/10	2440900.5	-3.74061	-3.62429	-1.46339	9.29786	-7.66741	-3.51660	5.41010	12.55412	224.10	-15.69
70/11/14	2440904.5	-3.71907	-3.64195	-1.47149	9.34617	-7.62035	-3.49759	5.40931	12.55603	224.40	-15.79
70/11/18	2440908.5	-3.69743	-3.65950	-1.47955	9.39423	-7.57304	-3.47847	5.40851	12.55796	224.70	-15.88
70/11/22	2440912.5	-3.67567	-3.67694	-1.48756	9.44204	-7.52548	-3.45923	5.40771	12.55990	225.01	-15.97
70/11/26	2440916.5	-3.65380	-3.69427	-1.49553	9.48958	-7.47767	-3.43989	5.40690	12.56186	225.32	-16.06
70/11/30	2440920.5	-3.63183	-3.71149	-1.50346	9.53686	-7.42962	-3.42043	5.40608	12.56384	225.62	-16.15
70/12/ 4	2440924.5	-3.60974	-3.72860	-1.51133	9.58387	-7.38132	-3.40086	5.40526	12.56584	225.93	-16.24
70/12/ 8	2440928.5	-3.58754	-3.74559	-1.51917	9.63062	-7.33278	-3.38118	5.40443	12.56785	226.23	-16.33

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70/12/12	2440932.5	-3.56524	-3.76248	-1.52696	9.67710	-7.28400	-3.36139	5.40359	12.56988	226.54	-16.41
70/12/16	2440936.5	-3.54283	-3.77925	-1.53470	9.72332	-7.23498	-3.34149	5.40275	12.57193	226.85	-16.50
70/12/20	2440940.5	-3.52032	-3.79590	-1.54240	9.76927	-7.18572	-3.32148	5.40190	12.57399	227.16	-16.59
70/12/24	2440944.5	-3.49770	-3.81245	-1.55005	9.81494	-7.13622	-3.30136	5.40104	12.57608	227.47	-16.68
70/12/28	2440948.5	-3.47497	-3.82888	-1.55765	9.86035	-7.08648	-3.28113	5.40018	12.57818	227.77	-16.76
71/ 1/ 1	2440952.5	-3.45214	-3.84519	-1.56521	9.90548	-7.03650	-3.26079	5.39932	12.58029	228.08	-16.85
71/ 1/ 5	2440956.5	-3.42920	-3.86139	-1.57271	9.95034	-6.98629	-3.24035	5.39844	12.58242	228.39	-16.94
71/ 1/ 9	2440960.5	-3.40616	-3.87747	-1.58018	9.99493	-6.93584	-3.21979	5.39756	12.58457	228.70	-17.02
71/ 1/13	2440964.5	-3.38302	-3.89343	-1.58759	10.03923	-6.88515	-3.19913	5.39668	12.58674	229.01	-17.11
71/ 1/17	2440968.5	-3.35978	-3.90928	-1.59496	10.08326	-6.83423	-3.17837	5.39578	12.58891	229.32	-17.19
71/ 1/21	2440972.5	-3.33643	-3.92501	-1.60228	10.12700	-6.78307	-3.15749	5.39489	12.59111	229.63	-17.28
71/ 1/25	2440976.5	-3.31299	-3.94062	-1.60955	10.17046	-6.73169	-3.13651	5.39398	12.59331	229.95	-17.36
71/ 1/29	2440980.5	-3.28944	-3.95611	-1.61677	10.21364	-6.68007	-3.11542	5.39307	12.59554	230.26	-17.44
71/ 2/ 2	2440984.5	-3.26580	-3.97148	-1.62394	10.25652	-6.62822	-3.09423	5.39215	12.59777	230.57	-17.53
71/ 2/ 6	2440988.5	-3.24206	-3.98674	-1.63106	10.29912	-6.57615	-3.07293	5.39123	12.60002	230.88	-17.61
71/ 2/10	2440992.5	-3.21821	-4.00187	-1.63814	10.34144	-6.52385	-3.05152	5.39030	12.60229	231.19	-17.69
71/ 2/14	2440996.5	-3.19427	-4.01688	-1.64516	10.38345	-6.47132	-3.03002	5.38937	12.60457	231.51	-17.77
71/ 2/18	2441000.5	-3.17024	-4.03177	-1.65214	10.42518	-6.41857	-3.00840	5.38843	12.60686	231.82	-17.85
71/ 2/22	2441004.5	-3.14611	-4.04653	-1.65906	10.46661	-6.36559	-2.98669	5.38748	12.60916	232.14	-17.94
71/ 2/26	2441008.5	-3.12188	-4.06118	-1.66594	10.50775	-6.31239	-2.96487	5.38653	12.61148	232.45	-18.02
71/ 3/ 2	2441012.5	-3.09756	-4.07570	-1.67276	10.54858	-6.25898	-2.94295	5.38557	12.61382	232.76	-18.10
71/ 3/ 6	2441016.5	-3.07314	-4.09010	-1.67954	10.58912	-6.20534	-2.92093	5.38460	12.61616	233.08	-18.17
71/ 3/10	2441020.5	-3.04863	-4.10437	-1.68626	10.62936	-6.15148	-2.89881	5.38363	12.61852	233.40	-18.25
71/ 3/14	2441024.5	-3.02403	-4.11852	-1.69293	10.66929	-6.09741	-2.87659	5.38265	12.62090	233.71	-18.33
71/ 3/18	2441028.5	-2.99934	-4.13254	-1.69955	10.70893	-6.04312	-2.85427	5.38167	12.62328	234.03	-18.41
71/ 3/22	2441032.5	-2.97455	-4.14644	-1.70612	10.74825	-5.98862	-2.83185	5.38068	12.62569	234.35	-18.49
71/ 3/26	2441036.5	-2.94968	-4.16021	-1.71263	10.78728	-5.93391	-2.80933	5.37969	12.62810	234.66	-18.56
71/ 3/30	2441040.5	-2.92471	-4.17386	-1.71910	10.82599	-5.87899	-2.78672	5.37869	12.63053	234.98	-18.64
71/ 4/ 3	2441044.5	-2.89966	-4.18737	-1.72551	10.86440	-5.82385	-2.76400	5.37768	12.63298	235.30	-18.72
71/ 4/ 7	2441048.5	-2.87451	-4.20077	-1.73187	10.90250	-5.76851	-2.74119	5.37667	12.63544	235.62	-18.79
71/ 4/11	2441052.5	-2.84928	-4.21403	-1.73817	10.94028	-5.71296	-2.71828	5.37566	12.63791	235.94	-18.87
71/ 4/15	2441056.5	-2.82397	-4.22716	-1.74443	10.97775	-5.65720	-2.69528	5.37463	12.64039	236.25	-18.94
71/ 4/19	2441060.5	-2.79856	-4.24017	-1.75063	11.01491	-5.60123	-2.67218	5.37361	12.64289	236.57	-19.01
71/ 4/23	2441064.5	-2.77307	-4.25304	-1.75677	11.05175	-5.54507	-2.64898	5.37257	12.64540	236.89	-19.09
71/ 4/27	2441068.5	-2.74750	-4.26579	-1.76287	11.08827	-5.48870	-2.62569	5.37153	12.64792	237.22	-19.16
71/ 5/ 1	2441072.5	-2.72184	-4.27840	-1.76890	11.12448	-5.43213	-2.60231	5.37049	12.65045	237.54	-19.23
71/ 5/ 5	2441076.5	-2.69610	-4.29088	-1.77489	11.16036	-5.37536	-2.57883	5.36944	12.65300	237.86	-19.30
71/ 5/ 9	2441080.5	-2.67028	-4.30324	-1.78082	11.19592	-5.31839	-2.55526	5.36838	12.65556	238.18	-19.37
71/ 5/13	2441084.5	-2.64437	-4.31546	-1.78669	11.23116	-5.26123	-2.53160	5.36732	12.65814	238.50	-19.44
71/ 5/17	2441088.5	-2.61839	-4.32754	-1.79252	11.26607	-5.20387	-2.50784	5.36626	12.66072	238.82	-19.51
71/ 5/21	2441092.5	-2.59232	-4.33950	-1.79828	11.30066	-5.14632	-2.48400	5.36518	12.66332	239.15	-19.58
71/ 5/25	2441096.5	-2.56617	-4.35132	-1.80399	11.33492	-5.08858	-2.46007	5.36411	12.66594	239.47	-19.65
71/ 5/29	2441100.5	-2.53995	-4.36301	-1.80965	11.36885	-5.03065	-2.43604	5.36302	12.66856	239.79	-19.72
71/ 6/ 2	2441104.5	-2.51365	-4.37457	-1.81525	11.40245	-4.97253	-2.41193	5.36194	12.67120	240.12	-19.79
71/ 6/ 6	2441108.5	-2.48727	-4.38599	-1.82079	11.43573	-4.91422	-2.38773	5.36084	12.67386	240.44	-19.86

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71/ 6/10	2441112.5	-2.46081	-4.39727	-1.82628	11.46867	-4.85573	-2.36344	5.35974	12.67652	240.77	-19.92
71/ 6/14	2441116.5	-2.43428	-4.40842	-1.83171	11.50127	-4.79705	-2.33906	5.35864	12.67920	241.09	-19.99
71/ 6/18	2441120.5	-2.40767	-4.41943	-1.83709	11.53355	-4.73819	-2.31460	5.35753	12.68190	241.42	-20.05
71/ 6/22	2441124.5	-2.38099	-4.43031	-1.84241	11.56549	-4.67915	-2.29005	5.35642	12.68461	241.75	-20.12
71/ 6/26	2441128.5	-2.35423	-4.44105	-1.84767	11.59710	-4.61993	-2.26542	5.35530	12.68734	242.07	-20.18
71/ 6/30	2441132.5	-2.32741	-4.45166	-1.85287	11.62836	-4.56053	-2.24070	5.35418	12.69008	242.40	-20.25
71/ 7/ 4	2441136.5	-2.30051	-4.46212	-1.85802	11.65930	-4.50095	-2.21590	5.35305	12.69283	242.73	-20.31
71/ 7/ 8	2441140.5	-2.27354	-4.47245	-1.86311	11.68989	-4.44119	-2.19101	5.35191	12.69560	243.05	-20.37
71/ 7/12	2441144.5	-2.24649	-4.48264	-1.86814	11.72013	-4.38126	-2.16604	5.35078	12.69837	243.38	-20.43
71/ 7/16	2441148.5	-2.21938	-4.49270	-1.87312	11.75004	-4.32115	-2.14098	5.34963	12.70117	243.71	-20.50
71/ 7/20	2441152.5	-2.19221	-4.50261	-1.87804	11.77960	-4.26087	-2.11585	5.34848	12.70397	244.04	-20.56
71/ 7/24	2441156.5	-2.16496	-4.51238	-1.88290	11.80882	-4.20042	-2.09063	5.34733	12.70679	244.37	-20.62
71/ 7/28	2441160.5	-2.13764	-4.52202	-1.88770	11.83769	-4.13980	-2.06533	5.34617	12.70962	244.70	-20.68
71/ 8/ 1	2441164.5	-2.11026	-4.53151	-1.89244	11.86621	-4.07902	-2.03995	5.34501	12.71246	245.03	-20.74
71/ 8/ 5	2441168.5	-2.08282	-4.54086	-1.89712	11.89438	-4.01806	-2.01449	5.34384	12.71532	245.36	-20.79
71/ 8/ 9	2441172.5	-2.05531	-4.55008	-1.90175	11.92220	-3.95694	-1.98895	5.34267	12.71818	245.69	-20.85
71/ 8/13	2441176.5	-2.02773	-4.55915	-1.90631	11.94967	-3.89566	-1.96333	5.34149	12.72106	246.02	-20.91
71/ 8/17	2441180.5	-2.00010	-4.56807	-1.91082	11.97679	-3.83421	-1.93763	5.34031	12.72396	246.35	-20.97
71/ 8/21	2441184.5	-1.97240	-4.57686	-1.91526	12.00355	-3.77261	-1.91186	5.33912	12.72686	246.69	-21.02
71/ 8/25	2441188.5	-1.94464	-4.58551	-1.91965	12.02996	-3.71084	-1.88600	5.33793	12.72978	247.02	-21.08
71/ 8/29	2441192.5	-1.91682	-4.59401	-1.92398	12.05600	-3.64892	-1.86008	5.33674	12.73270	247.35	-21.13
71/ 9/ 2	2441196.5	-1.88893	-4.60236	-1.92824	12.08169	-3.58684	-1.83407	5.33554	12.73564	247.69	-21.19
71/ 9/ 6	2441200.5	-1.86099	-4.61058	-1.93245	12.10702	-3.52461	-1.80799	5.33433	12.73859	248.02	-21.24
71/ 9/10	2441204.5	-1.83300	-4.61865	-1.93660	12.13199	-3.46223	-1.78184	5.33312	12.74156	248.35	-21.29
71/ 9/14	2441208.5	-1.80494	-4.62658	-1.94068	12.15660	-3.39970	-1.75562	5.33191	12.74453	248.69	-21.34
71/ 9/18	2441212.5	-1.77683	-4.63436	-1.94471	12.18084	-3.33701	-1.72932	5.33069	12.74752	249.02	-21.40
71/ 9/22	2441216.5	-1.74866	-4.64199	-1.94867	12.20473	-3.27418	-1.70295	5.32947	12.75052	249.36	-21.45
71/ 9/26	2441220.5	-1.72044	-4.64948	-1.95258	12.22824	-3.21120	-1.67651	5.32824	12.75353	249.69	-21.50
71/ 9/30	2441224.5	-1.69216	-4.65683	-1.95642	12.25139	-3.14808	-1.64999	5.32701	12.75655	250.03	-21.55
71/10/ 4	2441228.5	-1.66383	-4.66403	-1.96020	12.27418	-3.08481	-1.62341	5.32578	12.75958	250.37	-21.60
71/10/ 8	2441232.5	-1.63545	-4.67108	-1.96392	12.29659	-3.02140	-1.59675	5.32454	12.76262	250.70	-21.64
71/10/12	2441236.5	-1.60702	-4.67799	-1.96758	12.31863	-2.95785	-1.57003	5.32329	12.76567	251.04	-21.69
71/10/16	2441240.5	-1.57854	-4.68475	-1.97117	12.34029	-2.89416	-1.54324	5.32205	12.76874	251.38	-21.74
71/10/20	2441244.5	-1.55000	-4.69136	-1.97471	12.36159	-2.83034	-1.51638	5.32079	12.77181	251.72	-21.79
71/10/24	2441248.5	-1.52142	-4.69783	-1.97818	12.38251	-2.76638	-1.48945	5.31954	12.77489	252.06	-21.83
71/10/28	2441252.5	-1.49279	-4.70414	-1.98159	12.40305	-2.70229	-1.46246	5.31828	12.77798	252.39	-21.88
71/11/ 1	2441256.5	-1.46411	-4.71031	-1.98494	12.42321	-2.63807	-1.43540	5.31701	12.78108	252.73	-21.92
71/11/ 5	2441260.5	-1.43539	-4.71633	-1.98822	12.44300	-2.57372	-1.40828	5.31575	12.78419	253.07	-21.96
71/11/ 9	2441264.5	-1.40662	-4.72220	-1.99144	12.46241	-2.50924	-1.38109	5.31447	12.78731	253.41	-22.01
71/11/13	2441268.5	-1.37781	-4.72793	-1.99460	12.48143	-2.44464	-1.35384	5.31320	12.79044	253.75	-22.05
71/11/17	2441272.5	-1.34896	-4.73350	-1.99770	12.50008	-2.37991	-1.32653	5.31192	12.79357	254.09	-22.09
71/11/21	2441276.5	-1.32006	-4.73892	-2.00073	12.51834	-2.31506	-1.29915	5.31064	12.79672	254.43	-22.13
71/11/25	2441280.5	-1.29112	-4.74419	-2.00370	12.53622	-2.25009	-1.27172	5.30935	12.79988	254.78	-22.17
71/11/29	2441284.5	-1.26214	-4.74932	-2.00661	12.55371	-2.18501	-1.24422	5.30806	12.80304	255.12	-22.21
71/12/ 3	2441288.5	-1.23311	-4.75429	-2.00945	12.57081	-2.11981	-1.21667	5.30676	12.80622	255.46	-22.25

1.5 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
71/12/ 7	2441292.5	-1.20405	-4.75911	-2.01223	12.58753	-2.05450	-1.18906	5.30546	12.80940	255.80	-22.29
71/12/11	2441296.5	-1.17496	-4.76378	-2.01494	12.60387	-1.98907	-1.16139	5.30416	12.81260	256.14	-22.33
71/12/15	2441300.5	-1.14582	-4.76830	-2.01760	12.61981	-1.92354	-1.13367	5.30286	12.81580	256.49	-22.36
71/12/19	2441304.5	-1.11665	-4.77267	-2.02018	12.63537	-1.85789	-1.10589	5.30155	12.81902	256.83	-22.40
71/12/23	2441308.5	-1.08744	-4.77689	-2.02270	12.65054	-1.79214	-1.07805	5.30024	12.82225	257.18	-22.43
71/12/27	2441312.5	-1.05820	-4.78095	-2.02516	12.66532	-1.72628	-1.05016	5.29892	12.82549	257.52	-22.47
71/12/31	2441316.5	-1.02892	-4.78486	-2.02756	12.67970	-1.66032	-1.02221	5.29760	12.82873	257.86	-22.50
72/ 1/ 4	2441320.5	-0.99961	-4.78862	-2.02989	12.69369	-1.59426	-0.99421	5.29628	12.83199	258.21	-22.54
72/ 1/ 8	2441324.5	-0.97027	-4.79223	-2.03215	12.70729	-1.52809	-0.96616	5.29495	12.83525	258.55	-22.57
72/ 1/12	2441328.5	-0.94090	-4.79568	-2.03435	12.72049	-1.46183	-0.93805	5.29362	12.83853	258.90	-22.60
72/ 1/16	2441332.5	-0.91150	-4.79898	-2.03648	12.73330	-1.39548	-0.90990	5.29229	12.84181	259.25	-22.63
72/ 1/20	2441336.5	-0.88207	-4.80213	-2.03855	12.74570	-1.32902	-0.88169	5.29095	12.84510	259.59	-22.66
72/ 1/24	2441340.5	-0.85261	-4.80512	-2.04056	12.75772	-1.26248	-0.85344	5.28961	12.84841	259.94	-22.69
72/ 1/28	2441344.5	-0.82313	-4.80796	-2.04250	12.76933	-1.19584	-0.82514	5.28827	12.85172	260.29	-22.72
72/ 2/ 1	2441348.5	-0.79361	-4.81065	-2.04437	12.78054	-1.12912	-0.79679	5.28693	12.85504	260.63	-22.75
72/ 2/ 5	2441352.5	-0.76408	-4.81318	-2.04618	12.79135	-1.06231	-0.76839	5.28558	12.85837	260.98	-22.78
72/ 2/ 9	2441356.5	-0.73451	-4.81556	-2.04792	12.80176	-0.99542	-0.73994	5.28423	12.86170	261.33	-22.80
72/ 2/13	2441360.5	-0.70493	-4.81778	-2.04960	12.81177	-0.92844	-0.71146	5.28287	12.86505	261.68	-22.83
72/ 2/17	2441364.5	-0.67532	-4.81984	-2.05121	12.82137	-0.86138	-0.68292	5.28152	12.86841	262.02	-22.85
72/ 2/21	2441368.5	-0.64569	-4.82176	-2.05275	12.83057	-0.79424	-0.65434	5.28016	12.87177	262.37	-22.88
72/ 2/25	2441372.5	-0.61604	-4.82351	-2.05423	12.83936	-0.72702	-0.62572	5.27879	12.87514	262.72	-22.90
72/ 2/29	2441376.5	-0.58637	-4.82512	-2.05564	12.84775	-0.65973	-0.59706	5.27743	12.87853	263.07	-22.92
72/ 3/ 4	2441380.5	-0.55668	-4.82656	-2.05699	12.85573	-0.59237	-0.56835	5.27606	12.88192	263.42	-22.95
72/ 3/ 8	2441384.5	-0.52697	-4.82785	-2.05827	12.86331	-0.52493	-0.53961	5.27469	12.88532	263.77	-22.97
72/ 3/12	2441388.5	-0.49724	-4.82899	-2.05948	12.87047	-0.45743	-0.51083	5.27331	12.88873	264.12	-22.99
72/ 3/16	2441392.5	-0.46750	-4.82997	-2.06063	12.87723	-0.38985	-0.48200	5.27194	12.89215	264.47	-23.01
72/ 3/20	2441396.5	-0.43775	-4.83079	-2.06171	12.88358	-0.32221	-0.45314	5.27056	12.89558	264.82	-23.03
72/ 3/24	2441400.5	-0.40798	-4.83146	-2.06272	12.88952	-0.25451	-0.42424	5.26918	12.89901	265.17	-23.05
72/ 3/28	2441404.5	-0.37819	-4.83197	-2.06367	12.89505	-0.18674	-0.39530	5.26779	12.90246	265.52	-23.06
72/ 4/ 1	2441408.5	-0.34840	-4.83232	-2.06455	12.90016	-0.11891	-0.36633	5.26641	12.90591	265.88	-23.08
72/ 4/ 5	2441412.5	-0.31859	-4.83251	-2.06536	12.90486	-0.05102	-0.33732	5.26502	12.90937	266.23	-23.10
72/ 4/ 9	2441416.5	-0.28877	-4.83255	-2.06611	12.90915	0.01693	-0.30827	5.26363	12.91284	266.58	-23.11
72/ 4/13	2441420.5	-0.25895	-4.83244	-2.06679	12.91302	0.08493	-0.27920	5.26223	12.91631	266.93	-23.13
72/ 4/17	2441424.5	-0.22911	-4.83216	-2.06740	12.91647	0.15299	-0.25009	5.26084	12.91979	267.29	-23.14
72/ 4/21	2441428.5	-0.19927	-4.83173	-2.06794	12.91950	0.22109	-0.22094	5.25944	12.92328	267.64	-23.15
72/ 4/25	2441432.5	-0.16942	-4.83114	-2.06842	12.92211	0.28925	-0.19177	5.25804	12.92677	267.99	-23.17
72/ 4/29	2441436.5	-0.13956	-4.83039	-2.06883	12.92431	0.35745	-0.16256	5.25664	12.93027	268.35	-23.18
72/ 5/ 3	2441440.5	-0.10970	-4.82949	-2.06917	12.92608	0.42569	-0.13333	5.25523	12.93377	268.70	-23.19
72/ 5/ 7	2441444.5	-0.07984	-4.82843	-2.06944	12.92743	0.49398	-0.10407	5.25382	12.93728	269.05	-23.20
72/ 5/11	2441448.5	-0.04997	-4.82721	-2.06965	12.92836	0.56230	-0.07478	5.25242	12.94080	269.41	-23.21
72/ 5/15	2441452.5	-0.02011	-4.82583	-2.06979	12.92886	0.63067	-0.04546	5.25100	12.94432	269.76	-23.21
72/ 5/19	2441456.5	0.00976	-4.82429	-2.06986	12.92894	0.69907	-0.01612	5.24959	12.94784	270.12	-23.22
72/ 5/23	2441460.5	0.03963	-4.82260	-2.06986	12.92860	0.76750	0.01325	5.24818	12.95137	270.47	-23.23
72/ 5/27	2441464.5	0.06950	-4.82075	-2.06980	12.92783	0.83596	0.04263	5.24676	12.95490	270.83	-23.23
72/ 5/31	2441468.5	0.09936	-4.81874	-2.06967	12.92663	0.90445	0.07205	5.24534	12.95843	271.18	-23.24

1.5 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
72/ 6/ 4	2441472.5	0.12922	-4.81657	-2.06947	12.92501	0.97297	0.10148	5.24392	12.96198	271.54	-23.24
72/ 6/ 8	2441476.5	0.15908	-4.81424	-2.06920	12.92296	1.04151	0.13093	5.24250	12.96552	271.89	-23.25
72/ 6/12	2441480.5	0.18893	-4.81175	-2.06886	12.92049	1.11007	0.16041	5.24108	12.96908	272.25	-23.25
72/ 6/16	2441484.5	0.21877	-4.80911	-2.06846	12.91758	1.17865	0.18990	5.23965	12.97263	272.60	-23.25
72/ 6/20	2441488.5	0.24861	-4.80631	-2.06798	12.91425	1.24725	0.21941	5.23822	12.97619	272.96	-23.25
72/ 6/24	2441492.5	0.27844	-4.80335	-2.06744	12.91049	1.31587	0.24894	5.23679	12.97976	273.32	-23.25
72/ 6/28	2441496.5	0.30826	-4.80023	-2.06683	12.90629	1.38450	0.27848	5.23536	12.98333	273.67	-23.25
72/ 7/ 2	2441500.5	0.33807	-4.79695	-2.06616	12.90167	1.45313	0.30804	5.23393	12.98690	274.03	-23.25
72/ 7/ 6	2441504.5	0.36787	-4.79352	-2.06541	12.89661	1.52178	0.33762	5.23250	12.99047	274.39	-23.25
72/ 7/10	2441508.5	0.39766	-4.78992	-2.06460	12.89112	1.59044	0.36720	5.23106	12.99405	274.75	-23.25
72/ 7/14	2441512.5	0.42743	-4.78617	-2.06371	12.88520	1.65909	0.39680	5.22963	12.99763	275.10	-23.24
72/ 7/18	2441516.5	0.45719	-4.78225	-2.06276	12.87884	1.72775	0.42641	5.22819	13.00121	275.46	-23.24
72/ 7/22	2441520.5	0.48694	-4.77818	-2.06174	12.87205	1.79641	0.45603	5.22675	13.00480	275.82	-23.23
72/ 7/26	2441524.5	0.51667	-4.77395	-2.06066	12.86483	1.86506	0.48566	5.22531	13.00838	276.18	-23.23
72/ 7/30	2441528.5	0.54638	-4.76957	-2.05950	12.85717	1.93371	0.51530	5.22387	13.01198	276.54	-23.22
72/ 8/ 3	2441532.5	0.57607	-4.76502	-2.05828	12.84907	2.00235	0.54494	5.22243	13.01557	276.89	-23.21
72/ 8/ 7	2441536.5	0.60575	-4.76032	-2.05698	12.84054	2.07097	0.57459	5.22099	13.01916	277.25	-23.20
72/ 8/11	2441540.5	0.63540	-4.75545	-2.05562	12.83158	2.13959	0.60425	5.21954	13.02276	277.61	-23.19
72/ 8/15	2441544.5	0.66503	-4.75043	-2.05419	12.82218	2.20818	0.63391	5.21810	13.02636	277.97	-23.18
72/ 8/19	2441548.5	0.69464	-4.74525	-2.05269	12.81234	2.27676	0.66357	5.21665	13.02996	278.33	-23.17
72/ 8/23	2441552.5	0.72423	-4.73991	-2.05112	12.80206	2.34532	0.69323	5.21521	13.03357	278.69	-23.16
72/ 8/27	2441556.5	0.75379	-4.73441	-2.04949	12.79135	2.41386	0.72290	5.21376	13.03718	279.05	-23.15
72/ 8/31	2441560.5	0.78333	-4.72876	-2.04778	12.78020	2.48236	0.75256	5.21231	13.04079	279.41	-23.13
72/ 9/ 4	2441564.5	0.81284	-4.72294	-2.04601	12.76862	2.55085	0.78222	5.21086	13.04440	279.77	-23.12
72/ 9/ 8	2441568.5	0.84232	-4.71697	-2.04417	12.75660	2.61930	0.81188	5.20941	13.04802	280.12	-23.10
72/ 9/12	2441572.5	0.87178	-4.71084	-2.04226	12.74415	2.68772	0.84154	5.20796	13.05164	280.48	-23.09
72/ 9/16	2441576.5	0.90121	-4.70455	-2.04028	12.73126	2.75611	0.87119	5.20651	13.05527	280.84	-23.07
72/ 9/20	2441580.5	0.93060	-4.69811	-2.03824	12.71793	2.82446	0.90084	5.20506	13.05890	281.20	-23.05
72/ 9/24	2441584.5	0.95997	-4.69150	-2.03612	12.70416	2.89277	0.93048	5.20361	13.06253	281.56	-23.03
72/ 9/28	2441588.5	0.98930	-4.68474	-2.03394	12.68995	2.96104	0.96012	5.20215	13.06616	281.92	-23.02
72/10/ 2	2441592.5	1.01860	-4.67782	-2.03168	12.67531	3.02927	0.98975	5.20070	13.06980	282.28	-23.00
72/10/ 6	2441596.5	1.04786	-4.67075	-2.02936	12.66023	3.09746	1.01937	5.19925	13.07344	282.64	-22.97
72/10/10	2441600.5	1.07709	-4.66351	-2.02697	12.64471	3.16560	1.04898	5.19780	13.07708	283.01	-22.95
72/10/14	2441604.5	1.10629	-4.65612	-2.02452	12.62875	3.23368	1.07858	5.19634	13.08072	283.37	-22.93
72/10/18	2441608.5	1.13544	-4.64857	-2.02199	12.61235	3.30172	1.10816	5.19489	13.08437	283.73	-22.91
72/10/22	2441612.5	1.16456	-4.64086	-2.01940	12.59551	3.36970	1.13774	5.19344	13.08801	284.09	-22.88
72/10/26	2441616.5	1.19364	-4.63300	-2.01673	12.57823	3.43762	1.16730	5.19198	13.09166	284.45	-22.86
72/10/30	2441620.5	1.22268	-4.62498	-2.01400	12.56051	3.50549	1.19685	5.19053	13.09531	284.81	-22.83
72/11/ 3	2441624.5	1.25167	-4.61680	-2.01120	12.54235	3.57329	1.22638	5.18908	13.09897	285.17	-22.80
72/11/ 7	2441628.5	1.28062	-4.60847	-2.00834	12.52375	3.64103	1.25589	5.18762	13.10262	285.53	-22.78
72/11/11	2441632.5	1.30954	-4.59998	-2.00540	12.50471	3.70870	1.28539	5.18617	13.10628	285.89	-22.75
72/11/15	2441636.5	1.33840	-4.59134	-2.00240	12.48523	3.77630	1.31486	5.18472	13.10993	286.25	-22.72
72/11/19	2441640.5	1.36722	-4.58253	-1.99933	12.46531	3.84383	1.34432	5.18326	13.11359	286.61	-22.69
72/11/23	2441644.5	1.39599	-4.57358	-1.99619	12.44495	3.91129	1.37376	5.18181	13.11725	286.97	-22.66
72/11/27	2441648.5	1.42472	-4.56446	-1.99298	12.42415	3.97867	1.40317	5.18036	13.12091	287.33	-22.63

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72/12/ 1	2441652.5	1.45340	-4.55519	-1.98970	12.40291	4.04597	1.43256	5.17891	13.12457	287.70	-22.59
72/12/ 5	2441656.5	1.48203	-4.54577	-1.98636	12.38124	4.11319	1.46193	5.17746	13.12824	288.06	-22.56
72/12/ 9	2441660.5	1.51060	-4.53619	-1.98295	12.35912	4.18033	1.49127	5.17600	13.13190	288.42	-22.53
72/12/13	2441664.5	1.53913	-4.52645	-1.97947	12.33656	4.24738	1.52059	5.17455	13.13557	288.78	-22.49
72/12/17	2441668.5	1.56760	-4.51656	-1.97592	12.31356	4.31435	1.54988	5.17310	13.13923	289.14	-22.46
72/12/21	2441672.5	1.59602	-4.50652	-1.97231	12.29012	4.38123	1.57914	5.17166	13.14290	289.50	-22.42
72/12/25	2441676.5	1.62439	-4.49632	-1.96863	12.26624	4.44801	1.60837	5.17021	13.14657	289.86	-22.38
72/12/29	2441680.5	1.65270	-4.48597	-1.96488	12.24191	4.51470	1.63758	5.16876	13.15023	290.22	-22.34
73/ 1/ 2	2441684.5	1.68095	-4.47546	-1.96106	12.21715	4.58129	1.66675	5.16731	13.15390	290.59	-22.30
73/ 1/ 6	2441688.5	1.70914	-4.46480	-1.95718	12.19194	4.64778	1.69589	5.16587	13.15756	290.95	-22.26
73/ 1/10	2441692.5	1.73728	-4.45399	-1.95323	12.16630	4.71416	1.72500	5.16442	13.16122	291.31	-22.22
73/ 1/14	2441696.5	1.76536	-4.44302	-1.94921	12.14021	4.78045	1.75407	5.16298	13.16488	291.67	-22.18
73/ 1/18	2441700.5	1.79337	-4.43190	-1.94512	12.11368	4.84662	1.78311	5.16153	13.16854	292.03	-22.14
73/ 1/22	2441704.5	1.82132	-4.42063	-1.94097	12.08671	4.91268	1.81211	5.16009	13.17220	292.39	-22.10
73/ 1/26	2441708.5	1.84922	-4.40920	-1.93675	12.05930	4.97863	1.84107	5.15865	13.17585	292.75	-22.05
73/ 1/30	2441712.5	1.87704	-4.39763	-1.93246	12.03145	5.04446	1.86999	5.15721	13.17950	293.11	-22.01
73/ 2/ 3	2441716.5	1.90480	-4.38590	-1.92811	12.00316	5.11017	1.89888	5.15577	13.18315	293.48	-21.96
73/ 2/ 7	2441720.5	1.93250	-4.37401	-1.92369	11.97443	5.17576	1.92772	5.15433	13.18679	293.84	-21.91
73/ 2/11	2441724.5	1.96013	-4.36198	-1.91920	11.94526	5.24123	1.95651	5.15290	13.19043	294.20	-21.87
73/ 2/15	2441728.5	1.98769	-4.34980	-1.91465	11.91565	5.30656	1.98527	5.15146	13.19407	294.56	-21.82
73/ 2/19	2441732.5	2.01518	-4.33746	-1.91003	11.88560	5.37177	2.01398	5.15003	13.19771	294.92	-21.77
73/ 2/23	2441736.5	2.04261	-4.32498	-1.90534	11.85511	5.43684	2.04264	5.14859	13.20134	295.28	-21.72
73/ 2/27	2441740.5	2.06996	-4.31234	-1.90059	11.82419	5.50178	2.07126	5.14716	13.20497	295.64	-21.67
73/ 3/ 3	2441744.5	2.09724	-4.29956	-1.89577	11.79283	5.56659	2.09982	5.14573	13.20859	296.00	-21.62
73/ 3/ 7	2441748.5	2.12445	-4.28662	-1.89089	11.76103	5.63125	2.12834	5.14431	13.21222	296.36	-21.57
73/ 3/11	2441752.5	2.15158	-4.27354	-1.88594	11.72880	5.69577	2.15681	5.14288	13.21584	296.72	-21.51
73/ 3/15	2441756.5	2.17864	-4.26031	-1.88092	11.69613	5.76014	2.18522	5.14145	13.21946	297.08	-21.46
73/ 3/19	2441760.5	2.20562	-4.24693	-1.87584	11.66303	5.82437	2.21359	5.14003	13.22307	297.44	-21.40
73/ 3/23	2441764.5	2.23252	-4.23340	-1.87070	11.62949	5.88845	2.24190	5.13861	13.22668	297.81	-21.35
73/ 3/27	2441768.5	2.25935	-4.21972	-1.86549	11.59552	5.95238	2.27015	5.13719	13.23029	298.17	-21.29
73/ 3/31	2441772.5	2.28610	-4.20590	-1.86021	11.56111	6.01615	2.29835	5.13577	13.23389	298.53	-21.24
73/ 4/ 4	2441776.5	2.31277	-4.19192	-1.85487	11.52627	6.07976	2.32649	5.13436	13.23748	298.89	-21.18
73/ 4/ 8	2441780.5	2.33935	-4.17781	-1.84946	11.49100	6.14321	2.35458	5.13295	13.24108	299.25	-21.12
73/ 4/12	2441784.5	2.36586	-4.16354	-1.84399	11.45529	6.20650	2.38260	5.13153	13.24466	299.61	-21.06
73/ 4/16	2441788.5	2.39228	-4.14913	-1.83845	11.41916	6.26962	2.41056	5.13012	13.24825	299.97	-21.00
73/ 4/20	2441792.5	2.41862	-4.13457	-1.83285	11.38259	6.33257	2.43847	5.12872	13.25183	300.33	-20.94
73/ 4/24	2441796.5	2.44487	-4.11987	-1.82718	11.34559	6.39536	2.46630	5.12731	13.25540	300.69	-20.88
73/ 4/28	2441800.5	2.47104	-4.10502	-1.82145	11.30816	6.45796	2.49408	5.12591	13.25897	301.05	-20.81
73/ 5/ 2	2441804.5	2.49712	-4.09003	-1.81566	11.27031	6.52040	2.52179	5.12451	13.26253	301.41	-20.75
73/ 5/ 6	2441808.5	2.52311	-4.07490	-1.80980	11.23202	6.58265	2.54943	5.12311	13.26609	301.77	-20.69
73/ 5/10	2441812.5	2.54901	-4.05962	-1.80388	11.19331	6.64472	2.57700	5.12172	13.26964	302.12	-20.62
73/ 5/14	2441816.5	2.57483	-4.04420	-1.79790	11.15417	6.70660	2.60451	5.12032	13.27319	302.48	-20.56
73/ 5/18	2441820.5	2.60055	-4.02863	-1.79185	11.11461	6.76830	2.63195	5.11893	13.27673	302.84	-20.49
73/ 5/22	2441824.5	2.62618	-4.01292	-1.78574	11.07463	6.82981	2.65931	5.11754	13.28027	303.20	-20.42
73/ 5/26	2441828.5	2.65172	-3.99708	-1.77956	11.03422	6.89113	2.68660	5.11616	13.28380	303.56	-20.35

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73/ 5/30	2441832.5	2.67716	-3.98109	-1.77332	10.99339	6.95225	2.71382	5.11477	13.28733	303.92	-20.29
73/ 6/ 3	2441836.5	2.70251	-3.96495	-1.76702	10.95214	7.01318	2.74097	5.11339	13.29086	304.28	-20.22
73/ 6/ 7	2441840.5	2.72777	-3.94868	-1.76066	10.91047	7.07391	2.76804	5.11202	13.29438	304.64	-20.15
73/ 6/11	2441844.5	2.75292	-3.93227	-1.75423	10.86838	7.13443	2.79503	5.11064	13.29789	305.00	-20.08
73/ 6/15	2441848.5	2.77798	-3.91572	-1.74774	10.82586	7.19476	2.82195	5.10927	13.30140	305.35	-20.00
73/ 6/19	2441852.5	2.80294	-3.89903	-1.74119	10.78293	7.25488	2.84879	5.10790	13.30491	305.71	-19.93
73/ 6/23	2441856.5	2.82780	-3.88220	-1.73458	10.73959	7.31479	2.87555	5.10654	13.30840	306.07	-19.86
73/ 6/27	2441860.5	2.85256	-3.86523	-1.72791	10.69582	7.37449	2.90223	5.10517	13.31190	306.43	-19.78
73/ 7/ 1	2441864.5	2.87722	-3.84813	-1.72117	10.65164	7.43397	2.92883	5.10381	13.31538	306.79	-19.71
73/ 7/ 5	2441868.5	2.90178	-3.83088	-1.71438	10.60704	7.49324	2.95535	5.10246	13.31886	307.14	-19.63
73/ 7/ 9	2441872.5	2.92623	-3.81351	-1.70752	10.56203	7.55229	2.98178	5.10110	13.32233	307.50	-19.56
73/ 7/13	2441876.5	2.95058	-3.79599	-1.70060	10.51661	7.61112	3.00813	5.09975	13.32580	307.86	-19.48
73/ 7/17	2441880.5	2.97482	-3.77834	-1.69362	10.47077	7.66972	3.03439	5.09841	13.32926	308.21	-19.40
73/ 7/21	2441884.5	2.99895	-3.76055	-1.68658	10.42452	7.72809	3.06056	5.09706	13.33271	308.57	-19.32
73/ 7/25	2441888.5	3.02298	-3.74263	-1.67948	10.37786	7.78624	3.08664	5.09572	13.33615	308.93	-19.24
73/ 7/29	2441892.5	3.04690	-3.72458	-1.67232	10.33079	7.84415	3.11264	5.09438	13.33958	309.28	-19.16
73/ 8/ 2	2441896.5	3.07071	-3.70639	-1.66510	10.28332	7.90183	3.13854	5.09305	13.34301	309.64	-19.08
73/ 8/ 6	2441900.5	3.09441	-3.68807	-1.65782	10.23543	7.95927	3.16435	5.09172	13.34643	310.00	-19.00
73/ 8/10	2441904.5	3.11800	-3.66962	-1.65048	10.18714	8.01647	3.19007	5.09039	13.34984	310.35	-18.92
73/ 8/14	2441908.5	3.14148	-3.65103	-1.64308	10.13844	8.07342	3.21570	5.08907	13.35323	310.71	-18.84
73/ 8/18	2441912.5	3.16485	-3.63231	-1.63562	10.08935	8.13013	3.24122	5.08775	13.35662	311.07	-18.75
73/ 8/22	2441916.5	3.18810	-3.61347	-1.62810	10.03985	8.18659	3.26665	5.08644	13.36000	311.42	-18.67
73/ 8/26	2441920.5	3.21123	-3.59449	-1.62053	9.98995	8.24279	3.29199	5.08512	13.36338	311.78	-18.58
73/ 8/30	2441924.5	3.23426	-3.57538	-1.61289	9.93965	8.29875	3.31722	5.08382	13.36674	312.13	-18.50
73/ 9/ 3	2441928.5	3.25716	-3.55615	-1.60520	9.88895	8.35445	3.34235	5.08251	13.37010	312.49	-18.41
73/ 9/ 7	2441932.5	3.27995	-3.53678	-1.59745	9.83786	8.40989	3.36739	5.08121	13.37344	312.84	-18.32
73/ 9/11	2441936.5	3.30261	-3.51729	-1.58964	9.78637	8.46507	3.39232	5.07992	13.37678	313.20	-18.24
73/ 9/15	2441940.5	3.32516	-3.49767	-1.58178	9.73448	8.51999	3.41715	5.07862	13.38010	313.55	-18.15
73/ 9/19	2441944.5	3.34759	-3.47792	-1.57385	9.68220	8.57464	3.44187	5.07734	13.38342	313.91	-18.06
73/ 9/23	2441948.5	3.36990	-3.45805	-1.56587	9.62953	8.62902	3.46648	5.07605	13.38672	314.26	-17.97
73/ 9/27	2441952.5	3.39208	-3.43806	-1.55784	9.57647	8.68312	3.49099	5.07477	13.39002	314.61	-17.88
73/10/ 1	2441956.5	3.41414	-3.41793	-1.54974	9.52303	8.73696	3.51540	5.07350	13.39330	314.97	-17.79
73/10/ 5	2441960.5	3.43608	-3.39769	-1.54159	9.46919	8.79051	3.53969	5.07222	13.39657	315.32	-17.69
73/10/ 9	2441964.5	3.45789	-3.37732	-1.53339	9.41497	8.84379	3.56387	5.07096	13.39983	315.68	-17.60
73/10/13	2441968.5	3.47958	-3.35683	-1.52513	9.36036	8.89678	3.58794	5.06969	13.40307	316.03	-17.51
73/10/17	2441972.5	3.50114	-3.33621	-1.51681	9.30538	8.94949	3.61189	5.06843	13.40631	316.38	-17.41
73/10/21	2441976.5	3.52257	-3.31548	-1.50844	9.25001	9.00191	3.63574	5.06718	13.40953	316.73	-17.32
73/10/25	2441980.5	3.54388	-3.29462	-1.50001	9.19426	9.05404	3.65946	5.06593	13.41274	317.09	-17.22
73/10/29	2441984.5	3.56506	-3.27365	-1.49153	9.13814	9.10587	3.68307	5.06469	13.41594	317.44	-17.13
73/11/ 2	2441988.5	3.58610	-3.25255	-1.48300	9.08164	9.15741	3.70656	5.06344	13.41913	317.79	-17.03
73/11/ 6	2441992.5	3.60702	-3.23133	-1.47441	9.02476	9.20866	3.72994	5.06221	13.42230	318.14	-16.93
73/11/10	2441996.5	3.62780	-3.21000	-1.46576	8.96752	9.25960	3.75319	5.06098	13.42546	318.50	-16.84
73/11/14	2442000.5	3.64845	-3.18855	-1.45707	8.90991	9.31023	3.77632	5.05975	13.42861	318.85	-16.74
73/11/18	2442004.5	3.66896	-3.16699	-1.44832	8.85193	9.36056	3.79933	5.05853	13.43174	319.20	-16.64
73/11/22	2442008.5	3.68935	-3.14530	-1.43951	8.79359	9.41059	3.82222	5.05731	13.43487	319.55	-16.54

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73/11/26	2442012.5	3.70959	-3.12351	-1.43066	8.73488	9.46030	3.84498	5.05610	13.43798	319.90	-16.44
73/11/30	2442016.5	3.72970	-3.10159	-1.42175	8.67582	9.50970	3.86762	5.05489	13.44108	320.25	-16.34
73/12/ 4	2442020.5	3.74968	-3.07957	-1.41279	8.61639	9.55879	3.89013	5.05369	13.44417	320.60	-16.23
73/12/ 8	2442024.5	3.76952	-3.05743	-1.40377	8.55661	9.60756	3.91251	5.05249	13.44725	320.95	-16.13
73/12/12	2442028.5	3.78921	-3.03518	-1.39471	8.49647	9.65602	3.93477	5.05130	13.45032	321.31	-16.03
73/12/16	2442032.5	3.80877	-3.01282	-1.38559	8.43597	9.70415	3.95690	5.05012	13.45337	321.66	-15.92
73/12/20	2442036.5	3.82819	-2.99034	-1.37643	8.37513	9.75196	3.97889	5.04893	13.45641	322.01	-15.82
73/12/24	2442040.5	3.84747	-2.96776	-1.36721	8.31393	9.79944	4.00076	5.04776	13.45944	322.36	-15.72
73/12/28	2442044.5	3.86660	-2.94507	-1.35794	8.25239	9.84659	4.02249	5.04659	13.46246	322.70	-15.61
74/ 1/ 1	2442048.5	3.88560	-2.92226	-1.34862	8.19050	9.89342	4.04409	5.04542	13.46546	323.05	-15.50
74/ 1/ 5	2442052.5	3.90445	-2.89935	-1.33926	8.12827	9.93991	4.06556	5.04426	13.46845	323.40	-15.40
74/ 1/ 9	2442056.5	3.92315	-2.87634	-1.32984	8.06569	9.98606	4.08689	5.04311	13.47143	323.75	-15.29
74/ 1/13	2442060.5	3.94171	-2.85322	-1.32037	8.00278	10.03188	4.10808	5.04196	13.47440	324.10	-15.18
74/ 1/17	2442064.5	3.96013	-2.82999	-1.31086	7.93953	10.07736	4.12914	5.04081	13.47735	324.45	-15.07
74/ 1/21	2442068.5	3.97839	-2.80665	-1.30130	7.87594	10.12250	4.15006	5.03967	13.48030	324.80	-14.96
74/ 1/25	2442072.5	3.99652	-2.78322	-1.29168	7.81201	10.16729	4.17084	5.03854	13.48322	325.15	-14.85
74/ 1/29	2442076.5	4.01449	-2.75968	-1.28203	7.74776	10.21174	4.19147	5.03741	13.48614	325.49	-14.74
74/ 2/ 2	2442080.5	4.03231	-2.73604	-1.27232	7.68318	10.25584	4.21197	5.03629	13.48904	325.84	-14.63
74/ 2/ 6	2442084.5	4.04999	-2.71229	-1.26256	7.61827	10.29959	4.23233	5.03518	13.49193	326.19	-14.52
74/ 2/10	2442088.5	4.06751	-2.68845	-1.25276	7.55303	10.34298	4.25254	5.03407	13.49480	326.54	-14.41
74/ 2/14	2442092.5	4.08488	-2.66451	-1.24292	7.48747	10.38602	4.27260	5.03296	13.49766	326.88	-14.30
74/ 2/18	2442096.5	4.10211	-2.64046	-1.23302	7.42160	10.42870	4.29252	5.03186	13.50051	327.23	-14.18
74/ 2/22	2442100.5	4.11918	-2.61632	-1.22308	7.35541	10.47103	4.31230	5.03077	13.50334	327.58	-14.07
74/ 2/26	2442104.5	4.13609	-2.59208	-1.21310	7.28890	10.51299	4.33192	5.02969	13.50617	327.92	-13.96
74/ 3/ 2	2442108.5	4.15285	-2.56775	-1.20307	7.22207	10.55459	4.35140	5.02861	13.50898	328.27	-13.84
74/ 3/ 6	2442112.5	4.16946	-2.54332	-1.19299	7.15494	10.59583	4.37074	5.02753	13.51178	328.62	-13.73
74/ 3/10	2442116.5	4.18591	-2.51879	-1.18287	7.08749	10.63670	4.38992	5.02646	13.51456	328.96	-13.61
74/ 3/14	2442120.5	4.20221	-2.49417	-1.17271	7.01974	10.67720	4.40895	5.02540	13.51733	329.31	-13.49
74/ 3/18	2442124.5	4.21834	-2.46946	-1.16250	6.95168	10.71733	4.42783	5.02435	13.52008	329.65	-13.38
74/ 3/22	2442128.5	4.23432	-2.44465	-1.15225	6.88331	10.75709	4.44655	5.02330	13.52282	330.00	-13.26
74/ 3/26	2442132.5	4.25015	-2.41976	-1.14196	6.81465	10.79647	4.46512	5.02226	13.52555	330.35	-13.14
74/ 3/30	2442136.5	4.26581	-2.39477	-1.13162	6.74568	10.83547	4.48354	5.02122	13.52826	330.69	-13.02
74/ 4/ 3	2442140.5	4.28131	-2.36969	-1.12124	6.67642	10.87409	4.50180	5.02019	13.53095	331.04	-12.91
74/ 4/ 7	2442144.5	4.29666	-2.34453	-1.11082	6.60687	10.91232	4.51991	5.01916	13.53363	331.38	-12.79
74/ 4/11	2442148.5	4.31184	-2.31928	-1.10036	6.53702	10.95018	4.53785	5.01815	13.53629	331.72	-12.67
74/ 4/15	2442152.5	4.32686	-2.29394	-1.08986	6.46689	10.98764	4.55564	5.01714	13.53894	332.07	-12.55
74/ 4/19	2442156.5	4.34172	-2.26851	-1.07931	6.39647	11.02472	4.57327	5.01613	13.54156	332.41	-12.43
74/ 4/23	2442160.5	4.35641	-2.24300	-1.06873	6.32576	11.06140	4.59073	5.01513	13.54417	332.76	-12.30
74/ 4/27	2442164.5	4.37095	-2.21740	-1.05810	6.25478	11.09769	4.60804	5.01414	13.54677	333.10	-12.18
74/ 5/ 1	2442168.5	4.38531	-2.19172	-1.04744	6.18351	11.13358	4.62518	5.01316	13.54934	333.44	-12.06
74/ 5/ 5	2442172.5	4.39952	-2.16596	-1.03673	6.11197	11.16908	4.64215	5.01218	13.55190	333.79	-11.94
74/ 5/ 9	2442176.5	4.41355	-2.14012	-1.02599	6.04016	11.20417	4.65896	5.01121	13.55444	334.13	-11.81
74/ 5/13	2442180.5	4.42742	-2.11419	-1.01521	5.96807	11.23886	4.67561	5.01024	13.55696	334.47	-11.69
74/ 5/17	2442184.5	4.44113	-2.08819	-1.00439	5.89572	11.27315	4.69209	5.00929	13.55947	334.82	-11.57
74/ 5/21	2442188.5	4.45466	-2.06211	-0.99353	5.82311	11.30703	4.70840	5.00833	13.56195	335.16	-11.44

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74/ 5/25	2442192.5	4.46803	-2.03595	-0.98263	5.75024	11.34051	4.72454	5.00739	13.56442	335.50	-11.32
74/ 5/29	2442196.5	4.48123	-2.00971	-0.97170	5.67710	11.37357	4.74051	5.00645	13.56688	335.85	-11.19
74/ 6/ 2	2442200.5	4.49426	-1.98340	-0.96073	5.60371	11.40623	4.75632	5.00552	13.56931	336.19	-11.07
74/ 6/ 6	2442204.5	4.50712	-1.95701	-0.94972	5.53007	11.43847	4.77195	5.00460	13.57173	336.53	-10.94
74/ 6/10	2442208.5	4.51981	-1.93055	-0.93868	5.45617	11.47030	4.78741	5.00368	13.57412	336.87	-10.81
74/ 6/14	2442212.5	4.53233	-1.90402	-0.92760	5.38203	11.50171	4.80270	5.00277	13.57650	337.21	-10.69
74/ 6/18	2442216.5	4.54468	-1.87741	-0.91649	5.30764	11.53270	4.81781	5.00187	13.57886	337.55	-10.56
74/ 6/22	2442220.5	4.55685	-1.85073	-0.90534	5.23301	11.56327	4.83275	5.00098	13.58120	337.90	-10.43
74/ 6/26	2442224.5	4.56886	-1.82398	-0.89416	5.15814	11.59341	4.84751	5.00009	13.58352	338.24	-10.30
74/ 6/30	2442228.5	4.58069	-1.79717	-0.88295	5.08304	11.62313	4.86210	4.99921	13.58582	338.58	-10.17
74/ 7/ 4	2442232.5	4.59234	-1.77028	-0.87170	5.00770	11.65243	4.87651	4.99834	13.58810	338.92	-10.04
74/ 7/ 8	2442236.5	4.60382	-1.74333	-0.86041	4.93213	11.68130	4.89074	4.99747	13.59036	339.26	-9.91
74/ 7/12	2442240.5	4.61513	-1.71631	-0.84910	4.85634	11.70973	4.90479	4.99661	13.59260	339.60	-9.78
74/ 7/16	2442244.5	4.62626	-1.68922	-0.83775	4.78032	11.73774	4.91867	4.99576	13.59483	339.94	-9.65
74/ 7/20	2442248.5	4.63722	-1.66208	-0.82637	4.70408	11.76531	4.93236	4.99491	13.59703	340.28	-9.52
74/ 7/24	2442252.5	4.64800	-1.63487	-0.81496	4.62762	11.79245	4.94587	4.99408	13.59921	340.62	-9.39
74/ 7/28	2442256.5	4.65860	-1.60759	-0.80352	4.55095	11.81915	4.95920	4.99325	13.60137	340.96	-9.26
74/ 8/ 1	2442260.5	4.66902	-1.58026	-0.79205	4.47407	11.84542	4.97235	4.99243	13.60351	341.30	-9.13
74/ 8/ 5	2442264.5	4.67927	-1.55286	-0.78055	4.39698	11.87124	4.98531	4.99161	13.60563	341.64	-9.00
74/ 8/ 9	2442268.5	4.68934	-1.52541	-0.76902	4.31969	11.89662	4.99809	4.99081	13.60773	341.98	-8.86
74/ 8/13	2442272.5	4.69923	-1.49790	-0.75746	4.24220	11.92156	5.01068	4.99001	13.60980	342.32	-8.73
74/ 8/17	2442276.5	4.70894	-1.47033	-0.74587	4.16452	11.94606	5.02309	4.98922	13.61187	342.66	-8.60
74/ 8/21	2442280.5	4.71847	-1.44270	-0.73425	4.08663	11.97011	5.03531	4.98843	13.61391	343.00	-8.46
74/ 8/25	2442284.5	4.72782	-1.41502	-0.72260	4.00856	11.99372	5.04734	4.98766	13.61593	343.34	-8.33
74/ 8/29	2442288.5	4.73699	-1.38729	-0.71093	3.93030	12.01689	5.05919	4.98689	13.61794	343.68	-8.20
74/ 9/ 2	2442292.5	4.74598	-1.35950	-0.69923	3.85185	12.03960	5.07085	4.98613	13.61992	344.02	-8.06
74/ 9/ 6	2442296.5	4.75479	-1.33166	-0.68750	3.77322	12.06186	5.08233	4.98538	13.62189	344.35	-7.93
74/ 9/10	2442300.5	4.76341	-1.30377	-0.67574	3.69441	12.08368	5.09361	4.98463	13.62383	344.69	-7.79
74/ 9/14	2442304.5	4.77186	-1.27583	-0.66396	3.61542	12.10504	5.10471	4.98389	13.62576	345.03	-7.66
74/ 9/18	2442308.5	4.78012	-1.24784	-0.65216	3.53626	12.12595	5.11561	4.98317	13.62766	345.37	-7.52
74/ 9/22	2442312.5	4.78819	-1.21980	-0.64033	3.45693	12.14640	5.12632	4.98244	13.62955	345.71	-7.38
74/ 9/26	2442316.5	4.79609	-1.19172	-0.62847	3.37744	12.16640	5.13684	4.98173	13.63141	346.05	-7.25
74/ 9/30	2442320.5	4.80380	-1.16359	-0.61659	3.29778	12.18594	5.14717	4.98103	13.63326	346.38	-7.11
74/10/ 4	2442324.5	4.81133	-1.13542	-0.60469	3.21796	12.20502	5.15731	4.98033	13.63509	346.72	-6.97
74/10/ 8	2442328.5	4.81867	-1.10720	-0.59277	3.13799	12.22364	5.16725	4.97964	13.63689	347.06	-6.84
74/10/12	2442332.5	4.82582	-1.07894	-0.58082	3.05786	12.24180	5.17700	4.97896	13.63867	347.40	-6.70
74/10/16	2442336.5	4.83280	-1.05064	-0.56885	2.97758	12.25950	5.18656	4.97829	13.64044	347.73	-6.56
74/10/20	2442340.5	4.83958	-1.02230	-0.55685	2.89715	12.27673	5.19591	4.97762	13.64218	348.07	-6.42
74/10/24	2442344.5	4.84618	-0.99392	-0.54484	2.81658	12.29350	5.20508	4.97697	13.64390	348.41	-6.28
74/10/28	2442348.5	4.85260	-0.96550	-0.53280	2.73587	12.30980	5.21404	4.97632	13.64560	348.75	-6.15
74/11/ 1	2442352.5	4.85882	-0.93704	-0.52075	2.65502	12.32563	5.22281	4.97568	13.64727	349.08	-6.01
74/11/ 5	2442356.5	4.86486	-0.90855	-0.50867	2.57404	12.34100	5.23138	4.97505	13.64893	349.42	-5.87
74/11/ 9	2442360.5	4.87072	-0.88002	-0.49658	2.49293	12.35590	5.23975	4.97442	13.65056	349.76	-5.73
74/11/13	2442364.5	4.87638	-0.85146	-0.48446	2.41170	12.37032	5.24793	4.97381	13.65218	350.10	-5.59
74/11/17	2442368.5	4.88186	-0.82287	-0.47233	2.33034	12.38428	5.25591	4.97320	13.65377	350.43	-5.45

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74/11/21	2442372.5	4.88715	-0.79424	-0.46018	2.24887	12.39777	5.26368	4.97260	13.65535	350.77	-5.31
74/11/25	2442376.5	4.89225	-0.76558	-0.44801	2.16727	12.41079	5.27126	4.97201	13.65690	351.11	-5.17
74/11/29	2442380.5	4.89716	-0.73690	-0.43583	2.08557	12.42333	5.27864	4.97143	13.65843	351.44	-5.03
74/12/ 3	2442384.5	4.90188	-0.70818	-0.42362	2.00375	12.43539	5.28581	4.97086	13.65994	351.78	-4.89
74/12/ 7	2442388.5	4.90642	-0.67944	-0.41140	1.92183	12.44698	5.29279	4.97030	13.66142	352.12	-4.75
74/12/11	2442392.5	4.91076	-0.65068	-0.39917	1.83980	12.45810	5.29956	4.96974	13.66289	352.45	-4.61
74/12/15	2442396.5	4.91492	-0.62188	-0.38692	1.75768	12.46873	5.30613	4.96919	13.66433	352.79	-4.47
74/12/19	2442400.5	4.91888	-0.59307	-0.37465	1.67546	12.47889	5.31250	4.96865	13.66575	353.13	-4.32
74/12/23	2442404.5	4.92266	-0.56423	-0.36237	1.59314	12.48857	5.31867	4.96812	13.66714	353.46	-4.18
74/12/27	2442408.5	4.92625	-0.53536	-0.35008	1.51074	12.49777	5.32463	4.96760	13.66851	353.80	-4.04
74/12/31	2442412.5	4.92964	-0.50648	-0.33777	1.42825	12.50649	5.33038	4.96709	13.66986	354.13	-3.90
75/ 1/ 4	2442416.5	4.93284	-0.47758	-0.32545	1.34569	12.51473	5.33594	4.96658	13.67119	354.47	-3.76
75/ 1/ 8	2442420.5	4.93586	-0.44866	-0.31312	1.26304	12.52248	5.34128	4.96609	13.67249	354.81	-3.61
75/ 1/12	2442424.5	4.93868	-0.41972	-0.30077	1.18032	12.52975	5.34642	4.96560	13.67377	355.14	-3.47
75/ 1/16	2442428.5	4.94131	-0.39077	-0.28841	1.09753	12.53654	5.35136	4.96512	13.67503	355.48	-3.33
75/ 1/20	2442432.5	4.94375	-0.36180	-0.27605	1.01468	12.54284	5.35609	4.96465	13.67626	355.81	-3.19
75/ 1/24	2442436.5	4.94600	-0.33282	-0.26367	0.93176	12.54865	5.36061	4.96419	13.67746	356.15	-3.04
75/ 1/28	2442440.5	4.94806	-0.30382	-0.25128	0.84878	12.55398	5.36493	4.96374	13.67865	356.49	-2.90
75/ 2/ 1	2442444.5	4.94992	-0.27481	-0.23888	0.76575	12.55883	5.36903	4.96330	13.67980	356.82	-2.76
75/ 2/ 5	2442448.5	4.95159	-0.24580	-0.22647	0.68267	12.56318	5.37293	4.96286	13.68094	357.16	-2.62
75/ 2/ 9	2442452.5	4.95308	-0.21677	-0.21406	0.59954	12.56705	5.37663	4.96244	13.68205	357.49	-2.47
75/ 2/13	2442456.5	4.95436	-0.18773	-0.20163	0.51637	12.57044	5.38011	4.96202	13.68313	357.83	-2.33
75/ 2/17	2442460.5	4.95546	-0.15869	-0.18920	0.43316	12.57334	5.38339	4.96161	13.68420	358.17	-2.19
75/ 2/21	2442464.5	4.95637	-0.12964	-0.17676	0.34991	12.57575	5.38646	4.96121	13.68524	358.50	-2.04
75/ 2/25	2442468.5	4.95708	-0.10058	-0.16431	0.26663	12.57767	5.38932	4.96082	13.68626	358.84	-1.90
75/ 3/ 1	2442472.5	4.95760	-0.07153	-0.15186	0.18332	12.57911	5.39197	4.96044	13.68726	359.17	-1.75
75/ 3/ 5	2442476.5	4.95792	-0.04246	-0.13940	0.09999	12.58006	5.39442	4.96007	13.68823	359.51	-1.61
75/ 3/ 9	2442480.5	4.95806	-0.01340	-0.12693	0.01663	12.58052	5.39665	4.95970	13.68917	359.85	-1.47
75/ 3/13	2442484.5	4.95800	0.01566	-0.11446	-0.06675	12.58049	5.39868	4.95935	13.69010	0.18	-1.32
75/ 3/17	2442488.5	4.95775	0.04472	-0.10199	-0.15014	12.57997	5.40049	4.95900	13.69100	0.52	-1.18
75/ 3/21	2442492.5	4.95731	0.07378	-0.08951	-0.23354	12.57896	5.40210	4.95866	13.69188	0.85	-1.03
75/ 3/25	2442496.5	4.95667	0.10284	-0.07703	-0.31694	12.57747	5.40350	4.95834	13.69273	1.19	-0.89
75/ 3/29	2442500.5	4.95584	0.13190	-0.06455	-0.40035	12.57548	5.40468	4.95802	13.69356	1.52	-0.75
75/ 4/ 2	2442504.5	4.95482	0.16095	-0.05206	-0.48376	12.57301	5.40566	4.95771	13.69437	1.86	-0.60
75/ 4/ 6	2442508.5	4.95361	0.18999	-0.03957	-0.56717	12.57004	5.40643	4.95741	13.69515	2.20	-0.46
75/ 4/10	2442512.5	4.95220	0.21902	-0.02708	-0.65057	12.56659	5.40698	4.95712	13.69591	2.53	-0.31
75/ 4/14	2442516.5	4.95060	0.24805	-0.01459	-0.73396	12.56265	5.40733	4.95683	13.69664	2.87	-0.17
75/ 4/18	2442520.5	4.94881	0.27707	-0.00210	-0.81733	12.55822	5.40747	4.95656	13.69735	3.20	-0.02
75/ 4/22	2442524.5	4.94683	0.30607	0.01040	-0.90068	12.55329	5.40739	4.95630	13.69804	3.54	0.12
75/ 4/26	2442528.5	4.94465	0.33507	0.02289	-0.98401	12.54788	5.40711	4.95604	13.69870	3.88	0.26
75/ 4/30	2442532.5	4.94228	0.36405	0.03538	-1.06732	12.54198	5.40661	4.95580	13.69934	4.21	0.41
75/ 5/ 4	2442536.5	4.93972	0.39301	0.04787	-1.15059	12.53560	5.40591	4.95556	13.69996	4.55	0.55
75/ 5/ 8	2442540.5	4.93696	0.42197	0.06036	-1.23382	12.52872	5.40499	4.95533	13.70055	4.89	0.70
75/ 5/12	2442544.5	4.93402	0.45090	0.07284	-1.31702	12.52136	5.40387	4.95511	13.70112	5.22	0.84
75/ 5/16	2442548.5	4.93088	0.47982	0.08532	-1.40018	12.51351	5.40253	4.95490	13.70167	5.56	0.99

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75/ 5/20	2442552.5	4.92755	0.50872	0.09780	-1.48330	12.50518	5.40099	4.95470	13.70220	5.89	1.13
75/ 5/24	2442556.5	4.92402	0.53760	0.11028	-1.56637	12.49636	5.39923	4.95451	13.70271	6.23	1.28
75/ 5/28	2442560.5	4.92031	0.56646	0.12275	-1.64938	12.48705	5.39727	4.95433	13.70319	6.57	1.42
75/ 6/ 1	2442564.5	4.91640	0.59529	0.13522	-1.73235	12.47725	5.39510	4.95416	13.70365	6.90	1.56
75/ 6/ 5	2442568.5	4.91231	0.62410	0.14768	-1.81525	12.46697	5.39271	4.95400	13.70408	7.24	1.71
75/ 6/ 9	2442572.5	4.90802	0.65289	0.16013	-1.89809	12.45621	5.39012	4.95384	13.70450	7.58	1.85
75/ 6/13	2442576.5	4.90354	0.68166	0.17258	-1.98087	12.44496	5.38731	4.95370	13.70489	7.91	2.00
75/ 6/17	2442580.5	4.89887	0.71039	0.18502	-2.06358	12.43322	5.38430	4.95356	13.70525	8.25	2.14
75/ 6/21	2442584.5	4.89400	0.73910	0.19746	-2.14621	12.42100	5.38108	4.95344	13.70560	8.59	2.28
75/ 6/25	2442588.5	4.88895	0.76778	0.20988	-2.22877	12.40829	5.37764	4.95332	13.70591	8.93	2.43
75/ 6/29	2442592.5	4.88370	0.79643	0.22230	-2.31125	12.39510	5.37400	4.95321	13.70621	9.26	2.57
75/ 7/ 3	2442596.5	4.87827	0.82505	0.23471	-2.39365	12.38142	5.37015	4.95311	13.70648	9.60	2.72
75/ 7/ 7	2442600.5	4.87265	0.85364	0.24712	-2.47596	12.36726	5.36609	4.95302	13.70673	9.94	2.86
75/ 7/11	2442604.5	4.86683	0.88219	0.25951	-2.55818	12.35262	5.36181	4.95294	13.70695	10.27	3.00
75/ 7/15	2442608.5	4.86083	0.91071	0.27189	-2.64031	12.33749	5.35733	4.95287	13.70715	10.61	3.15
75/ 7/19	2442612.5	4.85463	0.93919	0.28426	-2.72233	12.32189	5.35264	4.95281	13.70732	10.95	3.29
75/ 7/23	2442616.5	4.84825	0.96764	0.29662	-2.80426	12.30580	5.34774	4.95276	13.70747	11.29	3.43
75/ 7/27	2442620.5	4.84167	0.99605	0.30897	-2.88607	12.28922	5.34263	4.95272	13.70759	11.62	3.58
75/ 7/31	2442624.5	4.83491	1.02442	0.32130	-2.96778	12.27217	5.33731	4.95268	13.70769	11.96	3.72
75/ 8/ 4	2442628.5	4.82796	1.05275	0.33363	-3.04937	12.25464	5.33179	4.95266	13.70776	12.30	3.86
75/ 8/ 8	2442632.5	4.82082	1.08104	0.34594	-3.13085	12.23663	5.32605	4.95264	13.70781	12.64	4.01
75/ 8/12	2442636.5	4.81350	1.10929	0.35824	-3.21220	12.21814	5.32011	4.95264	13.70784	12.98	4.15
75/ 8/16	2442640.5	4.80598	1.13749	0.37052	-3.29343	12.19918	5.31396	4.95264	13.70784	13.32	4.29
75/ 8/20	2442644.5	4.79828	1.16565	0.38279	-3.37454	12.17974	5.30760	4.95265	13.70782	13.65	4.43
75/ 8/24	2442648.5	4.79039	1.19377	0.39504	-3.45551	12.15982	5.30104	4.95267	13.70777	13.99	4.57
75/ 8/28	2442652.5	4.78231	1.22184	0.40728	-3.53635	12.13943	5.29427	4.95271	13.70769	14.33	4.72
75/ 9/ 1	2442656.5	4.77405	1.24986	0.41950	-3.61705	12.11857	5.28729	4.95275	13.70759	14.67	4.86
75/ 9/ 5	2442660.5	4.76560	1.27783	0.43171	-3.69760	12.09723	5.28010	4.95280	13.70747	15.01	5.00
75/ 9/ 9	2442664.5	4.75697	1.30575	0.44390	-3.77801	12.07542	5.27271	4.95285	13.70732	15.35	5.14
75/ 9/13	2442668.5	4.74815	1.33362	0.45607	-3.85827	12.05314	5.26511	4.95292	13.70714	15.69	5.28
75/ 9/17	2442672.5	4.73914	1.36144	0.46823	-3.93838	12.03038	5.25731	4.95300	13.70694	16.03	5.42
75/ 9/21	2442676.5	4.72995	1.38920	0.48036	-4.01833	12.00716	5.24930	4.95309	13.70672	16.37	5.57
75/ 9/25	2442680.5	4.72058	1.41692	0.49248	-4.09812	11.98347	5.24109	4.95318	13.70647	16.71	5.71
75/ 9/29	2442684.5	4.71102	1.44457	0.50458	-4.17774	11.95931	5.23267	4.95329	13.70619	17.05	5.85
75/10/ 3	2442688.5	4.70127	1.47217	0.51666	-4.25719	11.93469	5.22405	4.95340	13.70588	17.39	5.99
75/10/ 7	2442692.5	4.69135	1.49971	0.52871	-4.33648	11.90960	5.21523	4.95353	13.70555	17.73	6.13
75/10/11	2442696.5	4.68124	1.52720	0.54075	-4.41559	11.88405	5.20620	4.95366	13.70520	18.07	6.27
75/10/15	2442700.5	4.67095	1.55462	0.55277	-4.49451	11.85803	5.19697	4.95380	13.70482	18.41	6.41
75/10/19	2442704.5	4.66047	1.58199	0.56476	-4.57326	11.83155	5.18753	4.95395	13.70441	18.75	6.55
75/10/23	2442708.5	4.64982	1.60929	0.57674	-4.65182	11.80461	5.17789	4.95411	13.70397	19.09	6.69
75/10/27	2442712.5	4.63898	1.63653	0.58869	-4.73018	11.77721	5.16805	4.95428	13.70351	19.43	6.82
75/10/31	2442716.5	4.62796	1.66370	0.60061	-4.80835	11.74936	5.15802	4.95446	13.70302	19.77	6.96
75/11/ 4	2442720.5	4.61676	1.69081	0.61252	-4.88632	11.72105	5.14778	4.95465	13.70251	20.11	7.10
75/11/ 8	2442724.5	4.60538	1.71786	0.62440	-4.96409	11.69229	5.13734	4.95484	13.70198	20.46	7.24
75/11/12	2442728.5	4.59383	1.74484	0.63626	-5.04166	11.66308	5.12670	4.95505	13.70142	20.80	7.38

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75/11/16	2442732.5	4.58209	1.77174	0.64809	-5.11902	11.63342	5.11587	4.95526	13.70084	21.14	7.52
75/11/20	2442736.5	4.57017	1.79859	0.65989	-5.19617	11.60331	5.10484	4.95549	13.70023	21.48	7.65
75/11/24	2442740.5	4.55808	1.82536	0.67167	-5.27310	11.57275	5.09361	4.95572	13.69960	21.82	7.79
75/11/28	2442744.5	4.54581	1.85206	0.68343	-5.34982	11.54174	5.08218	4.95596	13.69894	22.17	7.93
75/12/ 2	2442748.5	4.53336	1.87868	0.69515	-5.42632	11.51030	5.07056	4.95622	13.69826	22.51	8.06
75/12/ 6	2442752.5	4.52074	1.90524	0.70685	-5.50259	11.47840	5.05874	4.95648	13.69756	22.85	8.20
75/12/10	2442756.5	4.50794	1.93172	0.71853	-5.57863	11.44607	5.04673	4.95675	13.69683	23.20	8.33
75/12/14	2442760.5	4.49496	1.95812	0.73017	-5.65445	11.41330	5.03452	4.95702	13.69608	23.54	8.47
75/12/18	2442764.5	4.48181	1.98445	0.74179	-5.73003	11.38009	5.02212	4.95731	13.69531	23.88	8.61
75/12/22	2442768.5	4.46849	2.01070	0.75338	-5.80537	11.34645	5.00953	4.95761	13.69451	24.23	8.74
75/12/26	2442772.5	4.45499	2.03687	0.76493	-5.88048	11.31237	4.99674	4.95792	13.69369	24.57	8.88
75/12/30	2442776.5	4.44132	2.06297	0.77646	-5.95534	11.27785	4.98377	4.95823	13.69284	24.91	9.01
76/ 1/ 3	2442780.5	4.42748	2.08898	0.78796	-6.02995	11.24291	4.97060	4.95856	13.69198	25.26	9.14
76/ 1/ 7	2442784.5	4.41346	2.11491	0.79943	-6.10432	11.20754	4.95724	4.95889	13.69109	25.60	9.28
76/ 1/11	2442788.5	4.39927	2.14076	0.81086	-6.17843	11.17173	4.94370	4.95923	13.69017	25.95	9.41
76/ 1/15	2442792.5	4.38491	2.16653	0.82227	-6.25229	11.13551	4.92996	4.95958	13.68923	26.29	9.54
76/ 1/19	2442796.5	4.37039	2.19221	0.83364	-6.32588	11.09885	4.91603	4.95994	13.68827	26.64	9.68
76/ 1/23	2442800.5	4.35569	2.21781	0.84498	-6.39922	11.06178	4.90192	4.96031	13.68729	26.98	9.81
76/ 1/27	2442804.5	4.34082	2.24332	0.85629	-6.47228	11.02429	4.88762	4.96069	13.68628	27.33	9.94
76/ 1/31	2442808.5	4.32578	2.26875	0.86756	-6.54508	10.98638	4.87314	4.96108	13.68525	27.68	10.07
76/ 2/ 4	2442812.5	4.31058	2.29408	0.87881	-6.61761	10.94805	4.85847	4.96147	13.68420	28.02	10.20
76/ 2/ 8	2442816.5	4.29521	2.31933	0.89001	-6.68986	10.90931	4.84361	4.96188	13.68313	28.37	10.33
76/ 2/12	2442820.5	4.27967	2.34449	0.90118	-6.76184	10.87016	4.82858	4.96229	13.68203	28.71	10.46
76/ 2/16	2442824.5	4.26397	2.36955	0.91232	-6.83354	10.83060	4.81336	4.96271	13.68092	29.06	10.59
76/ 2/20	2442828.5	4.24810	2.39453	0.92342	-6.90496	10.79062	4.79795	4.96314	13.67978	29.41	10.72
76/ 2/24	2442832.5	4.23206	2.41941	0.93449	-6.97609	10.75024	4.78237	4.96358	13.67862	29.76	10.85
76/ 2/28	2442836.5	4.21586	2.44420	0.94552	-7.04693	10.70946	4.76661	4.96403	13.67744	30.10	10.98
76/ 3/ 3	2442840.5	4.19950	2.46889	0.95651	-7.11748	10.66827	4.75066	4.96449	13.67623	30.45	11.11
76/ 3/ 7	2442844.5	4.18298	2.49349	0.96747	-7.18774	10.62668	4.73454	4.96496	13.67501	30.80	11.24
76/ 3/11	2442848.5	4.16629	2.51799	0.97839	-7.25770	10.58470	4.71823	4.96543	13.67376	31.15	11.36
76/ 3/15	2442852.5	4.14945	2.54239	0.98927	-7.32736	10.54231	4.70175	4.96592	13.67249	31.50	11.49
76/ 3/19	2442856.5	4.13244	2.56670	1.00011	-7.39672	10.49953	4.68510	4.96641	13.67120	31.84	11.62
76/ 3/23	2442860.5	4.11527	2.59090	1.01092	-7.46577	10.45635	4.66826	4.96691	13.66988	32.19	11.74
76/ 3/27	2442864.5	4.09794	2.61501	1.02168	-7.53451	10.41279	4.65125	4.96742	13.66855	32.54	11.87
76/ 3/31	2442868.5	4.08046	2.63901	1.03241	-7.60295	10.36883	4.63407	4.96794	13.66719	32.89	11.99
76/ 4/ 4	2442872.5	4.06282	2.66292	1.04309	-7.67106	10.32449	4.61671	4.96847	13.66581	33.24	12.12
76/ 4/ 8	2442876.5	4.04502	2.68672	1.05374	-7.73886	10.27976	4.59918	4.96900	13.66440	33.59	12.24
76/ 4/12	2442880.5	4.02706	2.71041	1.06434	-7.80634	10.23464	4.58148	4.96954	13.66297	33.94	12.37
76/ 4/16	2442884.5	4.00895	2.73400	1.07491	-7.87350	10.18915	4.56360	4.97010	13.66152	34.29	12.49
76/ 4/20	2442888.5	3.99068	2.75749	1.08543	-7.94033	10.14327	4.54555	4.97066	13.66004	34.64	12.61
76/ 4/24	2442892.5	3.97226	2.78087	1.09591	-8.00682	10.09702	4.52734	4.97123	13.65855	34.99	12.74
76/ 4/28	2442896.5	3.95369	2.80414	1.10634	-8.07299	10.05040	4.50895	4.97181	13.65703	35.35	12.86
76/ 5/ 2	2442900.5	3.93496	2.82731	1.11674	-8.13882	10.00341	4.49040	4.97239	13.65548	35.70	12.98
76/ 5/ 6	2442904.5	3.91608	2.85036	1.12709	-8.20431	9.95604	4.47169	4.97299	13.65392	36.05	13.10
76/ 5/10	2442908.5	3.89706	2.87331	1.13740	-8.26947	9.90832	4.45280	4.97359	13.65234	36.40	13.22

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76/ 5/14	2442912.5	3.87788	2.89614	1.14767	-8.33428	9.86022	4.43375	4.97420	13.65073	36.75	13.34
76/ 5/18	2442916.5	3.85855	2.91886	1.15789	-8.39875	9.81177	4.41454	4.97482	13.64910	37.11	13.46
76/ 5/22	2442920.5	3.83907	2.94147	1.16806	-8.46287	9.76295	4.39517	4.97545	13.64745	37.46	13.58
76/ 5/26	2442924.5	3.81945	2.96397	1.17819	-8.52664	9.71378	4.37563	4.97609	13.64578	37.81	13.70
76/ 5/30	2442928.5	3.79968	2.98635	1.18828	-8.59006	9.66425	4.35594	4.97673	13.64408	38.17	13.81
76/ 6/ 3	2442932.5	3.77976	3.00862	1.19832	-8.65312	9.61437	4.33608	4.97738	13.64237	38.52	13.93
76/ 6/ 7	2442936.5	3.75970	3.03078	1.20831	-8.71583	9.56414	4.31606	4.97805	13.64063	38.87	14.05
76/ 6/11	2442940.5	3.73949	3.05281	1.21826	-8.77817	9.51356	4.29589	4.97871	13.63887	39.23	14.16
76/ 6/15	2442944.5	3.71914	3.07473	1.22816	-8.84015	9.46264	4.27556	4.97939	13.63709	39.58	14.28
76/ 6/19	2442948.5	3.69864	3.09653	1.23801	-8.90177	9.41137	4.25507	4.98008	13.63529	39.94	14.39
76/ 6/23	2442952.5	3.67801	3.11822	1.24782	-8.96302	9.35977	4.23443	4.98077	13.63347	40.29	14.51
76/ 6/27	2442956.5	3.65723	3.13978	1.25758	-9.02390	9.30782	4.21363	4.98147	13.63162	40.65	14.62
76/ 7/ 1	2442960.5	3.63632	3.16122	1.26729	-9.08441	9.25554	4.19268	4.98218	13.62976	41.00	14.74
76/ 7/ 5	2442964.5	3.61526	3.18254	1.27695	-9.14455	9.20293	4.17158	4.98290	13.62787	41.36	14.85
76/ 7/ 9	2442968.5	3.59406	3.20374	1.28656	-9.20430	9.14999	4.15033	4.98362	13.62596	41.71	14.96
76/ 7/13	2442972.5	3.57273	3.22482	1.29613	-9.26368	9.09672	4.12893	4.98436	13.62403	42.07	15.07
76/ 7/17	2442976.5	3.55126	3.24577	1.30564	-9.32267	9.04313	4.10738	4.98510	13.62207	42.43	15.18
76/ 7/21	2442980.5	3.52966	3.26660	1.31510	-9.38128	8.98922	4.08568	4.98585	13.62010	42.78	15.29
76/ 7/25	2442984.5	3.50792	3.28730	1.32452	-9.43950	8.93499	4.06384	4.98660	13.61811	43.14	15.40
76/ 7/29	2442988.5	3.48605	3.30788	1.33388	-9.49733	8.88044	4.04185	4.98737	13.61610	43.50	15.51
76/ 8/ 2	2442992.5	3.46404	3.32833	1.34319	-9.55478	8.82558	4.01972	4.98814	13.61407	43.86	15.62
76/ 8/ 6	2442996.5	3.44190	3.34866	1.35245	-9.61183	8.77041	3.99745	4.98892	13.61202	44.21	15.73
76/ 8/10	2443000.5	3.41963	3.36886	1.36166	-9.66850	8.71494	3.97503	4.98971	13.60995	44.57	15.84
76/ 8/14	2443004.5	3.39723	3.38893	1.37082	-9.72476	8.65915	3.95248	4.99050	13.60787	44.93	15.94
76/ 8/18	2443008.5	3.37470	3.40887	1.37992	-9.78063	8.60307	3.92978	4.99131	13.60576	45.29	16.05
76/ 8/22	2443012.5	3.35204	3.42867	1.38898	-9.83610	8.54669	3.90695	4.99212	13.60364	45.65	16.15
76/ 8/26	2443016.5	3.32925	3.44835	1.39797	-9.89117	8.49001	3.88398	4.99293	13.60150	46.01	16.26
76/ 8/30	2443020.5	3.30634	3.46790	1.40692	-9.94583	8.43303	3.86087	4.99376	13.59933	46.37	16.36
76/ 9/ 3	2443024.5	3.28330	3.48732	1.41581	-10.00009	8.37576	3.83763	4.99459	13.59716	46.73	16.47
76/ 9/ 7	2443028.5	3.26013	3.50660	1.42465	-10.05395	8.31821	3.81425	4.99543	13.59496	47.09	16.57
76/ 9/11	2443032.5	3.23685	3.52575	1.43344	-10.10739	8.26036	3.79075	4.99628	13.59275	47.45	16.67
76/ 9/15	2443036.5	3.21343	3.54477	1.44217	-10.16043	8.20223	3.76710	4.99714	13.59051	47.81	16.77
76/ 9/19	2443040.5	3.18990	3.56365	1.45084	-10.21306	8.14383	3.74333	4.99800	13.58827	48.17	16.87
76/ 9/23	2443044.5	3.16625	3.58239	1.45946	-10.26527	8.08514	3.71943	4.99887	13.58600	48.53	16.98
76/ 9/27	2443048.5	3.14247	3.60100	1.46803	-10.31706	8.02617	3.69540	4.99975	13.58371	48.89	17.07
76/10/ 1	2443052.5	3.11858	3.61948	1.47654	-10.36844	7.96693	3.67124	5.00063	13.58141	49.25	17.17
76/10/ 5	2443056.5	3.09457	3.63781	1.48499	-10.41940	7.90742	3.64696	5.00152	13.57908	49.61	17.27
76/10/ 9	2443060.5	3.07044	3.65601	1.49339	-10.46993	7.84764	3.62255	5.00242	13.57674	49.98	17.37
76/10/13	2443064.5	3.04619	3.67407	1.50173	-10.52005	7.78760	3.59801	5.00333	13.57438	50.34	17.47
76/10/17	2443068.5	3.02183	3.69199	1.51001	-10.56973	7.72729	3.57336	5.00424	13.57200	50.70	17.56
76/10/21	2443072.5	2.99736	3.70977	1.51824	-10.61899	7.66673	3.54858	5.00516	13.56961	51.06	17.66
76/10/25	2443076.5	2.97277	3.72741	1.52641	-10.66783	7.60591	3.52368	5.00609	13.56719	51.43	17.75
76/10/29	2443080.5	2.94807	3.74492	1.53452	-10.71623	7.54484	3.49866	5.00702	13.56476	51.79	17.85
76/11/ 2	2443084.5	2.92326	3.76227	1.54257	-10.76420	7.48351	3.47353	5.00796	13.56232	52.15	17.94
76/11/ 6	2443088.5	2.89833	3.77949	1.55057	-10.81174	7.42194	3.44828	5.00891	13.55985	52.52	18.03

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
76/11/10	2443092.5	2.87330	3.79657	1.55850	-10.85885	7.36012	3.42291	5.00986	13.55737	52.88	18.12
76/11/14	2443096.5	2.84816	3.81350	1.56638	-10.90552	7.29806	3.39742	5.01082	13.55487	53.25	18.22
76/11/18	2443100.5	2.82292	3.83029	1.57420	-10.95175	7.23576	3.37183	5.01179	13.55236	53.61	18.31
76/11/22	2443104.5	2.79756	3.84693	1.58196	-10.99755	7.17322	3.34612	5.01277	13.54982	53.97	18.40
76/11/26	2443108.5	2.77210	3.86343	1.58966	-11.04291	7.11045	3.32030	5.01375	13.54727	54.34	18.49
76/11/30	2443112.5	2.74654	3.87978	1.59730	-11.08782	7.04745	3.29437	5.01473	13.54471	54.70	18.57
76/12/ 4	2443116.5	2.72087	3.89599	1.60488	-11.13229	6.98421	3.26833	5.01573	13.54212	55.07	18.66
76/12/ 8	2443120.5	2.69511	3.91205	1.61240	-11.17632	6.92076	3.24218	5.01673	13.53952	55.44	18.75
76/12/12	2443124.5	2.66924	3.92797	1.61986	-11.21990	6.85707	3.21593	5.01774	13.53690	55.80	18.83
76/12/16	2443128.5	2.64327	3.94373	1.62726	-11.26303	6.79317	3.18957	5.01875	13.53427	56.17	18.92
76/12/20	2443132.5	2.61720	3.95935	1.63460	-11.30572	6.72906	3.16311	5.01977	13.53162	56.53	19.00
76/12/24	2443136.5	2.59103	3.97482	1.64187	-11.34795	6.66472	3.13654	5.02080	13.52895	56.90	19.09
76/12/28	2443140.5	2.56477	3.99015	1.64909	-11.38973	6.60018	3.10987	5.02183	13.52626	57.27	19.17
77/ 1/ 1	2443144.5	2.53841	4.00532	1.65624	-11.43106	6.53542	3.08310	5.02287	13.52355	57.64	19.25
77/ 1/ 5	2443148.5	2.51195	4.02034	1.66333	-11.47194	6.47047	3.05623	5.02392	13.52083	58.00	19.33
77/ 1/ 9	2443152.5	2.48540	4.03521	1.67036	-11.51235	6.40531	3.02927	5.02497	13.51809	58.37	19.42
77/ 1/13	2443156.5	2.45876	4.04994	1.67733	-11.55231	6.33995	3.00221	5.02602	13.51533	58.74	19.50
77/ 1/17	2443160.5	2.43203	4.06451	1.68424	-11.59181	6.27440	2.97505	5.02709	13.51255	59.11	19.57
77/ 1/21	2443164.5	2.40520	4.07893	1.69108	-11.63086	6.20865	2.94780	5.02816	13.50976	59.47	19.65
77/ 1/25	2443168.5	2.37829	4.09319	1.69785	-11.66944	6.14272	2.92046	5.02923	13.50696	59.84	19.73
77/ 1/29	2443172.5	2.35129	4.10731	1.70457	-11.70756	6.07660	2.89302	5.03032	13.50413	60.21	19.81
77/ 2/ 2	2443176.5	2.32420	4.12127	1.71122	-11.74522	6.01030	2.86550	5.03140	13.50130	60.58	19.88
77/ 2/ 6	2443180.5	2.29702	4.13508	1.71781	-11.78242	5.94382	2.83789	5.03250	13.49845	60.95	19.96
77/ 2/10	2443184.5	2.26976	4.14873	1.72433	-11.81916	5.87716	2.81019	5.03360	13.49558	61.32	20.03
77/ 2/14	2443188.5	2.24241	4.16223	1.73079	-11.85543	5.81033	2.78241	5.03470	13.49270	61.69	20.11
77/ 2/18	2443192.5	2.21498	4.17558	1.73719	-11.89123	5.74333	2.75454	5.03581	13.48980	62.06	20.18
77/ 2/22	2443196.5	2.18747	4.18877	1.74352	-11.92657	5.67615	2.72658	5.03693	13.48689	62.43	20.25
77/ 2/26	2443200.5	2.15988	4.20180	1.74979	-11.96145	5.60882	2.69855	5.03805	13.48396	62.80	20.32
77/ 3/ 2	2443204.5	2.13220	4.21468	1.75599	-11.99585	5.54132	2.67043	5.03918	13.48102	63.17	20.39
77/ 3/ 6	2443208.5	2.10445	4.22741	1.76213	-12.02979	5.47367	2.64224	5.04031	13.47807	63.54	20.46
77/ 3/10	2443212.5	2.07662	4.23997	1.76820	-12.06326	5.40586	2.61397	5.04145	13.47510	63.91	20.53
77/ 3/14	2443216.5	2.04872	4.25238	1.77420	-12.09626	5.33789	2.58562	5.04260	13.47212	64.28	20.60
77/ 3/18	2443220.5	2.02073	4.26464	1.78014	-12.12880	5.26978	2.55719	5.04375	13.46913	64.65	20.67
77/ 3/22	2443224.5	1.99268	4.27673	1.78602	-12.16086	5.20152	2.52869	5.04490	13.46613	65.02	20.73
77/ 3/26	2443228.5	1.96455	4.28867	1.79183	-12.19245	5.13311	2.50011	5.04606	13.46311	65.39	20.80
77/ 3/30	2443232.5	1.93634	4.30045	1.79757	-12.22357	5.06456	2.47147	5.04723	13.46007	65.76	20.86
77/ 4/ 3	2443236.5	1.90807	4.31207	1.80325	-12.25422	4.99588	2.44275	5.04840	13.45703	66.13	20.93
77/ 4/ 7	2443240.5	1.87972	4.32353	1.80886	-12.28439	4.92706	2.41396	5.04958	13.45397	66.50	20.99
77/ 4/11	2443244.5	1.85131	4.33483	1.81440	-12.31409	4.85810	2.38511	5.05076	13.45090	66.87	21.05
77/ 4/15	2443248.5	1.82283	4.34598	1.81988	-12.34331	4.78902	2.35619	5.05195	13.44781	67.25	21.11
77/ 4/19	2443252.5	1.79428	4.35696	1.82529	-12.37206	4.71982	2.32720	5.05314	13.44472	67.62	21.18
77/ 4/23	2443256.5	1.76567	4.36778	1.83063	-12.40034	4.65049	2.29815	5.05434	13.44162	67.99	21.23
77/ 4/27	2443260.5	1.73699	4.37845	1.83590	-12.42815	4.58105	2.26904	5.05554	13.43850	68.36	21.29
77/ 5/ 1	2443264.5	1.70824	4.38895	1.84111	-12.45548	4.51148	2.23986	5.05674	13.43538	68.73	21.35
77/ 5/ 5	2443268.5	1.67944	4.39929	1.84625	-12.48233	4.44180	2.21063	5.05796	13.43224	69.11	21.41

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77/ 5/ 9	2443272.5	1.65057	4.40947	1.85133	-12.50871	4.37201	2.18133	5.05917	13.42910	69.48	21.47
77/ 5/13	2443276.5	1.62165	4.41949	1.85633	-12.53462	4.30211	2.15198	5.06039	13.42594	69.85	21.52
77/ 5/17	2443280.5	1.59266	4.42935	1.86127	-12.56005	4.23211	2.12257	5.06162	13.42278	70.22	21.58
77/ 5/21	2443284.5	1.56361	4.43904	1.86614	-12.58500	4.16200	2.09310	5.06285	13.41960	70.60	21.63
77/ 5/25	2443288.5	1.53451	4.44858	1.87094	-12.60948	4.09179	2.06358	5.06409	13.41642	70.97	21.68
77/ 5/29	2443292.5	1.50535	4.45795	1.87567	-12.63349	4.02149	2.03401	5.06533	13.41322	71.34	21.73
77/ 6/ 2	2443296.5	1.47614	4.46716	1.88034	-12.65701	3.95108	2.00438	5.06657	13.41002	71.71	21.79
77/ 6/ 6	2443300.5	1.44687	4.47621	1.88493	-12.68006	3.88059	1.97470	5.06782	13.40681	72.09	21.84
77/ 6/10	2443304.5	1.41755	4.48509	1.88946	-12.70264	3.81001	1.94497	5.06908	13.40358	72.46	21.88
77/ 6/14	2443308.5	1.38818	4.49381	1.89392	-12.72473	3.73934	1.91520	5.07034	13.40035	72.83	21.93
77/ 6/18	2443312.5	1.35876	4.50237	1.89831	-12.74635	3.66858	1.88537	5.07160	13.39711	73.21	21.98
77/ 6/22	2443316.5	1.32929	4.51076	1.90263	-12.76749	3.59774	1.85550	5.07287	13.39386	73.58	22.03
77/ 6/26	2443320.5	1.29977	4.51899	1.90688	-12.78816	3.52683	1.82558	5.07414	13.39060	73.95	22.07
77/ 6/30	2443324.5	1.27021	4.52705	1.91107	-12.80834	3.45583	1.79562	5.07541	13.38733	74.33	22.12
77/ 7/ 4	2443328.5	1.24059	4.53496	1.91518	-12.82804	3.38477	1.76561	5.07669	13.38405	74.70	22.16
77/ 7/ 8	2443332.5	1.21094	4.54269	1.91922	-12.84726	3.31364	1.73557	5.07798	13.38075	75.07	22.21
77/ 7/12	2443336.5	1.18124	4.55027	1.92320	-12.86601	3.24244	1.70548	5.07926	13.37745	75.45	22.25
77/ 7/16	2443340.5	1.15149	4.55767	1.92710	-12.88427	3.17117	1.67536	5.08056	13.37414	75.82	22.29
77/ 7/20	2443344.5	1.12171	4.56492	1.93094	-12.90206	3.09985	1.64519	5.08185	13.37082	76.19	22.33
77/ 7/24	2443348.5	1.09188	4.57200	1.93470	-12.91937	3.02847	1.61499	5.08315	13.36749	76.57	22.37
77/ 7/28	2443352.5	1.06201	4.57891	1.93840	-12.93620	2.95703	1.58476	5.08446	13.36416	76.94	22.41
77/ 8/ 1	2443356.5	1.03211	4.58566	1.94203	-12.95255	2.88554	1.55449	5.08576	13.36081	77.32	22.45
77/ 8/ 5	2443360.5	1.00217	4.59224	1.94558	-12.96842	2.81400	1.52419	5.08707	13.35746	77.69	22.49
77/ 8/ 9	2443364.5	0.97219	4.59866	1.94907	-12.98381	2.74242	1.49385	5.08839	13.35409	78.06	22.52
77/ 8/13	2443368.5	0.94218	4.60491	1.95248	-12.99873	2.67079	1.46349	5.08971	13.35072	78.44	22.56
77/ 8/17	2443372.5	0.91213	4.61100	1.95583	-13.01316	2.59912	1.43309	5.09103	13.34734	78.81	22.59
77/ 8/21	2443376.5	0.88205	4.61692	1.95911	-13.02712	2.52741	1.40267	5.09236	13.34395	79.18	22.63
77/ 8/25	2443380.5	0.85194	4.62268	1.96231	-13.04060	2.45566	1.37222	5.09368	13.34056	79.56	22.66
77/ 8/29	2443384.5	0.82180	4.62827	1.96545	-13.05360	2.38388	1.34175	5.09502	13.33715	79.93	22.69
77/ 9/ 2	2443388.5	0.79163	4.63369	1.96851	-13.06612	2.31207	1.31125	5.09635	13.33374	80.31	22.72
77/ 9/ 6	2443392.5	0.76143	4.63895	1.97150	-13.07816	2.24024	1.28072	5.09769	13.33031	80.68	22.75
77/ 9/10	2443396.5	0.73121	4.64404	1.97443	-13.08973	2.16838	1.25018	5.09904	13.32688	81.05	22.78
77/ 9/14	2443400.5	0.70095	4.64897	1.97728	-13.10082	2.09650	1.21961	5.10038	13.32345	81.43	22.81
77/ 9/18	2443404.5	0.67068	4.65373	1.98006	-13.11143	2.02460	1.18903	5.10173	13.32000	81.80	22.84
77/ 9/22	2443408.5	0.64038	4.65832	1.98277	-13.12156	1.95268	1.15842	5.10308	13.31654	82.17	22.86
77/ 9/26	2443412.5	0.61005	4.66275	1.98542	-13.13122	1.88075	1.12780	5.10444	13.31308	82.55	22.89
77/ 9/30	2443416.5	0.57971	4.66701	1.98799	-13.14040	1.80881	1.09716	5.10580	13.30960	82.92	22.91
77/10/ 4	2443420.5	0.54934	4.67111	1.99048	-13.14910	1.73686	1.06651	5.10716	13.30612	83.29	22.94
77/10/ 8	2443424.5	0.51895	4.67504	1.99291	-13.15732	1.66491	1.03584	5.10852	13.30263	83.67	22.96
77/10/12	2443428.5	0.48855	4.67880	1.99527	-13.16507	1.59297	1.00516	5.10989	13.29913	84.04	22.98
77/10/16	2443432.5	0.45813	4.68240	1.99756	-13.17235	1.52102	0.97447	5.11126	13.29563	84.41	23.01
77/10/20	2443436.5	0.42769	4.68583	1.99977	-13.17915	1.44908	0.94378	5.11263	13.29212	84.78	23.03
77/10/24	2443440.5	0.39723	4.68909	2.00192	-13.18548	1.37714	0.91307	5.11401	13.28860	85.16	23.05
77/10/28	2443444.5	0.36677	4.69219	2.00399	-13.19133	1.30522	0.88236	5.11538	13.28508	85.53	23.06
77/11/ 1	2443448.5	0.33628	4.69512	2.00599	-13.19672	1.23330	0.85164	5.11677	13.28155	85.90	23.08

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77/11/ 5	2443452.5	0.30579	4.69789	2.00793	-13.20163	1.16141	0.82091	5.11815	13.27802	86.28	23.10
77/11/ 9	2443456.5	0.27529	4.70049	2.00979	-13.20607	1.08953	0.79019	5.11953	13.27448	86.65	23.11
77/11/13	2443460.5	0.24478	4.70292	2.01158	-13.21004	1.01767	0.75946	5.12092	13.27093	87.02	23.13
77/11/17	2443464.5	0.21425	4.70519	2.01330	-13.21355	0.94583	0.72872	5.12231	13.26739	87.39	23.14
77/11/21	2443468.5	0.18373	4.70729	2.01494	-13.21658	0.87403	0.69799	5.12371	13.26383	87.76	23.16
77/11/25	2443472.5	0.15319	4.70923	2.01652	-13.21915	0.80225	0.66726	5.12510	13.26027	88.14	23.17
77/11/29	2443476.5	0.12265	4.71100	2.01803	-13.22125	0.73050	0.63653	5.12650	13.25671	88.51	23.18
77/12/ 3	2443480.5	0.09210	4.71261	2.01946	-13.22289	0.65878	0.60580	5.12790	13.25314	88.88	23.19
77/12/ 7	2443484.5	0.06155	4.71404	2.02083	-13.22406	0.58710	0.57508	5.12930	13.24957	89.25	23.20
77/12/11	2443488.5	0.03100	4.71532	2.02212	-13.22477	0.51545	0.54436	5.13071	13.24600	89.62	23.21
77/12/15	2443492.5	0.00045	4.71643	2.02334	-13.22501	0.44385	0.51365	5.13211	13.24242	89.99	23.22
77/12/19	2443496.5	-0.03010	4.71737	2.02449	-13.22479	0.37229	0.48295	5.13352	13.23884	90.37	23.23
77/12/23	2443500.5	-0.06065	4.71815	2.02557	-13.22410	0.30078	0.45225	5.13493	13.23525	90.74	23.23
77/12/27	2443504.5	-0.09120	4.71876	2.02658	-13.22295	0.22931	0.42156	5.13634	13.23166	91.11	23.24
77/12/31	2443508.5	-0.12175	4.71921	2.02752	-13.22134	0.15790	0.39089	5.13776	13.22806	91.48	23.24
78/ 1/ 4	2443512.5	-0.15229	4.71949	2.02839	-13.21927	0.08654	0.36022	5.13918	13.22446	91.85	23.25
78/ 1/ 8	2443516.5	-0.18282	4.71961	2.02918	-13.21674	0.01524	0.32957	5.14059	13.22086	92.22	23.25
78/ 1/12	2443520.5	-0.21335	4.71956	2.02991	-13.21375	-0.05601	0.29894	5.14201	13.21725	92.59	23.25
78/ 1/16	2443524.5	-0.24387	4.71935	2.03057	-13.21031	-0.12719	0.26832	5.14343	13.21365	92.96	23.25
78/ 1/20	2443528.5	-0.27439	4.71897	2.03115	-13.20641	-0.19831	0.23771	5.14486	13.21004	93.33	23.25
78/ 1/24	2443532.5	-0.30489	4.71843	2.03166	-13.20205	-0.26936	0.20712	5.14628	13.20643	93.70	23.25
78/ 1/28	2443536.5	-0.33539	4.71773	2.03211	-13.19724	-0.34034	0.17655	5.14771	13.20281	94.07	23.25
78/ 2/ 1	2443540.5	-0.36587	4.71686	2.03248	-13.19198	-0.41126	0.14600	5.14913	13.19920	94.44	23.25
78/ 2/ 5	2443544.5	-0.39634	4.71583	2.03278	-13.18626	-0.48210	0.11547	5.15056	13.19558	94.80	23.25
78/ 2/ 9	2443548.5	-0.42679	4.71463	2.03301	-13.18009	-0.55287	0.08496	5.15199	13.19196	95.17	23.24
78/ 2/13	2443552.5	-0.45723	4.71327	2.03317	-13.17348	-0.62355	0.05448	5.15343	13.18834	95.54	23.24
78/ 2/17	2443556.5	-0.48766	4.71175	2.03327	-13.16641	-0.69416	0.02402	5.15486	13.18471	95.91	23.23
78/ 2/21	2443560.5	-0.51807	4.71007	2.03329	-13.15889	-0.76469	-0.00642	5.15629	13.18109	96.28	23.22
78/ 2/25	2443564.5	-0.54846	4.70822	2.03324	-13.15092	-0.83513	-0.03684	5.15773	13.17746	96.64	23.22
78/ 3/ 1	2443568.5	-0.57883	4.70621	2.03312	-13.14251	-0.90549	-0.06722	5.15916	13.17384	97.01	23.21
78/ 3/ 5	2443572.5	-0.60918	4.70403	2.03293	-13.13365	-0.97575	-0.09758	5.16060	13.17021	97.38	23.20
78/ 3/ 9	2443576.5	-0.63951	4.70170	2.03266	-13.12435	-1.04593	-0.12792	5.16204	13.16658	97.75	23.19
78/ 3/13	2443580.5	-0.66982	4.69920	2.03233	-13.11460	-1.11601	-0.15822	5.16348	13.16295	98.11	23.18
78/ 3/17	2443584.5	-0.70010	4.69654	2.03193	-13.10441	-1.18600	-0.18849	5.16492	13.15932	98.48	23.17
78/ 3/21	2443588.5	-0.73037	4.69372	2.03146	-13.09377	-1.25589	-0.21874	5.16636	13.15568	98.84	23.15
78/ 3/25	2443592.5	-0.76060	4.69074	2.03092	-13.08269	-1.32567	-0.24894	5.16780	13.15204	99.21	23.14
78/ 3/29	2443596.5	-0.79081	4.68760	2.03031	-13.07117	-1.39535	-0.27912	5.16925	13.14840	99.58	23.13
78/ 4/ 2	2443600.5	-0.82099	4.68429	2.02963	-13.05921	-1.46493	-0.30926	5.17069	13.14476	99.94	23.11
78/ 4/ 6	2443604.5	-0.85115	4.68083	2.02888	-13.04681	-1.53440	-0.33936	5.17213	13.14111	100.31	23.10
78/ 4/10	2443608.5	-0.88127	4.67720	2.02807	-13.03397	-1.60375	-0.36943	5.17358	13.13746	100.67	23.08
78/ 4/14	2443612.5	-0.91137	4.67342	2.02718	-13.02070	-1.67299	-0.39946	5.17502	13.13382	101.03	23.06
78/ 4/18	2443616.5	-0.94143	4.66947	2.02622	-13.00700	-1.74212	-0.42945	5.17647	13.13017	101.40	23.04
78/ 4/22	2443620.5	-0.97147	4.66537	2.02519	-12.99286	-1.81113	-0.45940	5.17792	13.12652	101.76	23.02
78/ 4/26	2443624.5	-1.00147	4.66111	2.02410	-12.97829	-1.88002	-0.48931	5.17936	13.12288	102.13	23.00
78/ 4/30	2443628.5	-1.03143	4.65668	2.02293	-12.96329	-1.94878	-0.51918	5.18081	13.11923	102.49	22.98

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78/ 5/ 4	2443632.5	-1.06136	4.65210	2.02170	-12.94786	-2.01743	-0.54900	5.18226	13.11558	102.85	22.96
78/ 5/ 8	2443636.5	-1.09125	4.64736	2.02040	-12.93200	-2.08594	-0.57878	5.18371	13.11193	103.21	22.94
78/ 5/12	2443640.5	-1.12111	4.64246	2.01902	-12.91571	-2.15433	-0.60852	5.18515	13.10828	103.58	22.92
78/ 5/16	2443644.5	-1.15093	4.63741	2.01758	-12.89900	-2.22258	-0.63821	5.18660	13.10463	103.94	22.89
78/ 5/20	2443648.5	-1.18071	4.63219	2.01608	-12.88186	-2.29071	-0.66785	5.18805	13.10098	104.30	22.87
78/ 5/24	2443652.5	-1.21045	4.62682	2.01450	-12.86430	-2.35869	-0.69745	5.18950	13.09734	104.66	22.84
78/ 5/28	2443656.5	-1.24015	4.62130	2.01285	-12.84633	-2.42654	-0.72700	5.19095	13.09369	105.02	22.82
78/ 6/ 1	2443660.5	-1.26980	4.61561	2.01114	-12.82793	-2.49425	-0.75649	5.19239	13.09004	105.38	22.79
78/ 6/ 5	2443664.5	-1.29941	4.60977	2.00936	-12.80911	-2.56182	-0.78594	5.19384	13.08640	105.74	22.76
78/ 6/ 9	2443668.5	-1.32898	4.60378	2.00751	-12.78987	-2.62925	-0.81534	5.19529	13.08276	106.10	22.73
78/ 6/13	2443672.5	-1.35851	4.59762	2.00559	-12.77022	-2.69653	-0.84468	5.19674	13.07912	106.46	22.70
78/ 6/17	2443676.5	-1.38799	4.59132	2.00361	-12.75015	-2.76366	-0.87397	5.19819	13.07547	106.82	22.67
78/ 6/21	2443680.5	-1.41742	4.58486	2.00155	-12.72967	-2.83064	-0.90321	5.19963	13.07183	107.18	22.64
78/ 6/25	2443684.5	-1.44680	4.57824	1.99943	-12.70878	-2.89747	-0.93239	5.20108	13.06819	107.54	22.61
78/ 6/29	2443688.5	-1.47614	4.57147	1.99725	-12.68747	-2.96415	-0.96151	5.20253	13.06455	107.90	22.58
78/ 7/ 3	2443692.5	-1.50542	4.56454	1.99499	-12.66576	-3.03066	-0.99058	5.20397	13.06092	108.25	22.54
78/ 7/ 7	2443696.5	-1.53466	4.55747	1.99267	-12.64364	-3.09702	-1.01959	5.20542	13.05728	108.61	22.51
78/ 7/11	2443700.5	-1.56384	4.55023	1.99028	-12.62111	-3.16322	-1.04854	5.20687	13.05365	108.97	22.47
78/ 7/15	2443704.5	-1.59297	4.54285	1.98782	-12.59819	-3.22925	-1.07743	5.20831	13.05003	109.32	22.44
78/ 7/19	2443708.5	-1.62205	4.53531	1.98530	-12.57486	-3.29513	-1.10626	5.20975	13.04640	109.68	22.40
78/ 7/23	2443712.5	-1.65107	4.52763	1.98271	-12.55113	-3.36083	-1.13503	5.21120	13.04278	110.04	22.36
78/ 7/27	2443716.5	-1.68004	4.51979	1.98006	-12.52700	-3.42637	-1.16373	5.21264	13.03917	110.39	22.32
78/ 7/31	2443720.5	-1.70895	4.51180	1.97734	-12.50247	-3.49174	-1.19237	5.21408	13.03556	110.75	22.29
78/ 8/ 4	2443724.5	-1.73780	4.50365	1.97455	-12.47755	-3.55694	-1.22095	5.21552	13.03195	111.10	22.25
78/ 8/ 8	2443728.5	-1.76660	4.49536	1.97169	-12.45223	-3.62196	-1.24947	5.21697	13.02835	111.45	22.21
78/ 8/12	2443732.5	-1.79534	4.48692	1.96878	-12.42652	-3.68681	-1.27792	5.21840	13.02475	111.81	22.17
78/ 8/16	2443736.5	-1.82401	4.47833	1.96579	-12.40042	-3.75149	-1.30630	5.21984	13.02116	112.16	22.12
78/ 8/20	2443740.5	-1.85263	4.46959	1.96274	-12.37393	-3.81598	-1.33461	5.22128	13.01757	112.51	22.08
78/ 8/24	2443744.5	-1.88119	4.46070	1.95962	-12.34705	-3.88030	-1.36286	5.22272	13.01399	112.87	22.04
78/ 8/28	2443748.5	-1.90968	4.45166	1.95644	-12.31979	-3.94444	-1.39104	5.22415	13.01041	113.22	21.99
78/ 9/ 1	2443752.5	-1.93811	4.44247	1.95320	-12.29214	-4.00839	-1.41916	5.22559	13.00684	113.57	21.95
78/ 9/ 5	2443756.5	-1.96647	4.43314	1.94989	-12.26410	-4.07216	-1.44720	5.22702	13.00327	113.92	21.90
78/ 9/ 9	2443760.5	-1.99477	4.42366	1.94651	-12.23569	-4.13574	-1.47517	5.22846	12.99971	114.27	21.86
78/ 9/13	2443764.5	-2.02300	4.41403	1.94307	-12.20688	-4.19914	-1.50307	5.22989	12.99616	114.62	21.81
78/ 9/17	2443768.5	-2.05117	4.40426	1.93957	-12.17770	-4.26235	-1.53090	5.23132	12.99260	114.97	21.76
78/ 9/21	2443772.5	-2.07927	4.39434	1.93600	-12.14814	-4.32536	-1.55866	5.23275	12.98905	115.32	21.71
78/ 9/25	2443776.5	-2.10730	4.38427	1.93236	-12.11820	-4.38818	-1.58634	5.23417	12.98551	115.67	21.67
78/ 9/29	2443780.5	-2.13526	4.37406	1.92867	-12.08789	-4.45080	-1.61394	5.23560	12.98197	116.02	21.62
78/10/ 3	2443784.5	-2.16315	4.36371	1.92491	-12.05720	-4.51323	-1.64147	5.23702	12.97844	116.37	21.57
78/10/ 7	2443788.5	-2.19097	4.35321	1.92108	-12.02614	-4.57546	-1.66893	5.23845	12.97491	116.72	21.51
78/10/11	2443792.5	-2.21871	4.34257	1.91720	-11.99471	-4.63748	-1.69631	5.23987	12.97139	117.06	21.46
78/10/15	2443796.5	-2.24639	4.33178	1.91325	-11.96292	-4.69931	-1.72361	5.24129	12.96787	117.41	21.41
78/10/19	2443800.5	-2.27399	4.32085	1.90923	-11.93075	-4.76093	-1.75083	5.24271	12.96436	117.76	21.36
78/10/23	2443804.5	-2.30151	4.30978	1.90516	-11.89822	-4.82235	-1.77797	5.24412	12.96086	118.10	21.30
78/10/27	2443808.5	-2.32896	4.29857	1.90102	-11.86532	-4.88356	-1.80503	5.24554	12.95736	118.45	21.25

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78/10/31	2443812.5	-2.35633	4.28722	1.89682	-11.83206	-4.94456	-1.83201	5.24695	12.95386	118.79	21.19
78/11/ 4	2443816.5	-2.38363	4.27573	1.89255	-11.79844	-5.00535	-1.85891	5.24836	12.95037	119.14	21.14
78/11/ 8	2443820.5	-2.41085	4.26409	1.88823	-11.76446	-5.06593	-1.88573	5.24977	12.94689	119.48	21.08
78/11/12	2443824.5	-2.43798	4.25232	1.88384	-11.73012	-5.12629	-1.91247	5.25118	12.94342	119.83	21.02
78/11/16	2443828.5	-2.46504	4.24041	1.87939	-11.69542	-5.18644	-1.93912	5.25258	12.93995	120.17	20.97
78/11/20	2443832.5	-2.49202	4.22836	1.87488	-11.66037	-5.24638	-1.96569	5.25399	12.93648	120.51	20.91
78/11/24	2443836.5	-2.51892	4.21617	1.87031	-11.62496	-5.30609	-1.99217	5.25539	12.93302	120.86	20.85
78/11/28	2443840.5	-2.54573	4.20384	1.86568	-11.58920	-5.36559	-2.01857	5.25679	12.92957	121.20	20.79
78/12/ 2	2443844.5	-2.57246	4.19138	1.86098	-11.55309	-5.42487	-2.04488	5.25818	12.92612	121.54	20.73
78/12/ 6	2443848.5	-2.59911	4.17878	1.85623	-11.51663	-5.48392	-2.07111	5.25958	12.92268	121.88	20.67
78/12/10	2443852.5	-2.62567	4.16604	1.85141	-11.47983	-5.54275	-2.09724	5.26097	12.91924	122.22	20.60
78/12/14	2443856.5	-2.65215	4.15317	1.84654	-11.44267	-5.60135	-2.12329	5.26236	12.91581	122.56	20.54
78/12/18	2443860.5	-2.67854	4.14016	1.84160	-11.40517	-5.65972	-2.14925	5.26375	12.91238	122.90	20.48
78/12/22	2443864.5	-2.70485	4.12702	1.83661	-11.36733	-5.71786	-2.17512	5.26513	12.90896	123.24	20.42
78/12/26	2443868.5	-2.73106	4.11374	1.83155	-11.32914	-5.77577	-2.20089	5.26652	12.90554	123.58	20.35
78/12/30	2443872.5	-2.75719	4.10033	1.82644	-11.29062	-5.83344	-2.22658	5.26790	12.90213	123.92	20.29
79/ 1/ 3	2443876.5	-2.78323	4.08679	1.82127	-11.25177	-5.89088	-2.25217	5.26927	12.89872	124.26	20.22
79/ 1/ 7	2443880.5	-2.80918	4.07312	1.81603	-11.21257	-5.94808	-2.27767	5.27065	12.89532	124.59	20.15
79/ 1/11	2443884.5	-2.83504	4.05931	1.81074	-11.17305	-6.00504	-2.30307	5.27202	12.89192	124.93	20.09
79/ 1/15	2443888.5	-2.86080	4.04537	1.80539	-11.13319	-6.06176	-2.32838	5.27339	12.88853	125.27	20.02
79/ 1/19	2443892.5	-2.88647	4.03130	1.79999	-11.09300	-6.11825	-2.35359	5.27476	12.88515	125.60	19.95
79/ 1/23	2443896.5	-2.91205	4.01710	1.79452	-11.05249	-6.17449	-2.37871	5.27612	12.88177	125.94	19.88
79/ 1/27	2443900.5	-2.93754	4.00277	1.78899	-11.01165	-6.23048	-2.40373	5.27748	12.87841	126.27	19.82
79/ 1/31	2443904.5	-2.96293	3.98832	1.78341	-10.97049	-6.28623	-2.42865	5.27884	12.87504	126.61	19.75
79/ 2/ 4	2443908.5	-2.98823	3.97373	1.77777	-10.92901	-6.34174	-2.45348	5.28020	12.87169	126.94	19.68
79/ 2/ 8	2443912.5	-3.01343	3.95901	1.77208	-10.88721	-6.39699	-2.47820	5.28155	12.86834	127.28	19.60
79/ 2/12	2443916.5	-3.03853	3.94417	1.76632	-10.84509	-6.45200	-2.50283	5.28290	12.86501	127.61	19.53
79/ 2/16	2443920.5	-3.06354	3.92920	1.76051	-10.80265	-6.50676	-2.52736	5.28425	12.86168	127.94	19.46
79/ 2/20	2443924.5	-3.08844	3.91411	1.75465	-10.75990	-6.56126	-2.55179	5.28559	12.85835	128.28	19.39
79/ 2/24	2443928.5	-3.11325	3.89889	1.74872	-10.71684	-6.61551	-2.57611	5.28694	12.85504	128.61	19.32
79/ 2/28	2443932.5	-3.13796	3.88354	1.74274	-10.67347	-6.66951	-2.60034	5.28827	12.85174	128.94	19.24
79/ 3/ 4	2443936.5	-3.16257	3.86807	1.73671	-10.62979	-6.72326	-2.62446	5.28961	12.84844	129.27	19.17
79/ 3/ 8	2443940.5	-3.18707	3.85248	1.73062	-10.58580	-6.77675	-2.64848	5.29094	12.84515	129.60	19.09
79/ 3/12	2443944.5	-3.21148	3.83676	1.72447	-10.54151	-6.82998	-2.67240	5.29227	12.84187	129.93	19.02
79/ 3/16	2443948.5	-3.23578	3.82092	1.71827	-10.49691	-6.88295	-2.69622	5.29360	12.83860	130.26	18.94
79/ 3/20	2443952.5	-3.25997	3.80496	1.71201	-10.45201	-6.93566	-2.71993	5.29492	12.83534	130.59	18.86
79/ 3/24	2443956.5	-3.28407	3.78888	1.70570	-10.40681	-6.98811	-2.74353	5.29624	12.83208	130.92	18.79
79/ 3/28	2443960.5	-3.30806	3.77267	1.69934	-10.36132	-7.04029	-2.76703	5.29755	12.82884	131.25	18.71
79/ 4/ 1	2443964.5	-3.33194	3.75635	1.69292	-10.31553	-7.09221	-2.79042	5.29886	12.82560	131.57	18.63
79/ 4/ 5	2443968.5	-3.35572	3.73991	1.68645	-10.26945	-7.14387	-2.81371	5.30017	12.82238	131.90	18.55
79/ 4/ 9	2443972.5	-3.37939	3.72334	1.67992	-10.22307	-7.19526	-2.83689	5.30148	12.81916	132.23	18.47
79/ 4/13	2443976.5	-3.40295	3.70666	1.67334	-10.17641	-7.24638	-2.85996	5.30278	12.81596	132.55	18.39
79/ 4/17	2443980.5	-3.42641	3.68986	1.66670	-10.12946	-7.29723	-2.88292	5.30408	12.81276	132.88	18.31
79/ 4/21	2443984.5	-3.44975	3.67295	1.66002	-10.08223	-7.34782	-2.90578	5.30537	12.80958	133.21	18.23
79/ 4/25	2443988.5	-3.47299	3.65591	1.65328	-10.03471	-7.39814	-2.92852	5.30667	12.80641	133.53	18.15

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79/ 4/29	2443992.5	-3.49612	3.63876	1.64649	-9.98691	-7.44818	-2.95116	5.30795	12.80324	133.85	18.07
79/ 5/ 3	2443996.5	-3.51913	3.62150	1.63964	-9.93882	-7.49796	-2.97369	5.30924	12.80009	134.18	17.99
79/ 5/ 7	2444000.5	-3.54204	3.60412	1.63275	-9.89046	-7.54746	-2.99611	5.31052	12.79695	134.50	17.91
79/ 5/11	2444004.5	-3.56483	3.58663	1.62580	-9.84183	-7.59669	-3.01841	5.31179	12.79383	134.83	17.82
79/ 5/15	2444008.5	-3.58751	3.56902	1.61880	-9.79291	-7.64564	-3.04061	5.31307	12.79071	135.15	17.74
79/ 5/19	2444012.5	-3.61008	3.55130	1.61175	-9.74373	-7.69432	-3.06269	5.31433	12.78761	135.47	17.65
79/ 5/23	2444016.5	-3.63253	3.53347	1.60465	-9.69427	-7.74272	-3.08466	5.31560	12.78451	135.79	17.57
79/ 5/27	2444020.5	-3.65487	3.51553	1.59750	-9.64455	-7.79085	-3.10652	5.31686	12.78143	136.11	17.49
79/ 5/31	2444024.5	-3.67709	3.49748	1.59030	-9.59455	-7.83869	-3.12827	5.31812	12.77836	136.43	17.40
79/ 6/ 4	2444028.5	-3.69920	3.47931	1.58305	-9.54429	-7.88626	-3.14991	5.31937	12.77531	136.75	17.31
79/ 6/ 8	2444032.5	-3.72119	3.46104	1.57574	-9.49376	-7.93355	-3.17143	5.32062	12.77226	137.07	17.23
79/ 6/12	2444036.5	-3.74306	3.44266	1.56839	-9.44296	-7.98055	-3.19283	5.32187	12.76922	137.39	17.14
79/ 6/16	2444040.5	-3.76482	3.42417	1.56099	-9.39191	-8.02727	-3.21412	5.32311	12.76619	137.71	17.05
79/ 6/20	2444044.5	-3.78646	3.40557	1.55354	-9.34059	-8.07371	-3.23530	5.32434	12.76317	138.03	16.96
79/ 6/24	2444048.5	-3.80797	3.38686	1.54604	-9.28902	-8.11986	-3.25636	5.32558	12.76016	138.35	16.88
79/ 6/28	2444052.5	-3.82937	3.36805	1.53850	-9.23719	-8.16572	-3.27730	5.32681	12.75717	138.67	16.79
79/ 7/ 2	2444056.5	-3.85065	3.34913	1.53090	-9.18511	-8.21129	-3.29812	5.32803	12.75418	138.98	16.70
79/ 7/ 6	2444060.5	-3.87181	3.33011	1.52326	-9.13278	-8.25658	-3.31883	5.32925	12.75121	139.30	16.61
79/ 7/10	2444064.5	-3.89285	3.31099	1.51557	-9.08019	-8.30158	-3.33942	5.33047	12.74825	139.62	16.52
79/ 7/14	2444068.5	-3.91377	3.29176	1.50783	-9.02736	-8.34629	-3.35989	5.33168	12.74530	139.93	16.43
79/ 7/18	2444072.5	-3.93456	3.27242	1.50004	-8.97428	-8.39071	-3.38024	5.33288	12.74236	140.25	16.34
79/ 7/22	2444076.5	-3.95523	3.25299	1.49221	-8.92096	-8.43483	-3.40048	5.33409	12.73943	140.56	16.25
79/ 7/26	2444080.5	-3.97578	3.23345	1.48433	-8.86739	-8.47866	-3.42059	5.33528	12.73651	140.88	16.15
79/ 7/30	2444084.5	-3.99620	3.21381	1.47641	-8.81358	-8.52220	-3.44058	5.33648	12.73361	141.19	16.06
79/ 8/ 3	2444088.5	-4.01650	3.19408	1.46844	-8.75954	-8.56545	-3.46045	5.33767	12.73071	141.51	15.97
79/ 8/ 7	2444092.5	-4.03667	3.17424	1.46042	-8.70525	-8.60839	-3.48021	5.33885	12.72783	141.82	15.88
79/ 8/11	2444096.5	-4.05672	3.15430	1.45236	-8.65073	-8.65105	-3.49984	5.34003	12.72496	142.13	15.78
79/ 8/15	2444100.5	-4.07664	3.13427	1.44425	-8.59598	-8.69340	-3.51934	5.34121	12.72210	142.45	15.69
79/ 8/19	2444104.5	-4.09644	3.11414	1.43610	-8.54100	-8.73546	-3.53873	5.34238	12.71926	142.76	15.59
79/ 8/23	2444108.5	-4.11610	3.09391	1.42790	-8.48579	-8.77722	-3.55799	5.34355	12.71642	143.07	15.50
79/ 8/27	2444112.5	-4.13564	3.07358	1.41966	-8.43035	-8.81867	-3.57713	5.34471	12.71360	143.38	15.40
79/ 8/31	2444116.5	-4.15505	3.05316	1.41137	-8.37468	-8.85983	-3.59615	5.34586	12.71079	143.69	15.31
79/ 9/ 4	2444120.5	-4.17434	3.03265	1.40304	-8.31878	-8.90069	-3.61505	5.34702	12.70799	144.00	15.21
79/ 9/ 8	2444124.5	-4.19349	3.01204	1.39467	-8.26267	-8.94124	-3.63382	5.34816	12.70520	144.31	15.12
79/ 9/12	2444128.5	-4.21251	2.99134	1.38625	-8.20633	-8.98149	-3.65246	5.34930	12.70242	144.62	15.02
79/ 9/16	2444132.5	-4.23141	2.97054	1.37779	-8.14978	-9.02143	-3.67098	5.35044	12.69965	144.93	14.92
79/ 9/20	2444136.5	-4.25017	2.94965	1.36929	-8.09301	-9.06107	-3.68937	5.35157	12.69690	145.24	14.82
79/ 9/24	2444140.5	-4.26880	2.92868	1.36075	-8.03602	-9.10040	-3.70763	5.35270	12.69415	145.55	14.73
79/ 9/28	2444144.5	-4.28730	2.90761	1.35216	-7.97883	-9.13942	-3.72577	5.35382	12.69142	145.86	14.63
79/10/ 2	2444148.5	-4.30566	2.88645	1.34353	-7.92143	-9.17814	-3.74379	5.35494	12.68870	146.16	14.53
79/10/ 6	2444152.5	-4.32390	2.86520	1.33486	-7.86381	-9.21655	-3.76167	5.35606	12.68600	146.47	14.43
79/10/10	2444156.5	-4.34200	2.84387	1.32615	-7.80600	-9.25465	-3.77943	5.35716	12.68330	146.78	14.33
79/10/14	2444160.5	-4.35996	2.82244	1.31740	-7.74797	-9.29244	-3.79706	5.35827	12.68063	147.08	14.23
79/10/18	2444164.5	-4.37780	2.80093	1.30861	-7.68975	-9.32992	-3.81456	5.35936	12.67796	147.39	14.13
79/10/22	2444168.5	-4.39549	2.77933	1.29978	-7.63133	-9.36710	-3.83194	5.36045	12.67531	147.69	14.03

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79/10/26	2444172.5	-4.41305	2.75765	1.29090	-7.57271	-9.40396	-3.84918	5.36154	12.67267	148.00	13.93
79/10/30	2444176.5	-4.43048	2.73589	1.28199	-7.51389	-9.44051	-3.86630	5.36262	12.67004	148.30	13.83
79/11/ 3	2444180.5	-4.44777	2.71403	1.27304	-7.45488	-9.47674	-3.88329	5.36370	12.66743	148.61	13.73
79/11/ 7	2444184.5	-4.46492	2.69210	1.26405	-7.39568	-9.51267	-3.90015	5.36477	12.66484	148.91	13.63
79/11/11	2444188.5	-4.48194	2.67008	1.25502	-7.33629	-9.54828	-3.91687	5.36584	12.66226	149.22	13.53
79/11/15	2444192.5	-4.49882	2.64798	1.24595	-7.27670	-9.58358	-3.93347	5.36690	12.65969	149.52	13.42
79/11/19	2444196.5	-4.51556	2.62580	1.23685	-7.21694	-9.61857	-3.94994	5.36795	12.65714	149.82	13.32
79/11/23	2444200.5	-4.53217	2.60354	1.22770	-7.15698	-9.65325	-3.96628	5.36900	12.65460	150.12	13.22
79/11/27	2444204.5	-4.54863	2.58120	1.21852	-7.09684	-9.68761	-3.98249	5.37005	12.65208	150.43	13.12
79/12/ 1	2444208.5	-4.56496	2.55878	1.20930	-7.03652	-9.72165	-3.99857	5.37109	12.64957	150.73	13.01
79/12/ 5	2444212.5	-4.58114	2.53629	1.20005	-6.97602	-9.75538	-4.01452	5.37212	12.64708	151.03	12.91
79/12/ 9	2444216.5	-4.59719	2.51371	1.19075	-6.91533	-9.78878	-4.03033	5.37315	12.64459	151.33	12.80
79/12/13	2444220.5	-4.61309	2.49106	1.18143	-6.85448	-9.82187	-4.04602	5.37417	12.64213	151.63	12.70
79/12/17	2444224.5	-4.62886	2.46833	1.17206	-6.79345	-9.85465	-4.06157	5.37519	12.63967	151.93	12.59
79/12/21	2444228.5	-4.64448	2.44553	1.16266	-6.73224	-9.88710	-4.07698	5.37620	12.63723	152.23	12.49
79/12/25	2444232.5	-4.65996	2.42265	1.15322	-6.67087	-9.91924	-4.09227	5.37721	12.63481	152.53	12.38
79/12/29	2444236.5	-4.67530	2.39970	1.14375	-6.60933	-9.95105	-4.10742	5.37821	12.63240	152.83	12.28
80/ 1/ 2	2444240.5	-4.69050	2.37667	1.13425	-6.54762	-9.98255	-4.12244	5.37921	12.63000	153.13	12.17
80/ 1/ 6	2444244.5	-4.70555	2.35357	1.12470	-6.48574	-10.01372	-4.13733	5.38020	12.62762	153.43	12.07
80/ 1/10	2444248.5	-4.72047	2.33040	1.11513	-6.42370	-10.04457	-4.15208	5.38118	12.62526	153.73	11.96
80/ 1/14	2444252.5	-4.73523	2.30716	1.10552	-6.36150	-10.07511	-4.16669	5.38216	12.62291	154.02	11.85
80/ 1/18	2444256.5	-4.74986	2.28385	1.09588	-6.29914	-10.10532	-4.18118	5.38313	12.62057	154.32	11.75
80/ 1/22	2444260.5	-4.76434	2.26047	1.08620	-6.23663	-10.13521	-4.19553	5.38410	12.61825	154.62	11.64
80/ 1/26	2444264.5	-4.77867	2.23703	1.07649	-6.17395	-10.16477	-4.20974	5.38506	12.61595	154.91	11.53
80/ 1/30	2444268.5	-4.79286	2.21351	1.06675	-6.11112	-10.19401	-4.22382	5.38601	12.61366	155.21	11.42
80/ 2/ 3	2444272.5	-4.80691	2.18993	1.05698	-6.04814	-10.22293	-4.23776	5.38696	12.61138	155.51	11.32
80/ 2/ 7	2444276.5	-4.82081	2.16628	1.04717	-5.98501	-10.25152	-4.25157	5.38790	12.60912	155.80	11.21
80/ 2/11	2444280.5	-4.83456	2.14256	1.03733	-5.92173	-10.27979	-4.26525	5.38884	12.60688	156.10	11.10
80/ 2/15	2444284.5	-4.84817	2.11878	1.02747	-5.85831	-10.30774	-4.27878	5.38977	12.60465	156.39	10.99
80/ 2/19	2444288.5	-4.86163	2.09494	1.01757	-5.79473	-10.33536	-4.29219	5.39070	12.60243	156.69	10.88
80/ 2/23	2444292.5	-4.87494	2.07103	1.00763	-5.73101	-10.36265	-4.30545	5.39162	12.60023	156.98	10.77
80/ 2/27	2444296.5	-4.88811	2.04706	0.99767	-5.66715	-10.38961	-4.31858	5.39253	12.59805	157.28	10.66
80/ 3/ 2	2444300.5	-4.90113	2.02302	0.98768	-5.60314	-10.41625	-4.33157	5.39344	12.59587	157.57	10.55
80/ 3/ 6	2444304.5	-4.91400	1.99893	0.97766	-5.53900	-10.44256	-4.34442	5.39434	12.59371	157.86	10.44
80/ 3/10	2444308.5	-4.92672	1.97478	0.96761	-5.47472	-10.46853	-4.35714	5.39523	12.59156	158.16	10.33
80/ 3/14	2444312.5	-4.93929	1.95056	0.95753	-5.41031	-10.49418	-4.36971	5.39612	12.58943	158.45	10.22
80/ 3/18	2444316.5	-4.95172	1.92629	0.94742	-5.34577	-10.51950	-4.38215	5.39701	12.58731	158.74	10.11
80/ 3/22	2444320.5	-4.96399	1.90196	0.93728	-5.28109	-10.54448	-4.39445	5.39788	12.58520	159.04	10.00
80/ 3/26	2444324.5	-4.97612	1.87757	0.92712	-5.21629	-10.56914	-4.40661	5.39875	12.58311	159.33	9.89
80/ 3/30	2444328.5	-4.98809	1.85313	0.91692	-5.15136	-10.59346	-4.41863	5.39962	12.58103	159.62	9.78
80/ 4/ 3	2444332.5	-4.99992	1.82863	0.90670	-5.08631	-10.61745	-4.43052	5.40048	12.57896	159.91	9.67
80/ 4/ 7	2444336.5	-5.01159	1.80407	0.89645	-5.02113	-10.64111	-4.44226	5.40133	12.57691	160.20	9.55
80/ 4/11	2444340.5	-5.02312	1.77946	0.88617	-4.95583	-10.66444	-4.45386	5.40217	12.57488	160.49	9.44
80/ 4/15	2444344.5	-5.03449	1.75480	0.87587	-4.89042	-10.68744	-4.46532	5.40301	12.57285	160.78	9.33
80/ 4/19	2444348.5	-5.04571	1.73008	0.86554	-4.82489	-10.71010	-4.47665	5.40385	12.57085	161.07	9.22

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80/ 4/23	2444352.5	-5.05678	1.70531	0.85519	-4.75925	-10.73243	-4.48783	5.40467	12.56885	161.36	9.10
80/ 4/27	2444356.5	-5.06770	1.68049	0.84481	-4.69349	-10.75442	-4.49887	5.40549	12.56688	161.65	8.99
80/ 5/ 1	2444360.5	-5.07847	1.65562	0.83440	-4.62763	-10.77609	-4.50977	5.40631	12.56491	161.94	8.88
80/ 5/ 5	2444364.5	-5.08908	1.63070	0.82397	-4.56165	-10.79741	-4.52054	5.40711	12.56296	162.23	8.77
80/ 5/ 9	2444368.5	-5.09954	1.60574	0.81352	-4.49557	-10.81841	-4.53116	5.40791	12.56103	162.52	8.65
80/ 5/13	2444372.5	-5.10985	1.58072	0.80304	-4.42939	-10.83907	-4.54164	5.40871	12.55912	162.81	8.54
80/ 5/17	2444376.5	-5.12001	1.55566	0.79253	-4.36310	-10.85940	-4.55198	5.40950	12.55722	163.10	8.42
80/ 5/21	2444380.5	-5.13001	1.53055	0.78200	-4.29671	-10.87939	-4.56218	5.41028	12.55533	163.39	8.31
80/ 5/25	2444384.5	-5.13986	1.50539	0.77145	-4.23022	-10.89905	-4.57224	5.41105	12.55346	163.68	8.20
80/ 5/29	2444388.5	-5.14956	1.48019	0.76088	-4.16363	-10.91837	-4.58215	5.41182	12.55160	163.96	8.08
80/ 6/ 2	2444392.5	-5.15910	1.45494	0.75028	-4.09694	-10.93736	-4.59193	5.41259	12.54976	164.25	7.97
80/ 6/ 6	2444396.5	-5.16849	1.42965	0.73966	-4.03017	-10.95601	-4.60156	5.41334	12.54793	164.54	7.85
80/ 6/10	2444400.5	-5.17772	1.40432	0.72902	-3.96330	-10.97432	-4.61105	5.41409	12.54612	164.83	7.74
80/ 6/14	2444404.5	-5.18680	1.37895	0.71836	-3.89634	-10.99230	-4.62040	5.41483	12.54433	165.11	7.62
80/ 6/18	2444408.5	-5.19572	1.35353	0.70767	-3.82930	-11.00994	-4.62960	5.41557	12.54255	165.40	7.51
80/ 6/22	2444412.5	-5.20449	1.32808	0.69697	-3.76217	-11.02725	-4.63867	5.41630	12.54079	165.68	7.39
80/ 6/26	2444416.5	-5.21310	1.30259	0.68624	-3.69496	-11.04422	-4.64759	5.41702	12.53904	165.97	7.28
80/ 6/30	2444420.5	-5.22156	1.27705	0.67549	-3.62767	-11.06085	-4.65637	5.41774	12.53731	166.26	7.16
80/ 7/ 4	2444424.5	-5.22987	1.25148	0.66473	-3.56030	-11.07715	-4.66500	5.41845	12.53560	166.54	7.05
80/ 7/ 8	2444428.5	-5.23801	1.22587	0.65394	-3.49285	-11.09311	-4.67350	5.41915	12.53390	166.83	6.93
80/ 7/12	2444432.5	-5.24600	1.20023	0.64313	-3.42532	-11.10874	-4.68185	5.41984	12.53222	167.11	6.81
80/ 7/16	2444436.5	-5.25384	1.17455	0.63231	-3.35772	-11.12403	-4.69006	5.42053	12.53056	167.40	6.70
80/ 7/20	2444440.5	-5.26152	1.14883	0.62147	-3.29004	-11.13898	-4.69813	5.42122	12.52892	167.68	6.58
80/ 7/24	2444444.5	-5.26904	1.12308	0.61060	-3.22230	-11.15360	-4.70606	5.42189	12.52729	167.97	6.47
80/ 7/28	2444448.5	-5.27641	1.09730	0.59972	-3.15449	-11.16789	-4.71384	5.42256	12.52568	168.25	6.35
80/ 8/ 1	2444452.5	-5.28361	1.07148	0.58882	-3.08660	-11.18183	-4.72148	5.42322	12.52409	168.54	6.23
80/ 8/ 5	2444456.5	-5.29067	1.04563	0.57791	-3.01866	-11.19545	-4.72898	5.42388	12.52252	168.82	6.12
80/ 8/ 9	2444460.5	-5.29756	1.01975	0.56697	-2.95065	-11.20872	-4.73634	5.42453	12.52097	169.10	6.00
80/ 8/13	2444464.5	-5.30430	0.99384	0.55602	-2.88257	-11.22167	-4.74355	5.42517	12.51944	169.39	5.88
80/ 8/17	2444468.5	-5.31088	0.96791	0.54506	-2.81443	-11.23427	-4.75063	5.42581	12.51792	169.67	5.77
80/ 8/21	2444472.5	-5.31730	0.94194	0.53407	-2.74624	-11.24654	-4.75755	5.42643	12.51642	169.95	5.65
80/ 8/25	2444476.5	-5.32357	0.91594	0.52308	-2.67798	-11.25847	-4.76434	5.42706	12.51494	170.24	5.53
80/ 8/29	2444480.5	-5.32968	0.88992	0.51206	-2.60967	-11.27007	-4.77098	5.42767	12.51348	170.52	5.41
80/ 9/ 2	2444484.5	-5.33563	0.86387	0.50103	-2.54130	-11.28132	-4.77748	5.42828	12.51203	170.80	5.30
80/ 9/ 6	2444488.5	-5.34142	0.83780	0.48999	-2.47288	-11.29224	-4.78384	5.42888	12.51060	171.09	5.18
80/ 9/10	2444492.5	-5.34705	0.81170	0.47893	-2.40441	-11.30283	-4.79005	5.42947	12.50918	171.37	5.06
80/ 9/14	2444496.5	-5.35253	0.78557	0.46786	-2.33589	-11.31307	-4.79612	5.43006	12.50779	171.65	4.94
80/ 9/18	2444500.5	-5.35784	0.75943	0.45677	-2.26732	-11.32298	-4.80205	5.43064	12.50641	171.93	4.82
80/ 9/22	2444504.5	-5.36300	0.73326	0.44567	-2.19871	-11.33255	-4.80783	5.43121	12.50505	172.21	4.71
80/ 9/26	2444508.5	-5.36800	0.70707	0.43456	-2.13005	-11.34178	-4.81347	5.43178	12.50370	172.50	4.59
80/ 9/30	2444512.5	-5.37284	0.68086	0.42343	-2.06135	-11.35068	-4.81896	5.43234	12.50238	172.78	4.47
80/10/ 4	2444516.5	-5.37753	0.65462	0.41229	-1.99261	-11.35924	-4.82431	5.43289	12.50107	173.06	4.35
80/10/ 8	2444520.5	-5.38205	0.62837	0.40114	-1.92384	-11.36746	-4.82952	5.43344	12.49978	173.34	4.23
80/10/12	2444524.5	-5.38642	0.60210	0.38998	-1.85502	-11.37534	-4.83458	5.43398	12.49850	173.62	4.12
80/10/16	2444528.5	-5.39062	0.57581	0.37880	-1.78617	-11.38288	-4.83950	5.43451	12.49725	173.90	4.00

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80/10/20	2444532.5	-5.39467	0.54951	0.36762	-1.71729	-11.39009	-4.84427	5.43503	12.49601	174.18	3.88
80/10/24	2444536.5	-5.39856	0.52319	0.35642	-1.64837	-11.39696	-4.84890	5.43555	12.49478	174.46	3.76
80/10/28	2444540.5	-5.40228	0.49685	0.34521	-1.57943	-11.40349	-4.85339	5.43606	12.49358	174.75	3.64
80/11/ 1	2444544.5	-5.40585	0.47050	0.33400	-1.51045	-11.40968	-4.85773	5.43656	12.49239	175.03	3.52
80/11/ 5	2444548.5	-5.40926	0.44414	0.32277	-1.44145	-11.41554	-4.86193	5.43705	12.49122	175.31	3.40
80/11/ 9	2444552.5	-5.41251	0.41776	0.31153	-1.37243	-11.42106	-4.86598	5.43754	12.49007	175.59	3.28
80/11/13	2444556.5	-5.41560	0.39137	0.30029	-1.30338	-11.42624	-4.86989	5.43802	12.48894	175.87	3.17
80/11/17	2444560.5	-5.41854	0.36496	0.28903	-1.23430	-11.43108	-4.87366	5.43850	12.48782	176.15	3.05
80/11/21	2444564.5	-5.42131	0.33855	0.27777	-1.16521	-11.43558	-4.87728	5.43897	12.48671	176.43	2.93
80/11/25	2444568.5	-5.42392	0.31213	0.26650	-1.09610	-11.43974	-4.88075	5.43943	12.48563	176.71	2.81
80/11/29	2444572.5	-5.42637	0.28570	0.25522	-1.02698	-11.44356	-4.88408	5.43988	12.48455	176.99	2.69
80/12/ 3	2444576.5	-5.42866	0.25926	0.24393	-0.95784	-11.44705	-4.88726	5.44032	12.48350	177.27	2.57
80/12/ 7	2444580.5	-5.43080	0.23281	0.23264	-0.88869	-11.45019	-4.89030	5.44076	12.48246	177.55	2.45
80/12/11	2444584.5	-5.43277	0.20635	0.22134	-0.81952	-11.45300	-4.89320	5.44119	12.48143	177.82	2.33
80/12/15	2444588.5	-5.43458	0.17989	0.21003	-0.75036	-11.45546	-4.89594	5.44161	12.48042	178.10	2.21
80/12/19	2444592.5	-5.43624	0.15342	0.19872	-0.68118	-11.45759	-4.89855	5.44203	12.47943	178.38	2.09
80/12/23	2444596.5	-5.43773	0.12695	0.18740	-0.61201	-11.45938	-4.90100	5.44244	12.47845	178.66	1.97
80/12/27	2444600.5	-5.43907	0.10048	0.17607	-0.54283	-11.46083	-4.90332	5.44284	12.47750	178.94	1.85
80/12/31	2444604.5	-5.44024	0.07400	0.16474	-0.47365	-11.46195	-4.90548	5.44324	12.47655	179.22	1.73
81/ 1/ 4	2444608.5	-5.44125	0.04752	0.15341	-0.40447	-11.46272	-4.90751	5.44362	12.47563	179.50	1.61
81/ 1/ 8	2444612.5	-5.44211	0.02104	0.14207	-0.33529	-11.46316	-4.90938	5.44400	12.47472	179.78	1.50
81/ 1/12	2444616.5	-5.44280	-0.00544	0.13072	-0.26612	-11.46326	-4.91112	5.44437	12.47382	180.06	1.38
81/ 1/16	2444620.5	-5.44334	-0.03193	0.11938	-0.19696	-11.46303	-4.91271	5.44474	12.47295	180.34	1.26
81/ 1/20	2444624.5	-5.44371	-0.05841	0.10802	-0.12781	-11.46245	-4.91415	5.44510	12.47209	180.61	1.14
81/ 1/24	2444628.5	-5.44393	-0.08489	0.09667	-0.05867	-11.46155	-4.91545	5.44545	12.47125	180.89	1.02
81/ 1/28	2444632.5	-5.44398	-0.11136	0.08531	0.01046	-11.46030	-4.91660	5.44579	12.47043	181.17	0.90
81/ 2/ 1	2444636.5	-5.44388	-0.13784	0.07395	0.07958	-11.45872	-4.91761	5.44613	12.46962	181.45	0.78
81/ 2/ 5	2444640.5	-5.44362	-0.16431	0.06259	0.14868	-11.45681	-4.91848	5.44645	12.46884	181.73	0.66
81/ 2/ 9	2444644.5	-5.44319	-0.19077	0.05123	0.21777	-11.45456	-4.91920	5.44678	12.46807	182.01	0.54
81/ 2/13	2444648.5	-5.44261	-0.21723	0.03986	0.28683	-11.45197	-4.91978	5.44709	12.46732	182.29	0.42
81/ 2/17	2444652.5	-5.44187	-0.24368	0.02850	0.35588	-11.44905	-4.92021	5.44740	12.46659	182.56	0.30
81/ 2/21	2444656.5	-5.44097	-0.27013	0.01713	0.42491	-11.44579	-4.92050	5.44769	12.46587	182.84	0.18
81/ 2/25	2444660.5	-5.43990	-0.29657	0.00576	0.49391	-11.44219	-4.92064	5.44799	12.46517	183.12	0.06
81/ 3/ 1	2444664.5	-5.43868	-0.32299	-0.00560	0.56288	-11.43826	-4.92064	5.44827	12.46449	183.40	-0.06
81/ 3/ 5	2444668.5	-5.43730	-0.34941	-0.01697	0.63183	-11.43400	-4.92049	5.44855	12.46382	183.68	-0.18
81/ 3/ 9	2444672.5	-5.43576	-0.37582	-0.02834	0.70075	-11.42940	-4.92020	5.44881	12.46317	183.96	-0.30
81/ 3/13	2444676.5	-5.43407	-0.40222	-0.03970	0.76963	-11.42447	-4.91977	5.44908	12.46254	184.23	-0.42
81/ 3/17	2444680.5	-5.43221	-0.42861	-0.05107	0.83848	-11.41920	-4.91919	5.44933	12.46193	184.51	-0.54
81/ 3/21	2444684.5	-5.43019	-0.45498	-0.06243	0.90730	-11.41361	-4.91847	5.44958	12.46134	184.79	-0.66
81/ 3/25	2444688.5	-5.42802	-0.48134	-0.07379	0.97608	-11.40767	-4.91760	5.44982	12.46076	185.07	-0.78
81/ 3/29	2444692.5	-5.42568	-0.50769	-0.08515	1.04483	-11.40141	-4.91660	5.45005	12.46020	185.35	-0.90
81/ 4/ 2	2444696.5	-5.42319	-0.53402	-0.09651	1.11353	-11.39481	-4.91544	5.45027	12.45967	185.62	-1.01
81/ 4/ 6	2444700.5	-5.42054	-0.56034	-0.10786	1.18219	-11.38788	-4.91415	5.45049	12.45914	185.90	-1.13
81/ 4/10	2444704.5	-5.41773	-0.58664	-0.11922	1.25081	-11.38062	-4.91271	5.45070	12.45864	186.18	-1.25
81/ 4/14	2444708.5	-5.41476	-0.61292	-0.13056	1.31939	-11.37303	-4.91112	5.45090	12.45816	186.46	-1.37

1.5 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM JUPITER

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81/ 4/18	2444712.5	-5.41163	-0.63918	-0.14191	1.38792	-11.36511	-4.90940	5.45110	12.45769	186.74	-1.49
81/ 4/22	2444716.5	-5.40835	-0.66543	-0.15325	1.45640	-11.35685	-4.90753	5.45128	12.45725	187.01	-1.61
81/ 4/26	2444720.5	-5.40490	-0.69166	-0.16458	1.52483	-11.34827	-4.90552	5.45146	12.45682	187.29	-1.73
81/ 4/30	2444724.5	-5.40130	-0.71786	-0.17591	1.59321	-11.33935	-4.90336	5.45163	12.45641	187.57	-1.85
81/ 5/ 4	2444728.5	-5.39754	-0.74405	-0.18724	1.66154	-11.33011	-4.90107	5.45180	12.45602	187.85	-1.97
81/ 5/ 8	2444732.5	-5.39362	-0.77021	-0.19856	1.72982	-11.32053	-4.89863	5.45196	12.45565	188.13	-2.09
81/ 5/12	2444736.5	-5.38955	-0.79635	-0.20987	1.79804	-11.31063	-4.89605	5.45211	12.45530	188.41	-2.21
81/ 5/16	2444740.5	-5.38532	-0.82247	-0.22118	1.86621	-11.30039	-4.89332	5.45225	12.45497	188.68	-2.32
81/ 5/20	2444744.5	-5.38093	-0.84856	-0.23248	1.93431	-11.28983	-4.89045	5.45238	12.45465	188.96	-2.44
81/ 5/24	2444748.5	-5.37638	-0.87463	-0.24377	2.00236	-11.27893	-4.88744	5.45251	12.45435	189.24	-2.56
81/ 5/28	2444752.5	-5.37167	-0.90068	-0.25506	2.07035	-11.26771	-4.88428	5.45263	12.45407	189.52	-2.68
81/ 6/ 1	2444756.5	-5.36681	-0.92669	-0.26634	2.13827	-11.25615	-4.88099	5.45274	12.45380	189.80	-2.80
81/ 6/ 5	2444760.5	-5.36179	-0.95268	-0.27761	2.20612	-11.24427	-4.87754	5.45285	12.45355	190.08	-2.92
81/ 6/ 9	2444764.5	-5.35662	-0.97865	-0.28888	2.27390	-11.23205	-4.87396	5.45294	12.45332	190.35	-3.04
81/ 6/13	2444768.5	-5.35129	-1.00458	-0.30013	2.34162	-11.21951	-4.87024	5.45303	12.45310	190.63	-3.16
81/ 6/17	2444772.5	-5.34580	-1.03048	-0.31138	2.40927	-11.20664	-4.86637	5.45311	12.45291	190.91	-3.27
81/ 6/21	2444776.5	-5.34016	-1.05636	-0.32261	2.47684	-11.19344	-4.86236	5.45319	12.45273	191.19	-3.39
81/ 6/25	2444780.5	-5.33436	-1.08220	-0.33384	2.54434	-11.17992	-4.85820	5.45325	12.45256	191.47	-3.51
81/ 6/29	2444784.5	-5.32840	-1.10801	-0.34506	2.61176	-11.16607	-4.85391	5.45331	12.45242	191.75	-3.63
81/ 7/ 3	2444788.5	-5.32229	-1.13379	-0.35627	2.67910	-11.15189	-4.84947	5.45336	12.45229	192.03	-3.75
81/ 7/ 7	2444792.5	-5.31602	-1.15954	-0.36747	2.74636	-11.13738	-4.84489	5.45341	12.45218	192.30	-3.86
81/ 7/11	2444796.5	-5.30960	-1.18525	-0.37865	2.81354	-11.12255	-4.84017	5.45344	12.45208	192.58	-3.98
81/ 7/15	2444800.5	-5.30302	-1.21093	-0.38983	2.88063	-11.10740	-4.83531	5.45347	12.45201	192.86	-4.10
81/ 7/19	2444804.5	-5.29629	-1.23657	-0.40100	2.94764	-11.09191	-4.83030	5.45349	12.45195	193.14	-4.22
81/ 7/23	2444808.5	-5.28940	-1.26218	-0.41215	3.01456	-11.07611	-4.82516	5.45351	12.45190	193.42	-4.33
81/ 7/27	2444812.5	-5.28236	-1.28775	-0.42329	3.08140	-11.05998	-4.81987	5.45351	12.45188	193.70	-4.45
81/ 7/31	2444816.5	-5.27517	-1.31328	-0.43442	3.14814	-11.04353	-4.81444	5.45351	12.45188	193.98	-4.57
81/ 8/ 4	2444820.5	-5.26782	-1.33877	-0.44553	3.21479	-11.02676	-4.80888	5.45350	12.45189	194.26	-4.69
81/ 8/ 8	2444824.5	-5.26031	-1.36422	-0.45664	3.28135	-11.00966	-4.80317	5.45349	12.45192	194.54	-4.80
81/ 8/12	2444828.5	-5.25266	-1.38964	-0.46773	3.34782	-10.99224	-4.79732	5.45346	12.45196	194.82	-4.92
81/ 8/16	2444832.5	-5.24485	-1.41501	-0.47880	3.41418	-10.97449	-4.79133	5.45343	12.45203	195.10	-5.04
81/ 8/20	2444836.5	-5.23688	-1.44034	-0.48986	3.48045	-10.95643	-4.78520	5.45339	12.45211	195.38	-5.15
81/ 8/24	2444840.5	-5.22877	-1.46563	-0.50091	3.54662	-10.93804	-4.77893	5.45335	12.45220	195.66	-5.27
81/ 8/28	2444844.5	-5.22050	-1.49088	-0.51194	3.61268	-10.91933	-4.77251	5.45329	12.45231	195.94	-5.39
81/ 9/ 1	2444848.5	-5.21207	-1.51609	-0.52296	3.67864	-10.90030	-4.76596	5.45323	12.45244	196.22	-5.50
81/ 9/ 5	2444852.5	-5.20350	-1.54124	-0.53396	3.74449	-10.88095	-4.75927	5.45316	12.45259	196.50	-5.62
81/ 9/ 9	2444856.5	-5.19477	-1.56636	-0.54495	3.81023	-10.86129	-4.75244	5.45308	12.45276	196.78	-5.74
81/ 9/13	2444860.5	-5.18589	-1.59143	-0.55592	3.87587	-10.84130	-4.74547	5.45300	12.45294	197.06	-5.85
81/ 9/17	2444864.5	-5.17686	-1.61645	-0.56688	3.94139	-10.82100	-4.73836	5.45291	12.45314	197.34	-5.97
81/ 9/21	2444868.5	-5.16768	-1.64142	-0.57781	4.00680	-10.80038	-4.73111	5.45281	12.45336	197.62	-6.08
81/ 9/25	2444872.5	-5.15835	-1.66635	-0.58874	4.07209	-10.77945	-4.72373	5.45270	12.45359	197.90	-6.20
81/ 9/29	2444876.5	-5.14887	-1.69123	-0.59964	4.13727	-10.75820	-4.71620	5.45258	12.45385	198.18	-6.31
81/10/ 3	2444880.5	-5.13924	-1.71606	-0.61053	4.20233	-10.73663	-4.70854	5.45246	12.45412	198.46	-6.43
81/10/ 7	2444884.5	-5.12945	-1.74084	-0.62139	4.26727	-10.71475	-4.70074	5.45233	12.45441	198.75	-6.54
81/10/11	2444888.5	-5.11952	-1.76556	-0.63224	4.33209	-10.69256	-4.69280	5.45220	12.45472	199.03	-6.66

1.5 1 A.U.=149,599,000 KM.

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81/10/15	2444892.5	-5.10944	-1.79024	-0.64308	4.39679	-10.67005	-4.68472	5.45205	12.45505	199.31	-6.77
81/10/19	2444896.5	-5.09921	-1.81486	-0.65389	4.46136	-10.64723	-4.67651	5.45190	12.45540	199.59	-6.89
81/10/23	2444900.5	-5.08882	-1.83943	-0.66468	4.52581	-10.62410	-4.66816	5.45174	12.45577	199.87	-7.00
81/10/27	2444904.5	-5.07830	-1.86395	-0.67546	4.59013	-10.60066	-4.65968	5.45157	12.45616	200.16	-7.12
81/10/31	2444908.5	-5.06762	-1.88841	-0.68621	4.65432	-10.57691	-4.65106	5.45140	12.45657	200.44	-7.23
81/11/ 4	2444912.5	-5.05679	-1.91282	-0.69695	4.71839	-10.55285	-4.64230	5.45121	12.45700	200.72	-7.35
81/11/ 8	2444916.5	-5.04582	-1.93717	-0.70766	4.78233	-10.52848	-4.63341	5.45102	12.45744	201.00	-7.46
81/11/12	2444920.5	-5.03469	-1.96146	-0.71836	4.84613	-10.50379	-4.62438	5.45083	12.45791	201.29	-7.57
81/11/16	2444924.5	-5.02343	-1.98570	-0.72903	4.90980	-10.47880	-4.61521	5.45062	12.45839	201.57	-7.69
81/11/20	2444928.5	-5.01201	-2.00988	-0.73968	4.97334	-10.45350	-4.60591	5.45041	12.45889	201.85	-7.80
81/11/24	2444932.5	-5.00045	-2.03400	-0.75031	5.03673	-10.42789	-4.59647	5.45019	12.45941	202.13	-7.91
81/11/28	2444936.5	-4.98874	-2.05806	-0.76092	5.09999	-10.40197	-4.58690	5.44996	12.45995	202.42	-8.03
81/12/ 2	2444940.5	-4.97688	-2.08206	-0.77150	5.16311	-10.37574	-4.57719	5.44973	12.46051	202.70	-8.14
81/12/ 6	2444944.5	-4.96488	-2.10600	-0.78206	5.22608	-10.34921	-4.56734	5.44949	12.46109	202.99	-8.25
81/12/10	2444948.5	-4.95274	-2.12988	-0.79260	5.28891	-10.32237	-4.55737	5.44924	12.46169	203.27	-8.36
81/12/14	2444952.5	-4.94045	-2.15369	-0.80312	5.35160	-10.29523	-4.54725	5.44898	12.46230	203.55	-8.48
81/12/18	2444956.5	-4.92801	-2.17744	-0.81361	5.41414	-10.26778	-4.53701	5.44872	12.46293	203.84	-8.59
81/12/22	2444960.5	-4.91543	-2.20113	-0.82408	5.47653	-10.24003	-4.52662	5.44845	12.46358	204.12	-8.70
81/12/26	2444964.5	-4.90271	-2.22476	-0.83453	5.53877	-10.21197	-4.51611	5.44817	12.46425	204.41	-8.81
81/12/30	2444968.5	-4.88984	-2.24831	-0.84495	5.60086	-10.18361	-4.50546	5.44788	12.46494	204.69	-8.92
82/ 1/ 3	2444972.5	-4.87683	-2.27181	-0.85535	5.66280	-10.15495	-4.49468	5.44759	12.46565	204.98	-9.03
82/ 1/ 7	2444976.5	-4.86368	-2.29523	-0.86572	5.72458	-10.12599	-4.48376	5.44728	12.46638	205.26	-9.14
82/ 1/11	2444980.5	-4.85038	-2.31859	-0.87606	5.78621	-10.09672	-4.47271	5.44698	12.46712	205.55	-9.26
82/ 1/15	2444984.5	-4.83694	-2.34188	-0.88638	5.84768	-10.06715	-4.46153	5.44666	12.46788	205.83	-9.37
82/ 1/19	2444988.5	-4.82336	-2.36511	-0.89668	5.90899	-10.03729	-4.45021	5.44634	12.46867	206.12	-9.48
82/ 1/23	2444992.5	-4.80964	-2.38826	-0.90694	5.97014	-10.00712	-4.43877	5.44600	12.46947	206.41	-9.59
82/ 1/27	2444996.5	-4.79578	-2.41134	-0.91718	6.03113	-9.97665	-4.42719	5.44567	12.47029	206.69	-9.70
82/ 1/31	2445000.5	-4.78177	-2.43435	-0.92740	6.09195	-9.94588	-4.41547	5.44532	12.47112	206.98	-9.81
82/ 2/ 4	2445004.5	-4.76763	-2.45730	-0.93758	6.15261	-9.91482	-4.40363	5.44497	12.47198	207.27	-9.92
82/ 2/ 8	2445008.5	-4.75335	-2.48016	-0.94774	6.21311	-9.88345	-4.39165	5.44461	12.47285	207.55	-10.02
82/ 2/12	2445012.5	-4.73892	-2.50296	-0.95788	6.27343	-9.85179	-4.37954	5.44424	12.47374	207.84	-10.13
82/ 2/16	2445016.5	-4.72436	-2.52568	-0.96798	6.33359	-9.81983	-4.36730	5.44386	12.47464	208.13	-10.24
82/ 2/20	2445020.5	-4.70966	-2.54833	-0.97805	6.39357	-9.78757	-4.35493	5.44348	12.47556	208.42	-10.35
82/ 2/24	2445024.5	-4.69482	-2.57090	-0.98810	6.45337	-9.75501	-4.34242	5.44309	12.47649	208.71	-10.46
82/ 2/28	2445028.5	-4.67984	-2.59340	-0.99812	6.51300	-9.72216	-4.32979	5.44269	12.47745	208.99	-10.57
82/ 3/ 4	2445032.5	-4.66473	-2.61582	-1.00811	6.57245	-9.68902	-4.31702	5.44229	12.47841	209.28	-10.67
82/ 3/ 8	2445036.5	-4.64948	-2.63817	-1.01806	6.63172	-9.65558	-4.30413	5.44188	12.47940	209.57	-10.78
82/ 3/12	2445040.5	-4.63409	-2.66044	-1.02799	6.69081	-9.62185	-4.29110	5.44146	12.48040	209.86	-10.89
82/ 3/16	2445044.5	-4.61856	-2.68262	-1.03789	6.74971	-9.58782	-4.27794	5.44103	12.48141	210.15	-11.00
82/ 3/20	2445048.5	-4.60290	-2.70473	-1.04776	6.80843	-9.55351	-4.26466	5.44060	12.48245	210.44	-11.10
82/ 3/24	2445052.5	-4.58711	-2.72676	-1.05759	6.86696	-9.51890	-4.25124	5.44016	12.48350	210.73	-11.21
82/ 3/28	2445056.5	-4.57118	-2.74872	-1.06740	6.92531	-9.48400	-4.23769	5.43971	12.48456	211.02	-11.32
82/ 4/ 1	2445060.5	-4.55511	-2.77058	-1.07717	6.98346	-9.44882	-4.22402	5.43925	12.48564	211.31	-11.42
82/ 4/ 5	2445064.5	-4.53891	-2.79237	-1.08692	7.04142	-9.41335	-4.21022	5.43879	12.48674	211.60	-11.53
82/ 4/ 9	2445068.5	-4.52258	-2.81408	-1.09663	7.09919	-9.37759	-4.19629	5.43832	12.48785	211.89	-11.63

1.5 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
82/ 4/13	2445072.5	-4.50611	-2.83570	-1.10630	7.15676	-9.34154	-4.18223	5.43784	12.48898	212.18	-11.74
82/ 4/17	2445076.5	-4.48951	-2.85724	-1.11595	7.21413	-9.30521	-4.16805	5.43736	12.49013	212.47	-11.84
82/ 4/21	2445080.5	-4.47278	-2.87869	-1.12556	7.27131	-9.26860	-4.15374	5.43686	12.49129	212.77	-11.95
82/ 4/25	2445084.5	-4.45591	-2.90006	-1.13514	7.32829	-9.23170	-4.13930	5.43637	12.49248	213.06	-12.05
82/ 4/29	2445088.5	-4.43892	-2.92135	-1.14469	7.38507	-9.19452	-4.12474	5.43586	12.49368	213.35	-12.16
82/ 5/ 3	2445092.5	-4.42179	-2.94254	-1.15420	7.44164	-9.15706	-4.11005	5.43535	12.49489	213.64	-12.26
82/ 5/ 7	2445096.5	-4.40454	-2.96365	-1.16368	7.49802	-9.11932	-4.09524	5.43483	12.49612	213.94	-12.36
82/ 5/11	2445100.5	-4.38715	-2.98468	-1.17312	7.55418	-9.08129	-4.08030	5.43430	12.49737	214.23	-12.47
82/ 5/15	2445104.5	-4.36963	-3.00561	-1.18253	7.61014	-9.04299	-4.06523	5.43376	12.49864	214.52	-12.57
82/ 5/19	2445108.5	-4.35199	-3.02646	-1.19190	7.66589	-9.00440	-4.05004	5.43322	12.49992	214.82	-12.67
82/ 5/23	2445112.5	-4.33421	-3.04722	-1.20124	7.72142	-8.96554	-4.03473	5.43267	12.50121	215.11	-12.77
82/ 5/27	2445116.5	-4.31631	-3.06788	-1.21054	7.77675	-8.92640	-4.01929	5.43212	12.50253	215.40	-12.88
82/ 5/31	2445120.5	-4.29828	-3.08846	-1.21981	7.83186	-8.88699	-4.00373	5.43155	12.50385	215.70	-12.98
82/ 6/ 4	2445124.5	-4.28013	-3.10894	-1.22904	7.88675	-8.84730	-3.98804	5.43098	12.50520	215.99	-13.08
82/ 6/ 8	2445128.5	-4.26184	-3.12934	-1.23824	7.94143	-8.80734	-3.97223	5.43040	12.50656	216.29	-13.18
82/ 6/12	2445132.5	-4.24343	-3.14964	-1.24740	7.99589	-8.76710	-3.95630	5.42982	12.50795	216.58	-13.28
82/ 6/16	2445136.5	-4.22490	-3.16984	-1.25652	8.05013	-8.72660	-3.94025	5.42923	12.50934	216.88	-13.38
82/ 6/20	2445140.5	-4.20624	-3.18996	-1.26560	8.10415	-8.68582	-3.92408	5.42863	12.51076	217.18	-13.48
82/ 6/24	2445144.5	-4.18746	-3.20997	-1.27465	8.15794	-8.64477	-3.90778	5.42802	12.51219	217.47	-13.58
82/ 6/28	2445148.5	-4.16855	-3.22990	-1.28366	8.21151	-8.60346	-3.89137	5.42741	12.51364	217.77	-13.68
82/ 7/ 2	2445152.5	-4.14952	-3.24973	-1.29263	8.26486	-8.56187	-3.87483	5.42679	12.51511	218.07	-13.78
82/ 7/ 6	2445156.5	-4.13036	-3.26946	-1.30156	8.31798	-8.52002	-3.85817	5.42617	12.51659	218.36	-13.88
82/ 7/10	2445160.5	-4.11108	-3.28909	-1.31045	8.37087	-8.47791	-3.84140	5.42553	12.51809	218.66	-13.98
82/ 7/14	2445164.5	-4.09169	-3.30863	-1.31931	8.42353	-8.43553	-3.82451	5.42489	12.51961	218.96	-14.08
82/ 7/18	2445168.5	-4.07216	-3.32807	-1.32812	8.47596	-8.39288	-3.80749	5.42425	12.52115	219.26	-14.17
82/ 7/22	2445172.5	-4.05252	-3.34741	-1.33690	8.52816	-8.34997	-3.79036	5.42359	12.52271	219.56	-14.27
82/ 7/26	2445176.5	-4.03276	-3.36665	-1.34564	8.58012	-8.30680	-3.77311	5.42293	12.52429	219.86	-14.37
82/ 7/30	2445180.5	-4.01288	-3.38579	-1.35433	8.63186	-8.26337	-3.75574	5.42227	12.52589	220.16	-14.46
82/ 8/ 3	2445184.5	-3.99288	-3.40482	-1.36299	8.68335	-8.21967	-3.73826	5.42159	12.52750	220.46	-14.56
82/ 8/ 7	2445188.5	-3.97276	-3.42376	-1.37161	8.73461	-8.17572	-3.72065	5.42091	12.52913	220.76	-14.66
82/ 8/11	2445192.5	-3.95252	-3.44260	-1.38018	8.78563	-8.13150	-3.70293	5.42022	12.53077	221.06	-14.75
82/ 8/15	2445196.5	-3.93217	-3.46133	-1.38871	8.83641	-8.08702	-3.68509	5.41953	12.53243	221.36	-14.85
82/ 8/19	2445200.5	-3.91170	-3.47996	-1.39721	8.88694	-8.04229	-3.66714	5.41883	12.53411	221.66	-14.94
82/ 8/23	2445204.5	-3.89111	-3.49849	-1.40566	8.93723	-7.99730	-3.64907	5.41812	12.53581	221.96	-15.04
82/ 8/27	2445208.5	-3.87040	-3.51691	-1.41407	8.98727	-7.95205	-3.63088	5.41741	12.53752	222.26	-15.13
82/ 8/31	2445212.5	-3.84958	-3.53523	-1.42243	9.03707	-7.90655	-3.61258	5.41668	12.53925	222.56	-15.22
82/ 9/ 4	2445216.5	-3.82865	-3.55345	-1.43076	9.08662	-7.86079	-3.59416	5.41596	12.54100	222.87	-15.32
82/ 9/ 8	2445220.5	-3.80760	-3.57155	-1.43904	9.13591	-7.81478	-3.57563	5.41522	12.54276	223.17	-15.41
82/ 9/12	2445224.5	-3.78644	-3.58955	-1.44728	9.18496	-7.76852	-3.55698	5.41448	12.54454	223.47	-15.50
82/ 9/16	2445228.5	-3.76516	-3.60744	-1.45547	9.23375	-7.72200	-3.53822	5.41373	12.54633	223.77	-15.60
82/ 9/20	2445232.5	-3.74377	-3.62523	-1.46363	9.28228	-7.67524	-3.51934	5.41298	12.54814	224.08	-15.69
82/ 9/24	2445236.5	-3.72228	-3.64291	-1.47173	9.33056	-7.62823	-3.50035	5.41222	12.54997	224.38	-15.78
82/ 9/28	2445240.5	-3.70066	-3.66047	-1.47980	9.37858	-7.58097	-3.48125	5.41145	12.55181	224.69	-15.87
82/10/ 2	2445244.5	-3.67894	-3.67793	-1.48782	9.42634	-7.53346	-3.46204	5.41068	12.55367	224.99	-15.96
82/10/ 6	2445248.5	-3.65711	-3.69528	-1.49579	9.47384	-7.48570	-3.44272	5.40990	12.55554	225.30	-16.05

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82/10/10	2445252.5	-3.63517	-3.71252	-1.50373	9.52108	-7.43770	-3.42328	5.40911	12.55744	225.60	-16.14
82/10/14	2445256.5	-3.61312	-3.72965	-1.51161	9.56805	-7.38946	-3.40373	5.40832	12.55935	225.91	-16.23
82/10/18	2445260.5	-3.59096	-3.74666	-1.51945	9.61476	-7.34098	-3.38408	5.40752	12.56127	226.22	-16.32
82/10/22	2445264.5	-3.56870	-3.76356	-1.52725	9.66120	-7.29225	-3.36431	5.40671	12.56321	226.52	-16.41
82/10/26	2445268.5	-3.54633	-3.78035	-1.53500	9.70738	-7.24328	-3.34443	5.40590	12.56517	226.83	-16.50
82/10/30	2445272.5	-3.52385	-3.79703	-1.54270	9.75328	-7.19407	-3.32444	5.40508	12.56714	227.14	-16.58
82/11/ 3	2445276.5	-3.50126	-3.81359	-1.55036	9.79892	-7.14462	-3.30434	5.40425	12.56913	227.44	-16.67
82/11/ 7	2445280.5	-3.47857	-3.83004	-1.55797	9.84427	-7.09493	-3.28414	5.40342	12.57113	227.75	-16.76
82/11/11	2445284.5	-3.45578	-3.84637	-1.56553	9.88936	-7.04500	-3.26382	5.40258	12.57315	228.06	-16.84
82/11/15	2445288.5	-3.43288	-3.86259	-1.57305	9.93416	-6.99484	-3.24340	5.40174	12.57518	228.37	-16.93
82/11/19	2445292.5	-3.40988	-3.87869	-1.58052	9.97869	-6.94445	-3.22287	5.40088	12.57722	228.68	-17.02
82/11/23	2445296.5	-3.38678	-3.89468	-1.58794	10.02294	-6.89382	-3.20223	5.40003	12.57928	228.99	-17.10
82/11/27	2445300.5	-3.36357	-3.91054	-1.59531	10.06691	-6.84296	-3.18148	5.39916	12.58135	229.30	-17.19
82/12/ 1	2445304.5	-3.34026	-3.92629	-1.60264	10.11059	-6.79186	-3.16063	5.39829	12.58344	229.61	-17.27
82/12/ 5	2445308.5	-3.31686	-3.94192	-1.60991	10.15399	-6.74054	-3.13968	5.39742	12.58555	229.92	-17.35
82/12/ 9	2445312.5	-3.29335	-3.95744	-1.61714	10.19710	-6.68899	-3.11862	5.39654	12.58767	230.23	-17.44
82/12/13	2445316.5	-3.26974	-3.97283	-1.62432	10.23993	-6.63722	-3.09745	5.39565	12.58980	230.54	-17.52
82/12/17	2445320.5	-3.24604	-3.98810	-1.63145	10.28247	-6.58522	-3.07619	5.39475	12.59195	230.86	-17.60
82/12/21	2445324.5	-3.22223	-4.00326	-1.63854	10.32471	-6.53299	-3.05481	5.39385	12.59411	231.17	-17.68
82/12/25	2445328.5	-3.19833	-4.01829	-1.64557	10.36667	-6.48054	-3.03334	5.39295	12.59629	231.48	-17.77
82/12/29	2445332.5	-3.17434	-4.03320	-1.65255	10.40833	-6.42787	-3.01176	5.39203	12.59848	231.80	-17.85
83/ 1/ 2	2445336.5	-3.15024	-4.04799	-1.65948	10.44970	-6.37499	-2.99008	5.39111	12.60069	232.11	-17.93
83/ 1/ 6	2445340.5	-3.12605	-4.06265	-1.66637	10.49078	-6.32188	-2.96831	5.39019	12.60291	232.42	-18.01
83/ 1/10	2445344.5	-3.10177	-4.07720	-1.67320	10.53156	-6.26855	-2.94643	5.38926	12.60515	232.74	-18.09
83/ 1/14	2445348.5	-3.07740	-4.09162	-1.67998	10.57204	-6.21501	-2.92445	5.38832	12.60741	233.05	-18.17
83/ 1/18	2445352.5	-3.05293	-4.10591	-1.68671	10.61222	-6.16126	-2.90237	5.38738	12.60968	233.37	-18.25
83/ 1/22	2445356.5	-3.02836	-4.12008	-1.69339	10.65211	-6.10728	-2.88019	5.38643	12.61197	233.68	-18.32
83/ 1/26	2445360.5	-3.00371	-4.13413	-1.70002	10.69169	-6.05310	-2.85791	5.38548	12.61427	234.00	-18.40
83/ 1/30	2445364.5	-2.97896	-4.14805	-1.70659	10.73097	-5.99870	-2.83554	5.38452	12.61659	234.32	-18.48
83/ 2/ 3	2445368.5	-2.95413	-4.16184	-1.71312	10.76995	-5.94409	-2.81306	5.38355	12.61893	234.63	-18.55
83/ 2/ 7	2445372.5	-2.92920	-4.17551	-1.71959	10.80862	-5.88927	-2.79049	5.38258	12.62127	234.95	-18.63
83/ 2/11	2445376.5	-2.90419	-4.18906	-1.72601	10.84698	-5.83424	-2.76782	5.38160	12.62364	235.27	-18.71
83/ 2/15	2445380.5	-2.87909	-4.20247	-1.73238	10.88504	-5.77900	-2.74505	5.38062	12.62601	235.59	-18.78
83/ 2/19	2445384.5	-2.85390	-4.21576	-1.73869	10.92278	-5.72356	-2.72219	5.37963	12.62840	235.90	-18.86
83/ 2/23	2445388.5	-2.82862	-4.22891	-1.74496	10.96021	-5.66791	-2.69924	5.37863	12.63081	236.22	-18.93
83/ 2/27	2445392.5	-2.80326	-4.24194	-1.75117	10.99734	-5.61206	-2.67618	5.37763	12.63323	236.54	-19.00
83/ 3/ 3	2445396.5	-2.77781	-4.25484	-1.75732	11.03414	-5.55601	-2.65304	5.37662	12.63567	236.86	-19.08
83/ 3/ 7	2445400.5	-2.75228	-4.26761	-1.76342	11.07063	-5.49976	-2.62980	5.37561	12.63812	237.18	-19.15
83/ 3/11	2445404.5	-2.72666	-4.28025	-1.76947	11.10681	-5.44331	-2.60646	5.37460	12.64059	237.50	-19.22
83/ 3/15	2445408.5	-2.70096	-4.29276	-1.77547	11.14267	-5.38666	-2.58304	5.37357	12.64307	237.82	-19.29
83/ 3/19	2445412.5	-2.67518	-4.30514	-1.78141	11.17821	-5.32981	-2.55952	5.37254	12.64557	238.14	-19.36
83/ 3/23	2445416.5	-2.64931	-4.31739	-1.78729	11.21342	-5.27277	-2.53591	5.37151	12.64808	238.47	-19.43
83/ 3/27	2445420.5	-2.62337	-4.32950	-1.79312	11.24832	-5.21553	-2.51221	5.37047	12.65060	238.79	-19.50
83/ 3/31	2445424.5	-2.59734	-4.34149	-1.79890	11.28289	-5.15810	-2.48842	5.36942	12.65314	239.11	-19.57
83/ 4/ 4	2445428.5	-2.57124	-4.35334	-1.80462	11.31714	-5.10048	-2.46454	5.36837	12.65570	239.43	-19.64

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83/ 4/ 8	2445432.5	-2.54505	-4.36505	-1.81029	11.35107	-5.04267	-2.44057	5.36732	12.65827	239.76	-19.71
83/ 4/12	2445436.5	-2.51879	-4.37664	-1.81590	11.38467	-4.98468	-2.41651	5.36626	12.66085	240.08	-19.78
83/ 4/16	2445440.5	-2.49245	-4.38808	-1.82145	11.41794	-4.92649	-2.39236	5.36519	12.66345	240.40	-19.85
83/ 4/20	2445444.5	-2.46604	-4.39940	-1.82695	11.45088	-4.86811	-2.36813	5.36412	12.66607	240.73	-19.91
83/ 4/24	2445448.5	-2.43954	-4.41058	-1.83239	11.48350	-4.80955	-2.34380	5.36304	12.66870	241.05	-19.98
83/ 4/28	2445452.5	-2.41298	-4.42162	-1.83778	11.51578	-4.75080	-2.31939	5.36196	12.67134	241.38	-20.04
83/ 5/ 2	2445456.5	-2.38634	-4.43253	-1.84311	11.54772	-4.69187	-2.29489	5.36087	12.67399	241.70	-20.11
83/ 5/ 6	2445460.5	-2.35962	-4.44330	-1.84838	11.57933	-4.63276	-2.27031	5.35978	12.67666	242.03	-20.17
83/ 5/10	2445464.5	-2.33284	-4.45393	-1.85360	11.61060	-4.57347	-2.24564	5.35868	12.67934	242.36	-20.24
83/ 5/14	2445468.5	-2.30598	-4.46443	-1.85876	11.64154	-4.51400	-2.22088	5.35758	12.68203	242.68	-20.30
83/ 5/18	2445472.5	-2.27905	-4.47479	-1.86386	11.67213	-4.45435	-2.19604	5.35647	12.68474	243.01	-20.36
83/ 5/22	2445476.5	-2.25205	-4.48501	-1.86890	11.70239	-4.39453	-2.17112	5.35536	12.68745	243.34	-20.42
83/ 5/26	2445480.5	-2.22498	-4.49509	-1.87389	11.73230	-4.33453	-2.14611	5.35424	12.69018	243.67	-20.49
83/ 5/30	2445484.5	-2.19784	-4.50504	-1.87882	11.76186	-4.27436	-2.12102	5.35311	12.69292	243.99	-20.55
83/ 6/ 3	2445488.5	-2.17064	-4.51484	-1.88369	11.79108	-4.21401	-2.09585	5.35198	12.69567	244.32	-20.61
83/ 6/ 7	2445492.5	-2.14336	-4.52451	-1.88850	11.81995	-4.15350	-2.07060	5.35085	12.69844	244.65	-20.67
83/ 6/11	2445496.5	-2.11602	-4.53403	-1.89326	11.84848	-4.09282	-2.04526	5.34971	12.70121	244.98	-20.73
83/ 6/15	2445500.5	-2.08862	-4.54342	-1.89795	11.87665	-4.03198	-2.01985	5.34857	12.70400	245.31	-20.78
83/ 6/19	2445504.5	-2.06115	-4.55266	-1.90259	11.90448	-3.97096	-1.99436	5.34742	12.70679	245.64	-20.84
83/ 6/23	2445508.5	-2.03362	-4.56176	-1.90717	11.93195	-3.90979	-1.96879	5.34627	12.70960	245.97	-20.90
83/ 6/27	2445512.5	-2.00602	-4.57072	-1.91169	11.95906	-3.84846	-1.94314	5.34511	12.71242	246.30	-20.96
83/ 7/ 1	2445516.5	-1.97836	-4.57954	-1.91615	11.98583	-3.78697	-1.91741	5.34395	12.71525	246.64	-21.01
83/ 7/ 5	2445520.5	-1.95064	-4.58822	-1.92055	12.01223	-3.72532	-1.89161	5.34278	12.71809	246.97	-21.07
83/ 7/ 9	2445524.5	-1.92286	-4.59676	-1.92489	12.03828	-3.66351	-1.86574	5.34161	12.72095	247.30	-21.12
83/ 7/13	2445528.5	-1.89502	-4.60515	-1.92917	12.06398	-3.60155	-1.83978	5.34043	12.72382	247.63	-21.18
83/ 7/17	2445532.5	-1.86712	-4.61340	-1.93339	12.08931	-3.53943	-1.81376	5.33925	12.72670	247.97	-21.23
83/ 7/21	2445536.5	-1.83916	-4.62150	-1.93755	12.11429	-3.47716	-1.78766	5.33806	12.72959	248.30	-21.28
83/ 7/25	2445540.5	-1.81115	-4.62946	-1.94165	12.13890	-3.41475	-1.76148	5.33687	12.73249	248.63	-21.33
83/ 7/29	2445544.5	-1.78308	-4.63728	-1.94568	12.16315	-3.35218	-1.73523	5.33567	12.73540	248.97	-21.39
83/ 8/ 2	2445548.5	-1.75495	-4.64495	-1.94966	12.18703	-3.28947	-1.70891	5.33447	12.73832	249.30	-21.44
83/ 8/ 6	2445552.5	-1.72677	-4.65248	-1.95358	12.21055	-3.22661	-1.68252	5.33327	12.74125	249.64	-21.49
83/ 8/10	2445556.5	-1.69854	-4.65986	-1.95744	12.23370	-3.16361	-1.65606	5.33206	12.74419	249.97	-21.54
83/ 8/14	2445560.5	-1.67025	-4.66709	-1.96123	12.25648	-3.10047	-1.62953	5.33085	12.74714	250.31	-21.59
83/ 8/18	2445564.5	-1.64191	-4.67418	-1.96497	12.27890	-3.03718	-1.60294	5.32963	12.75011	250.65	-21.63
83/ 8/22	2445568.5	-1.61351	-4.68113	-1.96864	12.30094	-2.97377	-1.57627	5.32841	12.75308	250.98	-21.68
83/ 8/26	2445572.5	-1.58507	-4.68792	-1.97225	12.32261	-2.91021	-1.54953	5.32718	12.75606	251.32	-21.73
83/ 8/30	2445576.5	-1.55658	-4.69457	-1.97580	12.34391	-2.84652	-1.52273	5.32595	12.75906	251.66	-21.78
83/ 9/ 3	2445580.5	-1.52804	-4.70107	-1.97928	12.36484	-2.78270	-1.49587	5.32471	12.76206	251.99	-21.82
83/ 9/ 7	2445584.5	-1.49945	-4.70743	-1.98271	12.38539	-2.71875	-1.46893	5.32347	12.76508	252.33	-21.87
83/ 9/11	2445588.5	-1.47081	-4.71364	-1.98607	12.40557	-2.65467	-1.44194	5.32223	12.76811	252.67	-21.91
83/ 9/15	2445592.5	-1.44213	-4.71969	-1.98937	12.42537	-2.59046	-1.41488	5.32098	12.77114	253.01	-21.95
83/ 9/19	2445596.5	-1.41341	-4.72560	-1.99261	12.44479	-2.52613	-1.38776	5.31973	12.77419	253.35	-22.00
83/ 9/23	2445600.5	-1.38463	-4.73137	-1.99578	12.46383	-2.46168	-1.36057	5.31848	12.77725	253.69	-22.04
83/ 9/27	2445604.5	-1.35582	-4.73698	-1.99889	12.48250	-2.39710	-1.33333	5.31722	12.78032	254.03	-22.08
83/10/ 1	2445608.5	-1.32696	-4.74244	-2.00194	12.50078	-2.33241	-1.30602	5.31595	12.78340	254.37	-22.12

1.5 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
83/10/ 5	2445612.5	-1.29806	-4.74775	-2.00493	12.51869	-2.26759	-1.27865	5.31468	12.78650	254.71	-22.16
83/10/ 9	2445616.5	-1.26912	-4.75292	-2.00785	12.53622	-2.20266	-1.25123	5.31341	12.78961	255.05	-22.20
83/10/13	2445620.5	-1.24014	-4.75793	-2.01071	12.55336	-2.13761	-1.22375	5.31214	12.79273	255.39	-22.24
83/10/17	2445624.5	-1.21112	-4.76279	-2.01350	12.57012	-2.07245	-1.19620	5.31086	12.79586	255.73	-22.28
83/10/21	2445628.5	-1.18206	-4.76751	-2.01624	12.58650	-2.00718	-1.16860	5.30958	12.79900	256.07	-22.32
83/10/25	2445632.5	-1.15297	-4.77207	-2.01890	12.60249	-1.94180	-1.14095	5.30829	12.80215	256.42	-22.35
83/10/29	2445636.5	-1.12383	-4.77648	-2.02151	12.61810	-1.87630	-1.11323	5.30700	12.80532	256.76	-22.39
83/11/ 2	2445640.5	-1.09467	-4.78074	-2.02405	12.63331	-1.81070	-1.08546	5.30571	12.80849	257.10	-22.43
83/11/ 6	2445644.5	-1.06546	-4.78484	-2.02652	12.64814	-1.74500	-1.05764	5.30441	12.81168	257.45	-22.46
83/11/10	2445648.5	-1.03623	-4.78880	-2.02893	12.66258	-1.67919	-1.02976	5.30311	12.81487	257.79	-22.49
83/11/14	2445652.5	-1.00696	-4.79260	-2.03128	12.67663	-1.61328	-1.00183	5.30180	12.81808	258.13	-22.53
83/11/18	2445656.5	-0.97766	-4.79625	-2.03356	12.69028	-1.54727	-0.97385	5.30049	12.82130	258.48	-22.56
83/11/22	2445660.5	-0.94833	-4.79975	-2.03578	12.70354	-1.48116	-0.94581	5.29918	12.82452	258.82	-22.59
83/11/26	2445664.5	-0.91896	-4.80310	-2.03793	12.71641	-1.41495	-0.91773	5.29787	12.82776	259.17	-22.62
83/11/30	2445668.5	-0.88957	-4.80629	-2.04002	12.72889	-1.34865	-0.88959	5.29655	12.83101	259.51	-22.65
83/12/ 4	2445672.5	-0.86015	-4.80933	-2.04204	12.74097	-1.28226	-0.86141	5.29523	12.83427	259.86	-22.68
83/12/ 8	2445676.5	-0.83070	-4.81221	-2.04400	12.75265	-1.21577	-0.83317	5.29390	12.83754	260.21	-22.71
83/12/12	2445680.5	-0.80123	-4.81495	-2.04589	12.76393	-1.14920	-0.80489	5.29257	12.84081	260.55	-22.74
83/12/16	2445684.5	-0.77173	-4.81752	-2.04772	12.77482	-1.08254	-0.77656	5.29124	12.84410	260.90	-22.77
83/12/20	2445688.5	-0.74221	-4.81995	-2.04948	12.78530	-1.01579	-0.74818	5.28991	12.84739	261.25	-22.79
83/12/24	2445692.5	-0.71266	-4.82222	-2.05118	12.79539	-0.94896	-0.71976	5.28857	12.85070	261.59	-22.82
83/12/28	2445696.5	-0.68309	-4.82433	-2.05281	12.80507	-0.88205	-0.69130	5.28723	12.85402	261.94	-22.85
84/ 1/ 1	2445700.5	-0.65349	-4.82629	-2.05437	12.81435	-0.81506	-0.66279	5.28589	12.85734	262.29	-22.87
84/ 1/ 5	2445704.5	-0.62388	-4.82810	-2.05587	12.82323	-0.74799	-0.63423	5.28454	12.86068	262.64	-22.89
84/ 1/ 9	2445708.5	-0.59425	-4.82975	-2.05730	12.83171	-0.68085	-0.60564	5.28319	12.86402	262.99	-22.92
84/ 1/13	2445712.5	-0.56459	-4.83124	-2.05867	12.83978	-0.61363	-0.57700	5.28184	12.86738	263.33	-22.94
84/ 1/17	2445716.5	-0.53492	-4.83258	-2.05997	12.84744	-0.54633	-0.54832	5.28048	12.87074	263.68	-22.96
84/ 1/21	2445720.5	-0.50523	-4.83377	-2.06120	12.85470	-0.47896	-0.51960	5.27912	12.87411	264.03	-22.98
84/ 1/25	2445724.5	-0.47553	-4.83480	-2.06237	12.86155	-0.41153	-0.49084	5.27776	12.87749	264.38	-23.00
84/ 1/29	2445728.5	-0.44581	-4.83567	-2.06347	12.86798	-0.34403	-0.46204	5.27639	12.88087	264.73	-23.02
84/ 2/ 2	2445732.5	-0.41608	-4.83639	-2.06450	12.87401	-0.27646	-0.43320	5.27503	12.88426	265.08	-23.04
84/ 2/ 6	2445736.5	-0.38633	-4.83695	-2.06547	12.87962	-0.20883	-0.40433	5.27366	12.88766	265.43	-23.06
84/ 2/10	2445740.5	-0.35657	-4.83735	-2.06637	12.88482	-0.14114	-0.37542	5.27228	12.89107	265.78	-23.07
84/ 2/14	2445744.5	-0.32680	-4.83760	-2.06720	12.88961	-0.07339	-0.34647	5.27091	12.89448	266.14	-23.09
84/ 2/18	2445748.5	-0.29701	-4.83769	-2.06797	12.89399	-0.00559	-0.31749	5.26953	12.89789	266.49	-23.11
84/ 2/22	2445752.5	-0.26722	-4.83762	-2.06867	12.89794	0.06227	-0.28848	5.26815	12.90132	266.84	-23.12
84/ 2/26	2445756.5	-0.23742	-4.83740	-2.06930	12.90148	0.13018	-0.25943	5.26677	12.90475	267.19	-23.13
84/ 3/ 1	2445760.5	-0.20761	-4.83702	-2.06987	12.90461	0.19814	-0.23036	5.26538	12.90818	267.54	-23.15
84/ 3/ 5	2445764.5	-0.17780	-4.83649	-2.07037	12.90731	0.26615	-0.20125	5.26399	12.91163	267.89	-23.16
84/ 3/ 9	2445768.5	-0.14798	-4.83579	-2.07080	12.90960	0.33420	-0.17211	5.26260	12.91507	268.25	-23.17
84/ 3/13	2445772.5	-0.11815	-4.83494	-2.07116	12.91147	0.40229	-0.14295	5.26121	12.91853	268.60	-23.18
84/ 3/17	2445776.5	-0.08832	-4.83393	-2.07146	12.91292	0.47043	-0.11375	5.25982	12.92198	268.95	-23.19
84/ 3/21	2445780.5	-0.05849	-4.83277	-2.07169	12.91395	0.53860	-0.08453	5.25842	12.92545	269.31	-23.20
84/ 3/25	2445784.5	-0.02865	-4.83145	-2.07185	12.91455	0.60681	-0.05529	5.25702	12.92892	269.66	-23.21
84/ 3/29	2445788.5	0.00118	-4.82996	-2.07194	12.91474	0.67505	-0.02602	5.25562	12.93240	270.01	-23.22

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84/ 4/ 2	2445792.5	0.03102	-4.82833	-2.07197	12.91451	0.74333	0.00328	5.25421	12.93588	270.37	-23.23
84/ 4/ 6	2445796.5	0.06085	-4.82653	-2.07193	12.91385	0.81163	0.03259	5.25281	12.93937	270.72	-23.23
84/ 4/10	2445800.5	0.09068	-4.82458	-2.07182	12.91277	0.87997	0.06193	5.25140	12.94287	271.08	-23.24
84/ 4/14	2445804.5	0.12051	-4.82246	-2.07164	12.91127	0.94833	0.09130	5.24999	12.94637	271.43	-23.24
84/ 4/18	2445808.5	0.15034	-4.82019	-2.07140	12.90934	1.01671	0.12068	5.24858	12.94988	271.79	-23.24
84/ 4/22	2445812.5	0.18016	-4.81777	-2.07109	12.90699	1.08512	0.15008	5.24716	12.95339	272.14	-23.25
84/ 4/26	2445816.5	0.20997	-4.81518	-2.07070	12.90421	1.15355	0.17950	5.24575	12.95691	272.50	-23.25
84/ 4/30	2445820.5	0.23978	-4.81244	-2.07026	12.90101	1.22199	0.20894	5.24433	12.96043	272.85	-23.25
84/ 5/ 4	2445824.5	0.26958	-4.80954	-2.06974	12.89737	1.29045	0.23840	5.24291	12.96396	273.21	-23.25
84/ 5/ 8	2445828.5	0.29937	-4.80647	-2.06915	12.89331	1.35892	0.26787	5.24149	12.96749	273.56	-23.25
84/ 5/12	2445832.5	0.32915	-4.80326	-2.06850	12.88882	1.42740	0.29736	5.24007	12.97103	273.92	-23.25
84/ 5/16	2445836.5	0.35892	-4.79988	-2.06778	12.88391	1.49589	0.32686	5.23864	12.97457	274.28	-23.25
84/ 5/20	2445840.5	0.38868	-4.79634	-2.06699	12.87856	1.56439	0.35637	5.23722	12.97812	274.63	-23.25
84/ 5/24	2445844.5	0.41842	-4.79265	-2.06613	12.87279	1.63289	0.38590	5.23579	12.98167	274.99	-23.24
84/ 5/28	2445848.5	0.44815	-4.78880	-2.06521	12.86658	1.70139	0.41544	5.23436	12.98523	275.35	-23.24
84/ 6/ 1	2445852.5	0.47787	-4.78479	-2.06421	12.85994	1.76989	0.44498	5.23293	12.98879	275.70	-23.23
84/ 6/ 5	2445856.5	0.50757	-4.78062	-2.06315	12.85288	1.83839	0.47454	5.23150	12.99236	276.06	-23.23
84/ 6/ 9	2445860.5	0.53725	-4.77630	-2.06202	12.84538	1.90688	0.50411	5.23007	12.99593	276.42	-23.22
84/ 6/13	2445864.5	0.56692	-4.77181	-2.06082	12.83745	1.97536	0.53368	5.22863	12.99950	276.78	-23.21
84/ 6/17	2445868.5	0.59657	-4.76717	-2.05956	12.82909	2.04384	0.56325	5.22720	13.00308	277.13	-23.20
84/ 6/21	2445872.5	0.62620	-4.76237	-2.05822	12.82030	2.11230	0.59284	5.22576	13.00667	277.49	-23.19
84/ 6/25	2445876.5	0.65580	-4.75741	-2.05682	12.81108	2.18074	0.62242	5.22432	13.01026	277.85	-23.18
84/ 6/29	2445880.5	0.68539	-4.75229	-2.05534	12.80142	2.24918	0.65201	5.22288	13.01385	278.21	-23.17
84/ 7/ 3	2445884.5	0.71495	-4.74702	-2.05380	12.79134	2.31759	0.68161	5.22144	13.01746	278.56	-23.16
84/ 7/ 7	2445888.5	0.74449	-4.74159	-2.05220	12.78082	2.38599	0.71120	5.22000	13.02106	278.92	-23.15
84/ 7/11	2445892.5	0.77400	-4.73599	-2.05052	12.76986	2.45436	0.74080	5.21856	13.02467	279.28	-23.14
84/ 7/15	2445896.5	0.80349	-4.73025	-2.04877	12.75848	2.52271	0.77040	5.21711	13.02829	279.64	-23.12
84/ 7/19	2445900.5	0.83295	-4.72434	-2.04696	12.74665	2.59103	0.80000	5.21567	13.03191	280.00	-23.11
84/ 7/23	2445904.5	0.86238	-4.71827	-2.04508	12.73439	2.65933	0.82959	5.21423	13.03553	280.36	-23.09
84/ 7/27	2445908.5	0.89179	-4.71205	-2.04313	12.72170	2.72759	0.85919	5.21278	13.03915	280.72	-23.08
84/ 7/31	2445912.5	0.92116	-4.70567	-2.04111	12.70856	2.79582	0.88878	5.21133	13.04278	281.08	-23.06
84/ 8/ 4	2445916.5	0.95050	-4.69913	-2.03902	12.69500	2.86401	0.91836	5.20989	13.04641	281.44	-23.04
84/ 8/ 8	2445920.5	0.97981	-4.69244	-2.03686	12.68099	2.93217	0.94794	5.20844	13.05005	281.79	-23.02
84/ 8/12	2445924.5	1.00909	-4.68559	-2.03464	12.66654	3.00028	0.97751	5.20699	13.05368	282.15	-23.00
84/ 8/16	2445928.5	1.03834	-4.67858	-2.03235	12.65166	3.06835	1.00707	5.20554	13.05732	282.51	-22.98
84/ 8/20	2445932.5	1.06755	-4.67141	-2.02999	12.63634	3.13638	1.03663	5.20409	13.06096	282.87	-22.96
84/ 8/24	2445936.5	1.09672	-4.66409	-2.02756	12.62058	3.20436	1.06617	5.20264	13.06460	283.23	-22.94
84/ 8/28	2445940.5	1.12586	-4.65660	-2.02506	12.60439	3.27228	1.09571	5.20119	13.06824	283.59	-22.91
84/ 9/ 1	2445944.5	1.15496	-4.64897	-2.02250	12.58775	3.34016	1.12523	5.19974	13.07189	283.95	-22.89
84/ 9/ 5	2445948.5	1.18402	-4.64117	-2.01986	12.57067	3.40798	1.15474	5.19829	13.07553	284.31	-22.87
84/ 9/ 9	2445952.5	1.21304	-4.63322	-2.01716	12.55315	3.47573	1.18423	5.19684	13.07918	284.67	-22.84
84/ 9/13	2445956.5	1.24202	-4.62511	-2.01439	12.53520	3.54343	1.21371	5.19539	13.08282	285.03	-22.81
84/ 9/17	2445960.5	1.27096	-4.61685	-2.01155	12.51680	3.61107	1.24318	5.19393	13.08647	285.39	-22.79
84/ 9/21	2445964.5	1.29985	-4.60843	-2.00865	12.49797	3.67863	1.27262	5.19248	13.09012	285.75	-22.76
84/ 9/25	2445968.5	1.32870	-4.59985	-2.00567	12.47870	3.74613	1.30205	5.19103	13.09377	286.11	-22.73

1.5 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — JUPITER

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84/ 9/29	2445972.5	1.35751	-4.59112	-2.00263	12.45899	3.81357	1.33145	5.18958	13.09742	286.47	-22.70
84/10/ 3	2445976.5	1.38627	-4.58223	-1.99952	12.43884	3.88093	1.36084	5.18813	13.10108	286.83	-22.67
84/10/ 7	2445980.5	1.41498	-4.57319	-1.99634	12.41825	3.94821	1.39021	5.18667	13.10473	287.19	-22.64
84/10/11	2445984.5	1.44364	-4.56399	-1.99310	12.39722	4.01542	1.41955	5.18522	13.10838	287.55	-22.61
84/10/15	2445988.5	1.47226	-4.55464	-1.98978	12.37575	4.08254	1.44887	5.18377	13.11204	287.91	-22.57
84/10/19	2445992.5	1.50082	-4.54513	-1.98640	12.35383	4.14959	1.47817	5.18232	13.11569	288.27	-22.54
84/10/23	2445996.5	1.52934	-4.53546	-1.98295	12.33148	4.21655	1.50744	5.18087	13.11934	288.63	-22.50
84/10/27	2446000.5	1.55780	-4.52565	-1.97944	12.30869	4.28342	1.53668	5.17942	13.12299	288.99	-22.47
84/10/31	2446004.5	1.58621	-4.51567	-1.97585	12.28545	4.35020	1.56589	5.17797	13.12664	289.35	-22.43
84/11/ 4	2446008.5	1.61456	-4.50555	-1.97220	12.26178	4.41688	1.59508	5.17652	13.13029	289.72	-22.40
84/11/ 8	2446012.5	1.64286	-4.49527	-1.96848	12.23767	4.48347	1.62424	5.17507	13.13393	290.08	-22.36
84/11/12	2446016.5	1.67110	-4.48483	-1.96470	12.21312	4.54997	1.65336	5.17362	13.13758	290.44	-22.32
84/11/16	2446020.5	1.69929	-4.47424	-1.96085	12.18812	4.61636	1.68245	5.17217	13.14122	290.80	-22.28
84/11/20	2446024.5	1.72741	-4.46350	-1.95693	12.16269	4.68264	1.71151	5.17072	13.14487	291.16	-22.24
84/11/24	2446028.5	1.75548	-4.45261	-1.95294	12.13682	4.74883	1.74053	5.16927	13.14851	291.52	-22.20
84/11/28	2446032.5	1.78349	-4.44156	-1.94888	12.11052	4.81490	1.76952	5.16783	13.15215	291.88	-22.16
84/12/ 2	2446036.5	1.81144	-4.43036	-1.94476	12.08377	4.88086	1.79847	5.16638	13.15579	292.24	-22.11
84/12/ 6	2446040.5	1.83932	-4.41901	-1.94057	12.05658	4.94670	1.82738	5.16494	13.15942	292.60	-22.07
84/12/10	2446044.5	1.86714	-4.40751	-1.93632	12.02896	5.01243	1.85625	5.16349	13.16306	292.96	-22.02
84/12/14	2446048.5	1.89490	-4.39585	-1.93200	12.00091	5.07804	1.88508	5.16205	13.16669	293.32	-21.98
84/12/18	2446052.5	1.92259	-4.38404	-1.92761	11.97241	5.14353	1.91387	5.16061	13.17033	293.68	-21.93
84/12/22	2446056.5	1.95022	-4.37209	-1.92315	11.94349	5.20890	1.94261	5.15917	13.17396	294.04	-21.89
84/12/26	2446060.5	1.97777	-4.35998	-1.91863	11.91412	5.27414	1.97132	5.15773	13.17759	294.40	-21.84
84/12/30	2446064.5	2.00526	-4.34772	-1.91405	11.88433	5.33925	1.99998	5.15629	13.18123	294.76	-21.79
85/ 1/ 3	2446068.5	2.03268	-4.33531	-1.90939	11.85410	5.40423	2.02859	5.15485	13.18486	295.12	-21.74
85/ 1/ 7	2446072.5	2.06003	-4.32275	-1.90467	11.82343	5.46908	2.05716	5.15341	13.18849	295.48	-21.69
85/ 1/11	2446076.5	2.08731	-4.31004	-1.89989	11.79233	5.53380	2.08568	5.15198	13.19212	295.84	-21.64
85/ 1/15	2446080.5	2.11452	-4.29718	-1.89504	11.76080	5.59837	2.11415	5.15054	13.19575	296.20	-21.59
85/ 1/19	2446084.5	2.14165	-4.28417	-1.89012	11.72883	5.66281	2.14258	5.14911	13.19937	296.56	-21.54
85/ 1/23	2446088.5	2.16871	-4.27102	-1.88514	11.69643	5.72710	2.17095	5.14768	13.20300	296.92	-21.48
85/ 1/27	2446092.5	2.19569	-4.25771	-1.88009	11.66359	5.79125	2.19927	5.14625	13.20662	297.28	-21.43
85/ 1/31	2446096.5	2.22260	-4.24426	-1.87498	11.63033	5.85525	2.22753	5.14482	13.21024	297.64	-21.37
85/ 2/ 4	2446100.5	2.24943	-4.23066	-1.86980	11.59663	5.91910	2.25575	5.14340	13.21386	298.00	-21.32
85/ 2/ 8	2446104.5	2.27618	-4.21691	-1.86455	11.56251	5.98280	2.28391	5.14197	13.21748	298.36	-21.26
85/ 2/12	2446108.5	2.30285	-4.20302	-1.85925	11.52795	6.04634	2.31201	5.14055	13.22109	298.72	-21.20
85/ 2/16	2446112.5	2.32944	-4.18897	-1.85387	11.49296	6.10973	2.34005	5.13913	13.22470	299.08	-21.15
85/ 2/20	2446116.5	2.35595	-4.17479	-1.84843	11.45754	6.17295	2.36804	5.13771	13.22831	299.44	-21.09
85/ 2/24	2446120.5	2.38238	-4.16045	-1.84293	11.42170	6.23601	2.39597	5.13629	13.23192	299.80	-21.03
85/ 2/28	2446124.5	2.40872	-4.14597	-1.83736	11.38542	6.29891	2.42384	5.13488	13.23552	300.16	-20.97
85/ 3/ 4	2446128.5	2.43498	-4.13135	-1.83173	11.34872	6.36164	2.45164	5.13346	13.23912	300.51	-20.91
85/ 3/ 8	2446132.5	2.46116	-4.11658	-1.82604	11.31159	6.42419	2.47938	5.13205	13.24272	300.87	-20.84
85/ 3/12	2446136.5	2.48725	-4.10167	-1.82028	11.27403	6.48658	2.50706	5.13064	13.24631	301.23	-20.78
85/ 3/16	2446140.5	2.51325	-4.08661	-1.81445	11.23605	6.54878	2.53467	5.12923	13.24991	301.59	-20.72
85/ 3/20	2446144.5	2.53916	-4.07141	-1.80857	11.19765	6.61081	2.56222	5.12783	13.25350	301.95	-20.65
85/ 3/24	2446148.5	2.56498	-4.05607	-1.80261	11.15882	6.67267	2.58970	5.12643	13.25708	302.31	-20.59

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85/ 3/28	2446152.5	2.59072	-4.04058	-1.79660	11.11956	6.73434	2.61712	5.12502	13.26067	302.67	-20.52
85/ 4/ 1	2446156.5	2.61636	-4.02495	-1.79052	11.07989	6.79582	2.64446	5.12363	13.26425	303.03	-20.45
85/ 4/ 5	2446160.5	2.64191	-4.00918	-1.78438	11.03979	6.85712	2.67173	5.12223	13.26782	303.38	-20.39
85/ 4/ 9	2446164.5	2.66737	-3.99327	-1.77818	10.99926	6.91823	2.69894	5.12084	13.27139	303.74	-20.32
85/ 4/13	2446168.5	2.69273	-3.97722	-1.77191	10.95831	6.97914	2.72607	5.11945	13.27496	304.10	-20.25
85/ 4/17	2446172.5	2.71800	-3.96102	-1.76558	10.91695	7.03986	2.75313	5.11806	13.27852	304.46	-20.18
85/ 4/21	2446176.5	2.74317	-3.94469	-1.75919	10.87516	7.10038	2.78011	5.11667	13.28208	304.82	-20.11
85/ 4/25	2446180.5	2.76824	-3.92822	-1.75274	10.83295	7.16070	2.80702	5.11529	13.28562	305.17	-20.04
85/ 4/29	2446184.5	2.79322	-3.91161	-1.74622	10.79032	7.22082	2.83385	5.11391	13.28917	305.53	-19.97
85/ 5/ 3	2446188.5	2.81810	-3.89485	-1.73964	10.74727	7.28073	2.86060	5.11253	13.29270	305.89	-19.89
85/ 5/ 7	2446192.5	2.84288	-3.87797	-1.73300	10.70381	7.34043	2.88727	5.11115	13.29623	306.24	-19.82
85/ 5/11	2446196.5	2.86755	-3.86094	-1.72630	10.65993	7.39992	2.91386	5.10978	13.29976	306.60	-19.75
85/ 5/15	2446200.5	2.89213	-3.84378	-1.71954	10.61563	7.45920	2.94037	5.10841	13.30327	306.96	-19.67
85/ 5/19	2446204.5	2.91660	-3.82648	-1.71272	10.57092	7.51825	2.96680	5.10704	13.30678	307.32	-19.59
85/ 5/23	2446208.5	2.94097	-3.80904	-1.70583	10.52579	7.57709	2.99314	5.10568	13.31028	307.67	-19.52
85/ 5/27	2446212.5	2.96523	-3.79147	-1.69889	10.48026	7.63570	3.01940	5.10432	13.31377	308.03	-19.44
85/ 5/31	2446216.5	2.98939	-3.77376	-1.69188	10.43431	7.69409	3.04557	5.10296	13.31725	308.38	-19.36
85/ 6/ 4	2446220.5	3.01344	-3.75592	-1.68482	10.38795	7.75225	3.07165	5.10161	13.32073	308.74	-19.28
85/ 6/ 8	2446224.5	3.03739	-3.73794	-1.67769	10.34118	7.81017	3.09764	5.10025	13.32419	309.10	-19.20
85/ 6/12	2446228.5	3.06122	-3.71983	-1.67051	10.29400	7.86786	3.12354	5.09891	13.32765	309.45	-19.12
85/ 6/16	2446232.5	3.08495	-3.70159	-1.66326	10.24642	7.92532	3.14935	5.09756	13.33110	309.81	-19.04
85/ 6/20	2446236.5	3.10857	-3.68321	-1.65595	10.19844	7.98254	3.17507	5.09622	13.33455	310.16	-18.96
85/ 6/24	2446240.5	3.13207	-3.66471	-1.64859	10.15005	8.03952	3.20070	5.09488	13.33798	310.52	-18.88
85/ 6/28	2446244.5	3.15546	-3.64607	-1.64117	10.10126	8.09625	3.22623	5.09354	13.34141	310.87	-18.80
85/ 7/ 2	2446248.5	3.17874	-3.62730	-1.63368	10.05206	8.15274	3.25166	5.09221	13.34483	311.23	-18.71
85/ 7/ 6	2446252.5	3.20191	-3.60840	-1.62614	10.00247	8.20898	3.27700	5.09088	13.34824	311.58	-18.63
85/ 7/10	2446256.5	3.22496	-3.58937	-1.61854	9.95247	8.26497	3.30224	5.08956	13.35164	311.94	-18.54
85/ 7/14	2446260.5	3.24789	-3.57021	-1.61089	9.90208	8.32070	3.32738	5.08824	13.35503	312.29	-18.46
85/ 7/18	2446264.5	3.27071	-3.55093	-1.60317	9.85129	8.37618	3.35242	5.08692	13.35841	312.65	-18.37
85/ 7/22	2446268.5	3.29341	-3.53151	-1.59540	9.80011	8.43139	3.37735	5.08561	13.36178	313.00	-18.28
85/ 7/26	2446272.5	3.31599	-3.51197	-1.58756	9.74854	8.48635	3.40219	5.08430	13.36514	313.36	-18.19
85/ 7/30	2446276.5	3.33845	-3.49230	-1.57968	9.69657	8.54104	3.42692	5.08299	13.36849	313.71	-18.11
85/ 8/ 3	2446280.5	3.36079	-3.47251	-1.57173	9.64421	8.59546	3.45154	5.08169	13.37183	314.06	-18.02
85/ 8/ 7	2446284.5	3.38301	-3.45259	-1.56373	9.59146	8.64961	3.47606	5.08039	13.37516	314.42	-17.93
85/ 8/11	2446288.5	3.40510	-3.43255	-1.55567	9.53833	8.70349	3.50047	5.07910	13.37848	314.77	-17.84
85/ 8/15	2446292.5	3.42708	-3.41238	-1.54756	9.48481	8.75710	3.52478	5.07780	13.38179	315.12	-17.74
85/ 8/19	2446296.5	3.44893	-3.39209	-1.53939	9.43090	8.81043	3.54897	5.07652	13.38509	315.48	-17.65
85/ 8/23	2446300.5	3.47065	-3.37167	-1.53116	9.37662	8.86347	3.57305	5.07524	13.38838	315.83	-17.56
85/ 8/27	2446304.5	3.49225	-3.35113	-1.52288	9.32195	8.91624	3.59702	5.07396	13.39166	316.18	-17.47
85/ 8/31	2446308.5	3.51372	-3.33047	-1.51454	9.26690	8.96871	3.62088	5.07268	13.39493	316.53	-17.37
85/ 9/ 4	2446312.5	3.53507	-3.30969	-1.50615	9.21148	9.02091	3.64462	5.07141	13.39819	316.89	-17.28
85/ 9/ 8	2446316.5	3.55628	-3.28879	-1.49770	9.15568	9.07281	3.66825	5.07015	13.40143	317.24	-17.18
85/ 9/12	2446320.5	3.57737	-3.26778	-1.48920	9.09952	9.12442	3.69176	5.06889	13.40467	317.59	-17.09
85/ 9/16	2446324.5	3.59832	-3.24664	-1.48064	9.04298	9.17573	3.71515	5.06763	13.40790	317.94	-16.99
85/ 9/20	2446328.5	3.61915	-3.22538	-1.47203	8.98607	9.22675	3.73843	5.06638	13.41112	318.29	-16.89

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85/ 9/24	2446332.5	3.63984	-3.20401	-1.46337	8.92879	9.27748	3.76159	5.06513	13.41434	318.64	-16.79
85/ 9/28	2446336.5	3.66040	-3.18252	-1.45465	8.87114	9.32790	3.78463	5.06389	13.41754	318.99	-16.69
85/10/ 2	2446340.5	3.68083	-3.16091	-1.44588	8.81313	9.37802	3.80754	5.06265	13.42073	319.35	-16.59
85/10/ 6	2446344.5	3.70112	-3.13919	-1.43706	8.75476	9.42784	3.83034	5.06142	13.42391	319.70	-16.49
85/10/10	2446348.5	3.72128	-3.11735	-1.42819	8.69602	9.47734	3.85301	5.06019	13.42708	320.05	-16.39
85/10/14	2446352.5	3.74130	-3.09540	-1.41926	8.63692	9.52654	3.87556	5.05896	13.43024	320.40	-16.29
85/10/18	2446356.5	3.76118	-3.07333	-1.41028	8.57747	9.57542	3.89798	5.05774	13.43339	320.75	-16.19
85/10/22	2446360.5	3.78093	-3.05116	-1.40125	8.51765	9.62399	3.92027	5.05653	13.43652	321.10	-16.09
85/10/26	2446364.5	3.80054	-3.02887	-1.39217	8.45748	9.67224	3.94244	5.05532	13.43965	321.45	-15.99
85/10/30	2446368.5	3.82001	-3.00647	-1.38303	8.39696	9.72017	3.96448	5.05412	13.44276	321.80	-15.88
85/11/ 3	2446372.5	3.83934	-2.98396	-1.37385	8.33609	9.76778	3.98639	5.05292	13.44586	322.15	-15.78
85/11/ 7	2446376.5	3.85852	-2.96134	-1.36462	8.27487	9.81507	4.00817	5.05172	13.44896	322.49	-15.67
85/11/11	2446380.5	3.87757	-2.93861	-1.35533	8.21330	9.86202	4.02982	5.05053	13.45203	322.84	-15.57
85/11/15	2446384.5	3.89647	-2.91577	-1.34600	8.15138	9.90865	4.05133	5.04935	13.45510	323.19	-15.46
85/11/19	2446388.5	3.91523	-2.89283	-1.33661	8.08912	9.95495	4.07272	5.04817	13.45815	323.54	-15.35
85/11/23	2446392.5	3.93385	-2.86978	-1.32718	8.02652	10.00091	4.09396	5.04699	13.46119	323.89	-15.25
85/11/27	2446396.5	3.95232	-2.84662	-1.31770	7.96358	10.04653	4.11507	5.04583	13.46422	324.24	-15.14
85/12/ 1	2446400.5	3.97064	-2.82336	-1.30817	7.90030	10.09182	4.13604	5.04466	13.46723	324.58	-15.03
85/12/ 5	2446404.5	3.98882	-2.79999	-1.29859	7.83669	10.13676	4.15688	5.04350	13.47024	324.93	-14.92
85/12/ 9	2446408.5	4.00685	-2.77652	-1.28896	7.77275	10.18136	4.17757	5.04235	13.47323	325.28	-14.81
85/12/13	2446412.5	4.02473	-2.75295	-1.27929	7.70847	10.22562	4.19813	5.04121	13.47620	325.63	-14.70
85/12/17	2446416.5	4.04246	-2.72928	-1.26956	7.64387	10.26953	4.21854	5.04006	13.47917	325.97	-14.59
85/12/21	2446420.5	4.06005	-2.70550	-1.25979	7.57893	10.31309	4.23881	5.03893	13.48212	326.32	-14.48
85/12/25	2446424.5	4.07748	-2.68163	-1.24998	7.51368	10.35630	4.25894	5.03780	13.48506	326.67	-14.37
85/12/29	2446428.5	4.09476	-2.65765	-1.24012	7.44810	10.39915	4.27893	5.03667	13.48798	327.01	-14.25
86/ 1/ 2	2446432.5	4.11189	-2.63358	-1.23021	7.38219	10.44165	4.29877	5.03556	13.49089	327.36	-14.14
86/ 1/ 6	2446436.5	4.12887	-2.60941	-1.22025	7.31597	10.48379	4.31846	5.03444	13.49379	327.71	-14.03
86/ 1/10	2446440.5	4.14569	-2.58514	-1.21026	7.24944	10.52556	4.33801	5.03333	13.49667	328.05	-13.91
86/ 1/14	2446444.5	4.16237	-2.56078	-1.20021	7.18259	10.56697	4.35741	5.03223	13.49954	328.40	-13.80
86/ 1/18	2446448.5	4.17888	-2.53632	-1.19012	7.11542	10.60802	4.37666	5.03114	13.50239	328.74	-13.68
86/ 1/22	2446452.5	4.19524	-2.51176	-1.17999	7.04795	10.64870	4.39576	5.03005	13.50522	329.09	-13.57
86/ 1/26	2446456.5	4.21144	-2.48712	-1.16981	6.98017	10.68900	4.41470	5.02896	13.50804	329.44	-13.45
86/ 1/30	2446460.5	4.22749	-2.46238	-1.15959	6.91209	10.72894	4.43350	5.02789	13.51085	329.78	-13.33
86/ 2/ 3	2446464.5	4.24338	-2.43755	-1.14933	6.84370	10.76850	4.45214	5.02681	13.51364	330.13	-13.22
86/ 2/ 7	2446468.5	4.25911	-2.41262	-1.13902	6.77501	10.80768	4.47063	5.02575	13.51641	330.47	-13.10
86/ 2/11	2446472.5	4.27468	-2.38761	-1.12867	6.70603	10.84648	4.48896	5.02469	13.51916	330.81	-12.98
86/ 2/15	2446476.5	4.29010	-2.36251	-1.11828	6.63675	10.88490	4.50713	5.02364	13.52190	331.16	-12.86
86/ 2/19	2446480.5	4.30535	-2.33732	-1.10785	6.56718	10.92294	4.52515	5.02259	13.52462	331.50	-12.74
86/ 2/23	2446484.5	4.32044	-2.31204	-1.09737	6.49732	10.96059	4.54301	5.02155	13.52733	331.85	-12.62
86/ 2/27	2446488.5	4.33537	-2.28668	-1.08686	6.42718	10.99785	4.56071	5.02051	13.53002	332.19	-12.50
86/ 3/ 3	2446492.5	4.35013	-2.26123	-1.07630	6.35675	11.03472	4.57824	5.01949	13.53269	332.53	-12.38
86/ 3/ 7	2446496.5	4.36474	-2.23569	-1.06571	6.28604	11.07120	4.59562	5.01846	13.53534	332.88	-12.26
86/ 3/11	2446500.5	4.37918	-2.21008	-1.05507	6.21506	11.10729	4.61284	5.01745	13.53798	333.22	-12.14
86/ 3/15	2446504.5	4.39345	-2.18437	-1.04439	6.14380	11.14298	4.62989	5.01644	13.54061	333.56	-12.02
86/ 3/19	2446508.5	4.40756	-2.15859	-1.03368	6.07227	11.17828	4.64678	5.01544	13.54322	333.91	-11.89

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86/ 3/23	2446512.5	4.42151	-2.13273	-1.02292	6.00046	11.21317	4.66350	5.01444	13.54581	334.25	-11.77
86/ 3/27	2446516.5	4.43529	-2.10678	-1.01213	5.92839	11.24767	4.68006	5.01345	13.54839	334.59	-11.65
86/ 3/31	2446520.5	4.44890	-2.08076	-1.00130	5.85605	11.28176	4.69645	5.01247	13.55095	334.93	-11.52
86/ 4/ 4	2446524.5	4.46234	-2.05466	-0.99043	5.78345	11.31545	4.71268	5.01150	13.55349	335.28	-11.40
86/ 4/ 8	2446528.5	4.47562	-2.02848	-0.97953	5.71059	11.34873	4.72874	5.01053	13.55602	335.62	-11.27
86/ 4/12	2446532.5	4.48873	-2.00222	-0.96858	5.63748	11.38161	4.74463	5.00956	13.55853	335.96	-11.15
86/ 4/16	2446536.5	4.50167	-1.97589	-0.95760	5.56411	11.41407	4.76035	5.00861	13.56102	336.30	-11.02
86/ 4/20	2446540.5	4.51444	-1.94949	-0.94659	5.49049	11.44612	4.77589	5.00766	13.56349	336.64	-10.90
86/ 4/24	2446544.5	4.52704	-1.92301	-0.93554	5.41662	11.47776	4.79127	5.00672	13.56595	336.99	-10.77
86/ 4/28	2446548.5	4.53946	-1.89646	-0.92445	5.34250	11.50898	4.80648	5.00578	13.56839	337.33	-10.64
86/ 5/ 2	2446552.5	4.55172	-1.86983	-0.91333	5.26814	11.53979	4.82151	5.00486	13.57081	337.67	-10.51
86/ 5/ 6	2446556.5	4.56380	-1.84314	-0.90217	5.19355	11.57017	4.83636	5.00394	13.57322	338.01	-10.39
86/ 5/10	2446560.5	4.57572	-1.81637	-0.89098	5.11871	11.60014	4.85105	5.00302	13.57561	338.35	-10.26
86/ 5/14	2446564.5	4.58745	-1.78954	-0.87976	5.04364	11.62968	4.86555	5.00212	13.57797	338.69	-10.13
86/ 5/18	2446568.5	4.59902	-1.76264	-0.86850	4.96834	11.65880	4.87989	5.00122	13.58033	339.03	-10.00
86/ 5/22	2446572.5	4.61041	-1.73567	-0.85721	4.89281	11.68749	4.89404	5.00033	13.58266	339.37	-9.87
86/ 5/26	2446576.5	4.62162	-1.70864	-0.84589	4.81706	11.71575	4.90801	4.99944	13.58497	339.71	-9.74
86/ 5/30	2446580.5	4.63267	-1.68154	-0.83454	4.74108	11.74359	4.92181	4.99856	13.58727	340.05	-9.61
86/ 6/ 3	2446584.5	4.64353	-1.65438	-0.82315	4.66489	11.77099	4.93543	4.99769	13.58955	340.39	-9.48
86/ 6/ 7	2446588.5	4.65422	-1.62716	-0.81173	4.58848	11.79797	4.94886	4.99683	13.59182	340.73	-9.35
86/ 6/11	2446592.5	4.66473	-1.59987	-0.80029	4.51186	11.82451	4.96212	4.99597	13.59406	341.07	-9.22
86/ 6/15	2446596.5	4.67506	-1.57252	-0.78881	4.43503	11.85062	4.97520	4.99513	13.59629	341.41	-9.09
86/ 6/19	2446600.5	4.68522	-1.54512	-0.77730	4.35799	11.87629	4.98809	4.99429	13.59851	341.75	-8.95
86/ 6/23	2446604.5	4.69520	-1.51765	-0.76576	4.28074	11.90153	5.00081	4.99345	13.60070	342.09	-8.82
86/ 6/27	2446608.5	4.70500	-1.49013	-0.75419	4.20329	11.92632	5.01333	4.99263	13.60288	342.43	-8.69
86/ 7/ 1	2446612.5	4.71462	-1.46255	-0.74260	4.12564	11.95067	5.02568	4.99181	13.60504	342.77	-8.56
86/ 7/ 5	2446616.5	4.72406	-1.43491	-0.73097	4.04780	11.97459	5.03784	4.99100	13.60717	343.10	-8.42
86/ 7/ 9	2446620.5	4.73332	-1.40722	-0.71932	3.96976	11.99805	5.04981	4.99019	13.60929	343.44	-8.29
86/ 7/13	2446624.5	4.74240	-1.37948	-0.70764	3.89153	12.02108	5.06160	4.98940	13.61139	343.78	-8.15
86/ 7/17	2446628.5	4.75130	-1.35168	-0.69594	3.81312	12.04365	5.07320	4.98861	13.61347	344.12	-8.02
86/ 7/21	2446632.5	4.76002	-1.32383	-0.68420	3.73452	12.06578	5.08461	4.98783	13.61554	344.46	-7.88
86/ 7/25	2446636.5	4.76856	-1.29593	-0.67244	3.65574	12.08745	5.09583	4.98706	13.61758	344.80	-7.75
86/ 7/29	2446640.5	4.77691	-1.26798	-0.66066	3.57678	12.10868	5.10687	4.98630	13.61960	345.13	-7.61
86/ 8/ 2	2446644.5	4.78508	-1.23999	-0.64885	3.49765	12.12945	5.11771	4.98554	13.62160	345.47	-7.48
86/ 8/ 6	2446648.5	4.79307	-1.21194	-0.63701	3.41834	12.14976	5.12836	4.98479	13.62358	345.81	-7.34
86/ 8/10	2446652.5	4.80088	-1.18385	-0.62515	3.33887	12.16962	5.13883	4.98405	13.62554	346.15	-7.21
86/ 8/14	2446656.5	4.80850	-1.15572	-0.61327	3.25923	12.18902	5.14909	4.98332	13.62747	346.49	-7.07
86/ 8/18	2446660.5	4.81594	-1.12753	-0.60136	3.17943	12.20796	5.15917	4.98259	13.62939	346.82	-6.93
86/ 8/22	2446664.5	4.82319	-1.09931	-0.58943	3.09948	12.22644	5.16905	4.98187	13.63128	347.16	-6.79
86/ 8/26	2446668.5	4.83026	-1.07104	-0.57748	3.01937	12.24446	5.17874	4.98116	13.63315	347.50	-6.66
86/ 8/30	2446672.5	4.83714	-1.04274	-0.56551	2.93911	12.26202	5.18823	4.98046	13.63500	347.83	-6.52
86/ 9/ 3	2446676.5	4.84384	-1.01439	-0.55351	2.85871	12.27911	5.19753	4.97977	13.63683	348.17	-6.38
86/ 9/ 7	2446680.5	4.85035	-0.98600	-0.54149	2.77816	12.29574	5.20663	4.97908	13.63864	348.51	-6.24
86/ 9/11	2446684.5	4.85667	-0.95758	-0.52945	2.69747	12.31191	5.21553	4.97841	13.64042	348.85	-6.10
86/ 9/15	2446688.5	4.86281	-0.92912	-0.51739	2.61665	12.32760	5.22424	4.97774	13.64219	349.18	-5.97

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86/ 9/19	2446692.5	4.86876	-0.90062	-0.50531	2.53569	12.34283	5.23275	4.97708	13.64393	349.52	-5.83
86/ 9/23	2446696.5	4.87453	-0.87209	-0.49322	2.45460	12.35759	5.24107	4.97643	13.64565	349.86	-5.69
86/ 9/27	2446700.5	4.88010	-0.84353	-0.48110	2.37338	12.37188	5.24918	4.97578	13.64735	350.19	-5.55
86/10/ 1	2446704.5	4.88549	-0.81493	-0.46896	2.29204	12.38570	5.25710	4.97514	13.64903	350.53	-5.41
86/10/ 5	2446708.5	4.89069	-0.78630	-0.45681	2.21058	12.39904	5.26481	4.97452	13.65068	350.87	-5.27
86/10/ 9	2446712.5	4.89571	-0.75764	-0.44464	2.12900	12.41191	5.27233	4.97390	13.65231	351.20	-5.13
86/10/13	2446716.5	4.90053	-0.72895	-0.43245	2.04731	12.42431	5.27964	4.97329	13.65392	351.54	-4.99
86/10/17	2446720.5	4.90516	-0.70024	-0.42024	1.96551	12.43623	5.28675	4.97268	13.65550	351.88	-4.85
86/10/21	2446724.5	4.90961	-0.67149	-0.40802	1.88361	12.44767	5.29366	4.97209	13.65706	352.21	-4.71
86/10/25	2446728.5	4.91387	-0.64272	-0.39579	1.80160	12.45864	5.30037	4.97150	13.65860	352.55	-4.57
86/10/29	2446732.5	4.91793	-0.61393	-0.38353	1.71950	12.46912	5.30688	4.97092	13.66011	352.88	-4.43
86/11/ 2	2446736.5	4.92181	-0.58511	-0.37127	1.63730	12.47913	5.31318	4.97036	13.66160	353.22	-4.28
86/11/ 6	2446740.5	4.92550	-0.55627	-0.35899	1.55501	12.48866	5.31928	4.96979	13.66307	353.56	-4.14
86/11/10	2446744.5	4.92900	-0.52741	-0.34669	1.47264	12.49771	5.32517	4.96924	13.66451	353.89	-4.00
86/11/14	2446748.5	4.93230	-0.49853	-0.33438	1.39018	12.50628	5.33086	4.96870	13.66593	354.23	-3.86
86/11/18	2446752.5	4.93542	-0.46963	-0.32206	1.30764	12.51436	5.33635	4.96816	13.66732	354.56	-3.72
86/11/22	2446756.5	4.93835	-0.44071	-0.30973	1.22503	12.52196	5.34163	4.96764	13.66869	354.90	-3.57
86/11/26	2446760.5	4.94108	-0.41177	-0.29738	1.14235	12.52908	5.34670	4.96712	13.67004	355.24	-3.43
86/11/30	2446764.5	4.94362	-0.38282	-0.28502	1.05960	12.53572	5.35157	4.96661	13.67137	355.57	-3.29
86/12/ 4	2446768.5	4.94598	-0.35385	-0.27265	0.97679	12.54188	5.35623	4.96611	13.67267	355.91	-3.15
86/12/ 8	2446772.5	4.94814	-0.32487	-0.26027	0.89391	12.54755	5.36069	4.96562	13.67396	356.24	-3.00
86/12/12	2446776.5	4.95011	-0.29588	-0.24789	0.81098	12.55274	5.36494	4.96513	13.67522	356.58	-2.86
86/12/16	2446780.5	4.95188	-0.26688	-0.23549	0.72799	12.55744	5.36899	4.96466	13.67645	356.92	-2.72
86/12/20	2446784.5	4.95347	-0.23786	-0.22308	0.64496	12.56166	5.37283	4.96419	13.67767	357.25	-2.58
86/12/24	2446788.5	4.95486	-0.20884	-0.21066	0.56187	12.56540	5.37646	4.96373	13.67886	357.59	-2.43
86/12/28	2446792.5	4.95607	-0.17980	-0.19824	0.47874	12.56865	5.37989	4.96329	13.68003	357.92	-2.29

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86/12/16	2446780.5	4.95188	-0.26688	-0.23549	0.72799	12.55744	5.36899	4.96466	13.67645	356.92	-2.72
86/12/20	2446784.5	4.95347	-0.23786	-0.22308	0.64496	12.56166	5.37283	4.96419	13.67767	357.25	-2.58
86/12/24	2446788.5	4.95486	-0.20884	-0.21066	0.56187	12.56540	5.37646	4.96373	13.67886	357.59	-2.43
86/12/28	2446792.5	4.95607	-0.17980	-0.19824	0.47874	12.56865	5.37989	4.96329	13.68003	357.92	-2.29
87/ 1/ 1	2446796.5	4.95707	-0.15077	-0.18581	0.39558	12.57142	5.38310	4.96285	13.68118	358.26	-2.15
87/ 1/ 5	2446800.5	4.95789	-0.12172	-0.17337	0.31237	12.57369	5.38611	4.96242	13.68231	358.59	-2.00
87/ 1/ 9	2446804.5	4.95852	-0.09267	-0.16092	0.22914	12.57549	5.38892	4.96199	13.68341	358.93	-1.86
87/ 1/13	2446808.5	4.95895	-0.06362	-0.14847	0.14587	12.57679	5.39151	4.96158	13.68449	359.26	-1.71
87/ 1/17	2446812.5	4.95919	-0.03456	-0.13601	0.06258	12.57761	5.39390	4.96118	13.68555	359.60	-1.57
87/ 1/21	2446816.5	4.95924	-0.00551	-0.12355	-0.02073	12.57794	5.39608	4.96078	13.68659	359.94	-1.43
87/ 1/25	2446820.5	4.95910	0.02355	-0.11108	-0.10407	12.57779	5.39805	4.96040	13.68761	0.27	-1.28
87/ 1/29	2446824.5	4.95876	0.05261	-0.09861	-0.18741	12.57715	5.39981	4.96002	13.68860	0.61	-1.14
87/ 2/ 2	2446828.5	4.95823	0.08166	-0.08613	-0.27077	12.57602	5.40136	4.95965	13.68957	0.94	-1.00
87/ 2/ 6	2446832.5	4.95751	0.11071	-0.07365	-0.35414	12.57440	5.40270	4.95929	13.69051	1.28	-0.85
87/ 2/10	2446836.5	4.95659	0.13976	-0.06117	-0.43751	12.57229	5.40383	4.95894	13.69143	1.62	-0.71
87/ 2/14	2446840.5	4.95549	0.16880	-0.04868	-0.52088	12.56969	5.40476	4.95860	13.69233	1.95	-0.56
87/ 2/18	2446844.5	4.95419	0.19784	-0.03620	-0.60424	12.56661	5.40547	4.95827	13.69321	2.29	-0.42
87/ 2/22	2446848.5	4.95270	0.22686	-0.02371	-0.68760	12.56304	5.40598	4.95795	13.69406	2.62	-0.27
87/ 2/26	2446852.5	4.95101	0.25588	-0.01122	-0.77095	12.55898	5.40627	4.95763	13.69489	2.96	-0.13
87/ 3/ 2	2446856.5	4.94913	0.28489	0.00127	-0.85428	12.55443	5.40636	4.95733	13.69570	3.29	0.01
87/ 3/ 6	2446860.5	4.94706	0.31389	0.01376	-0.93759	12.54940	5.40623	4.95703	13.69649	3.63	0.16
87/ 3/10	2446864.5	4.94480	0.34287	0.02625	-1.02089	12.54387	5.40590	4.95674	13.69725	3.97	0.30
87/ 3/14	2446868.5	4.94235	0.37184	0.03874	-1.10416	12.53787	5.40536	4.95647	13.69800	4.30	0.45
87/ 3/18	2446872.5	4.93970	0.40080	0.05122	-1.18740	12.53137	5.40460	4.95620	13.69872	4.64	0.59
87/ 3/22	2446876.5	4.93686	0.42974	0.06371	-1.27061	12.52438	5.40364	4.95594	13.69941	4.97	0.74
87/ 3/26	2446880.5	4.93383	0.45867	0.07619	-1.35378	12.51691	5.40247	4.95569	13.70008	5.31	0.88
87/ 3/30	2446884.5	4.93061	0.48757	0.08867	-1.43692	12.50894	5.40108	4.95545	13.70073	5.65	1.03
87/ 4/ 3	2446888.5	4.92719	0.51646	0.10115	-1.52001	12.50049	5.39949	4.95522	13.70136	5.98	1.17
87/ 4/ 7	2446892.5	4.92358	0.54533	0.11362	-1.60306	12.49155	5.39768	4.95499	13.70196	6.32	1.31
87/ 4/11	2446896.5	4.91978	0.57418	0.12608	-1.68606	12.48213	5.39567	4.95478	13.70254	6.66	1.46
87/ 4/15	2446900.5	4.91579	0.60300	0.13855	-1.76900	12.47222	5.39344	4.95458	13.70309	6.99	1.60
87/ 4/19	2446904.5	4.91161	0.63180	0.15100	-1.85189	12.46181	5.39101	4.95438	13.70362	7.33	1.75
87/ 4/23	2446908.5	4.90724	0.66058	0.16346	-1.93471	12.45093	5.38836	4.95420	13.70413	7.67	1.89
87/ 4/27	2446912.5	4.90267	0.68933	0.17590	-2.01747	12.43955	5.38550	4.95402	13.70461	8.00	2.03
87/ 5/ 1	2446916.5	4.89791	0.71805	0.18834	-2.10016	12.42769	5.38244	4.95385	13.70506	8.34	2.18
87/ 5/ 5	2446920.5	4.89297	0.74675	0.20077	-2.18278	12.41534	5.37916	4.95369	13.70549	8.68	2.32
87/ 5/ 9	2446924.5	4.88783	0.77542	0.21319	-2.26532	12.40250	5.37567	4.95354	13.70589	9.01	2.47
87/ 5/13	2446928.5	4.88250	0.80405	0.22561	-2.34778	12.38918	5.37197	4.95340	13.70627	9.35	2.61
87/ 5/17	2446932.5	4.87698	0.83266	0.23801	-2.43016	12.37537	5.36806	4.95327	13.70662	9.69	2.75
87/ 5/21	2446936.5	4.87127	0.86123	0.25041	-2.51244	12.36108	5.36394	4.95315	13.70695	10.03	2.90
87/ 5/25	2446940.5	4.86537	0.88977	0.26279	-2.59463	12.34630	5.35961	4.95304	13.70725	10.36	3.04
87/ 5/29	2446944.5	4.85928	0.91828	0.27517	-2.67673	12.33104	5.35507	4.95294	13.70753	10.70	3.18
87/ 6/ 2	2446948.5	4.85301	0.94675	0.28754	-2.75873	12.31530	5.35032	4.95285	13.70778	11.04	3.33
87/ 6/ 6	2446952.5	4.84654	0.97518	0.29989	-2.84062	12.29908	5.34536	4.95276	13.70801	11.38	3.47
87/ 6/10	2446956.5	4.83988	1.00357	0.31223	-2.92241	12.28238	5.34020	4.95269	13.70821	11.71	3.61

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87/ 6/14	2446960.5	4.83304	1.03193	0.32456	-3.00409	12.26520	5.33482	4.95262	13.70839	12.05	3.76
87/ 6/18	2446964.5	4.82600	1.06024	0.33688	-3.08565	12.24754	5.32924	4.95256	13.70854	12.39	3.90
87/ 6/22	2446968.5	4.81878	1.08851	0.34919	-3.16710	12.22940	5.32345	4.95252	13.70867	12.73	4.04
87/ 6/26	2446972.5	4.81137	1.11674	0.36148	-3.24842	12.21078	5.31745	4.95248	13.70878	13.07	4.19
87/ 6/30	2446976.5	4.80377	1.14493	0.37376	-3.32962	12.19168	5.31124	4.95245	13.70886	13.41	4.33
87/ 7/ 4	2446980.5	4.79599	1.17307	0.38602	-3.41069	12.17211	5.30483	4.95243	13.70891	13.74	4.47
87/ 7/ 8	2446984.5	4.78801	1.20117	0.39827	-3.49163	12.15206	5.29821	4.95242	13.70894	14.08	4.61
87/ 7/12	2446988.5	4.77985	1.22922	0.41050	-3.57243	12.13154	5.29138	4.95242	13.70894	14.42	4.75
87/ 7/16	2446992.5	4.77151	1.25722	0.42271	-3.65309	12.11054	5.28434	4.95243	13.70892	14.76	4.90
87/ 7/20	2446996.5	4.76297	1.28517	0.43491	-3.73361	12.08907	5.27710	4.95245	13.70887	15.10	5.04
87/ 7/24	2447000.5	4.75426	1.31308	0.44710	-3.81398	12.06713	5.26965	4.95248	13.70880	15.44	5.18
87/ 7/28	2447004.5	4.74535	1.34093	0.45926	-3.89420	12.04472	5.26200	4.95251	13.70870	15.78	5.32
87/ 8/ 1	2447008.5	4.73626	1.36873	0.47141	-3.97426	12.02183	5.25414	4.95256	13.70858	16.12	5.46
87/ 8/ 5	2447012.5	4.72699	1.39647	0.48354	-4.05417	11.99848	5.24607	4.95261	13.70843	16.46	5.60
87/ 8/ 9	2447016.5	4.71753	1.42416	0.49565	-4.13391	11.97466	5.23780	4.95268	13.70826	16.80	5.74
87/ 8/13	2447020.5	4.70789	1.45180	0.50774	-4.21349	11.95038	5.22933	4.95275	13.70806	17.14	5.88
87/ 8/17	2447024.5	4.69806	1.47938	0.51981	-4.29290	11.92563	5.22065	4.95283	13.70783	17.48	6.02
87/ 8/21	2447028.5	4.68806	1.50690	0.53186	-4.37213	11.90042	5.21177	4.95293	13.70759	17.82	6.16
87/ 8/25	2447032.5	4.67786	1.53436	0.54389	-4.45119	11.87474	5.20269	4.95303	13.70732	18.16	6.30
87/ 8/29	2447036.5	4.66749	1.56177	0.55590	-4.53007	11.84861	5.19340	4.95314	13.70702	18.50	6.44
87/ 9/ 2	2447040.5	4.65693	1.58911	0.56788	-4.60877	11.82202	5.18392	4.95326	13.70671	18.84	6.58
87/ 9/ 6	2447044.5	4.64620	1.61639	0.57985	-4.68728	11.79497	5.17423	4.95339	13.70637	19.18	6.72
87/ 9/10	2447048.5	4.63528	1.64360	0.59179	-4.76561	11.76746	5.16435	4.95353	13.70600	19.52	6.86
87/ 9/14	2447052.5	4.62418	1.67076	0.60371	-4.84374	11.73950	5.15426	4.95368	13.70562	19.87	7.00
87/ 9/18	2447056.5	4.61290	1.69784	0.61560	-4.92167	11.71108	5.14397	4.95383	13.70521	20.21	7.14
87/ 9/22	2447060.5	4.60144	1.72487	0.62748	-4.99941	11.68221	5.13349	4.95400	13.70477	20.55	7.28
87/ 9/26	2447064.5	4.58980	1.75182	0.63932	-5.07694	11.65289	5.12280	4.95418	13.70432	20.89	7.41
87/ 9/30	2447068.5	4.57798	1.77871	0.65114	-5.15427	11.62311	5.11192	4.95436	13.70383	21.23	7.55
87/10/ 4	2447072.5	4.56598	1.80552	0.66294	-5.23139	11.59289	5.10084	4.95455	13.70333	21.58	7.69
87/10/ 8	2447076.5	4.55381	1.83227	0.67471	-5.30830	11.56222	5.08957	4.95476	13.70280	21.92	7.83
87/10/12	2447080.5	4.54146	1.85894	0.68646	-5.38499	11.53111	5.07809	4.95497	13.70225	22.26	7.96
87/10/16	2447084.5	4.52893	1.88555	0.69817	-5.46147	11.49955	5.06642	4.95519	13.70167	22.60	8.10
87/10/20	2447088.5	4.51622	1.91207	0.70986	-5.53772	11.46754	5.05456	4.95542	13.70107	22.95	8.24
87/10/24	2447092.5	4.50334	1.93853	0.72153	-5.61375	11.43510	5.04249	4.95566	13.70045	23.29	8.37
87/10/28	2447096.5	4.49029	1.96491	0.73316	-5.68954	11.40221	5.03024	4.95591	13.69980	23.63	8.51
87/11/ 1	2447100.5	4.47706	1.99121	0.74477	-5.76511	11.36888	5.01779	4.95617	13.69913	23.98	8.64
87/11/ 5	2447104.5	4.46365	2.01744	0.75635	-5.84044	11.33511	5.00514	4.95644	13.69843	24.32	8.78
87/11/ 9	2447108.5	4.45007	2.04358	0.76789	-5.91552	11.30091	4.99231	4.95672	13.69770	24.67	8.91
87/11/13	2447112.5	4.43632	2.06965	0.77941	-5.99037	11.26627	4.97928	4.95700	13.69696	25.01	9.05
87/11/17	2447116.5	4.42239	2.09564	0.79090	-6.06497	11.23120	4.96606	4.95730	13.69618	25.35	9.18
87/11/21	2447120.5	4.40830	2.12154	0.80236	-6.13932	11.19571	4.95265	4.95760	13.69539	25.70	9.31
87/11/25	2447124.5	4.39403	2.14736	0.81378	-6.21341	11.15978	4.93904	4.95791	13.69457	26.04	9.45
87/11/29	2447128.5	4.37959	2.17310	0.82518	-6.28725	11.12342	4.92525	4.95823	13.69373	26.39	9.58
87/12/ 3	2447132.5	4.36498	2.19876	0.83654	-6.36084	11.08664	4.91127	4.95857	13.69287	26.74	9.71
87/12/ 7	2447136.5	4.35020	2.22433	0.84787	-6.43416	11.04944	4.89711	4.95891	13.69198	27.08	9.84

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87/12/11	2447140.5	4.33525	2.24981	0.85917	-6.50722	11.01181	4.88275	4.95926	13.69106	27.43	9.98
87/12/15	2447144.5	4.32013	2.27521	0.87043	-6.58001	10.97377	4.86821	4.95961	13.69012	27.77	10.11
87/12/19	2447148.5	4.30485	2.30051	0.88166	-6.65253	10.93530	4.85348	4.95998	13.68916	28.12	10.24
87/12/23	2447152.5	4.28940	2.32573	0.89285	-6.72477	10.89642	4.83857	4.96036	13.68818	28.47	10.37
87/12/27	2447156.5	4.27378	2.35086	0.90401	-6.79674	10.85712	4.82347	4.96074	13.68717	28.81	10.50
87/12/31	2447160.5	4.25799	2.37589	0.91514	-6.86842	10.81741	4.80819	4.96114	13.68613	29.16	10.63
88/ 1/ 4	2447164.5	4.24204	2.40084	0.92623	-6.93982	10.77729	4.79272	4.96154	13.68508	29.51	10.76
88/ 1/ 8	2447168.5	4.22593	2.42569	0.93728	-7.01094	10.73676	4.77707	4.96195	13.68399	29.86	10.89
88/ 1/12	2447172.5	4.20965	2.45045	0.94830	-7.08176	10.69582	4.76124	4.96237	13.68289	30.20	11.02
88/ 1/16	2447176.5	4.19321	2.47511	0.95928	-7.15230	10.65448	4.74523	4.96280	13.68176	30.55	11.15
88/ 1/20	2447180.5	4.17661	2.49967	0.97023	-7.22253	10.61273	4.72904	4.96324	13.68060	30.90	11.27
88/ 1/24	2447184.5	4.15984	2.52414	0.98113	-7.29247	10.57058	4.71267	4.96368	13.67942	31.25	11.40
88/ 1/28	2447188.5	4.14291	2.54851	0.99200	-7.36210	10.52803	4.69612	4.96414	13.67821	31.60	11.53
88/ 2/ 1	2447192.5	4.12582	2.57278	1.00283	-7.43143	10.48508	4.67939	4.96461	13.67698	31.95	11.65
88/ 2/ 5	2447196.5	4.10858	2.59696	1.01362	-7.50045	10.44174	4.66248	4.96508	13.67573	32.30	11.78
88/ 2/ 9	2447200.5	4.09117	2.62103	1.02437	-7.56915	10.39801	4.64540	4.96556	13.67445	32.65	11.91
88/ 2/13	2447204.5	4.07360	2.64500	1.03508	-7.63754	10.35389	4.62815	4.96605	13.67314	33.00	12.03
88/ 2/17	2447208.5	4.05588	2.66887	1.04576	-7.70561	10.30938	4.61072	4.96655	13.67182	33.35	12.16
88/ 2/21	2447212.5	4.03800	2.69263	1.05639	-7.77336	10.26449	4.59312	4.96706	13.67047	33.70	12.28
88/ 2/25	2447216.5	4.01997	2.71629	1.06698	-7.84079	10.21922	4.57534	4.96758	13.66910	34.05	12.40
88/ 2/29	2447220.5	4.00178	2.73985	1.07753	-7.90790	10.17357	4.55740	4.96810	13.66770	34.40	12.53
88/ 3/ 4	2447224.5	3.98343	2.76330	1.08803	-7.97467	10.12753	4.53928	4.96864	13.66629	34.75	12.65
88/ 3/ 8	2447228.5	3.96493	2.78664	1.09850	-8.04112	10.08113	4.52100	4.96918	13.66485	35.10	12.77
88/ 3/12	2447232.5	3.94628	2.80987	1.10892	-8.10723	10.03435	4.50255	4.96973	13.66339	35.45	12.89
88/ 3/16	2447236.5	3.92747	2.83300	1.11930	-8.17301	9.98719	4.48393	4.97029	13.66191	35.80	13.01
88/ 3/20	2447240.5	3.90851	2.85602	1.12964	-8.23844	9.93967	4.46514	4.97086	13.66040	36.16	13.14
88/ 3/24	2447244.5	3.88941	2.87893	1.13993	-8.30354	9.89179	4.44619	4.97143	13.65888	36.51	13.26
88/ 3/28	2447248.5	3.87015	2.90172	1.15018	-8.36829	9.84354	4.42708	4.97202	13.65733	36.86	13.38
88/ 4/ 1	2447252.5	3.85074	2.92441	1.16039	-8.43270	9.79493	4.40780	4.97261	13.65576	37.21	13.49
88/ 4/ 5	2447256.5	3.83119	2.94698	1.17055	-8.49676	9.74596	4.38836	4.97321	13.65417	37.57	13.61
88/ 4/ 9	2447260.5	3.81149	2.96944	1.18066	-8.56047	9.69663	4.36875	4.97382	13.65256	37.92	13.73
88/ 4/13	2447264.5	3.79164	2.99178	1.19073	-8.62382	9.64695	4.34899	4.97444	13.65093	38.28	13.85
88/ 4/17	2447268.5	3.77164	3.01401	1.20076	-8.68682	9.59692	4.32907	4.97507	13.64927	38.63	13.97
88/ 4/21	2447272.5	3.75150	3.03612	1.21073	-8.74946	9.54654	4.30899	4.97571	13.64760	38.98	14.08
88/ 4/25	2447276.5	3.73122	3.05812	1.22067	-8.81175	9.49581	4.28875	4.97635	13.64590	39.34	14.20
88/ 4/29	2447280.5	3.71079	3.07999	1.23055	-8.87366	9.44474	4.26835	4.97700	13.64418	39.69	14.31
88/ 5/ 3	2447284.5	3.69022	3.10175	1.24039	-8.93521	9.39332	4.24780	4.97766	13.64244	40.05	14.43
88/ 5/ 7	2447288.5	3.66950	3.12339	1.25018	-8.99639	9.34157	4.22709	4.97833	13.64068	40.40	14.54
88/ 5/11	2447292.5	3.64865	3.14491	1.25992	-9.05721	9.28948	4.20623	4.97901	13.63890	40.76	14.66
88/ 5/15	2447296.5	3.62766	3.16631	1.26961	-9.11765	9.23705	4.18522	4.97969	13.63711	41.12	14.77
88/ 5/19	2447300.5	3.60652	3.18759	1.27925	-9.17771	9.18430	4.16406	4.98039	13.63529	41.47	14.88
88/ 5/23	2447304.5	3.58525	3.20875	1.28885	-9.23740	9.13121	4.14274	4.98109	13.63345	41.83	15.00
88/ 5/27	2447308.5	3.56384	3.22978	1.29839	-9.29671	9.07780	4.12128	4.98180	13.63159	42.18	15.11
88/ 5/31	2447312.5	3.54230	3.25069	1.30789	-9.35564	9.02407	4.09967	4.98251	13.62972	42.54	15.22
88/ 6/ 4	2447316.5	3.52062	3.27148	1.31734	-9.41419	8.97002	4.07791	4.98324	13.62783	42.90	15.33

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88/ 6/ 8	2447320.5	3.49880	3.29214	1.32673	-9.47236	8.91564	4.05601	4.98397	13.62591	43.26	15.44
88/ 6/12	2447324.5	3.47685	3.31267	1.33608	-9.53014	8.86095	4.03396	4.98471	13.62398	43.61	15.55
88/ 6/16	2447328.5	3.45477	3.33308	1.34537	-9.58753	8.80595	4.01177	4.98546	13.62203	43.97	15.66
88/ 6/20	2447332.5	3.43255	3.35336	1.35461	-9.64452	8.75063	3.98943	4.98622	13.62006	44.33	15.76
88/ 6/24	2447336.5	3.41021	3.37351	1.36380	-9.70113	8.69500	3.96695	4.98699	13.61807	44.69	15.87
88/ 6/28	2447340.5	3.38773	3.39353	1.37294	-9.75734	8.63907	3.94434	4.98776	13.61606	45.05	15.98
88/ 7/ 2	2447344.5	3.36513	3.41342	1.38203	-9.81316	8.58283	3.92158	4.98854	13.61403	45.41	16.08
88/ 7/ 6	2447348.5	3.34239	3.43318	1.39106	-9.86857	8.52629	3.89868	4.98933	13.61198	45.77	16.19
88/ 7/10	2447352.5	3.31953	3.45282	1.40004	-9.92358	8.46946	3.87564	4.99012	13.60992	46.13	16.29
88/ 7/14	2447356.5	3.29654	3.47232	1.40897	-9.97819	8.41232	3.85247	4.99093	13.60783	46.49	16.40
88/ 7/18	2447360.5	3.27343	3.49168	1.41784	-10.03240	8.35489	3.82915	4.99174	13.60572	46.85	16.50
88/ 7/22	2447364.5	3.25019	3.51092	1.42666	-10.08620	8.29717	3.80571	4.99256	13.60360	47.21	16.60
88/ 7/26	2447368.5	3.22683	3.53002	1.43542	-10.13958	8.23916	3.78213	4.99338	13.60145	47.57	16.71
88/ 7/30	2447372.5	3.20334	3.54899	1.44413	-10.19256	8.18086	3.75842	4.99422	13.59928	47.93	16.81
88/ 8/ 3	2447376.5	3.17973	3.56782	1.45279	-10.24512	8.12228	3.73457	4.99506	13.59709	48.29	16.91
88/ 8/ 7	2447380.5	3.15601	3.58651	1.46139	-10.29726	8.06342	3.71060	4.99591	13.59488	48.65	17.01
88/ 8/11	2447384.5	3.13216	3.60507	1.46993	-10.34898	8.00429	3.68649	4.99677	13.59266	49.02	17.11
88/ 8/15	2447388.5	3.10819	3.62350	1.47842	-10.40029	7.94488	3.66226	4.99763	13.59041	49.38	17.21
88/ 8/19	2447392.5	3.08410	3.64178	1.48685	-10.45117	7.88520	3.63790	4.99850	13.58815	49.74	17.31
88/ 8/23	2447396.5	3.05990	3.65993	1.49523	-10.50163	7.82525	3.61342	4.99938	13.58586	50.10	17.40
88/ 8/27	2447400.5	3.03558	3.67794	1.50355	-10.55167	7.76504	3.58881	5.00026	13.58356	50.47	17.50
88/ 8/31	2447404.5	3.01115	3.69581	1.51181	-10.60128	7.70456	3.56408	5.00116	13.58124	50.83	17.60
88/ 9/ 4	2447408.5	2.98660	3.71353	1.52002	-10.65047	7.64382	3.53923	5.00206	13.57890	51.19	17.69
88/ 9/ 8	2447412.5	2.96194	3.73112	1.52816	-10.69922	7.58282	3.51426	5.00296	13.57654	51.56	17.79
88/ 9/12	2447416.5	2.93717	3.74857	1.53625	-10.74754	7.52157	3.48916	5.00388	13.57416	51.92	17.88
88/ 9/16	2447420.5	2.91228	3.76587	1.54428	-10.79543	7.46007	3.46395	5.00480	13.57177	52.28	17.97
88/ 9/20	2447424.5	2.88729	3.78304	1.55226	-10.84288	7.39832	3.43862	5.00573	13.56935	52.65	18.07
88/ 9/24	2447428.5	2.86219	3.80006	1.56017	-10.88990	7.33632	3.41317	5.00666	13.56691	53.01	18.16
88/ 9/28	2447432.5	2.83698	3.81693	1.56803	-10.93647	7.27408	3.38761	5.00761	13.56446	53.38	18.25
88/10/ 2	2447436.5	2.81166	3.83367	1.57582	-10.98261	7.21160	3.36194	5.00856	13.56199	53.74	18.34
88/10/ 6	2447440.5	2.78623	3.85025	1.58356	-11.02831	7.14888	3.33615	5.00951	13.55950	54.11	18.43
88/10/10	2447444.5	2.76070	3.86670	1.59124	-11.07356	7.08593	3.31025	5.01047	13.55699	54.47	18.52
88/10/14	2447448.5	2.73507	3.88299	1.59886	-11.11838	7.02274	3.28424	5.01144	13.55446	54.84	18.60
88/10/18	2447452.5	2.70933	3.89914	1.60641	-11.16274	6.95933	3.25812	5.01242	13.55191	55.21	18.69
88/10/22	2447456.5	2.68349	3.91515	1.61391	-11.20666	6.89569	3.23189	5.01340	13.54935	55.57	18.78
88/10/26	2447460.5	2.65755	3.93100	1.62134	-11.25012	6.83183	3.20556	5.01439	13.54676	55.94	18.86
88/10/30	2447464.5	2.63151	3.94671	1.62872	-11.29314	6.76775	3.17912	5.01539	13.54416	56.31	18.95
88/11/ 3	2447468.5	2.60538	3.96227	1.63603	-11.33570	6.70346	3.15258	5.01639	13.54154	56.67	19.03
88/11/ 7	2447472.5	2.57914	3.97768	1.64329	-11.37781	6.63895	3.12594	5.01740	13.53890	57.04	19.12
88/11/11	2447476.5	2.55281	3.99295	1.65048	-11.41947	6.57424	3.09920	5.01842	13.53624	57.41	19.20
88/11/15	2447480.5	2.52638	4.00806	1.65760	-11.46067	6.50932	3.07235	5.01944	13.53357	57.78	19.28
88/11/19	2447484.5	2.49985	4.02302	1.66467	-11.50142	6.44420	3.04541	5.02047	13.53089	58.14	19.36
88/11/23	2447488.5	2.47324	4.03783	1.67168	-11.54171	6.37887	3.01838	5.02150	13.52818	58.51	19.45
88/11/27	2447492.5	2.44653	4.05249	1.67862	-11.58155	6.31335	2.99124	5.02255	13.52546	58.88	19.52
88/12/ 1	2447496.5	2.41973	4.06700	1.68550	-11.62092	6.24764	2.96401	5.02359	13.52273	59.25	19.60

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88/12/ 5	2447500.5	2.39284	4.08136	1.69231	-11.65984	6.18173	2.93669	5.02465	13.51998	59.62	19.68
88/12/ 9	2447504.5	2.36586	4.09557	1.69906	-11.69830	6.11564	2.90928	5.02571	13.51722	59.99	19.76
88/12/13	2447508.5	2.33879	4.10962	1.70575	-11.73630	6.04936	2.88178	5.02678	13.51444	60.36	19.84
88/12/17	2447512.5	2.31163	4.12352	1.71238	-11.77383	5.98289	2.85418	5.02785	13.51164	60.73	19.91
88/12/21	2447516.5	2.28439	4.13726	1.71894	-11.81090	5.91625	2.82650	5.02893	13.50883	61.09	19.99
88/12/25	2447520.5	2.25706	4.15085	1.72544	-11.84751	5.84943	2.79873	5.03001	13.50601	61.46	20.06
88/12/29	2447524.5	2.22965	4.16429	1.73187	-11.88366	5.78244	2.77088	5.03110	13.50317	61.83	20.13
89/ 1/ 2	2447528.5	2.20215	4.17757	1.73824	-11.91934	5.71528	2.74294	5.03220	13.50032	62.20	20.21
89/ 1/ 6	2447532.5	2.17458	4.19069	1.74455	-11.95455	5.64794	2.71492	5.03330	13.49745	62.57	20.28
89/ 1/10	2447536.5	2.14692	4.20366	1.75078	-11.98930	5.58045	2.68681	5.03441	13.49457	62.95	20.35
89/ 1/14	2447540.5	2.11918	4.21648	1.75696	-12.02357	5.51279	2.65862	5.03553	13.49168	63.32	20.42
89/ 1/18	2447544.5	2.09137	4.22913	1.76307	-12.05738	5.44497	2.63036	5.03665	13.48877	63.69	20.49
89/ 1/22	2447548.5	2.06347	4.24163	1.76911	-12.09072	5.37699	2.60201	5.03777	13.48585	64.06	20.56
89/ 1/26	2447552.5	2.03550	4.25398	1.77509	-12.12359	5.30886	2.57359	5.03890	13.48291	64.43	20.63
89/ 1/30	2447556.5	2.00746	4.26616	1.78100	-12.15599	5.24058	2.54509	5.04004	13.47995	64.80	20.69
89/ 2/ 3	2447560.5	1.97934	4.27819	1.78685	-12.18791	5.17216	2.51652	5.04118	13.47699	65.17	20.76
89/ 2/ 7	2447564.5	1.95115	4.29006	1.79263	-12.21937	5.10359	2.48787	5.04233	13.47401	65.54	20.83
89/ 2/11	2447568.5	1.92288	4.30177	1.79834	-12.25035	5.03488	2.45915	5.04349	13.47102	65.92	20.89
89/ 2/15	2447572.5	1.89455	4.31332	1.80399	-12.28086	4.96603	2.43037	5.04464	13.46802	66.29	20.95
89/ 2/19	2447576.5	1.86614	4.32472	1.80957	-12.31089	4.89704	2.40151	5.04581	13.46500	66.66	21.02
89/ 2/23	2447580.5	1.83767	4.33595	1.81509	-12.34045	4.82793	2.37258	5.04698	13.46198	67.03	21.08
89/ 2/27	2447584.5	1.80912	4.34702	1.82054	-12.36954	4.75868	2.34359	5.04816	13.45894	67.40	21.14
89/ 3/ 3	2447588.5	1.78051	4.35794	1.82592	-12.39815	4.68931	2.31453	5.04934	13.45588	67.78	21.20
89/ 3/ 7	2447592.5	1.75184	4.36869	1.83123	-12.42629	4.61981	2.28540	5.05052	13.45282	68.15	21.26
89/ 3/11	2447596.5	1.72310	4.37928	1.83648	-12.45395	4.55019	2.25622	5.05171	13.44974	68.52	21.32
89/ 3/15	2447600.5	1.69430	4.38971	1.84165	-12.48113	4.48045	2.22697	5.05291	13.44665	68.89	21.38
89/ 3/19	2447604.5	1.66543	4.39998	1.84676	-12.50784	4.41060	2.19766	5.05411	13.44355	69.27	21.43
89/ 3/23	2447608.5	1.63651	4.41009	1.85181	-12.53407	4.34063	2.16828	5.05532	13.44044	69.64	21.49
89/ 3/27	2447612.5	1.60752	4.42004	1.85678	-12.55982	4.27056	2.13885	5.05653	13.43732	70.01	21.54
89/ 3/31	2447616.5	1.57848	4.42982	1.86169	-12.58510	4.20038	2.10937	5.05775	13.43418	70.39	21.60
89/ 4/ 4	2447620.5	1.54938	4.43944	1.86653	-12.60989	4.13009	2.07982	5.05897	13.43103	70.76	21.65
89/ 4/ 8	2447624.5	1.52022	4.44890	1.87130	-12.63421	4.05970	2.05022	5.06019	13.42787	71.13	21.70
89/ 4/12	2447628.5	1.49100	4.45820	1.87600	-12.65804	3.98921	2.02057	5.06142	13.42470	71.51	21.76
89/ 4/16	2447632.5	1.46173	4.46734	1.88064	-12.68140	3.91863	1.99086	5.06266	13.42151	71.88	21.81
89/ 4/20	2447636.5	1.43241	4.47631	1.88520	-12.70427	3.84796	1.96110	5.06390	13.41831	72.26	21.86
89/ 4/24	2447640.5	1.40303	4.48511	1.88970	-12.72666	3.77719	1.93129	5.06515	13.41510	72.63	21.91
89/ 4/28	2447644.5	1.37361	4.49376	1.89412	-12.74857	3.70635	1.90144	5.06640	13.41187	73.00	21.95
89/ 5/ 2	2447648.5	1.34413	4.50224	1.89848	-12.76999	3.63542	1.87153	5.06765	13.40864	73.38	22.00
89/ 5/ 6	2447652.5	1.31461	4.51056	1.90277	-12.79094	3.56441	1.84159	5.06891	13.40539	73.75	22.05
89/ 5/10	2447656.5	1.28503	4.51871	1.90699	-12.81140	3.49332	1.81159	5.07017	13.40213	74.13	22.09
89/ 5/14	2447660.5	1.25541	4.52670	1.91114	-12.83139	3.42216	1.78156	5.07144	13.39886	74.50	22.14
89/ 5/18	2447664.5	1.22575	4.53452	1.91522	-12.85089	3.35093	1.75148	5.07271	13.39559	74.87	22.18
89/ 5/22	2447668.5	1.19604	4.54218	1.91923	-12.86991	3.27964	1.72136	5.07399	13.39230	75.25	22.23
89/ 5/26	2447672.5	1.16628	4.54967	1.92317	-12.88845	3.20828	1.69120	5.07527	13.38900	75.62	22.27
89/ 5/30	2447676.5	1.13649	4.55700	1.92705	-12.90650	3.13685	1.66100	5.07655	13.38568	76.00	22.31

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				HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM					JUPITER		
89/ 6/ 3	2447680.5	1.10665	4.56417	1.93085	-12.92408	3.06537	1.63077	5.07784	13.38236	76.37	22.35
89/ 6/ 7	2447684.5	1.07678	4.57116	1.93458	-12.94117	2.99383	1.60050	5.07913	13.37903	76.75	22.39
89/ 6/11	2447688.5	1.04686	4.57800	1.93824	-12.95778	2.92224	1.57019	5.08043	13.37569	77.12	22.43
89/ 6/15	2447692.5	1.01691	4.58467	1.94184	-12.97392	2.85060	1.53985	5.08173	13.37234	77.49	22.47
89/ 6/19	2447696.5	0.98692	4.59117	1.94536	-12.98957	2.77891	1.50948	5.08304	13.36898	77.87	22.50
89/ 6/23	2447700.5	0.95689	4.59751	1.94881	-13.00474	2.70718	1.47908	5.08434	13.36562	78.24	22.54
89/ 6/27	2447704.5	0.92683	4.60368	1.95219	-13.01943	2.63540	1.44865	5.08566	13.36224	78.62	22.57
89/ 7/ 1	2447708.5	0.89674	4.60968	1.95550	-13.03364	2.56359	1.41819	5.08697	13.35885	78.99	22.61
89/ 7/ 5	2447712.5	0.86661	4.61552	1.95875	-13.04737	2.49174	1.38771	5.08829	13.35546	79.37	22.64
89/ 7/ 9	2447716.5	0.83645	4.62119	1.96192	-13.06062	2.41985	1.35719	5.08962	13.35206	79.74	22.67
89/ 7/13	2447720.5	0.80627	4.62670	1.96502	-13.07339	2.34794	1.32665	5.09095	13.34864	80.11	22.70
89/ 7/17	2447724.5	0.77605	4.63204	1.96805	-13.08568	2.27600	1.29609	5.09228	13.34522	80.49	22.74
89/ 7/21	2447728.5	0.74581	4.63722	1.97100	-13.09749	2.20403	1.26551	5.09361	13.34179	80.86	22.77
89/ 7/25	2447732.5	0.71554	4.64223	1.97389	-13.10882	2.13204	1.23491	5.09495	13.33835	81.24	22.79
89/ 7/29	2447736.5	0.68524	4.64707	1.97671	-13.11967	2.06004	1.20428	5.09629	13.33491	81.61	22.82
89/ 8/ 2	2447740.5	0.65492	4.65174	1.97946	-13.13004	1.98802	1.17364	5.09764	13.33145	81.99	22.85
89/ 8/ 6	2447744.5	0.62457	4.65625	1.98213	-13.13994	1.91599	1.14298	5.09898	13.32799	82.36	22.88
89/ 8/10	2447748.5	0.59421	4.66060	1.98474	-13.14936	1.84394	1.11231	5.10034	13.32453	82.73	22.90
89/ 8/14	2447752.5	0.56382	4.66477	1.98727	-13.15831	1.77189	1.08162	5.10169	13.32106	83.11	22.93
89/ 8/18	2447756.5	0.53341	4.66878	1.98974	-13.16678	1.69984	1.05092	5.10305	13.31758	83.48	22.95
89/ 8/22	2447760.5	0.50299	4.67263	1.99213	-13.17477	1.62778	1.02020	5.10441	13.31410	83.86	22.97
89/ 8/26	2447764.5	0.47254	4.67630	1.99445	-13.18230	1.55572	0.98947	5.10578	13.31061	84.23	22.99
89/ 8/30	2447768.5	0.44208	4.67982	1.99670	-13.18934	1.48366	0.95873	5.10714	13.30711	84.60	23.01
89/ 9/ 3	2447772.5	0.41160	4.68316	1.99888	-13.19592	1.41161	0.92799	5.10851	13.30361	84.98	23.03
89/ 9/ 7	2447776.5	0.38111	4.68634	2.00099	-13.20202	1.33957	0.89723	5.10989	13.30011	85.35	23.05
89/ 9/11	2447780.5	0.35060	4.68935	2.00302	-13.20765	1.26754	0.86647	5.11126	13.29660	85.72	23.07
89/ 9/15	2447784.5	0.32009	4.69219	2.00499	-13.21281	1.19551	0.83570	5.11264	13.29308	86.10	23.09
89/ 9/19	2447788.5	0.28956	4.69487	2.00689	-13.21750	1.12351	0.80493	5.11403	13.28956	86.47	23.11
89/ 9/23	2447792.5	0.25902	4.69738	2.00871	-13.22171	1.05152	0.77415	5.11541	13.28603	86.84	23.12
89/ 9/27	2447796.5	0.22847	4.69973	2.01046	-13.22546	0.97955	0.74337	5.11680	13.28250	87.22	23.14
89/10/ 1	2447800.5	0.19791	4.70191	2.01214	-13.22874	0.90761	0.71259	5.11819	13.27897	87.59	23.15
89/10/ 5	2447804.5	0.16735	4.70392	2.01375	-13.23155	0.83569	0.68181	5.11958	13.27543	87.96	23.16
89/10/ 9	2447808.5	0.13678	4.70577	2.01529	-13.23388	0.76379	0.65102	5.12098	13.27188	88.34	23.17
89/10/13	2447812.5	0.10620	4.70745	2.01676	-13.23575	0.69193	0.62024	5.12238	13.26833	88.71	23.19
89/10/17	2447816.5	0.07562	4.70897	2.01816	-13.23715	0.62010	0.58946	5.12378	13.26477	89.08	23.20
89/10/21	2447820.5	0.04504	4.71032	2.01949	-13.23808	0.54831	0.55869	5.12518	13.26121	89.45	23.21
89/10/25	2447824.5	0.01446	4.71150	2.02074	-13.23855	0.47656	0.52792	5.12658	13.25764	89.82	23.21
89/10/29	2447828.5	-0.01612	4.71252	2.02193	-13.23855	0.40485	0.49716	5.12799	13.25407	90.20	23.22
89/11/ 2	2447832.5	-0.04671	4.71337	2.02304	-13.23809	0.33318	0.46640	5.12940	13.25049	90.57	23.23
89/11/ 6	2447836.5	-0.07729	4.71406	2.02408	-13.23716	0.26156	0.43566	5.13081	13.24691	90.94	23.23
89/11/10	2447840.5	-0.10787	4.71458	2.02505	-13.23576	0.18999	0.40492	5.13223	13.24332	91.31	23.24
89/11/14	2447844.5	-0.13844	4.71494	2.02595	-13.23391	0.11847	0.37420	5.13364	13.23973	91.68	23.24
89/11/18	2447848.5	-0.16901	4.71513	2.02678	-13.23159	0.04700	0.34348	5.13506	13.23613	92.05	23.25
89/11/22	2447852.5	-0.19958	4.71515	2.02754	-13.22881	-0.02441	0.31278	5.13648	13.23253	92.42	23.25
89/11/26	2447856.5	-0.23013	4.71502	2.02823	-13.22558	-0.09576	0.28210	5.13790	13.22893	92.79	23.25

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89/11/30	2447860.5	-0.26068	4.71471	2.02884	-13.22188	-0.16705	0.25143	5.13933	13.22532	93.16	23.25
89/12/ 4	2447864.5	-0.29122	4.71424	2.02939	-13.21772	-0.23828	0.22077	5.14075	13.22171	93.53	23.25
89/12/ 8	2447868.5	-0.32175	4.71361	2.02986	-13.21310	-0.30943	0.19013	5.14218	13.21809	93.90	23.25
89/12/12	2447872.5	-0.35227	4.71281	2.03027	-13.20803	-0.38052	0.15951	5.14361	13.21447	94.27	23.25
89/12/16	2447876.5	-0.38278	4.71185	2.03060	-13.20250	-0.45154	0.12891	5.14504	13.21085	94.64	23.25
89/12/20	2447880.5	-0.41327	4.71073	2.03086	-13.19651	-0.52248	0.09834	5.14647	13.20722	95.01	23.24
89/12/24	2447884.5	-0.44375	4.70944	2.03105	-13.19007	-0.59335	0.06778	5.14790	13.20359	95.38	23.24
89/12/28	2447888.5	-0.47421	4.70799	2.03117	-13.18318	-0.66414	0.03724	5.14934	13.19995	95.75	23.23
90/ 1/ 1	2447892.5	-0.50466	4.70637	2.03122	-13.17583	-0.73485	0.00673	5.15078	13.19631	96.12	23.23
90/ 1/ 5	2447896.5	-0.53509	4.70459	2.03121	-13.16803	-0.80547	-0.02375	5.15221	13.19267	96.49	23.22
90/ 1/ 9	2447900.5	-0.56550	4.70265	2.03112	-13.15978	-0.87601	-0.05421	5.15365	13.18902	96.86	23.21
90/ 1/13	2447904.5	-0.59589	4.70054	2.03095	-13.15108	-0.94645	-0.08465	5.15509	13.18536	97.22	23.20
90/ 1/17	2447908.5	-0.62626	4.69828	2.03072	-13.14192	-1.01681	-0.11505	5.15653	13.18170	97.59	23.19
90/ 1/21	2447912.5	-0.65661	4.69585	2.03042	-13.13232	-1.08706	-0.14542	5.15798	13.17804	97.96	23.18
90/ 1/25	2447916.5	-0.68694	4.69325	2.03005	-13.12227	-1.15722	-0.17577	5.15942	13.17437	98.33	23.17
90/ 1/29	2447920.5	-0.71724	4.69050	2.02961	-13.11178	-1.22728	-0.20608	5.16087	13.17070	98.69	23.16
90/ 2/ 2	2447924.5	-0.74752	4.68758	2.02910	-13.10084	-1.29724	-0.23635	5.16231	13.16703	99.06	23.15
90/ 2/ 6	2447928.5	-0.77777	4.68451	2.02852	-13.08946	-1.36709	-0.26660	5.16376	13.16336	99.43	23.13
90/ 2/10	2447932.5	-0.80800	4.68127	2.02787	-13.07764	-1.43684	-0.29680	5.16521	13.15968	99.79	23.12
90/ 2/14	2447936.5	-0.83820	4.67787	2.02715	-13.06538	-1.50647	-0.32698	5.16666	13.15600	100.16	23.10
90/ 2/18	2447940.5	-0.86836	4.67431	2.02636	-13.05268	-1.57600	-0.35711	5.16811	13.15232	100.52	23.08
90/ 2/22	2447944.5	-0.89850	4.67059	2.02550	-13.03954	-1.64541	-0.38721	5.16956	13.14864	100.89	23.07
90/ 2/26	2447948.5	-0.92861	4.66670	2.02457	-13.02596	-1.71470	-0.41726	5.17101	13.14496	101.25	23.05
90/ 3/ 2	2447952.5	-0.95869	4.66266	2.02357	-13.01196	-1.78387	-0.44728	5.17246	13.14128	101.62	23.03
90/ 3/ 6	2447956.5	-0.98873	4.65846	2.02250	-12.99751	-1.85293	-0.47725	5.17391	13.13760	101.98	23.01
90/ 3/10	2447960.5	-1.01874	4.65410	2.02136	-12.98264	-1.92186	-0.50719	5.17537	13.13392	102.35	22.99
90/ 3/14	2447964.5	-1.04871	4.64958	2.02016	-12.96734	-1.99067	-0.53708	5.17682	13.13023	102.71	22.97
90/ 3/18	2447968.5	-1.07865	4.64491	2.01888	-12.95160	-2.05935	-0.56692	5.17827	13.12655	103.07	22.95
90/ 3/22	2447972.5	-1.10856	4.64007	2.01754	-12.93544	-2.12790	-0.59672	5.17973	13.12287	103.44	22.92
90/ 3/26	2447976.5	-1.13842	4.63507	2.01613	-12.91886	-2.19632	-0.62648	5.18118	13.11919	103.80	22.90
90/ 3/30	2447980.5	-1.16824	4.62992	2.01464	-12.90184	-2.26461	-0.65619	5.18264	13.11551	104.16	22.88
90/ 4/ 3	2447984.5	-1.19803	4.62461	2.01309	-12.88441	-2.33276	-0.68585	5.18410	13.11183	104.52	22.85
90/ 4/ 7	2447988.5	-1.22777	4.61914	2.01148	-12.86655	-2.40078	-0.71547	5.18555	13.10815	104.89	22.82
90/ 4/11	2447992.5	-1.25748	4.61352	2.00979	-12.84826	-2.46866	-0.74503	5.18701	13.10447	105.25	22.80
90/ 4/15	2447996.5	-1.28714	4.60774	2.00803	-12.82956	-2.53639	-0.77454	5.18846	13.10079	105.61	22.77
90/ 4/19	2448000.5	-1.31675	4.60180	2.00621	-12.81044	-2.60398	-0.80400	5.18992	13.09711	105.97	22.74
90/ 4/23	2448004.5	-1.34633	4.59571	2.00432	-12.79090	-2.67142	-0.83341	5.19138	13.09344	106.33	22.71
90/ 4/27	2448008.5	-1.37585	4.58946	2.00236	-12.77094	-2.73872	-0.86277	5.19283	13.08976	106.69	22.68
90/ 5/ 1	2448012.5	-1.40533	4.58305	2.00033	-12.75058	-2.80586	-0.89207	5.19429	13.08609	107.05	22.65
90/ 5/ 5	2448016.5	-1.43476	4.57649	1.99824	-12.72980	-2.87285	-0.92131	5.19575	13.08242	107.41	22.62
90/ 5/ 9	2448020.5	-1.46415	4.56978	1.99608	-12.70861	-2.93969	-0.95050	5.19720	13.07876	107.77	22.59
90/ 5/13	2448024.5	-1.49348	4.56291	1.99385	-12.68701	-3.00638	-0.97964	5.19866	13.07509	108.12	22.55
90/ 5/17	2448028.5	-1.52277	4.55589	1.99155	-12.66500	-3.07291	-1.00871	5.20012	13.07143	108.48	22.52
90/ 5/21	2448032.5	-1.55200	4.54871	1.98919	-12.64258	-3.13928	-1.03773	5.20157	13.06778	108.84	22.48
90/ 5/25	2448036.5	-1.58118	4.54138	1.98676	-12.61976	-3.20548	-1.06669	5.20303	13.06412	109.20	22.45

1.5 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — JUPITER

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90/ 5/29	2448040.5	-1.61031	4.53390	1.98426	-12.59654	-3.27153	-1.09558	5.20448	13.06047	109.55	22.41
90/ 6/ 2	2448044.5	-1.63938	4.52627	1.98169	-12.57291	-3.33741	-1.12442	5.20594	13.05683	109.91	22.37
90/ 6/ 6	2448048.5	-1.66840	4.51848	1.97906	-12.54888	-3.40312	-1.15320	5.20739	13.05318	110.27	22.34
90/ 6/10	2448052.5	-1.69736	4.51054	1.97637	-12.52446	-3.46867	-1.18191	5.20884	13.04954	110.62	22.30
90/ 6/14	2448056.5	-1.72626	4.50246	1.97360	-12.49963	-3.53404	-1.21056	5.21030	13.04591	110.98	22.26
90/ 6/18	2448060.5	-1.75511	4.49422	1.97077	-12.47441	-3.59925	-1.23915	5.21175	13.04228	111.33	22.22
90/ 6/22	2448064.5	-1.78390	4.48583	1.96788	-12.44879	-3.66428	-1.26767	5.21320	13.03865	111.69	22.18
90/ 6/26	2448068.5	-1.81263	4.47729	1.96491	-12.42278	-3.72914	-1.29613	5.21465	13.03502	112.04	22.14
90/ 6/30	2448072.5	-1.84130	4.46860	1.96189	-12.39637	-3.79382	-1.32452	5.21610	13.03140	112.39	22.09
90/ 7/ 4	2448076.5	-1.86990	4.45976	1.95880	-12.36957	-3.85832	-1.35284	5.21755	13.02778	112.75	22.05
90/ 7/ 8	2448080.5	-1.89845	4.45077	1.95564	-12.34238	-3.92264	-1.38110	5.21900	13.02416	113.10	22.01
90/ 7/12	2448084.5	-1.92693	4.44163	1.95241	-12.31480	-3.98677	-1.40928	5.22045	13.02055	113.45	21.96
90/ 7/16	2448088.5	-1.95535	4.43235	1.94913	-12.28683	-4.05072	-1.43740	5.22190	13.01693	113.80	21.92
90/ 7/20	2448092.5	-1.98370	4.42292	1.94577	-12.25847	-4.11448	-1.46544	5.22334	13.01333	114.16	21.87
90/ 7/24	2448096.5	-2.01199	4.41334	1.94236	-12.22974	-4.17805	-1.49341	5.22479	13.00972	114.51	21.82
90/ 7/28	2448100.5	-2.04020	4.40361	1.93887	-12.20061	-4.24143	-1.52131	5.22623	13.00612	114.86	21.78
90/ 8/ 1	2448104.5	-2.06836	4.39374	1.93533	-12.17111	-4.30462	-1.54914	5.22767	13.00252	115.21	21.73
90/ 8/ 5	2448108.5	-2.09644	4.38373	1.93172	-12.14123	-4.36761	-1.57689	5.22911	12.99893	115.56	21.68
90/ 8/ 9	2448112.5	-2.12445	4.37356	1.92804	-12.11097	-4.43041	-1.60457	5.23055	12.99534	115.91	21.63
90/ 8/13	2448116.5	-2.15240	4.36326	1.92430	-12.08033	-4.49300	-1.63217	5.23199	12.99175	116.26	21.58
90/ 8/17	2448120.5	-2.18027	4.35280	1.92050	-12.04932	-4.55540	-1.65970	5.23343	12.98817	116.61	21.53
90/ 8/21	2448124.5	-2.20807	4.34221	1.91663	-12.01794	-4.61760	-1.68715	5.23487	12.98459	116.95	21.48
90/ 8/25	2448128.5	-2.23579	4.33147	1.91270	-11.98618	-4.67959	-1.71451	5.23630	12.98101	117.30	21.42
90/ 8/29	2448132.5	-2.26345	4.32059	1.90871	-11.95406	-4.74138	-1.74181	5.23773	12.97744	117.65	21.37
90/ 9/ 2	2448136.5	-2.29103	4.30956	1.90466	-11.92156	-4.80296	-1.76902	5.23916	12.97388	118.00	21.32
90/ 9/ 6	2448140.5	-2.31853	4.29840	1.90054	-11.88870	-4.86433	-1.79615	5.24059	12.97032	118.34	21.26
90/ 9/10	2448144.5	-2.34596	4.28709	1.89636	-11.85548	-4.92550	-1.82320	5.24202	12.96676	118.69	21.21
90/ 9/14	2448148.5	-2.37331	4.27564	1.89211	-11.82189	-4.98645	-1.85016	5.24345	12.96321	119.03	21.15
90/ 9/18	2448152.5	-2.40058	4.26405	1.88781	-11.78794	-5.04719	-1.87705	5.24487	12.95967	119.38	21.10
90/ 9/22	2448156.5	-2.42777	4.25232	1.88344	-11.75363	-5.10771	-1.90385	5.24630	12.95612	119.72	21.04
90/ 9/26	2448160.5	-2.45488	4.24045	1.87901	-11.71896	-5.16802	-1.93057	5.24772	12.95259	120.07	20.98
90/ 9/30	2448164.5	-2.48192	4.22844	1.87452	-11.68393	-5.22810	-1.95720	5.24914	12.94905	120.41	20.92
90/10/ 4	2448168.5	-2.50887	4.21629	1.86997	-11.64855	-5.28797	-1.98375	5.25056	12.94553	120.75	20.86
90/10/ 8	2448172.5	-2.53574	4.20401	1.86536	-11.61281	-5.34761	-2.01021	5.25197	12.94200	121.10	20.80
90/10/12	2448176.5	-2.56252	4.19159	1.86068	-11.57673	-5.40703	-2.03658	5.25338	12.93848	121.44	20.74
90/10/16	2448180.5	-2.58922	4.17903	1.85595	-11.54029	-5.46623	-2.06286	5.25480	12.93497	121.78	20.68
90/10/20	2448184.5	-2.61584	4.16633	1.85115	-11.50351	-5.52519	-2.08905	5.25621	12.93146	122.12	20.62
90/10/24	2448188.5	-2.64237	4.15350	1.84629	-11.46638	-5.58393	-2.11516	5.25761	12.92795	122.46	20.56
90/10/28	2448192.5	-2.66882	4.14053	1.84138	-11.42890	-5.64244	-2.14117	5.25902	12.92446	122.80	20.50
90/11/ 1	2448196.5	-2.69518	4.12743	1.83640	-11.39109	-5.70072	-2.16710	5.26042	12.92097	123.14	20.43
90/11/ 5	2448200.5	-2.72145	4.11419	1.83137	-11.35294	-5.75876	-2.19293	5.26182	12.91749	123.48	20.37
90/11/ 9	2448204.5	-2.74763	4.10082	1.82627	-11.31444	-5.81657	-2.21867	5.26322	12.91401	123.82	20.30
90/11/13	2448208.5	-2.77373	4.08732	1.82111	-11.27562	-5.87414	-2.24431	5.26462	12.91054	124.16	20.24
90/11/17	2448212.5	-2.79973	4.07368	1.81590	-11.23645	-5.93148	-2.26987	5.26601	12.90708	124.50	20.17
90/11/21	2448216.5	-2.82564	4.05991	1.81063	-11.19696	-5.98858	-2.29533	5.26740	12.90363	124.84	20.11

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90/11/25	2448220.5	-2.85146	4.04601	1.80530	-11.15713	-6.04544	-2.32069	5.26879	12.90018	125.17	20.04
90/11/29	2448224.5	-2.87719	4.03198	1.79990	-11.11698	-6.10206	-2.34596	5.27018	12.89674	125.51	19.97
90/12/ 3	2448228.5	-2.90283	4.01782	1.79446	-11.07650	-6.15844	-2.37113	5.27156	12.89331	125.85	19.90
90/12/ 7	2448232.5	-2.92837	4.00353	1.78895	-11.03569	-6.21458	-2.39621	5.27294	12.88989	126.18	19.83
90/12/11	2448236.5	-2.95382	3.98910	1.78339	-10.99456	-6.27047	-2.42119	5.27432	12.88648	126.52	19.76
90/12/15	2448240.5	-2.97917	3.97455	1.77776	-10.95311	-6.32612	-2.44608	5.27570	12.88307	126.85	19.69
90/12/19	2448244.5	-3.00442	3.95988	1.77208	-10.91134	-6.38152	-2.47086	5.27707	12.87968	127.19	19.62
90/12/23	2448248.5	-3.02958	3.94507	1.76635	-10.86924	-6.43667	-2.49555	5.27844	12.87629	127.52	19.55
90/12/27	2448252.5	-3.05464	3.93014	1.76055	-10.82683	-6.49157	-2.52014	5.27981	12.87291	127.86	19.48
90/12/31	2448256.5	-3.07961	3.91508	1.75470	-10.78410	-6.54622	-2.54462	5.28117	12.86954	128.19	19.41
91/ 1/ 4	2448260.5	-3.10447	3.89989	1.74880	-10.74106	-6.60062	-2.56901	5.28253	12.86617	128.52	19.33
91/ 1/ 8	2448264.5	-3.12923	3.88458	1.74283	-10.69771	-6.65476	-2.59330	5.28389	12.86281	128.85	19.26
91/ 1/12	2448268.5	-3.15390	3.86914	1.73681	-10.65404	-6.70865	-2.61748	5.28525	12.85947	129.18	19.18
91/ 1/16	2448272.5	-3.17846	3.85358	1.73074	-10.61007	-6.76229	-2.64156	5.28660	12.85612	129.52	19.11
91/ 1/20	2448276.5	-3.20292	3.83790	1.72461	-10.56579	-6.81566	-2.66554	5.28795	12.85279	129.85	19.03
91/ 1/24	2448280.5	-3.22728	3.82209	1.71842	-10.52121	-6.86878	-2.68941	5.28930	12.84947	130.18	18.96
91/ 1/28	2448284.5	-3.25153	3.80616	1.71218	-10.47632	-6.92163	-2.71318	5.29064	12.84616	130.51	18.88
91/ 2/ 1	2448288.5	-3.27568	3.79011	1.70589	-10.43114	-6.97423	-2.73685	5.29198	12.84285	130.84	18.81
91/ 2/ 5	2448292.5	-3.29972	3.77394	1.69954	-10.38565	-7.02656	-2.76041	5.29332	12.83956	131.16	18.73
91/ 2/ 9	2448296.5	-3.32366	3.75765	1.69313	-10.33987	-7.07863	-2.78386	5.29465	12.83627	131.49	18.65
91/ 2/13	2448300.5	-3.34750	3.74123	1.68668	-10.29379	-7.13043	-2.80721	5.29599	12.83299	131.82	18.57
91/ 2/17	2448304.5	-3.37123	3.72470	1.68016	-10.24742	-7.18197	-2.83045	5.29731	12.82972	132.15	18.49
91/ 2/21	2448308.5	-3.39484	3.70805	1.67360	-10.20075	-7.23324	-2.85359	5.29864	12.82646	132.48	18.41
91/ 2/25	2448312.5	-3.41836	3.69128	1.66698	-10.15380	-7.28425	-2.87661	5.29996	12.82321	132.80	18.33
91/ 3/ 1	2448316.5	-3.44176	3.67440	1.66031	-10.10656	-7.33498	-2.89953	5.30127	12.81997	133.13	18.25
91/ 3/ 5	2448320.5	-3.46505	3.65739	1.65358	-10.05903	-7.38545	-2.92234	5.30259	12.81674	133.45	18.17
91/ 3/ 9	2448324.5	-3.48823	3.64027	1.64681	-10.01121	-7.43564	-2.94504	5.30390	12.81352	133.78	18.09
91/ 3/13	2448328.5	-3.51131	3.62304	1.63998	-9.96311	-7.48556	-2.96763	5.30520	12.81031	134.10	18.01
91/ 3/17	2448332.5	-3.53427	3.60569	1.63309	-9.91473	-7.53521	-2.99011	5.30651	12.80711	134.43	17.92
91/ 3/21	2448336.5	-3.55712	3.58822	1.62616	-9.86607	-7.58458	-3.01248	5.30781	12.80391	134.75	17.84
91/ 3/25	2448340.5	-3.57985	3.57064	1.61918	-9.81713	-7.63368	-3.03473	5.30910	12.80073	135.07	17.76
91/ 3/29	2448344.5	-3.60247	3.55295	1.61214	-9.76791	-7.68249	-3.05688	5.31039	12.79755	135.40	17.67
91/ 4/ 2	2448348.5	-3.62498	3.53515	1.60505	-9.71842	-7.73103	-3.07891	5.31168	12.79438	135.72	17.59
91/ 4/ 6	2448352.5	-3.64738	3.51723	1.59791	-9.66865	-7.77929	-3.10082	5.31297	12.79122	136.04	17.50
91/ 4/10	2448356.5	-3.66966	3.49921	1.59072	-9.61862	-7.82726	-3.12263	5.31425	12.78807	136.36	17.42
91/ 4/14	2448360.5	-3.69182	3.48107	1.58349	-9.56831	-7.87495	-3.14431	5.31552	12.78492	136.68	17.33
91/ 4/18	2448364.5	-3.71386	3.46282	1.57620	-9.51774	-7.92236	-3.16589	5.31680	12.78179	137.00	17.24
91/ 4/22	2448368.5	-3.73579	3.44446	1.56886	-9.46691	-7.96949	-3.18734	5.31806	12.77866	137.32	17.16
91/ 4/26	2448372.5	-3.75760	3.42600	1.56147	-9.41581	-8.01632	-3.20868	5.31933	12.77555	137.64	17.07
91/ 4/30	2448376.5	-3.77930	3.40743	1.55403	-9.36446	-8.06287	-3.22991	5.32059	12.77244	137.96	16.98
91/ 5/ 4	2448380.5	-3.80087	3.38875	1.54655	-9.31284	-8.10913	-3.25101	5.32184	12.76935	138.28	16.89
91/ 5/ 8	2448384.5	-3.82233	3.36996	1.53901	-9.26097	-8.15511	-3.27200	5.32310	12.76626	138.60	16.81
91/ 5/12	2448388.5	-3.84366	3.35107	1.53143	-9.20885	-8.20079	-3.29287	5.32434	12.76318	138.92	16.72
91/ 5/16	2448392.5	-3.86487	3.33207	1.52380	-9.15647	-8.24619	-3.31363	5.32559	12.76012	139.23	16.63
91/ 5/20	2448396.5	-3.88597	3.31297	1.51612	-9.10384	-8.29129	-3.33426	5.32683	12.75706	139.55	16.54

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91/ 5/24	2448400.5	-3.90694	3.29376	1.50839	-9.05097	-8.33610	-3.35477	5.32806	12.75402	139.87	16.45
91/ 5/28	2448404.5	-3.92778	3.27445	1.50062	-8.99785	-8.38061	-3.37517	5.32929	12.75099	140.18	16.35
91/ 6/ 1	2448408.5	-3.94851	3.25504	1.49280	-8.94448	-8.42483	-3.39544	5.33052	12.74796	140.50	16.26
91/ 6/ 5	2448412.5	-3.96911	3.23553	1.48493	-8.89087	-8.46876	-3.41560	5.33174	12.74496	140.81	16.17
91/ 6/ 9	2448416.5	-3.98959	3.21591	1.47702	-8.83703	-8.51240	-3.43563	5.33296	12.74196	141.13	16.08
91/ 6/13	2448420.5	-4.00994	3.19620	1.46906	-8.78294	-8.55573	-3.45554	5.33418	12.73897	141.44	15.99
91/ 6/17	2448424.5	-4.03017	3.17638	1.46105	-8.72862	-8.59877	-3.47533	5.33538	12.73600	141.76	15.89
91/ 6/21	2448428.5	-4.05027	3.15647	1.45300	-8.67406	-8.64152	-3.49500	5.33659	12.73303	142.07	15.80
91/ 6/25	2448432.5	-4.07025	3.13645	1.44490	-8.61927	-8.68396	-3.51455	5.33779	12.73008	142.38	15.71
91/ 6/29	2448436.5	-4.09009	3.11634	1.43676	-8.56424	-8.72610	-3.53397	5.33898	12.72714	142.70	15.61
91/ 7/ 3	2448440.5	-4.10981	3.09614	1.42858	-8.50899	-8.76794	-3.55327	5.34018	12.72421	143.01	15.52
91/ 7/ 7	2448444.5	-4.12941	3.07583	1.42034	-8.45351	-8.80948	-3.57245	5.34136	12.72129	143.32	15.42
91/ 7/11	2448448.5	-4.14887	3.05543	1.41207	-8.39781	-8.85072	-3.59150	5.34254	12.71839	143.63	15.33
91/ 7/15	2448452.5	-4.16821	3.03494	1.40375	-8.34189	-8.89166	-3.61042	5.34372	12.71550	143.94	15.23
91/ 7/19	2448456.5	-4.18742	3.01435	1.39539	-8.28574	-8.93229	-3.62922	5.34489	12.71262	144.25	15.13
91/ 7/23	2448460.5	-4.20649	2.99367	1.38698	-8.22938	-8.97262	-3.64790	5.34606	12.70975	144.56	15.04
91/ 7/27	2448464.5	-4.22544	2.97290	1.37853	-8.17280	-9.01264	-3.66645	5.34722	12.70690	144.87	14.94
91/ 7/31	2448468.5	-4.24425	2.95203	1.37004	-8.11600	-9.05236	-3.68488	5.34838	12.70406	145.18	14.84
91/ 8/ 4	2448472.5	-4.26294	2.93107	1.36151	-8.05900	-9.09177	-3.70318	5.34953	12.70123	145.49	14.74
91/ 8/ 8	2448476.5	-4.28149	2.91002	1.35293	-8.00178	-9.13088	-3.72135	5.35068	12.69842	145.80	14.65
91/ 8/12	2448480.5	-4.29991	2.88888	1.34431	-7.94435	-9.16968	-3.73940	5.35182	12.69562	146.10	14.55
91/ 8/16	2448484.5	-4.31819	2.86765	1.33566	-7.88671	-9.20818	-3.75732	5.35296	12.69284	146.41	14.45
91/ 8/20	2448488.5	-4.33635	2.84634	1.32695	-7.82887	-9.24636	-3.77511	5.35410	12.69007	146.72	14.35
91/ 8/24	2448492.5	-4.35437	2.82493	1.31821	-7.77083	-9.28424	-3.79278	5.35523	12.68732	147.03	14.25
91/ 8/28	2448496.5	-4.37225	2.80344	1.30943	-7.71258	-9.32181	-3.81032	5.35635	12.68458	147.33	14.15
91/ 9/ 1	2448500.5	-4.39000	2.78186	1.30061	-7.65413	-9.35907	-3.82773	5.35747	12.68185	147.64	14.05
91/ 9/ 5	2448504.5	-4.40761	2.76020	1.29175	-7.59549	-9.39602	-3.84501	5.35858	12.67915	147.94	13.95
91/ 9/ 9	2448508.5	-4.42509	2.73845	1.28284	-7.53665	-9.43266	-3.86217	5.35969	12.67645	148.25	13.85
91/ 9/13	2448512.5	-4.44244	2.71662	1.27390	-7.47761	-9.46899	-3.87919	5.36079	12.67377	148.55	13.75
91/ 9/17	2448516.5	-4.45964	2.69470	1.26492	-7.41837	-9.50501	-3.89609	5.36189	12.67111	148.86	13.65
91/ 9/21	2448520.5	-4.47671	2.67270	1.25590	-7.35894	-9.54071	-3.91286	5.36298	12.66845	149.16	13.54
91/ 9/25	2448524.5	-4.49364	2.65062	1.24684	-7.29933	-9.57610	-3.92950	5.36407	12.66581	149.47	13.44
91/ 9/29	2448528.5	-4.51044	2.62846	1.23774	-7.23952	-9.61117	-3.94601	5.36515	12.66319	149.77	13.34
91/10/ 3	2448532.5	-4.52709	2.60621	1.22861	-7.17953	-9.64593	-3.96238	5.36623	12.66057	150.07	13.24
91/10/ 7	2448536.5	-4.54361	2.58389	1.21944	-7.11935	-9.68038	-3.97863	5.36730	12.65797	150.37	13.13
91/10/11	2448540.5	-4.55999	2.56149	1.21023	-7.05899	-9.71450	-3.99474	5.36836	12.65539	150.68	13.03
91/10/15	2448544.5	-4.57622	2.53901	1.20098	-6.99845	-9.74831	-4.01073	5.36943	12.65282	150.98	12.92
91/10/19	2448548.5	-4.59232	2.51645	1.19170	-6.93773	-9.78181	-4.02658	5.37048	12.65026	151.28	12.82
91/10/23	2448552.5	-4.60828	2.49381	1.18238	-6.87683	-9.81498	-4.04230	5.37153	12.64772	151.58	12.72
91/10/27	2448556.5	-4.62409	2.47110	1.17302	-6.81576	-9.84784	-4.05788	5.37257	12.64519	151.88	12.61
91/10/31	2448560.5	-4.63977	2.44831	1.16363	-6.75451	-9.88037	-4.07334	5.37361	12.64267	152.18	12.51
91/11/ 4	2448564.5	-4.65530	2.42545	1.15420	-6.69309	-9.91259	-4.08866	5.37465	12.64017	152.48	12.40
91/11/ 8	2448568.5	-4.67069	2.40251	1.14474	-6.63150	-9.94448	-4.10384	5.37567	12.63769	152.78	12.30
91/11/12	2448572.5	-4.68594	2.37950	1.13524	-6.56975	-9.97606	-4.11890	5.37669	12.63521	153.08	12.19
91/11/16	2448576.5	-4.70105	2.35642	1.12571	-6.50782	-10.00731	-4.13382	5.37771	12.63275	153.38	12.08

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91/11/20	2448580.5	-4.71601	2.33326	1.11614	-6.44574	-10.03824	-4.14860	5.37872	12.63031	153.68	11.98
91/11/24	2448584.5	-4.73083	2.31004	1.10654	-6.38349	-10.06885	-4.16325	5.37973	12.62788	153.97	11.87
91/11/28	2448588.5	-4.74550	2.28674	1.09690	-6.32108	-10.09913	-4.17777	5.38073	12.62546	154.27	11.76
91/12/ 2	2448592.5	-4.76004	2.26338	1.08723	-6.25851	-10.12909	-4.19215	5.38172	12.62306	154.57	11.66
91/12/ 6	2448596.5	-4.77442	2.23994	1.07753	-6.19579	-10.15873	-4.20640	5.38271	12.62067	154.87	11.55
91/12/10	2448600.5	-4.78866	2.21644	1.06780	-6.13290	-10.18804	-4.22051	5.38369	12.61830	155.16	11.44
91/12/14	2448604.5	-4.80276	2.19287	1.05803	-6.06987	-10.21703	-4.23449	5.38466	12.61594	155.46	11.33
91/12/18	2448608.5	-4.81671	2.16923	1.04824	-6.00668	-10.24569	-4.24832	5.38563	12.61359	155.76	11.22
91/12/22	2448612.5	-4.83051	2.14553	1.03840	-5.94334	-10.27402	-4.26203	5.38660	12.61125	156.05	11.11
91/12/26	2448616.5	-4.84417	2.12176	1.02854	-5.87985	-10.30202	-4.27559	5.38755	12.60893	156.35	11.01
91/12/30	2448620.5	-4.85768	2.09793	1.01865	-5.81622	-10.32970	-4.28902	5.38851	12.60662	156.64	10.90
92/ 1/ 3	2448624.5	-4.87104	2.07404	1.00873	-5.75245	-10.35704	-4.30231	5.38945	12.60432	156.94	10.79
92/ 1/ 7	2448628.5	-4.88426	2.05008	0.99877	-5.68854	-10.38406	-4.31546	5.39039	12.60204	157.23	10.68
92/ 1/11	2448632.5	-4.89732	2.02606	0.98879	-5.62448	-10.41075	-4.32847	5.39133	12.59977	157.52	10.57
92/ 1/15	2448636.5	-4.91024	2.00198	0.97877	-5.56030	-10.43710	-4.34135	5.39225	12.59751	157.82	10.46
92/ 1/19	2448640.5	-4.92301	1.97784	0.96873	-5.49597	-10.46313	-4.35408	5.39318	12.59527	158.11	10.35
92/ 1/23	2448644.5	-4.93564	1.95364	0.95866	-5.43151	-10.48882	-4.36668	5.39409	12.59304	158.41	10.24
92/ 1/27	2448648.5	-4.94811	1.92938	0.94855	-5.36693	-10.51419	-4.37914	5.39500	12.59083	158.70	10.13
92/ 1/31	2448652.5	-4.96043	1.90506	0.93842	-5.30221	-10.53922	-4.39146	5.39590	12.58863	158.99	10.02
92/ 2/ 4	2448656.5	-4.97261	1.88068	0.92826	-5.23737	-10.56393	-4.40364	5.39680	12.58645	159.28	9.90
92/ 2/ 8	2448660.5	-4.98463	1.85625	0.91808	-5.17240	-10.58830	-4.41568	5.39769	12.58428	159.57	9.79
92/ 2/12	2448664.5	-4.99650	1.83176	0.90786	-5.10731	-10.61234	-4.42759	5.39858	12.58213	159.87	9.68
92/ 2/16	2448668.5	-5.00823	1.80722	0.89762	-5.04210	-10.63605	-4.43935	5.39945	12.57999	160.16	9.57
92/ 2/20	2448672.5	-5.01980	1.78262	0.88735	-4.97677	-10.65943	-4.45097	5.40033	12.57787	160.45	9.46
92/ 2/24	2448676.5	-5.03122	1.75797	0.87705	-4.91132	-10.68247	-4.46246	5.40119	12.57576	160.74	9.35
92/ 2/28	2448680.5	-5.04249	1.73326	0.86673	-4.84576	-10.70518	-4.47380	5.40205	12.57367	161.03	9.23
92/ 3/ 3	2448684.5	-5.05361	1.70850	0.85638	-4.78009	-10.72756	-4.48501	5.40290	12.57160	161.32	9.12
92/ 3/ 7	2448688.5	-5.06458	1.68370	0.84601	-4.71430	-10.74961	-4.49607	5.40375	12.56954	161.61	9.01
92/ 3/11	2448692.5	-5.07539	1.65884	0.83561	-4.64840	-10.77133	-4.50700	5.40459	12.56750	161.90	8.89
92/ 3/15	2448696.5	-5.08606	1.63393	0.82519	-4.58239	-10.79271	-4.51778	5.40543	12.56548	162.19	8.78
92/ 3/19	2448700.5	-5.09657	1.60897	0.81474	-4.51627	-10.81376	-4.52843	5.40625	12.56347	162.48	8.67
92/ 3/23	2448704.5	-5.10692	1.58397	0.80426	-4.45005	-10.83447	-4.53893	5.40707	12.56147	162.77	8.55
92/ 3/27	2448708.5	-5.11713	1.55891	0.79377	-4.38373	-10.85485	-4.54929	5.40789	12.55949	163.06	8.44
92/ 3/31	2448712.5	-5.12718	1.53381	0.78324	-4.31730	-10.87489	-4.55951	5.40870	12.55753	163.35	8.33
92/ 4/ 4	2448716.5	-5.13707	1.50867	0.77270	-4.25078	-10.89460	-4.56959	5.40950	12.55558	163.63	8.21
92/ 4/ 8	2448720.5	-5.14682	1.48348	0.76213	-4.18416	-10.91398	-4.57953	5.41029	12.55365	163.92	8.10
92/ 4/12	2448724.5	-5.15641	1.45824	0.75154	-4.11745	-10.93302	-4.58933	5.41108	12.55174	164.21	7.98
92/ 4/16	2448728.5	-5.16584	1.43296	0.74093	-4.05064	-10.95172	-4.59898	5.41186	12.54984	164.50	7.87
92/ 4/20	2448732.5	-5.17512	1.40764	0.73029	-3.98374	-10.97009	-4.60850	5.41264	12.54796	164.78	7.75
92/ 4/24	2448736.5	-5.18425	1.38228	0.71963	-3.91676	-10.98813	-4.61787	5.41341	12.54610	165.07	7.64
92/ 4/28	2448740.5	-5.19322	1.35687	0.70896	-3.84968	-11.00583	-4.62710	5.41417	12.54426	165.36	7.52
92/ 5/ 2	2448744.5	-5.20203	1.33143	0.69826	-3.78252	-11.02319	-4.63619	5.41492	12.54243	165.64	7.41
92/ 5/ 6	2448748.5	-5.21069	1.30594	0.68754	-3.71527	-11.04022	-4.64514	5.41567	12.54062	165.93	7.29
92/ 5/10	2448752.5	-5.21920	1.28042	0.67679	-3.64794	-11.05692	-4.65395	5.41642	12.53882	166.22	7.18
92/ 5/14	2448756.5	-5.22755	1.25485	0.66603	-3.58053	-11.07327	-4.66261	5.41715	12.53705	166.50	7.06

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92/ 5/18	2448760.5	-5.23574	1.22925	0.65525	-3.51304	-11.08930	-4.67113	5.41788	12.53529	166.79	6.95
92/ 5/22	2448764.5	-5.24378	1.20362	0.64445	-3.44547	-11.10498	-4.67951	5.41860	12.53355	167.07	6.83
92/ 5/26	2448768.5	-5.25166	1.17795	0.63363	-3.37783	-11.12034	-4.68775	5.41932	12.53182	167.36	6.71
92/ 5/30	2448772.5	-5.25939	1.15224	0.62279	-3.31011	-11.13535	-4.69584	5.42003	12.53012	167.64	6.60
92/ 6/ 3	2448776.5	-5.26696	1.12650	0.61193	-3.24232	-11.15003	-4.70380	5.42073	12.52843	167.93	6.48
92/ 6/ 7	2448780.5	-5.27437	1.10072	0.60106	-3.17445	-11.16437	-4.71161	5.42142	12.52676	168.21	6.37
92/ 6/11	2448784.5	-5.28162	1.07491	0.59016	-3.10652	-11.17838	-4.71928	5.42211	12.52510	168.50	6.25
92/ 6/15	2448788.5	-5.28872	1.04907	0.57925	-3.03852	-11.19204	-4.72680	5.42279	12.52346	168.78	6.13
92/ 6/19	2448792.5	-5.29566	1.02320	0.56833	-2.97045	-11.20537	-4.73418	5.42346	12.52184	169.06	6.02
92/ 6/23	2448796.5	-5.30245	0.99730	0.55738	-2.90232	-11.21836	-4.74142	5.42413	12.52023	169.35	5.90
92/ 6/27	2448800.5	-5.30907	0.97137	0.54642	-2.83412	-11.23101	-4.74851	5.42479	12.51864	169.63	5.78
92/ 7/ 1	2448804.5	-5.31554	0.94541	0.53544	-2.76587	-11.24333	-4.75546	5.42545	12.51706	169.91	5.66
92/ 7/ 5	2448808.5	-5.32185	0.91942	0.52445	-2.69756	-11.25530	-4.76227	5.42609	12.51550	170.20	5.55
92/ 7/ 9	2448812.5	-5.32800	0.89341	0.51344	-2.62919	-11.26694	-4.76893	5.42673	12.51396	170.48	5.43
92/ 7/13	2448816.5	-5.33400	0.86737	0.50241	-2.56077	-11.27823	-4.77545	5.42736	12.51243	170.76	5.31
92/ 7/17	2448820.5	-5.33984	0.84130	0.49137	-2.49230	-11.28919	-4.78182	5.42799	12.51092	171.05	5.19
92/ 7/21	2448824.5	-5.34551	0.81521	0.48032	-2.42378	-11.29981	-4.78805	5.42861	12.50943	171.33	5.08
92/ 7/25	2448828.5	-5.35103	0.78909	0.46925	-2.35520	-11.31009	-4.79414	5.42922	12.50795	171.61	4.96
92/ 7/29	2448832.5	-5.35640	0.76295	0.45817	-2.28658	-11.32003	-4.80008	5.42982	12.50649	171.89	4.84
92/ 8/ 2	2448836.5	-5.36160	0.73679	0.44707	-2.21792	-11.32963	-4.80588	5.43042	12.50505	172.18	4.72
92/ 8/ 6	2448840.5	-5.36664	0.71060	0.43596	-2.14922	-11.33890	-4.81153	5.43101	12.50362	172.46	4.60
92/ 8/10	2448844.5	-5.37153	0.68440	0.42484	-2.08047	-11.34782	-4.81704	5.43159	12.50221	172.74	4.49
92/ 8/14	2448848.5	-5.37626	0.65817	0.41371	-2.01168	-11.35641	-4.82240	5.43217	12.50082	173.02	4.37
92/ 8/18	2448852.5	-5.38082	0.63193	0.40256	-1.94286	-11.36465	-4.82762	5.43274	12.49944	173.30	4.25
92/ 8/22	2448856.5	-5.38523	0.60566	0.39140	-1.87400	-11.37256	-4.83270	5.43330	12.49808	173.58	4.13
92/ 8/26	2448860.5	-5.38948	0.57938	0.38023	-1.80511	-11.38014	-4.83763	5.43385	12.49674	173.86	4.01
92/ 8/30	2448864.5	-5.39357	0.55308	0.36905	-1.73618	-11.38737	-4.84242	5.43440	12.49542	174.15	3.89
92/ 9/ 3	2448868.5	-5.39750	0.52677	0.35786	-1.66723	-11.39426	-4.84706	5.43494	12.49411	174.43	3.78
92/ 9/ 7	2448872.5	-5.40128	0.50044	0.34666	-1.59824	-11.40082	-4.85156	5.43547	12.49282	174.71	3.66
92/ 9/11	2448876.5	-5.40489	0.47409	0.33544	-1.52923	-11.40703	-4.85591	5.43600	12.49155	174.99	3.54
92/ 9/15	2448880.5	-5.40834	0.44773	0.32422	-1.46019	-11.41291	-4.86012	5.43652	12.49029	175.27	3.42
92/ 9/19	2448884.5	-5.41163	0.42136	0.31299	-1.39113	-11.41845	-4.86418	5.43703	12.48905	175.55	3.30
92/ 9/23	2448888.5	-5.41477	0.39498	0.30175	-1.32205	-11.42364	-4.86810	5.43753	12.48783	175.83	3.18
92/ 9/27	2448892.5	-5.41774	0.36858	0.29050	-1.25295	-11.42850	-4.87188	5.43803	12.48662	176.11	3.06
92/10/ 1	2448896.5	-5.42056	0.34217	0.27924	-1.18384	-11.43302	-4.87550	5.43852	12.48543	176.39	2.94
92/10/ 5	2448900.5	-5.42321	0.31576	0.26797	-1.11471	-11.43721	-4.87899	5.43900	12.48426	176.67	2.82
92/10/ 9	2448904.5	-5.42571	0.28933	0.25669	-1.04556	-11.44105	-4.88233	5.43948	12.48311	176.95	2.70
92/10/13	2448908.5	-5.42804	0.26290	0.24541	-0.97641	-11.44456	-4.88552	5.43994	12.48198	177.23	2.59
92/10/17	2448912.5	-5.43022	0.23645	0.23412	-0.90724	-11.44773	-4.88857	5.44040	12.48086	177.51	2.47
92/10/21	2448916.5	-5.43224	0.21000	0.22282	-0.83807	-11.45057	-4.89148	5.44086	12.47976	177.79	2.35
92/10/25	2448920.5	-5.43409	0.18355	0.21152	-0.76889	-11.45306	-4.89424	5.44130	12.47868	178.07	2.23
92/10/29	2448924.5	-5.43579	0.15709	0.20021	-0.69971	-11.45523	-4.89686	5.44174	12.47762	178.34	2.11
92/11/ 2	2448928.5	-5.43732	0.13062	0.18890	-0.63052	-11.45705	-4.89933	5.44217	12.47658	178.62	1.99
92/11/ 6	2448932.5	-5.43870	0.10415	0.17757	-0.56133	-11.45854	-4.90166	5.44260	12.47555	178.90	1.87
92/11/10	2448936.5	-5.43992	0.07768	0.16625	-0.49214	-11.45969	-4.90384	5.44301	12.47455	179.18	1.75

1.5 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
92/11/14	2448940.5	-5.44098	0.05120	0.15492	-0.42296	-11.46051	-4.90588	5.44342	12.47356	179.46	1.63
92/11/18	2448944.5	-5.44187	0.02473	0.14358	-0.35377	-11.46099	-4.90778	5.44382	12.47260	179.74	1.51
92/11/22	2448948.5	-5.44261	-0.00175	0.13224	-0.28460	-11.46114	-4.90953	5.44422	12.47166	180.02	1.39
92/11/26	2448952.5	-5.44319	-0.02823	0.12090	-0.21542	-11.46095	-4.91114	5.44460	12.47073	180.30	1.27
92/11/30	2448956.5	-5.44360	-0.05470	0.10955	-0.14626	-11.46043	-4.91261	5.44498	12.46983	180.58	1.15
92/12/ 4	2448960.5	-5.44386	-0.08118	0.09820	-0.07710	-11.45957	-4.91393	5.44535	12.46894	180.85	1.03
92/12/ 8	2448964.5	-5.44396	-0.10765	0.08685	-0.00795	-11.45838	-4.91511	5.44572	12.46807	181.13	0.91
92/12/12	2448968.5	-5.44390	-0.13412	0.07549	0.06118	-11.45685	-4.91614	5.44607	12.46722	181.41	0.79
92/12/16	2448972.5	-5.44368	-0.16058	0.06413	0.13030	-11.45498	-4.91703	5.44642	12.46639	181.69	0.67
92/12/20	2448976.5	-5.44330	-0.18705	0.05277	0.19941	-11.45278	-4.91778	5.44677	12.46557	181.97	0.56
92/12/24	2448980.5	-5.44276	-0.21350	0.04141	0.26849	-11.45025	-4.91838	5.44710	12.46478	182.25	0.44
92/12/28	2448984.5	-5.44206	-0.23995	0.03005	0.33756	-11.44738	-4.91883	5.44743	12.46400	182.52	0.32
93/ 1/ 1	2448988.5	-5.44120	-0.26639	0.01868	0.40660	-11.44417	-4.91914	5.44775	12.46324	182.80	0.20
93/ 1/ 5	2448992.5	-5.44018	-0.29283	0.00732	0.47562	-11.44063	-4.91931	5.44806	12.46250	183.08	0.08
93/ 1/ 9	2448996.5	-5.43900	-0.31925	-0.00405	0.54462	-11.43676	-4.91934	5.44836	12.46178	183.36	-0.04
93/ 1/13	2449000.5	-5.43766	-0.34567	-0.01541	0.61359	-11.43255	-4.91922	5.44866	12.46108	183.64	-0.16
93/ 1/17	2449004.5	-5.43616	-0.37207	-0.02677	0.68253	-11.42801	-4.91895	5.44895	12.46039	183.92	-0.28
93/ 1/21	2449008.5	-5.43451	-0.39847	-0.03814	0.75144	-11.42314	-4.91855	5.44923	12.45973	184.19	-0.40
93/ 1/25	2449012.5	-5.43269	-0.42485	-0.04950	0.82033	-11.41793	-4.91800	5.44950	12.45908	184.47	-0.52
93/ 1/29	2449016.5	-5.43072	-0.45122	-0.06086	0.88917	-11.41239	-4.91730	5.44977	12.45845	184.75	-0.64
93/ 2/ 2	2449020.5	-5.42858	-0.47758	-0.07222	0.95799	-11.40651	-4.91646	5.45003	12.45784	185.03	-0.76
93/ 2/ 6	2449024.5	-5.42629	-0.50392	-0.08358	1.02676	-11.40030	-4.91548	5.45028	12.45725	185.31	-0.88
93/ 2/10	2449028.5	-5.42384	-0.53025	-0.09493	1.09550	-11.39376	-4.91435	5.45053	12.45668	185.58	-1.00
93/ 2/14	2449032.5	-5.42123	-0.55657	-0.10628	1.16420	-11.38689	-4.91308	5.45076	12.45612	185.86	-1.12
93/ 2/18	2449036.5	-5.41846	-0.58286	-0.11763	1.23285	-11.37968	-4.91167	5.45099	12.45559	186.14	-1.24
93/ 2/22	2449040.5	-5.41553	-0.60915	-0.12897	1.30147	-11.37215	-4.91011	5.45121	12.45507	186.42	-1.36
93/ 2/26	2449044.5	-5.41245	-0.63541	-0.14032	1.37004	-11.36427	-4.90841	5.45142	12.45457	186.70	-1.47
93/ 3/ 2	2449048.5	-5.40920	-0.66165	-0.15165	1.43856	-11.35607	-4.90657	5.45163	12.45408	186.97	-1.59
93/ 3/ 6	2449052.5	-5.40580	-0.68788	-0.16299	1.50704	-11.34753	-4.90458	5.45183	12.45362	187.25	-1.71
93/ 3/10	2449056.5	-5.40224	-0.71408	-0.17431	1.57547	-11.33866	-4.90245	5.45202	12.45317	187.53	-1.83
93/ 3/14	2449060.5	-5.39852	-0.74026	-0.18564	1.64384	-11.32946	-4.90017	5.45220	12.45273	187.81	-1.95
93/ 3/18	2449064.5	-5.39465	-0.76643	-0.19695	1.71216	-11.31993	-4.89775	5.45238	12.45232	188.09	-2.07
93/ 3/22	2449068.5	-5.39061	-0.79257	-0.20827	1.78042	-11.31006	-4.89519	5.45254	12.45191	188.36	-2.19
93/ 3/26	2449072.5	-5.38642	-0.81868	-0.21957	1.84862	-11.29986	-4.89248	5.45270	12.45153	188.64	-2.31
93/ 3/30	2449076.5	-5.38207	-0.84478	-0.23087	1.91677	-11.28933	-4.88963	5.45286	12.45116	188.92	-2.43
93/ 4/ 3	2449080.5	-5.37756	-0.87084	-0.24216	1.98485	-11.27847	-4.88663	5.45300	12.45081	189.20	-2.55
93/ 4/ 7	2449084.5	-5.37290	-0.89689	-0.25345	2.05287	-11.26728	-4.88349	5.45314	12.45048	189.48	-2.66
93/ 4/11	2449088.5	-5.36808	-0.92290	-0.26473	2.12082	-11.25576	-4.88021	5.45327	12.45016	189.76	-2.78
93/ 4/15	2449092.5	-5.36310	-0.94889	-0.27600	2.18870	-11.24391	-4.87679	5.45339	12.44986	190.03	-2.90
93/ 4/19	2449096.5	-5.35797	-0.97485	-0.28726	2.25652	-11.23174	-4.87322	5.45350	12.44958	190.31	-3.02
93/ 4/23	2449100.5	-5.35268	-1.00079	-0.29851	2.32426	-11.21923	-4.86951	5.45361	12.44931	190.59	-3.14
93/ 4/27	2449104.5	-5.34723	-1.02669	-0.30976	2.39193	-11.20639	-4.86566	5.45370	12.44907	190.87	-3.26
93/ 5/ 1	2449108.5	-5.34162	-1.05256	-0.32099	2.45952	-11.19323	-4.86166	5.45379	12.44884	191.15	-3.37
93/ 5/ 5	2449112.5	-5.33586	-1.07841	-0.33222	2.52704	-11.17974	-4.85753	5.45388	12.44862	191.43	-3.49
93/ 5/ 9	2449116.5	-5.32995	-1.10422	-0.34344	2.59448	-11.16593	-4.85325	5.45395	12.44843	191.70	-3.61

1.5 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
93/ 5/13	2449120.5	-5.32388	-1.13000	-0.35464	2.66184	-11.15179	-4.84883	5.45402	12.44825	191.98	-3.73
93/ 5/17	2449124.5	-5.31765	-1.15574	-0.36584	2.72912	-11.13733	-4.84427	5.45408	12.44810	192.26	-3.85
93/ 5/21	2449128.5	-5.31127	-1.18145	-0.37703	2.79632	-11.12254	-4.83957	5.45413	12.44796	192.54	-3.96
93/ 5/25	2449132.5	-5.30473	-1.20713	-0.38820	2.86343	-11.10743	-4.83472	5.45417	12.44784	192.82	-4.08
93/ 5/29	2449136.5	-5.29804	-1.23277	-0.39936	2.93046	-11.09199	-4.82974	5.45421	12.44774	193.10	-4.20
93/ 6/ 2	2449140.5	-5.29119	-1.25838	-0.41052	2.99740	-11.07623	-4.82461	5.45424	12.44765	193.38	-4.32
93/ 6/ 6	2449144.5	-5.28419	-1.28395	-0.42166	3.06425	-11.06014	-4.81935	5.45426	12.44759	193.66	-4.43
93/ 6/10	2449148.5	-5.27703	-1.30948	-0.43278	3.13101	-11.04373	-4.81394	5.45427	12.44754	193.94	-4.55
93/ 6/14	2449152.5	-5.26972	-1.33498	-0.44390	3.19768	-11.02700	-4.80839	5.45428	12.44751	194.22	-4.67
93/ 6/18	2449156.5	-5.26226	-1.36043	-0.45500	3.26425	-11.00994	-4.80270	5.45428	12.44749	194.50	-4.79
93/ 6/22	2449160.5	-5.25464	-1.38585	-0.46609	3.33072	-10.99257	-4.79687	5.45427	12.44750	194.77	-4.90
93/ 6/26	2449164.5	-5.24687	-1.41122	-0.47716	3.39710	-10.97487	-4.79090	5.45425	12.44752	195.05	-5.02
93/ 6/30	2449168.5	-5.23894	-1.43655	-0.48822	3.46338	-10.95686	-4.78479	5.45423	12.44757	195.33	-5.14
93/ 7/ 4	2449172.5	-5.23087	-1.46184	-0.49927	3.52955	-10.93852	-4.77854	5.45419	12.44763	195.61	-5.25
93/ 7/ 8	2449176.5	-5.22264	-1.48709	-0.51030	3.59563	-10.91987	-4.77216	5.45415	12.44771	195.89	-5.37
93/ 7/12	2449180.5	-5.21425	-1.51230	-0.52132	3.66159	-10.90090	-4.76563	5.45410	12.44781	196.17	-5.48
93/ 7/16	2449184.5	-5.20572	-1.53746	-0.53232	3.72746	-10.88161	-4.75896	5.45405	12.44793	196.45	-5.60
93/ 7/20	2449188.5	-5.19703	-1.56257	-0.54331	3.79321	-10.86200	-4.75216	5.45399	12.44807	196.73	-5.72
93/ 7/24	2449192.5	-5.18819	-1.58764	-0.55428	3.85886	-10.84207	-4.74521	5.45391	12.44823	197.01	-5.83
93/ 7/28	2449196.5	-5.17920	-1.61267	-0.56523	3.92439	-10.82183	-4.73813	5.45384	12.44841	197.30	-5.95
93/ 8/ 1	2449200.5	-5.17006	-1.63764	-0.57617	3.98981	-10.80128	-4.73091	5.45375	12.44860	197.58	-6.06
93/ 8/ 5	2449204.5	-5.16077	-1.66257	-0.58709	4.05512	-10.78041	-4.72355	5.45366	12.44882	197.86	-6.18
93/ 8/ 9	2449208.5	-5.15133	-1.68745	-0.59799	4.12032	-10.75922	-4.71606	5.45355	12.44906	198.14	-6.30
93/ 8/13	2449212.5	-5.14173	-1.71228	-0.60888	4.18540	-10.73772	-4.70843	5.45344	12.44932	198.42	-6.41
93/ 8/17	2449216.5	-5.13199	-1.73707	-0.61975	4.25036	-10.71591	-4.70066	5.45333	12.44960	198.70	-6.53
93/ 8/21	2449220.5	-5.12209	-1.76180	-0.63060	4.31520	-10.69379	-4.69275	5.45320	12.44990	198.98	-6.64
93/ 8/25	2449224.5	-5.11205	-1.78647	-0.64143	4.37993	-10.67135	-4.68471	5.45307	12.45022	199.26	-6.76
93/ 8/29	2449228.5	-5.10186	-1.81110	-0.65224	4.44453	-10.64859	-4.67653	5.45293	12.45055	199.54	-6.87
93/ 9/ 2	2449232.5	-5.09151	-1.83567	-0.66304	4.50901	-10.62553	-4.66821	5.45278	12.45091	199.83	-6.98
93/ 9/ 6	2449236.5	-5.08102	-1.86019	-0.67381	4.57336	-10.60215	-4.65975	5.45263	12.45128	200.11	-7.10
93/ 9/10	2449240.5	-5.07038	-1.88466	-0.68457	4.63759	-10.57846	-4.65116	5.45246	12.45168	200.39	-7.21
93/ 9/14	2449244.5	-5.05960	-1.90907	-0.69530	4.70168	-10.55445	-4.64243	5.45229	12.45209	200.67	-7.33
93/ 9/18	2449248.5	-5.04866	-1.93342	-0.70602	4.76565	-10.53014	-4.63356	5.45212	12.45252	200.95	-7.44
93/ 9/22	2449252.5	-5.03758	-1.95772	-0.71671	4.82948	-10.50552	-4.62456	5.45193	12.45297	201.24	-7.55
93/ 9/26	2449256.5	-5.02635	-1.98196	-0.72738	4.89318	-10.48058	-4.61542	5.45174	12.45343	201.52	-7.67
93/ 9/30	2449260.5	-5.01497	-2.00615	-0.73803	4.95675	-10.45534	-4.60615	5.45153	12.45392	201.80	-7.78
93/10/ 4	2449264.5	-5.00344	-2.03027	-0.74866	5.02018	-10.42979	-4.59674	5.45133	12.45442	202.09	-7.89
93/10/ 8	2449268.5	-4.99177	-2.05434	-0.75927	5.08347	-10.40393	-4.58719	5.45111	12.45495	202.37	-8.01
93/10/12	2449272.5	-4.97996	-2.07834	-0.76986	5.14661	-10.37776	-4.57751	5.45089	12.45549	202.65	-8.12
93/10/16	2449276.5	-4.96800	-2.10228	-0.78042	5.20962	-10.35129	-4.56769	5.45065	12.45604	202.94	-8.23
93/10/20	2449280.5	-4.95589	-2.12617	-0.79096	5.27248	-10.32450	-4.55774	5.45042	12.45662	203.22	-8.34
93/10/24	2449284.5	-4.94363	-2.14999	-0.80148	5.33520	-10.29742	-4.54765	5.45017	12.45722	203.50	-8.46
93/10/28	2449288.5	-4.93124	-2.17374	-0.81197	5.39776	-10.27002	-4.53743	5.44991	12.45783	203.79	-8.57
93/11/ 1	2449292.5	-4.91870	-2.19744	-0.82244	5.46018	-10.24232	-4.52707	5.44965	12.45846	204.07	-8.68
93/11/ 5	2449296.5	-4.90601	-2.22107	-0.83289	5.52245	-10.21432	-4.51658	5.44938	12.45911	204.36	-8.79

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93/11/ 9	2449300.5	-4.89318	-2.24463	-0.84331	5.58457	-10.18602	-4.50596	5.44911	12.45978	204.64	-8.90
93/11/13	2449304.5	-4.88021	-2.26813	-0.85371	5.64654	-10.15741	-4.49520	5.44882	12.46047	204.93	-9.01
93/11/17	2449308.5	-4.86709	-2.29156	-0.86408	5.70835	-10.12850	-4.48431	5.44853	12.46117	205.21	-9.13
93/11/21	2449312.5	-4.85383	-2.31493	-0.87443	5.77000	-10.09929	-4.47329	5.44823	12.46189	205.50	-9.24
93/11/25	2449316.5	-4.84043	-2.33822	-0.88475	5.83150	-10.06977	-4.46213	5.44792	12.46263	205.78	-9.35
93/11/29	2449320.5	-4.82689	-2.36145	-0.89505	5.89283	-10.03995	-4.45084	5.44761	12.46339	206.07	-9.46
93/12/ 3	2449324.5	-4.81320	-2.38461	-0.90531	5.95401	-10.00984	-4.43941	5.44728	12.46417	206.36	-9.57
93/12/ 7	2449328.5	-4.79938	-2.40770	-0.91556	6.01502	-9.97942	-4.42786	5.44695	12.46496	206.64	-9.68
93/12/11	2449332.5	-4.78541	-2.43072	-0.92577	6.07586	-9.94870	-4.41617	5.44662	12.46576	206.93	-9.79
93/12/15	2449336.5	-4.77131	-2.45367	-0.93596	6.13654	-9.91769	-4.40435	5.44627	12.46659	207.21	-9.90
93/12/19	2449340.5	-4.75706	-2.47654	-0.94612	6.19704	-9.88637	-4.39239	5.44592	12.46743	207.50	-10.00
93/12/23	2449344.5	-4.74267	-2.49935	-0.95626	6.25738	-9.85476	-4.38031	5.44556	12.46829	207.79	-10.11
93/12/27	2449348.5	-4.72815	-2.52207	-0.96636	6.31754	-9.82286	-4.36809	5.44519	12.46917	208.08	-10.22
93/12/31	2449352.5	-4.71349	-2.54473	-0.97644	6.37753	-9.79066	-4.35574	5.44482	12.47006	208.36	-10.33
94/ 1/ 4	2449356.5	-4.69868	-2.56731	-0.98649	6.43735	-9.75817	-4.34326	5.44443	12.47097	208.65	-10.44
94/ 1/ 8	2449360.5	-4.68374	-2.58982	-0.99651	6.49698	-9.72538	-4.33066	5.44404	12.47190	208.94	-10.55
94/ 1/12	2449364.5	-4.66866	-2.61225	-1.00649	6.55644	-9.69230	-4.31792	5.44365	12.47285	209.23	-10.65
94/ 1/16	2449368.5	-4.65345	-2.63460	-1.01646	6.61572	-9.65892	-4.30505	5.44324	12.47381	209.52	-10.76
94/ 1/20	2449372.5	-4.63810	-2.65687	-1.02639	6.67481	-9.62526	-4.29205	5.44283	12.47479	209.81	-10.87
94/ 1/24	2449376.5	-4.62261	-2.67907	-1.03629	6.73372	-9.59131	-4.27893	5.44241	12.47579	210.09	-10.98
94/ 1/28	2449380.5	-4.60699	-2.70119	-1.04616	6.79245	-9.55707	-4.26567	5.44198	12.47681	210.38	-11.08
94/ 2/ 1	2449384.5	-4.59123	-2.72323	-1.05599	6.85099	-9.52254	-4.25229	5.44155	12.47785	210.67	-11.19
94/ 2/ 5	2449388.5	-4.57533	-2.74519	-1.06580	6.90934	-9.48772	-4.23878	5.44111	12.47891	210.96	-11.30
94/ 2/ 9	2449392.5	-4.55930	-2.76706	-1.07558	6.96751	-9.45262	-4.22514	5.44066	12.47998	211.25	-11.40
94/ 2/13	2449396.5	-4.54314	-2.78886	-1.08532	7.02548	-9.41723	-4.21138	5.44020	12.48108	211.54	-11.51
94/ 2/17	2449400.5	-4.52684	-2.81057	-1.09504	7.08327	-9.38155	-4.19749	5.43974	12.48219	211.83	-11.61
94/ 2/21	2449404.5	-4.51041	-2.83221	-1.10472	7.14086	-9.34559	-4.18347	5.43927	12.48332	212.13	-11.72
94/ 2/25	2449408.5	-4.49385	-2.85375	-1.11437	7.19825	-9.30935	-4.16932	5.43879	12.48447	212.42	-11.82
94/ 3/ 1	2449412.5	-4.47715	-2.87522	-1.12398	7.25545	-9.27281	-4.15505	5.43830	12.48564	212.71	-11.93
94/ 3/ 5	2449416.5	-4.46033	-2.89660	-1.13356	7.31245	-9.23600	-4.14065	5.43781	12.48682	213.00	-12.03
94/ 3/ 9	2449420.5	-4.44337	-2.91789	-1.14311	7.36925	-9.19891	-4.12612	5.43731	12.48802	213.29	-12.14
94/ 3/13	2449424.5	-4.42628	-2.93910	-1.15263	7.42585	-9.16153	-4.11147	5.43680	12.48924	213.58	-12.24
94/ 3/17	2449428.5	-4.40906	-2.96022	-1.16211	7.48225	-9.12387	-4.09670	5.43629	12.49048	213.88	-12.34
94/ 3/21	2449432.5	-4.39171	-2.98125	-1.17156	7.53844	-9.08594	-4.08179	5.43576	12.49173	214.17	-12.45
94/ 3/25	2449436.5	-4.37423	-3.00220	-1.18097	7.59443	-9.04772	-4.06677	5.43523	12.49301	214.46	-12.55
94/ 3/29	2449440.5	-4.35662	-3.02306	-1.19035	7.65021	-9.00923	-4.05162	5.43470	12.49430	214.76	-12.65
94/ 4/ 2	2449444.5	-4.33888	-3.04383	-1.19969	7.70578	-8.97046	-4.03634	5.43415	12.49561	215.05	-12.75
94/ 4/ 6	2449448.5	-4.32102	-3.06450	-1.20900	7.76114	-8.93141	-4.02095	5.43360	12.49693	215.34	-12.86
94/ 4/10	2449452.5	-4.30302	-3.08509	-1.21827	7.81629	-8.89208	-4.00543	5.43304	12.49828	215.64	-12.96
94/ 4/14	2449456.5	-4.28490	-3.10559	-1.22750	7.87122	-8.85249	-3.98978	5.43248	12.49964	215.93	-13.06
94/ 4/18	2449460.5	-4.26666	-3.12599	-1.23670	7.92594	-8.81262	-3.97401	5.43191	12.50102	216.23	-13.16
94/ 4/22	2449464.5	-4.24828	-3.14631	-1.24586	7.98044	-8.77247	-3.95812	5.43133	12.50242	216.52	-13.26
94/ 4/26	2449468.5	-4.22978	-3.16652	-1.25499	8.03473	-8.73205	-3.94211	5.43074	12.50383	216.82	-13.36
94/ 4/30	2449472.5	-4.21116	-3.18665	-1.26408	8.08879	-8.69137	-3.92598	5.43015	12.50527	217.12	-13.46
94/ 5/ 4	2449476.5	-4.19241	-3.20668	-1.27313	8.14264	-8.65041	-3.90973	5.42955	12.50672	217.41	-13.56

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94/ 5/ 8	2449480.5	-4.17354	-3.22662	-1.28214	8.19626	-8.60918	-3.89335	5.42894	12.50819	217.71	-13.66
94/ 5/12	2449484.5	-4.15454	-3.24646	-1.29112	8.24966	-8.56768	-3.87686	5.42832	12.50968	218.00	-13.76
94/ 5/16	2449488.5	-4.13542	-3.26620	-1.30005	8.30284	-8.52592	-3.86024	5.42770	12.51119	218.30	-13.86
94/ 5/20	2449492.5	-4.11618	-3.28585	-1.30895	8.35579	-8.48388	-3.84350	5.42707	12.51271	218.60	-13.96
94/ 5/24	2449496.5	-4.09681	-3.30540	-1.31781	8.40851	-8.44158	-3.82664	5.42644	12.51425	218.90	-14.05
94/ 5/28	2449500.5	-4.07733	-3.32485	-1.32663	8.46100	-8.39901	-3.80967	5.42579	12.51581	219.20	-14.15
94/ 6/ 1	2449504.5	-4.05772	-3.34421	-1.33541	8.51326	-8.35617	-3.79257	5.42514	12.51738	219.49	-14.25
94/ 6/ 5	2449508.5	-4.03799	-3.36346	-1.34415	8.56529	-8.31307	-3.77535	5.42448	12.51897	219.79	-14.35
94/ 6/ 9	2449512.5	-4.01815	-3.38262	-1.35286	8.61708	-8.26970	-3.75801	5.42382	12.52057	220.09	-14.44
94/ 6/13	2449516.5	-3.99818	-3.40167	-1.36152	8.66863	-8.22607	-3.74056	5.42315	12.52219	220.39	-14.54
94/ 6/17	2449520.5	-3.97810	-3.42062	-1.37014	8.71994	-8.18218	-3.72298	5.42247	12.52382	220.69	-14.64
94/ 6/21	2449524.5	-3.95789	-3.43948	-1.37872	8.77101	-8.13803	-3.70529	5.42179	12.52547	220.99	-14.73
94/ 6/25	2449528.5	-3.93757	-3.45822	-1.38726	8.82184	-8.09362	-3.68748	5.42109	12.52714	221.29	-14.83
94/ 6/29	2449532.5	-3.91713	-3.47687	-1.39576	8.87243	-8.04895	-3.66956	5.42040	12.52882	221.59	-14.92
94/ 7/ 3	2449536.5	-3.89658	-3.49541	-1.40421	8.92277	-8.00402	-3.65152	5.41969	12.53052	221.89	-15.02
94/ 7/ 7	2449540.5	-3.87591	-3.51385	-1.41263	8.97287	-7.95884	-3.63336	5.41898	12.53223	222.20	-15.11
94/ 7/11	2449544.5	-3.85512	-3.53219	-1.42100	9.02271	-7.91340	-3.61508	5.41826	12.53396	222.50	-15.20
94/ 7/15	2449548.5	-3.83422	-3.55041	-1.42933	9.07230	-7.86771	-3.59669	5.41753	12.53570	222.80	-15.30
94/ 7/19	2449552.5	-3.81320	-3.56854	-1.43762	9.12165	-7.82176	-3.57819	5.41680	12.53746	223.10	-15.39
94/ 7/23	2449556.5	-3.79207	-3.58655	-1.44586	9.17074	-7.77556	-3.55957	5.41606	12.53923	223.40	-15.48
94/ 7/27	2449560.5	-3.77083	-3.60446	-1.45407	9.21957	-7.72911	-3.54084	5.41531	12.54102	223.71	-15.58
94/ 7/31	2449564.5	-3.74948	-3.62226	-1.46222	9.26815	-7.68241	-3.52199	5.41456	12.54283	224.01	-15.67
94/ 8/ 4	2449568.5	-3.72801	-3.63996	-1.47034	9.31647	-7.63547	-3.50304	5.41380	12.54465	224.32	-15.76
94/ 8/ 8	2449572.5	-3.70643	-3.65754	-1.47841	9.36454	-7.58827	-3.48397	5.41303	12.54649	224.62	-15.85
94/ 8/12	2449576.5	-3.68474	-3.67502	-1.48643	9.41234	-7.54083	-3.46478	5.41226	12.54835	224.92	-15.94
94/ 8/16	2449580.5	-3.66294	-3.69238	-1.49442	9.45988	-7.49314	-3.44549	5.41148	12.55022	225.23	-16.03
94/ 8/20	2449584.5	-3.64103	-3.70964	-1.50235	9.50716	-7.44521	-3.42608	5.41069	12.55210	225.53	-16.12
94/ 8/24	2449588.5	-3.61902	-3.72678	-1.51025	9.55418	-7.39703	-3.40656	5.40990	12.55401	225.84	-16.21
94/ 8/28	2449592.5	-3.59689	-3.74382	-1.51809	9.60093	-7.34861	-3.38693	5.40910	12.55592	226.15	-16.30
94/ 9/ 1	2449596.5	-3.57466	-3.76074	-1.52590	9.64741	-7.29995	-3.36720	5.40830	12.55785	226.45	-16.39
94/ 9/ 5	2449600.5	-3.55232	-3.77754	-1.53365	9.69362	-7.25105	-3.34735	5.40748	12.55980	226.76	-16.48
94/ 9/ 9	2449604.5	-3.52987	-3.79424	-1.54136	9.73956	-7.20191	-3.32739	5.40666	12.56177	227.07	-16.56
94/ 9/13	2449608.5	-3.50732	-3.81082	-1.54902	9.78522	-7.15253	-3.30732	5.40584	12.56374	227.37	-16.65
94/ 9/17	2449612.5	-3.48466	-3.82729	-1.55664	9.83062	-7.10292	-3.28715	5.40501	12.56574	227.68	-16.74
94/ 9/21	2449616.5	-3.46190	-3.84364	-1.56421	9.87574	-7.05307	-3.26687	5.40417	12.56775	227.99	-16.82
94/ 9/25	2449620.5	-3.43903	-3.85987	-1.57174	9.92058	-7.00298	-3.24648	5.40332	12.56978	228.30	-16.91
94/ 9/29	2449624.5	-3.41606	-3.87599	-1.57921	9.96514	-6.95267	-3.22598	5.40247	12.57182	228.61	-17.00
94/10/ 3	2449628.5	-3.39299	-3.89200	-1.58664	10.00943	-6.90212	-3.20538	5.40161	12.57388	228.92	-17.08
94/10/ 7	2449632.5	-3.36981	-3.90788	-1.59402	10.05343	-6.85134	-3.18467	5.40075	12.57595	229.23	-17.17
94/10/11	2449636.5	-3.34654	-3.92365	-1.60136	10.09715	-6.80034	-3.16386	5.39988	12.57804	229.54	-17.25
94/10/15	2449640.5	-3.32316	-3.93930	-1.60864	10.14059	-6.74910	-3.14295	5.39900	12.58015	229.85	-17.33
94/10/19	2449644.5	-3.29968	-3.95484	-1.61588	10.18375	-6.69764	-3.12192	5.39812	12.58227	230.16	-17.42
94/10/23	2449648.5	-3.27611	-3.97025	-1.62306	10.22662	-6.64596	-3.10080	5.39723	12.58441	230.47	-17.50
94/10/27	2449652.5	-3.25243	-3.98554	-1.63020	10.26920	-6.59405	-3.07957	5.39633	12.58657	230.78	-17.58
94/10/31	2449656.5	-3.22866	-4.00071	-1.63729	10.31150	-6.54192	-3.05824	5.39543	12.58875	231.10	-17.67

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94/11/ 4	2449660.5	-3.20479	-4.01577	-1.64433	10.35351	-6.48956	-3.03681	5.39453	12.59094	231.41	-17.75
94/11/ 8	2449664.5	-3.18082	-4.03070	-1.65132	10.39523	-6.43698	-3.01528	5.39361	12.59316	231.72	-17.83
94/11/12	2449668.5	-3.15676	-4.04551	-1.65827	10.43666	-6.38419	-2.99364	5.39269	12.59538	232.03	-17.91
94/11/16	2449672.5	-3.13260	-4.06020	-1.66516	10.47780	-6.33117	-2.97190	5.39177	12.59763	232.35	-17.99
94/11/20	2449676.5	-3.10835	-4.07476	-1.67200	10.51864	-6.27793	-2.95007	5.39083	12.59989	232.66	-18.07
94/11/24	2449680.5	-3.08400	-4.08920	-1.67879	10.55919	-6.22448	-2.92813	5.38990	12.60216	232.98	-18.15
94/11/28	2449684.5	-3.05956	-4.10352	-1.68553	10.59944	-6.17081	-2.90609	5.38895	12.60446	233.29	-18.23
94/12/ 2	2449688.5	-3.03503	-4.11771	-1.69221	10.63939	-6.11692	-2.88395	5.38800	12.60676	233.61	-18.30
94/12/ 6	2449692.5	-3.01041	-4.13178	-1.69885	10.67904	-6.06282	-2.86171	5.38704	12.60909	233.92	-18.38
94/12/10	2449696.5	-2.98569	-4.14573	-1.70544	10.71839	-6.00851	-2.83937	5.38608	12.61143	234.24	-18.46
94/12/14	2449700.5	-2.96088	-4.15954	-1.71197	10.75744	-5.95398	-2.81694	5.38512	12.61378	234.56	-18.54
94/12/18	2449704.5	-2.93599	-4.17323	-1.71845	10.79618	-5.89925	-2.79441	5.38414	12.61615	234.87	-18.61
94/12/22	2449708.5	-2.91100	-4.18680	-1.72488	10.83462	-5.84431	-2.77178	5.38316	12.61854	235.19	-18.69
94/12/26	2449712.5	-2.88593	-4.20024	-1.73126	10.87275	-5.78915	-2.74905	5.38218	12.62094	235.51	-18.76
94/12/30	2449716.5	-2.86077	-4.21355	-1.73758	10.91057	-5.73379	-2.72623	5.38118	12.62336	235.83	-18.84
95/ 1/ 3	2449720.5	-2.83552	-4.22673	-1.74385	10.94808	-5.67823	-2.70331	5.38019	12.62579	236.14	-18.91
95/ 1/ 7	2449724.5	-2.81018	-4.23978	-1.75007	10.98528	-5.62246	-2.68029	5.37918	12.62824	236.46	-18.99
95/ 1/11	2449728.5	-2.78476	-4.25271	-1.75624	11.02216	-5.56649	-2.65718	5.37818	12.63070	236.78	-19.06
95/ 1/15	2449732.5	-2.75926	-4.26550	-1.76235	11.05874	-5.51031	-2.63398	5.37716	12.63317	237.10	-19.13
95/ 1/19	2449736.5	-2.73367	-4.27817	-1.76841	11.09499	-5.45394	-2.61068	5.37614	12.63566	237.42	-19.20
95/ 1/23	2449740.5	-2.70799	-4.29070	-1.77441	11.13093	-5.39737	-2.58729	5.37512	12.63817	237.74	-19.28
95/ 1/27	2449744.5	-2.68224	-4.30310	-1.78036	11.16655	-5.34060	-2.56381	5.37408	12.64069	238.06	-19.35
95/ 1/31	2449748.5	-2.65640	-4.31538	-1.78626	11.20186	-5.28363	-2.54024	5.37305	12.64323	238.38	-19.42
95/ 2/ 4	2449752.5	-2.63048	-4.32752	-1.79210	11.23684	-5.22647	-2.51657	5.37201	12.64578	238.71	-19.49
95/ 2/ 8	2449756.5	-2.60448	-4.33952	-1.79788	11.27150	-5.16911	-2.49281	5.37096	12.64834	239.03	-19.56
95/ 2/12	2449760.5	-2.57840	-4.35140	-1.80362	11.30584	-5.11155	-2.46897	5.36990	12.65092	239.35	-19.63
95/ 2/16	2449764.5	-2.55225	-4.36314	-1.80929	11.33985	-5.05381	-2.44503	5.36884	12.65351	239.67	-19.69
95/ 2/20	2449768.5	-2.52601	-4.37475	-1.81491	11.37353	-4.99587	-2.42100	5.36778	12.65611	240.00	-19.76
95/ 2/24	2449772.5	-2.49970	-4.38622	-1.82048	11.40688	-4.93774	-2.39688	5.36671	12.65873	240.32	-19.83
95/ 2/28	2449776.5	-2.47331	-4.39756	-1.82599	11.43991	-4.87943	-2.37267	5.36563	12.66135	240.65	-19.90
95/ 3/ 4	2449780.5	-2.44684	-4.40877	-1.83144	11.47260	-4.82093	-2.34837	5.36455	12.66399	240.97	-19.96
95/ 3/ 8	2449784.5	-2.42030	-4.41984	-1.83684	11.50495	-4.76225	-2.32399	5.36347	12.66664	241.29	-20.03
95/ 3/12	2449788.5	-2.39368	-4.43077	-1.84218	11.53698	-4.70338	-2.29952	5.36238	12.66931	241.62	-20.09
95/ 3/16	2449792.5	-2.36699	-4.44157	-1.84746	11.56866	-4.64433	-2.27496	5.36128	12.67199	241.95	-20.16
95/ 3/20	2449796.5	-2.34023	-4.45223	-1.85269	11.60001	-4.58510	-2.25032	5.36018	12.67467	242.27	-20.22
95/ 3/24	2449800.5	-2.31340	-4.46275	-1.85786	11.63102	-4.52570	-2.22560	5.35907	12.67737	242.60	-20.28
95/ 3/28	2449804.5	-2.28649	-4.47314	-1.86297	11.66169	-4.46611	-2.20078	5.35796	12.68009	242.93	-20.35
95/ 4/ 1	2449808.5	-2.25952	-4.48339	-1.86803	11.69201	-4.40636	-2.17589	5.35684	12.68281	243.25	-20.41
95/ 4/ 5	2449812.5	-2.23247	-4.49350	-1.87302	11.72200	-4.34643	-2.15091	5.35571	12.68555	243.58	-20.47
95/ 4/ 9	2449816.5	-2.20536	-4.50347	-1.87796	11.75164	-4.28632	-2.12586	5.35459	12.68829	243.91	-20.53
95/ 4/13	2449820.5	-2.17818	-4.51330	-1.88285	11.78093	-4.22605	-2.10072	5.35345	12.69105	244.24	-20.59
95/ 4/17	2449824.5	-2.15093	-4.52300	-1.88767	11.80988	-4.16561	-2.07549	5.35231	12.69382	244.57	-20.65
95/ 4/21	2449828.5	-2.12361	-4.53255	-1.89244	11.83848	-4.10500	-2.05019	5.35117	12.69661	244.90	-20.71
95/ 4/25	2449832.5	-2.09623	-4.54196	-1.89714	11.86673	-4.04423	-2.02482	5.35002	12.69941	245.23	-20.77
95/ 4/29	2449836.5	-2.06878	-4.55123	-1.90179	11.89463	-3.98330	-1.99936	5.34887	12.70222	245.56	-20.83

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
95/ 5/ 3	2449840.5	-2.04127	-4.56037	-1.90638	11.92219	-3.92220	-1.97382	5.34771	12.70504	245.89	-20.88
95/ 5/ 7	2449844.5	-2.01370	-4.56936	-1.91091	11.94939	-3.86094	-1.94821	5.34655	12.70788	246.22	-20.94
95/ 5/11	2449848.5	-1.98606	-4.57820	-1.91538	11.97624	-3.79952	-1.92251	5.34538	12.71073	246.55	-21.00
95/ 5/15	2449852.5	-1.95836	-4.58691	-1.91979	12.00273	-3.73794	-1.89675	5.34421	12.71359	246.88	-21.05
95/ 5/19	2449856.5	-1.93060	-4.59548	-1.92415	12.02887	-3.67620	-1.87090	5.34303	12.71646	247.21	-21.11
95/ 5/23	2449860.5	-1.90279	-4.60390	-1.92844	12.05465	-3.61431	-1.84498	5.34185	12.71934	247.54	-21.16
95/ 5/27	2449864.5	-1.87491	-4.61217	-1.93267	12.08007	-3.55227	-1.81899	5.34066	12.72224	247.88	-21.22
95/ 5/31	2449868.5	-1.84697	-4.62031	-1.93684	12.10513	-3.49007	-1.79292	5.33947	12.72515	248.21	-21.27
95/ 6/ 4	2449872.5	-1.81898	-4.62830	-1.94095	12.12983	-3.42773	-1.76678	5.33827	12.72807	248.54	-21.32
95/ 6/ 8	2449876.5	-1.79093	-4.63615	-1.94501	12.15417	-3.36524	-1.74057	5.33707	12.73100	248.88	-21.37
95/ 6/12	2449880.5	-1.76282	-4.64385	-1.94900	12.17815	-3.30260	-1.71428	5.33586	12.73394	249.21	-21.42
95/ 6/16	2449884.5	-1.73466	-4.65141	-1.95293	12.20176	-3.23981	-1.68793	5.33465	12.73690	249.55	-21.47
95/ 6/20	2449888.5	-1.70645	-4.65882	-1.95679	12.22501	-3.17689	-1.66150	5.33344	12.73986	249.88	-21.52
95/ 6/24	2449892.5	-1.67818	-4.66608	-1.96060	12.24789	-3.11382	-1.63500	5.33222	12.74284	250.22	-21.57
95/ 6/28	2449896.5	-1.64986	-4.67320	-1.96435	12.27041	-3.05061	-1.60844	5.33100	12.74583	250.55	-21.62
95/ 7/ 2	2449900.5	-1.62148	-4.68018	-1.96803	12.29256	-2.98726	-1.58181	5.32977	12.74884	250.89	-21.67
95/ 7/ 6	2449904.5	-1.59306	-4.68701	-1.97166	12.31433	-2.92378	-1.55511	5.32854	12.75185	251.23	-21.72
95/ 7/10	2449908.5	-1.56459	-4.69369	-1.97522	12.33574	-2.86016	-1.52834	5.32730	12.75488	251.56	-21.76
95/ 7/14	2449912.5	-1.53607	-4.70022	-1.97872	12.35678	-2.79641	-1.50151	5.32606	12.75791	251.90	-21.81
95/ 7/18	2449916.5	-1.50750	-4.70661	-1.98216	12.37744	-2.73253	-1.47461	5.32481	12.76096	252.24	-21.85
95/ 7/22	2449920.5	-1.47888	-4.71285	-1.98553	12.39773	-2.66852	-1.44765	5.32356	12.76403	252.58	-21.90
95/ 7/26	2449924.5	-1.45021	-4.71894	-1.98885	12.41765	-2.60438	-1.42062	5.32231	12.76710	252.92	-21.94
95/ 7/30	2449928.5	-1.42150	-4.72488	-1.99210	12.43719	-2.54011	-1.39353	5.32105	12.77019	253.26	-21.99
95/ 8/ 3	2449932.5	-1.39275	-4.73067	-1.99528	12.45636	-2.47571	-1.36637	5.31979	12.77330	253.60	-22.03
95/ 8/ 7	2449936.5	-1.36395	-4.73632	-1.99841	12.47515	-2.41119	-1.33915	5.31852	12.77641	253.93	-22.07
95/ 8/11	2449940.5	-1.33511	-4.74181	-2.00147	12.49356	-2.34655	-1.31187	5.31725	12.77953	254.27	-22.11
95/ 8/15	2449944.5	-1.30623	-4.74716	-2.00447	12.51159	-2.28178	-1.28453	5.31598	12.78267	254.62	-22.15
95/ 8/19	2449948.5	-1.27730	-4.75236	-2.00741	12.52924	-2.21690	-1.25713	5.31470	12.78581	254.96	-22.19
95/ 8/23	2449952.5	-1.24834	-4.75740	-2.01028	12.54651	-2.15190	-1.22967	5.31342	12.78896	255.30	-22.23
95/ 8/27	2449956.5	-1.21933	-4.76230	-2.01309	12.56339	-2.08678	-1.20215	5.31214	12.79213	255.64	-22.27
95/ 8/31	2449960.5	-1.19029	-4.76704	-2.01583	12.57989	-2.02155	-1.17457	5.31085	12.79530	255.98	-22.31
95/ 9/ 4	2449964.5	-1.16121	-4.77164	-2.01851	12.59600	-1.95620	-1.14693	5.30955	12.79849	256.32	-22.34
95/ 9/ 8	2449968.5	-1.13209	-4.77608	-2.02113	12.61172	-1.89075	-1.11924	5.30825	12.80168	256.67	-22.38
95/ 9/12	2449972.5	-1.10294	-4.78037	-2.02369	12.62706	-1.82518	-1.09149	5.30695	12.80489	257.01	-22.42
95/ 9/16	2449976.5	-1.07375	-4.78451	-2.02617	12.64200	-1.75951	-1.06368	5.30565	12.80810	257.35	-22.45
95/ 9/20	2449980.5	-1.04453	-4.78850	-2.02860	12.65655	-1.69374	-1.03583	5.30434	12.81132	257.69	-22.49
95/ 9/24	2449984.5	-1.01528	-4.79234	-2.03096	12.67072	-1.62786	-1.00791	5.30303	12.81456	258.04	-22.52
95/ 9/28	2449988.5	-0.98599	-4.79602	-2.03326	12.68448	-1.56188	-0.97994	5.30171	12.81780	258.38	-22.55
95/10/ 2	2449992.5	-0.95667	-4.79956	-2.03549	12.69786	-1.49580	-0.95193	5.30039	12.82104	258.73	-22.58
95/10/ 6	2449996.5	-0.92732	-4.80294	-2.03766	12.71084	-1.42963	-0.92386	5.29907	12.82430	259.07	-22.61
95/10/10	2450000.5	-0.89794	-4.80616	-2.03976	12.72342	-1.36336	-0.89574	5.29774	12.82757	259.42	-22.65
95/10/14	2450004.5	-0.86853	-4.80924	-2.04179	12.73561	-1.29700	-0.86757	5.29642	12.83084	259.76	-22.68
95/10/18	2450008.5	-0.83910	-4.81215	-2.04377	12.74740	-1.23054	-0.83935	5.29508	12.83413	260.11	-22.70
95/10/22	2450012.5	-0.80964	-4.81492	-2.04567	12.75879	-1.16400	-0.81108	5.29375	12.83743	260.45	-22.73
95/10/26	2450016.5	-0.78015	-4.81753	-2.04751	12.76978	-1.09737	-0.78277	5.29241	12.84073	260.80	-22.76

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
95/10/30	2450020.5	-0.75064	-4.81999	-2.04929	12.78038	-1.03065	-0.75441	5.29106	12.84404	261.15	-22.79
95/11/ 3	2450024.5	-0.72110	-4.82229	-2.05100	12.79057	-0.96385	-0.72600	5.28972	12.84736	261.50	-22.81
95/11/ 7	2450028.5	-0.69154	-4.82444	-2.05264	12.80036	-0.89697	-0.69755	5.28837	12.85069	261.84	-22.84
95/11/11	2450032.5	-0.66196	-4.82644	-2.05422	12.80975	-0.83000	-0.66905	5.28701	12.85403	262.19	-22.86
95/11/15	2450036.5	-0.63235	-4.82828	-2.05573	12.81873	-0.76296	-0.64051	5.28566	12.85738	262.54	-22.89
95/11/19	2450040.5	-0.60273	-4.82996	-2.05718	12.82730	-0.69584	-0.61193	5.28430	12.86073	262.89	-22.91
95/11/23	2450044.5	-0.57309	-4.83149	-2.05856	12.83547	-0.62865	-0.58331	5.28294	12.86409	263.24	-22.93
95/11/27	2450048.5	-0.54343	-4.83287	-2.05988	12.84323	-0.56139	-0.55464	5.28157	12.86745	263.58	-22.96
95/12/ 1	2450052.5	-0.51375	-4.83409	-2.06112	12.85058	-0.49405	-0.52594	5.28021	12.87083	263.93	-22.98
95/12/ 5	2450056.5	-0.48405	-4.83515	-2.06231	12.85753	-0.42665	-0.49720	5.27883	12.87421	264.28	-23.00
95/12/ 9	2450060.5	-0.45434	-4.83606	-2.06342	12.86406	-0.35918	-0.46841	5.27746	12.87760	264.63	-23.02
95/12/13	2450064.5	-0.42462	-4.83681	-2.06447	12.87019	-0.29166	-0.43959	5.27608	12.88100	264.98	-23.03
95/12/17	2450068.5	-0.39488	-4.83741	-2.06545	12.87590	-0.22406	-0.41074	5.27471	12.88440	265.33	-23.05
95/12/21	2450072.5	-0.36513	-4.83785	-2.06637	12.88120	-0.15641	-0.38185	5.27332	12.88781	265.68	-23.07
95/12/25	2450076.5	-0.33536	-4.83813	-2.06722	12.88609	-0.08871	-0.35292	5.27194	12.89123	266.03	-23.09
95/12/29	2450080.5	-0.30559	-4.83826	-2.06800	12.89057	-0.02094	-0.32396	5.27055	12.89466	266.39	-23.10
96/ 1/ 2	2450084.5	-0.27580	-4.83823	-2.06871	12.89463	0.04687	-0.29497	5.26916	12.89809	266.74	-23.12
96/ 1/ 6	2450088.5	-0.24601	-4.83804	-2.06936	12.89828	0.11474	-0.26595	5.26777	12.90153	267.09	-23.13
96/ 1/10	2450092.5	-0.21621	-4.83770	-2.06994	12.90151	0.18265	-0.23689	5.26637	12.90498	267.44	-23.14
96/ 1/14	2450096.5	-0.18640	-4.83720	-2.07046	12.90433	0.25061	-0.20781	5.26498	12.90844	267.79	-23.16
96/ 1/18	2450100.5	-0.15659	-4.83654	-2.07090	12.90673	0.31861	-0.17870	5.26358	12.91190	268.15	-23.17
96/ 1/22	2450104.5	-0.12677	-4.83572	-2.07128	12.90872	0.38666	-0.14955	5.26218	12.91538	268.50	-23.18
96/ 1/26	2450108.5	-0.09694	-4.83475	-2.07159	12.91029	0.45476	-0.12038	5.26077	12.91886	268.85	-23.19
96/ 1/30	2450112.5	-0.06712	-4.83362	-2.07184	12.91145	0.52289	-0.09118	5.25936	12.92235	269.20	-23.20
96/ 2/ 3	2450116.5	-0.03729	-4.83234	-2.07201	12.91218	0.59106	-0.06196	5.25796	12.92585	269.56	-23.21
96/ 2/ 7	2450120.5	-0.00746	-4.83089	-2.07212	12.91250	0.65926	-0.03271	5.25654	12.92936	269.91	-23.22
96/ 2/11	2450124.5	0.02237	-4.82929	-2.07217	12.91239	0.72750	-0.00343	5.25513	12.93287	270.27	-23.22
96/ 2/15	2450128.5	0.05220	-4.82753	-2.07214	12.91187	0.79577	0.02586	5.25372	12.93639	270.62	-23.23
96/ 2/19	2450132.5	0.08203	-4.82561	-2.07205	12.91092	0.86407	0.05519	5.25230	12.93992	270.97	-23.23
96/ 2/23	2450136.5	0.11185	-4.82354	-2.07188	12.90955	0.93240	0.08453	5.25088	12.94345	271.33	-23.24
96/ 2/27	2450140.5	0.14167	-4.82130	-2.07166	12.90775	1.00075	0.11390	5.24946	12.94699	271.68	-23.24
96/ 3/ 2	2450144.5	0.17149	-4.81891	-2.07136	12.90554	1.06913	0.14328	5.24803	12.95054	272.04	-23.25
96/ 3/ 6	2450148.5	0.20130	-4.81636	-2.07099	12.90290	1.13752	0.17269	5.24661	12.95409	272.39	-23.25
96/ 3/10	2450152.5	0.23111	-4.81366	-2.07056	12.89983	1.20594	0.20211	5.24518	12.95765	272.75	-23.25
96/ 3/14	2450156.5	0.26090	-4.81079	-2.07006	12.89634	1.27437	0.23155	5.24375	12.96122	273.10	-23.25
96/ 3/18	2450160.5	0.29069	-4.80777	-2.06949	12.89242	1.34282	0.26101	5.24232	12.96479	273.46	-23.25
96/ 3/22	2450164.5	0.32047	-4.80459	-2.06885	12.88808	1.41128	0.29048	5.24089	12.96837	273.82	-23.25
96/ 3/26	2450168.5	0.35024	-4.80125	-2.06815	12.88330	1.47975	0.31997	5.23946	12.97195	274.17	-23.25
96/ 3/30	2450172.5	0.38000	-4.79775	-2.06738	12.87810	1.54823	0.34947	5.23802	12.97554	274.53	-23.25
96/ 4/ 3	2450176.5	0.40974	-4.79410	-2.06653	12.87247	1.61671	0.37899	5.23658	12.97914	274.89	-23.24
96/ 4/ 7	2450180.5	0.43947	-4.79028	-2.06562	12.86642	1.68520	0.40851	5.23514	12.98274	275.24	-23.24
96/ 4/11	2450184.5	0.46919	-4.78631	-2.06465	12.85993	1.75369	0.43805	5.23370	12.98634	275.60	-23.23
96/ 4/15	2450188.5	0.49889	-4.78218	-2.06360	12.85302	1.82218	0.46760	5.23226	12.98996	275.96	-23.23
96/ 4/19	2450192.5	0.52857	-4.77789	-2.06249	12.84567	1.89066	0.49716	5.23082	12.99358	276.31	-23.22
96/ 4/23	2450196.5	0.55824	-4.77344	-2.06130	12.83789	1.95915	0.52672	5.22937	12.99720	276.67	-23.21

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
96/ 4/27	2450200.5	0.58789	-4.76884	-2.06005	12.82968	2.02762	0.55630	5.22793	13.00083	277.03	-23.21
96/ 5/ 1	2450204.5	0.61752	-4.76407	-2.05873	12.82104	2.09609	0.58588	5.22648	13.00446	277.39	-23.20
96/ 5/ 5	2450208.5	0.64713	-4.75915	-2.05735	12.81197	2.16455	0.61547	5.22503	13.00810	277.74	-23.19
96/ 5/ 9	2450212.5	0.67671	-4.75407	-2.05589	12.80246	2.23300	0.64506	5.22358	13.01174	278.10	-23.18
96/ 5/13	2450216.5	0.70628	-4.74884	-2.05436	12.79251	2.30142	0.67466	5.22213	13.01538	278.46	-23.17
96/ 5/17	2450220.5	0.73582	-4.74344	-2.05277	12.78213	2.36983	0.70426	5.22068	13.01902	278.82	-23.15
96/ 5/21	2450224.5	0.76533	-4.73789	-2.05111	12.77132	2.43822	0.73386	5.21923	13.02267	279.18	-23.14
96/ 5/25	2450228.5	0.79483	-4.73218	-2.04938	12.76006	2.50659	0.76346	5.21778	13.02632	279.53	-23.13
96/ 5/29	2450232.5	0.82429	-4.72631	-2.04758	12.74837	2.57493	0.79306	5.21632	13.02997	279.89	-23.11
96/ 6/ 2	2450236.5	0.85373	-4.72028	-2.04572	12.73625	2.64324	0.82266	5.21487	13.03363	280.25	-23.10
96/ 6/ 6	2450240.5	0.88314	-4.71409	-2.04378	12.72368	2.71152	0.85226	5.21341	13.03728	280.61	-23.08
96/ 6/10	2450244.5	0.91251	-4.70775	-2.04178	12.71068	2.77977	0.88185	5.21195	13.04094	280.97	-23.06
96/ 6/14	2450248.5	0.94186	-4.70125	-2.03971	12.69724	2.84798	0.91144	5.21050	13.04460	281.33	-23.05
96/ 6/18	2450252.5	0.97118	-4.69459	-2.03757	12.68336	2.91616	0.94103	5.20904	13.04826	281.69	-23.03
96/ 6/22	2450256.5	1.00046	-4.68778	-2.03536	12.66904	2.98429	0.97061	5.20758	13.05192	282.05	-23.01
96/ 6/26	2450260.5	1.02971	-4.68080	-2.03308	12.65428	3.05238	1.00018	5.20612	13.05558	282.41	-22.99
96/ 6/30	2450264.5	1.05893	-4.67367	-2.03074	12.63909	3.12042	1.02974	5.20466	13.05925	282.77	-22.97
96/ 7/ 4	2450268.5	1.08811	-4.66639	-2.02833	12.62345	3.18842	1.05928	5.20320	13.06291	283.13	-22.94
96/ 7/ 8	2450272.5	1.11726	-4.65894	-2.02584	12.60738	3.25636	1.08882	5.20173	13.06658	283.49	-22.92
96/ 7/12	2450276.5	1.14636	-4.65134	-2.02330	12.59087	3.32425	1.11835	5.20027	13.07024	283.85	-22.90
96/ 7/16	2450280.5	1.17543	-4.64358	-2.02068	12.57392	3.39208	1.14786	5.19881	13.07391	284.20	-22.87
96/ 7/20	2450284.5	1.20446	-4.63567	-2.01799	12.55653	3.45986	1.17736	5.19735	13.07758	284.56	-22.85
96/ 7/24	2450288.5	1.23344	-4.62760	-2.01524	12.53870	3.52758	1.20685	5.19588	13.08126	284.92	-22.82
96/ 7/28	2450292.5	1.26239	-4.61937	-2.01242	12.52043	3.59523	1.23632	5.19442	13.08493	285.28	-22.79
96/ 8/ 1	2450296.5	1.29129	-4.61099	-2.00953	12.50172	3.66282	1.26577	5.19296	13.08860	285.64	-22.77
96/ 8/ 5	2450300.5	1.32015	-4.60245	-2.00657	12.48257	3.73035	1.29520	5.19149	13.09228	286.00	-22.74
96/ 8/ 9	2450304.5	1.34897	-4.59375	-2.00354	12.46299	3.79780	1.32461	5.19003	13.09595	286.37	-22.71
96/ 8/13	2450308.5	1.37774	-4.58490	-2.00045	12.44296	3.86518	1.35401	5.18857	13.09962	286.73	-22.68
96/ 8/17	2450312.5	1.40646	-4.57589	-1.99729	12.42249	3.93248	1.38338	5.18710	13.10330	287.09	-22.65
96/ 8/21	2450316.5	1.43513	-4.56673	-1.99406	12.40158	3.99971	1.41273	5.18564	13.10697	287.45	-22.61
96/ 8/25	2450320.5	1.46376	-4.55741	-1.99076	12.38023	4.06686	1.44205	5.18418	13.11065	287.81	-22.58
96/ 8/29	2450324.5	1.49233	-4.54794	-1.98739	12.35845	4.13392	1.47136	5.18271	13.11432	288.17	-22.55
96/ 9/ 2	2450328.5	1.52086	-4.53831	-1.98396	12.33622	4.20090	1.50063	5.18125	13.11799	288.53	-22.51
96/ 9/ 6	2450332.5	1.54933	-4.52853	-1.98046	12.31355	4.26779	1.52988	5.17979	13.12167	288.89	-22.48
96/ 9/10	2450336.5	1.57775	-4.51859	-1.97689	12.29045	4.33459	1.55910	5.17833	13.12534	289.25	-22.44
96/ 9/14	2450340.5	1.60612	-4.50850	-1.97326	12.26691	4.40130	1.58829	5.17686	13.12902	289.61	-22.41
96/ 9/18	2450344.5	1.63443	-4.49826	-1.96955	12.24292	4.46791	1.61745	5.17540	13.13269	289.97	-22.37
96/ 9/22	2450348.5	1.66268	-4.48786	-1.96578	12.21850	4.53442	1.64658	5.17394	13.13636	290.33	-22.33
96/ 9/26	2450352.5	1.69088	-4.47731	-1.96194	12.19364	4.60084	1.67568	5.17248	13.14003	290.69	-22.29
96/ 9/30	2450356.5	1.71902	-4.46660	-1.95804	12.16835	4.66715	1.70474	5.17102	13.14371	291.05	-22.25
96/10/ 4	2450360.5	1.74710	-4.45574	-1.95407	12.14261	4.73335	1.73377	5.16956	13.14738	291.41	-22.21
96/10/ 8	2450364.5	1.77512	-4.44473	-1.95003	12.11644	4.79945	1.76276	5.16811	13.15106	291.77	-22.17
96/10/12	2450368.5	1.80308	-4.43357	-1.94592	12.08984	4.86544	1.79172	5.16665	13.15473	292.13	-22.13
96/10/16	2450372.5	1.83098	-4.42225	-1.94175	12.06280	4.93132	1.82064	5.16519	13.15841	292.49	-22.08
96/10/20	2450376.5	1.85882	-4.41078	-1.93751	12.03532	4.99709	1.84952	5.16374	13.16209	292.85	-22.04

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96/10/24	2450380.5	1.88659	-4.39916	-1.93321	12.00741	5.06274	1.87837	5.16228	13.16577	293.21	-21.99
96/10/28	2450384.5	1.91430	-4.38739	-1.92883	11.97906	5.12827	1.90717	5.16083	13.16944	293.57	-21.95
96/11/ 1	2450388.5	1.94194	-4.37547	-1.92439	11.95027	5.19368	1.93593	5.15937	13.17312	293.93	-21.90
96/11/ 5	2450392.5	1.96951	-4.36340	-1.91989	11.92105	5.25897	1.96465	5.15792	13.17680	294.29	-21.85
96/11/ 9	2450396.5	1.99702	-4.35117	-1.91532	11.89139	5.32413	1.99333	5.15647	13.18047	294.65	-21.80
96/11/13	2450400.5	2.02445	-4.33880	-1.91068	11.86129	5.38917	2.02196	5.15502	13.18415	295.01	-21.76
96/11/17	2450404.5	2.05182	-4.32627	-1.90597	11.83076	5.45407	2.05055	5.15357	13.18782	295.37	-21.71
96/11/21	2450408.5	2.07911	-4.31360	-1.90120	11.79980	5.51884	2.07909	5.15213	13.19149	295.73	-21.65
96/11/25	2450412.5	2.10634	-4.30077	-1.89637	11.76840	5.58347	2.10758	5.15068	13.19516	296.09	-21.60
96/11/29	2450416.5	2.13349	-4.28780	-1.89147	11.73657	5.64796	2.13602	5.14924	13.19883	296.45	-21.55
96/12/ 3	2450420.5	2.16056	-4.27468	-1.88650	11.70430	5.71232	2.16442	5.14779	13.20249	296.81	-21.50
96/12/ 7	2450424.5	2.18756	-4.26141	-1.88147	11.67160	5.77653	2.19276	5.14635	13.20616	297.17	-21.44
96/12/11	2450428.5	2.21449	-4.24799	-1.87637	11.63846	5.84059	2.22105	5.14491	13.20982	297.53	-21.39
96/12/15	2450432.5	2.24134	-4.23442	-1.87120	11.60489	5.90450	2.24929	5.14347	13.21348	297.89	-21.33
96/12/19	2450436.5	2.26811	-4.22071	-1.86598	11.57089	5.96826	2.27747	5.14204	13.21713	298.25	-21.28
96/12/23	2450440.5	2.29480	-4.20685	-1.86068	11.53646	6.03187	2.30560	5.14060	13.22078	298.61	-21.22
96/12/27	2450444.5	2.32141	-4.19284	-1.85532	11.50159	6.09532	2.33367	5.13917	13.22443	298.97	-21.16
96/12/31	2450448.5	2.34794	-4.17868	-1.84990	11.46630	6.15861	2.36168	5.13774	13.22808	299.33	-21.10
97/ 1/ 4	2450452.5	2.37439	-4.16438	-1.84441	11.43057	6.22174	2.38963	5.13631	13.23172	299.69	-21.04
97/ 1/ 8	2450456.5	2.40075	-4.14994	-1.83886	11.39442	6.28470	2.41752	5.13488	13.23536	300.05	-20.98
97/ 1/12	2450460.5	2.42703	-4.13534	-1.83324	11.35784	6.34750	2.44535	5.13345	13.23900	300.41	-20.92
97/ 1/16	2450464.5	2.45323	-4.12061	-1.82756	11.32083	6.41013	2.47312	5.13203	13.24263	300.77	-20.86
97/ 1/20	2450468.5	2.47934	-4.10573	-1.82181	11.28339	6.47259	2.50083	5.13061	13.24626	301.13	-20.80
97/ 1/24	2450472.5	2.50536	-4.09070	-1.81601	11.24552	6.53487	2.52848	5.12919	13.24989	301.49	-20.74
97/ 1/28	2450476.5	2.53130	-4.07553	-1.81013	11.20723	6.59698	2.55605	5.12777	13.25351	301.84	-20.67
97/ 2/ 1	2450480.5	2.55714	-4.06022	-1.80420	11.16851	6.65891	2.58356	5.12636	13.25713	302.20	-20.61
97/ 2/ 5	2450484.5	2.58290	-4.04477	-1.79820	11.12936	6.72065	2.61101	5.12494	13.26074	302.56	-20.54
97/ 2/ 9	2450488.5	2.60857	-4.02917	-1.79213	11.08978	6.78221	2.63838	5.12353	13.26434	302.92	-20.47
97/ 2/13	2450492.5	2.63414	-4.01343	-1.78601	11.04979	6.84358	2.66569	5.12212	13.26794	303.28	-20.41
97/ 2/17	2450496.5	2.65962	-3.99755	-1.77982	11.00936	6.90476	2.69292	5.12072	13.27153	303.64	-20.34
97/ 2/21	2450500.5	2.68501	-3.98153	-1.77356	10.96852	6.96575	2.72008	5.11931	13.27512	303.99	-20.27
97/ 2/25	2450504.5	2.71030	-3.96537	-1.76725	10.92725	7.02654	2.74716	5.11791	13.27870	304.35	-20.20
97/ 3/ 1	2450508.5	2.73549	-3.94907	-1.76087	10.88556	7.08713	2.77417	5.11651	13.28228	304.71	-20.13
97/ 3/ 5	2450512.5	2.76059	-3.93262	-1.75443	10.84346	7.14751	2.80111	5.11512	13.28585	305.07	-20.06
97/ 3/ 9	2450516.5	2.78559	-3.91604	-1.74793	10.80093	7.20770	2.82797	5.11372	13.28941	305.43	-19.99
97/ 3/13	2450520.5	2.81050	-3.89932	-1.74136	10.75798	7.26768	2.85474	5.11233	13.29296	305.78	-19.91
97/ 3/17	2450524.5	2.83530	-3.88246	-1.73474	10.71462	7.32744	2.88144	5.11094	13.29651	306.14	-19.84
97/ 3/21	2450528.5	2.86000	-3.86547	-1.72805	10.67084	7.38700	2.90806	5.10956	13.30005	306.50	-19.77
97/ 3/25	2450532.5	2.88460	-3.84833	-1.72130	10.62664	7.44633	2.93459	5.10818	13.30358	306.85	-19.69
97/ 3/29	2450536.5	2.90910	-3.83106	-1.71449	10.58204	7.50545	2.96105	5.10680	13.30711	307.21	-19.62
97/ 4/ 2	2450540.5	2.93349	-3.81365	-1.70762	10.53702	7.56436	2.98741	5.10542	13.31063	307.57	-19.54
97/ 4/ 6	2450544.5	2.95778	-3.79611	-1.70069	10.49159	7.62303	3.01369	5.10405	13.31414	307.92	-19.46
97/ 4/10	2450548.5	2.98197	-3.77843	-1.69370	10.44575	7.68149	3.03989	5.10268	13.31765	308.28	-19.39
97/ 4/14	2450552.5	3.00605	-3.76062	-1.68664	10.39950	7.73972	3.06600	5.10131	13.32116	308.64	-19.31
97/ 4/18	2450556.5	3.03002	-3.74267	-1.67953	10.35284	7.79772	3.09202	5.09994	13.32465	308.99	-19.23

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97/ 4/22	2450560.5	3.05388	-3.72459	-1.67236	10.30578	7.85548	3.11795	5.09858	13.32814	309.35	-19.15
97/ 4/26	2450564.5	3.07763	-3.70638	-1.66513	10.25831	7.91301	3.14379	5.09723	13.33162	309.70	-19.07
97/ 4/30	2450568.5	3.10128	-3.68803	-1.65783	10.21044	7.97031	3.16953	5.09587	13.33509	310.06	-18.99
97/ 5/ 4	2450572.5	3.12481	-3.66955	-1.65048	10.16216	8.02736	3.19519	5.09452	13.33856	310.42	-18.90
97/ 5/ 8	2450576.5	3.14823	-3.65094	-1.64307	10.11348	8.08417	3.22075	5.09317	13.34202	310.77	-18.82
97/ 5/12	2450580.5	3.17154	-3.63220	-1.63560	10.06439	8.14074	3.24621	5.09183	13.34547	311.13	-18.74
97/ 5/16	2450584.5	3.19473	-3.61333	-1.62807	10.01491	8.19706	3.27158	5.09049	13.34891	311.48	-18.65
97/ 5/20	2450588.5	3.21781	-3.59433	-1.62048	9.96503	8.25313	3.29685	5.08915	13.35235	311.84	-18.57
97/ 5/24	2450592.5	3.24077	-3.57520	-1.61284	9.91475	8.30894	3.32202	5.08782	13.35578	312.19	-18.48
97/ 5/28	2450596.5	3.26362	-3.55594	-1.60514	9.86408	8.36451	3.34710	5.08649	13.35920	312.55	-18.40
97/ 6/ 1	2450600.5	3.28635	-3.53655	-1.59737	9.81301	8.41981	3.37207	5.08516	13.36261	312.90	-18.31
97/ 6/ 5	2450604.5	3.30896	-3.51704	-1.58956	9.76155	8.47485	3.39694	5.08384	13.36601	313.25	-18.22
97/ 6/ 9	2450608.5	3.33145	-3.49739	-1.58168	9.70970	8.52963	3.42170	5.08252	13.36940	313.61	-18.13
97/ 6/13	2450612.5	3.35382	-3.47763	-1.57375	9.65745	8.58415	3.44637	5.08121	13.37279	313.96	-18.04
97/ 6/17	2450616.5	3.37607	-3.45773	-1.56576	9.60482	8.63840	3.47092	5.07990	13.37616	314.32	-17.95
97/ 6/21	2450620.5	3.39820	-3.43771	-1.55771	9.55180	8.69237	3.49537	5.07859	13.37953	314.67	-17.86
97/ 6/25	2450624.5	3.42020	-3.41757	-1.54961	9.49839	8.74608	3.51971	5.07729	13.38289	315.02	-17.77
97/ 6/29	2450628.5	3.44208	-3.39730	-1.54145	9.44460	8.79951	3.54395	5.07599	13.38624	315.38	-17.68
97/ 7/ 3	2450632.5	3.46384	-3.37691	-1.53323	9.39043	8.85266	3.56807	5.07469	13.38958	315.73	-17.59
97/ 7/ 7	2450636.5	3.48547	-3.35640	-1.52496	9.33587	8.90553	3.59208	5.07340	13.39291	316.08	-17.49
97/ 7/11	2450640.5	3.50697	-3.33577	-1.51664	9.28094	8.95813	3.61599	5.07212	13.39624	316.43	-17.40
97/ 7/15	2450644.5	3.52835	-3.31501	-1.50825	9.22563	9.01043	3.63977	5.07084	13.39955	316.79	-17.30
97/ 7/19	2450648.5	3.54960	-3.29414	-1.49982	9.16994	9.06246	3.66345	5.06956	13.40286	317.14	-17.21
97/ 7/23	2450652.5	3.57072	-3.27314	-1.49133	9.11387	9.11419	3.68701	5.06829	13.40616	317.49	-17.11
97/ 7/27	2450656.5	3.59171	-3.25203	-1.48278	9.05742	9.16563	3.71046	5.06702	13.40944	317.84	-17.02
97/ 7/31	2450660.5	3.61257	-3.23079	-1.47418	9.00061	9.21678	3.73379	5.06576	13.41272	318.19	-16.92
97/ 8/ 4	2450664.5	3.63329	-3.20944	-1.46553	8.94342	9.26762	3.75700	5.06450	13.41598	318.54	-16.82
97/ 8/ 8	2450668.5	3.65389	-3.18797	-1.45683	8.88586	9.31817	3.78009	5.06324	13.41924	318.90	-16.72
97/ 8/12	2450672.5	3.67435	-3.16639	-1.44807	8.82794	9.36842	3.80306	5.06199	13.42248	319.25	-16.62
97/ 8/16	2450676.5	3.69468	-3.14469	-1.43925	8.76964	9.41836	3.82590	5.06075	13.42571	319.60	-16.52
97/ 8/20	2450680.5	3.71487	-3.12287	-1.43039	8.71098	9.46800	3.84863	5.05950	13.42893	319.95	-16.42
97/ 8/24	2450684.5	3.73492	-3.10094	-1.42147	8.65196	9.51732	3.87123	5.05827	13.43214	320.30	-16.32
97/ 8/28	2450688.5	3.75484	-3.07890	-1.41250	8.59258	9.56634	3.89371	5.05704	13.43533	320.65	-16.22
97/ 9/ 1	2450692.5	3.77462	-3.05674	-1.40348	8.53283	9.61503	3.91606	5.05581	13.43851	321.00	-16.12
97/ 9/ 5	2450696.5	3.79427	-3.03447	-1.39441	8.47273	9.66341	3.93828	5.05459	13.44168	321.35	-16.01
97/ 9/ 9	2450700.5	3.81377	-3.01210	-1.38529	8.41227	9.71147	3.96037	5.05337	13.44483	321.70	-15.91
97/ 9/13	2450704.5	3.83313	-2.98960	-1.37611	8.35146	9.75920	3.98233	5.05216	13.44797	322.05	-15.81
97/ 9/17	2450708.5	3.85236	-2.96700	-1.36689	8.29030	9.80661	4.00416	5.05095	13.45110	322.40	-15.70
97/ 9/21	2450712.5	3.87144	-2.94430	-1.35761	8.22879	9.85369	4.02586	5.04975	13.45421	322.75	-15.60
97/ 9/25	2450716.5	3.89038	-2.92148	-1.34829	8.16693	9.90045	4.04743	5.04856	13.45731	323.10	-15.49
97/ 9/29	2450720.5	3.90917	-2.89855	-1.33891	8.10473	9.94687	4.06886	5.04737	13.46040	323.44	-15.38
97/10/ 3	2450724.5	3.92782	-2.87552	-1.32949	8.04218	9.99295	4.09016	5.04618	13.46347	323.79	-15.28
97/10/ 7	2450728.5	3.94633	-2.85238	-1.32001	7.97929	10.03870	4.11132	5.04500	13.46654	324.14	-15.17
97/10/11	2450732.5	3.96469	-2.82914	-1.31049	7.91607	10.08411	4.13234	5.04382	13.46958	324.49	-15.06
97/10/15	2450736.5	3.98290	-2.80579	-1.30092	7.85250	10.12918	4.15323	5.04265	13.47262	324.84	-14.95

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97/10/19	2450740.5	4.00097	-2.78234	-1.29130	7.78860	10.17390	4.17398	5.04149	13.47564	325.18	-14.84
97/10/23	2450744.5	4.01889	-2.75878	-1.28163	7.72437	10.21828	4.19458	5.04033	13.47864	325.53	-14.73
97/10/27	2450748.5	4.03666	-2.73513	-1.27192	7.65981	10.26231	4.21505	5.03918	13.48163	325.88	-14.62
97/10/31	2450752.5	4.05428	-2.71137	-1.26216	7.59492	10.30599	4.23537	5.03803	13.48460	326.23	-14.51
97/11/ 4	2450756.5	4.07175	-2.68751	-1.25235	7.52970	10.34931	4.25555	5.03689	13.48756	326.57	-14.40
97/11/ 8	2450760.5	4.08907	-2.66355	-1.24250	7.46416	10.39228	4.27558	5.03575	13.49051	326.92	-14.28
97/11/12	2450764.5	4.10624	-2.63949	-1.23260	7.39830	10.43489	4.29547	5.03462	13.49344	327.27	-14.17
97/11/16	2450768.5	4.12325	-2.61534	-1.22265	7.33212	10.47714	4.31521	5.03350	13.49635	327.61	-14.06
97/11/20	2450772.5	4.14011	-2.59108	-1.21266	7.26562	10.51903	4.33481	5.03238	13.49925	327.96	-13.94
97/11/24	2450776.5	4.15682	-2.56674	-1.20262	7.19881	10.56056	4.35425	5.03126	13.50214	328.31	-13.83
97/11/28	2450780.5	4.17337	-2.54229	-1.19254	7.13168	10.60171	4.37355	5.03016	13.50500	328.65	-13.71
97/12/ 2	2450784.5	4.18977	-2.51775	-1.18242	7.06425	10.64250	4.39269	5.02905	13.50786	329.00	-13.60
97/12/ 6	2450788.5	4.20601	-2.49312	-1.17225	6.99651	10.68292	4.41169	5.02796	13.51069	329.34	-13.48
97/12/10	2450792.5	4.22210	-2.46839	-1.16203	6.92847	10.72296	4.43053	5.02687	13.51351	329.69	-13.37
97/12/14	2450796.5	4.23803	-2.44358	-1.15178	6.86012	10.76262	4.44921	5.02578	13.51632	330.03	-13.25
97/12/18	2450800.5	4.25379	-2.41867	-1.14148	6.79148	10.80191	4.46774	5.02471	13.51911	330.38	-13.13
97/12/22	2450804.5	4.26940	-2.39367	-1.13113	6.72254	10.84082	4.48612	5.02364	13.52188	330.72	-13.01
97/12/26	2450808.5	4.28485	-2.36858	-1.12075	6.65332	10.87935	4.50434	5.02257	13.52464	331.07	-12.89
97/12/30	2450812.5	4.30014	-2.34340	-1.11032	6.58380	10.91750	4.52240	5.02151	13.52739	331.41	-12.77
98/ 1/ 3	2450816.5	4.31527	-2.31814	-1.09985	6.51399	10.95527	4.54030	5.02046	13.53012	331.76	-12.65
98/ 1/ 7	2450820.5	4.33024	-2.29279	-1.08934	6.44389	10.99264	4.55805	5.01941	13.53284	332.10	-12.53
98/ 1/11	2450824.5	4.34505	-2.26735	-1.07879	6.37351	11.02964	4.57564	5.01838	13.53554	332.44	-12.41
98/ 1/15	2450828.5	4.35969	-2.24182	-1.06820	6.30285	11.06624	4.59306	5.01734	13.53823	332.79	-12.29
98/ 1/19	2450832.5	4.37417	-2.21622	-1.05757	6.23191	11.10244	4.61033	5.01632	13.54091	333.13	-12.17
98/ 1/23	2450836.5	4.38848	-2.19053	-1.04690	6.16070	11.13826	4.62743	5.01530	13.54356	333.47	-12.05
98/ 1/27	2450840.5	4.40263	-2.16476	-1.03619	6.08921	11.17368	4.64437	5.01428	13.54621	333.82	-11.93
98/ 1/31	2450844.5	4.41662	-2.13890	-1.02544	6.01744	11.20870	4.66115	5.01328	13.54883	334.16	-11.80
98/ 2/ 4	2450848.5	4.43043	-2.11297	-1.01466	5.94541	11.24332	4.67776	5.01228	13.55144	334.50	-11.68
98/ 2/ 8	2450852.5	4.44409	-2.08695	-1.00383	5.87312	11.27754	4.69420	5.01128	13.55404	334.85	-11.56
98/ 2/12	2450856.5	4.45757	-2.06086	-0.99297	5.80056	11.31136	4.71048	5.01030	13.55662	335.19	-11.43
98/ 2/16	2450860.5	4.47089	-2.03469	-0.98207	5.72774	11.34477	4.72660	5.00932	13.55918	335.53	-11.31
98/ 2/20	2450864.5	4.48403	-2.00845	-0.97113	5.65466	11.37777	4.74254	5.00834	13.56173	335.87	-11.18
98/ 2/24	2450868.5	4.49701	-1.98212	-0.96015	5.58132	11.41037	4.75831	5.00738	13.56426	336.21	-11.05
98/ 2/28	2450872.5	4.50982	-1.95573	-0.94914	5.50773	11.44255	4.77392	5.00642	13.56678	336.56	-10.93
98/ 3/ 4	2450876.5	4.52246	-1.92925	-0.93810	5.43390	11.47432	4.78935	5.00547	13.56927	336.90	-10.80
98/ 3/ 8	2450880.5	4.53493	-1.90271	-0.92702	5.35981	11.50568	4.80461	5.00452	13.57175	337.24	-10.67
98/ 3/12	2450884.5	4.54722	-1.87609	-0.91590	5.28548	11.53662	4.81970	5.00358	13.57422	337.58	-10.55
98/ 3/16	2450888.5	4.55935	-1.84941	-0.90475	5.21091	11.56714	4.83461	5.00265	13.57666	337.92	-10.42
98/ 3/20	2450892.5	4.57130	-1.82265	-0.89356	5.13610	11.59724	4.84935	5.00173	13.57909	338.26	-10.29
98/ 3/24	2450896.5	4.58308	-1.79582	-0.88234	5.06105	11.62692	4.86392	5.00081	13.58150	338.60	-10.16
98/ 3/28	2450900.5	4.59468	-1.76893	-0.87109	4.98578	11.65618	4.87831	4.99990	13.58390	338.94	-10.03
98/ 4/ 1	2450904.5	4.60611	-1.74197	-0.85980	4.91027	11.68501	4.89252	4.99900	13.58628	339.28	-9.90
98/ 4/ 5	2450908.5	4.61737	-1.71494	-0.84848	4.83453	11.71342	4.90655	4.99811	13.58864	339.62	-9.77
98/ 4/ 9	2450912.5	4.62845	-1.68785	-0.83713	4.75857	11.74140	4.92041	4.99722	13.59098	339.96	-9.64
98/ 4/13	2450916.5	4.63936	-1.66069	-0.82575	4.68238	11.76894	4.93409	4.99634	13.59331	340.30	-9.51

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98/ 4/17	2450920.5	4.65009	-1.63347	-0.81434	4.60598	11.79606	4.94759	4.99547	13.59561	340.64	-9.38
98/ 4/21	2450924.5	4.66064	-1.60619	-0.80289	4.52936	11.82274	4.96091	4.99460	13.59790	340.98	-9.25
98/ 4/25	2450928.5	4.67101	-1.57885	-0.79141	4.45252	11.84899	4.97405	4.99374	13.60017	341.32	-9.12
98/ 4/29	2450932.5	4.68121	-1.55145	-0.77991	4.37548	11.87480	4.98700	4.99289	13.60242	341.66	-8.99
98/ 5/ 3	2450936.5	4.69123	-1.52398	-0.76837	4.29823	11.90017	4.99977	4.99205	13.60465	342.00	-8.85
98/ 5/ 7	2450940.5	4.70107	-1.49646	-0.75681	4.22077	11.92510	5.01236	4.99121	13.60686	342.34	-8.72
98/ 5/11	2450944.5	4.71073	-1.46888	-0.74521	4.14311	11.94959	5.02476	4.99039	13.60905	342.68	-8.59
98/ 5/15	2450948.5	4.72021	-1.44125	-0.73359	4.06526	11.97363	5.03698	4.98957	13.61122	343.02	-8.45
98/ 5/19	2450952.5	4.72951	-1.41356	-0.72194	3.98721	11.99723	5.04901	4.98875	13.61337	343.36	-8.32
98/ 5/23	2450956.5	4.73863	-1.38582	-0.71026	3.90896	12.02038	5.06085	4.98795	13.61550	343.70	-8.19
98/ 5/27	2450960.5	4.74757	-1.35802	-0.69856	3.83053	12.04308	5.07251	4.98715	13.61761	344.04	-8.05
98/ 5/31	2450964.5	4.75633	-1.33018	-0.68683	3.75192	12.06534	5.08397	4.98636	13.61969	344.38	-7.92
98/ 6/ 4	2450968.5	4.76491	-1.30228	-0.67507	3.67312	12.08714	5.09525	4.98558	13.62176	344.71	-7.78
98/ 6/ 8	2450972.5	4.77330	-1.27433	-0.66329	3.59414	12.10848	5.10634	4.98481	13.62380	345.05	-7.65
98/ 6/12	2450976.5	4.78152	-1.24633	-0.65148	3.51499	12.12937	5.11723	4.98404	13.62582	345.39	-7.51
98/ 6/16	2450980.5	4.78954	-1.21829	-0.63964	3.43568	12.14980	5.12794	4.98328	13.62782	345.73	-7.37
98/ 6/20	2450984.5	4.79739	-1.19020	-0.62778	3.35619	12.16978	5.13845	4.98253	13.62979	346.07	-7.24
98/ 6/24	2450988.5	4.80505	-1.16206	-0.61590	3.27654	12.18930	5.14877	4.98179	13.63175	346.40	-7.10
98/ 6/28	2450992.5	4.81253	-1.13388	-0.60399	3.19673	12.20837	5.15889	4.98106	13.63369	346.74	-6.96
98/ 7/ 2	2450996.5	4.81982	-1.10565	-0.59207	3.11676	12.22697	5.16883	4.98033	13.63561	347.08	-6.83
98/ 7/ 6	2451000.5	4.82693	-1.07739	-0.58011	3.03664	12.24511	5.17857	4.97961	13.63750	347.42	-6.69
98/ 7/10	2451004.5	4.83385	-1.04908	-0.56814	2.95636	12.26279	5.18811	4.97890	13.63937	347.76	-6.55
98/ 7/14	2451008.5	4.84059	-1.02073	-0.55614	2.87594	12.28000	5.19746	4.97820	13.64123	348.09	-6.41
98/ 7/18	2451012.5	4.84714	-0.99234	-0.54412	2.79537	12.29675	5.20661	4.97751	13.64306	348.43	-6.28
98/ 7/22	2451016.5	4.85350	-0.96391	-0.53209	2.71467	12.31303	5.21557	4.97682	13.64486	348.77	-6.14
98/ 7/26	2451020.5	4.85968	-0.93545	-0.52003	2.63382	12.32885	5.22433	4.97614	13.64665	349.10	-6.00
98/ 7/30	2451024.5	4.86567	-0.90695	-0.50795	2.55284	12.34419	5.23289	4.97547	13.64842	349.44	-5.86
98/ 8/ 3	2451028.5	4.87148	-0.87842	-0.49585	2.47174	12.35907	5.24125	4.97481	13.65016	349.78	-5.72
98/ 8/ 7	2451032.5	4.87709	-0.84985	-0.48373	2.39050	12.37348	5.24942	4.97416	13.65188	350.12	-5.58
98/ 8/11	2451036.5	4.88252	-0.82125	-0.47160	2.30914	12.38741	5.25738	4.97352	13.65358	350.45	-5.44
98/ 8/15	2451040.5	4.88776	-0.79261	-0.45944	2.22766	12.40087	5.26515	4.97288	13.65525	350.79	-5.30
98/ 8/19	2451044.5	4.89281	-0.76395	-0.44727	2.14607	12.41386	5.27272	4.97225	13.65691	351.13	-5.16
98/ 8/23	2451048.5	4.89768	-0.73526	-0.43508	2.06436	12.42638	5.28008	4.97163	13.65854	351.46	-5.02
98/ 8/27	2451052.5	4.90235	-0.70654	-0.42287	1.98254	12.43842	5.28724	4.97102	13.66015	351.80	-4.88
98/ 8/31	2451056.5	4.90684	-0.67779	-0.41065	1.90061	12.44998	5.29421	4.97042	13.66173	352.14	-4.74
98/ 9/ 4	2451060.5	4.91113	-0.64901	-0.39841	1.81859	12.46107	5.30096	4.96983	13.66330	352.47	-4.60
98/ 9/ 8	2451064.5	4.91524	-0.62021	-0.38616	1.73647	12.47168	5.30752	4.96924	13.66484	352.81	-4.46
98/ 9/12	2451068.5	4.91916	-0.59139	-0.37389	1.65425	12.48181	5.31387	4.96866	13.66636	353.14	-4.32
98/ 9/16	2451072.5	4.92288	-0.56254	-0.36161	1.57194	12.49146	5.32002	4.96810	13.66785	353.48	-4.17
98/ 9/20	2451076.5	4.92642	-0.53368	-0.34931	1.48955	12.50064	5.32597	4.96754	13.66933	353.82	-4.03
98/ 9/24	2451080.5	4.92976	-0.50479	-0.33700	1.40707	12.50933	5.33172	4.96699	13.67079	354.15	-3.89
98/ 9/28	2451084.5	4.93292	-0.47588	-0.32467	1.32451	12.51755	5.33726	4.96644	13.67222	354.49	-3.75
98/10/ 2	2451088.5	4.93588	-0.44695	-0.31234	1.24187	12.52529	5.34260	4.96591	13.67364	354.83	-3.61
98/10/ 6	2451092.5	4.93866	-0.41801	-0.29999	1.15916	12.53254	5.34773	4.96539	13.67503	355.16	-3.46
98/10/10	2451096.5	4.94124	-0.38905	-0.28763	1.07638	12.53931	5.35265	4.96487	13.67640	355.50	-3.32

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98/10/14	2451100.5	4.94363	-0.36007	-0.27526	0.99353	12.54560	5.35738	4.96436	13.67775	355.83	-3.18
98/10/18	2451104.5	4.94583	-0.33108	-0.26288	0.91061	12.55141	5.36189	4.96386	13.67907	356.17	-3.04
98/10/22	2451108.5	4.94784	-0.30208	-0.25049	0.82763	12.55673	5.36620	4.96338	13.68037	356.51	-2.89
98/10/26	2451112.5	4.94965	-0.27307	-0.23808	0.74460	12.56157	5.37031	4.96289	13.68165	356.84	-2.75
98/10/30	2451116.5	4.95128	-0.24404	-0.22567	0.66152	12.56592	5.37420	4.96242	13.68291	357.18	-2.61
98/11/ 3	2451120.5	4.95271	-0.21501	-0.21325	0.57838	12.56979	5.37789	4.96196	13.68415	357.51	-2.46
98/11/ 7	2451124.5	4.95395	-0.18597	-0.20083	0.49520	12.57317	5.38138	4.96151	13.68536	357.85	-2.32
98/11/11	2451128.5	4.95500	-0.15692	-0.18839	0.41197	12.57607	5.38465	4.96106	13.68655	358.19	-2.18
98/11/15	2451132.5	4.95585	-0.12786	-0.17595	0.32871	12.57847	5.38772	4.96062	13.68771	358.52	-2.03
98/11/19	2451136.5	4.95652	-0.09880	-0.16350	0.24541	12.58039	5.39058	4.96020	13.68886	358.86	-1.89
98/11/23	2451140.5	4.95699	-0.06973	-0.15104	0.16208	12.58182	5.39322	4.95978	13.68997	359.19	-1.75
98/11/27	2451144.5	4.95727	-0.04067	-0.13858	0.07872	12.58276	5.39566	4.95937	13.69107	359.53	-1.60
98/12/ 1	2451148.5	4.95735	-0.01160	-0.12611	-0.00466	12.58322	5.39790	4.95897	13.69214	359.87	-1.46
98/12/ 5	2451152.5	4.95724	0.01747	-0.11364	-0.08806	12.58318	5.39992	4.95858	13.69318	0.20	-1.31
98/12/ 9	2451156.5	4.95694	0.04654	-0.10116	-0.17148	12.58265	5.40173	4.95820	13.69420	0.54	-1.17
98/12/13	2451160.5	4.95645	0.07561	-0.08868	-0.25491	12.58163	5.40333	4.95782	13.69520	0.87	-1.02
98/12/17	2451164.5	4.95577	0.10467	-0.07620	-0.33835	12.58013	5.40472	4.95746	13.69617	1.21	-0.88
98/12/21	2451168.5	4.95489	0.13373	-0.06371	-0.42179	12.57813	5.40590	4.95710	13.69712	1.55	-0.74
98/12/25	2451172.5	4.95382	0.16279	-0.05122	-0.50523	12.57565	5.40688	4.95676	13.69805	1.88	-0.59
98/12/29	2451176.5	4.95255	0.19183	-0.03873	-0.58868	12.57267	5.40764	4.95642	13.69895	2.22	-0.45
99/ 1/ 2	2451180.5	4.95110	0.22088	-0.02623	-0.67211	12.56921	5.40819	4.95609	13.69983	2.55	-0.30
99/ 1/ 6	2451184.5	4.94945	0.24991	-0.01374	-0.75554	12.56526	5.40853	4.95577	13.70068	2.89	-0.16
99/ 1/10	2451188.5	4.94761	0.27893	-0.00125	-0.83896	12.56081	5.40867	4.95546	13.70151	3.23	-0.01
99/ 1/14	2451192.5	4.94557	0.30794	0.01125	-0.92235	12.55587	5.40859	4.95516	13.70232	3.56	0.13
99/ 1/18	2451196.5	4.94335	0.33694	0.02374	-1.00573	12.55045	5.40830	4.95487	13.70310	3.90	0.27
99/ 1/22	2451200.5	4.94093	0.36593	0.03624	-1.08908	12.54453	5.40779	4.95459	13.70385	4.24	0.42
99/ 1/26	2451204.5	4.93831	0.39490	0.04873	-1.17241	12.53812	5.40708	4.95432	13.70458	4.57	0.56
99/ 1/30	2451208.5	4.93551	0.42386	0.06122	-1.25570	12.53123	5.40616	4.95405	13.70529	4.91	0.71
99/ 2/ 3	2451212.5	4.93251	0.45280	0.07371	-1.33895	12.52384	5.40502	4.95380	13.70597	5.25	0.85
99/ 2/ 7	2451216.5	4.92932	0.48172	0.08619	-1.42217	12.51596	5.40368	4.95356	13.70662	5.58	1.00
99/ 2/11	2451220.5	4.92594	0.51063	0.09867	-1.50534	12.50759	5.40212	4.95332	13.70725	5.92	1.14
99/ 2/15	2451224.5	4.92237	0.53951	0.11115	-1.58847	12.49873	5.40035	4.95309	13.70786	6.25	1.29
99/ 2/19	2451228.5	4.91860	0.56838	0.12363	-1.67154	12.48939	5.39837	4.95288	13.70844	6.59	1.43
99/ 2/23	2451232.5	4.91464	0.59722	0.13609	-1.75456	12.47955	5.39618	4.95267	13.70899	6.93	1.57
99/ 2/27	2451236.5	4.91050	0.62604	0.14856	-1.83752	12.46922	5.39378	4.95247	13.70952	7.27	1.72
99/ 3/ 3	2451240.5	4.90615	0.65483	0.16102	-1.92041	12.45841	5.39116	4.95228	13.71002	7.60	1.86
99/ 3/ 7	2451244.5	4.90162	0.68360	0.17347	-2.00324	12.44710	5.38834	4.95210	13.71049	7.94	2.01
99/ 3/11	2451248.5	4.89690	0.71234	0.18591	-2.08600	12.43532	5.38530	4.95193	13.71094	8.28	2.15
99/ 3/15	2451252.5	4.89198	0.74105	0.19835	-2.16868	12.42304	5.38205	4.95177	13.71137	8.61	2.30
99/ 3/19	2451256.5	4.88688	0.76974	0.21078	-2.25128	12.41028	5.37860	4.95162	13.71177	8.95	2.44
99/ 3/23	2451260.5	4.88158	0.79839	0.22320	-2.33380	12.39704	5.37493	4.95147	13.71215	9.29	2.58
99/ 3/27	2451264.5	4.87610	0.82702	0.23561	-2.41623	12.38331	5.37106	4.95134	13.71250	9.63	2.73
99/ 3/31	2451268.5	4.87042	0.85561	0.24802	-2.49858	12.36910	5.36697	4.95122	13.71283	9.96	2.87
99/ 4/ 4	2451272.5	4.86455	0.88417	0.26041	-2.58084	12.35440	5.36268	4.95110	13.71314	10.30	3.01
99/ 4/ 8	2451276.5	4.85849	0.91269	0.27279	-2.66299	12.33922	5.35817	4.95100	13.71342	10.64	3.16

1.5 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
99/ 4/12	2451280.5	4.85225	0.94118	0.28517	-2.74505	12.32356	5.35346	4.95090	13.71368	10.98	3.30
99/ 4/16	2451284.5	4.84581	0.96963	0.29753	-2.82701	12.30742	5.34854	4.95082	13.71392	11.32	3.45
99/ 4/20	2451288.5	4.83919	0.99804	0.30988	-2.90886	12.29080	5.34341	4.95074	13.71413	11.65	3.59
99/ 4/24	2451292.5	4.83237	1.02642	0.32222	-2.99060	12.27370	5.33807	4.95067	13.71431	11.99	3.73
99/ 4/28	2451296.5	4.82537	1.05475	0.33454	-3.07222	12.25612	5.33252	4.95062	13.71447	12.33	3.87
99/ 5/ 2	2451300.5	4.81818	1.08304	0.34685	-3.15373	12.23806	5.32677	4.95057	13.71461	12.67	4.02
99/ 5/ 6	2451304.5	4.81080	1.11129	0.35915	-3.23511	12.21953	5.32080	4.95053	13.71473	13.01	4.16
99/ 5/10	2451308.5	4.80323	1.13950	0.37144	-3.31637	12.20051	5.31463	4.95050	13.71482	13.35	4.30
99/ 5/14	2451312.5	4.79547	1.16766	0.38371	-3.39751	12.18103	5.30825	4.95048	13.71488	13.68	4.45
99/ 5/18	2451316.5	4.78753	1.19578	0.39596	-3.47851	12.16106	5.30167	4.95047	13.71492	14.02	4.59
99/ 5/22	2451320.5	4.77940	1.22385	0.40820	-3.55938	12.14062	5.29488	4.95047	13.71494	14.36	4.73
99/ 5/26	2451324.5	4.77109	1.25188	0.42043	-3.64010	12.11971	5.28788	4.95048	13.71493	14.70	4.87
99/ 5/30	2451328.5	4.76258	1.27985	0.43264	-3.72069	12.09833	5.28067	4.95049	13.71490	15.04	5.01
99/ 6/ 3	2451332.5	4.75390	1.30777	0.44483	-3.80112	12.07647	5.27326	4.95052	13.71484	15.38	5.16
99/ 6/ 7	2451336.5	4.74502	1.33565	0.45700	-3.88141	12.05415	5.26564	4.95056	13.71476	15.72	5.30
99/ 6/11	2451340.5	4.73596	1.36347	0.46916	-3.96154	12.03135	5.25782	4.95061	13.71466	16.06	5.44
99/ 6/15	2451344.5	4.72672	1.39124	0.48129	-4.04152	12.00809	5.24980	4.95066	13.71453	16.40	5.58
99/ 6/19	2451348.5	4.71729	1.41895	0.49341	-4.12133	11.98436	5.24157	4.95073	13.71439	16.74	5.72
99/ 6/23	2451352.5	4.70768	1.44661	0.50551	-4.20099	11.96017	5.23313	4.95080	13.71421	17.08	5.86
99/ 6/27	2451356.5	4.69788	1.47421	0.51759	-4.28047	11.93551	5.22450	4.95088	13.71402	17.42	6.00
99/ 7/ 1	2451360.5	4.68790	1.50175	0.52965	-4.35979	11.91039	5.21566	4.95098	13.71380	17.76	6.14
99/ 7/ 5	2451364.5	4.67774	1.52924	0.54169	-4.43893	11.88480	5.20662	4.95108	13.71355	18.10	6.28
99/ 7/ 9	2451368.5	4.66739	1.55666	0.55371	-4.51790	11.85875	5.19737	4.95119	13.71328	18.44	6.42
99/ 7/13	2451372.5	4.65686	1.58403	0.56570	-4.59669	11.83225	5.18792	4.95132	13.71299	18.79	6.56
99/ 7/17	2451376.5	4.64615	1.61133	0.57768	-4.67529	11.80528	5.17828	4.95145	13.71267	19.13	6.70
99/ 7/21	2451380.5	4.63526	1.63857	0.58963	-4.75370	11.77785	5.16843	4.95159	13.71233	19.47	6.84
99/ 7/25	2451384.5	4.62419	1.66575	0.60155	-4.83193	11.74996	5.15837	4.95174	13.71197	19.81	6.98
99/ 7/29	2451388.5	4.61294	1.69286	0.61346	-4.90996	11.72162	5.14812	4.95190	13.71158	20.15	7.12
99/ 8/ 2	2451392.5	4.60150	1.71991	0.62534	-4.98779	11.69283	5.13767	4.95207	13.71116	20.49	7.25
99/ 8/ 6	2451396.5	4.58989	1.74689	0.63720	-5.06542	11.66358	5.12702	4.95224	13.71072	20.84	7.39
99/ 8/10	2451400.5	4.57810	1.77380	0.64903	-5.14285	11.63387	5.11617	4.95243	13.71025	21.18	7.53
99/ 8/14	2451404.5	4.56613	1.80064	0.66084	-5.22007	11.60372	5.10512	4.95263	13.70976	21.52	7.67
99/ 8/18	2451408.5	4.55398	1.82741	0.67262	-5.29708	11.57311	5.09387	4.95284	13.70924	21.86	7.81
99/ 8/22	2451412.5	4.54165	1.85411	0.68437	-5.37387	11.54205	5.08243	4.95305	13.70870	22.21	7.94
99/ 8/26	2451416.5	4.52915	1.88074	0.69610	-5.45043	11.51055	5.07078	4.95328	13.70813	22.55	8.08
99/ 8/30	2451420.5	4.51647	1.90729	0.70780	-5.52678	11.47860	5.05894	4.95351	13.70753	22.89	8.22
99/ 9/ 3	2451424.5	4.50362	1.93377	0.71947	-5.60290	11.44621	5.04690	4.95375	13.70691	23.24	8.35
99/ 9/ 7	2451428.5	4.49058	1.96018	0.73112	-5.67879	11.41337	5.03467	4.95401	13.70626	23.58	8.49
99/ 9/11	2451432.5	4.47738	1.98651	0.74273	-5.75444	11.38010	5.02225	4.95427	13.70559	23.93	8.62
99/ 9/15	2451436.5	4.46400	2.01276	0.75432	-5.82986	11.34638	5.00963	4.95454	13.70489	24.27	8.76
99/ 9/19	2451440.5	4.45044	2.03893	0.76588	-5.90504	11.31223	4.99681	4.95482	13.70417	24.61	8.89
99/ 9/23	2451444.5	4.43671	2.06502	0.77741	-5.97998	11.27765	4.98381	4.95511	13.70342	24.96	9.03
99/ 9/27	2451448.5	4.42281	2.09104	0.78891	-6.05467	11.24263	4.97061	4.95541	13.70265	25.30	9.16
99/10/ 1	2451452.5	4.40874	2.11697	0.80038	-6.12911	11.20717	4.95722	4.95572	13.70185	25.65	9.29
99/10/ 5	2451456.5	4.39449	2.14282	0.81181	-6.20330	11.17129	4.94364	4.95604	13.70103	25.99	9.43

1.5 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM JUPITER

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
99/10/ 9	2451460.5	4.38008	2.16858	0.82322	-6.27723	11.13498	4.92987	4.95636	13.70018	26.34	9.56
99/10/13	2451464.5	4.36549	2.19427	0.83459	-6.35090	11.09824	4.91591	4.95670	13.69930	26.69	9.69
99/10/17	2451468.5	4.35074	2.21986	0.84593	-6.42431	11.06108	4.90176	4.95704	13.69841	27.03	9.83
99/10/21	2451472.5	4.33581	2.24537	0.85724	-6.49745	11.02349	4.88742	4.95740	13.69748	27.38	9.96
99/10/25	2451476.5	4.32071	2.27079	0.86851	-6.57032	10.98548	4.87289	4.95776	13.69653	27.72	10.09
99/10/29	2451480.5	4.30545	2.29613	0.87975	-6.64292	10.94705	4.85818	4.95813	13.69555	28.07	10.22
99/11/ 2	2451484.5	4.29002	2.32137	0.89096	-6.71524	10.90820	4.84328	4.95851	13.69455	28.42	10.35
99/11/ 6	2451488.5	4.27443	2.34653	0.90213	-6.78729	10.86894	4.82820	4.95890	13.69353	28.77	10.48
99/11/10	2451492.5	4.25866	2.37159	0.91327	-6.85905	10.82927	4.81293	4.95930	13.69248	29.11	10.61
99/11/14	2451496.5	4.24273	2.39656	0.92437	-6.93053	10.78918	4.79748	4.95971	13.69140	29.46	10.74
99/11/18	2451500.5	4.22664	2.42144	0.93543	-7.00172	10.74868	4.78185	4.96013	13.69030	29.81	10.87
99/11/22	2451504.5	4.21038	2.44622	0.94646	-7.07261	10.70777	4.76603	4.96056	13.68917	30.16	11.00
99/11/26	2451508.5	4.19396	2.47091	0.95745	-7.14321	10.66646	4.75003	4.96099	13.68802	30.50	11.13
99/11/30	2451512.5	4.17738	2.49551	0.96841	-7.21351	10.62475	4.73386	4.96144	13.68684	30.85	11.26
99/12/ 4	2451516.5	4.16064	2.52000	0.97932	-7.28351	10.58264	4.71750	4.96189	13.68564	31.20	11.38
99/12/ 8	2451520.5	4.14373	2.54440	0.99020	-7.35321	10.54013	4.70097	4.96235	13.68441	31.55	11.51
99/12/12	2451524.5	4.12666	2.56870	1.00104	-7.42260	10.49723	4.68426	4.96283	13.68317	31.90	11.64
99/12/16	2451528.5	4.10943	2.59290	1.01185	-7.49168	10.45393	4.66737	4.96331	13.68190	32.25	11.76
99/12/20	2451532.5	4.09205	2.61700	1.02261	-7.56045	10.41024	4.65031	4.96380	13.68061	32.60	11.89
99/12/24	2451536.5	4.07450	2.64100	1.03333	-7.62891	10.36617	4.63307	4.96430	13.67929	32.95	12.01

1.6 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
64/12/31	2438760.5	8.87053	-3.58657	-1.86639	3.45568	8.17740	3.23177	9.74850	9.44754	337.99	-11.04
65/ 1/ 4	2438764.5	8.87849	-3.56767	-1.85892	3.43599	8.18528	3.23588	9.74738	9.44858	338.11	-10.99
65/ 1/ 8	2438768.5	8.88641	-3.54875	-1.85144	3.41628	8.19311	3.23997	9.74627	9.44963	338.23	-10.95
65/ 1/12	2438772.5	8.89428	-3.52982	-1.84395	3.39655	8.20090	3.24404	9.74515	9.45067	338.35	-10.91
65/ 1/16	2438776.5	8.90210	-3.51086	-1.83645	3.37679	8.20866	3.24810	9.74403	9.45172	338.48	-10.86
65/ 1/20	2438780.5	8.90988	-3.49189	-1.82894	3.35701	8.21638	3.25215	9.74291	9.45277	338.60	-10.82
65/ 1/24	2438784.5	8.91761	-3.47290	-1.82142	3.33720	8.22406	3.25618	9.74179	9.45382	338.72	-10.78
65/ 1/28	2438788.5	8.92530	-3.45389	-1.81389	3.31736	8.23169	3.26019	9.74066	9.45487	338.84	-10.73
65/ 2/ 1	2438792.5	8.93294	-3.43486	-1.80636	3.29751	8.23929	3.26419	9.73954	9.45592	338.97	-10.69
65/ 2/ 5	2438796.5	8.94053	-3.41582	-1.79881	3.27763	8.24685	3.26817	9.73841	9.45698	339.09	-10.64
65/ 2/ 9	2438800.5	8.94808	-3.39676	-1.79126	3.25772	8.25437	3.27214	9.73729	9.45803	339.21	-10.60
65/ 2/13	2438804.5	8.95559	-3.37768	-1.78369	3.23779	8.26185	3.27610	9.73616	9.45909	339.34	-10.56
65/ 2/17	2438808.5	8.96304	-3.35859	-1.77612	3.21783	8.26929	3.28003	9.73503	9.46014	339.46	-10.51
65/ 2/21	2438812.5	8.97045	-3.33948	-1.76854	3.19786	8.27669	3.28396	9.73390	9.46120	339.58	-10.47
65/ 2/25	2438816.5	8.97782	-3.32035	-1.76095	3.17785	8.28405	3.28786	9.73277	9.46226	339.70	-10.42
65/ 3/ 1	2438820.5	8.98514	-3.30120	-1.75335	3.15783	8.29137	3.29175	9.73164	9.46332	339.83	-10.38
65/ 3/ 5	2438824.5	8.99241	-3.28204	-1.74574	3.13778	8.29865	3.29563	9.73051	9.46437	339.95	-10.34
65/ 3/ 9	2438828.5	8.99963	-3.26286	-1.73812	3.11770	8.30588	3.29949	9.72937	9.46543	340.07	-10.29
65/ 3/13	2438832.5	9.00681	-3.24366	-1.73049	3.09761	8.31308	3.30333	9.72824	9.46649	340.19	-10.25
65/ 3/17	2438836.5	9.01395	-3.22445	-1.72286	3.07749	8.32023	3.30715	9.72710	9.46754	340.32	-10.20
65/ 3/21	2438840.5	9.02103	-3.20522	-1.71521	3.05735	8.32734	3.31096	9.72597	9.46860	340.44	-10.16
65/ 3/25	2438844.5	9.02807	-3.18597	-1.70756	3.03719	8.33441	3.31476	9.72483	9.46966	340.56	-10.11
65/ 3/29	2438848.5	9.03506	-3.16671	-1.69990	3.01700	8.34144	3.31854	9.72369	9.47072	340.68	-10.07
65/ 4/ 2	2438852.5	9.04201	-3.14743	-1.69223	2.99680	8.34843	3.32230	9.72255	9.47179	340.81	-10.02
65/ 4/ 6	2438856.5	9.04891	-3.12814	-1.68455	2.97657	8.35538	3.32604	9.72141	9.47285	340.93	-9.98
65/ 4/10	2438860.5	9.05576	-3.10883	-1.67686	2.95632	8.36229	3.32977	9.72026	9.47391	341.05	-9.93
65/ 4/14	2438864.5	9.06257	-3.08950	-1.66916	2.93605	8.36915	3.33349	9.71912	9.47498	341.18	-9.89
65/ 4/18	2438868.5	9.06933	-3.07016	-1.66146	2.91576	8.37598	3.33719	9.71798	9.47605	341.30	-9.84
65/ 4/22	2438872.5	9.07604	-3.05080	-1.65374	2.89544	8.38276	3.34087	9.71683	9.47711	341.42	-9.80
65/ 4/26	2438876.5	9.08271	-3.03143	-1.64602	2.87511	8.38950	3.34453	9.71568	9.47818	341.54	-9.75
65/ 4/30	2438880.5	9.08933	-3.01204	-1.63829	2.85475	8.39621	3.34818	9.71454	9.47925	341.67	-9.71
65/ 5/ 4	2438884.5	9.09590	-2.99264	-1.63055	2.83437	8.40286	3.35182	9.71339	9.48032	341.79	-9.66
65/ 5/ 8	2438888.5	9.10242	-2.97322	-1.62280	2.81397	8.40948	3.35543	9.71224	9.48139	341.91	-9.62
65/ 5/12	2438892.5	9.10890	-2.95378	-1.61505	2.79355	8.41606	3.35904	9.71109	9.48246	342.03	-9.57
65/ 5/16	2438896.5	9.11533	-2.93433	-1.60728	2.77311	8.42259	3.36262	9.70994	9.48353	342.16	-9.53
65/ 5/20	2438900.5	9.12171	-2.91487	-1.59951	2.75264	8.42909	3.36619	9.70879	9.48461	342.28	-9.48
65/ 5/24	2438904.5	9.12805	-2.89539	-1.59173	2.73216	8.43554	3.36974	9.70763	9.48568	342.40	-9.44
65/ 5/28	2438908.5	9.13434	-2.87589	-1.58394	2.71165	8.44195	3.37328	9.70648	9.48676	342.52	-9.39
65/ 6/ 1	2438912.5	9.14058	-2.85638	-1.57615	2.69113	8.44832	3.37679	9.70532	9.48783	342.65	-9.35
65/ 6/ 5	2438916.5	9.14677	-2.83686	-1.56834	2.67058	8.45464	3.38030	9.70417	9.48891	342.77	-9.30
65/ 6/ 9	2438920.5	9.15291	-2.81732	-1.56053	2.65002	8.46093	3.38378	9.70301	9.48999	342.89	-9.26
65/ 6/13	2438924.5	9.15901	-2.79776	-1.55271	2.62943	8.46717	3.38725	9.70185	9.49106	343.01	-9.21
65/ 6/17	2438928.5	9.16506	-2.77820	-1.54488	2.60883	8.47337	3.39070	9.70069	9.49214	343.14	-9.16
65/ 6/21	2438932.5	9.17107	-2.75861	-1.53704	2.58821	8.47953	3.39414	9.69953	9.49323	343.26	-9.12
65/ 6/25	2438936.5	9.17702	-2.73902	-1.52920	2.56757	8.48565	3.39756	9.69837	9.49431	343.38	-9.07

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65/ 6/29	2438940.5	9.18293	-2.71941	-1.52134	2.54691	8.49173	3.40096	9.69721	9.49540	343.50	-9.03
65/ 7/ 3	2438944.5	9.18879	-2.69978	-1.51348	2.52623	8.49776	3.40435	9.69605	9.49650	343.63	-8.98
65/ 7/ 7	2438948.5	9.19460	-2.68015	-1.50561	2.50553	8.50376	3.40772	9.69488	9.49759	343.75	-8.93
65/ 7/11	2438952.5	9.20037	-2.66049	-1.49774	2.48481	8.50972	3.41108	9.69372	9.49869	343.87	-8.89
65/ 7/15	2438956.5	9.20608	-2.64083	-1.48985	2.46407	8.51563	3.41442	9.69255	9.49978	343.99	-8.84
65/ 7/19	2438960.5	9.21175	-2.62115	-1.48196	2.44330	8.52151	3.41775	9.69139	9.50088	344.12	-8.80
65/ 7/23	2438964.5	9.21737	-2.60146	-1.47406	2.42252	8.52734	3.42106	9.69022	9.50199	344.24	-8.75
65/ 7/27	2438968.5	9.22294	-2.58175	-1.46615	2.40172	8.53313	3.42435	9.68905	9.50309	344.36	-8.70
65/ 7/31	2438972.5	9.22847	-2.56203	-1.45824	2.38089	8.53888	3.42762	9.68788	9.50419	344.48	-8.66
65/ 8/ 4	2438976.5	9.23394	-2.54230	-1.45032	2.36005	8.54459	3.43088	9.68671	9.50530	344.61	-8.61
65/ 8/ 8	2438980.5	9.23937	-2.52255	-1.44239	2.33919	8.55025	3.43413	9.68554	9.50641	344.73	-8.56
65/ 8/12	2438984.5	9.24475	-2.50279	-1.43445	2.31830	8.55588	3.43735	9.68437	9.50752	344.85	-8.52
65/ 8/16	2438988.5	9.25008	-2.48302	-1.42651	2.29739	8.56146	3.44056	9.68320	9.50863	344.97	-8.47
65/ 8/20	2438992.5	9.25537	-2.46323	-1.41855	2.27647	8.56700	3.44376	9.68203	9.50974	345.10	-8.42
65/ 8/24	2438996.5	9.26060	-2.44344	-1.41060	2.25552	8.57249	3.44693	9.68085	9.51085	345.22	-8.38
65/ 8/28	2439000.5	9.26579	-2.42363	-1.40263	2.23455	8.57794	3.45009	9.67968	9.51196	345.34	-8.33
65/ 9/ 1	2439004.5	9.27093	-2.40380	-1.39465	2.21357	8.58335	3.45324	9.67850	9.51308	345.46	-8.29
65/ 9/ 5	2439008.5	9.27602	-2.38397	-1.38667	2.19256	8.58871	3.45636	9.67733	9.51419	345.59	-8.24
65/ 9/ 9	2439012.5	9.28106	-2.36412	-1.37868	2.17153	8.59403	3.45947	9.67615	9.51530	345.71	-8.19
65/ 9/13	2439016.5	9.28605	-2.34426	-1.37069	2.15049	8.59931	3.46256	9.67497	9.51641	345.83	-8.14
65/ 9/17	2439020.5	9.29099	-2.32439	-1.36269	2.12943	8.60454	3.46563	9.67379	9.51752	345.95	-8.10
65/ 9/21	2439024.5	9.29589	-2.30450	-1.35468	2.10835	8.60974	3.46869	9.67261	9.51864	346.08	-8.05
65/ 9/25	2439028.5	9.30073	-2.28461	-1.34666	2.08725	8.61488	3.47173	9.67143	9.51975	346.20	-8.00
65/ 9/29	2439032.5	9.30553	-2.26470	-1.33864	2.06613	8.61999	3.47475	9.67025	9.52087	346.32	-7.96
65/10/ 3	2439036.5	9.31028	-2.24478	-1.33061	2.04499	8.62505	3.47775	9.66907	9.52199	346.44	-7.91
65/10/ 7	2439040.5	9.31498	-2.22485	-1.32257	2.02383	8.63007	3.48074	9.66788	9.52310	346.57	-7.86
65/10/11	2439044.5	9.31963	-2.20491	-1.31452	2.00266	8.63504	3.48371	9.66670	9.52422	346.69	-7.82
65/10/15	2439048.5	9.32423	-2.18495	-1.30647	1.98146	8.63997	3.48666	9.66552	9.52534	346.81	-7.77
65/10/19	2439052.5	9.32879	-2.16499	-1.29841	1.96025	8.64485	3.48960	9.66433	9.52645	346.93	-7.72
65/10/23	2439056.5	9.33329	-2.14501	-1.29035	1.93901	8.64969	3.49252	9.66315	9.52757	347.06	-7.67
65/10/27	2439060.5	9.33775	-2.12502	-1.28228	1.91776	8.65449	3.49542	9.66196	9.52869	347.18	-7.63
65/10/31	2439064.5	9.34215	-2.10502	-1.27420	1.89649	8.65923	3.49830	9.66077	9.52980	347.30	-7.58
65/11/ 4	2439068.5	9.34651	-2.08501	-1.26611	1.87521	8.66394	3.50116	9.65958	9.53092	347.42	-7.53
65/11/ 8	2439072.5	9.35081	-2.06499	-1.25802	1.85390	8.66860	3.50401	9.65839	9.53203	347.55	-7.48
65/11/12	2439076.5	9.35507	-2.04496	-1.24992	1.83258	8.67321	3.50684	9.65720	9.53315	347.67	-7.44
65/11/16	2439080.5	9.35928	-2.02492	-1.24182	1.81124	8.67778	3.50965	9.65601	9.53426	347.79	-7.39
65/11/20	2439084.5	9.36344	-2.00487	-1.23371	1.78989	8.68230	3.51244	9.65482	9.53537	347.91	-7.34
65/11/24	2439088.5	9.36755	-1.98481	-1.22559	1.76852	8.68678	3.51521	9.65363	9.53648	348.04	-7.29
65/11/28	2439092.5	9.37161	-1.96473	-1.21747	1.74713	8.69121	3.51797	9.65244	9.53759	348.16	-7.25
65/12/ 2	2439096.5	9.37562	-1.94465	-1.20934	1.72572	8.69559	3.52071	9.65124	9.53870	348.28	-7.20
65/12/ 6	2439100.5	9.37959	-1.92456	-1.20120	1.70431	8.69993	3.52342	9.65005	9.53981	348.40	-7.15
65/12/10	2439104.5	9.38350	-1.90445	-1.19306	1.68288	8.70422	3.52612	9.64885	9.54092	348.53	-7.10
65/12/14	2439108.5	9.38736	-1.88434	-1.18491	1.66143	8.70847	3.52880	9.64766	9.54203	348.65	-7.05
65/12/18	2439112.5	9.39118	-1.86422	-1.17675	1.63997	8.71268	3.53147	9.64646	9.54314	348.77	-7.01
65/12/22	2439116.5	9.39494	-1.84408	-1.16859	1.61850	8.71684	3.53412	9.64526	9.54425	348.89	-6.96

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65/12/26	2439120.5	9.39865	-1.82394	-1.16042	1.59701	8.72095	3.53675	9.64407	9.54537	349.02	-6.91
65/12/30	2439124.5	9.40232	-1.80379	-1.15225	1.57550	8.72503	3.53936	9.64287	9.54648	349.14	-6.86
66/ 1/ 3	2439128.5	9.40593	-1.78363	-1.14407	1.55399	8.72905	3.54195	9.64167	9.54760	349.26	-6.81
66/ 1/ 7	2439132.5	9.40950	-1.76346	-1.13589	1.53245	8.73304	3.54453	9.64047	9.54872	349.39	-6.77
66/ 1/11	2439136.5	9.41301	-1.74328	-1.12769	1.51090	8.73698	3.54709	9.63927	9.54984	349.51	-6.72
66/ 1/15	2439140.5	9.41648	-1.72309	-1.11950	1.48934	8.74087	3.54963	9.63807	9.55096	349.63	-6.67
66/ 1/19	2439144.5	9.41989	-1.70289	-1.11129	1.46777	8.74472	3.55215	9.63687	9.55208	349.75	-6.62
66/ 1/23	2439148.5	9.42326	-1.68269	-1.10308	1.44618	8.74853	3.55466	9.63567	9.55321	349.88	-6.57
66/ 1/27	2439152.5	9.42658	-1.66247	-1.09487	1.42457	8.75229	3.55715	9.63446	9.55433	350.00	-6.53
66/ 1/31	2439156.5	9.42984	-1.64225	-1.08665	1.40295	8.75601	3.55962	9.63326	9.55546	350.12	-6.48
66/ 2/ 4	2439160.5	9.43306	-1.62202	-1.07842	1.38132	8.75968	3.56207	9.63206	9.55659	350.24	-6.43
66/ 2/ 8	2439164.5	9.43622	-1.60178	-1.07019	1.35967	8.76331	3.56451	9.63085	9.55772	350.37	-6.38
66/ 2/12	2439168.5	9.43934	-1.58153	-1.06195	1.33801	8.76690	3.56692	9.62965	9.55886	350.49	-6.33
66/ 2/16	2439172.5	9.44241	-1.56127	-1.05371	1.31633	8.77044	3.56932	9.62844	9.55999	350.61	-6.28
66/ 2/20	2439176.5	9.44542	-1.54100	-1.04546	1.29464	8.77394	3.57171	9.62724	9.56113	350.73	-6.23
66/ 2/24	2439180.5	9.44839	-1.52073	-1.03721	1.27293	8.77739	3.57407	9.62603	9.56226	350.86	-6.19
66/ 2/28	2439184.5	9.45130	-1.50045	-1.02895	1.25121	8.78079	3.57642	9.62482	9.56340	350.98	-6.14
66/ 3/ 4	2439188.5	9.45417	-1.48016	-1.02068	1.22948	8.78416	3.57875	9.62362	9.56454	351.10	-6.09
66/ 3/ 8	2439192.5	9.45698	-1.45986	-1.01241	1.20774	8.78747	3.58106	9.62241	9.56568	351.22	-6.04
66/ 3/12	2439196.5	9.45975	-1.43956	-1.00414	1.18598	8.79075	3.58335	9.62120	9.56683	351.35	-5.99
66/ 3/16	2439200.5	9.46246	-1.41925	-0.99586	1.16421	8.79398	3.58563	9.61999	9.56798	351.47	-5.94
66/ 3/20	2439204.5	9.46513	-1.39893	-0.98757	1.14242	8.79717	3.58789	9.61878	9.56913	351.59	-5.89
66/ 3/24	2439208.5	9.46774	-1.37860	-0.97928	1.12062	8.80031	3.59013	9.61757	9.57028	351.72	-5.84
66/ 3/28	2439212.5	9.47031	-1.35827	-0.97098	1.09881	8.80341	3.59235	9.61636	9.57144	351.84	-5.80
66/ 4/ 1	2439216.5	9.47282	-1.33793	-0.96268	1.07698	8.80647	3.59456	9.61515	9.57260	351.96	-5.75
66/ 4/ 5	2439220.5	9.47528	-1.31758	-0.95438	1.05513	8.80948	3.59675	9.61394	9.57376	352.08	-5.70
66/ 4/ 9	2439224.5	9.47769	-1.29722	-0.94606	1.03327	8.81245	3.59892	9.61273	9.57492	352.21	-5.65
66/ 4/13	2439228.5	9.48006	-1.27686	-0.93775	1.01140	8.81537	3.60107	9.61151	9.57608	352.33	-5.60
66/ 4/17	2439232.5	9.48237	-1.25649	-0.92943	0.98951	8.81825	3.60321	9.61030	9.57725	352.45	-5.55
66/ 4/21	2439236.5	9.48463	-1.23612	-0.92110	0.96760	8.82108	3.60532	9.60909	9.57842	352.57	-5.50
66/ 4/25	2439240.5	9.48684	-1.21574	-0.91277	0.94568	8.82386	3.60742	9.60787	9.57958	352.70	-5.45
66/ 4/29	2439244.5	9.48900	-1.19535	-0.90443	0.92375	8.82660	3.60951	9.60666	9.58075	352.82	-5.40
66/ 5/ 3	2439248.5	9.49111	-1.17496	-0.89609	0.90180	8.82930	3.61157	9.60545	9.58192	352.94	-5.35
66/ 5/ 7	2439252.5	9.49316	-1.15455	-0.88774	0.87984	8.83194	3.61361	9.60423	9.58309	353.07	-5.30
66/ 5/11	2439256.5	9.49517	-1.13415	-0.87939	0.85787	8.83455	3.61564	9.60302	9.58426	353.19	-5.25
66/ 5/15	2439260.5	9.49713	-1.11374	-0.87104	0.83587	8.83710	3.61764	9.60180	9.58543	353.31	-5.20
66/ 5/19	2439264.5	9.49903	-1.09332	-0.86268	0.81387	8.83961	3.61963	9.60058	9.58659	353.43	-5.16
66/ 5/23	2439268.5	9.50089	-1.07289	-0.85432	0.79185	8.84207	3.62160	9.59937	9.58776	353.56	-5.11
66/ 5/27	2439272.5	9.50269	-1.05246	-0.84595	0.76982	8.84448	3.62355	9.59815	9.58893	353.68	-5.06
66/ 5/31	2439276.5	9.50444	-1.03203	-0.83757	0.74778	8.84684	3.62548	9.59693	9.59009	353.80	-5.01
66/ 6/ 4	2439280.5	9.50615	-1.01159	-0.82920	0.72572	8.84916	3.62739	9.59571	9.59126	353.93	-4.96
66/ 6/ 8	2439284.5	9.50780	-0.99114	-0.82081	0.70366	8.85143	3.62928	9.59449	9.59243	354.05	-4.91
66/ 6/12	2439288.5	9.50940	-0.97069	-0.81243	0.68158	8.85365	3.63116	9.59328	9.59359	354.17	-4.86
66/ 6/16	2439292.5	9.51095	-0.95024	-0.80404	0.65949	8.85583	3.63301	9.59206	9.59476	354.29	-4.81
66/ 6/20	2439296.5	9.51244	-0.92978	-0.79564	0.63739	8.85796	3.63485	9.59084	9.59593	354.42	-4.76

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66/ 6/24	2439300.5	9.51389	-0.90931	-0.78724	0.61527	8.86005	3.63666	9.58962	9.59710	354.54	-4.71
66/ 6/28	2439304.5	9.51529	-0.88884	-0.77884	0.59315	8.86208	3.63846	9.58840	9.59827	354.66	-4.66
66/ 7/ 2	2439308.5	9.51663	-0.86836	-0.77043	0.57101	8.86407	3.64024	9.58717	9.59943	354.79	-4.61
66/ 7/ 6	2439312.5	9.51793	-0.84788	-0.76202	0.54886	8.86601	3.64200	9.58595	9.60060	354.91	-4.56
66/ 7/10	2439316.5	9.51917	-0.82740	-0.75360	0.52670	8.86790	3.64374	9.58473	9.60177	355.03	-4.51
66/ 7/14	2439320.5	9.52036	-0.80691	-0.74518	0.50452	8.86975	3.64546	9.58351	9.60294	355.16	-4.46
66/ 7/18	2439324.5	9.52150	-0.78642	-0.73676	0.48234	8.87155	3.64716	9.58229	9.60410	355.28	-4.41
66/ 7/22	2439328.5	9.52259	-0.76592	-0.72833	0.46015	8.87330	3.64884	9.58106	9.60527	355.40	-4.36
66/ 7/26	2439332.5	9.52363	-0.74542	-0.71990	0.43794	8.87500	3.65051	9.57984	9.60643	355.52	-4.31
66/ 7/30	2439336.5	9.52461	-0.72492	-0.71147	0.41573	8.87665	3.65215	9.57862	9.60760	355.65	-4.26
66/ 8/ 3	2439340.5	9.52555	-0.70441	-0.70303	0.39350	8.87826	3.65378	9.57739	9.60877	355.77	-4.21
66/ 8/ 7	2439344.5	9.52643	-0.68390	-0.69458	0.37127	8.87982	3.65538	9.57617	9.60993	355.89	-4.16
66/ 8/11	2439348.5	9.52726	-0.66338	-0.68614	0.34902	8.88133	3.65696	9.57495	9.61110	356.02	-4.11
66/ 8/15	2439352.5	9.52804	-0.64286	-0.67769	0.32677	8.88279	3.65853	9.57372	9.61226	356.14	-4.06
66/ 8/19	2439356.5	9.52877	-0.62234	-0.66923	0.30451	8.88420	3.66008	9.57250	9.61342	356.26	-4.01
66/ 8/23	2439360.5	9.52945	-0.60181	-0.66078	0.28223	8.88556	3.66160	9.57127	9.61458	356.39	-3.96
66/ 8/27	2439364.5	9.53008	-0.58128	-0.65232	0.25996	8.88688	3.66311	9.57004	9.61575	356.51	-3.91
66/ 8/31	2439368.5	9.53065	-0.56075	-0.64385	0.23767	8.88815	3.66459	9.56882	9.61691	356.63	-3.86
66/ 9/ 4	2439372.5	9.53117	-0.54022	-0.63539	0.21538	8.88937	3.66606	9.56759	9.61807	356.76	-3.81
66/ 9/ 8	2439376.5	9.53165	-0.51968	-0.62691	0.19307	8.89055	3.66751	9.56637	9.61924	356.88	-3.76
66/ 9/12	2439380.5	9.53207	-0.49914	-0.61844	0.17076	8.89168	3.66894	9.56514	9.62040	357.00	-3.71
66/ 9/16	2439384.5	9.53243	-0.47860	-0.60996	0.14844	8.89276	3.67035	9.56391	9.62157	357.13	-3.66
66/ 9/20	2439388.5	9.53275	-0.45805	-0.60148	0.12612	8.89379	3.67174	9.56268	9.62274	357.25	-3.61
66/ 9/24	2439392.5	9.53302	-0.43750	-0.59300	0.10378	8.89478	3.67312	9.56146	9.62392	357.37	-3.56
66/ 9/28	2439396.5	9.53323	-0.41696	-0.58451	0.08144	8.89573	3.67447	9.56023	9.62509	357.50	-3.51
66/10/ 2	2439400.5	9.53339	-0.39640	-0.57602	0.05908	8.89662	3.67581	9.55900	9.62626	357.62	-3.45
66/10/ 6	2439404.5	9.53350	-0.37585	-0.56753	0.03672	8.89747	3.67712	9.55777	9.62744	357.74	-3.40
66/10/10	2439408.5	9.53356	-0.35529	-0.55903	0.01435	8.89827	3.67842	9.55655	9.62861	357.87	-3.35
66/10/14	2439412.5	9.53357	-0.33474	-0.55053	-0.00803	8.89902	3.67970	9.55532	9.62979	357.99	-3.30
66/10/18	2439416.5	9.53353	-0.31418	-0.54203	-0.03042	8.89973	3.68096	9.55409	9.63097	358.11	-3.25
66/10/22	2439420.5	9.53343	-0.29362	-0.53352	-0.05281	8.90039	3.68220	9.55286	9.63215	358.24	-3.20
66/10/26	2439424.5	9.53328	-0.27305	-0.52502	-0.07522	8.90100	3.68342	9.55163	9.63333	358.36	-3.15
66/10/30	2439428.5	9.53308	-0.25249	-0.51651	-0.09763	8.90157	3.68462	9.55040	9.63451	358.48	-3.10
66/11/ 3	2439432.5	9.53283	-0.23193	-0.50799	-0.12005	8.90208	3.68580	9.54917	9.63570	358.61	-3.05
66/11/ 7	2439436.5	9.53253	-0.21136	-0.49948	-0.14248	8.90255	3.68697	9.54794	9.63688	358.73	-3.00
66/11/11	2439440.5	9.53217	-0.19079	-0.49096	-0.16492	8.90297	3.68811	9.54671	9.63806	358.85	-2.95
66/11/15	2439444.5	9.53177	-0.17023	-0.48244	-0.18737	8.90334	3.68923	9.54548	9.63924	358.98	-2.90
66/11/19	2439448.5	9.53131	-0.14966	-0.47391	-0.20982	8.90366	3.69034	9.54425	9.64043	359.10	-2.85
66/11/23	2439452.5	9.53080	-0.12909	-0.46538	-0.23228	8.90394	3.69142	9.54302	9.64161	359.22	-2.80
66/11/27	2439456.5	9.53023	-0.10852	-0.45686	-0.25474	8.90416	3.69248	9.54179	9.64279	359.35	-2.74
66/12/ 1	2439460.5	9.52962	-0.08795	-0.44832	-0.27722	8.90434	3.69353	9.54056	9.64397	359.47	-2.69
66/12/ 5	2439464.5	9.52895	-0.06738	-0.43979	-0.29970	8.90447	3.69455	9.53933	9.64516	359.59	-2.64
66/12/ 9	2439468.5	9.52823	-0.04681	-0.43125	-0.32218	8.90455	3.69556	9.53810	9.64635	359.72	-2.59
66/12/13	2439472.5	9.52746	-0.02623	-0.42272	-0.34468	8.90459	3.69654	9.53687	9.64753	359.84	-2.54
66/12/17	2439476.5	9.52664	-0.00566	-0.41417	-0.36718	8.90457	3.69751	9.53564	9.64872	359.97	-2.49

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66/12/21	2439480.5	9.52577	0.01491	-0.40563	-0.38969	8.90451	3.69846	9.53441	9.64991	0.09	-2.44
66/12/25	2439484.5	9.52484	0.03548	-0.39709	-0.41220	8.90440	3.69939	9.53318	9.65110	0.21	-2.39
66/12/29	2439488.5	9.52386	0.05605	-0.38854	-0.43472	8.90424	3.70029	9.53195	9.65229	0.34	-2.34
67/ 1/ 2	2439492.5	9.52283	0.07662	-0.37999	-0.45725	8.90403	3.70118	9.53072	9.65348	0.46	-2.28
67/ 1/ 6	2439496.5	9.52175	0.09719	-0.37144	-0.47979	8.90377	3.70205	9.52949	9.65467	0.58	-2.23
67/ 1/10	2439500.5	9.52062	0.11776	-0.36289	-0.50233	8.90347	3.70290	9.52826	9.65585	0.71	-2.18
67/ 1/14	2439504.5	9.51943	0.13833	-0.35433	-0.52488	8.90311	3.70373	9.52703	9.65704	0.83	-2.13
67/ 1/18	2439508.5	9.51819	0.15889	-0.34577	-0.54743	8.90271	3.70453	9.52579	9.65823	0.96	-2.08
67/ 1/22	2439512.5	9.51690	0.17946	-0.33721	-0.56999	8.90225	3.70532	9.52456	9.65942	1.08	-2.03
67/ 1/26	2439516.5	9.51556	0.20003	-0.32865	-0.59256	8.90175	3.70609	9.52333	9.66060	1.20	-1.98
67/ 1/30	2439520.5	9.51416	0.22059	-0.32009	-0.61513	8.90119	3.70683	9.52210	9.66179	1.33	-1.93
67/ 2/ 3	2439524.5	9.51272	0.24115	-0.31153	-0.63771	8.90059	3.70756	9.52087	9.66298	1.45	-1.88
67/ 2/ 7	2439528.5	9.51122	0.26171	-0.30296	-0.66029	8.89993	3.70827	9.51964	9.66416	1.58	-1.82
67/ 2/11	2439532.5	9.50966	0.28227	-0.29439	-0.68287	8.89922	3.70895	9.51841	9.66534	1.70	-1.77
67/ 2/15	2439536.5	9.50806	0.30283	-0.28582	-0.70546	8.89847	3.70961	9.51717	9.66652	1.82	-1.72
67/ 2/19	2439540.5	9.50640	0.32339	-0.27725	-0.72806	8.89766	3.71026	9.51594	9.66770	1.95	-1.67
67/ 2/23	2439544.5	9.50470	0.34394	-0.26868	-0.75065	8.89681	3.71088	9.51471	9.66888	2.07	-1.62
67/ 2/27	2439548.5	9.50294	0.36449	-0.26011	-0.77325	8.89590	3.71148	9.51348	9.67006	2.20	-1.57
67/ 3/ 3	2439552.5	9.50112	0.38504	-0.25153	-0.79585	8.89495	3.71207	9.51225	9.67124	2.32	-1.52
67/ 3/ 7	2439556.5	9.49926	0.40559	-0.24296	-0.81845	8.89395	3.71263	9.51102	9.67242	2.44	-1.46
67/ 3/11	2439560.5	9.49734	0.42614	-0.23438	-0.84105	8.89290	3.71317	9.50979	9.67361	2.57	-1.41
67/ 3/15	2439564.5	9.49537	0.44668	-0.22580	-0.86366	8.89180	3.71369	9.50856	9.67479	2.69	-1.36
67/ 3/19	2439568.5	9.49335	0.46722	-0.21722	-0.88628	8.89065	3.71420	9.50732	9.67597	2.82	-1.31
67/ 3/23	2439572.5	9.49128	0.48776	-0.20864	-0.90889	8.88945	3.71468	9.50609	9.67715	2.94	-1.26
67/ 3/27	2439576.5	9.48915	0.50829	-0.20006	-0.93151	8.88821	3.71514	9.50486	9.67834	3.07	-1.21
67/ 3/31	2439580.5	9.48697	0.52882	-0.19147	-0.95413	8.88691	3.71558	9.50363	9.67952	3.19	-1.15
67/ 4/ 4	2439584.5	9.48474	0.54935	-0.18289	-0.97675	8.88557	3.71601	9.50240	9.68071	3.31	-1.10
67/ 4/ 8	2439588.5	9.48246	0.56988	-0.17430	-0.99938	8.88418	3.71641	9.50117	9.68189	3.44	-1.05
67/ 4/12	2439592.5	9.48013	0.59040	-0.16572	-1.02200	8.88274	3.71679	9.49994	9.68308	3.56	-1.00
67/ 4/16	2439596.5	9.47774	0.61092	-0.15713	-1.04463	8.88125	3.71716	9.49871	9.68427	3.69	-0.95
67/ 4/20	2439600.5	9.47530	0.63143	-0.14854	-1.06727	8.87971	3.71750	9.49748	9.68546	3.81	-0.90
67/ 4/24	2439604.5	9.47281	0.65195	-0.13996	-1.08990	8.87812	3.71782	9.49625	9.68665	3.94	-0.84
67/ 4/28	2439608.5	9.47026	0.67245	-0.13137	-1.11254	8.87649	3.71812	9.49502	9.68784	4.06	-0.79
67/ 5/ 2	2439612.5	9.46767	0.69296	-0.12278	-1.13518	8.87480	3.71840	9.49379	9.68903	4.19	-0.74
67/ 5/ 6	2439616.5	9.46502	0.71346	-0.11419	-1.15782	8.87307	3.71867	9.49256	9.69022	4.31	-0.69
67/ 5/10	2439620.5	9.46232	0.73396	-0.10560	-1.18046	8.87128	3.71891	9.49133	9.69141	4.44	-0.64
67/ 5/14	2439624.5	9.45957	0.75445	-0.09700	-1.20311	8.86945	3.71913	9.49010	9.69260	4.56	-0.59
67/ 5/18	2439628.5	9.45676	0.77494	-0.08841	-1.22575	8.86757	3.71933	9.48887	9.69380	4.68	-0.53
67/ 5/22	2439632.5	9.45390	0.79542	-0.07982	-1.24840	8.86564	3.71951	9.48764	9.69499	4.81	-0.48
67/ 5/26	2439636.5	9.45099	0.81590	-0.07123	-1.27104	8.86366	3.71967	9.48641	9.69618	4.93	-0.43
67/ 5/30	2439640.5	9.44803	0.83637	-0.06263	-1.29369	8.86164	3.71981	9.48518	9.69738	5.06	-0.38
67/ 6/ 3	2439644.5	9.44501	0.85684	-0.05404	-1.31634	8.85956	3.71993	9.48395	9.69858	5.18	-0.33
67/ 6/ 7	2439648.5	9.44195	0.87731	-0.04545	-1.33899	8.85744	3.72004	9.48273	9.69979	5.31	-0.27
67/ 6/11	2439652.5	9.43883	0.89777	-0.03685	-1.36165	8.85527	3.72012	9.48150	9.70099	5.43	-0.22
67/ 6/15	2439656.5	9.43566	0.91822	-0.02826	-1.38430	8.85305	3.72018	9.48027	9.70220	5.56	-0.17

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67/ 6/19	2439660.5	9.43243	0.93867	-0.01966	-1.40696	8.85079	3.72022	9.47904	9.70340	5.68	-0.12
67/ 6/23	2439664.5	9.42916	0.95911	-0.01107	-1.42962	8.84847	3.72025	9.47782	9.70461	5.81	-0.07
67/ 6/27	2439668.5	9.42583	0.97955	-0.00247	-1.45229	8.84610	3.72025	9.47659	9.70582	5.93	-0.01
67/ 7/ 1	2439672.5	9.42245	0.99999	0.00612	-1.47495	8.84369	3.72023	9.47536	9.70703	6.06	0.04
67/ 7/ 5	2439676.5	9.41901	1.02041	0.01471	-1.49762	8.84122	3.72019	9.47414	9.70824	6.18	0.09
67/ 7/ 9	2439680.5	9.41553	1.04084	0.02331	-1.52029	8.83871	3.72013	9.47291	9.70945	6.31	0.14
67/ 7/13	2439684.5	9.41199	1.06125	0.03190	-1.54296	8.83615	3.72005	9.47168	9.71066	6.43	0.19
67/ 7/17	2439688.5	9.40840	1.08166	0.04050	-1.56563	8.83353	3.71995	9.47046	9.71188	6.56	0.25
67/ 7/21	2439692.5	9.40475	1.10207	0.04909	-1.58830	8.83087	3.71983	9.46923	9.71309	6.68	0.30
67/ 7/25	2439696.5	9.40106	1.12246	0.05768	-1.61098	8.82815	3.71969	9.46801	9.71430	6.81	0.35
67/ 7/29	2439700.5	9.39731	1.14286	0.06628	-1.63366	8.82539	3.71953	9.46678	9.71551	6.93	0.40
67/ 8/ 2	2439704.5	9.39351	1.16324	0.07487	-1.65633	8.82257	3.71935	9.46556	9.71672	7.06	0.45
67/ 8/ 6	2439708.5	9.38966	1.18362	0.08346	-1.67901	8.81970	3.71914	9.46433	9.71793	7.18	0.51
67/ 8/10	2439712.5	9.38575	1.20399	0.09205	-1.70169	8.81678	3.71891	9.46311	9.71914	7.31	0.56
67/ 8/14	2439716.5	9.38180	1.22436	0.10064	-1.72437	8.81381	3.71866	9.46188	9.72035	7.44	0.61
67/ 8/18	2439720.5	9.37779	1.24471	0.10923	-1.74704	8.81079	3.71840	9.46066	9.72155	7.56	0.66
67/ 8/22	2439724.5	9.37372	1.26506	0.11782	-1.76972	8.80771	3.71810	9.45944	9.72276	7.69	0.71
67/ 8/26	2439728.5	9.36961	1.28541	0.12641	-1.79239	8.80459	3.71779	9.45821	9.72396	7.81	0.77
67/ 8/30	2439732.5	9.36544	1.30574	0.13500	-1.81507	8.80141	3.71746	9.45699	9.72517	7.94	0.82
67/ 9/ 3	2439736.5	9.36122	1.32607	0.14359	-1.83774	8.79819	3.71711	9.45577	9.72637	8.06	0.87
67/ 9/ 7	2439740.5	9.35695	1.34639	0.15218	-1.86041	8.79491	3.71673	9.45455	9.72757	8.19	0.92
67/ 9/11	2439744.5	9.35263	1.36671	0.16076	-1.88308	8.79158	3.71634	9.45333	9.72877	8.31	0.97
67/ 9/15	2439748.5	9.34825	1.38702	0.16935	-1.90575	8.78820	3.71592	9.45210	9.72998	8.44	1.03
67/ 9/19	2439752.5	9.34382	1.40731	0.17793	-1.92841	8.78477	3.71548	9.45088	9.73118	8.57	1.08
67/ 9/23	2439756.5	9.33934	1.42760	0.18651	-1.95108	8.78129	3.71502	9.44966	9.73237	8.69	1.13
67/ 9/27	2439760.5	9.33481	1.44789	0.19510	-1.97374	8.77775	3.71454	9.44844	9.73357	8.82	1.18
67/10/ 1	2439764.5	9.33022	1.46816	0.20368	-1.99640	8.77417	3.71404	9.44722	9.73477	8.94	1.24
67/10/ 5	2439768.5	9.32558	1.48843	0.21226	-2.01906	8.77053	3.71351	9.44600	9.73596	9.07	1.29
67/10/ 9	2439772.5	9.32089	1.50868	0.22083	-2.04171	8.76684	3.71297	9.44478	9.73716	9.19	1.34
67/10/13	2439776.5	9.31615	1.52893	0.22941	-2.06436	8.76310	3.71240	9.44356	9.73835	9.32	1.39
67/10/17	2439780.5	9.31135	1.54917	0.23799	-2.08701	8.75931	3.71181	9.44235	9.73954	9.45	1.44
67/10/21	2439784.5	9.30651	1.56940	0.24656	-2.10965	8.75546	3.71120	9.44113	9.74073	9.57	1.50
67/10/25	2439788.5	9.30161	1.58962	0.25513	-2.13229	8.75157	3.71057	9.43991	9.74191	9.70	1.55
67/10/29	2439792.5	9.29665	1.60984	0.26370	-2.15493	8.74762	3.70991	9.43869	9.74310	9.82	1.60
67/11/ 2	2439796.5	9.29165	1.63004	0.27227	-2.17756	8.74362	3.70924	9.43748	9.74428	9.95	1.65
67/11/ 6	2439800.5	9.28659	1.65024	0.28084	-2.20018	8.73956	3.70854	9.43626	9.74546	10.08	1.71
67/11/10	2439804.5	9.28148	1.67042	0.28941	-2.22280	8.73546	3.70782	9.43504	9.74664	10.20	1.76
67/11/14	2439808.5	9.27632	1.69060	0.29797	-2.24541	8.73131	3.70708	9.43383	9.74782	10.33	1.81
67/11/18	2439812.5	9.27111	1.71076	0.30654	-2.26802	8.72710	3.70632	9.43261	9.74900	10.45	1.86
67/11/22	2439816.5	9.26584	1.73092	0.31510	-2.29062	8.72285	3.70554	9.43140	9.75018	10.58	1.91
67/11/26	2439820.5	9.26053	1.75107	0.32366	-2.31321	8.71854	3.70473	9.43018	9.75136	10.71	1.97
67/11/30	2439824.5	9.25516	1.77120	0.33222	-2.33580	8.71419	3.70391	9.42897	9.75253	10.83	2.02
67/12/ 4	2439828.5	9.24973	1.79133	0.34077	-2.35838	8.70978	3.70306	9.42776	9.75371	10.96	2.07
67/12/ 8	2439832.5	9.24426	1.81144	0.34933	-2.38095	8.70533	3.70220	9.42654	9.75489	11.09	2.12
67/12/12	2439836.5	9.23873	1.83155	0.35788	-2.40352	8.70083	3.70131	9.42533	9.75608	11.21	2.18

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67/12/16	2439840.5	9.23316	1.85165	0.36643	-2.42609	8.69627	3.70040	9.42412	9.75726	11.34	2.23
67/12/20	2439844.5	9.22752	1.87173	0.37497	-2.44864	8.69167	3.69948	9.42291	9.75844	11.47	2.28
67/12/24	2439848.5	9.22184	1.89180	0.38352	-2.47120	8.68702	3.69853	9.42170	9.75962	11.59	2.33
67/12/28	2439852.5	9.21611	1.91187	0.39206	-2.49374	8.68231	3.69756	9.42049	9.76080	11.72	2.39
68/ 1/ 1	2439856.5	9.21032	1.93192	0.40060	-2.51628	8.67756	3.69657	9.41928	9.76199	11.85	2.44
68/ 1/ 5	2439860.5	9.20448	1.95196	0.40914	-2.53882	8.67276	3.69556	9.41807	9.76317	11.97	2.49
68/ 1/ 9	2439864.5	9.19859	1.97199	0.41768	-2.56134	8.66791	3.69453	9.41686	9.76436	12.10	2.54
68/ 1/13	2439868.5	9.19265	1.99201	0.42621	-2.58387	8.66301	3.69347	9.41565	9.76554	12.23	2.59
68/ 1/17	2439872.5	9.18665	2.01202	0.43474	-2.60638	8.65805	3.69240	9.41444	9.76673	12.35	2.65
68/ 1/21	2439876.5	9.18060	2.03201	0.44327	-2.62889	8.65305	3.69131	9.41324	9.76791	12.48	2.70
68/ 1/25	2439880.5	9.17450	2.05200	0.45180	-2.65140	8.64800	3.69019	9.41203	9.76910	12.61	2.75
68/ 1/29	2439884.5	9.16835	2.07197	0.46032	-2.67390	8.64290	3.68905	9.41083	9.77029	12.73	2.80
68/ 2/ 2	2439888.5	9.16215	2.09193	0.46884	-2.69639	8.63774	3.68790	9.40962	9.77147	12.86	2.86
68/ 2/ 6	2439892.5	9.15590	2.11188	0.47736	-2.71887	8.63254	3.68672	9.40842	9.77266	12.99	2.91
68/ 2/10	2439896.5	9.14959	2.13182	0.48588	-2.74135	8.62728	3.68552	9.40721	9.77385	13.12	2.96
68/ 2/14	2439900.5	9.14323	2.15174	0.49439	-2.76382	8.62198	3.68430	9.40601	9.77503	13.24	3.01
68/ 2/18	2439904.5	9.13682	2.17165	0.50290	-2.78628	8.61663	3.68305	9.40481	9.77622	13.37	3.07
68/ 2/22	2439908.5	9.13036	2.19155	0.51141	-2.80873	8.61123	3.68179	9.40361	9.77741	13.50	3.12
68/ 2/26	2439912.5	9.12384	2.21144	0.51991	-2.83118	8.60577	3.68051	9.40241	9.77860	13.62	3.17
68/ 3/ 1	2439916.5	9.11727	2.23131	0.52841	-2.85362	8.60027	3.67921	9.40121	9.77980	13.75	3.22
68/ 3/ 5	2439920.5	9.11066	2.25117	0.53691	-2.87606	8.59472	3.67788	9.40001	9.78099	13.88	3.27
68/ 3/ 9	2439924.5	9.10399	2.27102	0.54541	-2.89849	8.58912	3.67654	9.39881	9.78218	14.01	3.33
68/ 3/13	2439928.5	9.09726	2.29086	0.55390	-2.92091	8.58346	3.67517	9.39761	9.78337	14.13	3.38
68/ 3/17	2439932.5	9.09049	2.31068	0.56239	-2.94332	8.57776	3.67378	9.39641	9.78457	14.26	3.43
68/ 3/21	2439936.5	9.08367	2.33049	0.57087	-2.96573	8.57201	3.67237	9.39521	9.78576	14.39	3.48
68/ 3/25	2439940.5	9.07679	2.35029	0.57935	-2.98813	8.56620	3.67094	9.39402	9.78696	14.52	3.54
68/ 3/29	2439944.5	9.06986	2.37007	0.58783	-3.01052	8.56034	3.66949	9.39282	9.78815	14.64	3.59
68/ 4/ 2	2439948.5	9.06288	2.38984	0.59631	-3.03291	8.55443	3.66802	9.39163	9.78934	14.77	3.64
68/ 4/ 6	2439952.5	9.05585	2.40959	0.60478	-3.05528	8.54848	3.66652	9.39043	9.79053	14.90	3.69
68/ 4/10	2439956.5	9.04876	2.42934	0.61325	-3.07765	8.54246	3.66500	9.38924	9.79172	15.03	3.74
68/ 4/14	2439960.5	9.04163	2.44906	0.62171	-3.10001	8.53640	3.66347	9.38805	9.79292	15.16	3.80
68/ 4/18	2439964.5	9.03444	2.46878	0.63017	-3.12236	8.53029	3.66190	9.38686	9.79410	15.28	3.85
68/ 4/22	2439968.5	9.02720	2.48848	0.63863	-3.14471	8.52412	3.66032	9.38566	9.79529	15.41	3.90
68/ 4/26	2439972.5	9.01991	2.50816	0.64709	-3.16704	8.51790	3.65872	9.38447	9.79648	15.54	3.95
68/ 4/30	2439976.5	9.01257	2.52783	0.65554	-3.18937	8.51163	3.65709	9.38328	9.79766	15.67	4.01
68/ 5/ 4	2439980.5	9.00517	2.54749	0.66398	-3.21168	8.50530	3.65544	9.38210	9.79884	15.80	4.06
68/ 5/ 8	2439984.5	8.99773	2.56713	0.67243	-3.23398	8.49893	3.65377	9.38091	9.80002	15.92	4.11
68/ 5/12	2439988.5	8.99023	2.58676	0.68087	-3.25627	8.49250	3.65208	9.37972	9.80120	16.05	4.16
68/ 5/16	2439992.5	8.98268	2.60637	0.68930	-3.27855	8.48602	3.65036	9.37853	9.80238	16.18	4.21
68/ 5/20	2439996.5	8.97508	2.62596	0.69773	-3.30082	8.47950	3.64863	9.37735	9.80356	16.31	4.27
68/ 5/24	2440000.5	8.96743	2.64555	0.70616	-3.32308	8.47292	3.64687	9.37616	9.80474	16.44	4.32
68/ 5/28	2440004.5	8.95973	2.66511	0.71458	-3.34532	8.46629	3.64509	9.37498	9.80591	16.57	4.37
68/ 6/ 1	2440008.5	8.95197	2.68466	0.72300	-3.36756	8.45961	3.64329	9.37379	9.80709	16.69	4.42
68/ 6/ 5	2440012.5	8.94417	2.70420	0.73141	-3.38979	8.45288	3.64147	9.37261	9.80826	16.82	4.48
68/ 6/ 9	2440016.5	8.93631	2.72372	0.73982	-3.41200	8.44609	3.63963	9.37143	9.80944	16.95	4.53

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68/ 6/13	2440020.5	8.92841	2.74322	0.74823	-3.43420	8.43926	3.63776	9.37025	9.81061	17.08	4.58
68/ 6/17	2440024.5	8.92045	2.76271	0.75663	-3.45639	8.43237	3.63587	9.36907	9.81179	17.21	4.63
68/ 6/21	2440028.5	8.91244	2.78218	0.76503	-3.47857	8.42544	3.63397	9.36789	9.81296	17.34	4.68
68/ 6/25	2440032.5	8.90437	2.80164	0.77342	-3.50073	8.41845	3.63204	9.36671	9.81413	17.47	4.74
68/ 6/29	2440036.5	8.89626	2.82108	0.78181	-3.52289	8.41141	3.63009	9.36553	9.81530	17.59	4.79
68/ 7/ 3	2440040.5	8.88810	2.84050	0.79020	-3.54503	8.40433	3.62811	9.36435	9.81647	17.72	4.84
68/ 7/ 7	2440044.5	8.87988	2.85991	0.79857	-3.56716	8.39719	3.62612	9.36318	9.81764	17.85	4.89
68/ 7/11	2440048.5	8.87162	2.87930	0.80695	-3.58927	8.39000	3.62410	9.36200	9.81881	17.98	4.94
68/ 7/15	2440052.5	8.86330	2.89868	0.81532	-3.61138	8.38276	3.62207	9.36083	9.81998	18.11	5.00
68/ 7/19	2440056.5	8.85493	2.91803	0.82368	-3.63347	8.37547	3.62001	9.35966	9.82115	18.24	5.05
68/ 7/23	2440060.5	8.84651	2.93737	0.83204	-3.65554	8.36812	3.61792	9.35848	9.82231	18.37	5.10
68/ 7/27	2440064.5	8.83804	2.95670	0.84040	-3.67761	8.36073	3.61582	9.35731	9.82348	18.50	5.15
68/ 7/31	2440068.5	8.82952	2.97600	0.84875	-3.69966	8.35328	3.61370	9.35614	9.82464	18.63	5.20
68/ 8/ 4	2440072.5	8.82095	2.99529	0.85710	-3.72169	8.34579	3.61155	9.35497	9.82581	18.76	5.26
68/ 8/ 8	2440076.5	8.81232	3.01456	0.86544	-3.74371	8.33824	3.60938	9.35380	9.82697	18.89	5.31
68/ 8/12	2440080.5	8.80365	3.03382	0.87377	-3.76572	8.33065	3.60720	9.35263	9.82813	19.01	5.36
68/ 8/16	2440084.5	8.79492	3.05305	0.88210	-3.78771	8.32301	3.60499	9.35147	9.82930	19.14	5.41
68/ 8/20	2440088.5	8.78615	3.07227	0.89043	-3.80969	8.31532	3.60276	9.35030	9.83047	19.27	5.46
68/ 8/24	2440092.5	8.77732	3.09147	0.89875	-3.83165	8.30757	3.60051	9.34914	9.83163	19.40	5.52
68/ 8/28	2440096.5	8.76844	3.11066	0.90707	-3.85361	8.29978	3.59823	9.34797	9.83280	19.53	5.57
68/ 9/ 1	2440100.5	8.75952	3.12982	0.91538	-3.87554	8.29194	3.59594	9.34681	9.83397	19.66	5.62
68/ 9/ 5	2440104.5	8.75054	3.14897	0.92368	-3.89747	8.28405	3.59363	9.34565	9.83514	19.79	5.67
68/ 9/ 9	2440108.5	8.74151	3.16810	0.93198	-3.91938	8.27611	3.59129	9.34448	9.83630	19.92	5.72
68/ 9/13	2440112.5	8.73243	3.18721	0.94027	-3.94128	8.26812	3.58894	9.34332	9.83747	20.05	5.78
68/ 9/17	2440116.5	8.72330	3.20630	0.94856	-3.96317	8.26007	3.58656	9.34217	9.83864	20.18	5.83
68/ 9/21	2440120.5	8.71412	3.22537	0.95684	-3.98504	8.25198	3.58416	9.34101	9.83981	20.31	5.88
68/ 9/25	2440124.5	8.70489	3.24442	0.96512	-4.00690	8.24384	3.58174	9.33985	9.84098	20.44	5.93
68/ 9/29	2440128.5	8.69560	3.26346	0.97339	-4.02874	8.23564	3.57929	9.33869	9.84215	20.57	5.98
68/10/ 3	2440132.5	8.68627	3.28248	0.98166	-4.05057	8.22740	3.57683	9.33754	9.84332	20.70	6.03
68/10/ 7	2440136.5	8.67689	3.30147	0.98992	-4.07238	8.21910	3.57434	9.33638	9.84448	20.83	6.09
68/10/11	2440140.5	8.66746	3.32045	0.99817	-4.09419	8.21075	3.57184	9.33523	9.84565	20.96	6.14
68/10/15	2440144.5	8.65797	3.33941	1.00642	-4.11597	8.20235	3.56931	9.33408	9.84682	21.09	6.19
68/10/19	2440148.5	8.64844	3.35835	1.01466	-4.13774	8.19390	3.56675	9.33293	9.84798	21.22	6.24
68/10/23	2440152.5	8.63886	3.37727	1.02290	-4.15950	8.18540	3.56418	9.33178	9.84914	21.35	6.29
68/10/27	2440156.5	8.62922	3.39617	1.03113	-4.18124	8.17684	3.56158	9.33063	9.85030	21.48	6.34
68/10/31	2440160.5	8.61954	3.41505	1.03936	-4.20296	8.16823	3.55896	9.32948	9.85145	21.61	6.40
68/11/ 4	2440164.5	8.60980	3.43391	1.04758	-4.22467	8.15958	3.55632	9.32833	9.85261	21.74	6.45
68/11/ 8	2440168.5	8.60002	3.45275	1.05579	-4.24635	8.15087	3.55366	9.32719	9.85377	21.87	6.50
68/11/12	2440172.5	8.59018	3.47157	1.06400	-4.26803	8.14211	3.55098	9.32604	9.85492	22.01	6.55
68/11/16	2440176.5	8.58030	3.49037	1.07220	-4.28968	8.13330	3.54827	9.32490	9.85607	22.14	6.60
68/11/20	2440180.5	8.57036	3.50915	1.08039	-4.31132	8.12444	3.54555	9.32376	9.85723	22.27	6.65
68/11/24	2440184.5	8.56038	3.52791	1.08858	-4.33294	8.11553	3.54280	9.32262	9.85838	22.40	6.71
68/11/28	2440188.5	8.55034	3.54664	1.09676	-4.35455	8.10656	3.54003	9.32148	9.85953	22.53	6.76
68/12/ 2	2440192.5	8.54026	3.56536	1.10493	-4.37613	8.09755	3.53723	9.32034	9.86067	22.66	6.81
68/12/ 6	2440196.5	8.53012	3.58406	1.11310	-4.39770	8.08848	3.53442	9.31920	9.86182	22.79	6.86

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68/12/10	2440200.5	8.51994	3.60273	1.12126	-4.41925	8.07937	3.53158	9.31806	9.86296	22.92	6.91
68/12/14	2440204.5	8.50970	3.62139	1.12942	-4.44079	8.07020	3.52872	9.31693	9.86411	23.05	6.96
68/12/18	2440208.5	8.49942	3.64002	1.13757	-4.46230	8.06098	3.52584	9.31579	9.86525	23.18	7.01
68/12/22	2440212.5	8.48909	3.65863	1.14571	-4.48380	8.05171	3.52294	9.31466	9.86638	23.32	7.07
68/12/26	2440216.5	8.47870	3.67722	1.15384	-4.50528	8.04238	3.52001	9.31352	9.86752	23.45	7.12
68/12/30	2440220.5	8.46827	3.69579	1.16197	-4.52673	8.03301	3.51707	9.31239	9.86865	23.58	7.17
69/ 1/ 3	2440224.5	8.45779	3.71434	1.17009	-4.54817	8.02359	3.51410	9.31126	9.86979	23.71	7.22
69/ 1/ 7	2440228.5	8.44726	3.73286	1.17821	-4.56959	8.01411	3.51111	9.31013	9.87092	23.84	7.27
69/ 1/11	2440232.5	8.43668	3.75136	1.18632	-4.59099	8.00458	3.50809	9.30901	9.87204	23.97	7.32
69/ 1/15	2440236.5	8.42605	3.76985	1.19442	-4.61237	7.99500	3.50506	9.30788	9.87317	24.10	7.37
69/ 1/19	2440240.5	8.41537	3.78830	1.20251	-4.63373	7.98537	3.50200	9.30675	9.87429	24.24	7.42
69/ 1/23	2440244.5	8.40464	3.80674	1.21060	-4.65506	7.97569	3.49892	9.30563	9.87541	24.37	7.47
69/ 1/27	2440248.5	8.39386	3.82515	1.21868	-4.67637	7.96596	3.49582	9.30451	9.87652	24.50	7.53
69/ 1/31	2440252.5	8.38303	3.84355	1.22675	-4.69766	7.95618	3.49270	9.30338	9.87764	24.63	7.58
69/ 2/ 4	2440256.5	8.37215	3.86191	1.23482	-4.71893	7.94635	3.48955	9.30226	9.87875	24.76	7.63
69/ 2/ 8	2440260.5	8.36123	3.88026	1.24287	-4.74018	7.93647	3.48639	9.30114	9.87987	24.89	7.68
69/ 2/12	2440264.5	8.35025	3.89858	1.25092	-4.76140	7.92654	3.48320	9.30002	9.88098	25.03	7.73
69/ 2/16	2440268.5	8.33923	3.91688	1.25897	-4.78261	7.91657	3.47999	9.29891	9.88209	25.16	7.78
69/ 2/20	2440272.5	8.32815	3.93516	1.26700	-4.80379	7.90654	3.47677	9.29779	9.88320	25.29	7.83
69/ 2/24	2440276.5	8.31703	3.95342	1.27503	-4.82495	7.89647	3.47352	9.29668	9.88431	25.42	7.88
69/ 2/28	2440280.5	8.30586	3.97165	1.28305	-4.84609	7.88635	3.47025	9.29556	9.88543	25.56	7.93
69/ 3/ 4	2440284.5	8.29464	3.98985	1.29106	-4.86721	7.87617	3.46695	9.29445	9.88654	25.69	7.98
69/ 3/ 8	2440288.5	8.28337	4.00804	1.29907	-4.88830	7.86595	3.46364	9.29334	9.88765	25.82	8.04
69/ 3/12	2440292.5	8.27206	4.02620	1.30707	-4.90938	7.85569	3.46031	9.29223	9.88876	25.95	8.09
69/ 3/16	2440296.5	8.26069	4.04433	1.31506	-4.93043	7.84537	3.45696	9.29112	9.88987	26.09	8.14
69/ 3/20	2440300.5	8.24928	4.06244	1.32304	-4.95146	7.83501	3.45358	9.29002	9.89098	26.22	8.19
69/ 3/24	2440304.5	8.23781	4.08053	1.33101	-4.97247	7.82459	3.45018	9.28891	9.89209	26.35	8.24
69/ 3/28	2440308.5	8.22630	4.09860	1.33898	-4.99346	7.81413	3.44677	9.28781	9.89320	26.48	8.29
69/ 4/ 1	2440312.5	8.21474	4.11664	1.34694	-5.01443	7.80362	3.44333	9.28671	9.89432	26.62	8.34
69/ 4/ 5	2440316.5	8.20313	4.13465	1.35489	-5.03537	7.79306	3.43987	9.28560	9.89543	26.75	8.39
69/ 4/ 9	2440320.5	8.19148	4.15264	1.36283	-5.05630	7.78245	3.43639	9.28450	9.89654	26.88	8.44
69/ 4/13	2440324.5	8.17977	4.17061	1.37077	-5.07720	7.77180	3.43289	9.28341	9.89765	27.02	8.49
69/ 4/17	2440328.5	8.16802	4.18855	1.37869	-5.09808	7.76109	3.42937	9.28231	9.89876	27.15	8.54
69/ 4/21	2440332.5	8.15622	4.20647	1.38661	-5.11893	7.75033	3.42582	9.28121	9.89987	27.28	8.59
69/ 4/25	2440336.5	8.14437	4.22436	1.39452	-5.13977	7.73953	3.42226	9.28012	9.90098	27.42	8.64
69/ 4/29	2440340.5	8.13247	4.24223	1.40242	-5.16057	7.72868	3.41867	9.27903	9.90209	27.55	8.69
69/ 5/ 3	2440344.5	8.12052	4.26007	1.41032	-5.18136	7.71778	3.41507	9.27793	9.90320	27.68	8.74
69/ 5/ 7	2440348.5	8.10853	4.27789	1.41820	-5.20213	7.70683	3.41144	9.27684	9.90431	27.82	8.79
69/ 5/11	2440352.5	8.09649	4.29568	1.42608	-5.22287	7.69584	3.40779	9.27576	9.90542	27.95	8.84
69/ 5/15	2440356.5	8.08440	4.31344	1.43395	-5.24359	7.68480	3.40412	9.27467	9.90653	28.08	8.89
69/ 5/19	2440360.5	8.07226	4.33118	1.44181	-5.26429	7.67370	3.40043	9.27358	9.90764	28.22	8.94
69/ 5/23	2440364.5	8.06007	4.34890	1.44966	-5.28496	7.66256	3.39672	9.27250	9.90876	28.35	8.99
69/ 5/27	2440368.5	8.04784	4.36659	1.45750	-5.30562	7.65137	3.39299	9.27142	9.90987	28.48	9.04
69/ 5/31	2440372.5	8.03556	4.38425	1.46534	-5.32625	7.64014	3.38924	9.27033	9.91098	28.62	9.09
69/ 6/ 4	2440376.5	8.02323	4.40189	1.47316	-5.34685	7.62885	3.38547	9.26925	9.91209	28.75	9.14

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69/ 6/ 8	2440380.5	8.01086	4.41950	1.48098	-5.36744	7.61751	3.38167	9.26818	9.91320	28.89	9.19
69/ 6/12	2440384.5	7.99843	4.43708	1.48879	-5.38800	7.60613	3.37785	9.26710	9.91431	29.02	9.24
69/ 6/16	2440388.5	7.98596	4.45464	1.49659	-5.40854	7.59469	3.37402	9.26602	9.91542	29.15	9.29
69/ 6/20	2440392.5	7.97344	4.47217	1.50438	-5.42906	7.58321	3.37016	9.26495	9.91653	29.29	9.34
69/ 6/24	2440396.5	7.96088	4.48968	1.51216	-5.44955	7.57167	3.36628	9.26388	9.91764	29.42	9.39
69/ 6/28	2440400.5	7.94826	4.50716	1.51993	-5.47002	7.56009	3.36237	9.26281	9.91875	29.56	9.44
69/ 7/ 2	2440404.5	7.93560	4.52461	1.52769	-5.49046	7.54845	3.35845	9.26174	9.91985	29.69	9.49
69/ 7/ 6	2440408.5	7.92290	4.54203	1.53545	-5.51088	7.53677	3.35450	9.26067	9.92096	29.82	9.54
69/ 7/10	2440412.5	7.91014	4.55943	1.54319	-5.53128	7.52503	3.35053	9.25960	9.92206	29.96	9.59
69/ 7/14	2440416.5	7.89734	4.57680	1.55093	-5.55165	7.51325	3.34654	9.25854	9.92316	30.09	9.64
69/ 7/18	2440420.5	7.88449	4.59415	1.55865	-5.57199	7.50141	3.34253	9.25747	9.92425	30.23	9.69
69/ 7/22	2440424.5	7.87160	4.61146	1.56637	-5.59231	7.48952	3.33849	9.25641	9.92534	30.36	9.74
69/ 7/26	2440428.5	7.85865	4.62875	1.57408	-5.61259	7.47759	3.33444	9.25535	9.92643	30.50	9.79
69/ 7/30	2440432.5	7.84566	4.64601	1.58178	-5.63285	7.46561	3.33036	9.25429	9.92752	30.63	9.84
69/ 8/ 3	2440436.5	7.83263	4.66324	1.58947	-5.65309	7.45357	3.32626	9.25323	9.92860	30.77	9.89
69/ 8/ 7	2440440.5	7.81954	4.68045	1.59715	-5.67330	7.44149	3.32214	9.25218	9.92969	30.90	9.94
69/ 8/11	2440444.5	7.80641	4.69763	1.60482	-5.69348	7.42936	3.31800	9.25112	9.93077	31.04	9.99
69/ 8/15	2440448.5	7.79324	4.71478	1.61248	-5.71363	7.41718	3.31383	9.25007	9.93185	31.17	10.04
69/ 8/19	2440452.5	7.78002	4.73190	1.62013	-5.73376	7.40495	3.30965	9.24902	9.93293	31.31	10.09
69/ 8/23	2440456.5	7.76675	4.74899	1.62777	-5.75386	7.39268	3.30544	9.24797	9.93401	31.44	10.14
69/ 8/27	2440460.5	7.75343	4.76605	1.63540	-5.77393	7.38035	3.30121	9.24692	9.93508	31.58	10.19
69/ 8/31	2440464.5	7.74007	4.78309	1.64302	-5.79397	7.36797	3.29696	9.24587	9.93615	31.71	10.24
69/ 9/ 4	2440468.5	7.72666	4.80010	1.65063	-5.81399	7.35555	3.29269	9.24482	9.93722	31.85	10.29
69/ 9/ 8	2440472.5	7.71321	4.81707	1.65823	-5.83397	7.34308	3.28840	9.24378	9.93829	31.99	10.33
69/ 9/12	2440476.5	7.69971	4.83402	1.66583	-5.85393	7.33055	3.28409	9.24274	9.93935	32.12	10.38
69/ 9/16	2440480.5	7.68616	4.85094	1.67341	-5.87386	7.31798	3.27975	9.24170	9.94042	32.26	10.43
69/ 9/20	2440484.5	7.67257	4.86783	1.68098	-5.89376	7.30537	3.27540	9.24066	9.94148	32.39	10.48
69/ 9/24	2440488.5	7.65893	4.88470	1.68854	-5.91363	7.29270	3.27102	9.23962	9.94254	32.53	10.53
69/ 9/28	2440492.5	7.64524	4.90153	1.69609	-5.93347	7.27999	3.26662	9.23859	9.94359	32.66	10.58
69/10/ 2	2440496.5	7.63151	4.91833	1.70363	-5.95328	7.26722	3.26220	9.23755	9.94465	32.80	10.63
69/10/ 6	2440500.5	7.61774	4.93511	1.71116	-5.97306	7.25441	3.25776	9.23652	9.94570	32.94	10.68
69/10/10	2440504.5	7.60392	4.95185	1.71869	-5.99281	7.24155	3.25330	9.23549	9.94675	33.07	10.73
69/10/14	2440508.5	7.59005	4.96856	1.72620	-6.01253	7.22864	3.24881	9.23446	9.94779	33.21	10.77
69/10/18	2440512.5	7.57614	4.98525	1.73370	-6.03222	7.21569	3.24431	9.23343	9.94884	33.35	10.82
69/10/22	2440516.5	7.56218	5.00190	1.74119	-6.05188	7.20268	3.23978	9.23240	9.94988	33.48	10.87
69/10/26	2440520.5	7.54817	5.01853	1.74867	-6.07150	7.18964	3.23524	9.23138	9.95092	33.62	10.92
69/10/30	2440524.5	7.53412	5.03512	1.75613	-6.09109	7.17654	3.23067	9.23036	9.95196	33.76	10.97
69/11/ 3	2440528.5	7.52003	5.05169	1.76359	-6.11066	7.16341	3.22609	9.22934	9.95300	33.89	11.02
69/11/ 7	2440532.5	7.50589	5.06822	1.77104	-6.13019	7.15022	3.22148	9.22832	9.95404	34.03	11.06
69/11/11	2440536.5	7.49171	5.08472	1.77848	-6.14970	7.13699	3.21685	9.22730	9.95507	34.17	11.11
69/11/15	2440540.5	7.47748	5.10120	1.78590	-6.16917	7.12371	3.21221	9.22628	9.95611	34.30	11.16
69/11/19	2440544.5	7.46320	5.11764	1.79332	-6.18861	7.11039	3.20754	9.22527	9.95715	34.44	11.21
69/11/23	2440548.5	7.44888	5.13405	1.80072	-6.20802	7.09702	3.20285	9.22426	9.95818	34.58	11.26
69/11/27	2440552.5	7.43452	5.15043	1.80812	-6.22740	7.08360	3.19814	9.22325	9.95922	34.71	11.31
69/12/ 1	2440556.5	7.42011	5.16678	1.81550	-6.24675	7.07014	3.19341	9.22224	9.96025	34.85	11.35

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69/12/ 5	2440560.5	7.40566	5.18309	1.82287	-6.26607	7.05663	3.18867	9.22123	9.96129	34.99	11.40
69/12/ 9	2440564.5	7.39116	5.19938	1.83023	-6.28536	7.04307	3.18390	9.22022	9.96232	35.12	11.45
69/12/13	2440568.5	7.37662	5.21564	1.83758	-6.30462	7.02947	3.17911	9.21922	9.96335	35.26	11.50
69/12/17	2440572.5	7.36203	5.23186	1.84492	-6.32385	7.01582	3.17430	9.21822	9.96438	35.40	11.55
69/12/21	2440576.5	7.34740	5.24805	1.85225	-6.34304	7.00213	3.16947	9.21722	9.96542	35.54	11.59
69/12/25	2440580.5	7.33272	5.26421	1.85956	-6.36221	6.98838	3.16461	9.21622	9.96644	35.67	11.64

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69/12/17	2440572.5	7.36203	5.23186	1.84492	-6.32385	7.01582	3.17430	9.21822	9.96438	35.40	11.55
69/12/21	2440576.5	7.34740	5.24805	1.85225	-6.34304	7.00213	3.16947	9.21722	9.96542	35.54	11.59
69/12/25	2440580.5	7.33272	5.26421	1.85956	-6.36221	6.98838	3.16461	9.21622	9.96644	35.67	11.64
69/12/29	2440584.5	7.31800	5.28034	1.86687	-6.38134	6.97460	3.15974	9.21522	9.96747	35.81	11.69
70/ 1/ 2	2440588.5	7.30324	5.29644	1.87416	-6.40045	6.96076	3.15485	9.21423	9.96850	35.95	11.74
70/ 1/ 6	2440592.5	7.28843	5.31250	1.88145	-6.41952	6.94688	3.14993	9.21324	9.96952	36.09	11.78
70/ 1/10	2440596.5	7.27358	5.32853	1.88872	-6.43855	6.93295	3.14500	9.21225	9.97054	36.23	11.83
70/ 1/14	2440600.5	7.25868	5.34453	1.89598	-6.45756	6.91897	3.14004	9.21126	9.97156	36.36	11.88
70/ 1/18	2440604.5	7.24374	5.36050	1.90323	-6.47653	6.90495	3.13507	9.21027	9.97258	36.50	11.93
70/ 1/22	2440608.5	7.22876	5.37644	1.91046	-6.49546	6.89088	3.13007	9.20928	9.97360	36.64	11.97
70/ 1/26	2440612.5	7.21373	5.39234	1.91769	-6.51437	6.87677	3.12506	9.20830	9.97461	36.78	12.02
70/ 1/30	2440616.5	7.19866	5.40821	1.92490	-6.53324	6.86261	3.12002	9.20732	9.97563	36.92	12.07
70/ 2/ 3	2440620.5	7.18355	5.42405	1.93210	-6.55208	6.84841	3.11496	9.20634	9.97664	37.06	12.11
70/ 2/ 7	2440624.5	7.16839	5.43985	1.93929	-6.57088	6.83416	3.10988	9.20536	9.97765	37.19	12.16
70/ 2/11	2440628.5	7.15319	5.45562	1.94647	-6.58965	6.81986	3.10479	9.20438	9.97866	37.33	12.21
70/ 2/15	2440632.5	7.13794	5.47136	1.95364	-6.60839	6.80552	3.09967	9.20341	9.97967	37.47	12.26
70/ 2/19	2440636.5	7.12265	5.48707	1.96079	-6.62710	6.79113	3.09453	9.20243	9.98068	37.61	12.30
70/ 2/23	2440640.5	7.10732	5.50274	1.96794	-6.64577	6.77669	3.08937	9.20146	9.98169	37.75	12.35
70/ 2/27	2440644.5	7.09195	5.51838	1.97507	-6.66441	6.76221	3.08419	9.20049	9.98269	37.89	12.40
70/ 3/ 3	2440648.5	7.07653	5.53398	1.98219	-6.68301	6.74769	3.07899	9.19953	9.98369	38.03	12.44
70/ 3/ 7	2440652.5	7.06107	5.54955	1.98929	-6.70158	6.73311	3.07377	9.19856	9.98469	38.17	12.49
70/ 3/11	2440656.5	7.04557	5.56509	1.99639	-6.72011	6.71850	3.06853	9.19760	9.98569	38.30	12.54
70/ 3/15	2440660.5	7.03002	5.58060	2.00347	-6.73861	6.70383	3.06327	9.19664	9.98668	38.44	12.58
70/ 3/19	2440664.5	7.01443	5.59607	2.01054	-6.75708	6.68912	3.05799	9.19568	9.98768	38.58	12.63
70/ 3/23	2440668.5	6.99880	5.61150	2.01760	-6.77551	6.67436	3.05268	9.19472	9.98867	38.72	12.68
70/ 3/27	2440672.5	6.98313	5.62690	2.02465	-6.79390	6.65956	3.04736	9.19376	9.98966	38.86	12.72
70/ 3/31	2440676.5	6.96741	5.64227	2.03168	-6.81226	6.64471	3.04202	9.19281	9.99064	39.00	12.77
70/ 4/ 4	2440680.5	6.95165	5.65761	2.03870	-6.83058	6.62982	3.03665	9.19186	9.99162	39.14	12.81
70/ 4/ 8	2440684.5	6.93585	5.67290	2.04571	-6.84886	6.61488	3.03126	9.19091	9.99260	39.28	12.86
70/ 4/12	2440688.5	6.92001	5.68817	2.05271	-6.86710	6.59989	3.02586	9.18996	9.99357	39.42	12.91
70/ 4/16	2440692.5	6.90412	5.70340	2.05969	-6.88531	6.58486	3.02043	9.18901	9.99454	39.56	12.95
70/ 4/20	2440696.5	6.88819	5.71859	2.06666	-6.90348	6.56979	3.01499	9.18807	9.99551	39.70	13.00
70/ 4/24	2440700.5	6.87222	5.73375	2.07362	-6.92161	6.55467	3.00952	9.18713	9.99648	39.84	13.04
70/ 4/28	2440704.5	6.85621	5.74888	2.08057	-6.93970	6.53951	3.00404	9.18619	9.99744	39.98	13.09
70/ 5/ 2	2440708.5	6.84016	5.76397	2.08750	-6.95776	6.52431	2.99853	9.18525	9.99841	40.12	13.14
70/ 5/ 6	2440712.5	6.82407	5.77902	2.09442	-6.97578	6.50906	2.99301	9.18431	9.99937	40.26	13.18
70/ 5/10	2440716.5	6.80793	5.79404	2.10133	-6.99376	6.49377	2.98747	9.18338	10.00033	40.40	13.23
70/ 5/14	2440720.5	6.79175	5.80903	2.10822	-7.01170	6.47843	2.98190	9.18245	10.00129	40.54	13.27
70/ 5/18	2440724.5	6.77553	5.82397	2.11511	-7.02961	6.46306	2.97632	9.18151	10.00225	40.68	13.32
70/ 5/22	2440728.5	6.75927	5.83889	2.12198	-7.04748	6.44764	2.97072	9.18059	10.00321	40.82	13.36
70/ 5/26	2440732.5	6.74297	5.85376	2.12883	-7.06531	6.43217	2.96510	9.17966	10.00416	40.96	13.41
70/ 5/30	2440736.5	6.72663	5.86861	2.13568	-7.08310	6.41667	2.95946	9.17874	10.00512	41.10	13.45
70/ 6/ 3	2440740.5	6.71025	5.88341	2.14251	-7.10086	6.40112	2.95380	9.17781	10.00607	41.24	13.50
70/ 6/ 7	2440744.5	6.69382	5.89818	2.14932	-7.11858	6.38553	2.94812	9.17689	10.00702	41.38	13.55
70/ 6/11	2440748.5	6.67736	5.91291	2.15613	-7.13626	6.36989	2.94242	9.17598	10.00797	41.53	13.59

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70/ 6/15	2440752.5	6.66085	5.92761	2.16292	-7.15390	6.35421	2.93670	9.17506	10.00892	41.67	13.64
70/ 6/19	2440756.5	6.64430	5.94227	2.16970	-7.17150	6.33849	2.93096	9.17415	10.00987	41.81	13.68
70/ 6/23	2440760.5	6.62771	5.95690	2.17646	-7.18907	6.32273	2.92521	9.17323	10.01082	41.95	13.73
70/ 6/27	2440764.5	6.61109	5.97149	2.18321	-7.20660	6.30692	2.91943	9.17232	10.01177	42.09	13.77
70/ 7/ 1	2440768.5	6.59442	5.98604	2.18995	-7.22409	6.29107	2.91364	9.17142	10.01271	42.23	13.81
70/ 7/ 5	2440772.5	6.57771	6.00055	2.19667	-7.24154	6.27518	2.90782	9.17051	10.01365	42.37	13.86
70/ 7/ 9	2440776.5	6.56096	6.01503	2.20338	-7.25895	6.25925	2.90199	9.16961	10.01459	42.51	13.90
70/ 7/13	2440780.5	6.54417	6.02947	2.21008	-7.27632	6.24327	2.89613	9.16871	10.01553	42.66	13.95
70/ 7/17	2440784.5	6.52734	6.04388	2.21677	-7.29365	6.22725	2.89026	9.16781	10.01647	42.80	13.99
70/ 7/21	2440788.5	6.51047	6.05825	2.22344	-7.31095	6.21120	2.88437	9.16691	10.01741	42.94	14.04
70/ 7/25	2440792.5	6.49356	6.07258	2.23009	-7.32820	6.19509	2.87846	9.16601	10.01835	43.08	14.08
70/ 7/29	2440796.5	6.47661	6.08687	2.23674	-7.34542	6.17895	2.87253	9.16512	10.01929	43.22	14.13
70/ 8/ 2	2440800.5	6.45962	6.10113	2.24336	-7.36260	6.16277	2.86658	9.16423	10.02022	43.37	14.17
70/ 8/ 6	2440804.5	6.44259	6.11534	2.24998	-7.37974	6.14654	2.86062	9.16334	10.02116	43.51	14.21
70/ 8/10	2440808.5	6.42553	6.12952	2.25658	-7.39684	6.13027	2.85463	9.16246	10.02210	43.65	14.26
70/ 8/14	2440812.5	6.40842	6.14367	2.26317	-7.41390	6.11396	2.84863	9.16157	10.02303	43.79	14.30
70/ 8/18	2440816.5	6.39127	6.15777	2.26974	-7.43093	6.09761	2.84260	9.16069	10.02397	43.93	14.35
70/ 8/22	2440820.5	6.37408	6.17184	2.27630	-7.44791	6.08121	2.83656	9.15981	10.02490	44.08	14.39
70/ 8/26	2440824.5	6.35686	6.18587	2.28285	-7.46486	6.06478	2.83050	9.15893	10.02583	44.22	14.43
70/ 8/30	2440828.5	6.33959	6.19986	2.28938	-7.48176	6.04830	2.82442	9.15806	10.02676	44.36	14.48
70/ 9/ 3	2440832.5	6.32229	6.21382	2.29590	-7.49863	6.03177	2.81832	9.15718	10.02769	44.50	14.52
70/ 9/ 7	2440836.5	6.30495	6.22773	2.30240	-7.51546	6.01521	2.81220	9.15631	10.02862	44.65	14.56
70/ 9/11	2440840.5	6.28757	6.24161	2.30889	-7.53225	5.99860	2.80606	9.15544	10.02955	44.79	14.61
70/ 9/15	2440844.5	6.27015	6.25545	2.31537	-7.54899	5.98195	2.79990	9.15458	10.03047	44.93	14.65
70/ 9/19	2440848.5	6.25269	6.26925	2.32183	-7.56570	5.96525	2.79372	9.15371	10.03139	45.08	14.69
70/ 9/23	2440852.5	6.23519	6.28301	2.32828	-7.58236	5.94851	2.78752	9.15285	10.03231	45.22	14.74
70/ 9/27	2440856.5	6.21765	6.29673	2.33471	-7.59899	5.93173	2.78130	9.15199	10.03323	45.36	14.78
70/10/ 1	2440860.5	6.20008	6.31041	2.34113	-7.61557	5.91490	2.77506	9.15113	10.03414	45.51	14.82
70/10/ 5	2440864.5	6.18247	6.32406	2.34753	-7.63210	5.89804	2.76880	9.15027	10.03504	45.65	14.87
70/10/ 9	2440868.5	6.16482	6.33767	2.35392	-7.64860	5.88113	2.76253	9.14942	10.03595	45.79	14.91
70/10/13	2440872.5	6.14713	6.35123	2.36029	-7.66505	5.86418	2.75623	9.14857	10.03685	45.94	14.95
70/10/17	2440876.5	6.12940	6.36476	2.36665	-7.68146	5.84719	2.74992	9.14772	10.03775	46.08	14.99
70/10/21	2440880.5	6.11164	6.37825	2.37300	-7.69782	5.83015	2.74358	9.14687	10.03864	46.22	15.04
70/10/25	2440884.5	6.09384	6.39170	2.37933	-7.71414	5.81308	2.73723	9.14603	10.03954	46.37	15.08
70/10/29	2440888.5	6.07600	6.40511	2.38565	-7.73042	5.79596	2.73086	9.14519	10.04043	46.51	15.12
70/11/ 2	2440892.5	6.05812	6.41848	2.39195	-7.74666	5.77881	2.72447	9.14435	10.04131	46.65	15.16
70/11/ 6	2440896.5	6.04020	6.43181	2.39823	-7.76285	5.76161	2.71806	9.14351	10.04220	46.80	15.21
70/11/10	2440900.5	6.02225	6.44510	2.40451	-7.77899	5.74437	2.71163	9.14267	10.04308	46.94	15.25
70/11/14	2440904.5	6.00426	6.45835	2.41076	-7.79510	5.72709	2.70518	9.14184	10.04396	47.09	15.29
70/11/18	2440908.5	5.98623	6.47156	2.41700	-7.81115	5.70977	2.69871	9.14101	10.04483	47.23	15.33
70/11/22	2440912.5	5.96817	6.48473	2.42323	-7.82717	5.69240	2.69223	9.14018	10.04570	47.38	15.37
70/11/26	2440916.5	5.95007	6.49786	2.42944	-7.84314	5.67500	2.68572	9.13935	10.04657	47.52	15.42
70/11/30	2440920.5	5.93193	6.51095	2.43564	-7.85906	5.65756	2.67920	9.13852	10.04743	47.66	15.46
70/12/ 4	2440924.5	5.91376	6.52400	2.44182	-7.87494	5.64007	2.67266	9.13770	10.04829	47.81	15.50
70/12/ 8	2440928.5	5.89555	6.53701	2.44799	-7.89077	5.62255	2.66610	9.13688	10.04915	47.95	15.54

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70/12/12	2440932.5	5.87730	6.54998	2.45414	-7.90656	5.60499	2.65952	9.13606	10.05001	48.10	15.58
70/12/16	2440936.5	5.85902	6.56291	2.46028	-7.92230	5.58739	2.65293	9.13525	10.05086	48.24	15.62
70/12/20	2440940.5	5.84070	6.57579	2.46640	-7.93799	5.56974	2.64631	9.13444	10.05170	48.39	15.66
70/12/24	2440944.5	5.82234	6.58864	2.47250	-7.95364	5.55206	2.63968	9.13362	10.05254	48.53	15.71
70/12/28	2440948.5	5.80395	6.60145	2.47859	-7.96924	5.53434	2.63302	9.13282	10.05338	48.68	15.75
71/ 1/ 1	2440952.5	5.78552	6.61421	2.48467	-7.98479	5.51658	2.62635	9.13201	10.05422	48.82	15.79
71/ 1/ 5	2440956.5	5.76706	6.62693	2.49073	-8.00030	5.49878	2.61967	9.13121	10.05505	48.97	15.83
71/ 1/ 9	2440960.5	5.74856	6.63962	2.49677	-8.01575	5.48095	2.61296	9.13040	10.05588	49.11	15.87
71/ 1/13	2440964.5	5.73002	6.65226	2.50280	-8.03116	5.46307	2.60624	9.12960	10.05670	49.26	15.91
71/ 1/17	2440968.5	5.71145	6.66486	2.50881	-8.04653	5.44517	2.59950	9.12881	10.05753	49.41	15.95
71/ 1/21	2440972.5	5.69284	6.67742	2.51481	-8.06185	5.42722	2.59274	9.12801	10.05835	49.55	15.99
71/ 1/25	2440976.5	5.67420	6.68993	2.52079	-8.07712	5.40924	2.58597	9.12722	10.05917	49.70	16.03
71/ 1/29	2440980.5	5.65552	6.70241	2.52676	-8.09234	5.39122	2.57918	9.12643	10.05999	49.84	16.07
71/ 2/ 2	2440984.5	5.63681	6.71484	2.53271	-8.10752	5.37317	2.57237	9.12564	10.06081	49.99	16.11
71/ 2/ 6	2440988.5	5.61806	6.72723	2.53865	-8.12265	5.35508	2.56555	9.12486	10.06163	50.13	16.15
71/ 2/10	2440992.5	5.59928	6.73958	2.54456	-8.13774	5.33695	2.55871	9.12408	10.06244	50.28	16.19
71/ 2/14	2440996.5	5.58046	6.75189	2.55047	-8.15278	5.31878	2.55185	9.12330	10.06326	50.43	16.23
71/ 2/18	2441000.5	5.56161	6.76416	2.55636	-8.16777	5.30058	2.54497	9.12252	10.06407	50.57	16.27
71/ 2/22	2441004.5	5.54273	6.77638	2.56223	-8.18272	5.28234	2.53808	9.12174	10.06489	50.72	16.31
71/ 2/26	2441008.5	5.52381	6.78857	2.56808	-8.19762	5.26407	2.53117	9.12097	10.06570	50.87	16.35
71/ 3/ 2	2441012.5	5.50485	6.80071	2.57392	-8.21248	5.24576	2.52424	9.12020	10.06651	51.01	16.39
71/ 3/ 6	2441016.5	5.48586	6.81280	2.57974	-8.22729	5.22741	2.51730	9.11943	10.06732	51.16	16.43
71/ 3/10	2441020.5	5.46684	6.82486	2.58555	-8.24205	5.20903	2.51034	9.11867	10.06813	51.30	16.47
71/ 3/14	2441024.5	5.44778	6.83687	2.59134	-8.25677	5.19061	2.50336	9.11790	10.06893	51.45	16.51
71/ 3/18	2441028.5	5.42869	6.84884	2.59712	-8.27144	5.17215	2.49636	9.11714	10.06974	51.60	16.55
71/ 3/22	2441032.5	5.40956	6.86077	2.60288	-8.28606	5.15366	2.48935	9.11639	10.07054	51.75	16.59
71/ 3/26	2441036.5	5.39040	6.87265	2.60862	-8.30063	5.13513	2.48232	9.11563	10.07134	51.89	16.63
71/ 3/30	2441040.5	5.37121	6.88449	2.61435	-8.31516	5.11656	2.47527	9.11488	10.07214	52.04	16.67
71/ 4/ 3	2441044.5	5.35199	6.89629	2.62006	-8.32964	5.09796	2.46821	9.11413	10.07294	52.19	16.71
71/ 4/ 7	2441048.5	5.33273	6.90805	2.62575	-8.34407	5.07932	2.46113	9.11338	10.07373	52.33	16.75
71/ 4/11	2441052.5	5.31343	6.91976	2.63143	-8.35845	5.06065	2.45403	9.11263	10.07453	52.48	16.78
71/ 4/15	2441056.5	5.29411	6.93143	2.63709	-8.37278	5.04194	2.44692	9.11189	10.07532	52.63	16.82
71/ 4/19	2441060.5	5.27475	6.94306	2.64273	-8.38707	5.02319	2.43979	9.11115	10.07611	52.78	16.86
71/ 4/23	2441064.5	5.25536	6.95464	2.64836	-8.40131	5.00441	2.43264	9.11041	10.07690	52.92	16.90
71/ 4/27	2441068.5	5.23593	6.96618	2.65397	-8.41551	4.98560	2.42548	9.10968	10.07769	53.07	16.94
71/ 5/ 1	2441072.5	5.21647	6.97767	2.65957	-8.42965	4.96675	2.41830	9.10894	10.07848	53.22	16.98
71/ 5/ 5	2441076.5	5.19698	6.98913	2.66515	-8.44375	4.94786	2.41110	9.10821	10.07927	53.37	17.01
71/ 5/ 9	2441080.5	5.17746	7.00053	2.67071	-8.45780	4.92894	2.40388	9.10748	10.08005	53.51	17.05
71/ 5/13	2441084.5	5.15791	7.01190	2.67625	-8.47180	4.90998	2.39665	9.10676	10.08084	53.66	17.09
71/ 5/17	2441088.5	5.13832	7.02322	2.68178	-8.48576	4.89098	2.38940	9.10604	10.08162	53.81	17.13
71/ 5/21	2441092.5	5.11870	7.03450	2.68729	-8.49966	4.87195	2.38214	9.10532	10.08240	53.96	17.17
71/ 5/25	2441096.5	5.09905	7.04573	2.69279	-8.51352	4.85288	2.37485	9.10460	10.08317	54.11	17.20
71/ 5/29	2441100.5	5.07936	7.05692	2.69827	-8.52732	4.83378	2.36756	9.10388	10.08395	54.25	17.24
71/ 6/ 2	2441104.5	5.05965	7.06806	2.70373	-8.54108	4.81464	2.36024	9.10317	10.08472	54.40	17.28
71/ 6/ 6	2441108.5	5.03990	7.07917	2.70917	-8.55479	4.79547	2.35291	9.10246	10.08549	54.55	17.32

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71/ 6/10	2441112.5	5.02012	7.09022	2.71460	-8.56844	4.77626	2.34555	9.10175	10.08625	54.70	17.35
71/ 6/14	2441116.5	5.00031	7.10123	2.72001	-8.58205	4.75701	2.33819	9.10105	10.08702	54.85	17.39
71/ 6/18	2441120.5	4.98047	7.11220	2.72540	-8.59561	4.73773	2.33080	9.10034	10.08777	55.00	17.43
71/ 6/22	2441124.5	4.96060	7.12312	2.73078	-8.60911	4.71841	2.32340	9.09964	10.08853	55.15	17.46
71/ 6/26	2441128.5	4.94069	7.13400	2.73614	-8.62256	4.69906	2.31598	9.09895	10.08928	55.30	17.50
71/ 6/30	2441132.5	4.92076	7.14483	2.74148	-8.63596	4.67967	2.30854	9.09825	10.09002	55.44	17.54
71/ 7/ 4	2441136.5	4.90079	7.15562	2.74680	-8.64931	4.66026	2.30109	9.09756	10.09077	55.59	17.57
71/ 7/ 8	2441140.5	4.88079	7.16637	2.75211	-8.66260	4.64080	2.29362	9.09687	10.09151	55.74	17.61
71/ 7/12	2441144.5	4.86077	7.17706	2.75740	-8.67585	4.62132	2.28614	9.09618	10.09224	55.89	17.65
71/ 7/16	2441148.5	4.84071	7.18772	2.76267	-8.68904	4.60180	2.27864	9.09550	10.09298	56.04	17.68
71/ 7/20	2441152.5	4.82062	7.19833	2.76793	-8.70218	4.58225	2.27113	9.09482	10.09371	56.19	17.72
71/ 7/24	2441156.5	4.80050	7.20889	2.77317	-8.71527	4.56266	2.26360	9.09414	10.09444	56.34	17.75
71/ 7/28	2441160.5	4.78035	7.21941	2.77839	-8.72831	4.54304	2.25605	9.09346	10.09516	56.49	17.79
71/ 8/ 1	2441164.5	4.76017	7.22988	2.78359	-8.74129	4.52339	2.24849	9.09279	10.09589	56.64	17.83
71/ 8/ 5	2441168.5	4.73996	7.24031	2.78878	-8.75422	4.50371	2.24091	9.09212	10.09661	56.79	17.86
71/ 8/ 9	2441172.5	4.71973	7.25069	2.79394	-8.76710	4.48399	2.23331	9.09145	10.09732	56.94	17.90
71/ 8/13	2441176.5	4.69946	7.26103	2.79909	-8.77993	4.46424	2.22570	9.09078	10.09804	57.09	17.93
71/ 8/17	2441180.5	4.67916	7.27132	2.80423	-8.79270	4.44446	2.21808	9.09012	10.09875	57.24	17.97
71/ 8/21	2441184.5	4.65883	7.28156	2.80934	-8.80543	4.42465	2.21044	9.08946	10.09946	57.39	18.00
71/ 8/25	2441188.5	4.63848	7.29176	2.81444	-8.81809	4.40481	2.20278	9.08880	10.10017	57.54	18.04
71/ 8/29	2441192.5	4.61809	7.30191	2.81952	-8.83071	4.38493	2.19511	9.08814	10.10087	57.69	18.07
71/ 9/ 2	2441196.5	4.59767	7.31202	2.82458	-8.84328	4.36503	2.18742	9.08749	10.10158	57.84	18.11
71/ 9/ 6	2441200.5	4.57723	7.32208	2.82963	-8.85579	4.34509	2.17972	9.08684	10.10228	57.99	18.14
71/ 9/10	2441204.5	4.55676	7.33209	2.83465	-8.86825	4.32512	2.17200	9.08619	10.10297	58.14	18.18
71/ 9/14	2441208.5	4.53626	7.34206	2.83966	-8.88065	4.30511	2.16427	9.08555	10.10367	58.29	18.21
71/ 9/18	2441212.5	4.51573	7.35199	2.84465	-8.89301	4.28508	2.15652	9.08491	10.10436	58.44	18.25
71/ 9/22	2441216.5	4.49517	7.36186	2.84963	-8.90530	4.26501	2.14876	9.08427	10.10504	58.59	18.28
71/ 9/26	2441220.5	4.47458	7.37169	2.85458	-8.91754	4.24492	2.14098	9.08363	10.10573	58.74	18.32
71/ 9/30	2441224.5	4.45397	7.38147	2.85952	-8.92973	4.22480	2.13318	9.08300	10.10641	58.89	18.35
71/10/ 4	2441228.5	4.43332	7.39121	2.86444	-8.94187	4.20464	2.12538	9.08236	10.10709	59.04	18.38
71/10/ 8	2441232.5	4.41265	7.40090	2.86934	-8.95395	4.18446	2.11755	9.08174	10.10777	59.20	18.42
71/10/12	2441236.5	4.39195	7.41055	2.87422	-8.96598	4.16425	2.10972	9.08111	10.10845	59.35	18.45
71/10/16	2441240.5	4.37122	7.42014	2.87909	-8.97796	4.14400	2.10187	9.08049	10.10912	59.50	18.49
71/10/20	2441244.5	4.35047	7.42969	2.88393	-8.98988	4.12373	2.09400	9.07987	10.10980	59.65	18.52
71/10/24	2441248.5	4.32969	7.43920	2.88876	-9.00176	4.10343	2.08612	9.07925	10.11047	59.80	18.55
71/10/28	2441252.5	4.30888	7.44865	2.89357	-9.01357	4.08310	2.07823	9.07863	10.11114	59.95	18.59
71/11/ 1	2441256.5	4.28804	7.45806	2.89836	-9.02534	4.06273	2.07032	9.07802	10.11181	60.10	18.62
71/11/ 5	2441260.5	4.26718	7.46742	2.90314	-9.03705	4.04234	2.06239	9.07741	10.11248	60.25	18.65
71/11/ 9	2441264.5	4.24629	7.47674	2.90789	-9.04871	4.02192	2.05445	9.07681	10.11315	60.41	18.69
71/11/13	2441268.5	4.22537	7.48601	2.91263	-9.06031	4.00147	2.04650	9.07620	10.11381	60.56	18.72
71/11/17	2441272.5	4.20443	7.49523	2.91735	-9.07186	3.98098	2.03853	9.07560	10.11447	60.71	18.75
71/11/21	2441276.5	4.18346	7.50440	2.92205	-9.08336	3.96047	2.03055	9.07500	10.11513	60.86	18.78
71/11/25	2441280.5	4.16246	7.51352	2.92673	-9.09480	3.93993	2.02255	9.07441	10.11579	61.01	18.82
71/11/29	2441284.5	4.14143	7.52260	2.93139	-9.10619	3.91936	2.01454	9.07381	10.11645	61.17	18.85
71/12/ 3	2441288.5	4.12038	7.53163	2.93604	-9.11753	3.89876	2.00651	9.07322	10.11710	61.32	18.88

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71/12/ 7	2441292.5	4.09931	7.54062	2.94066	-9.12881	3.87812	1.99847	9.07264	10.11775	61.47	18.91
71/12/11	2441296.5	4.07821	7.54955	2.94527	-9.14003	3.85746	1.99041	9.07205	10.11840	61.62	18.94
71/12/15	2441300.5	4.05708	7.55844	2.94986	-9.15120	3.83677	1.98234	9.07147	10.11904	61.77	18.98
71/12/19	2441304.5	4.03592	7.56728	2.95443	-9.16231	3.81605	1.97425	9.07089	10.11967	61.93	19.01
71/12/23	2441308.5	4.01475	7.57607	2.95898	-9.17336	3.79530	1.96615	9.07031	10.12031	62.08	19.04
71/12/27	2441312.5	3.99354	7.58481	2.96351	-9.18436	3.77452	1.95804	9.06974	10.12094	62.23	19.07
71/12/31	2441316.5	3.97231	7.59351	2.96803	-9.19530	3.75371	1.94991	9.06917	10.12157	62.39	19.10
72/ 1/ 4	2441320.5	3.95105	7.60216	2.97252	-9.20619	3.73288	1.94177	9.06860	10.12219	62.54	19.13
72/ 1/ 8	2441324.5	3.92977	7.61076	2.97700	-9.21702	3.71202	1.93361	9.06804	10.12281	62.69	19.17
72/ 1/12	2441328.5	3.90847	7.61931	2.98146	-9.22779	3.69113	1.92544	9.06747	10.12343	62.84	19.20
72/ 1/16	2441332.5	3.88714	7.62781	2.98590	-9.23850	3.67021	1.91726	9.06691	10.12404	63.00	19.23
72/ 1/20	2441336.5	3.86578	7.63627	2.99032	-9.24916	3.64926	1.90906	9.06636	10.12466	63.15	19.26
72/ 1/24	2441340.5	3.84440	7.64467	2.99472	-9.25977	3.62829	1.90085	9.06580	10.12526	63.30	19.29
72/ 1/28	2441344.5	3.82300	7.65303	2.99910	-9.27031	3.60729	1.89262	9.06525	10.12587	63.46	19.32
72/ 2/ 1	2441348.5	3.80157	7.66134	3.00346	-9.28080	3.58626	1.88438	9.06470	10.12647	63.61	19.35
72/ 2/ 5	2441352.5	3.78012	7.66960	3.00780	-9.29123	3.56521	1.87613	9.06416	10.12707	63.76	19.38
72/ 2/ 9	2441356.5	3.75864	7.67781	3.01213	-9.30160	3.54413	1.86786	9.06362	10.12766	63.92	19.41
72/ 2/13	2441360.5	3.73714	7.68597	3.01643	-9.31191	3.52302	1.85958	9.06308	10.12825	64.07	19.44
72/ 2/17	2441364.5	3.71562	7.69409	3.02072	-9.32217	3.50189	1.85129	9.06254	10.12884	64.22	19.47
72/ 2/21	2441368.5	3.69407	7.70215	3.02499	-9.33237	3.48073	1.84298	9.06200	10.12942	64.38	19.50
72/ 2/25	2441372.5	3.67250	7.71017	3.02924	-9.34251	3.45954	1.83466	9.06147	10.13000	64.53	19.53
72/ 2/29	2441376.5	3.65091	7.71814	3.03347	-9.35259	3.43833	1.82632	9.06094	10.13057	64.68	19.56
72/ 3/ 4	2441380.5	3.62929	7.72606	3.03767	-9.36262	3.41709	1.81798	9.06042	10.13114	64.84	19.59
72/ 3/ 8	2441384.5	3.60765	7.73393	3.04186	-9.37258	3.39582	1.80961	9.05989	10.13171	64.99	19.62
72/ 3/12	2441388.5	3.58598	7.74175	3.04604	-9.38248	3.37453	1.80124	9.05937	10.13227	65.15	19.65
72/ 3/16	2441392.5	3.56430	7.74952	3.05019	-9.39233	3.35322	1.79285	9.05886	10.13283	65.30	19.68
72/ 3/20	2441396.5	3.54259	7.75724	3.05432	-9.40211	3.33188	1.78445	9.05834	10.13338	65.45	19.71
72/ 3/24	2441400.5	3.52086	7.76491	3.05843	-9.41184	3.31052	1.77604	9.05783	10.13393	65.61	19.73
72/ 3/28	2441404.5	3.49910	7.77254	3.06253	-9.42150	3.28914	1.76762	9.05732	10.13448	65.76	19.76
72/ 4/ 1	2441408.5	3.47733	7.78011	3.06660	-9.43111	3.26773	1.75919	9.05682	10.13502	65.92	19.79
72/ 4/ 5	2441412.5	3.45553	7.78763	3.07065	-9.44066	3.24630	1.75074	9.05631	10.13556	66.07	19.82
72/ 4/ 9	2441416.5	3.43371	7.79511	3.07469	-9.45015	3.22485	1.74228	9.05581	10.13610	66.23	19.85
72/ 4/13	2441420.5	3.41186	7.80253	3.07870	-9.45958	3.20338	1.73381	9.05532	10.13663	66.38	19.88
72/ 4/17	2441424.5	3.39000	7.80991	3.08270	-9.46895	3.18188	1.72533	9.05482	10.13717	66.54	19.90
72/ 4/21	2441428.5	3.36811	7.81724	3.08667	-9.47827	3.16036	1.71683	9.05433	10.13770	66.69	19.93
72/ 4/25	2441432.5	3.34621	7.82451	3.09063	-9.48753	3.13882	1.70833	9.05384	10.13823	66.85	19.96
72/ 4/29	2441436.5	3.32428	7.83174	3.09457	-9.49673	3.11725	1.69981	9.05336	10.13876	67.00	19.99
72/ 5/ 3	2441440.5	3.30233	7.83891	3.09848	-9.50587	3.09567	1.69128	9.05288	10.13929	67.16	20.01
72/ 5/ 7	2441444.5	3.28036	7.84604	3.10238	-9.51495	3.07406	1.68274	9.05240	10.13981	67.31	20.04
72/ 5/11	2441448.5	3.25837	7.85312	3.10626	-9.52398	3.05243	1.67419	9.05192	10.14033	67.47	20.07
72/ 5/15	2441452.5	3.23635	7.86014	3.11012	-9.53294	3.03078	1.66563	9.05145	10.14085	67.62	20.10
72/ 5/19	2441456.5	3.21432	7.86712	3.11396	-9.54185	3.00911	1.65705	9.05098	10.14137	67.78	20.12
72/ 5/23	2441460.5	3.19227	7.87405	3.11777	-9.55070	2.98741	1.64846	9.05051	10.14189	67.93	20.15
72/ 5/27	2441464.5	3.17019	7.88092	3.12157	-9.55950	2.96569	1.63987	9.05004	10.14241	68.09	20.18
72/ 5/31	2441468.5	3.14810	7.88775	3.12535	-9.56823	2.94395	1.63126	9.04958	10.14293	68.24	20.20

1.6 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
72/ 6/ 4	2441472.5	3.12598	7.89453	3.12911	-9.57691	2.92219	1.62263	9.04912	10.14344	68.40	20.23
72/ 6/ 8	2441476.5	3.10385	7.90125	3.13285	-9.58553	2.90040	1.61400	9.04867	10.14395	68.55	20.26
72/ 6/12	2441480.5	3.08170	7.90793	3.13657	-9.59409	2.87860	1.60535	9.04822	10.14446	68.71	20.28
72/ 6/16	2441484.5	3.05952	7.91455	3.14026	-9.60259	2.85677	1.59670	9.04777	10.14496	68.87	20.31
72/ 6/20	2441488.5	3.03733	7.92113	3.14394	-9.61103	2.83492	1.58803	9.04732	10.14546	69.02	20.33
72/ 6/24	2441492.5	3.01512	7.92765	3.14760	-9.61941	2.81305	1.57935	9.04688	10.14596	69.18	20.36
72/ 6/28	2441496.5	2.99288	7.93412	3.15124	-9.62773	2.79117	1.57066	9.04643	10.14647	69.33	20.39
72/ 7/ 2	2441500.5	2.97063	7.94055	3.15486	-9.63599	2.76926	1.56196	9.04600	10.14696	69.49	20.41
72/ 7/ 6	2441504.5	2.94836	7.94692	3.15846	-9.64420	2.74732	1.55325	9.04556	10.14746	69.64	20.44
72/ 7/10	2441508.5	2.92607	7.95324	3.16204	-9.65235	2.72537	1.54452	9.04513	10.14796	69.80	20.46
72/ 7/14	2441512.5	2.90377	7.95951	3.16559	-9.66044	2.70340	1.53579	9.04470	10.14845	69.96	20.49
72/ 7/18	2441516.5	2.88144	7.96573	3.16913	-9.66847	2.68141	1.52704	9.04428	10.14894	70.11	20.51
72/ 7/22	2441520.5	2.85909	7.97190	3.17265	-9.67644	2.65939	1.51829	9.04385	10.14944	70.27	20.54
72/ 7/26	2441524.5	2.83673	7.97802	3.17615	-9.68435	2.63735	1.50952	9.04343	10.14992	70.43	20.56
72/ 7/30	2441528.5	2.81435	7.98408	3.17962	-9.69221	2.61530	1.50074	9.04302	10.15041	70.58	20.59
72/ 8/ 3	2441532.5	2.79195	7.99010	3.18308	-9.70000	2.59322	1.49195	9.04260	10.15089	70.74	20.61
72/ 8/ 7	2441536.5	2.76953	7.99607	3.18652	-9.70773	2.57112	1.48315	9.04219	10.15138	70.90	20.63
72/ 8/11	2441540.5	2.74710	8.00198	3.18993	-9.71541	2.54900	1.47433	9.04179	10.15186	71.05	20.66
72/ 8/15	2441544.5	2.72464	8.00784	3.19333	-9.72302	2.52686	1.46551	9.04138	10.15233	71.21	20.68
72/ 8/19	2441548.5	2.70217	8.01366	3.19670	-9.73057	2.50470	1.45667	9.04098	10.15281	71.37	20.71
72/ 8/23	2441552.5	2.67968	8.01942	3.20006	-9.73807	2.48251	1.44783	9.04058	10.15328	71.52	20.73
72/ 8/27	2441556.5	2.65718	8.02513	3.20339	-9.74550	2.46031	1.43897	9.04019	10.15374	71.68	20.75
72/ 8/31	2441560.5	2.63466	8.03078	3.20671	-9.75287	2.43809	1.43010	9.03979	10.15421	71.84	20.78
72/ 9/ 4	2441564.5	2.61212	8.03639	3.21000	-9.76018	2.41584	1.42121	9.03940	10.15466	71.99	20.80
72/ 9/ 8	2441568.5	2.58956	8.04195	3.21327	-9.76742	2.39358	1.41232	9.03902	10.15512	72.15	20.82
72/ 9/12	2441572.5	2.56699	8.04745	3.21653	-9.77460	2.37129	1.40342	9.03863	10.15556	72.31	20.85
72/ 9/16	2441576.5	2.54440	8.05290	3.21976	-9.78172	2.34899	1.39450	9.03825	10.15601	72.47	20.87
72/ 9/20	2441580.5	2.52179	8.05830	3.22297	-9.78878	2.32667	1.38558	9.03788	10.15645	72.62	20.89
72/ 9/24	2441584.5	2.49917	8.06365	3.22616	-9.79578	2.30433	1.37665	9.03750	10.15689	72.78	20.91
72/ 9/28	2441588.5	2.47653	8.06895	3.22933	-9.80271	2.28198	1.36770	9.03713	10.15732	72.94	20.94
72/10/ 2	2441592.5	2.45388	8.07420	3.23248	-9.80958	2.25960	1.35875	9.03676	10.15775	73.10	20.96
72/10/ 6	2441596.5	2.43121	8.07939	3.23561	-9.81639	2.23721	1.34979	9.03640	10.15817	73.25	20.98
72/10/10	2441600.5	2.40852	8.08453	3.23872	-9.82313	2.21480	1.34081	9.03604	10.15859	73.41	21.00
72/10/14	2441604.5	2.38582	8.08962	3.24180	-9.82981	2.19238	1.33183	9.03568	10.15901	73.57	21.03
72/10/18	2441608.5	2.36311	8.09466	3.24487	-9.83643	2.16993	1.32283	9.03532	10.15942	73.73	21.05
72/10/22	2441612.5	2.34038	8.09965	3.24792	-9.84299	2.14747	1.31383	9.03497	10.15983	73.88	21.07
72/10/26	2441616.5	2.31763	8.10458	3.25094	-9.84948	2.12500	1.30482	9.03462	10.16024	74.04	21.09
72/10/30	2441620.5	2.29487	8.10947	3.25394	-9.85591	2.10251	1.29580	9.03427	10.16064	74.20	21.11
72/11/ 3	2441624.5	2.27209	8.11430	3.25693	-9.86228	2.08000	1.28676	9.03393	10.16104	74.36	21.13
72/11/ 7	2441628.5	2.24930	8.11908	3.25989	-9.86858	2.05747	1.27772	9.03358	10.16143	74.52	21.15
72/11/11	2441632.5	2.22650	8.12380	3.26283	-9.87482	2.03493	1.26867	9.03325	10.16182	74.67	21.17
72/11/15	2441636.5	2.20368	8.12848	3.26575	-9.88100	2.01238	1.25961	9.03291	10.16221	74.83	21.19
72/11/19	2441640.5	2.18084	8.13310	3.26865	-9.88712	1.98980	1.25055	9.03258	10.16259	74.99	21.22
72/11/23	2441644.5	2.15799	8.13767	3.27153	-9.89317	1.96722	1.24147	9.03225	10.16297	75.15	21.24
72/11/27	2441648.5	2.13513	8.14219	3.27439	-9.89916	1.94461	1.23238	9.03193	10.16335	75.31	21.26

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72/12/ 1	2441652.5	2.11226	8.14666	3.27722	-9.90508	1.92200	1.22328	9.03160	10.16372	75.46	21.28
72/12/ 5	2441656.5	2.08937	8.15107	3.28004	-9.91094	1.89937	1.21418	9.03128	10.16408	75.62	21.30
72/12/ 9	2441660.5	2.06646	8.15543	3.28283	-9.91673	1.87672	1.20507	9.03097	10.16444	75.78	21.32
72/12/13	2441664.5	2.04355	8.15974	3.28561	-9.92247	1.85406	1.19595	9.03065	10.16480	75.94	21.34
72/12/17	2441668.5	2.02062	8.16400	3.28836	-9.92813	1.83139	1.18682	9.03034	10.16515	76.10	21.36
72/12/21	2441672.5	1.99768	8.16820	3.29109	-9.93374	1.80871	1.17768	9.03004	10.16551	76.26	21.37
72/12/25	2441676.5	1.97472	8.17236	3.29380	-9.93928	1.78602	1.16854	9.02973	10.16586	76.42	21.39
72/12/29	2441680.5	1.95175	8.17646	3.29649	-9.94476	1.76331	1.15938	9.02943	10.16620	76.57	21.41
73/ 1/ 2	2441684.5	1.92877	8.18050	3.29916	-9.95018	1.74059	1.15022	9.02913	10.16655	76.73	21.43
73/ 1/ 6	2441688.5	1.90578	8.18450	3.30180	-9.95553	1.71785	1.14106	9.02884	10.16689	76.89	21.45
73/ 1/10	2441692.5	1.88278	8.18844	3.30443	-9.96083	1.69511	1.13188	9.02855	10.16723	77.05	21.47
73/ 1/14	2441696.5	1.85976	8.19233	3.30703	-9.96606	1.67235	1.12270	9.02826	10.16757	77.21	21.49
73/ 1/18	2441700.5	1.83673	8.19617	3.30962	-9.97122	1.64958	1.11351	9.02797	10.16791	77.37	21.51
73/ 1/22	2441704.5	1.81369	8.19995	3.31218	-9.97633	1.62680	1.10431	9.02769	10.16824	77.53	21.52
73/ 1/26	2441708.5	1.79063	8.20368	3.31472	-9.98137	1.60400	1.09510	9.02741	10.16857	77.69	21.54
73/ 1/30	2441712.5	1.76757	8.20736	3.31724	-9.98635	1.58119	1.08589	9.02714	10.16890	77.85	21.56
73/ 2/ 3	2441716.5	1.74449	8.21099	3.31974	-9.99127	1.55837	1.07666	9.02686	10.16923	78.01	21.58
73/ 2/ 7	2441720.5	1.72141	8.21456	3.32221	-9.99613	1.53554	1.06743	9.02659	10.16955	78.16	21.60
73/ 2/11	2441724.5	1.69831	8.21808	3.32467	-10.00092	1.51269	1.05820	9.02633	10.16988	78.32	21.61
73/ 2/15	2441728.5	1.67520	8.22155	3.32710	-10.00565	1.48984	1.04895	9.02606	10.17020	78.48	21.63
73/ 2/19	2441732.5	1.65208	8.22497	3.32951	-10.01032	1.46697	1.03970	9.02580	10.17052	78.64	21.65
73/ 2/23	2441736.5	1.62895	8.22833	3.33191	-10.01492	1.44408	1.03043	9.02555	10.17083	78.80	21.66
73/ 2/27	2441740.5	1.60581	8.23164	3.33427	-10.01946	1.42119	1.02116	9.02529	10.17114	78.96	21.68
73/ 3/ 3	2441744.5	1.58265	8.23490	3.33662	-10.02394	1.39828	1.01189	9.02504	10.17145	79.12	21.70
73/ 3/ 7	2441748.5	1.55949	8.23810	3.33895	-10.02835	1.37536	1.00260	9.02479	10.17175	79.28	21.71
73/ 3/11	2441752.5	1.53632	8.24125	3.34126	-10.03270	1.35244	0.99331	9.02455	10.17206	79.44	21.73
73/ 3/15	2441756.5	1.51314	8.24435	3.34354	-10.03698	1.32950	0.98401	9.02431	10.17235	79.60	21.75
73/ 3/19	2441760.5	1.48995	8.24739	3.34580	-10.04120	1.30655	0.97471	9.02407	10.17265	79.76	21.76
73/ 3/23	2441764.5	1.46674	8.25039	3.34804	-10.04536	1.28359	0.96539	9.02384	10.17294	79.92	21.78
73/ 3/27	2441768.5	1.44353	8.25333	3.35026	-10.04945	1.26062	0.95607	9.02360	10.17323	80.08	21.79
73/ 3/31	2441772.5	1.42031	8.25621	3.35246	-10.05348	1.23764	0.94675	9.02337	10.17352	80.24	21.81
73/ 4/ 4	2441776.5	1.39708	8.25904	3.35464	-10.05744	1.21465	0.93741	9.02315	10.17380	80.40	21.83
73/ 4/ 8	2441780.5	1.37384	8.26182	3.35679	-10.06135	1.19165	0.92807	9.02293	10.17409	80.56	21.84
73/ 4/12	2441784.5	1.35060	8.26455	3.35892	-10.06518	1.16864	0.91872	9.02271	10.17436	80.72	21.86
73/ 4/16	2441788.5	1.32734	8.26722	3.36104	-10.06896	1.14562	0.90937	9.02249	10.17464	80.88	21.87
73/ 4/20	2441792.5	1.30407	8.26984	3.36313	-10.07267	1.12259	0.90001	9.02228	10.17491	81.04	21.89
73/ 4/24	2441796.5	1.28080	8.27241	3.36519	-10.07631	1.09955	0.89064	9.02207	10.17518	81.20	21.90
73/ 4/28	2441800.5	1.25752	8.27492	3.36724	-10.07989	1.07650	0.88126	9.02186	10.17545	81.36	21.92
73/ 5/ 2	2441804.5	1.23423	8.27738	3.36927	-10.08341	1.05344	0.87188	9.02166	10.17571	81.52	21.93
73/ 5/ 6	2441808.5	1.21093	8.27979	3.37127	-10.08686	1.03038	0.86249	9.02146	10.17597	81.68	21.94
73/ 5/10	2441812.5	1.18762	8.28214	3.37325	-10.09025	1.00730	0.85310	9.02126	10.17622	81.84	21.96
73/ 5/14	2441816.5	1.16431	8.28444	3.37521	-10.09357	0.98421	0.84370	9.02107	10.17647	82.00	21.97
73/ 5/18	2441820.5	1.14099	8.28669	3.37715	-10.09682	0.96112	0.83429	9.02088	10.17672	82.16	21.99
73/ 5/22	2441824.5	1.11766	8.28888	3.37907	-10.10002	0.93802	0.82487	9.02069	10.17696	82.32	22.00
73/ 5/26	2441828.5	1.09432	8.29103	3.38096	-10.10314	0.91490	0.81545	9.02051	10.17720	82.48	22.01

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73/ 5/30	2441832.5	1.07098	8.29311	3.38283	-10.10620	0.89179	0.80602	9.02032	10.17743	82.64	22.03
73/ 6/ 3	2441836.5	1.04763	8.29515	3.38468	-10.10919	0.86866	0.79659	9.02015	10.17766	82.80	22.04
73/ 6/ 7	2441840.5	1.02427	8.29713	3.38651	-10.11211	0.84553	0.78715	9.01997	10.17788	82.96	22.05
73/ 6/11	2441844.5	1.00091	8.29905	3.38832	-10.11497	0.82239	0.77771	9.01980	10.17810	83.12	22.06
73/ 6/15	2441848.5	0.97753	8.30093	3.39011	-10.11777	0.79925	0.76826	9.01963	10.17832	83.28	22.08
73/ 6/19	2441852.5	0.95416	8.30274	3.39187	-10.12049	0.77611	0.75881	9.01947	10.17853	83.44	22.09
73/ 6/23	2441856.5	0.93077	8.30451	3.39361	-10.12316	0.75295	0.74935	9.01930	10.17874	83.60	22.10
73/ 6/27	2441860.5	0.90739	8.30622	3.39533	-10.12576	0.72979	0.73989	9.01915	10.17895	83.77	22.11
73/ 7/ 1	2441864.5	0.88399	8.30788	3.39703	-10.12829	0.70663	0.73042	9.01899	10.17915	83.93	22.13
73/ 7/ 5	2441868.5	0.86059	8.30949	3.39871	-10.13076	0.68346	0.72094	9.01884	10.17936	84.09	22.14
73/ 7/ 9	2441872.5	0.83718	8.31104	3.40036	-10.13317	0.66029	0.71147	9.01869	10.17955	84.25	22.15
73/ 7/13	2441876.5	0.81377	8.31254	3.40200	-10.13551	0.63711	0.70198	9.01854	10.17975	84.41	22.16
73/ 7/17	2441880.5	0.79035	8.31398	3.40361	-10.13779	0.61393	0.69250	9.01840	10.17994	84.57	22.17
73/ 7/21	2441884.5	0.76693	8.31538	3.40520	-10.14000	0.59074	0.68300	9.01826	10.18013	84.73	22.18
73/ 7/25	2441888.5	0.74350	8.31671	3.40676	-10.14215	0.56755	0.67351	9.01812	10.18032	84.89	22.20
73/ 7/29	2441892.5	0.72007	8.31800	3.40831	-10.14423	0.54435	0.66401	9.01799	10.18051	85.05	22.21
73/ 8/ 2	2441896.5	0.69663	8.31923	3.40983	-10.14625	0.52115	0.65450	9.01786	10.18069	85.21	22.22
73/ 8/ 6	2441900.5	0.67319	8.32041	3.41133	-10.14821	0.49795	0.64499	9.01773	10.18087	85.37	22.23
73/ 8/10	2441904.5	0.64974	8.32153	3.41281	-10.15010	0.47474	0.63548	9.01761	10.18105	85.54	22.24
73/ 8/14	2441908.5	0.62629	8.32260	3.41427	-10.15193	0.45152	0.62596	9.01749	10.18123	85.70	22.25
73/ 8/18	2441912.5	0.60284	8.32362	3.41570	-10.15369	0.42831	0.61643	9.01737	10.18140	85.86	22.26
73/ 8/22	2441916.5	0.57938	8.32458	3.41712	-10.15539	0.40508	0.60690	9.01726	10.18157	86.02	22.27
73/ 8/26	2441920.5	0.55592	8.32549	3.41851	-10.15702	0.38186	0.59737	9.01715	10.18174	86.18	22.28
73/ 8/30	2441924.5	0.53245	8.32634	3.41988	-10.15859	0.35863	0.58783	9.01704	10.18190	86.34	22.29
73/ 9/ 3	2441928.5	0.50898	8.32714	3.42122	-10.16009	0.33540	0.57829	9.01694	10.18206	86.50	22.30
73/ 9/ 7	2441932.5	0.48551	8.32789	3.42255	-10.16153	0.31216	0.56874	9.01684	10.18222	86.66	22.31
73/ 9/11	2441936.5	0.46203	8.32859	3.42385	-10.16291	0.28892	0.55919	9.01674	10.18238	86.82	22.32
73/ 9/15	2441940.5	0.43855	8.32923	3.42513	-10.16422	0.26569	0.54964	9.01664	10.18253	86.99	22.33
73/ 9/19	2441944.5	0.41507	8.32981	3.42639	-10.16546	0.24244	0.54008	9.01655	10.18269	87.15	22.33
73/ 9/23	2441948.5	0.39158	8.33035	3.42763	-10.16665	0.21920	0.53052	9.01647	10.18284	87.31	22.34
73/ 9/27	2441952.5	0.36810	8.33083	3.42884	-10.16777	0.19595	0.52096	9.01638	10.18299	87.47	22.35
73/10/ 1	2441956.5	0.34461	8.33125	3.43003	-10.16882	0.17270	0.51139	9.01630	10.18314	87.63	22.36
73/10/ 5	2441960.5	0.32111	8.33162	3.43120	-10.16981	0.14944	0.50182	9.01622	10.18328	87.79	22.37
73/10/ 9	2441964.5	0.29762	8.33194	3.43235	-10.17074	0.12619	0.49224	9.01615	10.18342	87.95	22.38
73/10/13	2441968.5	0.27412	8.33221	3.43348	-10.17160	0.10293	0.48266	9.01607	10.18357	88.12	22.38
73/10/17	2441972.5	0.25062	8.33242	3.43458	-10.17240	0.07966	0.47308	9.01601	10.18370	88.28	22.39
73/10/21	2441976.5	0.22712	8.33258	3.43566	-10.17313	0.05640	0.46349	9.01594	10.18384	88.44	22.40
73/10/25	2441980.5	0.20362	8.33268	3.43672	-10.17380	0.03313	0.45390	9.01588	10.18397	88.60	22.41
73/10/29	2441984.5	0.18011	8.33273	3.43776	-10.17440	0.00986	0.44430	9.01582	10.18410	88.76	22.41
73/11/ 2	2441988.5	0.15661	8.33273	3.43878	-10.17494	-0.01341	0.43470	9.01576	10.18423	88.92	22.42
73/11/ 6	2441992.5	0.13310	8.33267	3.43977	-10.17542	-0.03669	0.42510	9.01571	10.18436	89.08	22.43
73/11/10	2441996.5	0.10959	8.33256	3.44074	-10.17582	-0.05996	0.41549	9.01566	10.18448	89.25	22.44
73/11/14	2442000.5	0.08609	8.33239	3.44169	-10.17616	-0.08324	0.40588	9.01562	10.18460	89.41	22.44
73/11/18	2442004.5	0.06258	8.33217	3.44262	-10.17644	-0.10653	0.39626	9.01557	10.18471	89.57	22.45
73/11/22	2442008.5	0.03907	8.33190	3.44352	-10.17664	-0.12981	0.38664	9.01554	10.18481	89.73	22.45

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73/11/26	2442012.5	0.01556	8.33157	3.44440	-10.17678	-0.15309	0.37702	9.01550	10.18491	89.89	22.46
73/11/30	2442016.5	-0.00795	8.33119	3.44526	-10.17685	-0.17638	0.36739	9.01547	10.18501	90.05	22.47
73/12/ 4	2442020.5	-0.03146	8.33076	3.44610	-10.17686	-0.19966	0.35776	9.01544	10.18510	90.22	22.47
73/12/ 8	2442024.5	-0.05497	8.33027	3.44692	-10.17680	-0.22294	0.34813	9.01541	10.18519	90.38	22.48
73/12/12	2442028.5	-0.07848	8.32973	3.44771	-10.17667	-0.24622	0.33850	9.01539	10.18528	90.54	22.48
73/12/16	2442032.5	-0.10199	8.32913	3.44848	-10.17648	-0.26950	0.32887	9.01537	10.18536	90.70	22.49
73/12/20	2442036.5	-0.12550	8.32848	3.44923	-10.17622	-0.29278	0.31923	9.01535	10.18543	90.86	22.49
73/12/24	2442040.5	-0.14901	8.32778	3.44995	-10.17589	-0.31606	0.30959	9.01534	10.18551	91.03	22.50
73/12/28	2442044.5	-0.17252	8.32702	3.45066	-10.17550	-0.33934	0.29994	9.01532	10.18557	91.19	22.50
74/ 1/ 1	2442048.5	-0.19603	8.32621	3.45134	-10.17504	-0.36262	0.29030	9.01532	10.18564	91.35	22.51
74/ 1/ 5	2442052.5	-0.21953	8.32535	3.45200	-10.17451	-0.38589	0.28065	9.01531	10.18569	91.51	22.51
74/ 1/ 9	2442056.5	-0.24304	8.32443	3.45264	-10.17392	-0.40916	0.27100	9.01531	10.18575	91.67	22.52
74/ 1/13	2442060.5	-0.26654	8.32345	3.45325	-10.17326	-0.43243	0.26135	9.01531	10.18580	91.83	22.52
74/ 1/17	2442064.5	-0.29004	8.32243	3.45384	-10.17253	-0.45569	0.25170	9.01532	10.18584	92.00	22.53
74/ 1/21	2442068.5	-0.31354	8.32135	3.45441	-10.17174	-0.47896	0.24205	9.01533	10.18588	92.16	22.53
74/ 1/25	2442072.5	-0.33704	8.32022	3.45496	-10.17088	-0.50222	0.23239	9.01534	10.18592	92.32	22.53
74/ 1/29	2442076.5	-0.36053	8.31903	3.45549	-10.16995	-0.52547	0.22273	9.01535	10.18595	92.48	22.54
74/ 2/ 2	2442080.5	-0.38402	8.31779	3.45599	-10.16896	-0.54873	0.21308	9.01537	10.18598	92.64	22.54
74/ 2/ 6	2442084.5	-0.40752	8.31649	3.45647	-10.16790	-0.57198	0.20342	9.01539	10.18601	92.81	22.54
74/ 2/10	2442088.5	-0.43100	8.31515	3.45693	-10.16677	-0.59522	0.19375	9.01542	10.18603	92.97	22.55
74/ 2/14	2442092.5	-0.45449	8.31374	3.45737	-10.16558	-0.61846	0.18409	9.01545	10.18604	93.13	22.55
74/ 2/18	2442096.5	-0.47797	8.31229	3.45778	-10.16432	-0.64170	0.17443	9.01548	10.18605	93.29	22.55
74/ 2/22	2442100.5	-0.50145	8.31078	3.45817	-10.16299	-0.66493	0.16476	9.01551	10.18605	93.45	22.56
74/ 2/26	2442104.5	-0.52493	8.30922	3.45854	-10.16160	-0.68815	0.15510	9.01555	10.18605	93.61	22.56
74/ 3/ 2	2442108.5	-0.54840	8.30760	3.45889	-10.16014	-0.71137	0.14544	9.01559	10.18605	93.78	22.56
74/ 3/ 6	2442112.5	-0.57187	8.30593	3.45922	-10.15861	-0.73458	0.13577	9.01563	10.18604	93.94	22.56
74/ 3/10	2442116.5	-0.59534	8.30421	3.45952	-10.15702	-0.75778	0.12611	9.01568	10.18603	94.10	22.56
74/ 3/14	2442120.5	-0.61880	8.30243	3.45980	-10.15536	-0.78098	0.11644	9.01573	10.18602	94.26	22.57
74/ 3/18	2442124.5	-0.64226	8.30060	3.46006	-10.15364	-0.80417	0.10678	9.01579	10.18600	94.42	22.57
74/ 3/22	2442128.5	-0.66571	8.29871	3.46029	-10.15186	-0.82735	0.09712	9.01584	10.18598	94.59	22.57
74/ 3/26	2442132.5	-0.68917	8.29677	3.46050	-10.15001	-0.85053	0.08745	9.01590	10.18596	94.75	22.57
74/ 3/30	2442136.5	-0.71261	8.29478	3.46070	-10.14810	-0.87370	0.07779	9.01597	10.18594	94.91	22.57
74/ 4/ 3	2442140.5	-0.73605	8.29274	3.46086	-10.14612	-0.89686	0.06812	9.01603	10.18591	95.07	22.57
74/ 4/ 7	2442144.5	-0.75949	8.29064	3.46101	-10.14408	-0.92002	0.05846	9.01610	10.18588	95.23	22.57
74/ 4/11	2442148.5	-0.78292	8.28849	3.46113	-10.14198	-0.94317	0.04880	9.01618	10.18585	95.40	22.57
74/ 4/15	2442152.5	-0.80635	8.28628	3.46124	-10.13981	-0.96631	0.03913	9.01625	10.18582	95.56	22.57
74/ 4/19	2442156.5	-0.82977	8.28402	3.46131	-10.13757	-0.98945	0.02947	9.01633	10.18579	95.72	22.58
74/ 4/23	2442160.5	-0.85319	8.28171	3.46137	-10.13528	-1.01258	0.01981	9.01641	10.18575	95.88	22.58
74/ 4/27	2442164.5	-0.87660	8.27934	3.46141	-10.13292	-1.03570	0.01015	9.01650	10.18572	96.04	22.58
74/ 5/ 1	2442168.5	-0.90001	8.27692	3.46142	-10.13050	-1.05882	0.00048	9.01659	10.18568	96.21	22.58
74/ 5/ 5	2442172.5	-0.92341	8.27445	3.46141	-10.12801	-1.08193	-0.00918	9.01668	10.18564	96.37	22.57
74/ 5/ 9	2442176.5	-0.94680	8.27193	3.46138	-10.12546	-1.10503	-0.01885	9.01678	10.18560	96.53	22.57
74/ 5/13	2442180.5	-0.97019	8.26935	3.46132	-10.12284	-1.12813	-0.02851	9.01688	10.18555	96.69	22.57
74/ 5/17	2442184.5	-0.99357	8.26671	3.46124	-10.12016	-1.15122	-0.03817	9.01698	10.18550	96.85	22.57
74/ 5/21	2442188.5	-1.01695	8.26403	3.46114	-10.11741	-1.17430	-0.04784	9.01709	10.18545	97.02	22.57

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74/ 5/25	2442192.5	-1.04032	8.26129	3.46102	-10.11460	-1.19737	-0.05750	9.01720	10.18539	97.18	22.57
74/ 5/29	2442196.5	-1.06368	8.25849	3.46088	-10.11173	-1.22043	-0.06716	9.01731	10.18533	97.34	22.57
74/ 6/ 2	2442200.5	-1.08704	8.25565	3.46071	-10.10879	-1.24349	-0.07682	9.01742	10.18527	97.50	22.57
74/ 6/ 6	2442204.5	-1.11039	8.25275	3.46052	-10.10578	-1.26654	-0.08648	9.01754	10.18521	97.66	22.57
74/ 6/10	2442208.5	-1.13373	8.24980	3.46031	-10.10272	-1.28957	-0.09614	9.01766	10.18514	97.82	22.56
74/ 6/14	2442212.5	-1.15707	8.24679	3.46008	-10.09959	-1.31261	-0.10580	9.01779	10.18508	97.99	22.56
74/ 6/18	2442216.5	-1.18039	8.24373	3.45982	-10.09639	-1.33563	-0.11546	9.01792	10.18501	98.15	22.56
74/ 6/22	2442220.5	-1.20371	8.24062	3.45955	-10.09313	-1.35864	-0.12512	9.01805	10.18494	98.31	22.56
74/ 6/26	2442224.5	-1.22703	8.23745	3.45925	-10.08981	-1.38165	-0.13477	9.01818	10.18486	98.47	22.56
74/ 6/30	2442228.5	-1.25033	8.23424	3.45892	-10.08642	-1.40464	-0.14443	9.01832	10.18479	98.63	22.55
74/ 7/ 4	2442232.5	-1.27363	8.23096	3.45858	-10.08297	-1.42763	-0.15408	9.01846	10.18471	98.80	22.55
74/ 7/ 8	2442236.5	-1.29692	8.22764	3.45821	-10.07946	-1.45061	-0.16374	9.01861	10.18462	98.96	22.55
74/ 7/12	2442240.5	-1.32020	8.22426	3.45782	-10.07588	-1.47358	-0.17339	9.01876	10.18454	99.12	22.54
74/ 7/16	2442244.5	-1.34347	8.22083	3.45741	-10.07223	-1.49654	-0.18305	9.01891	10.18445	99.28	22.54
74/ 7/20	2442248.5	-1.36674	8.21735	3.45698	-10.06852	-1.51950	-0.19270	9.01906	10.18436	99.44	22.54
74/ 7/24	2442252.5	-1.38999	8.21381	3.45652	-10.06475	-1.54244	-0.20235	9.01922	10.18427	99.60	22.53
74/ 7/28	2442256.5	-1.41324	8.21022	3.45604	-10.06091	-1.56537	-0.21200	9.01938	10.18417	99.77	22.53
74/ 8/ 1	2442260.5	-1.43648	8.20658	3.45554	-10.05701	-1.58830	-0.22165	9.01954	10.18407	99.93	22.53
74/ 8/ 5	2442264.5	-1.45971	8.20288	3.45502	-10.05304	-1.61121	-0.23130	9.01971	10.18396	100.09	22.52
74/ 8/ 9	2442268.5	-1.48293	8.19913	3.45447	-10.04900	-1.63412	-0.24094	9.01988	10.18385	100.25	22.52
74/ 8/13	2442272.5	-1.50614	8.19533	3.45390	-10.04490	-1.65701	-0.25059	9.02005	10.18374	100.41	22.51
74/ 8/17	2442276.5	-1.52934	8.19148	3.45331	-10.04073	-1.67989	-0.26023	9.02023	10.18361	100.58	22.51
74/ 8/21	2442280.5	-1.55253	8.18757	3.45270	-10.03649	-1.70276	-0.26987	9.02041	10.18349	100.74	22.51
74/ 8/25	2442284.5	-1.57571	8.18361	3.45207	-10.03219	-1.72562	-0.27951	9.02059	10.18336	100.90	22.50
74/ 8/29	2442288.5	-1.59888	8.17960	3.45141	-10.02783	-1.74846	-0.28915	9.02078	10.18322	101.06	22.50
74/ 9/ 2	2442292.5	-1.62204	8.17553	3.45073	-10.02340	-1.77129	-0.29878	9.02097	10.18309	101.22	22.49
74/ 9/ 6	2442296.5	-1.64519	8.17141	3.45003	-10.01890	-1.79411	-0.30841	9.02116	10.18295	101.38	22.48
74/ 9/10	2442300.5	-1.66833	8.16724	3.44931	-10.01434	-1.81691	-0.31804	9.02136	10.18280	101.55	22.48
74/ 9/14	2442304.5	-1.69146	8.16302	3.44856	-10.00972	-1.83971	-0.32767	9.02156	10.18265	101.71	22.47
74/ 9/18	2442308.5	-1.71458	8.15874	3.44779	-10.00503	-1.86248	-0.33729	9.02176	10.18250	101.87	22.47
74/ 9/22	2442312.5	-1.73769	8.15441	3.44700	-10.00028	-1.88525	-0.34691	9.02196	10.18234	102.03	22.46
74/ 9/26	2442316.5	-1.76079	8.15003	3.44619	-9.99546	-1.90800	-0.35653	9.02217	10.18218	102.19	22.46
74/ 9/30	2442320.5	-1.78387	8.14560	3.44536	-9.99058	-1.93074	-0.36614	9.02239	10.18202	102.35	22.45
74/10/ 4	2442324.5	-1.80695	8.14111	3.44450	-9.98563	-1.95346	-0.37575	9.02260	10.18185	102.51	22.44
74/10/ 8	2442328.5	-1.83001	8.13657	3.44362	-9.98063	-1.97617	-0.38536	9.02282	10.18168	102.68	22.44
74/10/12	2442332.5	-1.85306	8.13198	3.44272	-9.97555	-1.99886	-0.39497	9.02304	10.18151	102.84	22.43
74/10/16	2442336.5	-1.87610	8.12734	3.44179	-9.97042	-2.02154	-0.40457	9.02326	10.18133	103.00	22.42
74/10/20	2442340.5	-1.89913	8.12264	3.44085	-9.96522	-2.04421	-0.41417	9.02349	10.18115	103.16	22.42
74/10/24	2442344.5	-1.92214	8.11789	3.43988	-9.95995	-2.06686	-0.42376	9.02372	10.18097	103.32	22.41
74/10/28	2442348.5	-1.94515	8.11309	3.43889	-9.95463	-2.08949	-0.43335	9.02396	10.18079	103.48	22.40
74/11/ 1	2442352.5	-1.96814	8.10824	3.43788	-9.94924	-2.11212	-0.44294	9.02419	10.18060	103.64	22.39
74/11/ 5	2442356.5	-1.99111	8.10333	3.43684	-9.94378	-2.13473	-0.45253	9.02443	10.18040	103.80	22.39
74/11/ 9	2442360.5	-2.01408	8.09837	3.43579	-9.93826	-2.15732	-0.46211	9.02468	10.18021	103.97	22.38
74/11/13	2442364.5	-2.03703	8.09336	3.43471	-9.93268	-2.17989	-0.47169	9.02493	10.18001	104.13	22.37
74/11/17	2442368.5	-2.05997	8.08830	3.43361	-9.92703	-2.20245	-0.48126	9.02518	10.17980	104.29	22.36

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74/11/21	2442372.5	-2.08290	8.08319	3.43249	-9.92132	-2.22499	-0.49083	9.02543	10.17959	104.45	22.35
74/11/25	2442376.5	-2.10581	8.07802	3.43134	-9.91555	-2.24752	-0.50040	9.02568	10.17938	104.61	22.34
74/11/29	2442380.5	-2.12871	8.07280	3.43017	-9.90971	-2.27003	-0.50996	9.02594	10.17917	104.77	22.34
74/12/ 3	2442384.5	-2.15160	8.06753	3.42898	-9.90382	-2.29252	-0.51952	9.02621	10.17895	104.93	22.33
74/12/ 7	2442388.5	-2.17447	8.06221	3.42777	-9.89786	-2.31500	-0.52907	9.02647	10.17874	105.09	22.32
74/12/11	2442392.5	-2.19733	8.05684	3.42654	-9.89183	-2.33746	-0.53862	9.02674	10.17852	105.26	22.31
74/12/15	2442396.5	-2.22017	8.05141	3.42528	-9.88575	-2.35990	-0.54816	9.02701	10.17829	105.42	22.30
74/12/19	2442400.5	-2.24301	8.04593	3.42401	-9.87960	-2.38233	-0.55770	9.02729	10.17807	105.58	22.29
74/12/23	2442404.5	-2.26582	8.04041	3.42271	-9.87340	-2.40474	-0.56724	9.02757	10.17784	105.74	22.28
74/12/27	2442408.5	-2.28862	8.03482	3.42139	-9.86713	-2.42713	-0.57677	9.02785	10.17761	105.90	22.27
74/12/31	2442412.5	-2.31141	8.02919	3.42004	-9.86079	-2.44951	-0.58630	9.02813	10.17738	106.06	22.26
75/ 1/ 4	2442416.5	-2.33418	8.02351	3.41868	-9.85440	-2.47187	-0.59582	9.02842	10.17715	106.22	22.25
75/ 1/ 8	2442420.5	-2.35694	8.01777	3.41729	-9.84794	-2.49421	-0.60534	9.02871	10.17691	106.38	22.24
75/ 1/12	2442424.5	-2.37969	8.01198	3.41588	-9.84142	-2.51654	-0.61485	9.02901	10.17667	106.54	22.23
75/ 1/16	2442428.5	-2.40241	8.00614	3.41445	-9.83484	-2.53885	-0.62436	9.02931	10.17643	106.70	22.22
75/ 1/20	2442432.5	-2.42513	8.00025	3.41300	-9.82820	-2.56114	-0.63387	9.02961	10.17619	106.86	22.21
75/ 1/24	2442436.5	-2.44782	7.99431	3.41152	-9.82149	-2.58342	-0.64337	9.02991	10.17594	107.02	22.20
75/ 1/28	2442440.5	-2.47050	7.98832	3.41002	-9.81472	-2.60568	-0.65287	9.03022	10.17569	107.18	22.19
75/ 2/ 1	2442444.5	-2.49317	7.98227	3.40850	-9.80789	-2.62792	-0.66237	9.03053	10.17543	107.35	22.18
75/ 2/ 5	2442448.5	-2.51582	7.97617	3.40696	-9.80099	-2.65015	-0.67186	9.03084	10.17517	107.51	22.16
75/ 2/ 9	2442452.5	-2.53845	7.97003	3.40540	-9.79403	-2.67235	-0.68134	9.03116	10.17491	107.67	22.15
75/ 2/13	2442456.5	-2.56107	7.96383	3.40381	-9.78701	-2.69454	-0.69082	9.03148	10.17464	107.83	22.14
75/ 2/17	2442460.5	-2.58367	7.95758	3.40221	-9.77992	-2.71670	-0.70029	9.03180	10.17437	107.99	22.13
75/ 2/21	2442464.5	-2.60626	7.95127	3.40058	-9.77277	-2.73885	-0.70976	9.03213	10.17409	108.15	22.12
75/ 2/25	2442468.5	-2.62883	7.94492	3.39893	-9.76556	-2.76098	-0.71922	9.03245	10.17381	108.31	22.10
75/ 3/ 1	2442472.5	-2.65138	7.93852	3.39726	-9.75828	-2.78308	-0.72868	9.03279	10.17353	108.47	22.09
75/ 3/ 5	2442476.5	-2.67391	7.93206	3.39556	-9.75095	-2.80517	-0.73813	9.03312	10.17324	108.63	22.08
75/ 3/ 9	2442480.5	-2.69643	7.92556	3.39385	-9.74355	-2.82724	-0.74758	9.03346	10.17295	108.79	22.07
75/ 3/13	2442484.5	-2.71893	7.91900	3.39211	-9.73609	-2.84929	-0.75702	9.03380	10.17265	108.95	22.05
75/ 3/17	2442488.5	-2.74142	7.91239	3.39035	-9.72856	-2.87132	-0.76646	9.03414	10.17236	109.11	22.04
75/ 3/21	2442492.5	-2.76388	7.90573	3.38857	-9.72097	-2.89332	-0.77588	9.03449	10.17205	109.27	22.03
75/ 3/25	2442496.5	-2.78633	7.89902	3.38676	-9.71333	-2.91531	-0.78531	9.03484	10.17175	109.43	22.02
75/ 3/29	2442500.5	-2.80876	7.89226	3.38494	-9.70561	-2.93727	-0.79473	9.03520	10.17144	109.59	22.00
75/ 4/ 2	2442504.5	-2.83117	7.88545	3.38309	-9.69784	-2.95922	-0.80414	9.03555	10.17112	109.75	21.99
75/ 4/ 6	2442508.5	-2.85357	7.87859	3.38122	-9.69001	-2.98114	-0.81354	9.03591	10.17080	109.91	21.97
75/ 4/10	2442512.5	-2.87594	7.87168	3.37933	-9.68211	-3.00304	-0.82294	9.03628	10.17048	110.07	21.96
75/ 4/14	2442516.5	-2.89830	7.86472	3.37742	-9.67415	-3.02492	-0.83233	9.03664	10.17016	110.23	21.95
75/ 4/18	2442520.5	-2.92064	7.85770	3.37549	-9.66613	-3.04678	-0.84172	9.03701	10.16983	110.39	21.93
75/ 4/22	2442524.5	-2.94296	7.85064	3.37353	-9.65805	-3.06861	-0.85110	9.03738	10.16949	110.55	21.92
75/ 4/26	2442528.5	-2.96527	7.84352	3.37155	-9.64990	-3.09043	-0.86047	9.03776	10.16916	110.71	21.90
75/ 4/30	2442532.5	-2.98755	7.83636	3.36956	-9.64169	-3.11222	-0.86984	9.03814	10.16881	110.87	21.89
75/ 5/ 4	2442536.5	-3.00981	7.82915	3.36754	-9.63342	-3.13399	-0.87920	9.03852	10.16847	111.03	21.87
75/ 5/ 8	2442540.5	-3.03206	7.82188	3.36549	-9.62509	-3.15573	-0.88855	9.03890	10.16811	111.19	21.86
75/ 5/12	2442544.5	-3.05429	7.81456	3.36343	-9.61670	-3.17745	-0.89790	9.03929	10.16776	111.35	21.84
75/ 5/16	2442548.5	-3.07649	7.80720	3.36134	-9.60824	-3.19914	-0.90724	9.03968	10.16739	111.51	21.83

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75/ 5/20	2442552.5	-3.09868	7.79978	3.35924	-9.59973	-3.22081	-0.91657	9.04007	10.16703	111.67	21.81
75/ 5/24	2442556.5	-3.12085	7.79232	3.35711	-9.59115	-3.24245	-0.92589	9.04047	10.16666	111.83	21.80
75/ 5/28	2442560.5	-3.14299	7.78480	3.35496	-9.58252	-3.26407	-0.93520	9.04087	10.16629	111.99	21.78
75/ 6/ 1	2442564.5	-3.16512	7.77724	3.35279	-9.57382	-3.28567	-0.94451	9.04127	10.16592	112.14	21.77
75/ 6/ 5	2442568.5	-3.18723	7.76962	3.35060	-9.56507	-3.30724	-0.95381	9.04168	10.16554	112.30	21.75
75/ 6/ 9	2442572.5	-3.20931	7.76196	3.34838	-9.55626	-3.32879	-0.96310	9.04209	10.16516	112.46	21.73
75/ 6/13	2442576.5	-3.23138	7.75424	3.34615	-9.54739	-3.35031	-0.97239	9.04250	10.16478	112.62	21.72
75/ 6/17	2442580.5	-3.25343	7.74648	3.34389	-9.53846	-3.37180	-0.98166	9.04291	10.16439	112.78	21.70
75/ 6/21	2442584.5	-3.27545	7.73866	3.34161	-9.52947	-3.39328	-0.99093	9.04333	10.16401	112.94	21.69
75/ 6/25	2442588.5	-3.29746	7.73080	3.33931	-9.52042	-3.41472	-1.00019	9.04375	10.16362	113.10	21.67
75/ 6/29	2442592.5	-3.31944	7.72288	3.33699	-9.51132	-3.43614	-1.00944	9.04418	10.16323	113.26	21.65
75/ 7/ 3	2442596.5	-3.34140	7.71492	3.33465	-9.50215	-3.45754	-1.01869	9.04460	10.16284	113.42	21.63
75/ 7/ 7	2442600.5	-3.36334	7.70691	3.33228	-9.49293	-3.47891	-1.02793	9.04503	10.16244	113.58	21.62
75/ 7/11	2442604.5	-3.38526	7.69885	3.32990	-9.48365	-3.50026	-1.03716	9.04547	10.16205	113.74	21.60
75/ 7/15	2442608.5	-3.40716	7.69074	3.32749	-9.47432	-3.52158	-1.04638	9.04590	10.16165	113.89	21.58
75/ 7/19	2442612.5	-3.42904	7.68258	3.32506	-9.46492	-3.54288	-1.05559	9.04634	10.16125	114.05	21.57
75/ 7/23	2442616.5	-3.45089	7.67437	3.32261	-9.45547	-3.56416	-1.06480	9.04679	10.16085	114.21	21.55
75/ 7/27	2442620.5	-3.47272	7.66611	3.32014	-9.44596	-3.58541	-1.07400	9.04723	10.16045	114.37	21.53
75/ 7/31	2442624.5	-3.49454	7.65780	3.31765	-9.43638	-3.60663	-1.08319	9.04768	10.16004	114.53	21.51
75/ 8/ 4	2442628.5	-3.51632	7.64945	3.31514	-9.42675	-3.62783	-1.09238	9.04813	10.15963	114.69	21.49
75/ 8/ 8	2442632.5	-3.53809	7.64104	3.31260	-9.41707	-3.64901	-1.10155	9.04859	10.15922	114.85	21.47
75/ 8/12	2442636.5	-3.55983	7.63259	3.31005	-9.40732	-3.67015	-1.11072	9.04904	10.15881	115.00	21.46
75/ 8/16	2442640.5	-3.58156	7.62408	3.30747	-9.39751	-3.69127	-1.11988	9.04951	10.15839	115.16	21.44
75/ 8/20	2442644.5	-3.60325	7.61553	3.30487	-9.38765	-3.71237	-1.12903	9.04997	10.15797	115.32	21.42
75/ 8/24	2442648.5	-3.62493	7.60693	3.30226	-9.37773	-3.73344	-1.13817	9.05044	10.15755	115.48	21.40
75/ 8/28	2442652.5	-3.64658	7.59828	3.29962	-9.36776	-3.75448	-1.14731	9.05091	10.15713	115.64	21.38
75/ 9/ 1	2442656.5	-3.66821	7.58958	3.29695	-9.35772	-3.77550	-1.15643	9.05138	10.15671	115.80	21.36
75/ 9/ 5	2442660.5	-3.68982	7.58084	3.29427	-9.34763	-3.79649	-1.16555	9.05186	10.15628	115.95	21.34
75/ 9/ 9	2442664.5	-3.71140	7.57204	3.29157	-9.33748	-3.81746	-1.17466	9.05233	10.15586	116.11	21.32
75/ 9/13	2442668.5	-3.73296	7.56320	3.28885	-9.32728	-3.83840	-1.18376	9.05282	10.15543	116.27	21.30
75/ 9/17	2442672.5	-3.75450	7.55431	3.28610	-9.31701	-3.85931	-1.19286	9.05330	10.15500	116.43	21.28
75/ 9/21	2442676.5	-3.77601	7.54537	3.28333	-9.30669	-3.88020	-1.20194	9.05379	10.15456	116.59	21.26
75/ 9/25	2442680.5	-3.79750	7.53638	3.28055	-9.29631	-3.90106	-1.21102	9.05428	10.15413	116.74	21.24
75/ 9/29	2442684.5	-3.81896	7.52734	3.27774	-9.28587	-3.92190	-1.22009	9.05477	10.15369	116.90	21.22
75/10/ 3	2442688.5	-3.84040	7.51826	3.27491	-9.27538	-3.94271	-1.22915	9.05527	10.15325	117.06	21.20
75/10/ 7	2442692.5	-3.86182	7.50913	3.27206	-9.26483	-3.96349	-1.23820	9.05577	10.15280	117.22	21.18
75/10/11	2442696.5	-3.88321	7.49995	3.26919	-9.25422	-3.98425	-1.24724	9.05627	10.15236	117.37	21.16
75/10/15	2442700.5	-3.90457	7.49072	3.26630	-9.24355	-4.00498	-1.25628	9.05678	10.15191	117.53	21.14
75/10/19	2442704.5	-3.92592	7.48144	3.26338	-9.23282	-4.02568	-1.26531	9.05729	10.15145	117.69	21.12
75/10/23	2442708.5	-3.94723	7.47212	3.26045	-9.22203	-4.04636	-1.27433	9.05780	10.15100	117.85	21.10
75/10/27	2442712.5	-3.96852	7.46275	3.25750	-9.21118	-4.06701	-1.28334	9.05831	10.15053	118.00	21.08
75/10/31	2442716.5	-3.98979	7.45333	3.25452	-9.20027	-4.08762	-1.29234	9.05883	10.15007	118.16	21.06
75/11/ 4	2442720.5	-4.01103	7.44386	3.25153	-9.18931	-4.10821	-1.30133	9.05935	10.14959	118.32	21.03
75/11/ 8	2442724.5	-4.03225	7.43435	3.24851	-9.17828	-4.12877	-1.31031	9.05988	10.14912	118.47	21.01
75/11/12	2442728.5	-4.05344	7.42478	3.24547	-9.16720	-4.14930	-1.31928	9.06040	10.14863	118.63	20.99

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75/11/16	2442732.5	-4.07460	7.41517	3.24241	-9.15606	-4.16980	-1.32824	9.06093	10.14815	118.79	20.97
75/11/20	2442736.5	-4.09574	7.40552	3.23933	-9.14486	-4.19027	-1.33719	9.06146	10.14766	118.95	20.95
75/11/24	2442740.5	-4.11686	7.39581	3.23623	-9.13361	-4.21071	-1.34613	9.06200	10.14716	119.10	20.92
75/11/28	2442744.5	-4.13794	7.38606	3.23311	-9.12229	-4.23112	-1.35506	9.06253	10.14667	119.26	20.90
75/12/ 2	2442748.5	-4.15901	7.37626	3.22997	-9.11092	-4.25150	-1.36398	9.06308	10.14616	119.42	20.88
75/12/ 6	2442752.5	-4.18004	7.36642	3.22681	-9.09950	-4.27185	-1.37289	9.06362	10.14566	119.57	20.86
75/12/10	2442756.5	-4.20105	7.35653	3.22363	-9.08801	-4.29217	-1.38179	9.06417	10.14515	119.73	20.83
75/12/14	2442760.5	-4.22203	7.34659	3.22043	-9.07647	-4.31245	-1.39068	9.06471	10.14463	119.89	20.81
75/12/18	2442764.5	-4.24298	7.33660	3.21721	-9.06487	-4.33271	-1.39956	9.06527	10.14411	120.04	20.79
75/12/22	2442768.5	-4.26391	7.32657	3.21396	-9.05322	-4.35293	-1.40843	9.06582	10.14359	120.20	20.76
75/12/26	2442772.5	-4.28481	7.31649	3.21070	-9.04151	-4.37312	-1.41728	9.06638	10.14306	120.35	20.74
75/12/30	2442776.5	-4.30569	7.30636	3.20741	-9.02974	-4.39328	-1.42613	9.06694	10.14253	120.51	20.72
76/ 1/ 3	2442780.5	-4.32653	7.29619	3.20411	-9.01792	-4.41341	-1.43497	9.06750	10.14200	120.67	20.69
76/ 1/ 7	2442784.5	-4.34735	7.28597	3.20078	-9.00604	-4.43350	-1.44379	9.06807	10.14146	120.82	20.67
76/ 1/11	2442788.5	-4.36815	7.27571	3.19744	-8.99411	-4.45357	-1.45261	9.06864	10.14092	120.98	20.65
76/ 1/15	2442792.5	-4.38891	7.26540	3.19407	-8.98212	-4.47360	-1.46141	9.06921	10.14038	121.14	20.62
76/ 1/19	2442796.5	-4.40965	7.25504	3.19069	-8.97008	-4.49360	-1.47020	9.06979	10.13983	121.29	20.60
76/ 1/23	2442800.5	-4.43035	7.24463	3.18728	-8.95798	-4.51356	-1.47898	9.07036	10.13928	121.45	20.57
76/ 1/27	2442804.5	-4.45103	7.23418	3.18385	-8.94582	-4.53350	-1.48775	9.07094	10.13872	121.60	20.55
76/ 1/31	2442808.5	-4.47169	7.22369	3.18041	-8.93361	-4.55340	-1.49651	9.07153	10.13816	121.76	20.52
76/ 2/ 4	2442812.5	-4.49231	7.21315	3.17694	-8.92134	-4.57326	-1.50526	9.07211	10.13759	121.91	20.50
76/ 2/ 8	2442816.5	-4.51291	7.20256	3.17345	-8.90902	-4.59309	-1.51399	9.07270	10.13702	122.07	20.47
76/ 2/12	2442820.5	-4.53347	7.19192	3.16994	-8.89664	-4.61289	-1.52272	9.07330	10.13645	122.23	20.45
76/ 2/16	2442824.5	-4.55401	7.18124	3.16641	-8.88422	-4.63265	-1.53143	9.07389	10.13588	122.38	20.42
76/ 2/20	2442828.5	-4.57452	7.17052	3.16287	-8.87174	-4.65238	-1.54013	9.07449	10.13530	122.54	20.40
76/ 2/24	2442832.5	-4.59500	7.15975	3.15930	-8.85920	-4.67207	-1.54881	9.07509	10.13472	122.69	20.37
76/ 2/28	2442836.5	-4.61545	7.14893	3.15571	-8.84662	-4.69174	-1.55749	9.07569	10.13414	122.85	20.35
76/ 3/ 3	2442840.5	-4.63588	7.13807	3.15210	-8.83398	-4.71136	-1.56615	9.07630	10.13356	123.00	20.32
76/ 3/ 7	2442844.5	-4.65627	7.12716	3.14847	-8.82129	-4.73096	-1.57480	9.07691	10.13297	123.16	20.30
76/ 3/11	2442848.5	-4.67663	7.11621	3.14483	-8.80854	-4.75052	-1.58344	9.07752	10.13238	123.31	20.27
76/ 3/15	2442852.5	-4.69697	7.10522	3.14116	-8.79575	-4.77005	-1.59207	9.07813	10.13179	123.47	20.24
76/ 3/19	2442856.5	-4.71727	7.09417	3.13747	-8.78290	-4.78954	-1.60069	9.07875	10.13120	123.62	20.22
76/ 3/23	2442860.5	-4.73755	7.08309	3.13376	-8.77000	-4.80900	-1.60930	9.07937	10.13061	123.78	20.19
76/ 3/27	2442864.5	-4.75779	7.07195	3.13004	-8.75705	-4.82843	-1.61789	9.07999	10.13001	123.93	20.16
76/ 3/31	2442868.5	-4.77801	7.06078	3.12629	-8.74404	-4.84782	-1.62647	9.08062	10.12941	124.09	20.14
76/ 4/ 4	2442872.5	-4.79819	7.04956	3.12252	-8.73099	-4.86718	-1.63504	9.08125	10.12882	124.24	20.11
76/ 4/ 8	2442876.5	-4.81835	7.03829	3.11873	-8.71788	-4.88650	-1.64360	9.08188	10.12822	124.40	20.08
76/ 4/12	2442880.5	-4.83847	7.02698	3.11493	-8.70472	-4.90580	-1.65215	9.08251	10.12761	124.55	20.06
76/ 4/16	2442884.5	-4.85857	7.01562	3.11110	-8.69150	-4.92506	-1.66069	9.08315	10.12701	124.70	20.03
76/ 4/20	2442888.5	-4.87863	7.00422	3.10725	-8.67824	-4.94428	-1.66921	9.08379	10.12640	124.86	20.00
76/ 4/24	2442892.5	-4.89867	6.99278	3.10339	-8.66491	-4.96347	-1.67773	9.08443	10.12579	125.01	19.98
76/ 4/28	2442896.5	-4.91867	6.98129	3.09950	-8.65154	-4.98263	-1.68623	9.08508	10.12517	125.17	19.95
76/ 5/ 2	2442900.5	-4.93864	6.96976	3.09560	-8.63812	-5.00175	-1.69471	9.08572	10.12455	125.32	19.92
76/ 5/ 6	2442904.5	-4.95858	6.95818	3.09167	-8.62464	-5.02083	-1.70319	9.08637	10.12393	125.47	19.89
76/ 5/10	2442908.5	-4.97849	6.94656	3.08773	-8.61111	-5.03988	-1.71165	9.08703	10.12331	125.63	19.86

1.6 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
76/ 5/14	2442912.5	-4.99836	6.93489	3.08376	-8.59753	-5.05889	-1.72010	9.08768	10.12268	125.78	19.84
76/ 5/18	2442916.5	-5.01821	6.92319	3.07978	-8.58390	-5.07787	-1.72854	9.08834	10.12205	125.94	19.81
76/ 5/22	2442920.5	-5.03803	6.91143	3.07578	-8.57021	-5.09682	-1.73697	9.08900	10.12142	126.09	19.78
76/ 5/26	2442924.5	-5.05781	6.89964	3.07175	-8.55648	-5.11572	-1.74538	9.08967	10.12079	126.24	19.75
76/ 5/30	2442928.5	-5.07756	6.88780	3.06771	-8.54269	-5.13460	-1.75378	9.09034	10.12015	126.40	19.72
76/ 6/ 3	2442932.5	-5.09728	6.87591	3.06365	-8.52885	-5.15343	-1.76217	9.09101	10.11951	126.55	19.69
76/ 6/ 7	2442936.5	-5.11697	6.86399	3.05957	-8.51496	-5.17223	-1.77055	9.09168	10.11886	126.70	19.67
76/ 6/11	2442940.5	-5.13662	6.85202	3.05547	-8.50102	-5.19100	-1.77891	9.09235	10.11822	126.86	19.64
76/ 6/15	2442944.5	-5.15624	6.84000	3.05135	-8.48703	-5.20972	-1.78726	9.09303	10.11757	127.01	19.61
76/ 6/19	2442948.5	-5.17583	6.82794	3.04721	-8.47299	-5.22841	-1.79560	9.09371	10.11692	127.16	19.58
76/ 6/23	2442952.5	-5.19539	6.81584	3.04306	-8.45890	-5.24707	-1.80392	9.09439	10.11626	127.32	19.55
76/ 6/27	2442956.5	-5.21492	6.80370	3.03888	-8.44475	-5.26569	-1.81224	9.09508	10.11561	127.47	19.52
76/ 7/ 1	2442960.5	-5.23441	6.79151	3.03468	-8.43056	-5.28427	-1.82054	9.09577	10.11495	127.62	19.49
76/ 7/ 5	2442964.5	-5.25387	6.77929	3.03047	-8.41631	-5.30281	-1.82882	9.09646	10.11428	127.78	19.46
76/ 7/ 9	2442968.5	-5.27330	6.76701	3.02623	-8.40201	-5.32132	-1.83710	9.09715	10.11361	127.93	19.43
76/ 7/13	2442972.5	-5.29269	6.75470	3.02198	-8.38766	-5.33979	-1.84536	9.09785	10.11294	128.08	19.40
76/ 7/17	2442976.5	-5.31205	6.74234	3.01771	-8.37326	-5.35823	-1.85360	9.09855	10.11227	128.23	19.37
76/ 7/21	2442980.5	-5.33138	6.72994	3.01341	-8.35881	-5.37662	-1.86184	9.09925	10.11159	128.39	19.34
76/ 7/25	2442984.5	-5.35067	6.71750	3.00910	-8.34430	-5.39498	-1.87006	9.09996	10.11090	128.54	19.31
76/ 7/29	2442988.5	-5.36993	6.70502	3.00477	-8.32975	-5.41329	-1.87826	9.10066	10.11021	128.69	19.28
76/ 8/ 2	2442992.5	-5.38916	6.69249	3.00043	-8.31515	-5.43157	-1.88645	9.10137	10.10952	128.84	19.25
76/ 8/ 6	2442996.5	-5.40835	6.67992	2.99606	-8.30050	-5.44980	-1.89463	9.10208	10.10882	129.00	19.22
76/ 8/10	2443000.5	-5.42751	6.66731	2.99167	-8.28580	-5.46800	-1.90279	9.10280	10.10812	129.15	19.19
76/ 8/14	2443004.5	-5.44663	6.65466	2.98727	-8.27105	-5.48616	-1.91094	9.10352	10.10742	129.30	19.16
76/ 8/18	2443008.5	-5.46572	6.64196	2.98284	-8.25625	-5.50428	-1.91907	9.10424	10.10671	129.45	19.13
76/ 8/22	2443012.5	-5.48478	6.62922	2.97840	-8.24141	-5.52236	-1.92719	9.10496	10.10600	129.60	19.09
76/ 8/26	2443016.5	-5.50380	6.61645	2.97394	-8.22652	-5.54040	-1.93530	9.10568	10.10529	129.75	19.06
76/ 8/30	2443020.5	-5.52279	6.60363	2.96946	-8.21157	-5.55840	-1.94339	9.10641	10.10458	129.91	19.03
76/ 9/ 3	2443024.5	-5.54174	6.59076	2.96496	-8.19659	-5.57636	-1.95147	9.10714	10.10386	130.06	19.00
76/ 9/ 7	2443028.5	-5.56066	6.57786	2.96044	-8.18155	-5.59428	-1.95953	9.10788	10.10314	130.21	18.97
76/ 9/11	2443032.5	-5.57954	6.56492	2.95591	-8.16647	-5.61216	-1.96758	9.10861	10.10242	130.36	18.94
76/ 9/15	2443036.5	-5.59839	6.55193	2.95135	-8.15134	-5.63001	-1.97561	9.10935	10.10170	130.51	18.90
76/ 9/19	2443040.5	-5.61720	6.53890	2.94678	-8.13617	-5.64781	-1.98363	9.11009	10.10098	130.66	18.87
76/ 9/23	2443044.5	-5.63598	6.52584	2.94219	-8.12094	-5.66557	-1.99163	9.11083	10.10025	130.82	18.84
76/ 9/27	2443048.5	-5.65473	6.51273	2.93758	-8.10568	-5.68330	-1.99963	9.11158	10.09952	130.97	18.81
76/10/ 1	2443052.5	-5.67343	6.49958	2.93295	-8.09036	-5.70099	-2.00760	9.11233	10.09880	131.12	18.78
76/10/ 5	2443056.5	-5.69211	6.48639	2.92830	-8.07500	-5.71864	-2.01557	9.11308	10.09807	131.27	18.74
76/10/ 9	2443060.5	-5.71074	6.47316	2.92363	-8.05959	-5.73625	-2.02352	9.11383	10.09733	131.42	18.71
76/10/13	2443064.5	-5.72934	6.45988	2.91895	-8.04413	-5.75381	-2.03145	9.11459	10.09660	131.57	18.68
76/10/17	2443068.5	-5.74791	6.44657	2.91425	-8.02863	-5.77134	-2.03937	9.11535	10.09586	131.72	18.65
76/10/21	2443072.5	-5.76644	6.43322	2.90953	-8.01308	-5.78883	-2.04728	9.11611	10.09512	131.87	18.61
76/10/25	2443076.5	-5.78493	6.41982	2.90479	-7.99748	-5.80628	-2.05517	9.11687	10.09437	132.02	18.58
76/10/29	2443080.5	-5.80339	6.40639	2.90003	-7.98184	-5.82369	-2.06305	9.11764	10.09363	132.17	18.55
76/11/ 2	2443084.5	-5.82181	6.39292	2.89526	-7.96615	-5.84105	-2.07091	9.11841	10.09288	132.32	18.51
76/11/ 6	2443088.5	-5.84020	6.37940	2.89046	-7.95042	-5.85838	-2.07875	9.11918	10.09213	132.47	18.48

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76/11/10	2443092.5	-5.85855	6.36585	2.88565	-7.93464	-5.87567	-2.08659	9.11996	10.09138	132.62	18.45
76/11/14	2443096.5	-5.87686	6.35226	2.88082	-7.91882	-5.89292	-2.09440	9.12073	10.09063	132.77	18.41
76/11/18	2443100.5	-5.89513	6.33862	2.87598	-7.90295	-5.91012	-2.10221	9.12151	10.08987	132.92	18.38
76/11/22	2443104.5	-5.91337	6.32495	2.87111	-7.88704	-5.92729	-2.10999	9.12229	10.08911	133.07	18.34
76/11/26	2443108.5	-5.93157	6.31124	2.86623	-7.87108	-5.94442	-2.11777	9.12308	10.08836	133.22	18.31
76/11/30	2443112.5	-5.94974	6.29748	2.86132	-7.85507	-5.96151	-2.12553	9.12386	10.08760	133.37	18.28
76/12/ 4	2443116.5	-5.96787	6.28369	2.85641	-7.83903	-5.97855	-2.13327	9.12465	10.08684	133.52	18.24
76/12/ 8	2443120.5	-5.98596	6.26986	2.85147	-7.82293	-5.99556	-2.14100	9.12544	10.08607	133.67	18.21
76/12/12	2443124.5	-6.00401	6.25599	2.84651	-7.80679	-6.01253	-2.14871	9.12624	10.08531	133.82	18.17
76/12/16	2443128.5	-6.02203	6.24208	2.84154	-7.79061	-6.02945	-2.15641	9.12703	10.08454	133.97	18.14
76/12/20	2443132.5	-6.04001	6.22813	2.83655	-7.77438	-6.04634	-2.16410	9.12783	10.08377	134.12	18.10
76/12/24	2443136.5	-6.05795	6.21414	2.83154	-7.75810	-6.06318	-2.17177	9.12863	10.08300	134.27	18.07
76/12/28	2443140.5	-6.07585	6.20012	2.82652	-7.74178	-6.07999	-2.17943	9.12944	10.08223	134.42	18.04
77/ 1/ 1	2443144.5	-6.09372	6.18605	2.82147	-7.72541	-6.09675	-2.18707	9.13024	10.08145	134.57	18.00
77/ 1/ 5	2443148.5	-6.11155	6.17195	2.81641	-7.70900	-6.11348	-2.19470	9.13105	10.08067	134.72	17.97
77/ 1/ 9	2443152.5	-6.12934	6.15781	2.81133	-7.69254	-6.13016	-2.20231	9.13186	10.07989	134.87	17.93
77/ 1/13	2443156.5	-6.14709	6.14363	2.80624	-7.67603	-6.14680	-2.20990	9.13268	10.07910	135.02	17.90
77/ 1/17	2443160.5	-6.16480	6.12941	2.80112	-7.65948	-6.16339	-2.21748	9.13349	10.07831	135.16	17.86
77/ 1/21	2443164.5	-6.18248	6.11515	2.79599	-7.64288	-6.17995	-2.22505	9.13431	10.07751	135.31	17.82
77/ 1/25	2443168.5	-6.20012	6.10085	2.79084	-7.62624	-6.19645	-2.23260	9.13513	10.07671	135.46	17.79
77/ 1/29	2443172.5	-6.21771	6.08652	2.78567	-7.60955	-6.21292	-2.24013	9.13595	10.07590	135.61	17.75
77/ 2/ 2	2443176.5	-6.23527	6.07215	2.78049	-7.59282	-6.22934	-2.24764	9.13678	10.07509	135.76	17.72
77/ 2/ 6	2443180.5	-6.25280	6.05774	2.77529	-7.57604	-6.24572	-2.25514	9.13761	10.07428	135.91	17.68
77/ 2/10	2443184.5	-6.27028	6.04329	2.77007	-7.55922	-6.26206	-2.26263	9.13844	10.07347	136.06	17.65
77/ 2/14	2443188.5	-6.28772	6.02880	2.76484	-7.54236	-6.27835	-2.27009	9.13927	10.07265	136.20	17.61
77/ 2/18	2443192.5	-6.30513	6.01428	2.75958	-7.52545	-6.29460	-2.27755	9.14010	10.07182	136.35	17.57
77/ 2/22	2443196.5	-6.32249	5.99972	2.75431	-7.50850	-6.31080	-2.28498	9.14094	10.07099	136.50	17.54
77/ 2/26	2443200.5	-6.33982	5.98512	2.74903	-7.49151	-6.32696	-2.29240	9.14178	10.07016	136.65	17.50
77/ 3/ 2	2443204.5	-6.35711	5.97049	2.74372	-7.47447	-6.34307	-2.29980	9.14262	10.06933	136.80	17.46
77/ 3/ 6	2443208.5	-6.37435	5.95582	2.73840	-7.45739	-6.35914	-2.30718	9.14346	10.06849	136.94	17.43
77/ 3/10	2443212.5	-6.39156	5.94111	2.73306	-7.44027	-6.37517	-2.31455	9.14431	10.06765	137.09	17.39
77/ 3/14	2443216.5	-6.40873	5.92636	2.72771	-7.42311	-6.39115	-2.32190	9.14516	10.06680	137.24	17.35
77/ 3/18	2443220.5	-6.42586	5.91158	2.72233	-7.40590	-6.40708	-2.32924	9.14601	10.06595	137.39	17.32
77/ 3/22	2443224.5	-6.44295	5.89676	2.71694	-7.38865	-6.42297	-2.33656	9.14686	10.06510	137.53	17.28
77/ 3/26	2443228.5	-6.46000	5.88190	2.71154	-7.37137	-6.43882	-2.34386	9.14772	10.06425	137.68	17.24
77/ 3/30	2443232.5	-6.47701	5.86701	2.70611	-7.35403	-6.45462	-2.35114	9.14858	10.06339	137.83	17.21
77/ 4/ 3	2443236.5	-6.49397	5.85208	2.70067	-7.33666	-6.47038	-2.35841	9.14944	10.06253	137.98	17.17
77/ 4/ 7	2443240.5	-6.51090	5.83711	2.69522	-7.31925	-6.48609	-2.36566	9.15030	10.06166	138.12	17.13
77/ 4/11	2443244.5	-6.52779	5.82211	2.68974	-7.30179	-6.50175	-2.37289	9.15116	10.06079	138.27	17.09
77/ 4/15	2443248.5	-6.54464	5.80707	2.68425	-7.28429	-6.51737	-2.38011	9.15203	10.05992	138.42	17.06
77/ 4/19	2443252.5	-6.56145	5.79200	2.67875	-7.26675	-6.53294	-2.38731	9.15290	10.05904	138.56	17.02
77/ 4/23	2443256.5	-6.57822	5.77689	2.67322	-7.24918	-6.54847	-2.39449	9.15377	10.05816	138.71	16.98
77/ 4/27	2443260.5	-6.59494	5.76174	2.66768	-7.23156	-6.56394	-2.40165	9.15464	10.05728	138.86	16.94
77/ 5/ 1	2443264.5	-6.61163	5.74656	2.66213	-7.21391	-6.57938	-2.40880	9.15552	10.05639	139.00	16.90
77/ 5/ 5	2443268.5	-6.62827	5.73134	2.65655	-7.19622	-6.59476	-2.41592	9.15639	10.05550	139.15	16.87

1.6 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

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77/ 5/ 9	2443272.5	-6.64488	5.71609	2.65096	-7.17848	-6.61010	-2.42304	9.15727	10.05461	139.30	16.83
77/ 5/13	2443276.5	-6.66144	5.70080	2.64536	-7.16071	-6.62540	-2.43013	9.15816	10.05372	139.44	16.79
77/ 5/17	2443280.5	-6.67796	5.68548	2.63974	-7.14291	-6.64065	-2.43720	9.15904	10.05282	139.59	16.75
77/ 5/21	2443284.5	-6.69444	5.67012	2.63410	-7.12506	-6.65585	-2.44426	9.15993	10.05193	139.74	16.71
77/ 5/25	2443288.5	-6.71088	5.65473	2.62844	-7.10718	-6.67101	-2.45130	9.16082	10.05103	139.88	16.67
77/ 5/29	2443292.5	-6.72728	5.63930	2.62277	-7.08926	-6.68612	-2.45833	9.16171	10.05013	140.03	16.64
77/ 6/ 2	2443296.5	-6.74364	5.62383	2.61708	-7.07130	-6.70119	-2.46534	9.16260	10.04924	140.17	16.60
77/ 6/ 6	2443300.5	-6.75995	5.60834	2.61138	-7.05331	-6.71621	-2.47233	9.16350	10.04834	140.32	16.56
77/ 6/10	2443304.5	-6.77623	5.59280	2.60566	-7.03528	-6.73119	-2.47930	9.16440	10.04743	140.47	16.52
77/ 6/14	2443308.5	-6.79246	5.57723	2.59993	-7.01721	-6.74612	-2.48626	9.16530	10.04653	140.61	16.48
77/ 6/18	2443312.5	-6.80865	5.56163	2.59417	-6.99911	-6.76101	-2.49319	9.16620	10.04563	140.76	16.44
77/ 6/22	2443316.5	-6.82480	5.54600	2.58841	-6.98096	-6.77585	-2.50012	9.16710	10.04473	140.90	16.40
77/ 6/26	2443320.5	-6.84090	5.53033	2.58262	-6.96279	-6.79065	-2.50702	9.16801	10.04383	141.05	16.36
77/ 6/30	2443324.5	-6.85697	5.51462	2.57682	-6.94457	-6.80540	-2.51391	9.16892	10.04292	141.19	16.32
77/ 7/ 4	2443328.5	-6.87299	5.49888	2.57101	-6.92631	-6.82011	-2.52079	9.16983	10.04201	141.34	16.28
77/ 7/ 8	2443332.5	-6.88897	5.48311	2.56518	-6.90802	-6.83477	-2.52764	9.17074	10.04110	141.48	16.24
77/ 7/12	2443336.5	-6.90491	5.46730	2.55933	-6.88968	-6.84939	-2.53448	9.17166	10.04019	141.63	16.20
77/ 7/16	2443340.5	-6.92080	5.45146	2.55347	-6.87132	-6.86396	-2.54130	9.17257	10.03928	141.77	16.16
77/ 7/20	2443344.5	-6.93665	5.43559	2.54759	-6.85291	-6.87848	-2.54810	9.17349	10.03836	141.92	16.12
77/ 7/24	2443348.5	-6.95246	5.41968	2.54169	-6.83447	-6.89296	-2.55489	9.17442	10.03745	142.06	16.08
77/ 7/28	2443352.5	-6.96823	5.40374	2.53578	-6.81599	-6.90739	-2.56165	9.17534	10.03653	142.21	16.04
77/ 8/ 1	2443356.5	-6.98396	5.38777	2.52986	-6.79748	-6.92178	-2.56841	9.17627	10.03561	142.35	16.00
77/ 8/ 5	2443360.5	-6.99964	5.37176	2.52392	-6.77893	-6.93612	-2.57514	9.17719	10.03469	142.50	15.96
77/ 8/ 9	2443364.5	-7.01528	5.35572	2.51796	-6.76034	-6.95042	-2.58185	9.17812	10.03377	142.64	15.92
77/ 8/13	2443368.5	-7.03087	5.33965	2.51199	-6.74172	-6.96467	-2.58855	9.17906	10.03284	142.78	15.88
77/ 8/17	2443372.5	-7.04643	5.32354	2.50600	-6.72306	-6.97887	-2.59523	9.17999	10.03192	142.93	15.84
77/ 8/21	2443376.5	-7.06194	5.30740	2.50000	-6.70436	-6.99303	-2.60190	9.18093	10.03099	143.07	15.80
77/ 8/25	2443380.5	-7.07740	5.29123	2.49398	-6.68563	-7.00714	-2.60854	9.18187	10.03006	143.22	15.76
77/ 8/29	2443384.5	-7.09283	5.27503	2.48794	-6.66686	-7.02120	-2.61517	9.18281	10.02913	143.36	15.72
77/ 9/ 2	2443388.5	-7.10821	5.25879	2.48189	-6.64806	-7.03522	-2.62178	9.18375	10.02820	143.51	15.68
77/ 9/ 6	2443392.5	-7.12354	5.24252	2.47583	-6.62922	-7.04919	-2.62838	9.18470	10.02726	143.65	15.64
77/ 9/10	2443396.5	-7.13884	5.22622	2.46975	-6.61034	-7.06312	-2.63495	9.18564	10.02633	143.79	15.60
77/ 9/14	2443400.5	-7.15408	5.20989	2.46366	-6.59143	-7.07700	-2.64151	9.18659	10.02539	143.94	15.56
77/ 9/18	2443404.5	-7.16929	5.19352	2.45755	-6.57248	-7.09083	-2.64805	9.18754	10.02445	144.08	15.51
77/ 9/22	2443408.5	-7.18445	5.17713	2.45142	-6.55350	-7.10462	-2.65457	9.18850	10.02351	144.22	15.47
77/ 9/26	2443412.5	-7.19957	5.16070	2.44528	-6.53448	-7.11836	-2.66108	9.18945	10.02256	144.37	15.43
77/ 9/30	2443416.5	-7.21464	5.14424	2.43913	-6.51542	-7.13205	-2.66757	9.19041	10.02161	144.51	15.39
77/10/ 4	2443420.5	-7.22967	5.12774	2.43296	-6.49632	-7.14569	-2.67404	9.19137	10.02066	144.65	15.35
77/10/ 8	2443424.5	-7.24466	5.11122	2.42677	-6.47719	-7.15929	-2.68049	9.19233	10.01970	144.80	15.31
77/10/12	2443428.5	-7.25960	5.09467	2.42057	-6.45803	-7.17283	-2.68692	9.19329	10.01874	144.94	15.27
77/10/16	2443432.5	-7.27450	5.07808	2.41436	-6.43883	-7.18633	-2.69333	9.19425	10.01777	145.08	15.22
77/10/20	2443436.5	-7.28935	5.06146	2.40813	-6.41959	-7.19977	-2.69972	9.19522	10.01681	145.23	15.18
77/10/24	2443440.5	-7.30416	5.04482	2.40188	-6.40032	-7.21317	-2.70610	9.19619	10.01584	145.37	15.14
77/10/28	2443444.5	-7.31892	5.02814	2.39562	-6.38102	-7.22652	-2.71245	9.19716	10.01486	145.51	15.10
77/11/ 1	2443448.5	-7.33364	5.01143	2.38935	-6.36169	-7.23982	-2.71879	9.19813	10.01388	145.65	15.06

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77/11/ 5	2443452.5	-7.34831	4.99469	2.38306	-6.34232	-7.25307	-2.72511	9.19911	10.01290	145.80	15.01
77/11/ 9	2443456.5	-7.36294	4.97791	2.37676	-6.32291	-7.26627	-2.73141	9.20008	10.01192	145.94	14.97
77/11/13	2443460.5	-7.37753	4.96111	2.37044	-6.30348	-7.27943	-2.73769	9.20106	10.01094	146.08	14.93
77/11/17	2443464.5	-7.39207	4.94428	2.36411	-6.28401	-7.29253	-2.74395	9.20204	10.00995	146.22	14.89
77/11/21	2443468.5	-7.40656	4.92742	2.35776	-6.26451	-7.30558	-2.75019	9.20303	10.00896	146.37	14.84
77/11/25	2443472.5	-7.42101	4.91053	2.35140	-6.24498	-7.31859	-2.75641	9.20401	10.00796	146.51	14.80
77/11/29	2443476.5	-7.43542	4.89360	2.34503	-6.22542	-7.33154	-2.76262	9.20500	10.00697	146.65	14.76
77/12/ 3	2443480.5	-7.44978	4.87665	2.33864	-6.20582	-7.34445	-2.76880	9.20598	10.00597	146.79	14.72
77/12/ 7	2443484.5	-7.46409	4.85967	2.33224	-6.18620	-7.35731	-2.77497	9.20697	10.00497	146.93	14.67
77/12/11	2443488.5	-7.47836	4.84266	2.32582	-6.16654	-7.37012	-2.78112	9.20796	10.00397	147.07	14.63
77/12/15	2443492.5	-7.49258	4.82562	2.31939	-6.14685	-7.38288	-2.78725	9.20896	10.00297	147.22	14.59
77/12/19	2443496.5	-7.50676	4.80855	2.31294	-6.12713	-7.39559	-2.79336	9.20995	10.00197	147.36	14.54
77/12/23	2443500.5	-7.52089	4.79145	2.30648	-6.10738	-7.40825	-2.79945	9.21095	10.00096	147.50	14.50
77/12/27	2443504.5	-7.53498	4.77432	2.30001	-6.08759	-7.42087	-2.80552	9.21195	9.99995	147.64	14.46
77/12/31	2443508.5	-7.54902	4.75716	2.29352	-6.06777	-7.43343	-2.81157	9.21295	9.99894	147.78	14.42
78/ 1/ 4	2443512.5	-7.56301	4.73997	2.28702	-6.04793	-7.44595	-2.81761	9.21395	9.99792	147.92	14.37
78/ 1/ 8	2443516.5	-7.57696	4.72276	2.28050	-6.02805	-7.45841	-2.82362	9.21496	9.99690	148.06	14.33
78/ 1/12	2443520.5	-7.59086	4.70551	2.27397	-6.00814	-7.47082	-2.82961	9.21596	9.99588	148.21	14.28
78/ 1/16	2443524.5	-7.60472	4.68824	2.26743	-5.98821	-7.48319	-2.83559	9.21697	9.99486	148.35	14.24
78/ 1/20	2443528.5	-7.61853	4.67094	2.26087	-5.96824	-7.49550	-2.84154	9.21798	9.99384	148.49	14.20
78/ 1/24	2443532.5	-7.63230	4.65361	2.25430	-5.94825	-7.50777	-2.84748	9.21899	9.99281	148.63	14.15
78/ 1/28	2443536.5	-7.64601	4.63625	2.24771	-5.92822	-7.51998	-2.85340	9.22001	9.99179	148.77	14.11
78/ 2/ 1	2443540.5	-7.65969	4.61886	2.24111	-5.90817	-7.53215	-2.85930	9.22102	9.99076	148.91	14.07
78/ 2/ 5	2443544.5	-7.67331	4.60145	2.23450	-5.88809	-7.54426	-2.86517	9.22204	9.98973	149.05	14.02
78/ 2/ 9	2443548.5	-7.68689	4.58401	2.22787	-5.86797	-7.55633	-2.87103	9.22306	9.98870	149.19	13.98
78/ 2/13	2443552.5	-7.70042	4.56654	2.22124	-5.84783	-7.56835	-2.87687	9.22408	9.98767	149.33	13.93
78/ 2/17	2443556.5	-7.71391	4.54904	2.21458	-5.82766	-7.58032	-2.88270	9.22510	9.98663	149.47	13.89
78/ 2/21	2443560.5	-7.72735	4.53151	2.20792	-5.80747	-7.59224	-2.88850	9.22613	9.98560	149.61	13.85
78/ 2/25	2443564.5	-7.74074	4.51396	2.20124	-5.78724	-7.60411	-2.89428	9.22715	9.98457	149.75	13.80
78/ 3/ 1	2443568.5	-7.75409	4.49638	2.19454	-5.76699	-7.61593	-2.90005	9.22818	9.98353	149.89	13.76
78/ 3/ 5	2443572.5	-7.76739	4.47877	2.18784	-5.74670	-7.62771	-2.90579	9.22921	9.98249	150.03	13.71
78/ 3/ 9	2443576.5	-7.78064	4.46114	2.18112	-5.72639	-7.63943	-2.91152	9.23024	9.98145	150.17	13.67
78/ 3/13	2443580.5	-7.79385	4.44347	2.17438	-5.70605	-7.65111	-2.91723	9.23128	9.98042	150.31	13.62
78/ 3/17	2443584.5	-7.80700	4.42579	2.16764	-5.68569	-7.66274	-2.92291	9.23231	9.97938	150.45	13.58
78/ 3/21	2443588.5	-7.82012	4.40807	2.16088	-5.66529	-7.67431	-2.92859	9.23335	9.97833	150.59	13.53
78/ 3/25	2443592.5	-7.83318	4.39033	2.15411	-5.64486	-7.68584	-2.93424	9.23439	9.97729	150.73	13.49
78/ 3/29	2443596.5	-7.84620	4.37256	2.14732	-5.62440	-7.69732	-2.93987	9.23542	9.97624	150.87	13.44
78/ 4/ 2	2443600.5	-7.85917	4.35476	2.14052	-5.60391	-7.70874	-2.94548	9.23647	9.97519	151.01	13.40
78/ 4/ 6	2443604.5	-7.87209	4.33694	2.13371	-5.58340	-7.72012	-2.95107	9.23751	9.97414	151.15	13.35
78/ 4/10	2443608.5	-7.88496	4.31909	2.12689	-5.56286	-7.73144	-2.95664	9.23855	9.97308	151.29	13.31
78/ 4/14	2443612.5	-7.89779	4.30122	2.12005	-5.54229	-7.74272	-2.96219	9.23960	9.97202	151.43	13.26
78/ 4/18	2443616.5	-7.91057	4.28332	2.11320	-5.52169	-7.75394	-2.96772	9.24065	9.97096	151.57	13.22
78/ 4/22	2443620.5	-7.92330	4.26539	2.10634	-5.50106	-7.76511	-2.97324	9.24170	9.96989	151.70	13.17
78/ 4/26	2443624.5	-7.93599	4.24744	2.09947	-5.48041	-7.77623	-2.97873	9.24275	9.96883	151.84	13.13
78/ 4/30	2443628.5	-7.94863	4.22946	2.09258	-5.45973	-7.78730	-2.98420	9.24380	9.96776	151.98	13.08

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78/ 5/ 4	2443632.5	-7.96121	4.21146	2.08568	-5.43903	-7.79832	-2.98965	9.24486	9.96669	152.12	13.04
78/ 5/ 8	2443636.5	-7.97376	4.19343	2.07877	-5.41830	-7.80929	-2.99508	9.24591	9.96561	152.26	12.99
78/ 5/12	2443640.5	-7.98625	4.17538	2.07184	-5.39754	-7.82021	-3.00049	9.24697	9.96454	152.40	12.95
78/ 5/16	2443644.5	-7.99869	4.15730	2.06490	-5.37675	-7.83107	-3.00589	9.24803	9.96346	152.54	12.90
78/ 5/20	2443648.5	-8.01109	4.13920	2.05795	-5.35594	-7.84188	-3.01126	9.24909	9.96237	152.68	12.86
78/ 5/24	2443652.5	-8.02344	4.12107	2.05099	-5.33511	-7.85264	-3.01661	9.25015	9.96129	152.81	12.81
78/ 5/28	2443656.5	-8.03574	4.10292	2.04401	-5.31424	-7.86335	-3.02194	9.25122	9.96020	152.95	12.76
78/ 6/ 1	2443660.5	-8.04799	4.08474	2.03703	-5.29336	-7.87401	-3.02725	9.25228	9.95912	153.09	12.72
78/ 6/ 5	2443664.5	-8.06020	4.06654	2.03003	-5.27245	-7.88462	-3.03254	9.25335	9.95802	153.23	12.67
78/ 6/ 9	2443668.5	-8.07235	4.04831	2.02302	-5.25151	-7.89518	-3.03781	9.25442	9.95693	153.37	12.63
78/ 6/13	2443672.5	-8.08446	4.03006	2.01599	-5.23055	-7.90568	-3.04306	9.25549	9.95584	153.50	12.58
78/ 6/17	2443676.5	-8.09652	4.01178	2.00896	-5.20956	-7.91614	-3.04829	9.25656	9.95474	153.64	12.53
78/ 6/21	2443680.5	-8.10853	3.99348	2.00191	-5.18855	-7.92654	-3.05351	9.25764	9.95364	153.78	12.49
78/ 6/25	2443684.5	-8.12049	3.97516	1.99485	-5.16751	-7.93689	-3.05869	9.25871	9.95253	153.92	12.44
78/ 6/29	2443688.5	-8.13241	3.95681	1.98777	-5.14645	-7.94718	-3.06386	9.25979	9.95143	154.05	12.40
78/ 7/ 3	2443692.5	-8.14427	3.93844	1.98069	-5.12536	-7.95742	-3.06901	9.26086	9.95031	154.19	12.35
78/ 7/ 7	2443696.5	-8.15609	3.92004	1.97359	-5.10425	-7.96761	-3.07414	9.26194	9.94920	154.33	12.30
78/ 7/11	2443700.5	-8.16786	3.90163	1.96649	-5.08312	-7.97775	-3.07924	9.26302	9.94808	154.47	12.26
78/ 7/15	2443704.5	-8.17957	3.88318	1.95937	-5.06197	-7.98784	-3.08433	9.26411	9.94697	154.60	12.21
78/ 7/19	2443708.5	-8.19124	3.86472	1.95224	-5.04080	-7.99787	-3.08939	9.26519	9.94585	154.74	12.16
78/ 7/23	2443712.5	-8.20286	3.84623	1.94509	-5.01960	-8.00785	-3.09444	9.26628	9.94473	154.88	12.12
78/ 7/27	2443716.5	-8.21444	3.82772	1.93794	-4.99838	-8.01778	-3.09946	9.26736	9.94360	155.02	12.07
78/ 7/31	2443720.5	-8.22596	3.80919	1.93077	-4.97714	-8.02766	-3.10446	9.26845	9.94248	155.15	12.02
78/ 8/ 4	2443724.5	-8.23743	3.79063	1.92360	-4.95588	-8.03748	-3.10944	9.26954	9.94135	155.29	11.98
78/ 8/ 8	2443728.5	-8.24886	3.77205	1.91641	-4.93460	-8.04726	-3.11440	9.27063	9.94023	155.43	11.93
78/ 8/12	2443732.5	-8.26023	3.75345	1.90921	-4.91330	-8.05698	-3.11935	9.27172	9.93910	155.56	11.88
78/ 8/16	2443736.5	-8.27156	3.73482	1.90199	-4.89198	-8.06665	-3.12427	9.27282	9.93797	155.70	11.84
78/ 8/20	2443740.5	-8.28283	3.71618	1.89477	-4.87063	-8.07627	-3.12917	9.27391	9.93685	155.84	11.79
78/ 8/24	2443744.5	-8.29406	3.69751	1.88754	-4.84927	-8.08584	-3.13405	9.27501	9.93572	155.97	11.74
78/ 8/28	2443748.5	-8.30524	3.67882	1.88029	-4.82789	-8.09536	-3.13891	9.27611	9.93459	156.11	11.70
78/ 9/ 1	2443752.5	-8.31637	3.66011	1.87303	-4.80648	-8.10483	-3.14375	9.27721	9.93346	156.25	11.65
78/ 9/ 5	2443756.5	-8.32745	3.64137	1.86576	-4.78506	-8.11425	-3.14857	9.27831	9.93234	156.38	11.60
78/ 9/ 9	2443760.5	-8.33848	3.62262	1.85849	-4.76362	-8.12362	-3.15337	9.27941	9.93121	156.52	11.55
78/ 9/13	2443764.5	-8.34946	3.60384	1.85120	-4.74215	-8.13293	-3.15815	9.28052	9.93008	156.65	11.51
78/ 9/17	2443768.5	-8.36039	3.58504	1.84389	-4.72066	-8.14220	-3.16292	9.28162	9.92895	156.79	11.46
78/ 9/21	2443772.5	-8.37127	3.56622	1.83658	-4.69915	-8.15142	-3.16766	9.28273	9.92782	156.93	11.41
78/ 9/25	2443776.5	-8.38210	3.54738	1.82926	-4.67762	-8.16058	-3.17238	9.28384	9.92669	157.06	11.36
78/ 9/29	2443780.5	-8.39288	3.52851	1.82192	-4.65607	-8.16970	-3.17708	9.28495	9.92556	157.20	11.32
78/10/ 3	2443784.5	-8.40361	3.50963	1.81458	-4.63450	-8.17876	-3.18176	9.28606	9.92443	157.33	11.27
78/10/ 7	2443788.5	-8.41429	3.49072	1.80722	-4.61291	-8.18777	-3.18642	9.28717	9.92329	157.47	11.22
78/10/11	2443792.5	-8.42493	3.47180	1.79986	-4.59130	-8.19673	-3.19106	9.28828	9.92216	157.60	11.17
78/10/15	2443796.5	-8.43551	3.45285	1.79248	-4.56967	-8.20564	-3.19568	9.28940	9.92103	157.74	11.13
78/10/19	2443800.5	-8.44604	3.43389	1.78509	-4.54802	-8.21450	-3.20028	9.29052	9.91989	157.87	11.08
78/10/23	2443804.5	-8.45652	3.41490	1.77769	-4.52635	-8.22331	-3.20486	9.29163	9.91876	158.01	11.03
78/10/27	2443808.5	-8.46695	3.39589	1.77028	-4.50467	-8.23206	-3.20941	9.29275	9.91762	158.15	10.98

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78/10/31	2443812.5	-8.47733	3.37686	1.76286	-4.48296	-8.24077	-3.21395	9.29387	9.91649	158.28	10.93
78/11/ 4	2443816.5	-8.48766	3.35782	1.75543	-4.46123	-8.24942	-3.21847	9.29500	9.91535	158.42	10.89
78/11/ 8	2443820.5	-8.49795	3.33875	1.74799	-4.43948	-8.25803	-3.22297	9.29612	9.91421	158.55	10.84
78/11/12	2443824.5	-8.50818	3.31966	1.74054	-4.41772	-8.26658	-3.22745	9.29724	9.91307	158.69	10.79
78/11/16	2443828.5	-8.51836	3.30055	1.73308	-4.39593	-8.27508	-3.23191	9.29837	9.91193	158.82	10.74
78/11/20	2443832.5	-8.52849	3.28143	1.72561	-4.37412	-8.28354	-3.23634	9.29949	9.91079	158.96	10.69
78/11/24	2443836.5	-8.53857	3.26228	1.71813	-4.35230	-8.29194	-3.24076	9.30062	9.90965	159.09	10.65
78/11/28	2443840.5	-8.54860	3.24312	1.71064	-4.33045	-8.30029	-3.24516	9.30175	9.90851	159.22	10.60
78/12/ 2	2443844.5	-8.55858	3.22393	1.70314	-4.30859	-8.30859	-3.24954	9.30288	9.90737	159.36	10.55
78/12/ 6	2443848.5	-8.56850	3.20473	1.69562	-4.28670	-8.31683	-3.25389	9.30401	9.90623	159.49	10.50
78/12/10	2443852.5	-8.57838	3.18550	1.68810	-4.26480	-8.32503	-3.25823	9.30515	9.90508	159.63	10.45
78/12/14	2443856.5	-8.58821	3.16626	1.68057	-4.24287	-8.33317	-3.26255	9.30628	9.90394	159.76	10.40
78/12/18	2443860.5	-8.59799	3.14700	1.67303	-4.22093	-8.34126	-3.26684	9.30742	9.90279	159.90	10.36
78/12/22	2443864.5	-8.60771	3.12772	1.66548	-4.19896	-8.34930	-3.27112	9.30855	9.90163	160.03	10.31
78/12/26	2443868.5	-8.61739	3.10843	1.65791	-4.17698	-8.35728	-3.27537	9.30969	9.90047	160.16	10.26
78/12/30	2443872.5	-8.62701	3.08911	1.65034	-4.15498	-8.36521	-3.27960	9.31083	9.89931	160.30	10.21
79/ 1/ 3	2443876.5	-8.63658	3.06978	1.64276	-4.13296	-8.37309	-3.28381	9.31197	9.89815	160.43	10.16
79/ 1/ 7	2443880.5	-8.64611	3.05042	1.63517	-4.11092	-8.38091	-3.28800	9.31311	9.89698	160.57	10.11
79/ 1/11	2443884.5	-8.65558	3.03105	1.62757	-4.08886	-8.38868	-3.29216	9.31425	9.89581	160.70	10.06
79/ 1/15	2443888.5	-8.66500	3.01166	1.61996	-4.06679	-8.39640	-3.29631	9.31539	9.89464	160.83	10.01
79/ 1/19	2443892.5	-8.67437	2.99226	1.61234	-4.04470	-8.40406	-3.30043	9.31654	9.89347	160.97	9.97
79/ 1/23	2443896.5	-8.68369	2.97283	1.60471	-4.02260	-8.41167	-3.30453	9.31768	9.89229	161.10	9.92
79/ 1/27	2443900.5	-8.69295	2.95339	1.59707	-4.00047	-8.41922	-3.30862	9.31883	9.89111	161.24	9.87
79/ 1/31	2443904.5	-8.70217	2.93393	1.58942	-3.97834	-8.42673	-3.31267	9.31998	9.88993	161.37	9.82
79/ 2/ 4	2443908.5	-8.71133	2.91446	1.58176	-3.95618	-8.43417	-3.31671	9.32113	9.88874	161.50	9.77
79/ 2/ 8	2443912.5	-8.72045	2.89497	1.57410	-3.93401	-8.44157	-3.32073	9.32228	9.88756	161.64	9.72
79/ 2/12	2443916.5	-8.72951	2.87546	1.56642	-3.91183	-8.44891	-3.32472	9.32343	9.88637	161.77	9.67
79/ 2/16	2443920.5	-8.73852	2.85593	1.55874	-3.88963	-8.45620	-3.32870	9.32458	9.88518	161.90	9.62
79/ 2/20	2443924.5	-8.74748	2.83639	1.55104	-3.86742	-8.46343	-3.33265	9.32573	9.88399	162.03	9.57
79/ 2/24	2443928.5	-8.75639	2.81683	1.54334	-3.84519	-8.47062	-3.33658	9.32688	9.88279	162.17	9.52
79/ 2/28	2443932.5	-8.76525	2.79725	1.53563	-3.82295	-8.47774	-3.34049	9.32804	9.88160	162.30	9.48
79/ 3/ 4	2443936.5	-8.77405	2.77766	1.52790	-3.80069	-8.48482	-3.34438	9.32920	9.88040	162.43	9.43
79/ 3/ 8	2443940.5	-8.78281	2.75805	1.52017	-3.77842	-8.49185	-3.34824	9.33035	9.87920	162.57	9.38
79/ 3/12	2443944.5	-8.79151	2.73842	1.51243	-3.75614	-8.49882	-3.35209	9.33151	9.87800	162.70	9.33
79/ 3/16	2443948.5	-8.80016	2.71878	1.50469	-3.73383	-8.50573	-3.35591	9.33267	9.87680	162.83	9.28
79/ 3/20	2443952.5	-8.80876	2.69912	1.49693	-3.71152	-8.51259	-3.35971	9.33383	9.87559	162.96	9.23
79/ 3/24	2443956.5	-8.81731	2.67945	1.48916	-3.68919	-8.51940	-3.36349	9.33499	9.87438	163.10	9.18
79/ 3/28	2443960.5	-8.82581	2.65976	1.48139	-3.66685	-8.52616	-3.36725	9.33615	9.87317	163.23	9.13
79/ 4/ 1	2443964.5	-8.83425	2.64005	1.47361	-3.64450	-8.53286	-3.37099	9.33731	9.87196	163.36	9.08
79/ 4/ 5	2443968.5	-8.84265	2.62033	1.46581	-3.62214	-8.53951	-3.37470	9.33848	9.87075	163.49	9.03
79/ 4/ 9	2443972.5	-8.85099	2.60060	1.45801	-3.59976	-8.54610	-3.37840	9.33964	9.86954	163.63	8.98
79/ 4/13	2443976.5	-8.85928	2.58085	1.45020	-3.57737	-8.55265	-3.38207	9.34081	9.86832	163.76	8.93
79/ 4/17	2443980.5	-8.86752	2.56108	1.44239	-3.55498	-8.55914	-3.38572	9.34198	9.86711	163.89	8.88
79/ 4/21	2443984.5	-8.87571	2.54130	1.43456	-3.53257	-8.56557	-3.38935	9.34314	9.86589	164.02	8.83
79/ 4/25	2443988.5	-8.88384	2.52151	1.42673	-3.51014	-8.57196	-3.39296	9.34431	9.86467	164.15	8.78

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79/ 4/29	2443992.5	-8.89192	2.50170	1.41888	-3.48771	-8.57829	-3.39655	9.34548	9.86346	164.29	8.73
79/ 5/ 3	2443996.5	-8.89995	2.48187	1.41103	-3.46527	-8.58458	-3.40012	9.34665	9.86224	164.42	8.68
79/ 5/ 7	2444000.5	-8.90793	2.46203	1.40317	-3.44281	-8.59081	-3.40366	9.34782	9.86102	164.55	8.63
79/ 5/11	2444004.5	-8.91586	2.44218	1.39531	-3.42034	-8.59698	-3.40719	9.34899	9.85981	164.68	8.58
79/ 5/15	2444008.5	-8.92374	2.42231	1.38743	-3.39787	-8.60311	-3.41069	9.35017	9.85859	164.81	8.53
79/ 5/19	2444012.5	-8.93156	2.40243	1.37955	-3.37538	-8.60919	-3.41418	9.35134	9.85738	164.94	8.48
79/ 5/23	2444016.5	-8.93933	2.38253	1.37166	-3.35288	-8.61521	-3.41764	9.35252	9.85616	165.08	8.43
79/ 5/27	2444020.5	-8.94705	2.36262	1.36376	-3.33037	-8.62118	-3.42108	9.35369	9.85495	165.21	8.38
79/ 5/31	2444024.5	-8.95472	2.34270	1.35585	-3.30785	-8.62711	-3.42451	9.35487	9.85374	165.34	8.33
79/ 6/ 4	2444028.5	-8.96234	2.32276	1.34794	-3.28531	-8.63298	-3.42791	9.35605	9.85252	165.47	8.28
79/ 6/ 8	2444032.5	-8.96990	2.30281	1.34001	-3.26277	-8.63880	-3.43129	9.35723	9.85131	165.60	8.23
79/ 6/12	2444036.5	-8.97741	2.28285	1.33208	-3.24021	-8.64457	-3.43465	9.35841	9.85009	165.73	8.18
79/ 6/16	2444040.5	-8.98487	2.26287	1.32414	-3.21764	-8.65028	-3.43799	9.35959	9.84887	165.86	8.13
79/ 6/20	2444044.5	-8.99228	2.24288	1.31620	-3.19506	-8.65594	-3.44131	9.36077	9.84766	165.99	8.08
79/ 6/24	2444048.5	-8.99963	2.22288	1.30824	-3.17247	-8.66155	-3.44460	9.36195	9.84644	166.13	8.03
79/ 6/28	2444052.5	-9.00694	2.20286	1.30028	-3.14986	-8.66711	-3.44788	9.36313	9.84522	166.26	7.98
79/ 7/ 2	2444056.5	-9.01419	2.18283	1.29231	-3.12725	-8.67262	-3.45113	9.36431	9.84400	166.39	7.93
79/ 7/ 6	2444060.5	-9.02138	2.16279	1.28434	-3.10463	-8.67807	-3.45437	9.36550	9.84278	166.52	7.88
79/ 7/10	2444064.5	-9.02853	2.14274	1.27635	-3.08199	-8.68347	-3.45758	9.36668	9.84155	166.65	7.83
79/ 7/14	2444068.5	-9.03562	2.12267	1.26836	-3.05935	-8.68882	-3.46077	9.36787	9.84033	166.78	7.78
79/ 7/18	2444072.5	-9.04267	2.10259	1.26036	-3.03670	-8.69412	-3.46394	9.36906	9.83911	166.91	7.73
79/ 7/22	2444076.5	-9.04965	2.08250	1.25236	-3.01403	-8.69936	-3.46709	9.37024	9.83788	167.04	7.68
79/ 7/26	2444080.5	-9.05659	2.06240	1.24434	-2.99136	-8.70455	-3.47021	9.37143	9.83666	167.17	7.63
79/ 7/30	2444084.5	-9.06348	2.04228	1.23632	-2.96868	-8.70969	-3.47332	9.37262	9.83543	167.30	7.58
79/ 8/ 3	2444088.5	-9.07031	2.02216	1.22830	-2.94599	-8.71478	-3.47640	9.37381	9.83420	167.43	7.53
79/ 8/ 7	2444092.5	-9.07709	2.00202	1.22026	-2.92329	-8.71981	-3.47947	9.37500	9.83298	167.56	7.48
79/ 8/11	2444096.5	-9.08381	1.98187	1.21222	-2.90058	-8.72479	-3.48251	9.37619	9.83175	167.69	7.43
79/ 8/15	2444100.5	-9.09049	1.96171	1.20417	-2.87786	-8.72972	-3.48553	9.37738	9.83052	167.82	7.38
79/ 8/19	2444104.5	-9.09711	1.94153	1.19611	-2.85513	-8.73460	-3.48853	9.37858	9.82929	167.95	7.33
79/ 8/23	2444108.5	-9.10368	1.92135	1.18805	-2.83239	-8.73943	-3.49151	9.37977	9.82806	168.08	7.28
79/ 8/27	2444112.5	-9.11020	1.90115	1.17998	-2.80965	-8.74420	-3.49447	9.38096	9.82682	168.21	7.23
79/ 8/31	2444116.5	-9.11666	1.88095	1.17191	-2.78689	-8.74892	-3.49741	9.38216	9.82559	168.34	7.18
79/ 9/ 4	2444120.5	-9.12307	1.86073	1.16382	-2.76413	-8.75359	-3.50032	9.38335	9.82436	168.47	7.12
79/ 9/ 8	2444124.5	-9.12943	1.84050	1.15573	-2.74135	-8.75821	-3.50321	9.38455	9.82312	168.60	7.07
79/ 9/12	2444128.5	-9.13574	1.82027	1.14764	-2.71857	-8.76277	-3.50609	9.38574	9.82188	168.73	7.02
79/ 9/16	2444132.5	-9.14199	1.80002	1.13953	-2.69578	-8.76727	-3.50894	9.38694	9.82064	168.86	6.97
79/ 9/20	2444136.5	-9.14820	1.77976	1.13142	-2.67298	-8.77173	-3.51176	9.38814	9.81939	168.99	6.92
79/ 9/24	2444140.5	-9.15434	1.75949	1.12331	-2.65018	-8.77613	-3.51457	9.38934	9.81815	169.12	6.87
79/ 9/28	2444144.5	-9.16044	1.73921	1.11519	-2.62737	-8.78047	-3.51735	9.39054	9.81690	169.25	6.82
79/10/ 2	2444148.5	-9.16648	1.71892	1.10706	-2.60456	-8.78477	-3.52011	9.39174	9.81565	169.38	6.77
79/10/ 6	2444152.5	-9.17247	1.69862	1.09892	-2.58173	-8.78901	-3.52286	9.39294	9.81440	169.51	6.72
79/10/10	2444156.5	-9.17841	1.67831	1.09078	-2.55891	-8.79320	-3.52557	9.39414	9.81315	169.64	6.67
79/10/14	2444160.5	-9.18430	1.65799	1.08263	-2.53607	-8.79733	-3.52827	9.39534	9.81190	169.77	6.62
79/10/18	2444164.5	-9.19013	1.63766	1.07448	-2.51324	-8.80142	-3.53095	9.39654	9.81065	169.90	6.57
79/10/22	2444168.5	-9.19591	1.61733	1.06632	-2.49039	-8.80545	-3.53360	9.39774	9.80940	170.03	6.52

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79/10/26	2444172.5	-9.20164	1.59698	1.05815	-2.46755	-8.80943	-3.53624	9.39894	9.80815	170.15	6.46
79/10/30	2444176.5	-9.20731	1.57662	1.04998	-2.44469	-8.81335	-3.53885	9.40015	9.80689	170.28	6.41
79/11/ 3	2444180.5	-9.21293	1.55626	1.04180	-2.42184	-8.81723	-3.54144	9.40135	9.80564	170.41	6.36
79/11/ 7	2444184.5	-9.21850	1.53589	1.03362	-2.39897	-8.82105	-3.54401	9.40256	9.80439	170.54	6.31
79/11/11	2444188.5	-9.22402	1.51550	1.02543	-2.37611	-8.82482	-3.54655	9.40376	9.80313	170.67	6.26
79/11/15	2444192.5	-9.22948	1.49511	1.01723	-2.35324	-8.82854	-3.54908	9.40497	9.80188	170.80	6.21
79/11/19	2444196.5	-9.23489	1.47471	1.00903	-2.33036	-8.83222	-3.55159	9.40617	9.80063	170.93	6.16
79/11/23	2444200.5	-9.24025	1.45430	1.00082	-2.30748	-8.83584	-3.55408	9.40738	9.79938	171.06	6.11
79/11/27	2444204.5	-9.24555	1.43389	0.99261	-2.28460	-8.83941	-3.55654	9.40859	9.79814	171.18	6.06
79/12/ 1	2444208.5	-9.25080	1.41346	0.98439	-2.26170	-8.84292	-3.55899	9.40979	9.79689	171.31	6.00
79/12/ 5	2444212.5	-9.25600	1.39303	0.97616	-2.23881	-8.84639	-3.56141	9.41100	9.79564	171.44	5.95
79/12/ 9	2444216.5	-9.26115	1.37259	0.96793	-2.21591	-8.84980	-3.56381	9.41221	9.79439	171.57	5.90
79/12/13	2444220.5	-9.26624	1.35214	0.95970	-2.19300	-8.85316	-3.56619	9.41342	9.79313	171.70	5.85
79/12/17	2444224.5	-9.27128	1.33169	0.95146	-2.17009	-8.85647	-3.56855	9.41463	9.79188	171.83	5.80
79/12/21	2444228.5	-9.27626	1.31122	0.94321	-2.14718	-8.85973	-3.57089	9.41584	9.79063	171.95	5.75
79/12/25	2444232.5	-9.28120	1.29075	0.93496	-2.12426	-8.86294	-3.57321	9.41705	9.78938	172.08	5.70
79/12/29	2444236.5	-9.28608	1.27027	0.92670	-2.10134	-8.86610	-3.57550	9.41826	9.78813	172.21	5.65
80/ 1/ 2	2444240.5	-9.29091	1.24979	0.91844	-2.07842	-8.86920	-3.57778	9.41947	9.78688	172.34	5.60
80/ 1/ 6	2444244.5	-9.29568	1.22929	0.91017	-2.05549	-8.87225	-3.58003	9.42068	9.78563	172.47	5.54
80/ 1/10	2444248.5	-9.30040	1.20879	0.90190	-2.03256	-8.87526	-3.58226	9.42190	9.78438	172.59	5.49
80/ 1/14	2444252.5	-9.30507	1.18829	0.89362	-2.00962	-8.87821	-3.58448	9.42311	9.78313	172.72	5.44
80/ 1/18	2444256.5	-9.30969	1.16777	0.88534	-1.98668	-8.88111	-3.58667	9.42432	9.78188	172.85	5.39
80/ 1/22	2444260.5	-9.31425	1.14725	0.87705	-1.96374	-8.88396	-3.58884	9.42553	9.78063	172.98	5.34
80/ 1/26	2444264.5	-9.31876	1.12673	0.86875	-1.94080	-8.88676	-3.59099	9.42675	9.77938	173.11	5.29
80/ 1/30	2444268.5	-9.32322	1.10619	0.86046	-1.91785	-8.88951	-3.59312	9.42796	9.77814	173.23	5.24
80/ 2/ 3	2444272.5	-9.32762	1.08565	0.85215	-1.89490	-8.89220	-3.59522	9.42918	9.77689	173.36	5.19
80/ 2/ 7	2444276.5	-9.33198	1.06511	0.84384	-1.87194	-8.89485	-3.59731	9.43039	9.77564	173.49	5.13
80/ 2/11	2444280.5	-9.33627	1.04456	0.83553	-1.84898	-8.89745	-3.59938	9.43161	9.77440	173.62	5.08
80/ 2/15	2444284.5	-9.34052	1.02400	0.82721	-1.82602	-8.89999	-3.60142	9.43282	9.77315	173.74	5.03
80/ 2/19	2444288.5	-9.34471	1.00343	0.81889	-1.80306	-8.90249	-3.60345	9.43404	9.77190	173.87	4.98
80/ 2/23	2444292.5	-9.34885	0.98287	0.81057	-1.78009	-8.90493	-3.60545	9.43525	9.77066	174.00	4.93
80/ 2/27	2444296.5	-9.35293	0.96229	0.80223	-1.75711	-8.90732	-3.60744	9.43647	9.76941	174.13	4.88
80/ 3/ 2	2444300.5	-9.35697	0.94171	0.79390	-1.73413	-8.90966	-3.60940	9.43769	9.76816	174.25	4.83
80/ 3/ 6	2444304.5	-9.36095	0.92112	0.78556	-1.71115	-8.91195	-3.61134	9.43890	9.76691	174.38	4.77
80/ 3/10	2444308.5	-9.36487	0.90053	0.77721	-1.68817	-8.91418	-3.61325	9.44012	9.76566	174.51	4.72
80/ 3/14	2444312.5	-9.36875	0.87994	0.76886	-1.66518	-8.91636	-3.61515	9.44134	9.76440	174.63	4.67
80/ 3/18	2444316.5	-9.37257	0.85934	0.76051	-1.64219	-8.91849	-3.61702	9.44256	9.76315	174.76	4.62
80/ 3/22	2444320.5	-9.37633	0.83873	0.75215	-1.61921	-8.92056	-3.61888	9.44377	9.76189	174.89	4.57
80/ 3/26	2444324.5	-9.38005	0.81812	0.74379	-1.59621	-8.92259	-3.62071	9.44499	9.76063	175.02	4.52
80/ 3/30	2444328.5	-9.38371	0.79751	0.73542	-1.57322	-8.92456	-3.62252	9.44621	9.75937	175.14	4.47
80/ 4/ 3	2444332.5	-9.38732	0.77689	0.72705	-1.55023	-8.92647	-3.62430	9.44743	9.75811	175.27	4.41
80/ 4/ 7	2444336.5	-9.39087	0.75626	0.71868	-1.52724	-8.92834	-3.62607	9.44865	9.75685	175.40	4.36
80/ 4/11	2444340.5	-9.39437	0.73563	0.71030	-1.50424	-8.93015	-3.62781	9.44986	9.75558	175.52	4.31
80/ 4/15	2444344.5	-9.39782	0.71500	0.70191	-1.48125	-8.93191	-3.62954	9.45108	9.75432	175.65	4.26
80/ 4/19	2444348.5	-9.40122	0.69437	0.69353	-1.45826	-8.93362	-3.63124	9.45230	9.75305	175.78	4.21

1.6 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
80/ 4/23	2444352.5	-9.40456	0.67373	0.68514	-1.43526	-8.93527	-3.63292	9.45352	9.75178	175.90	4.16
80/ 4/27	2444356.5	-9.40785	0.65308	0.67674	-1.41227	-8.93688	-3.63457	9.45474	9.75051	176.03	4.10
80/ 5/ 1	2444360.5	-9.41109	0.63243	0.66834	-1.38928	-8.93843	-3.63621	9.45596	9.74924	176.16	4.05
80/ 5/ 5	2444364.5	-9.41427	0.61178	0.65994	-1.36629	-8.93993	-3.63782	9.45718	9.74797	176.28	4.00
80/ 5/ 9	2444368.5	-9.41740	0.59113	0.65154	-1.34331	-8.94138	-3.63942	9.45840	9.74669	176.41	3.95
80/ 5/13	2444372.5	-9.42047	0.57047	0.64313	-1.32032	-8.94277	-3.64099	9.45962	9.74542	176.53	3.90
80/ 5/17	2444376.5	-9.42350	0.54981	0.63471	-1.29734	-8.94412	-3.64254	9.46084	9.74415	176.66	3.85
80/ 5/21	2444380.5	-9.42647	0.52915	0.62630	-1.27435	-8.94541	-3.64407	9.46206	9.74288	176.79	3.80
80/ 5/25	2444384.5	-9.42939	0.50848	0.61788	-1.25137	-8.94666	-3.64558	9.46328	9.74160	176.91	3.74
80/ 5/29	2444388.5	-9.43225	0.48781	0.60945	-1.22839	-8.94785	-3.64706	9.46450	9.74033	177.04	3.69
80/ 6/ 2	2444392.5	-9.43506	0.46714	0.60103	-1.20541	-8.94899	-3.64853	9.46572	9.73905	177.17	3.64
80/ 6/ 6	2444396.5	-9.43782	0.44646	0.59260	-1.18243	-8.95007	-3.64997	9.46694	9.73777	177.29	3.59
80/ 6/10	2444400.5	-9.44053	0.42578	0.58416	-1.15946	-8.95111	-3.65139	9.46816	9.73649	177.42	3.54
80/ 6/14	2444404.5	-9.44318	0.40510	0.57572	-1.13649	-8.95209	-3.65279	9.46938	9.73521	177.54	3.49
80/ 6/18	2444408.5	-9.44578	0.38442	0.56728	-1.11353	-8.95302	-3.65417	9.47060	9.73393	177.67	3.43
80/ 6/22	2444412.5	-9.44832	0.36374	0.55884	-1.09057	-8.95390	-3.65553	9.47182	9.73265	177.80	3.38
80/ 6/26	2444416.5	-9.45081	0.34305	0.55039	-1.06761	-8.95473	-3.65686	9.47304	9.73137	177.92	3.33
80/ 6/30	2444420.5	-9.45325	0.32236	0.54194	-1.04466	-8.95551	-3.65818	9.47426	9.73010	178.05	3.28
80/ 7/ 4	2444424.5	-9.45564	0.30168	0.53349	-1.02171	-8.95624	-3.65947	9.47548	9.72882	178.17	3.23
80/ 7/ 8	2444428.5	-9.45798	0.28098	0.52504	-0.99876	-8.95692	-3.66074	9.47670	9.72754	178.30	3.18
80/ 7/12	2444432.5	-9.46026	0.26029	0.51658	-0.97582	-8.95755	-3.66200	9.47792	9.72626	178.42	3.12
80/ 7/16	2444436.5	-9.46248	0.23960	0.50812	-0.95289	-8.95813	-3.66323	9.47915	9.72499	178.55	3.07
80/ 7/20	2444440.5	-9.46466	0.21890	0.49965	-0.92996	-8.95866	-3.66444	9.48037	9.72371	178.68	3.02
80/ 7/24	2444444.5	-9.46678	0.19820	0.49119	-0.90703	-8.95914	-3.66563	9.48159	9.72244	178.80	2.97
80/ 7/28	2444448.5	-9.46885	0.17751	0.48272	-0.88411	-8.95958	-3.66680	9.48281	9.72117	178.93	2.92
80/ 8/ 1	2444452.5	-9.47087	0.15681	0.47424	-0.86119	-8.95996	-3.66795	9.48403	9.71990	179.05	2.87
80/ 8/ 5	2444456.5	-9.47283	0.13611	0.46577	-0.83828	-8.96030	-3.66908	9.48525	9.71863	179.18	2.81
80/ 8/ 9	2444460.5	-9.47474	0.11541	0.45729	-0.81537	-8.96059	-3.67019	9.48647	9.71737	179.30	2.76
80/ 8/13	2444464.5	-9.47660	0.09471	0.44881	-0.79247	-8.96083	-3.67128	9.48769	9.71611	179.43	2.71
80/ 8/17	2444468.5	-9.47840	0.07401	0.44033	-0.76957	-8.96102	-3.67235	9.48891	9.71485	179.55	2.66
80/ 8/21	2444472.5	-9.48015	0.05330	0.43184	-0.74667	-8.96116	-3.67340	9.49013	9.71359	179.68	2.61
80/ 8/25	2444476.5	-9.48185	0.03260	0.42336	-0.72377	-8.96125	-3.67443	9.49135	9.71233	179.80	2.56
80/ 8/29	2444480.5	-9.48350	0.01190	0.41487	-0.70088	-8.96130	-3.67544	9.49257	9.71107	179.93	2.50
80/ 9/ 2	2444484.5	-9.48509	-0.00880	0.40637	-0.67800	-8.96129	-3.67643	9.49379	9.70982	180.05	2.45
80/ 9/ 6	2444488.5	-9.48663	-0.02950	0.39788	-0.65512	-8.96124	-3.67740	9.49501	9.70856	180.18	2.40
80/ 9/10	2444492.5	-9.48812	-0.05021	0.38938	-0.63224	-8.96113	-3.67835	9.49623	9.70731	180.30	2.35
80/ 9/14	2444496.5	-9.48955	-0.07091	0.38089	-0.60937	-8.96098	-3.67927	9.49746	9.70606	180.43	2.30
80/ 9/18	2444500.5	-9.49093	-0.09161	0.37238	-0.58650	-8.96078	-3.68018	9.49868	9.70480	180.55	2.25
80/ 9/22	2444504.5	-9.49226	-0.11231	0.36388	-0.56364	-8.96053	-3.68107	9.49990	9.70355	180.68	2.20
80/ 9/26	2444508.5	-9.49354	-0.13301	0.35538	-0.54078	-8.96023	-3.68193	9.50112	9.70230	180.80	2.14
80/ 9/30	2444512.5	-9.49476	-0.15371	0.34687	-0.51792	-8.95988	-3.68278	9.50233	9.70106	180.93	2.09
80/10/ 4	2444516.5	-9.49593	-0.17441	0.33836	-0.49507	-8.95948	-3.68360	9.50355	9.69981	181.05	2.04
80/10/ 8	2444520.5	-9.49705	-0.19510	0.32985	-0.47223	-8.95903	-3.68441	9.50477	9.69856	181.18	1.99
80/10/12	2444524.5	-9.49811	-0.21580	0.32134	-0.44939	-8.95854	-3.68519	9.50599	9.69732	181.30	1.94
80/10/16	2444528.5	-9.49912	-0.23650	0.31282	-0.42656	-8.95799	-3.68595	9.50721	9.69607	181.43	1.89

1.6 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM SATURN

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80/10/20	2444532.5	-9.50008	-0.25719	0.30431	-0.40373	-8.95740	-3.68670	9.50843	9.69483	181.55	1.83
80/10/24	2444536.5	-9.50099	-0.27788	0.29579	-0.38091	-8.95676	-3.68742	9.50965	9.69359	181.68	1.78
80/10/28	2444540.5	-9.50184	-0.29857	0.28727	-0.35809	-8.95606	-3.68812	9.51087	9.69234	181.80	1.73
80/11/ 1	2444544.5	-9.50264	-0.31926	0.27875	-0.33528	-8.95532	-3.68880	9.51209	9.69110	181.92	1.68
80/11/ 5	2444548.5	-9.50339	-0.33995	0.27023	-0.31247	-8.95454	-3.68947	9.51331	9.68987	182.05	1.63
80/11/ 9	2444552.5	-9.50409	-0.36064	0.26170	-0.28967	-8.95370	-3.69011	9.51452	9.68863	182.17	1.58
80/11/13	2444556.5	-9.50473	-0.38132	0.25318	-0.26687	-8.95281	-3.69073	9.51574	9.68739	182.30	1.52
80/11/17	2444560.5	-9.50532	-0.40200	0.24465	-0.24408	-8.95188	-3.69133	9.51696	9.68615	182.42	1.47
80/11/21	2444564.5	-9.50586	-0.42268	0.23612	-0.22129	-8.95089	-3.69191	9.51818	9.68491	182.55	1.42
80/11/25	2444568.5	-9.50634	-0.44336	0.22759	-0.19851	-8.94985	-3.69247	9.51939	9.68367	182.67	1.37
80/11/29	2444572.5	-9.50677	-0.46403	0.21906	-0.17573	-8.94876	-3.69300	9.52061	9.68243	182.79	1.32
80/12/ 3	2444576.5	-9.50715	-0.48470	0.21053	-0.15297	-8.94763	-3.69352	9.52183	9.68119	182.92	1.27
80/12/ 7	2444580.5	-9.50748	-0.50537	0.20200	-0.13021	-8.94644	-3.69401	9.52304	9.67995	183.04	1.22
80/12/11	2444584.5	-9.50775	-0.52604	0.19346	-0.10745	-8.94520	-3.69449	9.52426	9.67871	183.17	1.16
80/12/15	2444588.5	-9.50798	-0.54670	0.18493	-0.08471	-8.94391	-3.69494	9.52548	9.67746	183.29	1.11
80/12/19	2444592.5	-9.50815	-0.56736	0.17639	-0.06197	-8.94257	-3.69537	9.52669	9.67622	183.41	1.06
80/12/23	2444596.5	-9.50826	-0.58802	0.16785	-0.03925	-8.94119	-3.69578	9.52791	9.67498	183.54	1.01
80/12/27	2444600.5	-9.50833	-0.60867	0.15931	-0.01653	-8.93975	-3.69617	9.52912	9.67373	183.66	0.96
80/12/31	2444604.5	-9.50834	-0.62932	0.15077	0.00618	-8.93826	-3.69654	9.53034	9.67249	183.79	0.91
81/ 1/ 4	2444608.5	-9.50830	-0.64997	0.14223	0.02888	-8.93673	-3.69689	9.53155	9.67124	183.91	0.86
81/ 1/ 8	2444612.5	-9.50821	-0.67062	0.13369	0.05158	-8.93514	-3.69721	9.53276	9.67000	184.03	0.80
81/ 1/12	2444616.5	-9.50806	-0.69126	0.12515	0.07426	-8.93351	-3.69752	9.53398	9.66875	184.16	0.75
81/ 1/16	2444620.5	-9.50786	-0.71189	0.11661	0.09693	-8.93183	-3.69780	9.53519	9.66751	184.28	0.70
81/ 1/20	2444624.5	-9.50761	-0.73252	0.10807	0.11959	-8.93010	-3.69807	9.53640	9.66626	184.41	0.65
81/ 1/24	2444628.5	-9.50731	-0.75315	0.09952	0.14224	-8.92832	-3.69831	9.53761	9.66502	184.53	0.60
81/ 1/28	2444632.5	-9.50696	-0.77378	0.09098	0.16489	-8.92649	-3.69854	9.53883	9.66378	184.65	0.55
81/ 2/ 1	2444636.5	-9.50655	-0.79440	0.08244	0.18752	-8.92462	-3.69874	9.54004	9.66254	184.78	0.50
81/ 2/ 5	2444640.5	-9.50609	-0.81501	0.07389	0.21014	-8.92270	-3.69893	9.54125	9.66130	184.90	0.44
81/ 2/ 9	2444644.5	-9.50558	-0.83562	0.06534	0.23275	-8.92073	-3.69909	9.54246	9.66006	185.02	0.39
81/ 2/13	2444648.5	-9.50501	-0.85623	0.05680	0.25536	-8.91871	-3.69924	9.54367	9.65883	185.15	0.34
81/ 2/17	2444652.5	-9.50440	-0.87683	0.04825	0.27795	-8.91664	-3.69936	9.54488	9.65759	185.27	0.29
81/ 2/21	2444656.5	-9.50373	-0.89743	0.03971	0.30054	-8.91453	-3.69946	9.54609	9.65635	185.39	0.24
81/ 2/25	2444660.5	-9.50301	-0.91802	0.03116	0.32311	-8.91236	-3.69955	9.54730	9.65512	185.52	0.19
81/ 3/ 1	2444664.5	-9.50224	-0.93860	0.02261	0.34568	-8.91015	-3.69961	9.54851	9.65388	185.64	0.14
81/ 3/ 5	2444668.5	-9.50141	-0.95918	0.01407	0.36823	-8.90789	-3.69965	9.54971	9.65265	185.76	0.08
81/ 3/ 9	2444672.5	-9.50053	-0.97976	0.00552	0.39077	-8.90559	-3.69967	9.55092	9.65141	185.89	0.03
81/ 3/13	2444676.5	-9.49961	-1.00033	-0.00303	0.41330	-8.90323	-3.69967	9.55213	9.65018	186.01	-0.02
81/ 3/17	2444680.5	-9.49863	-1.02090	-0.01157	0.43581	-8.90083	-3.69965	9.55334	9.64895	186.13	-0.07
81/ 3/21	2444684.5	-9.49759	-1.04146	-0.02012	0.45832	-8.89838	-3.69962	9.55454	9.64772	186.26	-0.12
81/ 3/25	2444688.5	-9.49651	-1.06201	-0.02867	0.48081	-8.89589	-3.69956	9.55575	9.64649	186.38	-0.17
81/ 3/29	2444692.5	-9.49537	-1.08256	-0.03721	0.50330	-8.89334	-3.69948	9.55695	9.64526	186.50	-0.22
81/ 4/ 2	2444696.5	-9.49418	-1.10310	-0.04576	0.52577	-8.89075	-3.69938	9.55816	9.64403	186.63	-0.27
81/ 4/ 6	2444700.5	-9.49294	-1.12364	-0.05431	0.54823	-8.88812	-3.69926	9.55936	9.64281	186.75	-0.33
81/ 4/10	2444704.5	-9.49165	-1.14417	-0.06285	0.57068	-8.88543	-3.69912	9.56057	9.64158	186.87	-0.38
81/ 4/14	2444708.5	-9.49031	-1.16469	-0.07140	0.59311	-8.88270	-3.69897	9.56177	9.64036	187.00	-0.43

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

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81/ 4/18	2444712.5	-9.48891	-1.18521	-0.07994	0.61554	-8.87993	-3.69879	9.56298	9.63914	187.12	-0.48
81/ 4/22	2444716.5	-9.48746	-1.20572	-0.08849	0.63795	-8.87711	-3.69859	9.56418	9.63792	187.24	-0.53
81/ 4/26	2444720.5	-9.48596	-1.22622	-0.09703	0.66035	-8.87424	-3.69838	9.56538	9.63671	187.37	-0.58
81/ 4/30	2444724.5	-9.48441	-1.24672	-0.10557	0.68274	-8.87133	-3.69814	9.56658	9.63550	187.49	-0.63
81/ 5/ 4	2444728.5	-9.48281	-1.26721	-0.11412	0.70512	-8.86837	-3.69789	9.56778	9.63429	187.61	-0.68
81/ 5/ 8	2444732.5	-9.48115	-1.28770	-0.12266	0.72749	-8.86536	-3.69761	9.56898	9.63308	187.73	-0.73
81/ 5/12	2444736.5	-9.47945	-1.30817	-0.13120	0.74984	-8.86231	-3.69732	9.57018	9.63187	187.86	-0.79
81/ 5/16	2444740.5	-9.47769	-1.32864	-0.13974	0.77219	-8.85921	-3.69701	9.57138	9.63066	187.98	-0.84
81/ 5/20	2444744.5	-9.47588	-1.34911	-0.14828	0.79453	-8.85606	-3.69667	9.57258	9.62946	188.10	-0.89
81/ 5/24	2444748.5	-9.47402	-1.36956	-0.15682	0.81685	-8.85286	-3.69632	9.57378	9.62825	188.23	-0.94
81/ 5/28	2444752.5	-9.47210	-1.39001	-0.16536	0.83916	-8.84962	-3.69594	9.57498	9.62704	188.35	-0.99
81/ 6/ 1	2444756.5	-9.47014	-1.41045	-0.17390	0.86146	-8.84633	-3.69555	9.57618	9.62584	188.47	-1.04
81/ 6/ 5	2444760.5	-9.46812	-1.43088	-0.18244	0.88375	-8.84299	-3.69513	9.57737	9.62463	188.59	-1.09
81/ 6/ 9	2444764.5	-9.46606	-1.45131	-0.19097	0.90602	-8.83960	-3.69470	9.57857	9.62342	188.72	-1.14
81/ 6/13	2444768.5	-9.46394	-1.47172	-0.19951	0.92828	-8.83617	-3.69424	9.57976	9.62222	188.84	-1.19
81/ 6/17	2444772.5	-9.46177	-1.49213	-0.20804	0.95053	-8.83269	-3.69377	9.58096	9.62101	188.96	-1.24
81/ 6/21	2444776.5	-9.45955	-1.51253	-0.21657	0.97276	-8.82917	-3.69327	9.58215	9.61981	189.08	-1.30
81/ 6/25	2444780.5	-9.45727	-1.53293	-0.22511	0.99498	-8.82559	-3.69275	9.58335	9.61860	189.21	-1.35
81/ 6/29	2444784.5	-9.45495	-1.55331	-0.23364	1.01719	-8.82197	-3.69222	9.58454	9.61740	189.33	-1.40
81/ 7/ 3	2444788.5	-9.45257	-1.57369	-0.24216	1.03938	-8.81830	-3.69166	9.58573	9.61619	189.45	-1.45
81/ 7/ 7	2444792.5	-9.45015	-1.59406	-0.25069	1.06156	-8.81459	-3.69109	9.58692	9.61499	189.57	-1.50
81/ 7/11	2444796.5	-9.44767	-1.61441	-0.25922	1.08372	-8.81083	-3.69049	9.58812	9.61378	189.70	-1.55
81/ 7/15	2444800.5	-9.44514	-1.63476	-0.26774	1.10587	-8.80702	-3.68988	9.58931	9.61258	189.82	-1.60
81/ 7/19	2444804.5	-9.44256	-1.65511	-0.27627	1.12800	-8.80316	-3.68924	9.59050	9.61138	189.94	-1.65
81/ 7/23	2444808.5	-9.43993	-1.67544	-0.28479	1.15012	-8.79926	-3.68859	9.59169	9.61018	190.06	-1.70
81/ 7/27	2444812.5	-9.43724	-1.69576	-0.29331	1.17222	-8.79532	-3.68791	9.59287	9.60898	190.19	-1.75
81/ 7/31	2444816.5	-9.43451	-1.71608	-0.30183	1.19431	-8.79133	-3.68722	9.59406	9.60778	190.31	-1.80
81/ 8/ 4	2444820.5	-9.43173	-1.73638	-0.31035	1.21638	-8.78729	-3.68650	9.59525	9.60658	190.43	-1.85
81/ 8/ 8	2444824.5	-9.42889	-1.75668	-0.31886	1.23844	-8.78320	-3.68577	9.59644	9.60538	190.55	-1.90
81/ 8/12	2444828.5	-9.42600	-1.77696	-0.32738	1.26048	-8.77907	-3.68502	9.59762	9.60418	190.68	-1.95
81/ 8/16	2444832.5	-9.42307	-1.79724	-0.33589	1.28251	-8.77489	-3.68424	9.59881	9.60298	190.80	-2.01
81/ 8/20	2444836.5	-9.42008	-1.81750	-0.34440	1.30453	-8.77067	-3.68345	9.59999	9.60178	190.92	-2.06
81/ 8/24	2444840.5	-9.41704	-1.83776	-0.35291	1.32652	-8.76640	-3.68264	9.60117	9.60058	191.04	-2.11
81/ 8/28	2444844.5	-9.41395	-1.85801	-0.36141	1.34850	-8.76208	-3.68180	9.60236	9.59938	191.16	-2.16
81/ 9/ 1	2444848.5	-9.41081	-1.87825	-0.36992	1.37046	-8.75771	-3.68095	9.60354	9.59818	191.29	-2.21
81/ 9/ 5	2444852.5	-9.40762	-1.89847	-0.37842	1.39241	-8.75331	-3.68008	9.60472	9.59698	191.41	-2.26
81/ 9/ 9	2444856.5	-9.40438	-1.91869	-0.38692	1.41433	-8.74885	-3.67918	9.60590	9.59579	191.53	-2.31
81/ 9/13	2444860.5	-9.40108	-1.93890	-0.39542	1.43624	-8.74435	-3.67827	9.60708	9.59459	191.65	-2.36
81/ 9/17	2444864.5	-9.39774	-1.95909	-0.40392	1.45813	-8.73981	-3.67734	9.60826	9.59340	191.78	-2.41
81/ 9/21	2444868.5	-9.39435	-1.97928	-0.41241	1.48001	-8.73522	-3.67639	9.60944	9.59220	191.90	-2.46
81/ 9/25	2444872.5	-9.39090	-1.99945	-0.42090	1.50187	-8.73059	-3.67542	9.61062	9.59101	192.02	-2.51
81/ 9/29	2444876.5	-9.38741	-2.01961	-0.42939	1.52371	-8.72591	-3.67443	9.61180	9.58982	192.14	-2.56
81/10/ 3	2444880.5	-9.38386	-2.03977	-0.43788	1.54553	-8.72119	-3.67342	9.61297	9.58863	192.26	-2.61
81/10/ 7	2444884.5	-9.38027	-2.05991	-0.44636	1.56733	-8.71642	-3.67240	9.61415	9.58744	192.39	-2.66
81/10/11	2444888.5	-9.37662	-2.08004	-0.45485	1.58912	-8.71162	-3.67135	9.61532	9.58626	192.51	-2.71

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81/10/15	2444892.5	-9.37292	-2.10016	-0.46333	1.61088	-8.70676	-3.67029	9.61650	9.58508	192.63	-2.76
81/10/19	2444896.5	-9.36918	-2.12027	-0.47181	1.63263	-8.70187	-3.66921	9.61767	9.58390	192.75	-2.81
81/10/23	2444900.5	-9.36538	-2.14037	-0.48028	1.65437	-8.69693	-3.66811	9.61885	9.58272	192.87	-2.86
81/10/27	2444904.5	-9.36153	-2.16045	-0.48875	1.67608	-8.69195	-3.66699	9.62002	9.58155	193.00	-2.91
81/10/31	2444908.5	-9.35764	-2.18053	-0.49722	1.69779	-8.68693	-3.66585	9.62119	9.58038	193.12	-2.96
81/11/ 4	2444912.5	-9.35369	-2.20059	-0.50569	1.71947	-8.68187	-3.66469	9.62236	9.57922	193.24	-3.01
81/11/ 8	2444916.5	-9.34969	-2.22064	-0.51416	1.74114	-8.67676	-3.66352	9.62353	9.57805	193.36	-3.06
81/11/12	2444920.5	-9.34564	-2.24068	-0.52262	1.76279	-8.67160	-3.66233	9.62470	9.57689	193.48	-3.11
81/11/16	2444924.5	-9.34155	-2.26070	-0.53108	1.78442	-8.66640	-3.66111	9.62587	9.57572	193.60	-3.16
81/11/20	2444928.5	-9.33740	-2.28072	-0.53953	1.80604	-8.66116	-3.65988	9.62704	9.57456	193.73	-3.21
81/11/24	2444932.5	-9.33320	-2.30072	-0.54799	1.82764	-8.65588	-3.65863	9.62820	9.57341	193.85	-3.26
81/11/28	2444936.5	-9.32896	-2.32071	-0.55644	1.84922	-8.65055	-3.65736	9.62937	9.57225	193.97	-3.31
81/12/ 2	2444940.5	-9.32466	-2.34069	-0.56488	1.87079	-8.64518	-3.65608	9.63053	9.57109	194.09	-3.36
81/12/ 6	2444944.5	-9.32031	-2.36066	-0.57333	1.89234	-8.63976	-3.65477	9.63170	9.56994	194.21	-3.41
81/12/10	2444948.5	-9.31592	-2.38061	-0.58177	1.91387	-8.63431	-3.65345	9.63286	9.56879	194.33	-3.46
81/12/14	2444952.5	-9.31147	-2.40055	-0.59021	1.93538	-8.62880	-3.65210	9.63403	9.56764	194.46	-3.51
81/12/18	2444956.5	-9.30697	-2.42048	-0.59865	1.95687	-8.62326	-3.65074	9.63519	9.56650	194.58	-3.56
81/12/22	2444960.5	-9.30243	-2.44039	-0.60708	1.97835	-8.61767	-3.64936	9.63635	9.56535	194.70	-3.61
81/12/26	2444964.5	-9.29783	-2.46029	-0.61551	1.99981	-8.61204	-3.64796	9.63751	9.56421	194.82	-3.66
81/12/30	2444968.5	-9.29319	-2.48018	-0.62393	2.02125	-8.60637	-3.64654	9.63867	9.56307	194.94	-3.71
82/ 1/ 3	2444972.5	-9.28849	-2.50006	-0.63235	2.04268	-8.60065	-3.64510	9.63983	9.56193	195.06	-3.76
82/ 1/ 7	2444976.5	-9.28375	-2.51992	-0.64077	2.06408	-8.59489	-3.64365	9.64099	9.56079	195.19	-3.81
82/ 1/11	2444980.5	-9.27896	-2.53977	-0.64919	2.08547	-8.58908	-3.64217	9.64214	9.55965	195.31	-3.86
82/ 1/15	2444984.5	-9.27411	-2.55961	-0.65760	2.10684	-8.58323	-3.64068	9.64330	9.55852	195.43	-3.91
82/ 1/19	2444988.5	-9.26922	-2.57943	-0.66601	2.12820	-8.57734	-3.63917	9.64445	9.55738	195.55	-3.96
82/ 1/23	2444992.5	-9.26428	-2.59924	-0.67442	2.14953	-8.57141	-3.63764	9.64561	9.55625	195.67	-4.01
82/ 1/27	2444996.5	-9.25929	-2.61903	-0.68282	2.17085	-8.56543	-3.63609	9.64676	9.55512	195.79	-4.06
82/ 1/31	2445000.5	-9.25425	-2.63881	-0.69122	2.19216	-8.55941	-3.63452	9.64792	9.55399	195.92	-4.11
82/ 2/ 4	2445004.5	-9.24916	-2.65858	-0.69961	2.21344	-8.55334	-3.63294	9.64907	9.55286	196.04	-4.16
82/ 2/ 8	2445008.5	-9.24402	-2.67833	-0.70800	2.23471	-8.54723	-3.63133	9.65022	9.55173	196.16	-4.21
82/ 2/12	2445012.5	-9.23884	-2.69807	-0.71639	2.25595	-8.54107	-3.62970	9.65137	9.55060	196.28	-4.26
82/ 2/16	2445016.5	-9.23360	-2.71779	-0.72477	2.27718	-8.53487	-3.62806	9.65252	9.54947	196.40	-4.31
82/ 2/20	2445020.5	-9.22832	-2.73750	-0.73315	2.29839	-8.52862	-3.62639	9.65367	9.54833	196.52	-4.36
82/ 2/24	2445024.5	-9.22298	-2.75720	-0.74153	2.31958	-8.52233	-3.62471	9.65481	9.54720	196.64	-4.40
82/ 2/28	2445028.5	-9.21760	-2.77688	-0.74990	2.34075	-8.51599	-3.62300	9.65596	9.54607	196.77	-4.45
82/ 3/ 4	2445032.5	-9.21217	-2.79655	-0.75827	2.36189	-8.50961	-3.62128	9.65710	9.54493	196.89	-4.50
82/ 3/ 8	2445036.5	-9.20669	-2.81620	-0.76663	2.38302	-8.50319	-3.61954	9.65825	9.54380	197.01	-4.55
82/ 3/12	2445040.5	-9.20116	-2.83583	-0.77499	2.40412	-8.49672	-3.61778	9.65939	9.54266	197.13	-4.60
82/ 3/16	2445044.5	-9.19558	-2.85545	-0.78335	2.42521	-8.49021	-3.61599	9.66053	9.54153	197.25	-4.65
82/ 3/20	2445048.5	-9.18995	-2.87506	-0.79170	2.44627	-8.48366	-3.61419	9.66167	9.54039	197.37	-4.70
82/ 3/24	2445052.5	-9.18428	-2.89465	-0.80004	2.46731	-8.47706	-3.61238	9.66282	9.53925	197.49	-4.75
82/ 3/28	2445056.5	-9.17855	-2.91423	-0.80839	2.48833	-8.47041	-3.61054	9.66395	9.53812	197.61	-4.80
82/ 4/ 1	2445060.5	-9.17278	-2.93379	-0.81673	2.50933	-8.46373	-3.60868	9.66509	9.53698	197.74	-4.85
82/ 4/ 5	2445064.5	-9.16696	-2.95333	-0.82506	2.53030	-8.45700	-3.60681	9.66623	9.53584	197.86	-4.90
82/ 4/ 9	2445068.5	-9.16109	-2.97286	-0.83339	2.55125	-8.45023	-3.60491	9.66737	9.53471	197.98	-4.95

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82/ 4/13	2445072.5	-9.15517	-2.99238	-0.84172	2.57218	-8.44341	-3.60300	9.66850	9.53357	198.10	-4.99
82/ 4/17	2445076.5	-9.14920	-3.01187	-0.85004	2.59308	-8.43656	-3.60107	9.66964	9.53244	198.22	-5.04
82/ 4/21	2445080.5	-9.14319	-3.03136	-0.85836	2.61397	-8.42966	-3.59912	9.67077	9.53130	198.34	-5.09
82/ 4/25	2445084.5	-9.13713	-3.05082	-0.86667	2.63483	-8.42273	-3.59715	9.67190	9.53017	198.46	-5.14
82/ 4/29	2445088.5	-9.13102	-3.07027	-0.87498	2.65567	-8.41575	-3.59517	9.67303	9.52904	198.59	-5.19
82/ 5/ 3	2445092.5	-9.12486	-3.08971	-0.88328	2.67649	-8.40872	-3.59316	9.67416	9.52791	198.71	-5.24
82/ 5/ 7	2445096.5	-9.11865	-3.10912	-0.89158	2.69729	-8.40165	-3.59114	9.67529	9.52678	198.83	-5.29
82/ 5/11	2445100.5	-9.11239	-3.12852	-0.89987	2.71806	-8.39455	-3.58910	9.67642	9.52564	198.95	-5.34
82/ 5/15	2445104.5	-9.10609	-3.14791	-0.90816	2.73881	-8.38740	-3.58704	9.67755	9.52451	199.07	-5.38
82/ 5/19	2445108.5	-9.09974	-3.16728	-0.91644	2.75954	-8.38020	-3.58496	9.67868	9.52338	199.19	-5.43
82/ 5/23	2445112.5	-9.09334	-3.18663	-0.92472	2.78024	-8.37297	-3.58286	9.67980	9.52225	199.31	-5.48
82/ 5/27	2445116.5	-9.08689	-3.20596	-0.93300	2.80092	-8.36570	-3.58075	9.68093	9.52112	199.43	-5.53
82/ 5/31	2445120.5	-9.08040	-3.22528	-0.94127	2.82157	-8.35838	-3.57862	9.68205	9.51999	199.55	-5.58
82/ 6/ 4	2445124.5	-9.07386	-3.24458	-0.94953	2.84220	-8.35102	-3.57647	9.68317	9.51887	199.68	-5.63
82/ 6/ 8	2445128.5	-9.06727	-3.26387	-0.95779	2.86281	-8.34363	-3.57430	9.68429	9.51774	199.80	-5.68
82/ 6/12	2445132.5	-9.06063	-3.28313	-0.96605	2.88339	-8.33619	-3.57211	9.68541	9.51662	199.92	-5.72
82/ 6/16	2445136.5	-9.05394	-3.30238	-0.97430	2.90395	-8.32871	-3.56991	9.68653	9.51550	200.04	-5.77
82/ 6/20	2445140.5	-9.04721	-3.32161	-0.98254	2.92449	-8.32119	-3.56769	9.68765	9.51437	200.16	-5.82
82/ 6/24	2445144.5	-9.04043	-3.34083	-0.99078	2.94500	-8.31364	-3.56545	9.68877	9.51326	200.28	-5.87
82/ 6/28	2445148.5	-9.03361	-3.36003	-0.99902	2.96549	-8.30604	-3.56320	9.68988	9.51214	200.40	-5.92
82/ 7/ 2	2445152.5	-9.02673	-3.37920	-1.00724	2.98595	-8.29840	-3.56092	9.69100	9.51102	200.52	-5.97
82/ 7/ 6	2445156.5	-9.01981	-3.39837	-1.01547	3.00640	-8.29073	-3.55863	9.69211	9.50991	200.64	-6.01
82/ 7/10	2445160.5	-9.01284	-3.41751	-1.02369	3.02681	-8.28301	-3.55632	9.69322	9.50880	200.77	-6.06
82/ 7/14	2445164.5	-9.00582	-3.43664	-1.03190	3.04721	-8.27526	-3.55400	9.69434	9.50770	200.89	-6.11
82/ 7/18	2445168.5	-8.99876	-3.45575	-1.04011	3.06758	-8.26747	-3.55166	9.69545	9.50660	201.01	-6.16
82/ 7/22	2445172.5	-8.99165	-3.47484	-1.04831	3.08793	-8.25964	-3.54930	9.69656	9.50550	201.13	-6.21
82/ 7/26	2445176.5	-8.98449	-3.49391	-1.05651	3.10826	-8.25176	-3.54693	9.69767	9.50440	201.25	-6.25
82/ 7/30	2445180.5	-8.97729	-3.51296	-1.06470	3.12857	-8.24385	-3.54453	9.69877	9.50330	201.37	-6.30
82/ 8/ 3	2445184.5	-8.97004	-3.53200	-1.07288	3.14885	-8.23590	-3.54212	9.69988	9.50221	201.49	-6.35
82/ 8/ 7	2445188.5	-8.96274	-3.55101	-1.08106	3.16911	-8.22791	-3.53969	9.70099	9.50111	201.61	-6.40
82/ 8/11	2445192.5	-8.95540	-3.57001	-1.08924	3.18935	-8.21987	-3.53725	9.70209	9.50002	201.73	-6.45
82/ 8/15	2445196.5	-8.94801	-3.58899	-1.09741	3.20956	-8.21180	-3.53478	9.70319	9.49893	201.86	-6.49
82/ 8/19	2445200.5	-8.94057	-3.60795	-1.10557	3.22975	-8.20369	-3.53230	9.70430	9.49784	201.98	-6.54
82/ 8/23	2445204.5	-8.93308	-3.62690	-1.11373	3.24992	-8.19553	-3.52980	9.70540	9.49675	202.10	-6.59
82/ 8/27	2445208.5	-8.92555	-3.64582	-1.12188	3.27006	-8.18734	-3.52728	9.70650	9.49566	202.22	-6.64
82/ 8/31	2445212.5	-8.91797	-3.66473	-1.13002	3.29018	-8.17911	-3.52475	9.70760	9.49457	202.34	-6.68
82/ 9/ 4	2445216.5	-8.91035	-3.68361	-1.13816	3.31028	-8.17083	-3.52220	9.70869	9.49349	202.46	-6.73
82/ 9/ 8	2445220.5	-8.90268	-3.70248	-1.14630	3.33035	-8.16252	-3.51963	9.70979	9.49240	202.58	-6.78
82/ 9/12	2445224.5	-8.89496	-3.72132	-1.15443	3.35039	-8.15416	-3.51704	9.71089	9.49132	202.70	-6.83
82/ 9/16	2445228.5	-8.88720	-3.74015	-1.16255	3.37042	-8.14577	-3.51444	9.71198	9.49023	202.82	-6.87
82/ 9/20	2445232.5	-8.87939	-3.75896	-1.17066	3.39041	-8.13734	-3.51181	9.71307	9.48915	202.94	-6.92
82/ 9/24	2445236.5	-8.87153	-3.77775	-1.17877	3.41039	-8.12887	-3.50917	9.71417	9.48807	203.07	-6.97
82/ 9/28	2445240.5	-8.86363	-3.79652	-1.18688	3.43033	-8.12035	-3.50652	9.71526	9.48699	203.19	-7.02
82/10/ 2	2445244.5	-8.85569	-3.81527	-1.19498	3.45026	-8.11180	-3.50384	9.71635	9.48591	203.31	-7.06
82/10/ 6	2445248.5	-8.84769	-3.83400	-1.20307	3.47015	-8.10321	-3.50115	9.71744	9.48483	203.43	-7.11

1.6 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
82/10/10	2445252.5	-8.83965	-3.85271	-1.21115	3.49003	-8.09458	-3.49844	9.71852	9.48376	203.55	-7.16
82/10/14	2445256.5	-8.83157	-3.87140	-1.21923	3.50987	-8.08591	-3.49572	9.71961	9.48268	203.67	-7.21
82/10/18	2445260.5	-8.82344	-3.89007	-1.22730	3.52970	-8.07721	-3.49297	9.72069	9.48161	203.79	-7.25
82/10/22	2445264.5	-8.81526	-3.90872	-1.23537	3.54950	-8.06846	-3.49021	9.72178	9.48054	203.91	-7.30
82/10/26	2445268.5	-8.80704	-3.92735	-1.24343	3.56928	-8.05967	-3.48743	9.72286	9.47946	204.03	-7.35
82/10/30	2445272.5	-8.79877	-3.94596	-1.25148	3.58903	-8.05084	-3.48464	9.72394	9.47839	204.15	-7.39
82/11/ 3	2445276.5	-8.79045	-3.96455	-1.25953	3.60875	-8.04197	-3.48182	9.72502	9.47732	204.28	-7.44
82/11/ 7	2445280.5	-8.78209	-3.98311	-1.26757	3.62845	-8.03307	-3.47899	9.72610	9.47624	204.40	-7.49
82/11/11	2445284.5	-8.77369	-4.00166	-1.27560	3.64812	-8.02412	-3.47614	9.72718	9.47517	204.52	-7.54
82/11/15	2445288.5	-8.76524	-4.02019	-1.28363	3.66776	-8.01513	-3.47327	9.72826	9.47410	204.64	-7.58
82/11/19	2445292.5	-8.75674	-4.03869	-1.29165	3.68738	-8.00611	-3.47039	9.72933	9.47302	204.76	-7.63
82/11/23	2445296.5	-8.74820	-4.05718	-1.29967	3.70697	-7.99704	-3.46749	9.73041	9.47195	204.88	-7.68
82/11/27	2445300.5	-8.73961	-4.07564	-1.30767	3.72653	-7.98794	-3.46457	9.73148	9.47088	205.00	-7.72
82/12/ 1	2445304.5	-8.73098	-4.09409	-1.31567	3.74607	-7.97880	-3.46163	9.73255	9.46981	205.12	-7.77
82/12/ 5	2445308.5	-8.72231	-4.11251	-1.32367	3.76558	-7.96962	-3.45868	9.73362	9.46874	205.24	-7.82
82/12/ 9	2445312.5	-8.71358	-4.13091	-1.33165	3.78506	-7.96041	-3.45571	9.73469	9.46767	205.36	-7.86
82/12/13	2445316.5	-8.70482	-4.14929	-1.33963	3.80451	-7.95115	-3.45273	9.73576	9.46660	205.49	-7.91
82/12/17	2445320.5	-8.69601	-4.16764	-1.34761	3.82394	-7.94186	-3.44972	9.73683	9.46553	205.61	-7.96
82/12/21	2445324.5	-8.68715	-4.18598	-1.35557	3.84334	-7.93253	-3.44670	9.73789	9.46446	205.73	-8.00
82/12/25	2445328.5	-8.67825	-4.20430	-1.36353	3.86271	-7.92317	-3.44367	9.73896	9.46340	205.85	-8.05
82/12/29	2445332.5	-8.66930	-4.22259	-1.37148	3.88206	-7.91376	-3.44061	9.74002	9.46234	205.97	-8.09
83/ 1/ 2	2445336.5	-8.66031	-4.24086	-1.37943	3.90137	-7.90432	-3.43754	9.74108	9.46128	206.09	-8.14
83/ 1/ 6	2445340.5	-8.65128	-4.25911	-1.38737	3.92066	-7.89485	-3.43446	9.74215	9.46022	206.21	-8.19
83/ 1/10	2445344.5	-8.64220	-4.27734	-1.39530	3.93992	-7.88534	-3.43136	9.74320	9.45916	206.33	-8.23
83/ 1/14	2445348.5	-8.63307	-4.29554	-1.40322	3.95916	-7.87579	-3.42824	9.74426	9.45811	206.45	-8.28
83/ 1/18	2445352.5	-8.62390	-4.31373	-1.41114	3.97837	-7.86620	-3.42511	9.74532	9.45706	206.57	-8.33
83/ 1/22	2445356.5	-8.61469	-4.33189	-1.41904	3.99756	-7.85658	-3.42196	9.74638	9.45601	206.70	-8.37
83/ 1/26	2445360.5	-8.60543	-4.35003	-1.42695	4.01672	-7.84692	-3.41879	9.74743	9.45496	206.82	-8.42
83/ 1/30	2445364.5	-8.59613	-4.36814	-1.43484	4.03585	-7.83722	-3.41561	9.74848	9.45392	206.94	-8.46
83/ 2/ 3	2445368.5	-8.58679	-4.38624	-1.44273	4.05495	-7.82749	-3.41241	9.74954	9.45287	207.06	-8.51
83/ 2/ 7	2445372.5	-8.57740	-4.40431	-1.45061	4.07403	-7.81772	-3.40919	9.75059	9.45183	207.18	-8.56
83/ 2/11	2445376.5	-8.56796	-4.42236	-1.45848	4.09308	-7.80791	-3.40596	9.75164	9.45078	207.30	-8.60
83/ 2/15	2445380.5	-8.55849	-4.44038	-1.46634	4.11210	-7.79807	-3.40271	9.75268	9.44974	207.42	-8.65
83/ 2/19	2445384.5	-8.54896	-4.45839	-1.47420	4.13109	-7.78819	-3.39944	9.75373	9.44870	207.54	-8.69
83/ 2/23	2445388.5	-8.53940	-4.47637	-1.48205	4.15006	-7.77827	-3.39616	9.75478	9.44767	207.66	-8.74
83/ 2/27	2445392.5	-8.52979	-4.49433	-1.48989	4.16900	-7.76832	-3.39286	9.75582	9.44663	207.78	-8.78
83/ 3/ 3	2445396.5	-8.52014	-4.51226	-1.49773	4.18791	-7.75833	-3.38955	9.75686	9.44560	207.91	-8.83
83/ 3/ 7	2445400.5	-8.51044	-4.53017	-1.50555	4.20680	-7.74830	-3.38622	9.75791	9.44457	208.03	-8.88
83/ 3/11	2445404.5	-8.50070	-4.54806	-1.51337	4.22566	-7.73824	-3.38287	9.75895	9.44353	208.15	-8.92
83/ 3/15	2445408.5	-8.49092	-4.56593	-1.52118	4.24449	-7.72814	-3.37951	9.75999	9.44251	208.27	-8.97
83/ 3/19	2445412.5	-8.48109	-4.58377	-1.52899	4.26329	-7.71801	-3.37613	9.76102	9.44148	208.39	-9.01
83/ 3/23	2445416.5	-8.47122	-4.60159	-1.53678	4.28206	-7.70784	-3.37274	9.76206	9.44045	208.51	-9.06
83/ 3/27	2445420.5	-8.46130	-4.61938	-1.54457	4.30081	-7.69763	-3.36933	9.76310	9.43943	208.63	-9.10
83/ 3/31	2445424.5	-8.45135	-4.63715	-1.55235	4.31953	-7.68739	-3.36590	9.76413	9.43841	208.75	-9.15
83/ 4/ 4	2445428.5	-8.44135	-4.65490	-1.56012	4.33822	-7.67711	-3.36246	9.76516	9.43739	208.87	-9.19

1.6 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
83/ 4/ 8	2445432.5	-8.43130	-4.67262	-1.56789	4.35689	-7.66680	-3.35900	9.76619	9.43637	209.00	-9.24
83/ 4/12	2445436.5	-8.42122	-4.69032	-1.57564	4.37552	-7.65645	-3.35552	9.76722	9.43535	209.12	-9.28
83/ 4/16	2445440.5	-8.41109	-4.70800	-1.58339	4.39414	-7.64606	-3.35203	9.76825	9.43434	209.24	-9.33
83/ 4/20	2445444.5	-8.40091	-4.72565	-1.59113	4.41272	-7.63563	-3.34853	9.76928	9.43333	209.36	-9.37
83/ 4/24	2445448.5	-8.39070	-4.74328	-1.59886	4.43128	-7.62517	-3.34500	9.77030	9.43231	209.48	-9.42
83/ 4/28	2445452.5	-8.38044	-4.76088	-1.60658	4.44981	-7.61467	-3.34146	9.77133	9.43130	209.60	-9.46
83/ 5/ 2	2445456.5	-8.37014	-4.77846	-1.61430	4.46831	-7.60414	-3.33790	9.77235	9.43028	209.72	-9.51
83/ 5/ 6	2445460.5	-8.35979	-4.79601	-1.62201	4.48678	-7.59356	-3.33433	9.77337	9.42927	209.84	-9.55
83/ 5/10	2445464.5	-8.34941	-4.81354	-1.62970	4.50522	-7.58295	-3.33074	9.77439	9.42826	209.96	-9.60
83/ 5/14	2445468.5	-8.33898	-4.83105	-1.63740	4.52364	-7.57230	-3.32713	9.77541	9.42724	210.09	-9.64
83/ 5/18	2445472.5	-8.32851	-4.84853	-1.64508	4.54202	-7.56162	-3.32350	9.77643	9.42623	210.21	-9.69
83/ 5/22	2445476.5	-8.31799	-4.86599	-1.65275	4.56037	-7.55090	-3.31986	9.77744	9.42521	210.33	-9.73
83/ 5/26	2445480.5	-8.30744	-4.88342	-1.66042	4.57869	-7.54014	-3.31621	9.77846	9.42419	210.45	-9.78
83/ 5/30	2445484.5	-8.29684	-4.90082	-1.66807	4.59699	-7.52935	-3.31253	9.77947	9.42318	210.57	-9.82
83/ 6/ 3	2445488.5	-8.28620	-4.91821	-1.67572	4.61525	-7.51852	-3.30884	9.78048	9.42216	210.69	-9.87
83/ 6/ 7	2445492.5	-8.27551	-4.93556	-1.68336	4.63348	-7.50766	-3.30514	9.78149	9.42115	210.81	-9.91
83/ 6/11	2445496.5	-8.26479	-4.95289	-1.69099	4.65168	-7.49676	-3.30142	9.78250	9.42013	210.93	-9.95
83/ 6/15	2445500.5	-8.25402	-4.97020	-1.69861	4.66985	-7.48582	-3.29768	9.78351	9.41911	211.05	-10.00
83/ 6/19	2445504.5	-8.24321	-4.98748	-1.70623	4.68799	-7.47485	-3.29392	9.78452	9.41810	211.18	-10.04
83/ 6/23	2445508.5	-8.23236	-5.00474	-1.71383	4.70610	-7.46384	-3.29015	9.78552	9.41708	211.30	-10.09
83/ 6/27	2445512.5	-8.22147	-5.02197	-1.72143	4.72417	-7.45280	-3.28637	9.78652	9.41607	211.42	-10.13
83/ 7/ 1	2445516.5	-8.21053	-5.03917	-1.72902	4.74222	-7.44173	-3.28257	9.78752	9.41505	211.54	-10.18
83/ 7/ 5	2445520.5	-8.19956	-5.05635	-1.73660	4.76023	-7.43062	-3.27875	9.78852	9.41404	211.66	-10.22
83/ 7/ 9	2445524.5	-8.18854	-5.07350	-1.74417	4.77821	-7.41948	-3.27492	9.78952	9.41303	211.78	-10.26
83/ 7/13	2445528.5	-8.17748	-5.09063	-1.75173	4.79617	-7.40830	-3.27108	9.79052	9.41202	211.90	-10.31
83/ 7/17	2445532.5	-8.16638	-5.10773	-1.75928	4.81409	-7.39709	-3.26721	9.79152	9.41101	212.02	-10.35
83/ 7/21	2445536.5	-8.15524	-5.12481	-1.76682	4.83198	-7.38585	-3.26334	9.79251	9.41000	212.15	-10.39
83/ 7/25	2445540.5	-8.14406	-5.14186	-1.77436	4.84984	-7.37456	-3.25944	9.79350	9.40899	212.27	-10.44
83/ 7/29	2445544.5	-8.13283	-5.15888	-1.78188	4.86767	-7.36325	-3.25553	9.79449	9.40798	212.39	-10.48
83/ 8/ 2	2445548.5	-8.12156	-5.17588	-1.78940	4.88546	-7.35190	-3.25161	9.79548	9.40697	212.51	-10.53
83/ 8/ 6	2445552.5	-8.11026	-5.19285	-1.79691	4.90322	-7.34052	-3.24767	9.79647	9.40596	212.63	-10.57
83/ 8/10	2445556.5	-8.09891	-5.20979	-1.80441	4.92095	-7.32910	-3.24371	9.79746	9.40496	212.75	-10.61
83/ 8/14	2445560.5	-8.08752	-5.22671	-1.81189	4.93865	-7.31765	-3.23974	9.79844	9.40395	212.87	-10.66
83/ 8/18	2445564.5	-8.07609	-5.24360	-1.81937	4.95632	-7.30617	-3.23576	9.79943	9.40295	212.99	-10.70
83/ 8/22	2445568.5	-8.06462	-5.26047	-1.82684	4.97395	-7.29466	-3.23176	9.80041	9.40194	213.12	-10.74
83/ 8/26	2445572.5	-8.05311	-5.27731	-1.83431	4.99156	-7.28311	-3.22774	9.80139	9.40094	213.24	-10.79
83/ 8/30	2445576.5	-8.04156	-5.29412	-1.84176	5.00913	-7.27154	-3.22371	9.80237	9.39994	213.36	-10.83
83/ 9/ 3	2445580.5	-8.02997	-5.31091	-1.84920	5.02667	-7.25993	-3.21967	9.80335	9.39894	213.48	-10.87
83/ 9/ 7	2445584.5	-8.01833	-5.32766	-1.85663	5.04417	-7.24828	-3.21561	9.80432	9.39795	213.60	-10.92
83/ 9/11	2445588.5	-8.00666	-5.34439	-1.86406	5.06165	-7.23661	-3.21154	9.80530	9.39695	213.72	-10.96
83/ 9/15	2445592.5	-7.99495	-5.36110	-1.87147	5.07909	-7.22491	-3.20745	9.80627	9.39596	213.84	-11.00
83/ 9/19	2445596.5	-7.98319	-5.37778	-1.87888	5.09650	-7.21317	-3.20335	9.80724	9.39498	213.97	-11.05
83/ 9/23	2445600.5	-7.97140	-5.39443	-1.88627	5.11388	-7.20140	-3.19923	9.80821	9.39399	214.09	-11.09
83/ 9/27	2445604.5	-7.95957	-5.41105	-1.89366	5.13123	-7.18961	-3.19510	9.80918	9.39301	214.21	-11.13
83/10/ 1	2445608.5	-7.94769	-5.42765	-1.90104	5.14855	-7.17778	-3.19096	9.81015	9.39203	214.33	-11.17

1.6 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
83/10/ 5	2445612.5	-7.93578	-5.44421	-1.90840	5.16583	-7.16592	-3.18681	9.81112	9.39106	214.45	-11.22
83/10/ 9	2445616.5	-7.92382	-5.46075	-1.91576	5.18309	-7.15403	-3.18263	9.81208	9.39009	214.57	-11.26
83/10/13	2445620.5	-7.91183	-5.47727	-1.92311	5.20032	-7.14211	-3.17845	9.81305	9.38912	214.69	-11.30
83/10/17	2445624.5	-7.89980	-5.49375	-1.93044	5.21752	-7.13015	-3.17425	9.81401	9.38815	214.82	-11.34
83/10/21	2445628.5	-7.88772	-5.51021	-1.93777	5.23469	-7.11816	-3.17003	9.81497	9.38719	214.94	-11.39
83/10/25	2445632.5	-7.87561	-5.52664	-1.94509	5.25183	-7.10614	-3.16580	9.81593	9.38623	215.06	-11.43
83/10/29	2445636.5	-7.86346	-5.54304	-1.95240	5.26893	-7.09409	-3.16156	9.81688	9.38527	215.18	-11.47
83/11/ 2	2445640.5	-7.85127	-5.55942	-1.95970	5.28601	-7.08201	-3.15730	9.81784	9.38431	215.30	-11.51
83/11/ 6	2445644.5	-7.83903	-5.57577	-1.96699	5.30305	-7.06990	-3.15303	9.81879	9.38336	215.42	-11.56
83/11/10	2445648.5	-7.82676	-5.59208	-1.97427	5.32007	-7.05775	-3.14874	9.81974	9.38240	215.55	-11.60
83/11/14	2445652.5	-7.81445	-5.60837	-1.98154	5.33705	-7.04557	-3.14444	9.82069	9.38145	215.67	-11.64
83/11/18	2445656.5	-7.80211	-5.62464	-1.98880	5.35400	-7.03336	-3.14012	9.82164	9.38050	215.79	-11.68
83/11/22	2445660.5	-7.78972	-5.64087	-1.99604	5.37092	-7.02112	-3.13579	9.82259	9.37955	215.91	-11.72
83/11/26	2445664.5	-7.77729	-5.65708	-2.00328	5.38781	-7.00884	-3.13144	9.82354	9.37861	216.03	-11.77
83/11/30	2445668.5	-7.76482	-5.67325	-2.01051	5.40467	-6.99654	-3.12708	9.82448	9.37766	216.15	-11.81
83/12/ 4	2445672.5	-7.75232	-5.68940	-2.01773	5.42149	-6.98420	-3.12271	9.82543	9.37672	216.27	-11.85
83/12/ 8	2445676.5	-7.73977	-5.70552	-2.02494	5.43829	-6.97183	-3.11832	9.82637	9.37578	216.40	-11.89
83/12/12	2445680.5	-7.72719	-5.72162	-2.03214	5.45505	-6.95943	-3.11391	9.82731	9.37484	216.52	-11.93
83/12/16	2445684.5	-7.71457	-5.73768	-2.03933	5.47178	-6.94700	-3.10949	9.82825	9.37390	216.64	-11.98
83/12/20	2445688.5	-7.70191	-5.75371	-2.04651	5.48848	-6.93453	-3.10506	9.82918	9.37297	216.76	-12.02
83/12/24	2445692.5	-7.68921	-5.76972	-2.05367	5.50514	-6.92204	-3.10061	9.83012	9.37203	216.88	-12.06
83/12/28	2445696.5	-7.67647	-5.78570	-2.06083	5.52178	-6.90951	-3.09615	9.83105	9.37110	217.01	-12.10
84/ 1/ 1	2445700.5	-7.66370	-5.80164	-2.06798	5.53838	-6.89695	-3.09168	9.83198	9.37017	217.13	-12.14
84/ 1/ 5	2445704.5	-7.65089	-5.81756	-2.07512	5.55496	-6.88436	-3.08719	9.83291	9.36924	217.25	-12.18
84/ 1/ 9	2445708.5	-7.63803	-5.83345	-2.08224	5.57150	-6.87174	-3.08268	9.83384	9.36832	217.37	-12.22
84/ 1/13	2445712.5	-7.62514	-5.84931	-2.08936	5.58801	-6.85909	-3.07816	9.83477	9.36739	217.49	-12.27
84/ 1/17	2445716.5	-7.61221	-5.86514	-2.09647	5.60448	-6.84640	-3.07362	9.83569	9.36646	217.61	-12.31
84/ 1/21	2445720.5	-7.59925	-5.88094	-2.10356	5.62093	-6.83368	-3.06907	9.83662	9.36553	217.74	-12.35
84/ 1/25	2445724.5	-7.58624	-5.89672	-2.11065	5.63734	-6.82092	-3.06451	9.83754	9.36460	217.86	-12.39
84/ 1/29	2445728.5	-7.57320	-5.91246	-2.11772	5.65371	-6.80814	-3.05993	9.83846	9.36367	217.98	-12.43
84/ 2/ 2	2445732.5	-7.56012	-5.92817	-2.12478	5.67005	-6.79532	-3.05534	9.83938	9.36275	218.10	-12.47
84/ 2/ 6	2445736.5	-7.54700	-5.94386	-2.13184	5.68636	-6.78248	-3.05073	9.84030	9.36182	218.22	-12.51
84/ 2/10	2445740.5	-7.53385	-5.95951	-2.13888	5.70263	-6.76960	-3.04610	9.84121	9.36089	218.35	-12.55
84/ 2/14	2445744.5	-7.52066	-5.97513	-2.14591	5.71887	-6.75669	-3.04147	9.84213	9.35996	218.47	-12.59
84/ 2/18	2445748.5	-7.50743	-5.99073	-2.15293	5.73508	-6.74375	-3.03681	9.84304	9.35903	218.59	-12.63
84/ 2/22	2445752.5	-7.49416	-6.00629	-2.15994	5.75125	-6.73078	-3.03215	9.84395	9.35811	218.71	-12.67
84/ 2/26	2445756.5	-7.48085	-6.02183	-2.16694	5.76738	-6.71778	-3.02747	9.84486	9.35718	218.83	-12.72
84/ 3/ 1	2445760.5	-7.46751	-6.03733	-2.17393	5.78348	-6.70475	-3.02277	9.84576	9.35625	218.95	-12.76
84/ 3/ 5	2445764.5	-7.45413	-6.05281	-2.18091	5.79955	-6.69169	-3.01806	9.84667	9.35533	219.08	-12.80
84/ 3/ 9	2445768.5	-7.44071	-6.06825	-2.18788	5.81558	-6.67860	-3.01334	9.84757	9.35440	219.20	-12.84
84/ 3/13	2445772.5	-7.42726	-6.08366	-2.19483	5.83157	-6.66548	-3.00861	9.84847	9.35348	219.32	-12.88
84/ 3/17	2445776.5	-7.41377	-6.09905	-2.20178	5.84753	-6.65233	-3.00386	9.84937	9.35255	219.44	-12.92
84/ 3/21	2445780.5	-7.40024	-6.11440	-2.20871	5.86345	-6.63915	-2.99910	9.85027	9.35163	219.56	-12.96
84/ 3/25	2445784.5	-7.38668	-6.12972	-2.21563	5.87934	-6.62595	-2.99432	9.85117	9.35072	219.69	-13.00
84/ 3/29	2445788.5	-7.37308	-6.14501	-2.22254	5.89520	-6.61272	-2.98953	9.85206	9.34980	219.81	-13.04

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

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84/ 4/ 2	2445792.5	-7.35944	-6.16027	-2.22945	5.91103	-6.59945	-2.98473	9.85296	9.34889	219.93	-13.08
84/ 4/ 6	2445796.5	-7.34577	-6.17550	-2.23634	5.92682	-6.58616	-2.97992	9.85385	9.34797	220.05	-13.12
84/ 4/10	2445800.5	-7.33206	-6.19070	-2.24321	5.94257	-6.57284	-2.97509	9.85474	9.34706	220.18	-13.16
84/ 4/14	2445804.5	-7.31831	-6.20587	-2.25008	5.95829	-6.55949	-2.97024	9.85563	9.34615	220.30	-13.20
84/ 4/18	2445808.5	-7.30453	-6.22101	-2.25694	5.97398	-6.54611	-2.96539	9.85651	9.34524	220.42	-13.24
84/ 4/22	2445812.5	-7.29071	-6.23612	-2.26378	5.98963	-6.53270	-2.96052	9.85740	9.34433	220.54	-13.28
84/ 4/26	2445816.5	-7.27685	-6.25120	-2.27062	6.00524	-6.51926	-2.95564	9.85828	9.34342	220.66	-13.32
84/ 4/30	2445820.5	-7.26296	-6.26624	-2.27744	6.02082	-6.50580	-2.95074	9.85916	9.34252	220.79	-13.36
84/ 5/ 4	2445824.5	-7.24904	-6.28125	-2.28425	6.03637	-6.49231	-2.94583	9.86004	9.34161	220.91	-13.40
84/ 5/ 8	2445828.5	-7.23507	-6.29624	-2.29105	6.05188	-6.47878	-2.94091	9.86092	9.34071	221.03	-13.43
84/ 5/12	2445832.5	-7.22107	-6.31119	-2.29784	6.06736	-6.46524	-2.93597	9.86180	9.33981	221.15	-13.47
84/ 5/16	2445836.5	-7.20704	-6.32611	-2.30461	6.08280	-6.45166	-2.93102	9.86267	9.33891	221.28	-13.51
84/ 5/20	2445840.5	-7.19297	-6.34100	-2.31138	6.09820	-6.43805	-2.92606	9.86355	9.33801	221.40	-13.55
84/ 5/24	2445844.5	-7.17886	-6.35585	-2.31813	6.11357	-6.42442	-2.92109	9.86442	9.33712	221.52	-13.59
84/ 5/28	2445848.5	-7.16472	-6.37068	-2.32488	6.12891	-6.41076	-2.91610	9.86529	9.33623	221.64	-13.63
84/ 6/ 1	2445852.5	-7.15055	-6.38547	-2.33161	6.14421	-6.39708	-2.91110	9.86615	9.33533	221.77	-13.67
84/ 6/ 5	2445856.5	-7.13633	-6.40024	-2.33833	6.15948	-6.38336	-2.90609	9.86702	9.33445	221.89	-13.71
84/ 6/ 9	2445860.5	-7.12209	-6.41497	-2.34503	6.17471	-6.36962	-2.90107	9.86788	9.33356	222.01	-13.75
84/ 6/13	2445864.5	-7.10780	-6.42967	-2.35173	6.18991	-6.35585	-2.89603	9.86875	9.33268	222.13	-13.79
84/ 6/17	2445868.5	-7.09349	-6.44433	-2.35841	6.20507	-6.34206	-2.89098	9.86961	9.33180	222.25	-13.83
84/ 6/21	2445872.5	-7.07914	-6.45897	-2.36509	6.22020	-6.32824	-2.88592	9.87047	9.33092	222.38	-13.86
84/ 6/25	2445876.5	-7.06475	-6.47357	-2.37175	6.23530	-6.31439	-2.88084	9.87132	9.33004	222.50	-13.90
84/ 6/29	2445880.5	-7.05033	-6.48814	-2.37840	6.25036	-6.30051	-2.87576	9.87218	9.32917	222.62	-13.94
84/ 7/ 3	2445884.5	-7.03587	-6.50268	-2.38504	6.26539	-6.28661	-2.87065	9.87303	9.32830	222.74	-13.98
84/ 7/ 7	2445888.5	-7.02138	-6.51719	-2.39166	6.28039	-6.27267	-2.86554	9.87388	9.32744	222.87	-14.02
84/ 7/11	2445892.5	-7.00685	-6.53167	-2.39828	6.29535	-6.25871	-2.86041	9.87473	9.32657	222.99	-14.06
84/ 7/15	2445896.5	-6.99229	-6.54611	-2.40488	6.31028	-6.24472	-2.85527	9.87558	9.32570	223.11	-14.09
84/ 7/19	2445900.5	-6.97770	-6.56052	-2.41147	6.32517	-6.23070	-2.85012	9.87643	9.32484	223.23	-14.13
84/ 7/23	2445904.5	-6.96307	-6.57490	-2.41805	6.34002	-6.21665	-2.84495	9.87727	9.32397	223.36	-14.17
84/ 7/27	2445908.5	-6.94840	-6.58924	-2.42461	6.35484	-6.20258	-2.83977	9.87811	9.32311	223.48	-14.21
84/ 7/31	2445912.5	-6.93370	-6.60355	-2.43117	6.36963	-6.18848	-2.83458	9.87896	9.32224	223.60	-14.25
84/ 8/ 4	2445916.5	-6.91897	-6.61783	-2.43771	6.38437	-6.17435	-2.82937	9.87979	9.32138	223.73	-14.28
84/ 8/ 8	2445920.5	-6.90421	-6.63208	-2.44424	6.39908	-6.16019	-2.82415	9.88063	9.32052	223.85	-14.32
84/ 8/12	2445924.5	-6.88941	-6.64630	-2.45076	6.41376	-6.14601	-2.81892	9.88147	9.31966	223.97	-14.36
84/ 8/16	2445928.5	-6.87457	-6.66048	-2.45726	6.42840	-6.13180	-2.81368	9.88230	9.31880	224.09	-14.40
84/ 8/20	2445932.5	-6.85971	-6.67463	-2.46376	6.44300	-6.11756	-2.80842	9.88313	9.31794	224.22	-14.44
84/ 8/24	2445936.5	-6.84480	-6.68874	-2.47024	6.45757	-6.10329	-2.80315	9.88396	9.31708	224.34	-14.47
84/ 8/28	2445940.5	-6.82987	-6.70283	-2.47671	6.47210	-6.08900	-2.79787	9.88479	9.31622	224.46	-14.51
84/ 9/ 1	2445944.5	-6.81490	-6.71688	-2.48317	6.48659	-6.07468	-2.79257	9.88562	9.31537	224.58	-14.55
84/ 9/ 5	2445948.5	-6.79990	-6.73089	-2.48961	6.50104	-6.06033	-2.78726	9.88644	9.31451	224.71	-14.59
84/ 9/ 9	2445952.5	-6.78486	-6.74488	-2.49605	6.51546	-6.04596	-2.78194	9.88726	9.31365	224.83	-14.62
84/ 9/13	2445956.5	-6.76980	-6.75883	-2.50247	6.52984	-6.03157	-2.77661	9.88809	9.31280	224.95	-14.66
84/ 9/17	2445960.5	-6.75469	-6.77275	-2.50887	6.54419	-6.01715	-2.77127	9.88890	9.31195	225.08	-14.70
84/ 9/21	2445964.5	-6.73956	-6.78663	-2.51527	6.55850	-6.00270	-2.76591	9.88972	9.31110	225.20	-14.73
84/ 9/25	2445968.5	-6.72439	-6.80048	-2.52165	6.57277	-5.98823	-2.76054	9.89054	9.31025	225.32	-14.77

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84/ 9/29	2445972.5	-6.70919	-6.81430	-2.52802	6.58701	-5.97373	-2.75516	9.89135	9.30941	225.45	-14.81
84/10/ 3	2445976.5	-6.69396	-6.82808	-2.53438	6.60121	-5.95920	-2.74977	9.89216	9.30856	225.57	-14.84
84/10/ 7	2445980.5	-6.67869	-6.84183	-2.54073	6.61537	-5.94465	-2.74436	9.89297	9.30771	225.69	-14.88
84/10/11	2445984.5	-6.66339	-6.85555	-2.54706	6.62950	-5.93007	-2.73894	9.89378	9.30687	225.81	-14.92
84/10/15	2445988.5	-6.64806	-6.86923	-2.55338	6.64359	-5.91547	-2.73351	9.89458	9.30602	225.94	-14.95
84/10/19	2445992.5	-6.63270	-6.88288	-2.55969	6.65764	-5.90084	-2.72807	9.89539	9.30518	226.06	-14.99
84/10/23	2445996.5	-6.61730	-6.89649	-2.56599	6.67165	-5.88619	-2.72261	9.89619	9.30434	226.18	-15.03
84/10/27	2446000.5	-6.60187	-6.91008	-2.57227	6.68562	-5.87151	-2.71715	9.89699	9.30350	226.31	-15.06
84/10/31	2446004.5	-6.58641	-6.92362	-2.57854	6.69956	-5.85681	-2.71167	9.89779	9.30266	226.43	-15.10
84/11/ 4	2446008.5	-6.57092	-6.93714	-2.58480	6.71346	-5.84208	-2.70618	9.89859	9.30182	226.55	-15.14
84/11/ 8	2446012.5	-6.55539	-6.95061	-2.59105	6.72732	-5.82733	-2.70068	9.89938	9.30099	226.68	-15.17
84/11/12	2446016.5	-6.53983	-6.96406	-2.59728	6.74115	-5.81256	-2.69517	9.90017	9.30015	226.80	-15.21
84/11/16	2446020.5	-6.52424	-6.97747	-2.60350	6.75493	-5.79776	-2.68964	9.90096	9.29932	226.92	-15.25
84/11/20	2446024.5	-6.50862	-6.99085	-2.60971	6.76868	-5.78294	-2.68411	9.90175	9.29849	227.05	-15.28
84/11/24	2446028.5	-6.49297	-7.00419	-2.61590	6.78240	-5.76810	-2.67856	9.90254	9.29766	227.17	-15.32
84/11/28	2446032.5	-6.47729	-7.01750	-2.62208	6.79607	-5.75323	-2.67300	9.90332	9.29684	227.29	-15.35
84/12/ 2	2446036.5	-6.46157	-7.03077	-2.62825	6.80971	-5.73834	-2.66743	9.90411	9.29601	227.42	-15.39
84/12/ 6	2446040.5	-6.44582	-7.04401	-2.63441	6.82331	-5.72343	-2.66186	9.90489	9.29520	227.54	-15.42
84/12/10	2446044.5	-6.43004	-7.05722	-2.64055	6.83687	-5.70850	-2.65627	9.90567	9.29438	227.66	-15.46
84/12/14	2446048.5	-6.41423	-7.07039	-2.64668	6.85040	-5.69354	-2.65067	9.90645	9.29357	227.79	-15.50
84/12/18	2446052.5	-6.39839	-7.08352	-2.65280	6.86390	-5.67856	-2.64505	9.90722	9.29276	227.91	-15.53
84/12/22	2446056.5	-6.38252	-7.09662	-2.65890	6.87736	-5.66356	-2.63943	9.90800	9.29196	228.03	-15.57
84/12/26	2446060.5	-6.36662	-7.10969	-2.66499	6.89078	-5.64853	-2.63380	9.90877	9.29116	228.16	-15.60
84/12/30	2446064.5	-6.35068	-7.12272	-2.67107	6.90417	-5.63348	-2.62815	9.90954	9.29036	228.28	-15.64
85/ 1/ 3	2446068.5	-6.33472	-7.13572	-2.67713	6.91752	-5.61840	-2.62250	9.91031	9.28957	228.40	-15.67
85/ 1/ 7	2446072.5	-6.31872	-7.14868	-2.68319	6.93084	-5.60331	-2.61683	9.91107	9.28877	228.53	-15.71
85/ 1/11	2446076.5	-6.30269	-7.16161	-2.68923	6.94411	-5.58818	-2.61115	9.91184	9.28798	228.65	-15.74
85/ 1/15	2446080.5	-6.28664	-7.17450	-2.69525	6.95736	-5.57304	-2.60546	9.91260	9.28719	228.77	-15.78
85/ 1/19	2446084.5	-6.27055	-7.18736	-2.70126	6.97056	-5.55787	-2.59975	9.91336	9.28641	228.90	-15.81
85/ 1/23	2446088.5	-6.25443	-7.20018	-2.70726	6.98373	-5.54268	-2.59404	9.91412	9.28563	229.02	-15.85
85/ 1/27	2446092.5	-6.23828	-7.21297	-2.71325	6.99687	-5.52746	-2.58832	9.91488	9.28485	229.14	-15.88
85/ 1/31	2446096.5	-6.22210	-7.22572	-2.71922	7.00996	-5.51222	-2.58258	9.91563	9.28407	229.27	-15.92
85/ 2/ 4	2446100.5	-6.20589	-7.23843	-2.72518	7.02303	-5.49696	-2.57683	9.91638	9.28329	229.39	-15.95
85/ 2/ 8	2446104.5	-6.18965	-7.25112	-2.73113	7.03605	-5.48167	-2.57107	9.91713	9.28252	229.52	-15.99
85/ 2/12	2446108.5	-6.17338	-7.26376	-2.73706	7.04904	-5.46637	-2.56530	9.91788	9.28175	229.64	-16.02
85/ 2/16	2446112.5	-6.15709	-7.27637	-2.74298	7.06199	-5.45103	-2.55952	9.91863	9.28098	229.76	-16.05
85/ 2/20	2446116.5	-6.14076	-7.28895	-2.74889	7.07490	-5.43568	-2.55373	9.91938	9.28021	229.89	-16.09
85/ 2/24	2446120.5	-6.12440	-7.30149	-2.75478	7.08778	-5.42030	-2.54793	9.92012	9.27945	230.01	-16.12
85/ 2/28	2446124.5	-6.10801	-7.31399	-2.76066	7.10062	-5.40489	-2.54211	9.92086	9.27868	230.13	-16.16
85/ 3/ 4	2446128.5	-6.09159	-7.32646	-2.76652	7.11342	-5.38947	-2.53628	9.92160	9.27792	230.26	-16.19
85/ 3/ 8	2446132.5	-6.07514	-7.33889	-2.77238	7.12619	-5.37402	-2.53045	9.92234	9.27716	230.38	-16.22
85/ 3/12	2446136.5	-6.05866	-7.35129	-2.77822	7.13892	-5.35855	-2.52460	9.92307	9.27641	230.51	-16.26
85/ 3/16	2446140.5	-6.04216	-7.36365	-2.78404	7.15161	-5.34305	-2.51874	9.92380	9.27565	230.63	-16.29
85/ 3/20	2446144.5	-6.02562	-7.37598	-2.78985	7.16427	-5.32753	-2.51287	9.92454	9.27490	230.75	-16.33
85/ 3/24	2446148.5	-6.00906	-7.38827	-2.79565	7.17689	-5.31199	-2.50699	9.92527	9.27415	230.88	-16.36

1.6 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
85/ 3/28	2446152.5	-5.99246	-7.40052	-2.80144	7.18947	-5.29642	-2.50109	9.92599	9.27340	231.00	-16.39
85/ 4/ 1	2446156.5	-5.97584	-7.41274	-2.80721	7.20201	-5.28083	-2.49519	9.92672	9.27265	231.13	-16.43
85/ 4/ 5	2446160.5	-5.95919	-7.42492	-2.81297	7.21452	-5.26521	-2.48927	9.92744	9.27190	231.25	-16.46
85/ 4/ 9	2446164.5	-5.94250	-7.43706	-2.81871	7.22699	-5.24957	-2.48334	9.92816	9.27115	231.37	-16.49
85/ 4/13	2446168.5	-5.92579	-7.44917	-2.82444	7.23941	-5.23391	-2.47740	9.92888	9.27041	231.50	-16.53
85/ 4/17	2446172.5	-5.90906	-7.46125	-2.83016	7.25180	-5.21822	-2.47145	9.92960	9.26966	231.62	-16.56
85/ 4/21	2446176.5	-5.89229	-7.47328	-2.83586	7.26415	-5.20251	-2.46548	9.93031	9.26891	231.75	-16.59
85/ 4/25	2446180.5	-5.87549	-7.48528	-2.84155	7.27646	-5.18678	-2.45951	9.93103	9.26816	231.87	-16.63
85/ 4/29	2446184.5	-5.85867	-7.49725	-2.84722	7.28873	-5.17103	-2.45352	9.93174	9.26741	231.99	-16.66
85/ 5/ 3	2446188.5	-5.84182	-7.50918	-2.85288	7.30096	-5.15525	-2.44753	9.93245	9.26666	232.12	-16.69
85/ 5/ 7	2446192.5	-5.82494	-7.52107	-2.85853	7.31315	-5.13945	-2.44152	9.93315	9.26591	232.24	-16.72
85/ 5/11	2446196.5	-5.80803	-7.53292	-2.86416	7.32530	-5.12363	-2.43550	9.93386	9.26516	232.37	-16.76
85/ 5/15	2446200.5	-5.79109	-7.54474	-2.86978	7.33741	-5.10779	-2.42947	9.93456	9.26442	232.49	-16.79
85/ 5/19	2446204.5	-5.77413	-7.55652	-2.87539	7.34948	-5.09192	-2.42343	9.93526	9.26367	232.62	-16.82
85/ 5/23	2446208.5	-5.75713	-7.56827	-2.88098	7.36151	-5.07604	-2.41738	9.93596	9.26292	232.74	-16.86
85/ 5/27	2446212.5	-5.74011	-7.57998	-2.88656	7.37350	-5.06013	-2.41132	9.93666	9.26218	232.86	-16.89
85/ 5/31	2446216.5	-5.72307	-7.59165	-2.89212	7.38545	-5.04421	-2.40525	9.93735	9.26143	232.99	-16.92
85/ 6/ 4	2446220.5	-5.70599	-7.60328	-2.89767	7.39735	-5.02827	-2.39918	9.93804	9.26069	233.11	-16.95
85/ 6/ 8	2446224.5	-5.68889	-7.61488	-2.90321	7.40922	-5.01230	-2.39309	9.93873	9.25995	233.24	-16.98
85/ 6/12	2446228.5	-5.67176	-7.62644	-2.90873	7.42105	-4.99632	-2.38699	9.93942	9.25921	233.36	-17.02
85/ 6/16	2446232.5	-5.65460	-7.63796	-2.91424	7.43285	-4.98031	-2.38088	9.94011	9.25847	233.49	-17.05
85/ 6/20	2446236.5	-5.63741	-7.64945	-2.91973	7.44460	-4.96429	-2.37476	9.94079	9.25774	233.61	-17.08
85/ 6/24	2446240.5	-5.62020	-7.66090	-2.92521	7.45631	-4.94824	-2.36863	9.94147	9.25700	233.74	-17.11
85/ 6/28	2446244.5	-5.60296	-7.67231	-2.93067	7.46799	-4.93217	-2.36249	9.94215	9.25627	233.86	-17.14
85/ 7/ 2	2446248.5	-5.58570	-7.68369	-2.93612	7.47962	-4.91609	-2.35634	9.94283	9.25554	233.98	-17.18
85/ 7/ 6	2446252.5	-5.56840	-7.69503	-2.94156	7.49122	-4.89998	-2.35018	9.94351	9.25481	234.11	-17.21
85/ 7/10	2446256.5	-5.55109	-7.70633	-2.94698	7.50277	-4.88386	-2.34401	9.94418	9.25408	234.23	-17.24
85/ 7/14	2446260.5	-5.53374	-7.71759	-2.95239	7.51428	-4.86771	-2.33783	9.94485	9.25335	234.36	-17.27
85/ 7/18	2446264.5	-5.51637	-7.72882	-2.95778	7.52576	-4.85155	-2.33164	9.94552	9.25263	234.48	-17.30
85/ 7/22	2446268.5	-5.49897	-7.74001	-2.96316	7.53719	-4.83537	-2.32544	9.94619	9.25190	234.61	-17.33
85/ 7/26	2446272.5	-5.48154	-7.75116	-2.96853	7.54859	-4.81917	-2.31924	9.94686	9.25118	234.73	-17.36
85/ 7/30	2446276.5	-5.46409	-7.76227	-2.97388	7.55994	-4.80295	-2.31302	9.94752	9.25046	234.86	-17.39
85/ 8/ 3	2446280.5	-5.44661	-7.77335	-2.97921	7.57126	-4.78671	-2.30679	9.94818	9.24975	234.98	-17.43
85/ 8/ 7	2446284.5	-5.42911	-7.78439	-2.98454	7.58253	-4.77045	-2.30056	9.94884	9.24903	235.11	-17.46
85/ 8/11	2446288.5	-5.41158	-7.79539	-2.98984	7.59377	-4.75418	-2.29431	9.94950	9.24832	235.23	-17.49
85/ 8/15	2446292.5	-5.39402	-7.80636	-2.99514	7.60497	-4.73788	-2.28806	9.95015	9.24761	235.36	-17.52
85/ 8/19	2446296.5	-5.37644	-7.81728	-3.00042	7.61613	-4.72157	-2.28180	9.95081	9.24690	235.48	-17.55
85/ 8/23	2446300.5	-5.35883	-7.82817	-3.00568	7.62725	-4.70524	-2.27553	9.95146	9.24620	235.61	-17.58
85/ 8/27	2446304.5	-5.34120	-7.83902	-3.01093	7.63833	-4.68890	-2.26925	9.95211	9.24550	235.73	-17.61
85/ 8/31	2446308.5	-5.32354	-7.84984	-3.01616	7.64937	-4.67254	-2.26296	9.95275	9.24480	235.86	-17.64
85/ 9/ 4	2446312.5	-5.30586	-7.86061	-3.02139	7.66037	-4.65615	-2.25666	9.95340	9.24411	235.98	-17.67
85/ 9/ 8	2446316.5	-5.28815	-7.87135	-3.02659	7.67134	-4.63976	-2.25035	9.95404	9.24343	236.11	-17.70
85/ 9/12	2446320.5	-5.27041	-7.88205	-3.03178	7.68227	-4.62334	-2.24404	9.95468	9.24274	236.23	-17.73
85/ 9/16	2446324.5	-5.25265	-7.89271	-3.03696	7.69317	-4.60690	-2.23771	9.95532	9.24206	236.36	-17.76
85/ 9/20	2446328.5	-5.23487	-7.90333	-3.04212	7.70402	-4.59044	-2.23138	9.95596	9.24138	236.48	-17.79

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
85/ 9/24	2446332.5	-5.21706	-7.91392	-3.04727	7.71484	-4.57397	-2.22503	9.95659	9.24071	236.61	-17.82
85/ 9/28	2446336.5	-5.19922	-7.92447	-3.05240	7.72562	-4.55747	-2.21868	9.95722	9.24003	236.73	-17.85
85/10/ 2	2446340.5	-5.18136	-7.93498	-3.05752	7.73635	-4.54096	-2.21231	9.95785	9.23936	236.86	-17.88
85/10/ 6	2446344.5	-5.16348	-7.94545	-3.06262	7.74705	-4.52443	-2.20594	9.95848	9.23869	236.98	-17.91
85/10/10	2446348.5	-5.14557	-7.95588	-3.06771	7.75772	-4.50788	-2.19956	9.95911	9.23803	237.11	-17.94
85/10/14	2446352.5	-5.12764	-7.96628	-3.07279	7.76834	-4.49131	-2.19316	9.95973	9.23736	237.23	-17.97
85/10/18	2446356.5	-5.10968	-7.97663	-3.07785	7.77892	-4.47472	-2.18676	9.96035	9.23670	237.36	-18.00
85/10/22	2446360.5	-5.09169	-7.98695	-3.08289	7.78946	-4.45811	-2.18035	9.96097	9.23604	237.48	-18.03
85/10/26	2446364.5	-5.07369	-7.99723	-3.08792	7.79997	-4.44149	-2.17393	9.96159	9.23538	237.61	-18.06
85/10/30	2446368.5	-5.05566	-8.00747	-3.09293	7.81043	-4.42484	-2.16750	9.96220	9.23472	237.73	-18.09
85/11/ 3	2446372.5	-5.03760	-8.01768	-3.09793	7.82086	-4.40818	-2.16106	9.96282	9.23407	237.86	-18.12
85/11/ 7	2446376.5	-5.01952	-8.02784	-3.10292	7.83124	-4.39150	-2.15461	9.96343	9.23342	237.98	-18.15
85/11/11	2446380.5	-5.00142	-8.03797	-3.10789	7.84159	-4.37480	-2.14815	9.96404	9.23276	238.11	-18.17
85/11/15	2446384.5	-4.98329	-8.04805	-3.11284	7.85189	-4.35808	-2.14169	9.96464	9.23211	238.23	-18.20
85/11/19	2446388.5	-4.96514	-8.05810	-3.11778	7.86216	-4.34135	-2.13521	9.96525	9.23146	238.36	-18.23
85/11/23	2446392.5	-4.94696	-8.06811	-3.12271	7.87238	-4.32460	-2.12873	9.96585	9.23082	238.49	-18.26
85/11/27	2446396.5	-4.92877	-8.07808	-3.12762	7.88257	-4.30783	-2.12223	9.96645	9.23017	238.61	-18.29
85/12/ 1	2446400.5	-4.91054	-8.08801	-3.13252	7.89271	-4.29104	-2.11573	9.96705	9.22953	238.74	-18.32
85/12/ 5	2446404.5	-4.89230	-8.09791	-3.13740	7.90282	-4.27424	-2.10922	9.96765	9.22889	238.86	-18.35
85/12/ 9	2446408.5	-4.87403	-8.10776	-3.14226	7.91289	-4.25742	-2.10270	9.96824	9.22826	238.99	-18.37
85/12/13	2446412.5	-4.85574	-8.11758	-3.14711	7.92291	-4.24058	-2.09617	9.96883	9.22762	239.11	-18.40
85/12/17	2446416.5	-4.83742	-8.12736	-3.15195	7.93290	-4.22372	-2.08963	9.96942	9.22699	239.24	-18.43
85/12/21	2446420.5	-4.81909	-8.13709	-3.15677	7.94285	-4.20684	-2.08308	9.97001	9.22635	239.36	-18.46
85/12/25	2446424.5	-4.80072	-8.14679	-3.16157	7.95276	-4.18995	-2.07652	9.97059	9.22572	239.49	-18.49
85/12/29	2446428.5	-4.78234	-8.15645	-3.16636	7.96262	-4.17304	-2.06996	9.97118	9.22509	239.62	-18.51
86/ 1/ 2	2446432.5	-4.76393	-8.16607	-3.17113	7.97245	-4.15611	-2.06338	9.97176	9.22446	239.74	-18.54
86/ 1/ 6	2446436.5	-4.74551	-8.17566	-3.17589	7.98223	-4.13917	-2.05680	9.97234	9.22383	239.87	-18.57
86/ 1/10	2446440.5	-4.72705	-8.18520	-3.18064	7.99197	-4.12221	-2.05020	9.97291	9.22320	239.99	-18.60
86/ 1/14	2446444.5	-4.70858	-8.19470	-3.18537	8.00167	-4.10523	-2.04360	9.97349	9.22258	240.12	-18.63
86/ 1/18	2446448.5	-4.69008	-8.20417	-3.19008	8.01133	-4.08823	-2.03699	9.97406	9.22195	240.24	-18.65
86/ 1/22	2446452.5	-4.67156	-8.21359	-3.19478	8.02095	-4.07122	-2.03037	9.97463	9.22133	240.37	-18.68
86/ 1/26	2446456.5	-4.65302	-8.22298	-3.19946	8.03053	-4.05420	-2.02375	9.97520	9.22071	240.50	-18.71
86/ 1/30	2446460.5	-4.63446	-8.23232	-3.20413	8.04006	-4.03716	-2.01711	9.97576	9.22009	240.62	-18.73
86/ 2/ 3	2446464.5	-4.61588	-8.24163	-3.20878	8.04956	-4.02010	-2.01047	9.97632	9.21947	240.75	-18.76
86/ 2/ 7	2446468.5	-4.59727	-8.25090	-3.21342	8.05901	-4.00303	-2.00382	9.97689	9.21885	240.87	-18.79
86/ 2/11	2446472.5	-4.57864	-8.26013	-3.21804	8.06843	-3.98594	-1.99716	9.97744	9.21824	241.00	-18.82
86/ 2/15	2446476.5	-4.55999	-8.26931	-3.22264	8.07780	-3.96884	-1.99049	9.97800	9.21762	241.13	-18.84
86/ 2/19	2446480.5	-4.54132	-8.27846	-3.22724	8.08713	-3.95172	-1.98382	9.97856	9.21701	241.25	-18.87
86/ 2/23	2446484.5	-4.52262	-8.28757	-3.23181	8.09642	-3.93460	-1.97713	9.97911	9.21640	241.38	-18.90
86/ 2/27	2446488.5	-4.50391	-8.29664	-3.23637	8.10567	-3.91745	-1.97044	9.97966	9.21580	241.50	-18.92
86/ 3/ 3	2446492.5	-4.48517	-8.30567	-3.24091	8.11488	-3.90029	-1.96375	9.98021	9.21520	241.63	-18.95
86/ 3/ 7	2446496.5	-4.46642	-8.31466	-3.24544	8.12406	-3.88312	-1.95704	9.98075	9.21460	241.76	-18.98
86/ 3/11	2446500.5	-4.44764	-8.32361	-3.24996	8.13319	-3.86593	-1.95033	9.98129	9.21401	241.88	-19.00
86/ 3/15	2446504.5	-4.42884	-8.33252	-3.25445	8.14229	-3.84872	-1.94361	9.98184	9.21342	242.01	-19.03
86/ 3/19	2446508.5	-4.41002	-8.34140	-3.25894	8.15134	-3.83150	-1.93688	9.98237	9.21283	242.14	-19.05

1.6 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
86/ 3/23	2446512.5	-4.39118	-8.35023	-3.26340	8.16035	-3.81427	-1.93014	9.98291	9.21225	242.26	-19.08
86/ 3/27	2446516.5	-4.37231	-8.35902	-3.26786	8.16933	-3.79702	-1.92340	9.98345	9.21166	242.39	-19.11
86/ 3/31	2446520.5	-4.35343	-8.36777	-3.27229	8.17826	-3.77975	-1.91664	9.98398	9.21108	242.51	-19.13
86/ 4/ 4	2446524.5	-4.33453	-8.37648	-3.27671	8.18715	-3.76247	-1.90988	9.98451	9.21050	242.64	-19.16
86/ 4/ 8	2446528.5	-4.31560	-8.38515	-3.28112	8.19601	-3.74517	-1.90311	9.98504	9.20992	242.77	-19.18
86/ 4/12	2446532.5	-4.29666	-8.39379	-3.28550	8.20482	-3.72786	-1.89633	9.98556	9.20935	242.89	-19.21
86/ 4/16	2446536.5	-4.27769	-8.40238	-3.28988	8.21359	-3.71054	-1.88955	9.98609	9.20878	243.02	-19.24
86/ 4/20	2446540.5	-4.25871	-8.41093	-3.29423	8.22232	-3.69320	-1.88276	9.98661	9.20821	243.15	-19.26
86/ 4/24	2446544.5	-4.23970	-8.41944	-3.29858	8.23102	-3.67585	-1.87596	9.98713	9.20764	243.27	-19.29
86/ 4/28	2446548.5	-4.22068	-8.42791	-3.30290	8.23967	-3.65848	-1.86915	9.98764	9.20708	243.40	-19.31
86/ 5/ 2	2446552.5	-4.20163	-8.43635	-3.30721	8.24828	-3.64109	-1.86233	9.98816	9.20652	243.52	-19.34
86/ 5/ 6	2446556.5	-4.18257	-8.44474	-3.31151	8.25685	-3.62370	-1.85551	9.98867	9.20596	243.65	-19.36
86/ 5/10	2446560.5	-4.16348	-8.45309	-3.31578	8.26538	-3.60628	-1.84868	9.98918	9.20540	243.78	-19.39
86/ 5/14	2446564.5	-4.14438	-8.46140	-3.32005	8.27387	-3.58886	-1.84184	9.98969	9.20484	243.90	-19.41
86/ 5/18	2446568.5	-4.12526	-8.46967	-3.32429	8.28232	-3.57142	-1.83499	9.99020	9.20429	244.03	-19.44
86/ 5/22	2446572.5	-4.10611	-8.47790	-3.32853	8.29073	-3.55396	-1.82814	9.99070	9.20374	244.16	-19.46
86/ 5/26	2446576.5	-4.08695	-8.48609	-3.33274	8.29909	-3.53650	-1.82128	9.99120	9.20320	244.28	-19.49
86/ 5/30	2446580.5	-4.06777	-8.49424	-3.33694	8.30742	-3.51901	-1.81441	9.99170	9.20265	244.41	-19.51
86/ 6/ 3	2446584.5	-4.04857	-8.50235	-3.34112	8.31572	-3.50152	-1.80753	9.99220	9.20212	244.54	-19.53
86/ 6/ 7	2446588.5	-4.02935	-8.51042	-3.34529	8.32397	-3.48400	-1.80065	9.99269	9.20158	244.66	-19.56
86/ 6/11	2446592.5	-4.01011	-8.51845	-3.34944	8.33218	-3.46648	-1.79376	9.99318	9.20104	244.79	-19.58
86/ 6/15	2446596.5	-3.99085	-8.52644	-3.35358	8.34034	-3.44893	-1.78686	9.99367	9.20051	244.92	-19.61
86/ 6/19	2446600.5	-3.97157	-8.53438	-3.35770	8.34847	-3.43137	-1.77995	9.99416	9.19997	245.04	-19.63
86/ 6/23	2446604.5	-3.95228	-8.54229	-3.36180	8.35656	-3.41380	-1.77303	9.99465	9.19944	245.17	-19.66
86/ 6/27	2446608.5	-3.93296	-8.55016	-3.36589	8.36460	-3.39621	-1.76611	9.99513	9.19891	245.30	-19.68
86/ 7/ 1	2446612.5	-3.91363	-8.55798	-3.36996	8.37260	-3.37861	-1.75917	9.99561	9.19838	245.43	-19.70
86/ 7/ 5	2446616.5	-3.89428	-8.56577	-3.37402	8.38056	-3.36099	-1.75223	9.99609	9.19785	245.55	-19.73
86/ 7/ 9	2446620.5	-3.87491	-8.57351	-3.37806	8.38848	-3.34336	-1.74528	9.99656	9.19732	245.68	-19.75
86/ 7/13	2446624.5	-3.85552	-8.58121	-3.38208	8.39635	-3.32572	-1.73833	9.99704	9.19679	245.81	-19.77
86/ 7/17	2446628.5	-3.83611	-8.58888	-3.38609	8.40418	-3.30806	-1.73137	9.99751	9.19626	245.93	-19.80
86/ 7/21	2446632.5	-3.81669	-8.59650	-3.39008	8.41197	-3.29039	-1.72440	9.99798	9.19573	246.06	-19.82
86/ 7/25	2446636.5	-3.79725	-8.60408	-3.39406	8.41972	-3.27271	-1.71742	9.99845	9.19520	246.19	-19.84
86/ 7/29	2446640.5	-3.77779	-8.61162	-3.39802	8.42742	-3.25501	-1.71043	9.99891	9.19468	246.31	-19.87
86/ 8/ 2	2446644.5	-3.75831	-8.61912	-3.40196	8.43508	-3.23731	-1.70344	9.99937	9.19415	246.44	-19.89
86/ 8/ 6	2446648.5	-3.73881	-8.62658	-3.40589	8.44270	-3.21958	-1.69644	9.99983	9.19363	246.57	-19.91
86/ 8/10	2446652.5	-3.71930	-8.63399	-3.40980	8.45027	-3.20185	-1.68944	10.00029	9.19310	246.69	-19.94
86/ 8/14	2446656.5	-3.69977	-8.64137	-3.41370	8.45780	-3.18411	-1.68243	10.00075	9.19258	246.82	-19.96
86/ 8/18	2446660.5	-3.68022	-8.64871	-3.41757	8.46529	-3.16635	-1.67541	10.00120	9.19206	246.95	-19.98
86/ 8/22	2446664.5	-3.66066	-8.65600	-3.42144	8.47274	-3.14859	-1.66839	10.00165	9.19154	247.08	-20.00
86/ 8/26	2446668.5	-3.64108	-8.66325	-3.42528	8.48014	-3.13081	-1.66136	10.00210	9.19103	247.20	-20.03
86/ 8/30	2446672.5	-3.62148	-8.67047	-3.42911	8.48751	-3.11302	-1.65432	10.00254	9.19051	247.33	-20.05
86/ 9/ 3	2446676.5	-3.60186	-8.67764	-3.43293	8.49483	-3.09522	-1.64728	10.00299	9.19000	247.46	-20.07
86/ 9/ 7	2446680.5	-3.58223	-8.68477	-3.43672	8.50211	-3.07741	-1.64023	10.00343	9.18949	247.59	-20.09
86/ 9/11	2446684.5	-3.56258	-8.69186	-3.44050	8.50935	-3.05959	-1.63317	10.00387	9.18898	247.71	-20.12
86/ 9/15	2446688.5	-3.54291	-8.69890	-3.44427	8.51655	-3.04175	-1.62611	10.00431	9.18848	247.84	-20.14

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86/ 9/19	2446692.5	-3.52323	-8.70591	-3.44802	8.52370	-3.02391	-1.61904	10.00474	9.18797	247.97	-20.16
86/ 9/23	2446696.5	-3.50353	-8.71287	-3.45175	8.53081	-3.00605	-1.61196	10.00517	9.18747	248.09	-20.18
86/ 9/27	2446700.5	-3.48381	-8.71980	-3.45547	8.53788	-2.98818	-1.60488	10.00560	9.18697	248.22	-20.20
86/10/ 1	2446704.5	-3.46408	-8.72668	-3.45916	8.54491	-2.97031	-1.59779	10.00603	9.18647	248.35	-20.23
86/10/ 5	2446708.5	-3.44433	-8.73352	-3.46285	8.55190	-2.95242	-1.59070	10.00646	9.18597	248.48	-20.25
86/10/ 9	2446712.5	-3.42457	-8.74032	-3.46651	8.55884	-2.93452	-1.58360	10.00688	9.18547	248.60	-20.27
86/10/13	2446716.5	-3.40479	-8.74708	-3.47016	8.56574	-2.91662	-1.57649	10.00730	9.18498	248.73	-20.29
86/10/17	2446720.5	-3.38499	-8.75380	-3.47380	8.57260	-2.89870	-1.56938	10.00772	9.18449	248.86	-20.31
86/10/21	2446724.5	-3.36518	-8.76047	-3.47742	8.57942	-2.88078	-1.56226	10.00813	9.18400	248.99	-20.33
86/10/25	2446728.5	-3.34535	-8.76711	-3.48102	8.58619	-2.86284	-1.55514	10.00855	9.18352	249.11	-20.35
86/10/29	2446732.5	-3.32551	-8.77370	-3.48460	8.59293	-2.84490	-1.54801	10.00896	9.18304	249.24	-20.37
86/11/ 2	2446736.5	-3.30565	-8.78025	-3.48817	8.59962	-2.82694	-1.54088	10.00937	9.18256	249.37	-20.40
86/11/ 6	2446740.5	-3.28578	-8.78676	-3.49172	8.60628	-2.80898	-1.53374	10.00978	9.18209	249.50	-20.42
86/11/10	2446744.5	-3.26589	-8.79323	-3.49525	8.61289	-2.79101	-1.52659	10.01018	9.18161	249.62	-20.44
86/11/14	2446748.5	-3.24598	-8.79966	-3.49877	8.61946	-2.77303	-1.51944	10.01058	9.18115	249.75	-20.46
86/11/18	2446752.5	-3.22606	-8.80604	-3.50228	8.62599	-2.75504	-1.51229	10.01098	9.18069	249.88	-20.48
86/11/22	2446756.5	-3.20613	-8.81239	-3.50576	8.63249	-2.73704	-1.50513	10.01138	9.18023	250.01	-20.50
86/11/26	2446760.5	-3.18618	-8.81869	-3.50923	8.63894	-2.71903	-1.49796	10.01178	9.17978	250.14	-20.52
86/11/30	2446764.5	-3.16621	-8.82495	-3.51268	8.64536	-2.70101	-1.49079	10.01217	9.17933	250.26	-20.54
86/12/ 4	2446768.5	-3.14623	-8.83117	-3.51612	8.65173	-2.68298	-1.48361	10.01256	9.17889	250.39	-20.56
86/12/ 8	2446772.5	-3.12624	-8.83735	-3.51954	8.65807	-2.66494	-1.47643	10.01295	9.17845	250.52	-20.58
86/12/12	2446776.5	-3.10623	-8.84348	-3.52294	8.66436	-2.64689	-1.46923	10.01334	9.17801	250.65	-20.60
86/12/16	2446780.5	-3.08621	-8.84958	-3.52632	8.67062	-2.62883	-1.46204	10.01372	9.17757	250.77	-20.62
86/12/20	2446784.5	-3.06617	-8.85563	-3.52969	8.67683	-2.61076	-1.45483	10.01410	9.17714	250.90	-20.64
86/12/24	2446788.5	-3.04612	-8.86164	-3.53305	8.68300	-2.59267	-1.44762	10.01448	9.17671	251.03	-20.66
86/12/28	2446792.5	-3.02605	-8.86761	-3.53638	8.68913	-2.57458	-1.44041	10.01486	9.17629	251.16	-20.68

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86/12/16	2446780.5	-3.08621	-8.84958	-3.52632	8.67062	-2.62883	-1.46204	10.01372	9.17757	250.77	-20.62
86/12/20	2446784.5	-3.06617	-8.85563	-3.52969	8.67683	-2.61076	-1.45483	10.01410	9.17714	250.90	-20.64
86/12/24	2446788.5	-3.04612	-8.86164	-3.53305	8.68300	-2.59267	-1.44762	10.01448	9.17671	251.03	-20.66
86/12/28	2446792.5	-3.02605	-8.86761	-3.53638	8.68913	-2.57458	-1.44041	10.01486	9.17629	251.16	-20.68
87/ 1/ 1	2446796.5	-3.00597	-8.87353	-3.53970	8.69523	-2.55648	-1.43319	10.01524	9.17587	251.29	-20.70
87/ 1/ 5	2446800.5	-2.98587	-8.87942	-3.54300	8.70128	-2.53836	-1.42596	10.01561	9.17545	251.41	-20.72
87/ 1/ 9	2446804.5	-2.96577	-8.88526	-3.54629	8.70729	-2.52024	-1.41873	10.01598	9.17503	251.54	-20.74
87/ 1/13	2446808.5	-2.94564	-8.89106	-3.54956	8.71326	-2.50211	-1.41149	10.01635	9.17462	251.67	-20.76
87/ 1/17	2446812.5	-2.92551	-8.89682	-3.55281	8.71918	-2.48396	-1.40424	10.01671	9.17421	251.80	-20.77
87/ 1/21	2446816.5	-2.90536	-8.90254	-3.55605	8.72507	-2.46581	-1.39699	10.01708	9.17380	251.93	-20.79
87/ 1/25	2446820.5	-2.88519	-8.90822	-3.55927	8.73091	-2.44764	-1.38973	10.01744	9.17339	252.05	-20.81
87/ 1/29	2446824.5	-2.86502	-8.91385	-3.56247	8.73672	-2.42947	-1.38247	10.01779	9.17299	252.18	-20.83
87/ 2/ 2	2446828.5	-2.84483	-8.91944	-3.56565	8.74248	-2.41128	-1.37520	10.01815	9.17259	252.31	-20.85
87/ 2/ 6	2446832.5	-2.82462	-8.92499	-3.56882	8.74820	-2.39309	-1.36792	10.01850	9.17219	252.44	-20.87
87/ 2/10	2446836.5	-2.80441	-8.93050	-3.57197	8.75387	-2.37489	-1.36064	10.01886	9.17179	252.57	-20.89
87/ 2/14	2446840.5	-2.78418	-8.93596	-3.57511	8.75951	-2.35667	-1.35336	10.01921	9.17140	252.69	-20.91
87/ 2/18	2446844.5	-2.76394	-8.94139	-3.57823	8.76511	-2.33845	-1.34606	10.01955	9.17101	252.82	-20.92
87/ 2/22	2446848.5	-2.74368	-8.94677	-3.58133	8.77066	-2.32022	-1.33877	10.01990	9.17062	252.95	-20.94
87/ 2/26	2446852.5	-2.72341	-8.95211	-3.58441	8.77618	-2.30198	-1.33146	10.02024	9.17023	253.08	-20.96
87/ 3/ 2	2446856.5	-2.70313	-8.95740	-3.58748	8.78165	-2.28372	-1.32415	10.02058	9.16985	253.21	-20.98
87/ 3/ 6	2446860.5	-2.68284	-8.96266	-3.59053	8.78708	-2.26546	-1.31683	10.02092	9.16946	253.34	-21.00
87/ 3/10	2446864.5	-2.66253	-8.96787	-3.59356	8.79246	-2.24719	-1.30951	10.02125	9.16908	253.46	-21.01
87/ 3/14	2446868.5	-2.64221	-8.97304	-3.59658	8.79780	-2.22890	-1.30218	10.02158	9.16870	253.59	-21.03
87/ 3/18	2446872.5	-2.62188	-8.97817	-3.59958	8.80310	-2.21061	-1.29485	10.02191	9.16832	253.72	-21.05
87/ 3/22	2446876.5	-2.60154	-8.98325	-3.60256	8.80836	-2.19231	-1.28751	10.02224	9.16794	253.85	-21.07
87/ 3/26	2446880.5	-2.58119	-8.98830	-3.60553	8.81357	-2.17400	-1.28016	10.02257	9.16756	253.98	-21.08
87/ 3/30	2446884.5	-2.56082	-8.99330	-3.60848	8.81874	-2.15569	-1.27281	10.02289	9.16718	254.11	-21.10
87/ 4/ 3	2446888.5	-2.54044	-8.99826	-3.61141	8.82387	-2.13736	-1.26545	10.02321	9.16681	254.23	-21.12
87/ 4/ 7	2446892.5	-2.52005	-9.00317	-3.61433	8.82895	-2.11903	-1.25809	10.02353	9.16643	254.36	-21.14
87/ 4/11	2446896.5	-2.49965	-9.00805	-3.61722	8.83399	-2.10068	-1.25073	10.02385	9.16605	254.49	-21.15
87/ 4/15	2446900.5	-2.47923	-9.01288	-3.62010	8.83898	-2.08233	-1.24335	10.02416	9.16568	254.62	-21.17
87/ 4/19	2446904.5	-2.45881	-9.01767	-3.62297	8.84394	-2.06398	-1.23598	10.02447	9.16531	254.75	-21.19
87/ 4/23	2446908.5	-2.43837	-9.02242	-3.62582	8.84885	-2.04561	-1.22860	10.02478	9.16494	254.88	-21.20
87/ 4/27	2446912.5	-2.41792	-9.02712	-3.62864	8.85371	-2.02724	-1.22121	10.02509	9.16457	255.01	-21.22
87/ 5/ 1	2446916.5	-2.39746	-9.03178	-3.63146	8.85853	-2.00887	-1.21382	10.02539	9.16420	255.13	-21.24
87/ 5/ 5	2446920.5	-2.37699	-9.03640	-3.63425	8.86331	-1.99049	-1.20643	10.02569	9.16383	255.26	-21.25
87/ 5/ 9	2446924.5	-2.35651	-9.04098	-3.63703	8.86805	-1.97210	-1.19903	10.02599	9.16346	255.39	-21.27
87/ 5/13	2446928.5	-2.33602	-9.04551	-3.63979	8.87274	-1.95370	-1.19162	10.02629	9.16310	255.52	-21.29
87/ 5/17	2446932.5	-2.31552	-9.05001	-3.64254	8.87739	-1.93530	-1.18422	10.02658	9.16274	255.65	-21.30
87/ 5/21	2446936.5	-2.29500	-9.05446	-3.64526	8.88201	-1.91690	-1.17681	10.02687	9.16239	255.78	-21.32
87/ 5/25	2446940.5	-2.27448	-9.05886	-3.64797	8.88658	-1.89848	-1.16939	10.02716	9.16204	255.91	-21.33
87/ 5/29	2446944.5	-2.25394	-9.06323	-3.65067	8.89110	-1.88006	-1.16197	10.02745	9.16169	256.03	-21.35
87/ 6/ 2	2446948.5	-2.23340	-9.06755	-3.65334	8.89559	-1.86163	-1.15454	10.02773	9.16134	256.16	-21.37
87/ 6/ 6	2446952.5	-2.21284	-9.07183	-3.65600	8.90003	-1.84320	-1.14711	10.02802	9.16100	256.29	-21.38
87/ 6/10	2446956.5	-2.19228	-9.07607	-3.65864	8.90443	-1.82476	-1.13968	10.02830	9.16065	256.42	-21.40

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
87/ 6/14	2446960.5	-2.17170	-9.08026	-3.66127	8.90879	-1.80631	-1.13224	10.02857	9.16031	256.55	-21.41
87/ 6/18	2446964.5	-2.15112	-9.08441	-3.66387	8.91311	-1.78786	-1.12480	10.02885	9.15997	256.68	-21.43
87/ 6/22	2446968.5	-2.13052	-9.08852	-3.66646	8.91738	-1.76940	-1.11735	10.02912	9.15964	256.81	-21.44
87/ 6/26	2446972.5	-2.10992	-9.09259	-3.66904	8.92161	-1.75094	-1.10990	10.02939	9.15930	256.94	-21.46
87/ 6/30	2446976.5	-2.08930	-9.09661	-3.67159	8.92580	-1.73247	-1.10245	10.02966	9.15897	257.06	-21.47
87/ 7/ 4	2446980.5	-2.06867	-9.10059	-3.67413	8.92995	-1.71400	-1.09499	10.02993	9.15865	257.19	-21.49
87/ 7/ 8	2446984.5	-2.04804	-9.10453	-3.67665	8.93406	-1.69551	-1.08752	10.03019	9.15832	257.32	-21.50
87/ 7/12	2446988.5	-2.02740	-9.10843	-3.67916	8.93812	-1.67703	-1.08006	10.03045	9.15800	257.45	-21.52
87/ 7/16	2446992.5	-2.00674	-9.11228	-3.68164	8.94214	-1.65854	-1.07258	10.03071	9.15768	257.58	-21.53
87/ 7/20	2446996.5	-1.98608	-9.11609	-3.68411	8.94612	-1.64004	-1.06511	10.03097	9.15736	257.71	-21.55
87/ 7/24	2447000.5	-1.96541	-9.11986	-3.68656	8.95006	-1.62154	-1.05763	10.03122	9.15705	257.84	-21.56
87/ 7/28	2447004.5	-1.94473	-9.12358	-3.68900	8.95396	-1.60303	-1.05014	10.03147	9.15674	257.97	-21.58
87/ 8/ 1	2447008.5	-1.92404	-9.12726	-3.69142	8.95781	-1.58451	-1.04266	10.03172	9.15643	258.10	-21.59
87/ 8/ 5	2447012.5	-1.90334	-9.13090	-3.69382	8.96163	-1.56600	-1.03517	10.03197	9.15613	258.23	-21.60
87/ 8/ 9	2447016.5	-1.88263	-9.13450	-3.69620	8.96540	-1.54747	-1.02767	10.03221	9.15583	258.35	-21.62
87/ 8/13	2447020.5	-1.86192	-9.13805	-3.69856	8.96913	-1.52895	-1.02017	10.03245	9.15553	258.48	-21.63
87/ 8/17	2447024.5	-1.84119	-9.14156	-3.70091	8.97283	-1.51041	-1.01267	10.03269	9.15524	258.61	-21.65
87/ 8/21	2447028.5	-1.82046	-9.14503	-3.70324	8.97648	-1.49187	-1.00516	10.03293	9.15495	258.74	-21.66
87/ 8/25	2447032.5	-1.79972	-9.14846	-3.70556	8.98009	-1.47332	-0.99765	10.03316	9.15467	258.87	-21.67
87/ 8/29	2447036.5	-1.77897	-9.15184	-3.70785	8.98366	-1.45477	-0.99013	10.03340	9.15439	259.00	-21.69
87/ 9/ 2	2447040.5	-1.75821	-9.15518	-3.71013	8.98718	-1.43621	-0.98261	10.03363	9.15411	259.13	-21.70
87/ 9/ 6	2447044.5	-1.73744	-9.15847	-3.71239	8.99067	-1.41764	-0.97509	10.03385	9.15383	259.26	-21.71
87/ 9/10	2447048.5	-1.71667	-9.16173	-3.71464	8.99411	-1.39907	-0.96756	10.03408	9.15355	259.39	-21.73
87/ 9/14	2447052.5	-1.69589	-9.16494	-3.71686	8.99750	-1.38049	-0.96002	10.03430	9.15328	259.52	-21.74
87/ 9/18	2447056.5	-1.67510	-9.16811	-3.71907	9.00086	-1.36191	-0.95249	10.03452	9.15300	259.65	-21.75
87/ 9/22	2447060.5	-1.65430	-9.17123	-3.72126	9.00417	-1.34332	-0.94494	10.03474	9.15273	259.77	-21.77
87/ 9/26	2447064.5	-1.63350	-9.17431	-3.72344	9.00744	-1.32472	-0.93740	10.03495	9.15246	259.90	-21.78
87/ 9/30	2447068.5	-1.61268	-9.17735	-3.72559	9.01067	-1.30612	-0.92985	10.03517	9.15220	260.03	-21.79
87/10/ 4	2447072.5	-1.59186	-9.18035	-3.72773	9.01385	-1.28752	-0.92229	10.03538	9.15193	260.16	-21.81
87/10/ 8	2447076.5	-1.57104	-9.18330	-3.72986	9.01699	-1.26891	-0.91473	10.03559	9.15167	260.29	-21.82
87/10/12	2447080.5	-1.55020	-9.18621	-3.73196	9.02009	-1.25030	-0.90717	10.03579	9.15140	260.42	-21.83
87/10/16	2447084.5	-1.52936	-9.18908	-3.73405	9.02314	-1.23168	-0.89961	10.03599	9.15114	260.55	-21.84
87/10/20	2447088.5	-1.50851	-9.19190	-3.73612	9.02615	-1.21306	-0.89204	10.03619	9.15088	260.68	-21.86
87/10/24	2447092.5	-1.48766	-9.19468	-3.73817	9.02912	-1.19443	-0.88446	10.03639	9.15062	260.81	-21.87
87/10/28	2447096.5	-1.46679	-9.19742	-3.74020	9.03204	-1.17580	-0.87689	10.03659	9.15037	260.94	-21.88
87/11/ 1	2447100.5	-1.44593	-9.20011	-3.74222	9.03492	-1.15717	-0.86931	10.03678	9.15011	261.07	-21.89
87/11/ 5	2447104.5	-1.42505	-9.20277	-3.74422	9.03776	-1.13854	-0.86173	10.03697	9.14986	261.20	-21.90
87/11/ 9	2447108.5	-1.40417	-9.20537	-3.74620	9.04056	-1.11990	-0.85414	10.03716	9.14961	261.33	-21.92
87/11/13	2447112.5	-1.38328	-9.20794	-3.74817	9.04331	-1.10126	-0.84656	10.03735	9.14937	261.46	-21.93
87/11/17	2447116.5	-1.36238	-9.21046	-3.75011	9.04603	-1.08261	-0.83896	10.03753	9.14913	261.59	-21.94
87/11/21	2447120.5	-1.34148	-9.21294	-3.75204	9.04870	-1.06396	-0.83137	10.03771	9.14888	261.72	-21.95
87/11/25	2447124.5	-1.32058	-9.21538	-3.75395	9.05132	-1.04531	-0.82377	10.03789	9.14865	261.84	-21.96
87/11/29	2447128.5	-1.29966	-9.21777	-3.75585	9.05391	-1.02665	-0.81617	10.03807	9.14841	261.97	-21.97
87/12/ 3	2447132.5	-1.27874	-9.22012	-3.75773	9.05645	-1.00799	-0.80856	10.03824	9.14817	262.10	-21.98
87/12/ 7	2447136.5	-1.25782	-9.22243	-3.75958	9.05895	-0.98933	-0.80095	10.03841	9.14794	262.23	-21.99

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87/12/11	2447140.5	-1.23689	-9.22469	-3.76143	9.06140	-0.97066	-0.79334	10.03858	9.14771	262.36	-22.01
87/12/15	2447144.5	-1.21595	-9.22691	-3.76325	9.06381	-0.95200	-0.78573	10.03875	9.14748	262.49	-22.02
87/12/19	2447148.5	-1.19501	-9.22909	-3.76506	9.06618	-0.93333	-0.77811	10.03892	9.14725	262.62	-22.03
87/12/23	2447152.5	-1.17406	-9.23123	-3.76685	9.06851	-0.91466	-0.77049	10.03908	9.14703	262.75	-22.04
87/12/27	2447156.5	-1.15311	-9.23332	-3.76862	9.07079	-0.89598	-0.76287	10.03924	9.14681	262.88	-22.05
87/12/31	2447160.5	-1.13215	-9.23537	-3.77037	9.07304	-0.87731	-0.75524	10.03939	9.14659	263.01	-22.06
88/ 1/ 4	2447164.5	-1.11119	-9.23737	-3.77211	9.07523	-0.85863	-0.74762	10.03955	9.14637	263.14	-22.07
88/ 1/ 8	2447168.5	-1.09022	-9.23933	-3.77382	9.07739	-0.83995	-0.73999	10.03970	9.14615	263.27	-22.08
88/ 1/12	2447172.5	-1.06925	-9.24125	-3.77552	9.07951	-0.82127	-0.73235	10.03985	9.14594	263.40	-22.09
88/ 1/16	2447176.5	-1.04827	-9.24313	-3.77721	9.08158	-0.80258	-0.72472	10.04000	9.14573	263.53	-22.10
88/ 1/20	2447180.5	-1.02729	-9.24496	-3.77887	9.08361	-0.78390	-0.71708	10.04014	9.14553	263.66	-22.11
88/ 1/24	2447184.5	-1.00630	-9.24675	-3.78052	9.08560	-0.76521	-0.70944	10.04029	9.14533	263.79	-22.12
88/ 1/28	2447188.5	-0.98531	-9.24850	-3.78215	9.08755	-0.74653	-0.70180	10.04043	9.14513	263.92	-22.13
88/ 2/ 1	2447192.5	-0.96431	-9.25020	-3.78376	9.08946	-0.72784	-0.69416	10.04056	9.14493	264.05	-22.14
88/ 2/ 5	2447196.5	-0.94331	-9.25186	-3.78536	9.09132	-0.70915	-0.68651	10.04070	9.14475	264.18	-22.15
88/ 2/ 9	2447200.5	-0.92231	-9.25348	-3.78694	9.09315	-0.69046	-0.67886	10.04083	9.14456	264.31	-22.16
88/ 2/13	2447204.5	-0.90130	-9.25505	-3.78849	9.09494	-0.67177	-0.67121	10.04096	9.14438	264.44	-22.17
88/ 2/17	2447208.5	-0.88029	-9.25658	-3.79004	9.09669	-0.65307	-0.66356	10.04109	9.14421	264.57	-22.18
88/ 2/21	2447212.5	-0.85927	-9.25807	-3.79156	9.09839	-0.63437	-0.65590	10.04122	9.14404	264.70	-22.19
88/ 2/25	2447216.5	-0.83825	-9.25951	-3.79307	9.10006	-0.61567	-0.64824	10.04134	9.14387	264.83	-22.19
88/ 2/29	2447220.5	-0.81723	-9.26091	-3.79456	9.10168	-0.59697	-0.64058	10.04146	9.14370	264.96	-22.20
88/ 3/ 4	2447224.5	-0.79620	-9.26227	-3.79603	9.10326	-0.57826	-0.63291	10.04158	9.14354	265.09	-22.21
88/ 3/ 8	2447228.5	-0.77517	-9.26358	-3.79748	9.10480	-0.55955	-0.62524	10.04170	9.14338	265.22	-22.22
88/ 3/12	2447232.5	-0.75413	-9.26485	-3.79892	9.10630	-0.54084	-0.61757	10.04181	9.14323	265.35	-22.23
88/ 3/16	2447236.5	-0.73309	-9.26608	-3.80033	9.10776	-0.52213	-0.60990	10.04192	9.14308	265.48	-22.24
88/ 3/20	2447240.5	-0.71205	-9.26727	-3.80173	9.10918	-0.50341	-0.60222	10.04203	9.14293	265.61	-22.25
88/ 3/24	2447244.5	-0.69100	-9.26841	-3.80312	9.11055	-0.48469	-0.59454	10.04214	9.14278	265.74	-22.25
88/ 3/28	2447248.5	-0.66995	-9.26951	-3.80448	9.11188	-0.46597	-0.58686	10.04224	9.14264	265.87	-22.26
88/ 4/ 1	2447252.5	-0.64890	-9.27056	-3.80583	9.11317	-0.44724	-0.57917	10.04234	9.14250	266.00	-22.27
88/ 4/ 5	2447256.5	-0.62785	-9.27157	-3.80716	9.11442	-0.42852	-0.57148	10.04244	9.14236	266.13	-22.28
88/ 4/ 9	2447260.5	-0.60679	-9.27254	-3.80847	9.11562	-0.40979	-0.56379	10.04254	9.14223	266.26	-22.29
88/ 4/13	2447264.5	-0.58573	-9.27347	-3.80976	9.11679	-0.39106	-0.55610	10.04263	9.14210	266.39	-22.29
88/ 4/17	2447268.5	-0.56467	-9.27435	-3.81104	9.11790	-0.37233	-0.54840	10.04273	9.14197	266.52	-22.30
88/ 4/21	2447272.5	-0.54360	-9.27519	-3.81230	9.11898	-0.35360	-0.54070	10.04282	9.14184	266.65	-22.31
88/ 4/25	2447276.5	-0.52254	-9.27598	-3.81354	9.12002	-0.33486	-0.53300	10.04290	9.14171	266.78	-22.32
88/ 4/29	2447280.5	-0.50147	-9.27673	-3.81476	9.12101	-0.31613	-0.52530	10.04299	9.14159	266.91	-22.32
88/ 5/ 3	2447284.5	-0.48039	-9.27744	-3.81596	9.12196	-0.29739	-0.51759	10.04307	9.14147	267.04	-22.33
88/ 5/ 7	2447288.5	-0.45932	-9.27811	-3.81715	9.12287	-0.27865	-0.50988	10.04315	9.14136	267.17	-22.34
88/ 5/11	2447292.5	-0.43824	-9.27873	-3.81832	9.12374	-0.25991	-0.50217	10.04323	9.14125	267.30	-22.35
88/ 5/15	2447296.5	-0.41716	-9.27931	-3.81947	9.12457	-0.24116	-0.49446	10.04330	9.14114	267.43	-22.35
88/ 5/19	2447300.5	-0.39608	-9.27984	-3.82060	9.12535	-0.22242	-0.48674	10.04337	9.14103	267.56	-22.36
88/ 5/23	2447304.5	-0.37500	-9.28034	-3.82172	9.12609	-0.20367	-0.47902	10.04344	9.14092	267.69	-22.37
88/ 5/27	2447308.5	-0.35392	-9.28078	-3.82282	9.12678	-0.18492	-0.47130	10.04351	9.14081	267.82	-22.37
88/ 5/31	2447312.5	-0.33283	-9.28119	-3.82390	9.12743	-0.16617	-0.46357	10.04358	9.14070	267.95	-22.38
88/ 6/ 4	2447316.5	-0.31175	-9.28155	-3.82496	9.12804	-0.14742	-0.45584	10.04364	9.14060	268.08	-22.39

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88/ 6/ 8	2447320.5	-0.29066	-9.28187	-3.82600	9.12860	-0.12867	-0.44811	10.04370	9.14050	268.21	-22.39
88/ 6/12	2447324.5	-0.26957	-9.28215	-3.82703	9.12912	-0.10991	-0.44038	10.04376	9.14039	268.34	-22.40
88/ 6/16	2447328.5	-0.24848	-9.28238	-3.82804	9.12959	-0.09116	-0.43265	10.04381	9.14029	268.47	-22.40
88/ 6/20	2447332.5	-0.22739	-9.28257	-3.82903	9.13002	-0.07241	-0.42491	10.04386	9.14019	268.60	-22.41
88/ 6/24	2447336.5	-0.20630	-9.28271	-3.83000	9.13040	-0.05366	-0.41718	10.04391	9.14009	268.73	-22.42
88/ 6/28	2447340.5	-0.18520	-9.28282	-3.83095	9.13075	-0.03490	-0.40944	10.04396	9.13999	268.86	-22.42
88/ 7/ 2	2447344.5	-0.16411	-9.28287	-3.83189	9.13104	-0.01615	-0.40170	10.04401	9.13989	268.99	-22.43
88/ 7/ 6	2447348.5	-0.14301	-9.28289	-3.83281	9.13130	0.00260	-0.39396	10.04405	9.13979	269.12	-22.43
88/ 7/10	2447352.5	-0.12192	-9.28286	-3.83371	9.13151	0.02134	-0.38621	10.04409	9.13969	269.25	-22.44
88/ 7/14	2447356.5	-0.10082	-9.28279	-3.83460	9.13167	0.04009	-0.37847	10.04413	9.13960	269.38	-22.44
88/ 7/18	2447360.5	-0.07973	-9.28268	-3.83546	9.13179	0.05883	-0.37072	10.04416	9.13950	269.51	-22.45
88/ 7/22	2447364.5	-0.05863	-9.28252	-3.83631	9.13187	0.07757	-0.36298	10.04420	9.13941	269.64	-22.45
88/ 7/26	2447368.5	-0.03753	-9.28232	-3.83714	9.13191	0.09631	-0.35523	10.04423	9.13932	269.77	-22.46
88/ 7/30	2447372.5	-0.01644	-9.28207	-3.83795	9.13190	0.11505	-0.34749	10.04425	9.13923	269.90	-22.46
88/ 8/ 3	2447376.5	0.00466	-9.28179	-3.83874	9.13185	0.13378	-0.33974	10.04428	9.13915	270.03	-22.47
88/ 8/ 7	2447380.5	0.02575	-9.28146	-3.83952	9.13176	0.15252	-0.33199	10.04430	9.13907	270.16	-22.47
88/ 8/11	2447384.5	0.04685	-9.28108	-3.84028	9.13163	0.17125	-0.32424	10.04432	9.13899	270.29	-22.48
88/ 8/15	2447388.5	0.06795	-9.28067	-3.84102	9.13146	0.18998	-0.31649	10.04434	9.13891	270.42	-22.48
88/ 8/19	2447392.5	0.08904	-9.28020	-3.84174	9.13124	0.20871	-0.30873	10.04436	9.13884	270.55	-22.49
88/ 8/23	2447396.5	0.11014	-9.27970	-3.84244	9.13098	0.22743	-0.30098	10.04437	9.13877	270.68	-22.49
88/ 8/27	2447400.5	0.13123	-9.27915	-3.84313	9.13067	0.24616	-0.29322	10.04438	9.13870	270.81	-22.50
88/ 8/31	2447404.5	0.15232	-9.27856	-3.84380	9.13033	0.26488	-0.28547	10.04439	9.13863	270.94	-22.50
88/ 9/ 4	2447408.5	0.17341	-9.27793	-3.84445	9.12994	0.28360	-0.27771	10.04439	9.13856	271.07	-22.50
88/ 9/ 8	2447412.5	0.19451	-9.27725	-3.84508	9.12951	0.30231	-0.26996	10.04440	9.13850	271.20	-22.51
88/ 9/12	2447416.5	0.21560	-9.27653	-3.84570	9.12904	0.32103	-0.26220	10.04440	9.13844	271.33	-22.51
88/ 9/16	2447420.5	0.23668	-9.27577	-3.84629	9.12852	0.33974	-0.25444	10.04440	9.13839	271.46	-22.52
88/ 9/20	2447424.5	0.25777	-9.27496	-3.84687	9.12797	0.35844	-0.24668	10.04439	9.13833	271.59	-22.52
88/ 9/24	2447428.5	0.27886	-9.27411	-3.84743	9.12737	0.37715	-0.23892	10.04439	9.13828	271.72	-22.52
88/ 9/28	2447432.5	0.29994	-9.27322	-3.84798	9.12673	0.39585	-0.23116	10.04438	9.13823	271.85	-22.53
88/10/ 2	2447436.5	0.32103	-9.27228	-3.84850	9.12605	0.41455	-0.22340	10.04437	9.13819	271.98	-22.53
88/10/ 6	2447440.5	0.34211	-9.27131	-3.84901	9.12533	0.43324	-0.21564	10.04435	9.13815	272.11	-22.53
88/10/10	2447444.5	0.36319	-9.27028	-3.84950	9.12456	0.45194	-0.20788	10.04434	9.13811	272.24	-22.54
88/10/14	2447448.5	0.38427	-9.26922	-3.84997	9.12376	0.47062	-0.20012	10.04432	9.13808	272.37	-22.54
88/10/18	2447452.5	0.40535	-9.26811	-3.85042	9.12291	0.48931	-0.19236	10.04430	9.13805	272.50	-22.54
88/10/22	2447456.5	0.42642	-9.26696	-3.85086	9.12202	0.50799	-0.18460	10.04427	9.13802	272.63	-22.54
88/10/26	2447460.5	0.44749	-9.26576	-3.85127	9.12110	0.52667	-0.17683	10.04425	9.13800	272.76	-22.55
88/10/30	2447464.5	0.46856	-9.26452	-3.85167	9.12013	0.54535	-0.16907	10.04422	9.13799	272.90	-22.55
88/11/ 3	2447468.5	0.48963	-9.26324	-3.85206	9.11913	0.56402	-0.16131	10.04419	9.13798	273.03	-22.55
88/11/ 7	2447472.5	0.51070	-9.26192	-3.85242	9.11808	0.58270	-0.15354	10.04416	9.13797	273.16	-22.55
88/11/11	2447476.5	0.53176	-9.26055	-3.85277	9.11699	0.60137	-0.14577	10.04412	9.13797	273.29	-22.56
88/11/15	2447480.5	0.55282	-9.25914	-3.85309	9.11586	0.62004	-0.13801	10.04408	9.13797	273.42	-22.56
88/11/19	2447484.5	0.57388	-9.25768	-3.85340	9.11469	0.63871	-0.13024	10.04404	9.13797	273.55	-22.56
88/11/23	2447488.5	0.59493	-9.25619	-3.85369	9.11348	0.65738	-0.12247	10.04400	9.13798	273.68	-22.56
88/11/27	2447492.5	0.61598	-9.25465	-3.85397	9.11222	0.67604	-0.11470	10.04395	9.13799	273.81	-22.56
88/12/ 1	2447496.5	0.63703	-9.25306	-3.85422	9.11093	0.69471	-0.10692	10.04391	9.13800	273.94	-22.57

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88/12/ 5	2447500.5	0.65808	-9.25144	-3.85446	9.10959	0.71337	-0.09915	10.04386	9.13802	274.07	-22.57
88/12/ 9	2447504.5	0.67912	-9.24977	-3.85468	9.10821	0.73202	-0.09138	10.04380	9.13803	274.20	-22.57
88/12/13	2447508.5	0.70016	-9.24806	-3.85489	9.10679	0.75068	-0.08360	10.04375	9.13806	274.33	-22.57
88/12/17	2447512.5	0.72120	-9.24630	-3.85507	9.10532	0.76933	-0.07582	10.04369	9.13808	274.46	-22.57
88/12/21	2447516.5	0.74223	-9.24450	-3.85524	9.10381	0.78798	-0.06805	10.04363	9.13810	274.59	-22.57
88/12/25	2447520.5	0.76326	-9.24266	-3.85538	9.10226	0.80663	-0.06027	10.04357	9.13813	274.72	-22.57
88/12/29	2447524.5	0.78429	-9.24077	-3.85551	9.10067	0.82528	-0.05249	10.04351	9.13816	274.85	-22.57
89/ 1/ 2	2447528.5	0.80531	-9.23885	-3.85563	9.09903	0.84392	-0.04471	10.04344	9.13819	274.98	-22.58
89/ 1/ 6	2447532.5	0.82633	-9.23687	-3.85572	9.09735	0.86255	-0.03694	10.04337	9.13823	275.11	-22.58
89/ 1/10	2447536.5	0.84734	-9.23486	-3.85580	9.09563	0.88119	-0.02916	10.04330	9.13826	275.24	-22.58
89/ 1/14	2447540.5	0.86835	-9.23280	-3.85586	9.09387	0.89982	-0.02138	10.04322	9.13830	275.37	-22.58
89/ 1/18	2447544.5	0.88936	-9.23070	-3.85590	9.09206	0.91844	-0.01360	10.04315	9.13834	275.50	-22.58
89/ 1/22	2447548.5	0.91036	-9.22856	-3.85592	9.09022	0.93706	-0.00582	10.04307	9.13839	275.63	-22.58
89/ 1/26	2447552.5	0.93136	-9.22637	-3.85592	9.08833	0.95568	0.00196	10.04298	9.13844	275.76	-22.58
89/ 1/30	2447556.5	0.95235	-9.22414	-3.85591	9.08640	0.97430	0.00974	10.04290	9.13849	275.89	-22.58
89/ 2/ 3	2447560.5	0.97334	-9.22187	-3.85588	9.08443	0.99291	0.01752	10.04281	9.13854	276.03	-22.58
89/ 2/ 7	2447564.5	0.99433	-9.21956	-3.85583	9.08241	1.01152	0.02530	10.04272	9.13860	276.16	-22.58
89/ 2/11	2447568.5	1.01531	-9.21720	-3.85576	9.08035	1.03012	0.03309	10.04263	9.13866	276.29	-22.58
89/ 2/15	2447572.5	1.03628	-9.21480	-3.85568	9.07825	1.04872	0.04087	10.04254	9.13871	276.42	-22.58
89/ 2/19	2447576.5	1.05725	-9.21235	-3.85557	9.07610	1.06732	0.04865	10.04244	9.13878	276.55	-22.58
89/ 2/23	2447580.5	1.07822	-9.20987	-3.85545	9.07392	1.08591	0.05643	10.04234	9.13884	276.68	-22.58
89/ 2/27	2447584.5	1.09918	-9.20734	-3.85531	9.07169	1.10450	0.06422	10.04224	9.13890	276.81	-22.58
89/ 3/ 3	2447588.5	1.12013	-9.20476	-3.85515	9.06941	1.12308	0.07200	10.04214	9.13897	276.94	-22.58
89/ 3/ 7	2447592.5	1.14108	-9.20215	-3.85498	9.06709	1.14166	0.07978	10.04203	9.13903	277.07	-22.57
89/ 3/11	2447596.5	1.16202	-9.19949	-3.85479	9.06474	1.16023	0.08756	10.04192	9.13910	277.20	-22.57
89/ 3/15	2447600.5	1.18296	-9.19679	-3.85457	9.06233	1.17879	0.09534	10.04181	9.13918	277.33	-22.57
89/ 3/19	2447604.5	1.20390	-9.19404	-3.85434	9.05989	1.19735	0.10312	10.04170	9.13925	277.46	-22.57
89/ 3/23	2447608.5	1.22482	-9.19125	-3.85410	9.05740	1.21591	0.11090	10.04158	9.13932	277.59	-22.57
89/ 3/27	2447612.5	1.24574	-9.18842	-3.85383	9.05487	1.23446	0.11868	10.04147	9.13940	277.72	-22.57
89/ 3/31	2447616.5	1.26666	-9.18555	-3.85355	9.05230	1.25300	0.12646	10.04134	9.13948	277.85	-22.57
89/ 4/ 4	2447620.5	1.28757	-9.18263	-3.85325	9.04968	1.27154	0.13424	10.04122	9.13956	277.98	-22.57
89/ 4/ 8	2447624.5	1.30847	-9.17968	-3.85293	9.04702	1.29007	0.14202	10.04110	9.13964	278.11	-22.56
89/ 4/12	2447628.5	1.32937	-9.17667	-3.85259	9.04432	1.30859	0.14979	10.04097	9.13973	278.24	-22.56
89/ 4/16	2447632.5	1.35026	-9.17363	-3.85224	9.04159	1.32710	0.15757	10.04084	9.13982	278.37	-22.56
89/ 4/20	2447636.5	1.37114	-9.17054	-3.85186	9.03881	1.34561	0.16534	10.04070	9.13991	278.50	-22.56
89/ 4/24	2447640.5	1.39202	-9.16741	-3.85147	9.03599	1.36412	0.17311	10.04057	9.14001	278.63	-22.56
89/ 4/28	2447644.5	1.41289	-9.16424	-3.85106	9.03313	1.38262	0.18089	10.04043	9.14012	278.76	-22.55
89/ 5/ 2	2447648.5	1.43376	-9.16102	-3.85064	9.03022	1.40111	0.18866	10.04029	9.14022	278.89	-22.55
89/ 5/ 6	2447652.5	1.45462	-9.15777	-3.85019	9.02728	1.41960	0.19643	10.04015	9.14033	279.03	-22.55
89/ 5/10	2447656.5	1.47547	-9.15446	-3.84973	9.02430	1.43808	0.20420	10.04000	9.14044	279.16	-22.55
89/ 5/14	2447660.5	1.49631	-9.15112	-3.84925	9.02127	1.45656	0.21197	10.03985	9.14056	279.29	-22.54
89/ 5/18	2447664.5	1.51715	-9.14773	-3.84875	9.01820	1.47503	0.21974	10.03970	9.14068	279.42	-22.54
89/ 5/22	2447668.5	1.53798	-9.14431	-3.84823	9.01509	1.49349	0.22751	10.03955	9.14080	279.55	-22.54
89/ 5/26	2447672.5	1.55880	-9.14083	-3.84770	9.01194	1.51195	0.23528	10.03940	9.14092	279.68	-22.54
89/ 5/30	2447676.5	1.57962	-9.13732	-3.84715	9.00875	1.53040	0.24305	10.03924	9.14105	279.81	-22.53

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89/ 6/ 3	2447680.5	1.60043	-9.13376	-3.84658	9.00552	1.54885	0.25082	10.03908	9.14118	279.94	-22.53
89/ 6/ 7	2447684.5	1.62123	-9.13016	-3.84599	9.00224	1.56729	0.25858	10.03892	9.14131	280.07	-22.53
89/ 6/11	2447688.5	1.64202	-9.12652	-3.84538	8.99892	1.58573	0.26635	10.03875	9.14145	280.20	-22.52
89/ 6/15	2447692.5	1.66280	-9.12284	-3.84476	8.99557	1.60416	0.27411	10.03859	9.14159	280.33	-22.52
89/ 6/19	2447696.5	1.68358	-9.11911	-3.84411	8.99217	1.62258	0.28188	10.03842	9.14173	280.46	-22.52
89/ 6/23	2447700.5	1.70435	-9.11534	-3.84345	8.98872	1.64100	0.28964	10.03825	9.14188	280.59	-22.51
89/ 6/27	2447704.5	1.72511	-9.11153	-3.84278	8.98524	1.65941	0.29741	10.03807	9.14202	280.72	-22.51
89/ 7/ 1	2447708.5	1.74587	-9.10767	-3.84208	8.98171	1.67781	0.30517	10.03790	9.14217	280.85	-22.50
89/ 7/ 5	2447712.5	1.76661	-9.10378	-3.84137	8.97814	1.69621	0.31293	10.03772	9.14233	280.98	-22.50
89/ 7/ 9	2447716.5	1.78735	-9.09984	-3.84063	8.97453	1.71460	0.32069	10.03753	9.14248	281.11	-22.50
89/ 7/13	2447720.5	1.80808	-9.09585	-3.83988	8.97088	1.73298	0.32845	10.03735	9.14264	281.24	-22.49
89/ 7/17	2447724.5	1.82880	-9.09183	-3.83912	8.96719	1.75136	0.33621	10.03716	9.14280	281.37	-22.49
89/ 7/21	2447728.5	1.84951	-9.08776	-3.83833	8.96346	1.76973	0.34396	10.03698	9.14297	281.50	-22.48
89/ 7/25	2447732.5	1.87021	-9.08365	-3.83753	8.95969	1.78809	0.35172	10.03679	9.14314	281.63	-22.48
89/ 7/29	2447736.5	1.89091	-9.07950	-3.83671	8.95587	1.80645	0.35947	10.03659	9.14331	281.76	-22.47
89/ 8/ 2	2447740.5	1.91159	-9.07531	-3.83587	8.95201	1.82481	0.36723	10.03640	9.14349	281.89	-22.47
89/ 8/ 6	2447744.5	1.93227	-9.07107	-3.83501	8.94811	1.84315	0.37499	10.03620	9.14366	282.03	-22.46
89/ 8/10	2447748.5	1.95293	-9.06679	-3.83413	8.94417	1.86149	0.38274	10.03600	9.14384	282.16	-22.46
89/ 8/14	2447752.5	1.97359	-9.06247	-3.83324	8.94018	1.87983	0.39049	10.03579	9.14402	282.29	-22.45
89/ 8/18	2447756.5	1.99424	-9.05810	-3.83233	8.93615	1.89815	0.39825	10.03559	9.14420	282.42	-22.45
89/ 8/22	2447760.5	2.01488	-9.05370	-3.83140	8.93208	1.91647	0.40600	10.03538	9.14438	282.55	-22.44
89/ 8/26	2447764.5	2.03551	-9.04925	-3.83045	8.92796	1.93478	0.41375	10.03517	9.14456	282.68	-22.44
89/ 8/30	2447768.5	2.05613	-9.04476	-3.82949	8.92380	1.95309	0.42149	10.03496	9.14475	282.81	-22.43
89/ 9/ 3	2447772.5	2.07674	-9.04023	-3.82851	8.91960	1.97138	0.42924	10.03474	9.14494	282.94	-22.43
89/ 9/ 7	2447776.5	2.09734	-9.03565	-3.82751	8.91535	1.98967	0.43699	10.03452	9.14512	283.07	-22.42
89/ 9/11	2447780.5	2.11793	-9.03103	-3.82649	8.91106	2.00795	0.44473	10.03430	9.14531	283.20	-22.42
89/ 9/15	2447784.5	2.13851	-9.02637	-3.82545	8.90673	2.02622	0.45247	10.03408	9.14550	283.33	-22.41
89/ 9/19	2447788.5	2.15909	-9.02167	-3.82440	8.90236	2.04448	0.46021	10.03385	9.14569	283.46	-22.40
89/ 9/23	2447792.5	2.17965	-9.01693	-3.82332	8.89794	2.06273	0.46795	10.03363	9.14588	283.59	-22.40
89/ 9/27	2447796.5	2.20020	-9.01214	-3.82223	8.89348	2.08097	0.47569	10.03340	9.14607	283.72	-22.39
89/10/ 1	2447800.5	2.22074	-9.00731	-3.82113	8.88897	2.09920	0.48342	10.03316	9.14627	283.85	-22.39
89/10/ 5	2447804.5	2.24127	-9.00244	-3.82000	8.88443	2.11742	0.49115	10.03293	9.14646	283.98	-22.38
89/10/ 9	2447808.5	2.26179	-8.99753	-3.81886	8.87984	2.13564	0.49888	10.03269	9.14666	284.11	-22.37
89/10/13	2447812.5	2.28229	-8.99257	-3.81770	8.87521	2.15384	0.50661	10.03245	9.14686	284.24	-22.37
89/10/17	2447816.5	2.30279	-8.98758	-3.81652	8.87054	2.17203	0.51433	10.03221	9.14706	284.37	-22.36
89/10/21	2447820.5	2.32328	-8.98254	-3.81532	8.86583	2.19021	0.52205	10.03196	9.14727	284.50	-22.35
89/10/25	2447824.5	2.34376	-8.97746	-3.81411	8.86108	2.20838	0.52977	10.03172	9.14748	284.63	-22.35
89/10/29	2447828.5	2.36422	-8.97234	-3.81287	8.85629	2.22655	0.53749	10.03147	9.14769	284.76	-22.34
89/11/ 2	2447832.5	2.38467	-8.96717	-3.81162	8.85145	2.24470	0.54521	10.03122	9.14790	284.89	-22.33
89/11/ 6	2447836.5	2.40512	-8.96196	-3.81035	8.84657	2.26284	0.55292	10.03096	9.14812	285.02	-22.32
89/11/10	2447840.5	2.42555	-8.95672	-3.80907	8.84165	2.28098	0.56063	10.03070	9.14833	285.15	-22.32
89/11/14	2447844.5	2.44597	-8.95143	-3.80776	8.83669	2.29910	0.56834	10.03045	9.14855	285.28	-22.31
89/11/18	2447848.5	2.46638	-8.94609	-3.80644	8.83169	2.31721	0.57605	10.03018	9.14878	285.41	-22.30
89/11/22	2447852.5	2.48677	-8.94072	-3.80510	8.82665	2.33531	0.58375	10.02992	9.14900	285.54	-22.29
89/11/26	2447856.5	2.50716	-8.93530	-3.80374	8.82157	2.35341	0.59145	10.02965	9.14923	285.67	-22.29

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89/11/30	2447860.5	2.52753	-8.92985	-3.80237	8.81644	2.37149	0.59915	10.02939	9.14946	285.80	-22.28
89/12/ 4	2447864.5	2.54790	-8.92435	-3.80098	8.81128	2.38956	0.60684	10.02911	9.14969	285.93	-22.27
89/12/ 8	2447868.5	2.56824	-8.91880	-3.79956	8.80607	2.40762	0.61454	10.02884	9.14993	286.06	-22.26
89/12/12	2447872.5	2.58858	-8.91322	-3.79814	8.80083	2.42567	0.62223	10.02857	9.15017	286.19	-22.26
89/12/16	2447876.5	2.60891	-8.90760	-3.79669	8.79554	2.44371	0.62991	10.02829	9.15041	286.32	-22.25
89/12/20	2447880.5	2.62922	-8.90193	-3.79523	8.79022	2.46173	0.63760	10.02801	9.15066	286.45	-22.24
89/12/24	2447884.5	2.64952	-8.89622	-3.79374	8.78485	2.47975	0.64528	10.02772	9.15091	286.58	-22.23
89/12/28	2447888.5	2.66981	-8.89047	-3.79224	8.77944	2.49776	0.65296	10.02744	9.15116	286.72	-22.22
90/ 1/ 1	2447892.5	2.69009	-8.88468	-3.79073	8.77400	2.51575	0.66064	10.02715	9.15142	286.85	-22.21
90/ 1/ 5	2447896.5	2.71035	-8.87885	-3.78919	8.76851	2.53373	0.66831	10.02686	9.15168	286.98	-22.20
90/ 1/ 9	2447900.5	2.73060	-8.87298	-3.78764	8.76299	2.55171	0.67598	10.02657	9.15195	287.11	-22.20
90/ 1/13	2447904.5	2.75084	-8.86706	-3.78607	8.75743	2.56967	0.68365	10.02627	9.15222	287.24	-22.19
90/ 1/17	2447908.5	2.77106	-8.86110	-3.78448	8.75183	2.58763	0.69131	10.02598	9.15250	287.37	-22.18
90/ 1/21	2447912.5	2.79127	-8.85510	-3.78287	8.74619	2.60557	0.69898	10.02568	9.15278	287.50	-22.17
90/ 1/25	2447916.5	2.81147	-8.84906	-3.78125	8.74050	2.62351	0.70664	10.02538	9.15306	287.63	-22.16
90/ 1/29	2447920.5	2.83166	-8.84298	-3.77961	8.73478	2.64144	0.71430	10.02507	9.15335	287.76	-22.15
90/ 2/ 2	2447924.5	2.85183	-8.83686	-3.77795	8.72902	2.65936	0.72196	10.02477	9.15365	287.89	-22.14
90/ 2/ 6	2447928.5	2.87199	-8.83070	-3.77627	8.72322	2.67726	0.72962	10.02446	9.15394	288.02	-22.13
90/ 2/10	2447932.5	2.89213	-8.82449	-3.77458	8.71738	2.69516	0.73727	10.02415	9.15424	288.15	-22.12
90/ 2/14	2447936.5	2.91227	-8.81824	-3.77287	8.71150	2.71305	0.74492	10.02383	9.15455	288.28	-22.11
90/ 2/18	2447940.5	2.93238	-8.81195	-3.77114	8.70557	2.73093	0.75257	10.02352	9.15486	288.41	-22.10
90/ 2/22	2447944.5	2.95249	-8.80563	-3.76939	8.69961	2.74880	0.76022	10.02320	9.15517	288.54	-22.09
90/ 2/26	2447948.5	2.97258	-8.79925	-3.76763	8.69360	2.76667	0.76787	10.02288	9.15548	288.67	-22.08
90/ 3/ 2	2447952.5	2.99266	-8.79284	-3.76584	8.68756	2.78452	0.77551	10.02256	9.15580	288.80	-22.07
90/ 3/ 6	2447956.5	3.01272	-8.78639	-3.76404	8.68147	2.80236	0.78315	10.02223	9.15611	288.93	-22.06
90/ 3/10	2447960.5	3.03277	-8.77989	-3.76222	8.67534	2.82019	0.79079	10.02190	9.15644	289.06	-22.05
90/ 3/14	2447964.5	3.05280	-8.77336	-3.76039	8.66917	2.83801	0.79843	10.02157	9.15676	289.19	-22.04
90/ 3/18	2447968.5	3.07282	-8.76678	-3.75854	8.66295	2.85582	0.80606	10.02124	9.15708	289.32	-22.03
90/ 3/22	2447972.5	3.09283	-8.76016	-3.75666	8.65670	2.87362	0.81369	10.02091	9.15741	289.45	-22.02
90/ 3/26	2447976.5	3.11282	-8.75350	-3.75478	8.65040	2.89141	0.82132	10.02057	9.15774	289.58	-22.01
90/ 3/30	2447980.5	3.13280	-8.74680	-3.75287	8.64406	2.90918	0.82895	10.02023	9.15807	289.71	-22.00
90/ 4/ 3	2447984.5	3.15276	-8.74006	-3.75095	8.63768	2.92695	0.83657	10.01989	9.15840	289.84	-21.98
90/ 4/ 7	2447988.5	3.17270	-8.73328	-3.74900	8.63126	2.94470	0.84419	10.01955	9.15874	289.97	-21.97
90/ 4/11	2447992.5	3.19264	-8.72646	-3.74705	8.62480	2.96244	0.85180	10.01920	9.15908	290.10	-21.96
90/ 4/15	2447996.5	3.21255	-8.71959	-3.74507	8.61830	2.98017	0.85942	10.01885	9.15943	290.23	-21.95
90/ 4/19	2448000.5	3.23246	-8.71269	-3.74307	8.61175	2.99790	0.86703	10.01850	9.15977	290.36	-21.94
90/ 4/23	2448004.5	3.25234	-8.70574	-3.74106	8.60517	3.01561	0.87464	10.01815	9.16012	290.48	-21.93
90/ 4/27	2448008.5	3.27222	-8.69876	-3.73903	8.59854	3.03331	0.88225	10.01779	9.16047	290.61	-21.92
90/ 5/ 1	2448012.5	3.29207	-8.69173	-3.73699	8.59186	3.05099	0.88985	10.01743	9.16082	290.74	-21.90
90/ 5/ 5	2448016.5	3.31191	-8.68466	-3.73492	8.58515	3.06867	0.89745	10.01707	9.16117	290.87	-21.89
90/ 5/ 9	2448020.5	3.33174	-8.67755	-3.73284	8.57839	3.08633	0.90505	10.01671	9.16152	291.00	-21.88
90/ 5/13	2448024.5	3.35155	-8.67040	-3.73074	8.57160	3.10398	0.91264	10.01634	9.16187	291.13	-21.87
90/ 5/17	2448028.5	3.37134	-8.66321	-3.72862	8.56475	3.12162	0.92023	10.01597	9.16222	291.26	-21.86
90/ 5/21	2448032.5	3.39112	-8.65598	-3.72649	8.55787	3.13925	0.92782	10.01560	9.16258	291.39	-21.84
90/ 5/25	2448036.5	3.41088	-8.64870	-3.72434	8.55095	3.15686	0.93540	10.01523	9.16294	291.52	-21.83

1.6 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM SATURN

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90/ 5/29	2448040.5	3.43063	-8.64139	-3.72217	8.54398	3.17445	0.94298	10.01486	9.16329	291.65	-21.82
90/ 6/ 2	2448044.5	3.45036	-8.63404	-3.71998	8.53697	3.19204	0.95056	10.01448	9.16365	291.78	-21.81
90/ 6/ 6	2448048.5	3.47007	-8.62664	-3.71777	8.52992	3.20961	0.95813	10.01410	9.16401	291.91	-21.79
90/ 6/10	2448052.5	3.48977	-8.61921	-3.71555	8.52282	3.22717	0.96570	10.01372	9.16437	292.04	-21.78
90/ 6/14	2448056.5	3.50945	-8.61173	-3.71331	8.51569	3.24471	0.97326	10.01333	9.16473	292.17	-21.77
90/ 6/18	2448060.5	3.52911	-8.60421	-3.71106	8.50851	3.26224	0.98082	10.01295	9.16509	292.30	-21.75
90/ 6/22	2448064.5	3.54876	-8.59666	-3.70878	8.50129	3.27975	0.98838	10.01256	9.16546	292.43	-21.74
90/ 6/26	2448068.5	3.56839	-8.58906	-3.70649	8.49403	3.29725	0.99592	10.01217	9.16582	292.56	-21.73
90/ 6/30	2448072.5	3.58801	-8.58142	-3.70418	8.48673	3.31473	1.00347	10.01177	9.16619	292.69	-21.71
90/ 7/ 4	2448076.5	3.60761	-8.57375	-3.70185	8.47940	3.33220	1.01101	10.01138	9.16656	292.82	-21.70
90/ 7/ 8	2448080.5	3.62719	-8.56603	-3.69951	8.47202	3.34965	1.01855	10.01098	9.16694	292.95	-21.69
90/ 7/12	2448084.5	3.64675	-8.55827	-3.69715	8.46460	3.36709	1.02608	10.01058	9.16731	293.08	-21.67
90/ 7/16	2448088.5	3.66630	-8.55047	-3.69477	8.45715	3.38452	1.03361	10.01017	9.16770	293.21	-21.66
90/ 7/20	2448092.5	3.68582	-8.54263	-3.69237	8.44965	3.40193	1.04113	10.00977	9.16808	293.34	-21.65
90/ 7/24	2448096.5	3.70534	-8.53475	-3.68996	8.44211	3.41933	1.04866	10.00936	9.16847	293.47	-21.63
90/ 7/28	2448100.5	3.72483	-8.52683	-3.68753	8.43453	3.43672	1.05617	10.00895	9.16885	293.60	-21.62
90/ 8/ 1	2448104.5	3.74431	-8.51887	-3.68508	8.42692	3.45409	1.06368	10.00854	9.16925	293.73	-21.60
90/ 8/ 5	2448108.5	3.76377	-8.51087	-3.68261	8.41926	3.47144	1.07119	10.00812	9.16964	293.86	-21.59
90/ 8/ 9	2448112.5	3.78321	-8.50283	-3.68013	8.41156	3.48878	1.07870	10.00771	9.17004	293.99	-21.58
90/ 8/13	2448116.5	3.80263	-8.49475	-3.67763	8.40382	3.50611	1.08620	10.00729	9.17043	294.12	-21.56
90/ 8/17	2448120.5	3.82203	-8.48664	-3.67511	8.39605	3.52342	1.09369	10.00687	9.17084	294.24	-21.55
90/ 8/21	2448124.5	3.84142	-8.47848	-3.67257	8.38823	3.54072	1.10118	10.00644	9.17124	294.37	-21.53
90/ 8/25	2448128.5	3.86079	-8.47028	-3.67002	8.38037	3.55800	1.10867	10.00601	9.17165	294.50	-21.52
90/ 8/29	2448132.5	3.88014	-8.46204	-3.66745	8.37247	3.57527	1.11615	10.00559	9.17206	294.63	-21.50
90/ 9/ 2	2448136.5	3.89947	-8.45376	-3.66486	8.36454	3.59253	1.12363	10.00516	9.17247	294.76	-21.49
90/ 9/ 6	2448140.5	3.91879	-8.44544	-3.66226	8.35656	3.60977	1.13111	10.00472	9.17289	294.89	-21.47
90/ 9/10	2448144.5	3.93809	-8.43708	-3.65964	8.34854	3.62699	1.13858	10.00429	9.17331	295.02	-21.46
90/ 9/14	2448148.5	3.95736	-8.42868	-3.65700	8.34049	3.64420	1.14604	10.00385	9.17373	295.15	-21.44
90/ 9/18	2448152.5	3.97662	-8.42024	-3.65434	8.33239	3.66139	1.15350	10.00341	9.17415	295.28	-21.43
90/ 9/22	2448156.5	3.99586	-8.41176	-3.65167	8.32426	3.67857	1.16096	10.00297	9.17458	295.41	-21.41
90/ 9/26	2448160.5	4.01508	-8.40324	-3.64898	8.31608	3.69574	1.16841	10.00252	9.17501	295.54	-21.40
90/ 9/30	2448164.5	4.03428	-8.39469	-3.64627	8.30787	3.71289	1.17585	10.00208	9.17545	295.67	-21.38
90/10/ 4	2448168.5	4.05347	-8.38609	-3.64355	8.29962	3.73002	1.18330	10.00163	9.17589	295.80	-21.36
90/10/ 8	2448172.5	4.07263	-8.37745	-3.64080	8.29133	3.74714	1.19073	10.00117	9.17633	295.93	-21.35
90/10/12	2448176.5	4.09178	-8.36878	-3.63804	8.28300	3.76425	1.19817	10.00072	9.17678	296.06	-21.33
90/10/16	2448180.5	4.11090	-8.36006	-3.63527	8.27463	3.78135	1.20560	10.00027	9.17723	296.18	-21.32
90/10/20	2448184.5	4.13001	-8.35131	-3.63247	8.26622	3.79843	1.21303	9.99981	9.17768	296.31	-21.30
90/10/24	2448188.5	4.14909	-8.34251	-3.62966	8.25777	3.81549	1.22045	9.99935	9.17814	296.44	-21.28
90/10/28	2448192.5	4.16816	-8.33368	-3.62684	8.24927	3.83254	1.22787	9.99888	9.17859	296.57	-21.27
90/11/ 1	2448196.5	4.18721	-8.32480	-3.62399	8.24074	3.84958	1.23528	9.99842	9.17905	296.70	-21.25
90/11/ 5	2448200.5	4.20624	-8.31589	-3.62113	8.23217	3.86660	1.24269	9.99795	9.17951	296.83	-21.23
90/11/ 9	2448204.5	4.22524	-8.30694	-3.61825	8.22356	3.88360	1.25010	9.99748	9.17998	296.96	-21.22
90/11/13	2448208.5	4.24423	-8.29795	-3.61535	8.21490	3.90059	1.25750	9.99701	9.18044	297.09	-21.20
90/11/17	2448212.5	4.26320	-8.28892	-3.61244	8.20621	3.91757	1.26489	9.99654	9.18091	297.22	-21.18
90/11/21	2448216.5	4.28215	-8.27985	-3.60951	8.19747	3.93453	1.27228	9.99606	9.18138	297.35	-21.17

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90/11/25	2448220.5	4.30108	-8.27074	-3.60656	8.18870	3.95147	1.27967	9.99558	9.18185	297.48	-21.15
90/11/29	2448224.5	4.31998	-8.26159	-3.60360	8.17988	3.96839	1.28705	9.99510	9.18232	297.61	-21.13
90/12/ 3	2448228.5	4.33887	-8.25240	-3.60061	8.17102	3.98530	1.29443	9.99462	9.18280	297.73	-21.12
90/12/ 7	2448232.5	4.35774	-8.24318	-3.59761	8.16212	4.00220	1.30180	9.99413	9.18327	297.86	-21.10
90/12/11	2448236.5	4.37658	-8.23391	-3.59460	8.15318	4.01907	1.30917	9.99364	9.18375	297.99	-21.08
90/12/15	2448240.5	4.39541	-8.22461	-3.59157	8.14420	4.03593	1.31653	9.99315	9.18422	298.12	-21.06
90/12/19	2448244.5	4.41421	-8.21526	-3.58852	8.13518	4.05277	1.32388	9.99266	9.18470	298.25	-21.05
90/12/23	2448248.5	4.43299	-8.20588	-3.58545	8.12612	4.06959	1.33123	9.99216	9.18518	298.38	-21.03
90/12/27	2448252.5	4.45176	-8.19646	-3.58237	8.11702	4.08640	1.33857	9.99167	9.18567	298.51	-21.01
90/12/31	2448256.5	4.47050	-8.18700	-3.57926	8.10789	4.10319	1.34591	9.99117	9.18616	298.64	-20.99
91/ 1/ 4	2448260.5	4.48922	-8.17750	-3.57615	8.09871	4.11996	1.35325	9.99067	9.18665	298.77	-20.97
91/ 1/ 8	2448264.5	4.50792	-8.16796	-3.57301	8.08950	4.13671	1.36057	9.99016	9.18714	298.89	-20.96
91/ 1/12	2448268.5	4.52659	-8.15839	-3.56986	8.08024	4.15345	1.36790	9.98966	9.18763	299.02	-20.94
91/ 1/16	2448272.5	4.54525	-8.14877	-3.56669	8.07095	4.17017	1.37522	9.98915	9.18813	299.15	-20.92
91/ 1/20	2448276.5	4.56388	-8.13912	-3.56351	8.06161	4.18688	1.38253	9.98864	9.18863	299.28	-20.90
91/ 1/24	2448280.5	4.58250	-8.12943	-3.56030	8.05224	4.20357	1.38983	9.98813	9.18913	299.41	-20.88
91/ 1/28	2448284.5	4.60109	-8.11970	-3.55708	8.04282	4.22023	1.39714	9.98761	9.18963	299.54	-20.86
91/ 2/ 1	2448288.5	4.61966	-8.10993	-3.55385	8.03337	4.23689	1.40443	9.98709	9.19014	299.67	-20.85
91/ 2/ 5	2448292.5	4.63820	-8.10012	-3.55060	8.02388	4.25352	1.41172	9.98657	9.19065	299.80	-20.83
91/ 2/ 9	2448296.5	4.65673	-8.09028	-3.54733	8.01434	4.27013	1.41901	9.98605	9.19115	299.92	-20.81
91/ 2/13	2448300.5	4.67523	-8.08039	-3.54404	8.00477	4.28673	1.42628	9.98553	9.19167	300.05	-20.79
91/ 2/17	2448304.5	4.69372	-8.07047	-3.54074	7.99516	4.30331	1.43356	9.98500	9.19218	300.18	-20.77
91/ 2/21	2448308.5	4.71217	-8.06051	-3.53742	7.98551	4.31987	1.44082	9.98447	9.19270	300.31	-20.75
91/ 2/25	2448312.5	4.73061	-8.05051	-3.53408	7.97582	4.33641	1.44809	9.98394	9.19322	300.44	-20.73
91/ 3/ 1	2448316.5	4.74903	-8.04048	-3.53073	7.96610	4.35294	1.45534	9.98341	9.19374	300.57	-20.71
91/ 3/ 5	2448320.5	4.76742	-8.03040	-3.52735	7.95633	4.36944	1.46259	9.98288	9.19426	300.70	-20.69
91/ 3/ 9	2448324.5	4.78579	-8.02029	-3.52397	7.94653	4.38593	1.46983	9.98234	9.19479	300.82	-20.67
91/ 3/13	2448328.5	4.80413	-8.01014	-3.52056	7.93669	4.40240	1.47707	9.98180	9.19532	300.95	-20.65
91/ 3/17	2448332.5	4.82246	-7.99995	-3.51714	7.92681	4.41885	1.48430	9.98126	9.19585	301.08	-20.63
91/ 3/21	2448336.5	4.84076	-7.98972	-3.51371	7.91689	4.43528	1.49152	9.98071	9.19638	301.21	-20.61
91/ 3/25	2448340.5	4.85904	-7.97945	-3.51025	7.90693	4.45169	1.49874	9.98017	9.19692	301.34	-20.59
91/ 3/29	2448344.5	4.87729	-7.96915	-3.50678	7.89694	4.46809	1.50595	9.97962	9.19747	301.47	-20.57
91/ 4/ 2	2448348.5	4.89552	-7.95881	-3.50329	7.88692	4.48446	1.51316	9.97907	9.19802	301.60	-20.55
91/ 4/ 6	2448352.5	4.91373	-7.94843	-3.49979	7.87685	4.50082	1.52036	9.97852	9.19857	301.72	-20.53
91/ 4/10	2448356.5	4.93192	-7.93801	-3.49627	7.86675	4.51717	1.52756	9.97796	9.19913	301.85	-20.51
91/ 4/14	2448360.5	4.95008	-7.92756	-3.49273	7.85660	4.53350	1.53475	9.97741	9.19969	301.98	-20.49
91/ 4/18	2448364.5	4.96822	-7.91707	-3.48918	7.84642	4.54980	1.54193	9.97685	9.20025	302.11	-20.47
91/ 4/22	2448368.5	4.98633	-7.90654	-3.48561	7.83620	4.56610	1.54911	9.97629	9.20082	302.24	-20.45
91/ 4/26	2448372.5	5.00442	-7.89597	-3.48202	7.82595	4.58237	1.55629	9.97572	9.20139	302.37	-20.43
91/ 4/30	2448376.5	5.02249	-7.88537	-3.47842	7.81565	4.59863	1.56346	9.97516	9.20196	302.49	-20.41
91/ 5/ 4	2448380.5	5.04053	-7.87472	-3.47480	7.80531	4.61487	1.57062	9.97459	9.20254	302.62	-20.39
91/ 5/ 8	2448384.5	5.05855	-7.86404	-3.47116	7.79494	4.63109	1.57778	9.97402	9.20312	302.75	-20.37
91/ 5/12	2448388.5	5.07655	-7.85333	-3.46751	7.78453	4.64729	1.58493	9.97345	9.20370	302.88	-20.35
91/ 5/16	2448392.5	5.09452	-7.84257	-3.46384	7.77407	4.66348	1.59208	9.97287	9.20429	303.01	-20.32
91/ 5/20	2448396.5	5.11247	-7.83178	-3.46015	7.76358	4.67964	1.59922	9.97230	9.20488	303.14	-20.30

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91/ 5/24	2448400.5	5.13039	-7.82095	-3.45645	7.75305	4.69579	1.60635	9.97172	9.20547	303.26	-20.28
91/ 5/28	2448404.5	5.14829	-7.81008	-3.45273	7.74248	4.71192	1.61348	9.97114	9.20606	303.39	-20.26
91/ 6/ 1	2448408.5	5.16616	-7.79918	-3.44899	7.73187	4.72803	1.62061	9.97056	9.20666	303.52	-20.24
91/ 6/ 5	2448412.5	5.18401	-7.78824	-3.44524	7.72122	4.74413	1.62772	9.96997	9.20725	303.65	-20.22
91/ 6/ 9	2448416.5	5.20184	-7.77726	-3.44147	7.71053	4.76020	1.63483	9.96938	9.20785	303.78	-20.19
91/ 6/13	2448420.5	5.21964	-7.76624	-3.43769	7.69980	4.77625	1.64194	9.96879	9.20845	303.90	-20.17
91/ 6/17	2448424.5	5.23741	-7.75519	-3.43389	7.68904	4.79229	1.64903	9.96820	9.20905	304.03	-20.15
91/ 6/21	2448428.5	5.25516	-7.74410	-3.43007	7.67823	4.80830	1.65612	9.96761	9.20965	304.16	-20.13
91/ 6/25	2448432.5	5.27289	-7.73298	-3.42623	7.66739	4.82430	1.66321	9.96701	9.21026	304.29	-20.11
91/ 6/29	2448436.5	5.29059	-7.72181	-3.42238	7.65650	4.84028	1.67029	9.96642	9.21087	304.42	-20.08
91/ 7/ 3	2448440.5	5.30827	-7.71061	-3.41852	7.64558	4.85623	1.67736	9.96582	9.21149	304.54	-20.06
91/ 7/ 7	2448444.5	5.32592	-7.69937	-3.41463	7.63462	4.87217	1.68443	9.96521	9.21210	304.67	-20.04
91/ 7/11	2448448.5	5.34354	-7.68810	-3.41073	7.62362	4.88809	1.69149	9.96461	9.21272	304.80	-20.02
91/ 7/15	2448452.5	5.36114	-7.67679	-3.40682	7.61258	4.90399	1.69854	9.96400	9.21333	304.93	-19.99
91/ 7/19	2448456.5	5.37871	-7.66544	-3.40289	7.60149	4.91987	1.70559	9.96339	9.21395	305.06	-19.97
91/ 7/23	2448460.5	5.39626	-7.65406	-3.39894	7.59037	4.93573	1.71263	9.96278	9.21457	305.18	-19.95
91/ 7/27	2448464.5	5.41378	-7.64264	-3.39497	7.57921	4.95157	1.71967	9.96217	9.21519	305.31	-19.92
91/ 7/31	2448468.5	5.43128	-7.63118	-3.39099	7.56801	4.96739	1.72669	9.96155	9.21581	305.44	-19.90
91/ 8/ 4	2448472.5	5.44875	-7.61969	-3.38700	7.55677	4.98319	1.73371	9.96094	9.21643	305.57	-19.88
91/ 8/ 8	2448476.5	5.46619	-7.60816	-3.38298	7.54548	4.99896	1.74073	9.96032	9.21705	305.70	-19.86
91/ 8/12	2448480.5	5.48361	-7.59659	-3.37895	7.53416	5.01472	1.74773	9.95969	9.21768	305.82	-19.83
91/ 8/16	2448484.5	5.50100	-7.58499	-3.37491	7.52280	5.03045	1.75473	9.95907	9.21830	305.95	-19.81
91/ 8/20	2448488.5	5.51837	-7.57335	-3.37085	7.51140	5.04616	1.76172	9.95844	9.21892	306.08	-19.78
91/ 8/24	2448492.5	5.53571	-7.56167	-3.36677	7.49996	5.06185	1.76871	9.95782	9.21955	306.21	-19.76
91/ 8/28	2448496.5	5.55302	-7.54996	-3.36267	7.48848	5.07751	1.77568	9.95719	9.22017	306.33	-19.74
91/ 9/ 1	2448500.5	5.57031	-7.53821	-3.35856	7.47697	5.09316	1.78265	9.95655	9.22080	306.46	-19.71
91/ 9/ 5	2448504.5	5.58757	-7.52643	-3.35444	7.46541	5.10877	1.78961	9.95592	9.22142	306.59	-19.69
91/ 9/ 9	2448508.5	5.60480	-7.51461	-3.35029	7.45382	5.12437	1.79656	9.95528	9.22205	306.72	-19.67
91/ 9/13	2448512.5	5.62201	-7.50275	-3.34614	7.44219	5.13994	1.80351	9.95464	9.22268	306.85	-19.64
91/ 9/17	2448516.5	5.63919	-7.49086	-3.34196	7.43052	5.15549	1.81044	9.95400	9.22331	306.97	-19.62
91/ 9/21	2448520.5	5.65634	-7.47893	-3.33777	7.41882	5.17102	1.81737	9.95336	9.22394	307.10	-19.59
91/ 9/25	2448524.5	5.67347	-7.46697	-3.33357	7.40708	5.18652	1.82429	9.95271	9.22458	307.23	-19.57
91/ 9/29	2448528.5	5.69056	-7.45497	-3.32934	7.39530	5.20201	1.83120	9.95206	9.22522	307.36	-19.54
91/10/ 3	2448532.5	5.70763	-7.44293	-3.32510	7.38348	5.21747	1.83811	9.95141	9.22586	307.48	-19.52
91/10/ 7	2448536.5	5.72468	-7.43086	-3.32085	7.37163	5.23291	1.84501	9.95076	9.22650	307.61	-19.50
91/10/11	2448540.5	5.74169	-7.41875	-3.31658	7.35974	5.24832	1.85190	9.95011	9.22714	307.74	-19.47
91/10/15	2448544.5	5.75868	-7.40661	-3.31229	7.34781	5.26371	1.85878	9.94945	9.22779	307.87	-19.45
91/10/19	2448548.5	5.77564	-7.39443	-3.30799	7.33585	5.27908	1.86565	9.94879	9.22844	307.99	-19.42
91/10/23	2448552.5	5.79258	-7.38222	-3.30367	7.32385	5.29443	1.87252	9.94813	9.22909	308.12	-19.40
91/10/27	2448556.5	5.80948	-7.36997	-3.29934	7.31181	5.30976	1.87938	9.94747	9.22975	308.25	-19.37
91/10/31	2448560.5	5.82636	-7.35769	-3.29499	7.29974	5.32506	1.88623	9.94681	9.23040	308.37	-19.35
91/11/ 4	2448564.5	5.84321	-7.34537	-3.29062	7.28763	5.34034	1.89307	9.94614	9.23106	308.50	-19.32
91/11/ 8	2448568.5	5.86003	-7.33301	-3.28624	7.27549	5.35559	1.89991	9.94547	9.23172	308.63	-19.29
91/11/12	2448572.5	5.87682	-7.32062	-3.28185	7.26330	5.37083	1.90673	9.94480	9.23239	308.76	-19.27
91/11/16	2448576.5	5.89359	-7.30820	-3.27743	7.25109	5.38604	1.91355	9.94413	9.23306	308.88	-19.24

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91/11/20	2448580.5	5.91033	-7.29574	-3.27301	7.23883	5.40123	1.92037	9.94346	9.23373	309.01	-19.22
91/11/24	2448584.5	5.92704	-7.28324	-3.26856	7.22654	5.41639	1.92717	9.94278	9.23440	309.14	-19.19
91/11/28	2448588.5	5.94372	-7.27071	-3.26410	7.21421	5.43153	1.93397	9.94210	9.23508	309.27	-19.17
91/12/ 2	2448592.5	5.96037	-7.25815	-3.25963	7.20185	5.44665	1.94075	9.94142	9.23575	309.39	-19.14
91/12/ 6	2448596.5	5.97699	-7.24555	-3.25513	7.18945	5.46175	1.94753	9.94074	9.23644	309.52	-19.11
91/12/10	2448600.5	5.99359	-7.23291	-3.25063	7.17701	5.47682	1.95430	9.94005	9.23712	309.65	-19.09
91/12/14	2448604.5	6.01015	-7.22024	-3.24610	7.16455	5.49187	1.96107	9.93937	9.23781	309.77	-19.06
91/12/18	2448608.5	6.02669	-7.20754	-3.24157	7.15204	5.50690	1.96782	9.93868	9.23851	309.90	-19.04
91/12/22	2448612.5	6.04320	-7.19480	-3.23701	7.13950	5.52191	1.97457	9.93799	9.23921	310.03	-19.01
91/12/26	2448616.5	6.05968	-7.18202	-3.23244	7.12693	5.53689	1.98131	9.93730	9.23991	310.16	-18.98
91/12/30	2448620.5	6.07613	-7.16922	-3.22786	7.11432	5.55186	1.98805	9.93660	9.24062	310.28	-18.96
92/ 1/ 3	2448624.5	6.09255	-7.15637	-3.22326	7.10167	5.56680	1.99478	9.93590	9.24133	310.41	-18.93
92/ 1/ 7	2448628.5	6.10894	-7.14350	-3.21864	7.08899	5.58172	2.00150	9.93521	9.24204	310.54	-18.90
92/ 1/11	2448632.5	6.12530	-7.13058	-3.21401	7.07626	5.59662	2.00821	9.93450	9.24276	310.66	-18.88
92/ 1/15	2448636.5	6.14163	-7.11764	-3.20936	7.06351	5.61149	2.01491	9.93380	9.24348	310.79	-18.85
92/ 1/19	2448640.5	6.15794	-7.10466	-3.20470	7.05071	5.62635	2.02161	9.93310	9.24420	310.92	-18.82
92/ 1/23	2448644.5	6.17421	-7.09164	-3.20002	7.03788	5.64118	2.02830	9.93239	9.24492	311.04	-18.79
92/ 1/27	2448648.5	6.19045	-7.07859	-3.19533	7.02501	5.65599	2.03498	9.93168	9.24565	311.17	-18.77
92/ 1/31	2448652.5	6.20667	-7.06551	-3.19062	7.01210	5.67077	2.04166	9.93097	9.24638	311.30	-18.74
92/ 2/ 4	2448656.5	6.22285	-7.05239	-3.18590	6.99916	5.68553	2.04832	9.93026	9.24711	311.42	-18.71
92/ 2/ 8	2448660.5	6.23901	-7.03924	-3.18116	6.98617	5.70027	2.05498	9.92954	9.24785	311.55	-18.69
92/ 2/12	2448664.5	6.25513	-7.02605	-3.17640	6.97315	5.71499	2.06163	9.92883	9.24858	311.68	-18.66
92/ 2/16	2448668.5	6.27122	-7.01283	-3.17163	6.96010	5.72968	2.06827	9.92811	9.24932	311.80	-18.63
92/ 2/20	2448672.5	6.28729	-6.99958	-3.16684	6.94700	5.74435	2.07491	9.92739	9.25006	311.93	-18.60
92/ 2/24	2448676.5	6.30332	-6.98629	-3.16204	6.93387	5.75899	2.08153	9.92667	9.25080	312.06	-18.57
92/ 2/28	2448680.5	6.31932	-6.97297	-3.15723	6.92070	5.77361	2.08815	9.92594	9.25154	312.18	-18.55
92/ 3/ 3	2448684.5	6.33530	-6.95962	-3.15240	6.90749	5.78820	2.09476	9.92521	9.25228	312.31	-18.52
92/ 3/ 7	2448688.5	6.35124	-6.94623	-3.14755	6.89425	5.80277	2.10136	9.92449	9.25303	312.44	-18.49
92/ 3/11	2448692.5	6.36715	-6.93281	-3.14269	6.88097	5.81731	2.10795	9.92375	9.25377	312.56	-18.46
92/ 3/15	2448696.5	6.38303	-6.91935	-3.13781	6.86766	5.83183	2.11453	9.92302	9.25452	312.69	-18.43
92/ 3/19	2448700.5	6.39888	-6.90586	-3.13292	6.85430	5.84633	2.12110	9.92229	9.25527	312.82	-18.41
92/ 3/23	2448704.5	6.41470	-6.89234	-3.12801	6.84092	5.86080	2.12767	9.92155	9.25603	312.94	-18.38
92/ 3/27	2448708.5	6.43049	-6.87878	-3.12309	6.82749	5.87524	2.13423	9.92081	9.25678	313.07	-18.35
92/ 3/31	2448712.5	6.44625	-6.86519	-3.11815	6.81403	5.88967	2.14077	9.92007	9.25754	313.20	-18.32
92/ 4/ 4	2448716.5	6.46197	-6.85157	-3.11320	6.80053	5.90406	2.14731	9.91933	9.25830	313.32	-18.29
92/ 4/ 8	2448720.5	6.47767	-6.83791	-3.10823	6.78699	5.91843	2.15384	9.91859	9.25906	313.45	-18.26
92/ 4/12	2448724.5	6.49333	-6.82423	-3.10324	6.77342	5.93278	2.16037	9.91784	9.25982	313.58	-18.23
92/ 4/16	2448728.5	6.50896	-6.81050	-3.09825	6.75981	5.94710	2.16688	9.91709	9.26058	313.70	-18.20
92/ 4/20	2448732.5	6.52456	-6.79675	-3.09323	6.74616	5.96140	2.17338	9.91634	9.26135	313.83	-18.18
92/ 4/24	2448736.5	6.54013	-6.78296	-3.08820	6.73248	5.97566	2.17988	9.91559	9.26211	313.96	-18.15
92/ 4/28	2448740.5	6.55567	-6.76914	-3.08316	6.71876	5.98991	2.18636	9.91483	9.26288	314.08	-18.12
92/ 5/ 2	2448744.5	6.57118	-6.75528	-3.07810	6.70501	6.00412	2.19284	9.91408	9.26365	314.21	-18.09
92/ 5/ 6	2448748.5	6.58665	-6.74140	-3.07303	6.69122	6.01831	2.19931	9.91332	9.26442	314.33	-18.06
92/ 5/10	2448752.5	6.60209	-6.72748	-3.06794	6.67739	6.03247	2.20576	9.91256	9.26518	314.46	-18.03
92/ 5/14	2448756.5	6.61750	-6.71352	-3.06284	6.66353	6.04661	2.21221	9.91180	9.26596	314.59	-18.00

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92/ 5/18	2448760.5	6.63288	-6.69954	-3.05772	6.64963	6.06072	2.21865	9.91103	9.26673	314.71	-17.97
92/ 5/22	2448764.5	6.64823	-6.68552	-3.05259	6.63569	6.07480	2.22508	9.91027	9.26750	314.84	-17.94
92/ 5/26	2448768.5	6.66354	-6.67147	-3.04744	6.62172	6.08886	2.23149	9.90950	9.26828	314.97	-17.91
92/ 5/30	2448772.5	6.67882	-6.65739	-3.04228	6.60772	6.10288	2.23790	9.90873	9.26905	315.09	-17.88
92/ 6/ 3	2448776.5	6.69407	-6.64327	-3.03710	6.59368	6.11689	2.24430	9.90796	9.26983	315.22	-17.85
92/ 6/ 7	2448780.5	6.70929	-6.62913	-3.03191	6.57961	6.13086	2.25069	9.90718	9.27061	315.34	-17.82
92/ 6/11	2448784.5	6.72447	-6.61495	-3.02670	6.56550	6.14481	2.25707	9.90641	9.27140	315.47	-17.79
92/ 6/15	2448788.5	6.73962	-6.60074	-3.02148	6.55136	6.15873	2.26344	9.90563	9.27219	315.60	-17.76
92/ 6/19	2448792.5	6.75474	-6.58649	-3.01624	6.53719	6.17262	2.26980	9.90485	9.27298	315.72	-17.73
92/ 6/23	2448796.5	6.76982	-6.57222	-3.01099	6.52298	6.18650	2.27615	9.90407	9.27377	315.85	-17.70
92/ 6/27	2448800.5	6.78488	-6.55791	-3.00573	6.50874	6.20034	2.28249	9.90329	9.27457	315.97	-17.67
92/ 7/ 1	2448804.5	6.79990	-6.54357	-3.00044	6.49446	6.21416	2.28883	9.90250	9.27537	316.10	-17.64
92/ 7/ 5	2448808.5	6.81488	-6.52920	-2.99515	6.48015	6.22795	2.29515	9.90172	9.27618	316.23	-17.61
92/ 7/ 9	2448812.5	6.82984	-6.51479	-2.98984	6.46580	6.24172	2.30147	9.90093	9.27698	316.35	-17.58
92/ 7/13	2448816.5	6.84476	-6.50036	-2.98452	6.45142	6.25546	2.30777	9.90014	9.27779	316.48	-17.55
92/ 7/17	2448820.5	6.85965	-6.48589	-2.97918	6.43700	6.26917	2.31407	9.89934	9.27860	316.60	-17.51
92/ 7/21	2448824.5	6.87450	-6.47139	-2.97382	6.42255	6.28286	2.32035	9.89855	9.27941	316.73	-17.48
92/ 7/25	2448828.5	6.88932	-6.45686	-2.96846	6.40807	6.29652	2.32663	9.89775	9.28023	316.86	-17.45
92/ 7/29	2448832.5	6.90411	-6.44230	-2.96307	6.39355	6.31015	2.33290	9.89696	9.28105	316.98	-17.42
92/ 8/ 2	2448836.5	6.91886	-6.42771	-2.95768	6.37899	6.32376	2.33916	9.89616	9.28187	317.11	-17.39
92/ 8/ 6	2448840.5	6.93358	-6.41308	-2.95227	6.36440	6.33734	2.34541	9.89535	9.28269	317.23	-17.36
92/ 8/10	2448844.5	6.94827	-6.39843	-2.94684	6.34977	6.35090	2.35165	9.89455	9.28352	317.36	-17.33
92/ 8/14	2448848.5	6.96292	-6.38374	-2.94140	6.33511	6.36442	2.35788	9.89375	9.28434	317.48	-17.30
92/ 8/18	2448852.5	6.97754	-6.36902	-2.93595	6.32041	6.37792	2.36409	9.89294	9.28517	317.61	-17.26
92/ 8/22	2448856.5	6.99212	-6.35427	-2.93048	6.30568	6.39139	2.37030	9.89213	9.28600	317.74	-17.23
92/ 8/26	2448860.5	7.00667	-6.33949	-2.92500	6.29091	6.40484	2.37650	9.89132	9.28683	317.86	-17.20
92/ 8/30	2448864.5	7.02119	-6.32468	-2.91950	6.27611	6.41825	2.38269	9.89050	9.28767	317.99	-17.17
92/ 9/ 3	2448868.5	7.03567	-6.30984	-2.91399	6.26128	6.43164	2.38887	9.88969	9.28850	318.11	-17.14
92/ 9/ 7	2448872.5	7.05012	-6.29496	-2.90846	6.24641	6.44500	2.39504	9.88887	9.28934	318.24	-17.10
92/ 9/11	2448876.5	7.06453	-6.28006	-2.90292	6.23151	6.45834	2.40120	9.88806	9.29019	318.36	-17.07
92/ 9/15	2448880.5	7.07891	-6.26512	-2.89737	6.21657	6.47164	2.40735	9.88724	9.29103	318.49	-17.04
92/ 9/19	2448884.5	7.09325	-6.25016	-2.89180	6.20160	6.48492	2.41349	9.88641	9.29188	318.62	-17.01
92/ 9/23	2448888.5	7.10756	-6.23516	-2.88622	6.18659	6.49818	2.41963	9.88559	9.29273	318.74	-16.98
92/ 9/27	2448892.5	7.12184	-6.22013	-2.88062	6.17155	6.51140	2.42575	9.88476	9.29358	318.87	-16.94
92/10/ 1	2448896.5	7.13608	-6.20507	-2.87501	6.15647	6.52460	2.43186	9.88394	9.29443	318.99	-16.91
92/10/ 5	2448900.5	7.15028	-6.18999	-2.86938	6.14136	6.53777	2.43796	9.88311	9.29528	319.12	-16.88
92/10/ 9	2448904.5	7.16445	-6.17487	-2.86374	6.12621	6.55091	2.44405	9.88228	9.29614	319.24	-16.85
92/10/13	2448908.5	7.17859	-6.15972	-2.85809	6.11102	6.56402	2.45013	9.88144	9.29699	319.37	-16.81
92/10/17	2448912.5	7.19269	-6.14454	-2.85242	6.09580	6.57710	2.45620	9.88061	9.29785	319.49	-16.78
92/10/21	2448916.5	7.20675	-6.12933	-2.84674	6.08055	6.59015	2.46226	9.87977	9.29870	319.62	-16.75
92/10/25	2448920.5	7.22078	-6.11409	-2.84105	6.06526	6.60317	2.46831	9.87893	9.29956	319.74	-16.71
92/10/29	2448924.5	7.23477	-6.09882	-2.83534	6.04994	6.61617	2.47435	9.87809	9.30042	319.87	-16.68
92/11/ 2	2448928.5	7.24873	-6.08352	-2.82961	6.03458	6.62913	2.48037	9.87725	9.30127	319.99	-16.65
92/11/ 6	2448932.5	7.26266	-6.06819	-2.82388	6.01918	6.64206	2.48639	9.87641	9.30213	320.12	-16.61
92/11/10	2448936.5	7.27654	-6.05283	-2.81813	6.00376	6.65496	2.49239	9.87556	9.30299	320.25	-16.58

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92/11/14	2448940.5	7.29040	-6.03744	-2.81236	5.98829	6.66783	2.49839	9.87471	9.30385	320.37	-16.55
92/11/18	2448944.5	7.30421	-6.02203	-2.80658	5.97280	6.68068	2.50437	9.87386	9.30471	320.50	-16.51
92/11/22	2448948.5	7.31799	-6.00658	-2.80079	5.95727	6.69348	2.51034	9.87301	9.30557	320.62	-16.48
92/11/26	2448952.5	7.33174	-5.99110	-2.79498	5.94171	6.70626	2.51630	9.87216	9.30643	320.75	-16.45
92/11/30	2448956.5	7.34544	-5.97559	-2.78916	5.92612	6.71901	2.52225	9.87131	9.30729	320.87	-16.41
92/12/ 4	2448960.5	7.35912	-5.96006	-2.78333	5.91049	6.73173	2.52818	9.87045	9.30815	321.00	-16.38
92/12/ 8	2448964.5	7.37275	-5.94449	-2.77748	5.89483	6.74441	2.53411	9.86959	9.30902	321.12	-16.34
92/12/12	2448968.5	7.38635	-5.92889	-2.77162	5.87914	6.75707	2.54002	9.86873	9.30989	321.25	-16.31
92/12/16	2448972.5	7.39992	-5.91327	-2.76575	5.86342	6.76970	2.54593	9.86787	9.31076	321.37	-16.28
92/12/20	2448976.5	7.41344	-5.89762	-2.75986	5.84767	6.78230	2.55182	9.86701	9.31164	321.50	-16.24
92/12/24	2448980.5	7.42694	-5.88193	-2.75396	5.83188	6.79486	2.55770	9.86614	9.31251	321.62	-16.21
92/12/28	2448984.5	7.44039	-5.86622	-2.74804	5.81606	6.80740	2.56357	9.86528	9.31339	321.75	-16.17
93/ 1/ 1	2448988.5	7.45381	-5.85048	-2.74211	5.80021	6.81991	2.56943	9.86441	9.31426	321.87	-16.14
93/ 1/ 5	2448992.5	7.46719	-5.83471	-2.73617	5.78433	6.83238	2.57528	9.86354	9.31515	322.00	-16.11
93/ 1/ 9	2448996.5	7.48053	-5.81891	-2.73021	5.76841	6.84483	2.58111	9.86267	9.31603	322.12	-16.07
93/ 1/13	2449000.5	7.49384	-5.80308	-2.72424	5.75247	6.85724	2.58694	9.86179	9.31691	322.25	-16.04
93/ 1/17	2449004.5	7.50711	-5.78723	-2.71826	5.73649	6.86962	2.59275	9.86092	9.31780	322.37	-16.00
93/ 1/21	2449008.5	7.52035	-5.77134	-2.71226	5.72048	6.88198	2.59856	9.86004	9.31869	322.50	-15.97
93/ 1/25	2449012.5	7.53354	-5.75543	-2.70625	5.70444	6.89430	2.60435	9.85916	9.31958	322.62	-15.93
93/ 1/29	2449016.5	7.54670	-5.73949	-2.70023	5.68836	6.90659	2.61013	9.85828	9.32048	322.75	-15.90
93/ 2/ 2	2449020.5	7.55982	-5.72352	-2.69420	5.67226	6.91885	2.61590	9.85740	9.32137	322.87	-15.86
93/ 2/ 6	2449024.5	7.57291	-5.70752	-2.68815	5.65612	6.93108	2.62166	9.85652	9.32227	323.00	-15.83
93/ 2/10	2449028.5	7.58596	-5.69150	-2.68208	5.63996	6.94328	2.62740	9.85563	9.32317	323.12	-15.79
93/ 2/14	2449032.5	7.59897	-5.67544	-2.67601	5.62376	6.95545	2.63314	9.85474	9.32408	323.25	-15.76
93/ 2/18	2449036.5	7.61194	-5.65936	-2.66992	5.60753	6.96759	2.63886	9.85386	9.32498	323.37	-15.72
93/ 2/22	2449040.5	7.62488	-5.64325	-2.66381	5.59127	6.97970	2.64457	9.85296	9.32589	323.49	-15.69
93/ 2/26	2449044.5	7.63777	-5.62711	-2.65770	5.57498	6.99178	2.65027	9.85207	9.32680	323.62	-15.65
93/ 3/ 2	2449048.5	7.65064	-5.61095	-2.65157	5.55866	7.00382	2.65596	9.85118	9.32772	323.74	-15.61
93/ 3/ 6	2449052.5	7.66346	-5.59475	-2.64543	5.54231	7.01584	2.66164	9.85028	9.32865	323.87	-15.58
93/ 3/10	2449056.5	7.67624	-5.57853	-2.63927	5.52593	7.02783	2.66731	9.84939	9.32957	323.99	-15.54
93/ 3/14	2449060.5	7.68899	-5.56228	-2.63310	5.50952	7.03979	2.67297	9.84849	9.33050	324.12	-15.51
93/ 3/18	2449064.5	7.70170	-5.54600	-2.62692	5.49308	7.05173	2.67861	9.84759	9.33144	324.24	-15.47
93/ 3/22	2449068.5	7.71437	-5.52970	-2.62073	5.47660	7.06363	2.68425	9.84669	9.33237	324.37	-15.44
93/ 3/26	2449072.5	7.72700	-5.51337	-2.61452	5.46009	7.07550	2.68988	9.84579	9.33331	324.49	-15.40
93/ 3/30	2449076.5	7.73960	-5.49701	-2.60830	5.44355	7.08734	2.69549	9.84488	9.33426	324.62	-15.36
93/ 4/ 3	2449080.5	7.75215	-5.48062	-2.60206	5.42698	7.09915	2.70109	9.84397	9.33520	324.74	-15.33
93/ 4/ 7	2449084.5	7.76467	-5.46421	-2.59582	5.41038	7.11093	2.70669	9.84307	9.33615	324.86	-15.29
93/ 4/11	2449088.5	7.77715	-5.44777	-2.58956	5.39374	7.12268	2.71227	9.84216	9.33710	324.99	-15.25
93/ 4/15	2449092.5	7.78959	-5.43130	-2.58329	5.37707	7.13440	2.71784	9.84125	9.33805	325.11	-15.22
93/ 4/19	2449096.5	7.80200	-5.41480	-2.57700	5.36037	7.14609	2.72340	9.84033	9.33901	325.24	-15.18
93/ 4/23	2449100.5	7.81436	-5.39828	-2.57070	5.34364	7.15775	2.72894	9.83942	9.33997	325.36	-15.15
93/ 4/27	2449104.5	7.82668	-5.38173	-2.56439	5.32687	7.16938	2.73448	9.83850	9.34093	325.49	-15.11
93/ 5/ 1	2449108.5	7.83897	-5.36516	-2.55807	5.31007	7.18097	2.74000	9.83759	9.34189	325.61	-15.07
93/ 5/ 5	2449112.5	7.85122	-5.34855	-2.55173	5.29323	7.19254	2.74552	9.83667	9.34285	325.74	-15.04
93/ 5/ 9	2449116.5	7.86343	-5.33192	-2.54538	5.27637	7.20407	2.75102	9.83575	9.34381	325.86	-15.00

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93/ 5/13	2449120.5	7.87560	-5.31527	-2.53902	5.25947	7.21557	2.75651	9.83482	9.34477	325.98	-14.96
93/ 5/17	2449124.5	7.88773	-5.29859	-2.53265	5.24254	7.22703	2.76198	9.83390	9.34574	326.11	-14.92
93/ 5/21	2449128.5	7.89982	-5.28188	-2.52626	5.22558	7.23847	2.76745	9.83297	9.34670	326.23	-14.89
93/ 5/25	2449132.5	7.91187	-5.26514	-2.51986	5.20859	7.24987	2.77290	9.83205	9.34767	326.36	-14.85
93/ 5/29	2449136.5	7.92389	-5.24838	-2.51345	5.19156	7.26123	2.77834	9.83112	9.34864	326.48	-14.81
93/ 6/ 2	2449140.5	7.93586	-5.23159	-2.50702	5.17451	7.27257	2.78377	9.83019	9.34961	326.61	-14.78
93/ 6/ 6	2449144.5	7.94779	-5.21478	-2.50059	5.15742	7.28388	2.78918	9.82926	9.35058	326.73	-14.74
93/ 6/10	2449148.5	7.95969	-5.19794	-2.49414	5.14030	7.29515	2.79459	9.82832	9.35156	326.85	-14.70
93/ 6/14	2449152.5	7.97154	-5.18107	-2.48767	5.12315	7.30639	2.79998	9.82739	9.35253	326.98	-14.66
93/ 6/18	2449156.5	7.98336	-5.16418	-2.48120	5.10597	7.31759	2.80536	9.82645	9.35351	327.10	-14.63
93/ 6/22	2449160.5	7.99513	-5.14726	-2.47471	5.08875	7.32876	2.81073	9.82551	9.35448	327.23	-14.59
93/ 6/26	2449164.5	8.00687	-5.13032	-2.46821	5.07150	7.33990	2.81608	9.82457	9.35546	327.35	-14.55
93/ 6/30	2449168.5	8.01857	-5.11335	-2.46170	5.05422	7.35101	2.82142	9.82363	9.35644	327.47	-14.51
93/ 7/ 4	2449172.5	8.03022	-5.09635	-2.45518	5.03691	7.36208	2.82675	9.82269	9.35741	327.60	-14.47
93/ 7/ 8	2449176.5	8.04184	-5.07933	-2.44864	5.01957	7.37311	2.83207	9.82174	9.35839	327.72	-14.44
93/ 7/12	2449180.5	8.05342	-5.06229	-2.44209	5.00220	7.38412	2.83737	9.82080	9.35937	327.85	-14.40
93/ 7/16	2449184.5	8.06495	-5.04522	-2.43553	4.98479	7.39508	2.84266	9.81985	9.36035	327.97	-14.36
93/ 7/20	2449188.5	8.07645	-5.02812	-2.42896	4.96736	7.40602	2.84794	9.81890	9.36133	328.10	-14.32
93/ 7/24	2449192.5	8.08790	-5.01100	-2.42237	4.94989	7.41691	2.85320	9.81795	9.36231	328.22	-14.28
93/ 7/28	2449196.5	8.09932	-4.99385	-2.41578	4.93240	7.42778	2.85846	9.81700	9.36329	328.34	-14.25
93/ 8/ 1	2449200.5	8.11069	-4.97668	-2.40917	4.91487	7.43860	2.86369	9.81604	9.36427	328.47	-14.21
93/ 8/ 5	2449204.5	8.12203	-4.95948	-2.40254	4.89731	7.44939	2.86892	9.81509	9.36525	328.59	-14.17
93/ 8/ 9	2449208.5	8.13332	-4.94226	-2.39591	4.87972	7.46015	2.87413	9.81413	9.36622	328.71	-14.13
93/ 8/13	2449212.5	8.14457	-4.92501	-2.38926	4.86211	7.47087	2.87933	9.81317	9.36720	328.84	-14.09
93/ 8/17	2449216.5	8.15578	-4.90774	-2.38261	4.84446	7.48155	2.88451	9.81221	9.36818	328.96	-14.05
93/ 8/21	2449220.5	8.16695	-4.89045	-2.37594	4.82679	7.49220	2.88968	9.81125	9.36917	329.09	-14.01
93/ 8/25	2449224.5	8.17808	-4.87313	-2.36926	4.80909	7.50282	2.89483	9.81029	9.37015	329.21	-13.98
93/ 8/29	2449228.5	8.18917	-4.85578	-2.36256	4.79137	7.51340	2.89998	9.80933	9.37114	329.33	-13.94
93/ 9/ 2	2449232.5	8.20022	-4.83841	-2.35586	4.77361	7.52394	2.90511	9.80836	9.37213	329.46	-13.90
93/ 9/ 6	2449236.5	8.21123	-4.82102	-2.34914	4.75583	7.53446	2.91023	9.80739	9.37312	329.58	-13.86
93/ 9/10	2449240.5	8.22220	-4.80360	-2.34241	4.73801	7.54493	2.91533	9.80642	9.37411	329.71	-13.82
93/ 9/14	2449244.5	8.23312	-4.78616	-2.33567	4.72017	7.55538	2.92042	9.80545	9.37511	329.83	-13.78
93/ 9/18	2449248.5	8.24400	-4.76869	-2.32892	4.70230	7.56578	2.92550	9.80448	9.37610	329.95	-13.74
93/ 9/22	2449252.5	8.25485	-4.75120	-2.32215	4.68440	7.57616	2.93057	9.80351	9.37710	330.08	-13.70
93/ 9/26	2449256.5	8.26565	-4.73369	-2.31538	4.66648	7.58650	2.93562	9.80254	9.37810	330.20	-13.66
93/ 9/30	2449260.5	8.27641	-4.71615	-2.30859	4.64852	7.59680	2.94066	9.80156	9.37911	330.32	-13.62
93/10/ 4	2449264.5	8.28713	-4.69859	-2.30179	4.63054	7.60707	2.94568	9.80058	9.38011	330.45	-13.58
93/10/ 8	2449268.5	8.29780	-4.68100	-2.29498	4.61253	7.61731	2.95070	9.79960	9.38112	330.57	-13.54
93/10/12	2449272.5	8.30844	-4.66339	-2.28816	4.59449	7.62751	2.95570	9.79862	9.38213	330.70	-13.50
93/10/16	2449276.5	8.31903	-4.64576	-2.28132	4.57642	7.63767	2.96069	9.79764	9.38314	330.82	-13.46
93/10/20	2449280.5	8.32958	-4.62810	-2.27448	4.55832	7.64780	2.96566	9.79666	9.38415	330.94	-13.42
93/10/24	2449284.5	8.34009	-4.61042	-2.26762	4.54020	7.65790	2.97062	9.79567	9.38517	331.07	-13.38
93/10/28	2449288.5	8.35056	-4.59272	-2.26075	4.52205	7.66796	2.97557	9.79469	9.38619	331.19	-13.35
93/11/ 1	2449292.5	8.36099	-4.57499	-2.25387	4.50386	7.67798	2.98050	9.79370	9.38721	331.31	-13.31
93/11/ 5	2449296.5	8.37137	-4.55725	-2.24698	4.48565	7.68797	2.98542	9.79271	9.38823	331.44	-13.26

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93/11/ 9	2449300.5	8.38171	-4.53947	-2.24008	4.46742	7.69793	2.99033	9.79172	9.38925	331.56	-13.22
93/11/13	2449304.5	8.39201	-4.52168	-2.23317	4.44915	7.70785	2.99522	9.79073	9.39027	331.68	-13.18
93/11/17	2449308.5	8.40227	-4.50386	-2.22624	4.43086	7.71773	3.00010	9.78974	9.39130	331.81	-13.14
93/11/21	2449312.5	8.41248	-4.48602	-2.21930	4.41255	7.72758	3.00497	9.78875	9.39233	331.93	-13.10
93/11/25	2449316.5	8.42265	-4.46816	-2.21236	4.39420	7.73739	3.00982	9.78775	9.39336	332.05	-13.06
93/11/29	2449320.5	8.43279	-4.45027	-2.20540	4.37583	7.74717	3.01466	9.78675	9.39440	332.18	-13.02
93/12/ 3	2449324.5	8.44287	-4.43236	-2.19843	4.35743	7.75692	3.01949	9.78576	9.39544	332.30	-12.98
93/12/ 7	2449328.5	8.45292	-4.41443	-2.19145	4.33899	7.76663	3.02430	9.78476	9.39648	332.42	-12.94
93/12/11	2449332.5	8.46292	-4.39648	-2.18445	4.32054	7.77630	3.02911	9.78376	9.39752	332.55	-12.90
93/12/15	2449336.5	8.47288	-4.37850	-2.17745	4.30205	7.78594	3.03389	9.78275	9.39857	332.67	-12.86
93/12/19	2449340.5	8.48280	-4.36050	-2.17044	4.28353	7.79555	3.03867	9.78175	9.39961	332.79	-12.82
93/12/23	2449344.5	8.49267	-4.34248	-2.16341	4.26499	7.80512	3.04343	9.78075	9.40066	332.92	-12.78
93/12/27	2449348.5	8.50250	-4.32444	-2.15637	4.24642	7.81465	3.04818	9.77974	9.40171	333.04	-12.74
93/12/31	2449352.5	8.51229	-4.30638	-2.14933	4.22782	7.82414	3.05291	9.77873	9.40276	333.17	-12.70
94/ 1/ 4	2449356.5	8.52204	-4.28829	-2.14227	4.20919	7.83360	3.05763	9.77772	9.40381	333.29	-12.66
94/ 1/ 8	2449360.5	8.53174	-4.27018	-2.13520	4.19053	7.84303	3.06234	9.77671	9.40487	333.41	-12.61
94/ 1/12	2449364.5	8.54140	-4.25205	-2.12812	4.17184	7.85241	3.06703	9.77570	9.40592	333.54	-12.57
94/ 1/16	2449368.5	8.55101	-4.23390	-2.12103	4.15313	7.86176	3.07171	9.77469	9.40697	333.66	-12.53
94/ 1/20	2449372.5	8.56059	-4.21573	-2.11393	4.13439	7.87107	3.07637	9.77368	9.40803	333.78	-12.49
94/ 1/24	2449376.5	8.57012	-4.19754	-2.10682	4.11562	7.88035	3.08102	9.77266	9.40909	333.90	-12.45
94/ 1/28	2449380.5	8.57960	-4.17932	-2.09969	4.09682	7.88958	3.08566	9.77164	9.41014	334.03	-12.41
94/ 2/ 1	2449384.5	8.58905	-4.16108	-2.09256	4.07800	7.89878	3.09028	9.77063	9.41120	334.15	-12.37
94/ 2/ 5	2449388.5	8.59844	-4.14282	-2.08541	4.05914	7.90794	3.09488	9.76961	9.41225	334.27	-12.33
94/ 2/ 9	2449392.5	8.60780	-4.12455	-2.07826	4.04027	7.91706	3.09947	9.76859	9.41331	334.40	-12.28
94/ 2/13	2449396.5	8.61711	-4.10624	-2.07109	4.02136	7.92615	3.10405	9.76756	9.41437	334.52	-12.24
94/ 2/17	2449400.5	8.62638	-4.08792	-2.06392	4.00243	7.93519	3.10861	9.76654	9.41543	334.64	-12.20
94/ 2/21	2449404.5	8.63561	-4.06958	-2.05673	3.98348	7.94420	3.11316	9.76552	9.41649	334.77	-12.16
94/ 2/25	2449408.5	8.64479	-4.05122	-2.04953	3.96450	7.95318	3.11769	9.76449	9.41755	334.89	-12.12
94/ 3/ 1	2449412.5	8.65392	-4.03284	-2.04233	3.94549	7.96211	3.12221	9.76346	9.41862	335.01	-12.07
94/ 3/ 5	2449416.5	8.66302	-4.01443	-2.03511	3.92646	7.97101	3.12672	9.76244	9.41968	335.14	-12.03
94/ 3/ 9	2449420.5	8.67206	-3.99601	-2.02788	3.90740	7.97987	3.13121	9.76141	9.42075	335.26	-11.99
94/ 3/13	2449424.5	8.68107	-3.97756	-2.02064	3.88831	7.98869	3.13569	9.76038	9.42182	335.38	-11.95
94/ 3/17	2449428.5	8.69003	-3.95910	-2.01339	3.86920	7.99747	3.14015	9.75934	9.42289	335.51	-11.91
94/ 3/21	2449432.5	8.69895	-3.94061	-2.00613	3.85006	8.00622	3.14459	9.75831	9.42396	335.63	-11.86
94/ 3/25	2449436.5	8.70782	-3.92210	-1.99886	3.83090	8.01493	3.14903	9.75728	9.42503	335.75	-11.82
94/ 3/29	2449440.5	8.71665	-3.90358	-1.99158	3.81171	8.02360	3.15344	9.75624	9.42610	335.88	-11.78
94/ 4/ 2	2449444.5	8.72543	-3.88503	-1.98429	3.79250	8.03223	3.15785	9.75520	9.42718	336.00	-11.74
94/ 4/ 6	2449448.5	8.73417	-3.86647	-1.97699	3.77326	8.04082	3.16224	9.75417	9.42826	336.12	-11.69
94/ 4/10	2449452.5	8.74286	-3.84788	-1.96968	3.75399	8.04938	3.16661	9.75313	9.42933	336.24	-11.65
94/ 4/14	2449456.5	8.75151	-3.82928	-1.96236	3.73470	8.05789	3.17097	9.75209	9.43041	336.37	-11.61
94/ 4/18	2449460.5	8.76012	-3.81065	-1.95503	3.71539	8.06637	3.17531	9.75105	9.43149	336.49	-11.57
94/ 4/22	2449464.5	8.76868	-3.79201	-1.94769	3.69605	8.07481	3.17964	9.75000	9.43257	336.61	-11.52
94/ 4/26	2449468.5	8.77720	-3.77334	-1.94034	3.67668	8.08321	3.18395	9.74896	9.43365	336.74	-11.48
94/ 4/30	2449472.5	8.78567	-3.75466	-1.93298	3.65729	8.09157	3.18825	9.74791	9.43474	336.86	-11.44
94/ 5/ 4	2449476.5	8.79409	-3.73596	-1.92561	3.63788	8.09989	3.19254	9.74687	9.43582	336.98	-11.39

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94/ 5/ 8	2449480.5	8.80248	-3.71723	-1.91823	3.61844	8.10818	3.19680	9.74582	9.43691	337.11	-11.35
94/ 5/12	2449484.5	8.81081	-3.69849	-1.91084	3.59898	8.11642	3.20106	9.74477	9.43800	337.23	-11.31
94/ 5/16	2449488.5	8.81910	-3.67973	-1.90344	3.57950	8.12463	3.20530	9.74372	9.43909	337.35	-11.27
94/ 5/20	2449492.5	8.82735	-3.66096	-1.89603	3.56000	8.13281	3.20952	9.74267	9.44019	337.47	-11.22
94/ 5/24	2449496.5	8.83555	-3.64216	-1.88861	3.54047	8.14094	3.21373	9.74162	9.44129	337.60	-11.18
94/ 5/28	2449500.5	8.84371	-3.62334	-1.88118	3.52091	8.14904	3.21793	9.74057	9.44239	337.72	-11.14
94/ 6/ 1	2449504.5	8.85182	-3.60451	-1.87374	3.50133	8.15710	3.22211	9.73951	9.44349	337.84	-11.09
94/ 6/ 5	2449508.5	8.85989	-3.58565	-1.86629	3.48173	8.16512	3.22628	9.73846	9.44460	337.97	-11.05
94/ 6/ 9	2449512.5	8.86791	-3.56678	-1.85883	3.46210	8.17310	3.23043	9.73740	9.44571	338.09	-11.01
94/ 6/13	2449516.5	8.87588	-3.54789	-1.85137	3.44244	8.18105	3.23457	9.73634	9.44682	338.21	-10.96
94/ 6/17	2449520.5	8.88381	-3.52898	-1.84389	3.42277	8.18896	3.23869	9.73528	9.44794	338.34	-10.92
94/ 6/21	2449524.5	8.89170	-3.51005	-1.83640	3.40306	8.19683	3.24280	9.73422	9.44905	338.46	-10.87
94/ 6/25	2449528.5	8.89954	-3.49111	-1.82891	3.38333	8.20466	3.24689	9.73316	9.45017	338.58	-10.83
94/ 6/29	2449532.5	8.90733	-3.47215	-1.82140	3.36358	8.21246	3.25097	9.73210	9.45129	338.70	-10.79
94/ 7/ 3	2449536.5	8.91508	-3.45316	-1.81389	3.34380	8.22021	3.25504	9.73104	9.45241	338.83	-10.74
94/ 7/ 7	2449540.5	8.92278	-3.43417	-1.80636	3.32400	8.22793	3.25909	9.72997	9.45354	338.95	-10.70
94/ 7/11	2449544.5	8.93043	-3.41515	-1.79883	3.30417	8.23560	3.26312	9.72891	9.45466	339.07	-10.66
94/ 7/15	2449548.5	8.93804	-3.39611	-1.79129	3.28431	8.24324	3.26714	9.72784	9.45579	339.20	-10.61
94/ 7/19	2449552.5	8.94561	-3.37706	-1.78373	3.26443	8.25084	3.27115	9.72678	9.45692	339.32	-10.57
94/ 7/23	2449556.5	8.95313	-3.35799	-1.77617	3.24453	8.25840	3.27514	9.72571	9.45804	339.44	-10.52
94/ 7/27	2449560.5	8.96060	-3.33891	-1.76860	3.22460	8.26592	3.27911	9.72464	9.45917	339.56	-10.48
94/ 7/31	2449564.5	8.96803	-3.31980	-1.76102	3.20464	8.27339	3.28307	9.72357	9.46030	339.69	-10.43
94/ 8/ 4	2449568.5	8.97541	-3.30068	-1.75343	3.18466	8.28083	3.28701	9.72250	9.46143	339.81	-10.39
94/ 8/ 8	2449572.5	8.98274	-3.28154	-1.74583	3.16466	8.28823	3.29093	9.72142	9.46256	339.93	-10.35
94/ 8/12	2449576.5	8.99003	-3.26239	-1.73823	3.14464	8.29558	3.29484	9.72035	9.46369	340.05	-10.30
94/ 8/16	2449580.5	8.99727	-3.24321	-1.73061	3.12459	8.30290	3.29874	9.71927	9.46482	340.18	-10.26
94/ 8/20	2449584.5	9.00447	-3.22402	-1.72299	3.10452	8.31018	3.30262	9.71820	9.46596	340.30	-10.21
94/ 8/24	2449588.5	9.01161	-3.20482	-1.71535	3.08442	8.31741	3.30648	9.71712	9.46709	340.42	-10.17
94/ 8/28	2449592.5	9.01872	-3.18559	-1.70771	3.06430	8.32461	3.31033	9.71604	9.46823	340.55	-10.12
94/ 9/ 1	2449596.5	9.02577	-3.16635	-1.70006	3.04416	8.33177	3.31416	9.71497	9.46937	340.67	-10.08
94/ 9/ 5	2449600.5	9.03278	-3.14710	-1.69240	3.02399	8.33888	3.31798	9.71389	9.47050	340.79	-10.03
94/ 9/ 9	2449604.5	9.03974	-3.12783	-1.68473	3.00379	8.34595	3.32178	9.71280	9.47164	340.91	-9.99
94/ 9/13	2449608.5	9.04666	-3.10854	-1.67705	2.98358	8.35299	3.32557	9.71172	9.47278	341.04	-9.94
94/ 9/17	2449612.5	9.05353	-3.08923	-1.66936	2.96334	8.35998	3.32933	9.71064	9.47391	341.16	-9.90
94/ 9/21	2449616.5	9.06035	-3.06991	-1.66166	2.94307	8.36693	3.33309	9.70955	9.47505	341.28	-9.85
94/ 9/25	2449620.5	9.06713	-3.05057	-1.65396	2.92278	8.37383	3.33682	9.70847	9.47619	341.40	-9.81
94/ 9/29	2449624.5	9.07386	-3.03122	-1.64625	2.90247	8.38070	3.34054	9.70738	9.47732	341.53	-9.76
94/10/ 3	2449628.5	9.08054	-3.01185	-1.63853	2.88214	8.38752	3.34424	9.70630	9.47846	341.65	-9.72
94/10/ 7	2449632.5	9.08717	-2.99247	-1.63080	2.86179	8.39430	3.34793	9.70521	9.47959	341.77	-9.67
94/10/11	2449636.5	9.09376	-2.97307	-1.62306	2.84141	8.40103	3.35160	9.70412	9.48073	341.90	-9.63
94/10/15	2449640.5	9.10030	-2.95365	-1.61531	2.82101	8.40773	3.35525	9.70303	9.48186	342.02	-9.58
94/10/19	2449644.5	9.10679	-2.93422	-1.60756	2.80059	8.41438	3.35889	9.70194	9.48299	342.14	-9.54
94/10/23	2449648.5	9.11324	-2.91477	-1.59979	2.78014	8.42099	3.36251	9.70084	9.48412	342.26	-9.49
94/10/27	2449652.5	9.11964	-2.89531	-1.59202	2.75968	8.42755	3.36611	9.69975	9.48526	342.39	-9.45
94/10/31	2449656.5	9.12599	-2.87584	-1.58424	2.73919	8.43407	3.36969	9.69866	9.48639	342.51	-9.40

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94/11/ 4	2449660.5	9.13230	-2.85634	-1.57645	2.71869	8.44055	3.37326	9.69756	9.48752	342.63	-9.36
94/11/ 8	2449664.5	9.13855	-2.83684	-1.56865	2.69817	8.44698	3.37681	9.69647	9.48865	342.75	-9.31
94/11/12	2449668.5	9.14476	-2.81732	-1.56085	2.67763	8.45338	3.38034	9.69537	9.48978	342.88	-9.26
94/11/16	2449672.5	9.15092	-2.79778	-1.55303	2.65707	8.45973	3.38386	9.69427	9.49092	343.00	-9.22
94/11/20	2449676.5	9.15704	-2.77823	-1.54521	2.63649	8.46604	3.38736	9.69317	9.49205	343.12	-9.17
94/11/24	2449680.5	9.16311	-2.75866	-1.53738	2.61588	8.47231	3.39084	9.69207	9.49319	343.24	-9.13
94/11/28	2449684.5	9.16912	-2.73908	-1.52955	2.59526	8.47854	3.39431	9.69097	9.49433	343.37	-9.08
94/12/ 2	2449688.5	9.17510	-2.71949	-1.52170	2.57462	8.48472	3.39777	9.68987	9.49547	343.49	-9.04
94/12/ 6	2449692.5	9.18102	-2.69988	-1.51385	2.55396	8.49086	3.40120	9.68877	9.49661	343.61	-8.99
94/12/10	2449696.5	9.18690	-2.68026	-1.50599	2.53328	8.49697	3.40462	9.68766	9.49776	343.74	-8.94
94/12/14	2449700.5	9.19272	-2.66062	-1.49812	2.51258	8.50302	3.40802	9.68656	9.49890	343.86	-8.90
94/12/18	2449704.5	9.19851	-2.64097	-1.49024	2.49187	8.50904	3.41141	9.68546	9.50005	343.98	-8.85
94/12/22	2449708.5	9.20424	-2.62131	-1.48236	2.47113	8.51502	3.41478	9.68435	9.50120	344.10	-8.80
94/12/26	2449712.5	9.20992	-2.60163	-1.47446	2.45037	8.52095	3.41813	9.68324	9.50235	344.23	-8.76
94/12/30	2449716.5	9.21556	-2.58194	-1.46656	2.42959	8.52684	3.42147	9.68214	9.50350	344.35	-8.71
95/ 1/ 3	2449720.5	9.22115	-2.56223	-1.45865	2.40880	8.53269	3.42479	9.68103	9.50465	344.47	-8.67
95/ 1/ 7	2449724.5	9.22669	-2.54251	-1.45074	2.38798	8.53850	3.42809	9.67992	9.50581	344.59	-8.62
95/ 1/11	2449728.5	9.23218	-2.52278	-1.44282	2.36715	8.54427	3.43138	9.67881	9.50696	344.72	-8.57
95/ 1/15	2449732.5	9.23763	-2.50304	-1.43488	2.34630	8.54999	3.43465	9.67770	9.50812	344.84	-8.53
95/ 1/19	2449736.5	9.24302	-2.48328	-1.42695	2.32542	8.55568	3.43791	9.67659	9.50928	344.96	-8.48
95/ 1/23	2449740.5	9.24837	-2.46351	-1.41900	2.30453	8.56132	3.44114	9.67547	9.51044	345.08	-8.43
95/ 1/27	2449744.5	9.25367	-2.44372	-1.41105	2.28362	8.56691	3.44436	9.67436	9.51160	345.21	-8.39
95/ 1/31	2449748.5	9.25892	-2.42392	-1.40309	2.26270	8.57247	3.44757	9.67325	9.51277	345.33	-8.34
95/ 2/ 4	2449752.5	9.26412	-2.40411	-1.39512	2.24175	8.57798	3.45076	9.67213	9.51394	345.45	-8.29
95/ 2/ 8	2449756.5	9.26928	-2.38429	-1.38714	2.22079	8.58346	3.45393	9.67102	9.51511	345.57	-8.25
95/ 2/12	2449760.5	9.27439	-2.36446	-1.37916	2.19981	8.58889	3.45708	9.66990	9.51628	345.70	-8.20
95/ 2/16	2449764.5	9.27944	-2.34461	-1.37117	2.17881	8.59429	3.46022	9.66878	9.51746	345.82	-8.15
95/ 2/20	2449768.5	9.28445	-2.32475	-1.36317	2.15779	8.59964	3.46335	9.66766	9.51864	345.94	-8.11
95/ 2/24	2449772.5	9.28941	-2.30487	-1.35517	2.13675	8.60495	3.46646	9.66655	9.51983	346.07	-8.06
95/ 2/28	2449776.5	9.29432	-2.28499	-1.34716	2.11568	8.61021	3.46955	9.66543	9.52101	346.19	-8.01
95/ 3/ 4	2449780.5	9.29919	-2.26509	-1.33914	2.09460	8.61544	3.47262	9.66431	9.52220	346.31	-7.96
95/ 3/ 8	2449784.5	9.30400	-2.24518	-1.33111	2.07350	8.62062	3.47568	9.66319	9.52339	346.43	-7.92
95/ 3/12	2449788.5	9.30877	-2.22526	-1.32308	2.05238	8.62576	3.47872	9.66206	9.52458	346.56	-7.87
95/ 3/16	2449792.5	9.31349	-2.20533	-1.31504	2.03124	8.63086	3.48175	9.66094	9.52577	346.68	-7.82
95/ 3/20	2449796.5	9.31815	-2.18538	-1.30699	2.01009	8.63592	3.48476	9.65982	9.52696	346.80	-7.78
95/ 3/24	2449800.5	9.32277	-2.16543	-1.29894	1.98891	8.64093	3.48775	9.65870	9.52816	346.92	-7.73
95/ 3/28	2449804.5	9.32734	-2.14546	-1.29088	1.96771	8.64590	3.49072	9.65757	9.52935	347.05	-7.68
95/ 4/ 1	2449808.5	9.33186	-2.12548	-1.28281	1.94649	8.65082	3.49368	9.65645	9.53055	347.17	-7.63
95/ 4/ 5	2449812.5	9.33634	-2.10549	-1.27473	1.92525	8.65570	3.49662	9.65532	9.53174	347.29	-7.59
95/ 4/ 9	2449816.5	9.34076	-2.08549	-1.26665	1.90399	8.66054	3.49954	9.65419	9.53294	347.41	-7.54
95/ 4/13	2449820.5	9.34513	-2.06548	-1.25857	1.88272	8.66533	3.50245	9.65307	9.53414	347.54	-7.49
95/ 4/17	2449824.5	9.34946	-2.04545	-1.25047	1.86142	8.67008	3.50533	9.65194	9.53533	347.66	-7.44
95/ 4/21	2449828.5	9.35373	-2.02542	-1.24237	1.84011	8.67479	3.50820	9.65081	9.53653	347.78	-7.40
95/ 4/25	2449832.5	9.35796	-2.00537	-1.23426	1.81878	8.67944	3.51105	9.64968	9.53772	347.90	-7.35
95/ 4/29	2449836.5	9.36214	-1.98532	-1.22615	1.79743	8.68406	3.51389	9.64855	9.53892	348.03	-7.30

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95/ 5/ 3	2449840.5	9.36626	-1.96525	-1.21803	1.77606	8.68863	3.51670	9.64742	9.54012	348.15	-7.25
95/ 5/ 7	2449844.5	9.37034	-1.94517	-1.20990	1.75468	8.69315	3.51950	9.64629	9.54132	348.27	-7.21
95/ 5/11	2449848.5	9.37437	-1.92508	-1.20177	1.73328	8.69764	3.52228	9.64516	9.54252	348.40	-7.16
95/ 5/15	2449852.5	9.37835	-1.90498	-1.19362	1.71186	8.70207	3.52505	9.64402	9.54372	348.52	-7.11
95/ 5/19	2449856.5	9.38228	-1.88488	-1.18548	1.69043	8.70647	3.52779	9.64289	9.54492	348.64	-7.06
95/ 5/23	2449860.5	9.38616	-1.86476	-1.17733	1.66898	8.71081	3.53052	9.64176	9.54612	348.76	-7.01
95/ 5/27	2449864.5	9.38999	-1.84463	-1.16917	1.64750	8.71512	3.53323	9.64062	9.54732	348.89	-6.97
95/ 5/31	2449868.5	9.39377	-1.82449	-1.16100	1.62602	8.71938	3.53592	9.63949	9.54852	349.01	-6.92
95/ 6/ 4	2449872.5	9.39751	-1.80434	-1.15283	1.60451	8.72359	3.53860	9.63835	9.54972	349.13	-6.87
95/ 6/ 8	2449876.5	9.40119	-1.78418	-1.14465	1.58299	8.72776	3.54125	9.63721	9.55092	349.25	-6.82
95/ 6/12	2449880.5	9.40482	-1.76402	-1.13647	1.56145	8.73188	3.54389	9.63608	9.55212	349.38	-6.77
95/ 6/16	2449884.5	9.40840	-1.74384	-1.12828	1.53990	8.73596	3.54651	9.63494	9.55332	349.50	-6.72
95/ 6/20	2449888.5	9.41193	-1.72365	-1.12008	1.51832	8.73999	3.54911	9.63380	9.55452	349.62	-6.68
95/ 6/24	2449892.5	9.41542	-1.70346	-1.11188	1.49674	8.74397	3.55170	9.63266	9.55572	349.74	-6.63
95/ 6/28	2449896.5	9.41885	-1.68325	-1.10367	1.47513	8.74791	3.55426	9.63152	9.55692	349.87	-6.58
95/ 7/ 2	2449900.5	9.42223	-1.66304	-1.09546	1.45352	8.75181	3.55681	9.63038	9.55812	349.99	-6.53
95/ 7/ 6	2449904.5	9.42557	-1.64282	-1.08724	1.43188	8.75566	3.55934	9.62924	9.55932	350.11	-6.48
95/ 7/10	2449908.5	9.42885	-1.62259	-1.07901	1.41023	8.75946	3.56185	9.62810	9.56053	350.24	-6.43
95/ 7/14	2449912.5	9.43208	-1.60235	-1.07078	1.38857	8.76321	3.56434	9.62695	9.56172	350.36	-6.39
95/ 7/18	2449916.5	9.43526	-1.58210	-1.06254	1.36689	8.76692	3.56681	9.62581	9.56292	350.48	-6.34
95/ 7/22	2449920.5	9.43840	-1.56184	-1.05430	1.34519	8.77059	3.56927	9.62467	9.56412	350.60	-6.29
95/ 7/26	2449924.5	9.44148	-1.54157	-1.04605	1.32349	8.77421	3.57171	9.62352	9.56532	350.73	-6.24
95/ 7/30	2449928.5	9.44451	-1.52130	-1.03780	1.30177	8.77778	3.57412	9.62238	9.56653	350.85	-6.19
95/ 8/ 3	2449932.5	9.44749	-1.50102	-1.02954	1.28004	8.78131	3.57652	9.62123	9.56773	350.97	-6.14
95/ 8/ 7	2449936.5	9.45043	-1.48073	-1.02127	1.25829	8.78480	3.57891	9.62009	9.56894	351.10	-6.09
95/ 8/11	2449940.5	9.45331	-1.46043	-1.01300	1.23653	8.78824	3.58127	9.61894	9.57014	351.22	-6.05
95/ 8/15	2449944.5	9.45614	-1.44012	-1.00473	1.21475	8.79163	3.58362	9.61780	9.57135	351.34	-6.00
95/ 8/19	2449948.5	9.45892	-1.41981	-0.99644	1.19296	8.79499	3.58595	9.61665	9.57256	351.46	-5.95
95/ 8/23	2449952.5	9.46165	-1.39949	-0.98816	1.17116	8.79829	3.58826	9.61550	9.57378	351.59	-5.90
95/ 8/27	2449956.5	9.46433	-1.37916	-0.97987	1.14934	8.80155	3.59055	9.61435	9.57499	351.71	-5.85
95/ 8/31	2449960.5	9.46696	-1.35882	-0.97157	1.12750	8.80477	3.59283	9.61320	9.57621	351.83	-5.80
95/ 9/ 4	2449964.5	9.46954	-1.33848	-0.96327	1.10566	8.80794	3.59509	9.61206	9.57742	351.95	-5.75
95/ 9/ 8	2449968.5	9.47207	-1.31812	-0.95496	1.08379	8.81107	3.59733	9.61091	9.57864	352.08	-5.70
95/ 9/12	2449972.5	9.47455	-1.29777	-0.94664	1.06192	8.81415	3.59955	9.60976	9.57986	352.20	-5.65
95/ 9/16	2449976.5	9.47698	-1.27740	-0.93833	1.04003	8.81719	3.60175	9.60860	9.58108	352.32	-5.60
95/ 9/20	2449980.5	9.47935	-1.25703	-0.93000	1.01812	8.82018	3.60394	9.60745	9.58230	352.45	-5.55
95/ 9/24	2449984.5	9.48168	-1.23665	-0.92167	0.99620	8.82312	3.60611	9.60630	9.58352	352.57	-5.51
95/ 9/28	2449988.5	9.48396	-1.21626	-0.91334	0.97427	8.82602	3.60826	9.60515	9.58475	352.69	-5.46
95/10/ 2	2449992.5	9.48618	-1.19587	-0.90500	0.95232	8.82888	3.61039	9.60400	9.58597	352.81	-5.41
95/10/ 6	2449996.5	9.48836	-1.17547	-0.89666	0.93035	8.83168	3.61250	9.60285	9.58720	352.94	-5.36
95/10/10	2450000.5	9.49048	-1.15506	-0.88831	0.90837	8.83444	3.61459	9.60169	9.58842	353.06	-5.31
95/10/14	2450004.5	9.49255	-1.13465	-0.87996	0.88638	8.83716	3.61667	9.60054	9.58964	353.18	-5.26
95/10/18	2450008.5	9.49458	-1.11423	-0.87160	0.86438	8.83982	3.61872	9.59938	9.59087	353.31	-5.21
95/10/22	2450012.5	9.49655	-1.09381	-0.86324	0.84236	8.84244	3.62076	9.59823	9.59209	353.43	-5.16
95/10/26	2450016.5	9.49847	-1.07338	-0.85487	0.82034	8.84502	3.62278	9.59707	9.59332	353.55	-5.11

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95/10/30	2450020.5	9.50034	-1.05294	-0.84650	0.79829	8.84754	3.62478	9.59592	9.59455	353.68	-5.06
95/11/ 3	2450024.5	9.50216	-1.03250	-0.83813	0.77624	8.85003	3.62676	9.59476	9.59577	353.80	-5.01
95/11/ 7	2450028.5	9.50392	-1.01205	-0.82974	0.75417	8.85246	3.62872	9.59361	9.59700	353.92	-4.96
95/11/11	2450032.5	9.50564	-0.99160	-0.82136	0.73209	8.85485	3.63067	9.59245	9.59823	354.04	-4.91
95/11/15	2450036.5	9.50731	-0.97114	-0.81297	0.70999	8.85719	3.63259	9.59129	9.59946	354.17	-4.86
95/11/19	2450040.5	9.50892	-0.95067	-0.80458	0.68789	8.85949	3.63450	9.59014	9.60070	354.29	-4.81
95/11/23	2450044.5	9.51048	-0.93020	-0.79618	0.66577	8.86174	3.63639	9.58898	9.60193	354.41	-4.76
95/11/27	2450048.5	9.51200	-0.90973	-0.78777	0.64363	8.86394	3.63826	9.58782	9.60316	354.54	-4.71
95/12/ 1	2450052.5	9.51346	-0.88925	-0.77937	0.62148	8.86609	3.64011	9.58666	9.60439	354.66	-4.66
95/12/ 5	2450056.5	9.51487	-0.86876	-0.77096	0.59932	8.86820	3.64194	9.58550	9.60562	354.78	-4.61
95/12/ 9	2450060.5	9.51623	-0.84828	-0.76254	0.57715	8.87026	3.64375	9.58434	9.60685	354.91	-4.56
95/12/13	2450064.5	9.51754	-0.82778	-0.75412	0.55497	8.87227	3.64554	9.58318	9.60808	355.03	-4.51
95/12/17	2450068.5	9.51879	-0.80728	-0.74570	0.53277	8.87423	3.64732	9.58202	9.60930	355.15	-4.46
95/12/21	2450072.5	9.52000	-0.78678	-0.73727	0.51057	8.87615	3.64907	9.58086	9.61053	355.28	-4.41
95/12/25	2450076.5	9.52115	-0.76627	-0.72884	0.48835	8.87801	3.65080	9.57970	9.61176	355.40	-4.36
95/12/29	2450080.5	9.52225	-0.74576	-0.72040	0.46612	8.87983	3.65252	9.57854	9.61299	355.52	-4.31
96/ 1/ 2	2450084.5	9.52330	-0.72524	-0.71196	0.44388	8.88160	3.65421	9.57738	9.61421	355.65	-4.26
96/ 1/ 6	2450088.5	9.52430	-0.70472	-0.70352	0.42162	8.88332	3.65589	9.57622	9.61543	355.77	-4.21
96/ 1/10	2450092.5	9.52525	-0.68420	-0.69507	0.39936	8.88499	3.65754	9.57506	9.61666	355.89	-4.16
96/ 1/14	2450096.5	9.52615	-0.66367	-0.68662	0.37709	8.88661	3.65918	9.57389	9.61788	356.01	-4.11
96/ 1/18	2450100.5	9.52699	-0.64314	-0.67816	0.35481	8.88818	3.66079	9.57273	9.61910	356.14	-4.06
96/ 1/22	2450104.5	9.52779	-0.62261	-0.66970	0.33252	8.88970	3.66239	9.57157	9.62032	356.26	-4.01
96/ 1/26	2450108.5	9.52853	-0.60207	-0.66124	0.31023	8.89118	3.66396	9.57040	9.62154	356.38	-3.96
96/ 1/30	2450112.5	9.52922	-0.58152	-0.65277	0.28792	8.89261	3.66552	9.56924	9.62276	356.51	-3.91
96/ 2/ 3	2450116.5	9.52986	-0.56098	-0.64430	0.26561	8.89400	3.66706	9.56808	9.62398	356.63	-3.86
96/ 2/ 7	2450120.5	9.53045	-0.54043	-0.63583	0.24329	8.89533	3.66858	9.56691	9.62521	356.75	-3.81
96/ 2/11	2450124.5	9.53099	-0.51988	-0.62735	0.22095	8.89662	3.67008	9.56575	9.62643	356.88	-3.76
96/ 2/15	2450128.5	9.53147	-0.49933	-0.61887	0.19861	8.89786	3.67156	9.56458	9.62766	357.00	-3.71
96/ 2/19	2450132.5	9.53190	-0.47877	-0.61039	0.17626	8.89906	3.67302	9.56342	9.62888	357.12	-3.66
96/ 2/23	2450136.5	9.53228	-0.45821	-0.60190	0.15390	8.90020	3.67446	9.56225	9.63011	357.25	-3.61
96/ 2/27	2450140.5	9.53261	-0.43765	-0.59341	0.13154	8.90130	3.67589	9.56109	9.63133	357.37	-3.56
96/ 3/ 2	2450144.5	9.53289	-0.41708	-0.58492	0.10916	8.90235	3.67729	9.55992	9.63256	357.49	-3.51
96/ 3/ 6	2450148.5	9.53312	-0.39652	-0.57642	0.08678	8.90335	3.67867	9.55876	9.63379	357.62	-3.46
96/ 3/10	2450152.5	9.53329	-0.37595	-0.56792	0.06438	8.90431	3.68004	9.55759	9.63502	357.74	-3.41
96/ 3/14	2450156.5	9.53342	-0.35537	-0.55942	0.04198	8.90522	3.68138	9.55642	9.63625	357.87	-3.36
96/ 3/18	2450160.5	9.53349	-0.33480	-0.55091	0.01958	8.90608	3.68271	9.55526	9.63748	357.99	-3.31
96/ 3/22	2450164.5	9.53351	-0.31422	-0.54240	-0.00284	8.90689	3.68402	9.55409	9.63871	358.11	-3.25
96/ 3/26	2450168.5	9.53347	-0.29365	-0.53389	-0.02527	8.90766	3.68531	9.55293	9.63994	358.24	-3.20
96/ 3/30	2450172.5	9.53339	-0.27307	-0.52538	-0.04770	8.90838	3.68657	9.55176	9.64118	358.36	-3.15
96/ 4/ 3	2450176.5	9.53325	-0.25249	-0.51686	-0.07014	8.90905	3.68782	9.55059	9.64241	358.48	-3.10
96/ 4/ 7	2450180.5	9.53307	-0.23191	-0.50834	-0.09259	8.90967	3.68905	9.54943	9.64365	358.61	-3.05
96/ 4/11	2450184.5	9.53283	-0.21132	-0.49981	-0.11504	8.91025	3.69026	9.54826	9.64488	358.73	-3.00
96/ 4/15	2450188.5	9.53253	-0.19074	-0.49129	-0.13751	8.91077	3.69145	9.54709	9.64612	358.85	-2.95
96/ 4/19	2450192.5	9.53219	-0.17015	-0.48276	-0.15997	8.91125	3.69262	9.54592	9.64736	358.98	-2.90
96/ 4/23	2450196.5	9.53179	-0.14956	-0.47423	-0.18245	8.91169	3.69378	9.54476	9.64860	359.10	-2.85

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96/ 4/27	2450200.5	9.53135	-0.12898	-0.46569	-0.20493	8.91208	3.69491	9.54359	9.64984	359.22	-2.80
96/ 5/ 1	2450204.5	9.53085	-0.10839	-0.45716	-0.22742	8.91242	3.69603	9.54242	9.65109	359.35	-2.75
96/ 5/ 5	2450208.5	9.53030	-0.08780	-0.44862	-0.24992	8.91271	3.69712	9.54125	9.65234	359.47	-2.69
96/ 5/ 9	2450212.5	9.52969	-0.06721	-0.44007	-0.27243	8.91296	3.69820	9.54009	9.65359	359.60	-2.64
96/ 5/13	2450216.5	9.52904	-0.04662	-0.43153	-0.29495	8.91316	3.69926	9.53892	9.65484	359.72	-2.59
96/ 5/17	2450220.5	9.52833	-0.02603	-0.42298	-0.31747	8.91332	3.70030	9.53775	9.65610	359.84	-2.54
96/ 5/21	2450224.5	9.52757	-0.00543	-0.41443	-0.34001	8.91342	3.70132	9.53658	9.65735	359.97	-2.49
96/ 5/25	2450228.5	9.52676	0.01516	-0.40588	-0.36255	8.91348	3.70232	9.53541	9.65861	0.09	-2.44
96/ 5/29	2450232.5	9.52590	0.03575	-0.39733	-0.38510	8.91349	3.70330	9.53425	9.65986	0.22	-2.39
96/ 6/ 2	2450236.5	9.52498	0.05634	-0.38877	-0.40766	8.91345	3.70426	9.53308	9.66112	0.34	-2.34
96/ 6/ 6	2450240.5	9.52401	0.07693	-0.38021	-0.43022	8.91336	3.70520	9.53191	9.66238	0.46	-2.29
96/ 6/10	2450244.5	9.52299	0.09752	-0.37165	-0.45280	8.91323	3.70612	9.53074	9.66364	0.59	-2.23
96/ 6/14	2450248.5	9.52192	0.11812	-0.36309	-0.47538	8.91304	3.70702	9.52957	9.66490	0.71	-2.18
96/ 6/18	2450252.5	9.52080	0.13871	-0.35452	-0.49797	8.91281	3.70790	9.52840	9.66616	0.83	-2.13
96/ 6/22	2450256.5	9.51962	0.15930	-0.34596	-0.52057	8.91252	3.70877	9.52724	9.66742	0.96	-2.08
96/ 6/26	2450260.5	9.51839	0.17988	-0.33739	-0.54318	8.91219	3.70961	9.52607	9.66868	1.08	-2.03
96/ 6/30	2450264.5	9.51711	0.20047	-0.32882	-0.56579	8.91181	3.71043	9.52490	9.66994	1.21	-1.98
96/ 7/ 4	2450268.5	9.51578	0.22106	-0.32024	-0.58841	8.91137	3.71123	9.52373	9.67119	1.33	-1.93
96/ 7/ 8	2450272.5	9.51439	0.24165	-0.31167	-0.61103	8.91089	3.71201	9.52256	9.67245	1.45	-1.88
96/ 7/12	2450276.5	9.51295	0.26223	-0.30309	-0.63367	8.91035	3.71276	9.52139	9.67370	1.58	-1.82
96/ 7/16	2450280.5	9.51146	0.28282	-0.29451	-0.65630	8.90977	3.71350	9.52022	9.67496	1.70	-1.77
96/ 7/20	2450284.5	9.50992	0.30340	-0.28593	-0.67894	8.90913	3.71422	9.51905	9.67621	1.83	-1.72
96/ 7/24	2450288.5	9.50833	0.32398	-0.27735	-0.70159	8.90845	3.71492	9.51789	9.67747	1.95	-1.67
96/ 7/28	2450292.5	9.50668	0.34456	-0.26877	-0.72424	8.90772	3.71560	9.51672	9.67872	2.08	-1.62
96/ 8/ 1	2450296.5	9.50498	0.36514	-0.26019	-0.74690	8.90694	3.71625	9.51555	9.67998	2.20	-1.57
96/ 8/ 5	2450300.5	9.50323	0.38571	-0.25160	-0.76957	8.90610	3.71689	9.51438	9.68123	2.32	-1.52
96/ 8/ 9	2450304.5	9.50142	0.40628	-0.24301	-0.79224	8.90522	3.71751	9.51321	9.68248	2.45	-1.46
96/ 8/13	2450308.5	9.49957	0.42686	-0.23442	-0.81492	8.90429	3.71810	9.51204	9.68373	2.57	-1.41
96/ 8/17	2450312.5	9.49766	0.44743	-0.22583	-0.83760	8.90330	3.71868	9.51087	9.68499	2.70	-1.36
96/ 8/21	2450316.5	9.49570	0.46799	-0.21724	-0.86028	8.90227	3.71923	9.50971	9.68623	2.82	-1.31
96/ 8/25	2450320.5	9.49368	0.48856	-0.20865	-0.88297	8.90118	3.71976	9.50854	9.68748	2.95	-1.26
96/ 8/29	2450324.5	9.49162	0.50912	-0.20006	-0.90566	8.90005	3.72028	9.50737	9.68873	3.07	-1.21
96/ 9/ 2	2450328.5	9.48950	0.52968	-0.19146	-0.92836	8.89886	3.72077	9.50620	9.68998	3.19	-1.15
96/ 9/ 6	2450332.5	9.48733	0.55023	-0.18286	-0.95106	8.89762	3.72124	9.50503	9.69122	3.32	-1.10
96/ 9/10	2450336.5	9.48511	0.57079	-0.17427	-0.97377	8.89633	3.72169	9.50386	9.69246	3.44	-1.05
96/ 9/14	2450340.5	9.48283	0.59134	-0.16567	-0.99648	8.89499	3.72212	9.50269	9.69371	3.57	-1.00
96/ 9/18	2450344.5	9.48050	0.61189	-0.15707	-1.01919	8.89360	3.72252	9.50153	9.69495	3.69	-0.95
96/ 9/22	2450348.5	9.47812	0.63243	-0.14847	-1.04190	8.89215	3.72291	9.50036	9.69618	3.82	-0.90
96/ 9/26	2450352.5	9.47569	0.65297	-0.13987	-1.06462	8.89066	3.72327	9.49919	9.69742	3.94	-0.84
96/ 9/30	2450356.5	9.47320	0.67351	-0.13127	-1.08734	8.88911	3.72362	9.49802	9.69866	4.07	-0.79
96/10/ 4	2450360.5	9.47066	0.69404	-0.12266	-1.11005	8.88751	3.72394	9.49685	9.69989	4.19	-0.74
96/10/ 8	2450364.5	9.46807	0.71457	-0.11406	-1.13277	8.88587	3.72424	9.49568	9.70112	4.32	-0.69
96/10/12	2450368.5	9.46543	0.73510	-0.10546	-1.15549	8.88417	3.72452	9.49452	9.70235	4.44	-0.64
96/10/16	2450372.5	9.46273	0.75562	-0.09685	-1.17821	8.88242	3.72478	9.49335	9.70358	4.57	-0.58
96/10/20	2450376.5	9.45999	0.77614	-0.08825	-1.20093	8.88062	3.72502	9.49218	9.70482	4.69	-0.53

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96/10/24	2450380.5	9.45719	0.79665	-0.07964	-1.22365	8.87878	3.72524	9.49101	9.70605	4.82	-0.48
96/10/28	2450384.5	9.45433	0.81716	-0.07104	-1.24637	8.87688	3.72543	9.48985	9.70728	4.94	-0.43
96/11/ 1	2450388.5	9.45143	0.83767	-0.06243	-1.26909	8.87494	3.72561	9.48868	9.70852	5.06	-0.38
96/11/ 5	2450392.5	9.44847	0.85817	-0.05382	-1.29182	8.87294	3.72577	9.48751	9.70975	5.19	-0.33
96/11/ 9	2450396.5	9.44546	0.87866	-0.04521	-1.31454	8.87090	3.72591	9.48635	9.71098	5.31	-0.27
96/11/13	2450400.5	9.44240	0.89915	-0.03661	-1.33727	8.86880	3.72602	9.48518	9.71222	5.44	-0.22
96/11/17	2450404.5	9.43928	0.91964	-0.02800	-1.35999	8.86666	3.72612	9.48401	9.71345	5.56	-0.17
96/11/21	2450408.5	9.43611	0.94012	-0.01939	-1.38272	8.86447	3.72620	9.48285	9.71469	5.69	-0.12
96/11/25	2450412.5	9.43289	0.96060	-0.01078	-1.40545	8.86222	3.72625	9.48168	9.71593	5.81	-0.07
96/11/29	2450416.5	9.42962	0.98107	-0.00217	-1.42818	8.85993	3.72629	9.48052	9.71716	5.94	-0.01
96/12/ 3	2450420.5	9.42629	1.00153	0.00643	-1.45090	8.85759	3.72630	9.47935	9.71840	6.06	0.04
96/12/ 7	2450424.5	9.42291	1.02199	0.01504	-1.47364	8.85520	3.72630	9.47819	9.71964	6.19	0.09
96/12/11	2450428.5	9.41948	1.04245	0.02365	-1.49637	8.85276	3.72627	9.47702	9.72088	6.32	0.14
96/12/15	2450432.5	9.41600	1.06289	0.03226	-1.51910	8.85026	3.72622	9.47586	9.72212	6.44	0.20
96/12/19	2450436.5	9.41246	1.08334	0.04087	-1.54183	8.84772	3.72616	9.47469	9.72336	6.57	0.25
96/12/23	2450440.5	9.40888	1.10377	0.04948	-1.56456	8.84513	3.72607	9.47353	9.72460	6.69	0.30
96/12/27	2450444.5	9.40524	1.12420	0.05808	-1.58729	8.84249	3.72596	9.47236	9.72583	6.82	0.35
96/12/31	2450448.5	9.40154	1.14463	0.06669	-1.61003	8.83979	3.72583	9.47120	9.72707	6.94	0.40
97/ 1/ 4	2450452.5	9.39780	1.16505	0.07530	-1.63276	8.83705	3.72568	9.47004	9.72831	7.07	0.46
97/ 1/ 8	2450456.5	9.39400	1.18546	0.08390	-1.65548	8.83426	3.72550	9.46887	9.72955	7.19	0.51
97/ 1/12	2450460.5	9.39015	1.20586	0.09251	-1.67821	8.83142	3.72531	9.46771	9.73079	7.32	0.56
97/ 1/16	2450464.5	9.38625	1.22626	0.10112	-1.70094	8.82852	3.72510	9.46655	9.73203	7.44	0.61
97/ 1/20	2450468.5	9.38229	1.24666	0.10972	-1.72367	8.82558	3.72487	9.46539	9.73327	7.57	0.66
97/ 1/24	2450472.5	9.37828	1.26704	0.11833	-1.74640	8.82259	3.72461	9.46422	9.73452	7.69	0.72
97/ 1/28	2450476.5	9.37422	1.28742	0.12693	-1.76912	8.81955	3.72434	9.46306	9.73576	7.82	0.77
97/ 2/ 1	2450480.5	9.37011	1.30779	0.13553	-1.79185	8.81646	3.72405	9.46190	9.73701	7.95	0.82
97/ 2/ 5	2450484.5	9.36594	1.32815	0.14414	-1.81458	8.81332	3.72373	9.46074	9.73825	8.07	0.87
97/ 2/ 9	2450488.5	9.36172	1.34851	0.15274	-1.83731	8.81013	3.72339	9.45958	9.73950	8.20	0.93
97/ 2/13	2450492.5	9.35745	1.36886	0.16134	-1.86004	8.80689	3.72304	9.45842	9.74074	8.32	0.98
97/ 2/17	2450496.5	9.35313	1.38920	0.16994	-1.88276	8.80359	3.72266	9.45726	9.74198	8.45	1.03
97/ 2/21	2450500.5	9.34875	1.40954	0.17854	-1.90549	8.80025	3.72226	9.45610	9.74323	8.57	1.08
97/ 2/25	2450504.5	9.34433	1.42986	0.18714	-1.92821	8.79686	3.72184	9.45494	9.74447	8.70	1.13
97/ 3/ 1	2450508.5	9.33984	1.45018	0.19574	-1.95094	8.79341	3.72140	9.45378	9.74572	8.83	1.19
97/ 3/ 5	2450512.5	9.33531	1.47049	0.20433	-1.97366	8.78991	3.72094	9.45263	9.74696	8.95	1.24
97/ 3/ 9	2450516.5	9.33073	1.49079	0.21293	-1.99638	8.78636	3.72045	9.45147	9.74820	9.08	1.29
97/ 3/13	2450520.5	9.32609	1.51109	0.22152	-2.01910	8.78276	3.71995	9.45031	9.74944	9.20	1.34
97/ 3/17	2450524.5	9.32140	1.53137	0.23012	-2.04182	8.77911	3.71942	9.44915	9.75068	9.33	1.40
97/ 3/21	2450528.5	9.31665	1.55165	0.23871	-2.06453	8.77540	3.71887	9.44800	9.75192	9.46	1.45
97/ 3/25	2450532.5	9.31186	1.57192	0.24730	-2.08724	8.77164	3.71830	9.44684	9.75315	9.58	1.50
97/ 3/29	2450536.5	9.30701	1.59218	0.25589	-2.10995	8.76783	3.71770	9.44568	9.75439	9.71	1.55
97/ 4/ 2	2450540.5	9.30211	1.61243	0.26448	-2.13266	8.76397	3.71709	9.44453	9.75562	9.83	1.60
97/ 4/ 6	2450544.5	9.29716	1.63267	0.27306	-2.15535	8.76005	3.71645	9.44337	9.75685	9.96	1.66
97/ 4/10	2450548.5	9.29215	1.65290	0.28165	-2.17805	8.75609	3.71579	9.44222	9.75808	10.09	1.71
97/ 4/14	2450552.5	9.28709	1.67313	0.29023	-2.20074	8.75208	3.71511	9.44106	9.75931	10.21	1.76
97/ 4/18	2450556.5	9.28198	1.69334	0.29881	-2.22343	8.74801	3.71441	9.43991	9.76054	10.34	1.81

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97/ 4/22	2450560.5	9.27682	1.71354	0.30739	-2.24611	8.74389	3.71369	9.43876	9.76177	10.47	1.87
97/ 4/26	2450564.5	9.27160	1.73374	0.31597	-2.26879	8.73973	3.71295	9.43760	9.76300	10.59	1.92
97/ 4/30	2450568.5	9.26634	1.75393	0.32455	-2.29146	8.73551	3.71219	9.43645	9.76423	10.72	1.97
97/ 5/ 4	2450572.5	9.26102	1.77410	0.33312	-2.31413	8.73124	3.71140	9.43530	9.76546	10.84	2.02
97/ 5/ 8	2450576.5	9.25564	1.79427	0.34170	-2.33680	8.72691	3.71059	9.43415	9.76669	10.97	2.08
97/ 5/12	2450580.5	9.25022	1.81442	0.35027	-2.35946	8.72254	3.70977	9.43299	9.76791	11.10	2.13
97/ 5/16	2450584.5	9.24474	1.83457	0.35884	-2.38211	8.71812	3.70892	9.43184	9.76914	11.22	2.18
97/ 5/20	2450588.5	9.23921	1.85470	0.36740	-2.40476	8.71364	3.70805	9.43069	9.77037	11.35	2.23
97/ 5/24	2450592.5	9.23363	1.87483	0.37597	-2.42741	8.70911	3.70715	9.42954	9.77159	11.48	2.29
97/ 5/28	2450596.5	9.22800	1.89494	0.38453	-2.45005	8.70454	3.70624	9.42839	9.77282	11.60	2.34
97/ 6/ 1	2450600.5	9.22231	1.91505	0.39309	-2.47268	8.69991	3.70530	9.42725	9.77404	11.73	2.39
97/ 6/ 5	2450604.5	9.21657	1.93514	0.40165	-2.49531	8.69523	3.70435	9.42610	9.77526	11.86	2.44
97/ 6/ 9	2450608.5	9.21078	1.95522	0.41021	-2.51793	8.69050	3.70337	9.42495	9.77649	11.98	2.49
97/ 6/13	2450612.5	9.20494	1.97529	0.41876	-2.54055	8.68572	3.70237	9.42380	9.77771	12.11	2.55
97/ 6/17	2450616.5	9.19904	1.99535	0.42731	-2.56316	8.68088	3.70135	9.42266	9.77893	12.24	2.60
97/ 6/21	2450620.5	9.19310	2.01540	0.43586	-2.58577	8.67600	3.70031	9.42151	9.78015	12.37	2.65
97/ 6/25	2450624.5	9.18710	2.03544	0.44441	-2.60836	8.67106	3.69924	9.42036	9.78137	12.49	2.70
97/ 6/29	2450628.5	9.18105	2.05546	0.45296	-2.63095	8.66607	3.69815	9.41922	9.78259	12.62	2.76
97/ 7/ 3	2450632.5	9.17494	2.07548	0.46150	-2.65353	8.66104	3.69705	9.41808	9.78381	12.75	2.81
97/ 7/ 7	2450636.5	9.16879	2.09548	0.47004	-2.67611	8.65595	3.69592	9.41693	9.78503	12.87	2.86
97/ 7/11	2450640.5	9.16258	2.11547	0.47857	-2.69868	8.65081	3.69477	9.41579	9.78625	13.00	2.91
97/ 7/15	2450644.5	9.15632	2.13545	0.48711	-2.72124	8.64563	3.69360	9.41465	9.78748	13.13	2.97
97/ 7/19	2450648.5	9.15000	2.15542	0.49564	-2.74379	8.64039	3.69241	9.41350	9.78870	13.26	3.02
97/ 7/23	2450652.5	9.14364	2.17537	0.50417	-2.76634	8.63511	3.69120	9.41236	9.78993	13.38	3.07
97/ 7/27	2450656.5	9.13722	2.19531	0.51269	-2.78889	8.62977	3.68997	9.41122	9.79115	13.51	3.12
97/ 7/31	2450660.5	9.13075	2.21524	0.52122	-2.81142	8.62438	3.68871	9.41008	9.79238	13.64	3.18
97/ 8/ 4	2450664.5	9.12423	2.23516	0.52974	-2.83395	8.61894	3.68744	9.40894	9.79361	13.76	3.23
97/ 8/ 8	2450668.5	9.11766	2.25507	0.53825	-2.85648	8.61346	3.68614	9.40780	9.79483	13.89	3.28
97/ 8/12	2450672.5	9.11103	2.27496	0.54677	-2.87900	8.60792	3.68483	9.40667	9.79606	14.02	3.33
97/ 8/16	2450676.5	9.10436	2.29484	0.55528	-2.90151	8.60233	3.68349	9.40553	9.79729	14.15	3.38
97/ 8/20	2450680.5	9.09763	2.31471	0.56379	-2.92401	8.59668	3.68213	9.40439	9.79851	14.27	3.44
97/ 8/24	2450684.5	9.09085	2.33456	0.57229	-2.94651	8.59099	3.68075	9.40325	9.79974	14.40	3.49
97/ 8/28	2450688.5	9.08402	2.35440	0.58079	-2.96900	8.58525	3.67934	9.40212	9.80097	14.53	3.54
97/ 9/ 1	2450692.5	9.07713	2.37423	0.58929	-2.99149	8.57945	3.67792	9.40098	9.80220	14.66	3.59
97/ 9/ 5	2450696.5	9.07019	2.39404	0.59779	-3.01396	8.57360	3.67647	9.39985	9.80342	14.79	3.65
97/ 9/ 9	2450700.5	9.06320	2.41384	0.60628	-3.03644	8.56770	3.67500	9.39872	9.80465	14.91	3.70
97/ 9/13	2450704.5	9.05616	2.43362	0.61477	-3.05890	8.56175	3.67351	9.39758	9.80587	15.04	3.75
97/ 9/17	2450708.5	9.04907	2.45340	0.62325	-3.08135	8.55574	3.67200	9.39645	9.80709	15.17	3.80
97/ 9/21	2450712.5	9.04193	2.47315	0.63173	-3.10380	8.54968	3.67046	9.39532	9.80831	15.30	3.86
97/ 9/25	2450716.5	9.03473	2.49290	0.64021	-3.12623	8.54357	3.66891	9.39419	9.80952	15.43	3.91
97/ 9/29	2450720.5	9.02748	2.51263	0.64868	-3.14866	8.53740	3.66733	9.39306	9.81074	15.55	3.96
97/10/ 3	2450724.5	9.02018	2.53234	0.65716	-3.17108	8.53119	3.66573	9.39193	9.81195	15.68	4.01
97/10/ 7	2450728.5	9.01283	2.55205	0.66562	-3.19349	8.52492	3.66410	9.39080	9.81317	15.81	4.06
97/10/11	2450732.5	9.00543	2.57173	0.67408	-3.21588	8.51860	3.66246	9.38967	9.81438	15.94	4.12
97/10/15	2450736.5	8.99797	2.59141	0.68254	-3.23827	8.51223	3.66079	9.38854	9.81560	16.07	4.17

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97/10/19	2450740.5	8.99047	2.61106	0.69100	-3.26065	8.50581	3.65910	9.38742	9.81681	16.19	4.22
97/10/23	2450744.5	8.98291	2.63070	0.69945	-3.28303	8.49933	3.65739	9.38629	9.81802	16.32	4.27
97/10/27	2450748.5	8.97530	2.65033	0.70790	-3.30539	8.49280	3.65566	9.38517	9.81922	16.45	4.33
97/10/31	2450752.5	8.96764	2.66994	0.71634	-3.32774	8.48622	3.65390	9.38404	9.82043	16.58	4.38
97/11/ 4	2450756.5	8.95992	2.68954	0.72478	-3.35008	8.47959	3.65213	9.38292	9.82163	16.71	4.43
97/11/ 8	2450760.5	8.95216	2.70912	0.73321	-3.37241	8.47290	3.65033	9.38179	9.82284	16.84	4.48
97/11/12	2450764.5	8.94434	2.72869	0.74165	-3.39473	8.46616	3.64850	9.38067	9.82404	16.97	4.53
97/11/16	2450768.5	8.93647	2.74824	0.75007	-3.41703	8.45937	3.64666	9.37955	9.82523	17.09	4.59
97/11/20	2450772.5	8.92855	2.76777	0.75849	-3.43933	8.45253	3.64479	9.37843	9.82643	17.22	4.64
97/11/24	2450776.5	8.92058	2.78729	0.76691	-3.46161	8.44563	3.64290	9.37731	9.82762	17.35	4.69
97/11/28	2450780.5	8.91256	2.80680	0.77533	-3.48388	8.43868	3.64099	9.37619	9.82881	17.48	4.74
97/12/ 2	2450784.5	8.90448	2.82628	0.78373	-3.50614	8.43168	3.63906	9.37507	9.83000	17.61	4.80
97/12/ 6	2450788.5	8.89636	2.84575	0.79214	-3.52839	8.42462	3.63710	9.37395	9.83119	17.74	4.85
97/12/10	2450792.5	8.88818	2.86521	0.80054	-3.55063	8.41751	3.63512	9.37284	9.83237	17.87	4.90
97/12/14	2450796.5	8.87995	2.88465	0.80893	-3.57285	8.41035	3.63312	9.37172	9.83355	18.00	4.95
97/12/18	2450800.5	8.87167	2.90407	0.81733	-3.59505	8.40313	3.63109	9.37060	9.83472	18.13	5.00
97/12/22	2450804.5	8.86334	2.92347	0.82571	-3.61724	8.39586	3.62905	9.36949	9.83590	18.25	5.06
97/12/26	2450808.5	8.85496	2.94286	0.83409	-3.63941	8.38854	3.62698	9.36838	9.83707	18.38	5.11
97/12/30	2450812.5	8.84653	2.96223	0.84247	-3.66157	8.38117	3.62489	9.36726	9.83824	18.51	5.16
98/ 1/ 3	2450816.5	8.83804	2.98158	0.85084	-3.68372	8.37375	3.62277	9.36615	9.83941	18.64	5.21
98/ 1/ 7	2450820.5	8.82951	3.00092	0.85921	-3.70585	8.36628	3.62064	9.36504	9.84058	18.77	5.26
98/ 1/11	2450824.5	8.82092	3.02024	0.86757	-3.72797	8.35876	3.61849	9.36393	9.84175	18.90	5.32
98/ 1/15	2450828.5	8.81228	3.03954	0.87593	-3.75007	8.35119	3.61631	9.36282	9.84292	19.03	5.37
98/ 1/19	2450832.5	8.80359	3.05882	0.88428	-3.77215	8.34357	3.61411	9.36171	9.84409	19.16	5.42
98/ 1/23	2450836.5	8.79485	3.07809	0.89263	-3.79423	8.33589	3.61189	9.36060	9.84525	19.29	5.47
98/ 1/27	2450840.5	8.78606	3.09734	0.90097	-3.81628	8.32817	3.60965	9.35950	9.84642	19.42	5.52
98/ 1/31	2450844.5	8.77722	3.11657	0.90930	-3.83833	8.32039	3.60739	9.35839	9.84759	19.55	5.58
98/ 2/ 4	2450848.5	8.76833	3.13578	0.91763	-3.86035	8.31257	3.60510	9.35728	9.84875	19.68	5.63
98/ 2/ 8	2450852.5	8.75939	3.15497	0.92596	-3.88237	8.30469	3.60280	9.35618	9.84992	19.81	5.68
98/ 2/12	2450856.5	8.75039	3.17415	0.93428	-3.90437	8.29677	3.60047	9.35508	9.85108	19.94	5.73
98/ 2/16	2450860.5	8.74135	3.19331	0.94260	-3.92635	8.28879	3.59812	9.35397	9.85225	20.07	5.78
98/ 2/20	2450864.5	8.73225	3.21245	0.95090	-3.94832	8.28077	3.59575	9.35287	9.85341	20.20	5.84
98/ 2/24	2450868.5	8.72310	3.23157	0.95921	-3.97027	8.27269	3.59336	9.35177	9.85458	20.33	5.89
98/ 2/28	2450872.5	8.71391	3.25067	0.96751	-3.99221	8.26456	3.59095	9.35067	9.85574	20.46	5.94
98/ 3/ 4	2450876.5	8.70466	3.26975	0.97580	-4.01414	8.25639	3.58852	9.34958	9.85691	20.59	5.99
98/ 3/ 8	2450880.5	8.69536	3.28882	0.98409	-4.03605	8.24816	3.58606	9.34848	9.85807	20.72	6.04
98/ 3/12	2450884.5	8.68601	3.30786	0.99237	-4.05794	8.23988	3.58358	9.34738	9.85924	20.85	6.09
98/ 3/16	2450888.5	8.67661	3.32689	1.00065	-4.07982	8.23155	3.58108	9.34629	9.86040	20.98	6.15
98/ 3/20	2450892.5	8.66716	3.34590	1.00892	-4.10168	8.22317	3.57856	9.34519	9.86156	21.11	6.20
98/ 3/24	2450896.5	8.65766	3.36488	1.01718	-4.12352	8.21474	3.57602	9.34410	9.86272	21.24	6.25
98/ 3/28	2450900.5	8.64811	3.38385	1.02544	-4.14535	8.20626	3.57346	9.34300	9.86389	21.37	6.30
98/ 4/ 1	2450904.5	8.63851	3.40280	1.03369	-4.16716	8.19773	3.57087	9.34191	9.86505	21.50	6.35
98/ 4/ 5	2450908.5	8.62885	3.42173	1.04194	-4.18896	8.18915	3.56827	9.34082	9.86621	21.63	6.40
98/ 4/ 9	2450912.5	8.61915	3.44064	1.05018	-4.21075	8.18053	3.56564	9.33973	9.86738	21.76	6.46
98/ 4/13	2450916.5	8.60940	3.45952	1.05841	-4.23251	8.17185	3.56299	9.33865	9.86855	21.89	6.51

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98/ 4/17	2450920.5	8.59960	3.47839	1.06664	-4.25427	8.16312	3.56033	9.33756	9.86971	22.02	6.56
98/ 4/21	2450924.5	8.58974	3.49724	1.07486	-4.27600	8.15434	3.55763	9.33647	9.87088	22.15	6.61
98/ 4/25	2450928.5	8.57984	3.51607	1.08308	-4.29772	8.14551	3.55492	9.33539	9.87204	22.28	6.66
98/ 4/29	2450932.5	8.56989	3.53488	1.09129	-4.31943	8.13663	3.55219	9.33430	9.87321	22.41	6.71
98/ 5/ 3	2450936.5	8.55988	3.55366	1.09949	-4.34112	8.12770	3.54943	9.33322	9.87437	22.55	6.77
98/ 5/ 7	2450940.5	8.54983	3.57243	1.10769	-4.36279	8.11871	3.54666	9.33214	9.87554	22.68	6.82
98/ 5/11	2450944.5	8.53972	3.59117	1.11588	-4.38445	8.10968	3.54386	9.33106	9.87670	22.81	6.87
98/ 5/15	2450948.5	8.52957	3.60990	1.12406	-4.40610	8.10059	3.54103	9.32998	9.87787	22.94	6.92
98/ 5/19	2450952.5	8.51937	3.62860	1.13224	-4.42772	8.09146	3.53819	9.32890	9.87903	23.07	6.97
98/ 5/23	2450956.5	8.50911	3.64728	1.14041	-4.44933	8.08227	3.53533	9.32782	9.88019	23.20	7.02
98/ 5/27	2450960.5	8.49881	3.66594	1.14857	-4.47092	8.07303	3.53244	9.32674	9.88135	23.33	7.07
98/ 5/31	2450964.5	8.48846	3.68458	1.15673	-4.49250	8.06373	3.52953	9.32567	9.88250	23.46	7.13
98/ 6/ 4	2450968.5	8.47805	3.70320	1.16488	-4.51406	8.05439	3.52659	9.32459	9.88366	23.60	7.18
98/ 6/ 8	2450972.5	8.46760	3.72180	1.17302	-4.53560	8.04499	3.52364	9.32352	9.88481	23.73	7.23
98/ 6/12	2450976.5	8.45710	3.74037	1.18116	-4.55712	8.03554	3.52066	9.32245	9.88596	23.86	7.28
98/ 6/16	2450980.5	8.44654	3.75892	1.18929	-4.57862	8.02603	3.51766	9.32137	9.88710	23.99	7.33
98/ 6/20	2450984.5	8.43594	3.77746	1.19741	-4.60010	8.01648	3.51463	9.32030	9.88825	24.12	7.38
98/ 6/24	2450988.5	8.42529	3.79596	1.20553	-4.62156	8.00687	3.51159	9.31924	9.88939	24.25	7.43
98/ 6/28	2450992.5	8.41459	3.81445	1.21364	-4.64300	7.99722	3.50852	9.31817	9.89053	24.39	7.48
98/ 7/ 2	2450996.5	8.40384	3.83291	1.22174	-4.66442	7.98751	3.50543	9.31710	9.89167	24.52	7.53
98/ 7/ 6	2451000.5	8.39304	3.85135	1.22983	-4.68582	7.97775	3.50232	9.31603	9.89281	24.65	7.59
98/ 7/10	2451004.5	8.38219	3.86977	1.23792	-4.70721	7.96794	3.49919	9.31497	9.89395	24.78	7.64
98/ 7/14	2451008.5	8.37129	3.88817	1.24600	-4.72857	7.95808	3.49604	9.31391	9.89508	24.91	7.69
98/ 7/18	2451012.5	8.36034	3.90654	1.25407	-4.74991	7.94817	3.49286	9.31284	9.89621	25.05	7.74
98/ 7/22	2451016.5	8.34934	3.92489	1.26214	-4.77123	7.93820	3.48966	9.31178	9.89734	25.18	7.79
98/ 7/26	2451020.5	8.33830	3.94322	1.27020	-4.79254	7.92819	3.48644	9.31072	9.89847	25.31	7.84
98/ 7/30	2451024.5	8.32720	3.96152	1.27825	-4.81382	7.91812	3.48319	9.30966	9.89960	25.44	7.89
98/ 8/ 3	2451028.5	8.31605	3.97980	1.28629	-4.83508	7.90800	3.47993	9.30861	9.90072	25.57	7.94
98/ 8/ 7	2451032.5	8.30486	3.99806	1.29433	-4.85632	7.89783	3.47664	9.30755	9.90185	25.71	7.99
98/ 8/11	2451036.5	8.29362	4.01629	1.30235	-4.87753	7.88761	3.47333	9.30649	9.90297	25.84	8.04
98/ 8/15	2451040.5	8.28232	4.03450	1.31037	-4.89873	7.87734	3.47000	9.30544	9.90408	25.97	8.10
98/ 8/19	2451044.5	8.27098	4.05269	1.31839	-4.91990	7.86702	3.46664	9.30439	9.90520	26.10	8.15
98/ 8/23	2451048.5	8.25959	4.07085	1.32639	-4.94105	7.85664	3.46327	9.30333	9.90631	26.24	8.20
98/ 8/27	2451052.5	8.24815	4.08899	1.33439	-4.96218	7.84622	3.45987	9.30228	9.90742	26.37	8.25
98/ 8/31	2451056.5	8.23666	4.10711	1.34238	-4.98329	7.83574	3.45645	9.30123	9.90853	26.50	8.30
98/ 9/ 4	2451060.5	8.22513	4.12520	1.35036	-5.00437	7.82521	3.45300	9.30018	9.90964	26.64	8.35
98/ 9/ 8	2451064.5	8.21354	4.14326	1.35833	-5.02543	7.81463	3.44954	9.29914	9.91074	26.77	8.40
98/ 9/12	2451068.5	8.20191	4.16130	1.36630	-5.04646	7.80401	3.44605	9.29809	9.91184	26.90	8.45
98/ 9/16	2451072.5	8.19023	4.17932	1.37425	-5.06747	7.79333	3.44254	9.29705	9.91294	27.03	8.50
98/ 9/20	2451076.5	8.17850	4.19731	1.38220	-5.08846	7.78260	3.43901	9.29600	9.91404	27.17	8.55
98/ 9/24	2451080.5	8.16672	4.21528	1.39014	-5.10942	7.77183	3.43546	9.29496	9.91513	27.30	8.60
98/ 9/28	2451084.5	8.15489	4.23322	1.39807	-5.13036	7.76100	3.43189	9.29392	9.91623	27.43	8.65
98/10/ 2	2451088.5	8.14301	4.25113	1.40600	-5.15128	7.75013	3.42829	9.29288	9.91733	27.57	8.70
98/10/ 6	2451092.5	8.13109	4.26903	1.41391	-5.17217	7.73921	3.42468	9.29184	9.91842	27.70	8.75
98/10/10	2451096.5	8.11911	4.28689	1.42182	-5.19304	7.72824	3.42104	9.29080	9.91952	27.83	8.80

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98/10/14	2451100.5	8.10709	4.30473	1.42972	-5.21389	7.71722	3.41739	9.28977	9.92062	27.97	8.85
98/10/18	2451104.5	8.09502	4.32255	1.43761	-5.23472	7.70614	3.41371	9.28873	9.92171	28.10	8.90
98/10/22	2451108.5	8.08291	4.34034	1.44549	-5.25552	7.69502	3.41001	9.28770	9.92280	28.23	8.95
98/10/26	2451112.5	8.07074	4.35810	1.45337	-5.27629	7.68386	3.40628	9.28667	9.92390	28.37	9.00
98/10/30	2451116.5	8.05853	4.37584	1.46123	-5.29705	7.67264	3.40254	9.28564	9.92499	28.50	9.05
98/11/ 3	2451120.5	8.04627	4.39355	1.46909	-5.31778	7.66137	3.39878	9.28461	9.92608	28.64	9.10
98/11/ 7	2451124.5	8.03396	4.41124	1.47693	-5.33848	7.65005	3.39499	9.28358	9.92717	28.77	9.15
98/11/11	2451128.5	8.02160	4.42890	1.48477	-5.35917	7.63868	3.39118	9.28255	9.92826	28.90	9.20
98/11/15	2451132.5	8.00920	4.44653	1.49260	-5.37983	7.62727	3.38736	9.28153	9.92935	29.04	9.25
98/11/19	2451136.5	7.99675	4.46414	1.50042	-5.40046	7.61580	3.38351	9.28050	9.93043	29.17	9.30
98/11/23	2451140.5	7.98425	4.48172	1.50824	-5.42107	7.60428	3.37963	9.27948	9.93152	29.31	9.35
98/11/27	2451144.5	7.97170	4.49927	1.51604	-5.44166	7.59271	3.37574	9.27846	9.93260	29.44	9.40
98/12/ 1	2451148.5	7.95910	4.51680	1.52383	-5.46222	7.58110	3.37182	9.27744	9.93368	29.57	9.45
98/12/ 5	2451152.5	7.94646	4.53430	1.53162	-5.48276	7.56943	3.36788	9.27642	9.93476	29.71	9.50
98/12/ 9	2451156.5	7.93377	4.55177	1.53939	-5.50327	7.55771	3.36392	9.27540	9.93584	29.84	9.55
98/12/13	2451160.5	7.92103	4.56922	1.54716	-5.52375	7.54594	3.35994	9.27439	9.93691	29.98	9.60
98/12/17	2451164.5	7.90825	4.58664	1.55492	-5.54421	7.53412	3.35594	9.27337	9.93798	30.11	9.65
98/12/21	2451168.5	7.89542	4.60403	1.56267	-5.56464	7.52226	3.35191	9.27236	9.93906	30.25	9.70
98/12/25	2451172.5	7.88254	4.62139	1.57040	-5.58504	7.51034	3.34787	9.27135	9.94013	30.38	9.75
98/12/29	2451176.5	7.86961	4.63873	1.57813	-5.60542	7.49838	3.34380	9.27034	9.94120	30.52	9.80
99/ 1/ 2	2451180.5	7.85664	4.65604	1.58585	-5.62578	7.48636	3.33971	9.26933	9.94227	30.65	9.85
99/ 1/ 6	2451184.5	7.84362	4.67332	1.59357	-5.64610	7.47430	3.33560	9.26832	9.94333	30.79	9.90
99/ 1/10	2451188.5	7.83055	4.69057	1.60127	-5.66640	7.46219	3.33147	9.26731	9.94440	30.92	9.95
99/ 1/14	2451192.5	7.81744	4.70780	1.60896	-5.68668	7.45002	3.32732	9.26631	9.94546	31.06	10.00
99/ 1/18	2451196.5	7.80428	4.72499	1.61664	-5.70693	7.43781	3.32314	9.26530	9.94652	31.19	10.05
99/ 1/22	2451200.5	7.79107	4.74216	1.62431	-5.72715	7.42555	3.31894	9.26430	9.94758	31.33	10.10
99/ 1/26	2451204.5	7.77782	4.75930	1.63197	-5.74734	7.41324	3.31473	9.26330	9.94864	31.46	10.15
99/ 1/30	2451208.5	7.76452	4.77642	1.63963	-5.76751	7.40088	3.31049	9.26230	9.94969	31.60	10.20
99/ 2/ 3	2451212.5	7.75117	4.79350	1.64727	-5.78765	7.38846	3.30622	9.26130	9.95075	31.73	10.25
99/ 2/ 7	2451216.5	7.73778	4.81055	1.65490	-5.80776	7.37600	3.30194	9.26031	9.95180	31.87	10.29
99/ 2/11	2451220.5	7.72434	4.82758	1.66253	-5.82784	7.36349	3.29763	9.25931	9.95284	32.00	10.34
99/ 2/15	2451224.5	7.71085	4.84457	1.67014	-5.84789	7.35093	3.29331	9.25832	9.95389	32.14	10.39
99/ 2/19	2451228.5	7.69732	4.86154	1.67774	-5.86792	7.33832	3.28896	9.25733	9.95493	32.28	10.44
99/ 2/23	2451232.5	7.68374	4.87848	1.68534	-5.88791	7.32566	3.28459	9.25634	9.95597	32.41	10.49
99/ 2/27	2451236.5	7.67011	4.89539	1.69292	-5.90788	7.31295	3.28019	9.25535	9.95700	32.55	10.54
99/ 3/ 3	2451240.5	7.65644	4.91227	1.70049	-5.92781	7.30019	3.27578	9.25436	9.95803	32.68	10.59
99/ 3/ 7	2451244.5	7.64272	4.92912	1.70805	-5.94772	7.28738	3.27134	9.25337	9.95906	32.82	10.64
99/ 3/11	2451248.5	7.62896	4.94594	1.71561	-5.96759	7.27452	3.26688	9.25239	9.96009	32.96	10.69
99/ 3/15	2451252.5	7.61515	4.96273	1.72315	-5.98743	7.26162	3.26240	9.25140	9.96111	33.09	10.73
99/ 3/19	2451256.5	7.60130	4.97949	1.73068	-6.00724	7.24867	3.25790	9.25042	9.96213	33.23	10.78
99/ 3/23	2451260.5	7.58740	4.99622	1.73820	-6.02702	7.23567	3.25338	9.24944	9.96315	33.36	10.83
99/ 3/27	2451264.5	7.57345	5.01292	1.74571	-6.04677	7.22262	3.24884	9.24846	9.96417	33.50	10.88
99/ 3/31	2451268.5	7.55946	5.02959	1.75321	-6.06649	7.20953	3.24427	9.24748	9.96518	33.64	10.93
99/ 4/ 4	2451272.5	7.54542	5.04623	1.76070	-6.08618	7.19639	3.23969	9.24651	9.96620	33.77	10.98
99/ 4/ 8	2451276.5	7.53134	5.06284	1.76818	-6.10584	7.18320	3.23509	9.24553	9.96721	33.91	11.03

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
99/ 4/12	2451280.5	7.51721	5.07942	1.77565	-6.12546	7.16996	3.23046	9.24456	9.96823	34.05	11.07
99/ 4/16	2451284.5	7.50304	5.09597	1.78311	-6.14506	7.15668	3.22582	9.24359	9.96924	34.18	11.12
99/ 4/20	2451288.5	7.48882	5.11249	1.79055	-6.16462	7.14335	3.22115	9.24262	9.97025	34.32	11.17
99/ 4/24	2451292.5	7.47455	5.12897	1.79799	-6.18416	7.12997	3.21646	9.24165	9.97126	34.46	11.22
99/ 4/28	2451296.5	7.46024	5.14543	1.80541	-6.20366	7.11655	3.21175	9.24068	9.97226	34.59	11.27
99/ 5/ 2	2451300.5	7.44589	5.16185	1.81283	-6.22313	7.10308	3.20702	9.23972	9.97327	34.73	11.31
99/ 5/ 6	2451304.5	7.43149	5.17825	1.82023	-6.24257	7.08956	3.20228	9.23875	9.97428	34.87	11.36
99/ 5/10	2451308.5	7.41705	5.19461	1.82762	-6.26198	7.07600	3.19751	9.23779	9.97528	35.01	11.41
99/ 5/14	2451312.5	7.40256	5.21094	1.83500	-6.28136	7.06239	3.19271	9.23683	9.97629	35.14	11.46
99/ 5/18	2451316.5	7.38802	5.22724	1.84237	-6.30071	7.04873	3.18790	9.23587	9.97729	35.28	11.51
99/ 5/22	2451320.5	7.37345	5.24351	1.84973	-6.32003	7.03503	3.18307	9.23491	9.97829	35.42	11.55
99/ 5/26	2451324.5	7.35882	5.25975	1.85708	-6.33931	7.02128	3.17822	9.23396	9.97929	35.56	11.60
99/ 5/30	2451328.5	7.34416	5.27595	1.86442	-6.35856	7.00748	3.17334	9.23300	9.98029	35.69	11.65
99/ 6/ 3	2451332.5	7.32945	5.29212	1.87174	-6.37778	6.99364	3.16845	9.23205	9.98129	35.83	11.70
99/ 6/ 7	2451336.5	7.31469	5.30826	1.87906	-6.39697	6.97975	3.16353	9.23110	9.98228	35.97	11.75
99/ 6/11	2451340.5	7.29989	5.32437	1.88636	-6.41612	6.96581	3.15860	9.23015	9.98328	36.11	11.79
99/ 6/15	2451344.5	7.28504	5.34045	1.89365	-6.43524	6.95183	3.15364	9.22920	9.98428	36.24	11.84
99/ 6/19	2451348.5	7.27016	5.35649	1.90093	-6.45433	6.93781	3.14867	9.22826	9.98527	36.38	11.89
99/ 6/23	2451352.5	7.25522	5.37250	1.90820	-6.47339	6.92374	3.14367	9.22731	9.98627	36.52	11.93
99/ 6/27	2451356.5	7.24025	5.38848	1.91546	-6.49242	6.90962	3.13866	9.22637	9.98726	36.66	11.98
99/ 7/ 1	2451360.5	7.22523	5.40443	1.92270	-6.51141	6.89545	3.13362	9.22543	9.98826	36.80	12.03
99/ 7/ 5	2451364.5	7.21016	5.42034	1.92993	-6.53038	6.88124	3.12857	9.22449	9.98926	36.93	12.08
99/ 7/ 9	2451368.5	7.19505	5.43622	1.93716	-6.54931	6.86699	3.12349	9.22355	9.99025	37.07	12.12
99/ 7/13	2451372.5	7.17990	5.45207	1.94437	-6.56821	6.85269	3.11839	9.22261	9.99125	37.21	12.17
99/ 7/17	2451376.5	7.16471	5.46788	1.95156	-6.58708	6.83834	3.11327	9.22168	9.99224	37.35	12.22
99/ 7/21	2451380.5	7.14947	5.48366	1.95875	-6.60591	6.82394	3.10813	9.22075	9.99323	37.49	12.26
99/ 7/25	2451384.5	7.13418	5.49941	1.96592	-6.62472	6.80950	3.10298	9.21981	9.99423	37.63	12.31
99/ 7/29	2451388.5	7.11886	5.51513	1.97309	-6.64349	6.79501	3.09780	9.21888	9.99522	37.77	12.36
99/ 8/ 2	2451392.5	7.10349	5.53081	1.98024	-6.66222	6.78047	3.09259	9.21796	9.99621	37.90	12.41
99/ 8/ 6	2451396.5	7.08808	5.54645	1.98738	-6.68093	6.76589	3.08737	9.21703	9.99720	38.04	12.45
99/ 8/10	2451400.5	7.07262	5.56207	1.99450	-6.69960	6.75126	3.08213	9.21611	9.99818	38.18	12.50
99/ 8/14	2451404.5	7.05712	5.57765	2.00162	-6.71824	6.73658	3.07687	9.21518	9.99917	38.32	12.55
99/ 8/18	2451408.5	7.04158	5.59319	2.00872	-6.73685	6.72185	3.07158	9.21426	10.00015	38.46	12.59
99/ 8/22	2451412.5	7.02600	5.60870	2.01581	-6.75542	6.70708	3.06627	9.21334	10.00113	38.60	12.64
99/ 8/26	2451416.5	7.01037	5.62418	2.02289	-6.77395	6.69226	3.06095	9.21242	10.00210	38.74	12.68
99/ 8/30	2451420.5	6.99470	5.63963	2.02995	-6.79245	6.67739	3.05560	9.21151	10.00307	38.88	12.73
99/ 9/ 3	2451424.5	6.97898	5.65503	2.03700	-6.81091	6.66247	3.05023	9.21059	10.00404	39.02	12.78
99/ 9/ 7	2451428.5	6.96323	5.67041	2.04404	-6.82933	6.64751	3.04484	9.20968	10.00501	39.16	12.82
99/ 9/11	2451432.5	6.94743	5.68575	2.05107	-6.84772	6.63251	3.03942	9.20877	10.00598	39.30	12.87
99/ 9/15	2451436.5	6.93159	5.70105	2.05809	-6.86608	6.61745	3.03399	9.20786	10.00694	39.44	12.92
99/ 9/19	2451440.5	6.91571	5.71632	2.06509	-6.88440	6.60235	3.02854	9.20695	10.00790	39.58	12.96
99/ 9/23	2451444.5	6.89978	5.73156	2.07208	-6.90268	6.58721	3.02307	9.20604	10.00886	39.72	13.01
99/ 9/27	2451448.5	6.88381	5.74676	2.07906	-6.92093	6.57202	3.01757	9.20514	10.00981	39.86	13.05
99/10/ 1	2451452.5	6.86780	5.76192	2.08602	-6.93913	6.55678	3.01206	9.20424	10.01077	40.00	13.10
99/10/ 5	2451456.5	6.85175	5.77705	2.09297	-6.95731	6.54150	3.00653	9.20334	10.01172	40.14	13.14

1.6 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — SATURN

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
99/10/ 9	2451460.5	6.83566	5.79215	2.09991	-6.97544	6.52617	3.00097	9.20244	10.01266	40.28	13.19
99/10/13	2451464.5	6.81952	5.80721	2.10684	-6.99354	6.51079	2.99539	9.20154	10.01361	40.42	13.24
99/10/17	2451468.5	6.80335	5.82223	2.11375	-7.01160	6.49537	2.98980	9.20064	10.01455	40.56	13.28
99/10/21	2451472.5	6.78713	5.83722	2.12065	-7.02962	6.47990	2.98418	9.19975	10.01549	40.70	13.33
99/10/25	2451476.5	6.77087	5.85217	2.12754	-7.04760	6.46439	2.97854	9.19886	10.01642	40.84	13.37
99/10/29	2451480.5	6.75457	5.86708	2.13442	-7.06555	6.44883	2.97288	9.19797	10.01736	40.98	13.42
99/11/ 2	2451484.5	6.73822	5.88196	2.14128	-7.08345	6.43323	2.96721	9.19708	10.01829	41.12	13.46
99/11/ 6	2451488.5	6.72184	5.89681	2.14812	-7.10132	6.41758	2.96151	9.19619	10.01921	41.26	13.51
99/11/10	2451492.5	6.70541	5.91162	2.15496	-7.11915	6.40189	2.95579	9.19530	10.02014	41.40	13.55
99/11/14	2451496.5	6.68894	5.92639	2.16178	-7.13694	6.38615	2.95005	9.19442	10.02105	41.54	13.60
99/11/18	2451500.5	6.67244	5.94112	2.16859	-7.15469	6.37036	2.94429	9.19354	10.02197	41.68	13.64
99/11/22	2451504.5	6.65589	5.95582	2.17539	-7.17239	6.35454	2.93851	9.19266	10.02288	41.82	13.69
99/11/26	2451508.5	6.63930	5.97048	2.18217	-7.19006	6.33866	2.93270	9.19178	10.02379	41.96	13.73
99/11/30	2451512.5	6.62267	5.98511	2.18894	-7.20768	6.32275	2.92688	9.19090	10.02469	42.11	13.78
99/12/ 4	2451516.5	6.60600	5.99970	2.19569	-7.22527	6.30679	2.92105	9.19003	10.02560	42.25	13.82
99/12/ 8	2451520.5	6.58928	6.01425	2.20243	-7.24281	6.29079	2.91519	9.18915	10.02650	42.39	13.87
99/12/12	2451524.5	6.57253	6.02876	2.20916	-7.26031	6.27475	2.90931	9.18828	10.02740	42.53	13.91
99/12/16	2451528.5	6.55574	6.04324	2.21587	-7.27778	6.25867	2.90341	9.18741	10.02830	42.67	13.96
99/12/20	2451532.5	6.53891	6.05768	2.22257	-7.29520	6.24254	2.89750	9.18654	10.02919	42.81	14.00
99/12/24	2451536.5	6.52203	6.07208	2.22926	-7.31258	6.22637	2.89156	9.18568	10.03009	42.95	14.05

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
64/12/31	2438760.5	-17.37189	5.14670	2.50055	-2.19188	-6.21864	-2.69388	18.28999	7.12270	163.50	7.86
65/ 1/ 4	2438764.5	-17.37694	5.13234	2.49433	-2.18609	-6.22042	-2.69474	18.28991	7.12280	163.55	7.84
65/ 1/ 8	2438768.5	-17.38199	5.11796	2.48810	-2.18031	-6.22219	-2.69560	18.28982	7.12290	163.59	7.82
65/ 1/12	2438772.5	-17.38702	5.10359	2.48188	-2.17452	-6.22396	-2.69645	18.28974	7.12300	163.64	7.80
65/ 1/16	2438776.5	-17.39203	5.08921	2.47565	-2.16872	-6.22572	-2.69731	18.28966	7.12309	163.69	7.78
65/ 1/20	2438780.5	-17.39704	5.07482	2.46941	-2.16293	-6.22748	-2.69816	18.28958	7.12319	163.74	7.76
65/ 1/24	2438784.5	-17.40203	5.06043	2.46318	-2.15714	-6.22923	-2.69901	18.28950	7.12329	163.79	7.74
65/ 1/28	2438788.5	-17.40700	5.04604	2.45694	-2.15134	-6.23098	-2.69985	18.28942	7.12338	163.83	7.72
65/ 2/ 1	2438792.5	-17.41197	5.03165	2.45070	-2.14555	-6.23272	-2.70069	18.28934	7.12348	163.88	7.70
65/ 2/ 5	2438796.5	-17.41692	5.01724	2.44446	-2.13975	-6.23446	-2.70154	18.28926	7.12357	163.93	7.68
65/ 2/ 9	2438800.5	-17.42185	5.00284	2.43822	-2.13395	-6.23619	-2.70238	18.28918	7.12367	163.98	7.66
65/ 2/13	2438804.5	-17.42678	4.98843	2.43198	-2.12815	-6.23792	-2.70321	18.28911	7.12377	164.03	7.64
65/ 2/17	2438808.5	-17.43169	4.97402	2.42573	-2.12235	-6.23964	-2.70405	18.28903	7.12386	164.07	7.62
65/ 2/21	2438812.5	-17.43658	4.95960	2.41949	-2.11655	-6.24136	-2.70488	18.28896	7.12396	164.12	7.60
65/ 2/25	2438816.5	-17.44146	4.94518	2.41324	-2.11075	-6.24308	-2.70571	18.28888	7.12405	164.17	7.58
65/ 3/ 1	2438820.5	-17.44633	4.93076	2.40698	-2.10495	-6.24479	-2.70654	18.28881	7.12415	164.22	7.56
65/ 3/ 5	2438824.5	-17.45119	4.91633	2.40073	-2.09914	-6.24649	-2.70737	18.28873	7.12425	164.27	7.54
65/ 3/ 9	2438828.5	-17.45603	4.90190	2.39447	-2.09333	-6.24820	-2.70820	18.28866	7.12435	164.31	7.52
65/ 3/13	2438832.5	-17.46086	4.88746	2.38822	-2.08753	-6.24990	-2.70902	18.28859	7.12445	164.36	7.50
65/ 3/17	2438836.5	-17.46568	4.87302	2.38196	-2.08171	-6.25159	-2.70985	18.28852	7.12455	164.41	7.48
65/ 3/21	2438840.5	-17.47048	4.85857	2.37570	-2.07590	-6.25329	-2.71067	18.28845	7.12465	164.46	7.46
65/ 3/25	2438844.5	-17.47527	4.84413	2.36943	-2.07008	-6.25498	-2.71149	18.28838	7.12476	164.51	7.44
65/ 3/29	2438848.5	-17.48004	4.82967	2.36317	-2.06426	-6.25666	-2.71231	18.28831	7.12486	164.55	7.42
65/ 4/ 2	2438852.5	-17.48481	4.81522	2.35690	-2.05844	-6.25834	-2.71313	18.28824	7.12496	164.60	7.40
65/ 4/ 6	2438856.5	-17.48956	4.80076	2.35063	-2.05262	-6.26001	-2.71394	18.28817	7.12506	164.65	7.38
65/ 4/10	2438860.5	-17.49429	4.78629	2.34436	-2.04679	-6.26168	-2.71475	18.28811	7.12516	164.70	7.37
65/ 4/14	2438864.5	-17.49901	4.77183	2.33809	-2.04096	-6.26334	-2.71556	18.28804	7.12525	164.75	7.35
65/ 4/18	2438868.5	-17.50372	4.75736	2.33182	-2.03513	-6.26500	-2.71637	18.28798	7.12535	164.79	7.33
65/ 4/22	2438872.5	-17.50842	4.74288	2.32554	-2.02930	-6.26666	-2.71718	18.28791	7.12545	164.84	7.31
65/ 4/26	2438876.5	-17.51310	4.72840	2.31926	-2.02346	-6.26831	-2.71798	18.28785	7.12556	164.89	7.29
65/ 4/30	2438880.5	-17.51776	4.71392	2.31298	-2.01763	-6.26996	-2.71878	18.28778	7.12566	164.94	7.27
65/ 5/ 4	2438884.5	-17.52242	4.69943	2.30670	-2.01179	-6.27160	-2.71958	18.28772	7.12576	164.99	7.25
65/ 5/ 8	2438888.5	-17.52706	4.68494	2.30042	-2.00595	-6.27324	-2.72038	18.28766	7.12586	165.03	7.23
65/ 5/12	2438892.5	-17.53169	4.67045	2.29413	-2.00010	-6.27487	-2.72118	18.28760	7.12596	165.08	7.21
65/ 5/16	2438896.5	-17.53630	4.65595	2.28784	-1.99426	-6.27650	-2.72198	18.28754	7.12606	165.13	7.19
65/ 5/20	2438900.5	-17.54090	4.64145	2.28155	-1.98841	-6.27812	-2.72277	18.28748	7.12616	165.18	7.17
65/ 5/24	2438904.5	-17.54549	4.62694	2.27526	-1.98256	-6.27974	-2.72356	18.28742	7.12626	165.23	7.15
65/ 5/28	2438908.5	-17.55006	4.61243	2.26897	-1.97671	-6.28136	-2.72435	18.28736	7.12635	165.27	7.13
65/ 6/ 1	2438912.5	-17.55462	4.59792	2.26268	-1.97085	-6.28297	-2.72514	18.28730	7.12645	165.32	7.11
65/ 6/ 5	2438916.5	-17.55917	4.58340	2.25638	-1.96499	-6.28458	-2.72592	18.28724	7.12656	165.37	7.09
65/ 6/ 9	2438920.5	-17.56370	4.56888	2.25008	-1.95913	-6.28618	-2.72671	18.28718	7.12666	165.42	7.07
65/ 6/13	2438924.5	-17.56822	4.55436	2.24378	-1.95327	-6.28778	-2.72749	18.28713	7.12676	165.47	7.05
65/ 6/17	2438928.5	-17.57273	4.53983	2.23748	-1.94740	-6.28937	-2.72827	18.28707	7.12685	165.51	7.03
65/ 6/21	2438932.5	-17.57722	4.52530	2.23118	-1.94152	-6.29096	-2.72905	18.28702	7.12695	165.56	7.01
65/ 6/25	2438936.5	-17.58170	4.51077	2.22487	-1.93565	-6.29254	-2.72983	18.28696	7.12704	165.61	6.99

1.7 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
65/ 6/29	2438940.5	-17.58616	4.49623	2.21856	-1.92977	-6.29412	-2.73060	18.28691	7.12714	165.66	6.97
65/ 7/ 3	2438944.5	-17.59061	4.48168	2.21225	-1.92389	-6.29568	-2.73137	18.28686	7.12723	165.71	6.95
65/ 7/ 7	2438948.5	-17.59505	4.46714	2.20594	-1.91801	-6.29725	-2.73214	18.28681	7.12732	165.75	6.93
65/ 7/11	2438952.5	-17.59947	4.45259	2.19963	-1.91212	-6.29880	-2.73290	18.28675	7.12740	165.80	6.91
65/ 7/15	2438956.5	-17.60388	4.43804	2.19332	-1.90624	-6.30035	-2.73366	18.28670	7.12749	165.85	6.89
65/ 7/19	2438960.5	-17.60828	4.42348	2.18700	-1.90035	-6.30190	-2.73442	18.28665	7.12757	165.90	6.87
65/ 7/23	2438964.5	-17.61266	4.40892	2.18068	-1.89446	-6.30344	-2.73518	18.28660	7.12766	165.95	6.85
65/ 7/27	2438968.5	-17.61703	4.39436	2.17436	-1.88857	-6.30497	-2.73593	18.28656	7.12774	165.99	6.83
65/ 7/31	2438972.5	-17.62139	4.37979	2.16804	-1.88268	-6.30650	-2.73668	18.28651	7.12782	166.04	6.81
65/ 8/ 4	2438976.5	-17.62573	4.36522	2.16172	-1.87679	-6.30802	-2.73743	18.28646	7.12790	166.09	6.79
65/ 8/ 8	2438980.5	-17.63006	4.35064	2.15539	-1.87090	-6.30954	-2.73818	18.28641	7.12798	166.14	6.77
65/ 8/12	2438984.5	-17.63438	4.33606	2.14907	-1.86501	-6.31105	-2.73893	18.28637	7.12806	166.19	6.75
65/ 8/16	2438988.5	-17.63868	4.32148	2.14274	-1.85911	-6.31255	-2.73967	18.28632	7.12814	166.23	6.73
65/ 8/20	2438992.5	-17.64297	4.30690	2.13641	-1.85322	-6.31405	-2.74041	18.28628	7.12822	166.28	6.71
65/ 8/24	2438996.5	-17.64724	4.29231	2.13008	-1.84733	-6.31555	-2.74115	18.28623	7.12830	166.33	6.69
65/ 8/28	2439000.5	-17.65150	4.27772	2.12374	-1.84143	-6.31704	-2.74188	18.28619	7.12838	166.38	6.67
65/ 9/ 1	2439004.5	-17.65575	4.26312	2.11741	-1.83554	-6.31853	-2.74262	18.28615	7.12846	166.43	6.65
65/ 9/ 5	2439008.5	-17.65998	4.24852	2.11107	-1.82964	-6.32002	-2.74335	18.28610	7.12855	166.47	6.63
65/ 9/ 9	2439012.5	-17.66420	4.23392	2.10473	-1.82374	-6.32150	-2.74408	18.28606	7.12863	166.52	6.61
65/ 9/13	2439016.5	-17.66841	4.21932	2.09839	-1.81784	-6.32297	-2.74481	18.28602	7.12871	166.57	6.59
65/ 9/17	2439020.5	-17.67260	4.20471	2.09205	-1.81194	-6.32445	-2.74554	18.28598	7.12879	166.62	6.57
65/ 9/21	2439024.5	-17.67678	4.19010	2.08571	-1.80603	-6.32591	-2.74626	18.28594	7.12888	166.66	6.55
65/ 9/25	2439028.5	-17.68095	4.17548	2.07936	-1.80013	-6.32737	-2.74699	18.28590	7.12896	166.71	6.53
65/ 9/29	2439032.5	-17.68510	4.16086	2.07302	-1.79422	-6.32883	-2.74771	18.28586	7.12904	166.76	6.51
65/10/ 3	2439036.5	-17.68924	4.14624	2.06667	-1.78832	-6.33028	-2.74843	18.28583	7.12912	166.81	6.49
65/10/ 7	2439040.5	-17.69336	4.13161	2.06032	-1.78241	-6.33173	-2.74914	18.28579	7.12920	166.86	6.47
65/10/11	2439044.5	-17.69747	4.11698	2.05396	-1.77650	-6.33317	-2.74986	18.28575	7.12929	166.90	6.45
65/10/15	2439048.5	-17.70157	4.10235	2.04761	-1.77059	-6.33461	-2.75057	18.28572	7.12937	166.95	6.43
65/10/19	2439052.5	-17.70565	4.08772	2.04126	-1.76468	-6.33605	-2.75128	18.28568	7.12945	167.00	6.41
65/10/23	2439056.5	-17.70972	4.07308	2.03490	-1.75877	-6.33748	-2.75199	18.28565	7.12954	167.05	6.39
65/10/27	2439060.5	-17.71378	4.05843	2.02854	-1.75286	-6.33891	-2.75270	18.28562	7.12963	167.10	6.37
65/10/31	2439064.5	-17.71782	4.04379	2.02218	-1.74694	-6.34033	-2.75341	18.28559	7.12971	167.14	6.35
65/11/ 4	2439068.5	-17.72185	4.02914	2.01582	-1.74103	-6.34175	-2.75411	18.28555	7.12980	167.19	6.33
65/11/ 8	2439072.5	-17.72587	4.01449	2.00946	-1.73511	-6.34317	-2.75481	18.28552	7.12989	167.24	6.31
65/11/12	2439076.5	-17.72987	3.99983	2.00309	-1.72919	-6.34458	-2.75551	18.28549	7.12998	167.29	6.29
65/11/16	2439080.5	-17.73385	3.98517	1.99672	-1.72327	-6.34599	-2.75621	18.28546	7.13008	167.33	6.27
65/11/20	2439084.5	-17.73783	3.97051	1.99036	-1.71735	-6.34740	-2.75691	18.28543	7.13017	167.38	6.25
65/11/24	2439088.5	-17.74179	3.95585	1.98399	-1.71143	-6.34880	-2.75761	18.28540	7.13027	167.43	6.23
65/11/28	2439092.5	-17.74574	3.94118	1.97762	-1.70550	-6.35020	-2.75831	18.28538	7.13036	167.48	6.21
65/12/ 2	2439096.5	-17.74967	3.92651	1.97124	-1.69957	-6.35160	-2.75900	18.28535	7.13046	167.53	6.19
65/12/ 6	2439100.5	-17.75359	3.91183	1.96487	-1.69364	-6.35300	-2.75970	18.28532	7.13056	167.57	6.17
65/12/10	2439104.5	-17.75749	3.89715	1.95849	-1.68770	-6.35439	-2.76039	18.28530	7.13066	167.62	6.15
65/12/14	2439108.5	-17.76139	3.88247	1.95211	-1.68175	-6.35578	-2.76108	18.28527	7.13076	167.67	6.13
65/12/18	2439112.5	-17.76527	3.86779	1.94573	-1.67581	-6.35716	-2.76177	18.28525	7.13086	167.72	6.11
65/12/22	2439116.5	-17.76913	3.85310	1.93935	-1.66986	-6.35853	-2.76246	18.28522	7.13096	167.77	6.09

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
65/12/26	2439120.5	-17.77298	3.83841	1.93297	-1.66391	-6.35990	-2.76314	18.28520	7.13105	167.81	6.07
65/12/30	2439124.5	-17.77682	3.82371	1.92659	-1.65795	-6.36127	-2.76382	18.28518	7.13115	167.86	6.05
66/ 1/ 3	2439128.5	-17.78064	3.80902	1.92020	-1.65199	-6.36263	-2.76450	18.28516	7.13124	167.91	6.03
66/ 1/ 7	2439132.5	-17.78445	3.79432	1.91381	-1.64603	-6.36398	-2.76518	18.28514	7.13133	167.96	6.01
66/ 1/11	2439136.5	-17.78825	3.77961	1.90742	-1.64007	-6.36533	-2.76585	18.28512	7.13142	168.00	5.99
66/ 1/15	2439140.5	-17.79203	3.76491	1.90103	-1.63410	-6.36668	-2.76653	18.28510	7.13152	168.05	5.97
66/ 1/19	2439144.5	-17.79580	3.75020	1.89464	-1.62813	-6.36802	-2.76720	18.28508	7.13161	168.10	5.95
66/ 1/23	2439148.5	-17.79955	3.73548	1.88825	-1.62215	-6.36935	-2.76786	18.28506	7.13169	168.15	5.93
66/ 1/27	2439152.5	-17.80329	3.72077	1.88185	-1.61618	-6.37068	-2.76853	18.28504	7.13178	168.20	5.91
66/ 1/31	2439156.5	-17.80702	3.70605	1.87546	-1.61020	-6.37200	-2.76919	18.28502	7.13187	168.24	5.89
66/ 2/ 4	2439160.5	-17.81073	3.69133	1.86906	-1.60422	-6.37332	-2.76985	18.28500	7.13195	168.29	5.87
66/ 2/ 8	2439164.5	-17.81443	3.67660	1.86266	-1.59823	-6.37463	-2.77051	18.28499	7.13204	168.34	5.85
66/ 2/12	2439168.5	-17.81811	3.66187	1.85626	-1.59225	-6.37593	-2.77117	18.28497	7.13212	168.39	5.83
66/ 2/16	2439172.5	-17.82179	3.64714	1.84986	-1.58626	-6.37723	-2.77182	18.28496	7.13220	168.43	5.81
66/ 2/20	2439176.5	-17.82544	3.63241	1.84345	-1.58027	-6.37852	-2.77247	18.28494	7.13228	168.48	5.79
66/ 2/24	2439180.5	-17.82909	3.61767	1.83705	-1.57428	-6.37981	-2.77312	18.28493	7.13236	168.53	5.77
66/ 2/28	2439184.5	-17.83272	3.60293	1.83064	-1.56829	-6.38109	-2.77376	18.28492	7.13243	168.58	5.75
66/ 3/ 4	2439188.5	-17.83633	3.58819	1.82423	-1.56229	-6.38237	-2.77441	18.28490	7.13251	168.63	5.73
66/ 3/ 8	2439192.5	-17.83994	3.57344	1.81782	-1.55629	-6.38364	-2.77505	18.28489	7.13258	168.67	5.71
66/ 3/12	2439196.5	-17.84352	3.55870	1.81141	-1.55028	-6.38490	-2.77569	18.28488	7.13266	168.72	5.69
66/ 3/16	2439200.5	-17.84710	3.54394	1.80500	-1.54428	-6.38616	-2.77632	18.28487	7.13272	168.77	5.67
66/ 3/20	2439204.5	-17.85066	3.52919	1.79858	-1.53827	-6.38741	-2.77695	18.28486	7.13279	168.82	5.64
66/ 3/24	2439208.5	-17.85421	3.51443	1.79217	-1.53226	-6.38865	-2.77758	18.28485	7.13285	168.86	5.62
66/ 3/28	2439212.5	-17.85774	3.49967	1.78575	-1.52626	-6.38988	-2.77821	18.28484	7.13292	168.91	5.60
66/ 4/ 1	2439216.5	-17.86126	3.48491	1.77933	-1.52025	-6.39111	-2.77883	18.28483	7.13298	168.96	5.58
66/ 4/ 5	2439220.5	-17.86476	3.47014	1.77291	-1.51424	-6.39233	-2.77945	18.28483	7.13304	169.01	5.56
66/ 4/ 9	2439224.5	-17.86825	3.45537	1.76649	-1.50823	-6.39355	-2.78007	18.28482	7.13309	169.06	5.54
66/ 4/13	2439228.5	-17.87173	3.44060	1.76006	-1.50222	-6.39476	-2.78068	18.28481	7.13315	169.10	5.52
66/ 4/17	2439232.5	-17.87520	3.42583	1.75364	-1.49621	-6.39597	-2.78130	18.28481	7.13321	169.15	5.50
66/ 4/21	2439236.5	-17.87864	3.41105	1.74721	-1.49020	-6.39717	-2.78191	18.28480	7.13326	169.20	5.48
66/ 4/25	2439240.5	-17.88208	3.39627	1.74079	-1.48419	-6.39836	-2.78251	18.28480	7.13332	169.25	5.46
66/ 4/29	2439244.5	-17.88550	3.38149	1.73436	-1.47818	-6.39955	-2.78312	18.28479	7.13337	169.29	5.44
66/ 5/ 3	2439248.5	-17.88891	3.36670	1.72793	-1.47217	-6.40073	-2.78372	18.28479	7.13343	169.34	5.42
66/ 5/ 7	2439252.5	-17.89230	3.35191	1.72150	-1.46616	-6.40191	-2.78432	18.28479	7.13348	169.39	5.40
66/ 5/11	2439256.5	-17.89568	3.33712	1.71506	-1.46015	-6.40309	-2.78492	18.28478	7.13354	169.44	5.38
66/ 5/15	2439260.5	-17.89905	3.32233	1.70863	-1.45414	-6.40426	-2.78551	18.28478	7.13359	169.48	5.36
66/ 5/19	2439264.5	-17.90240	3.30753	1.70219	-1.44814	-6.40542	-2.78611	18.28478	7.13365	169.53	5.34
66/ 5/23	2439268.5	-17.90574	3.29273	1.69576	-1.44213	-6.40658	-2.78670	18.28478	7.13370	169.58	5.32
66/ 5/27	2439272.5	-17.90907	3.27793	1.68932	-1.43612	-6.40774	-2.78729	18.28478	7.13376	169.63	5.30
66/ 5/31	2439276.5	-17.91238	3.26313	1.68288	-1.43010	-6.40890	-2.78788	18.28478	7.13382	169.68	5.28
66/ 6/ 4	2439280.5	-17.91567	3.24832	1.67644	-1.42409	-6.41005	-2.78847	18.28479	7.13388	169.72	5.26
66/ 6/ 8	2439284.5	-17.91896	3.23351	1.66999	-1.41807	-6.41119	-2.78906	18.28479	7.13394	169.77	5.24
66/ 6/12	2439288.5	-17.92223	3.21870	1.66355	-1.41206	-6.41233	-2.78964	18.28479	7.13400	169.82	5.22
66/ 6/16	2439292.5	-17.92548	3.20388	1.65710	-1.40604	-6.41347	-2.79022	18.28480	7.13406	169.87	5.20
66/ 6/20	2439296.5	-17.92872	3.18907	1.65066	-1.40002	-6.41460	-2.79080	18.28480	7.13412	169.91	5.18

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66/ 6/24	2439300.5	-17.93195	3.17425	1.64421	-1.39400	-6.41572	-2.79138	18.28480	7.13418	169.96	5.16
66/ 6/28	2439304.5	-17.93516	3.15942	1.63776	-1.38798	-6.41684	-2.79195	18.28481	7.13424	170.01	5.14
66/ 7/ 2	2439308.5	-17.93836	3.14460	1.63131	-1.38196	-6.41796	-2.79253	18.28482	7.13430	170.06	5.12
66/ 7/ 6	2439312.5	-17.94155	3.12977	1.62486	-1.37593	-6.41907	-2.79310	18.28482	7.13436	170.10	5.10
66/ 7/10	2439316.5	-17.94472	3.11494	1.61840	-1.36991	-6.42018	-2.79367	18.28483	7.13442	170.15	5.08
66/ 7/14	2439320.5	-17.94788	3.10011	1.61195	-1.36388	-6.42128	-2.79424	18.28484	7.13448	170.20	5.06
66/ 7/18	2439324.5	-17.95102	3.08527	1.60549	-1.35786	-6.42238	-2.79480	18.28485	7.13454	170.25	5.04
66/ 7/22	2439328.5	-17.95415	3.07043	1.59904	-1.35183	-6.42348	-2.79537	18.28486	7.13461	170.30	5.02
66/ 7/26	2439332.5	-17.95727	3.05559	1.59258	-1.34580	-6.42457	-2.79593	18.28487	7.13467	170.34	5.00
66/ 7/30	2439336.5	-17.96037	3.04075	1.58612	-1.33977	-6.42566	-2.79649	18.28488	7.13473	170.39	4.98
66/ 8/ 3	2439340.5	-17.96346	3.02590	1.57966	-1.33374	-6.42674	-2.79705	18.28489	7.13480	170.44	4.96
66/ 8/ 7	2439344.5	-17.96653	3.01106	1.57320	-1.32770	-6.42782	-2.79761	18.28490	7.13486	170.49	4.94
66/ 8/11	2439348.5	-17.96959	2.99620	1.56673	-1.32167	-6.42889	-2.79816	18.28492	7.13493	170.53	4.92
66/ 8/15	2439352.5	-17.97264	2.98135	1.56027	-1.31563	-6.42996	-2.79872	18.28493	7.13499	170.58	4.90
66/ 8/19	2439356.5	-17.97567	2.96650	1.55380	-1.30959	-6.43103	-2.79927	18.28494	7.13506	170.63	4.87
66/ 8/23	2439360.5	-17.97869	2.95164	1.54733	-1.30354	-6.43209	-2.79982	18.28496	7.13513	170.68	4.85
66/ 8/27	2439364.5	-17.98169	2.93678	1.54086	-1.29750	-6.43315	-2.80037	18.28497	7.13519	170.72	4.83
66/ 8/31	2439368.5	-17.98468	2.92191	1.53439	-1.29145	-6.43421	-2.80091	18.28499	7.13526	170.77	4.81
66/ 9/ 4	2439372.5	-17.98766	2.90705	1.52792	-1.28539	-6.43525	-2.80146	18.28500	7.13533	170.82	4.79
66/ 9/ 8	2439376.5	-17.99062	2.89218	1.52145	-1.27934	-6.43629	-2.80200	18.28502	7.13539	170.87	4.77
66/ 9/12	2439380.5	-17.99357	2.87731	1.51498	-1.27328	-6.43733	-2.80254	18.28504	7.13545	170.91	4.75
66/ 9/16	2439384.5	-17.99651	2.86244	1.50850	-1.26722	-6.43836	-2.80308	18.28506	7.13551	170.96	4.73
66/ 9/20	2439388.5	-17.99943	2.84756	1.50203	-1.26115	-6.43938	-2.80361	18.28508	7.13557	171.01	4.71
66/ 9/24	2439392.5	-18.00233	2.83269	1.49555	-1.25509	-6.44040	-2.80414	18.28510	7.13563	171.06	4.69
66/ 9/28	2439396.5	-18.00523	2.81781	1.48907	-1.24902	-6.44141	-2.80467	18.28512	7.13568	171.11	4.67
66/10/ 2	2439400.5	-18.00810	2.80292	1.48259	-1.24296	-6.44241	-2.80520	18.28514	7.13574	171.15	4.65
66/10/ 6	2439404.5	-18.01097	2.78804	1.47611	-1.23689	-6.44341	-2.80572	18.28516	7.13579	171.20	4.63
66/10/10	2439408.5	-18.01382	2.77315	1.46963	-1.23082	-6.44441	-2.80624	18.28518	7.13585	171.25	4.61
66/10/14	2439412.5	-18.01666	2.75827	1.46314	-1.22475	-6.44540	-2.80676	18.28520	7.13590	171.30	4.59
66/10/18	2439416.5	-18.01948	2.74337	1.45666	-1.21868	-6.44638	-2.80728	18.28523	7.13595	171.34	4.57
66/10/22	2439420.5	-18.02229	2.72848	1.45017	-1.21260	-6.44735	-2.80779	18.28525	7.13600	171.39	4.55
66/10/26	2439424.5	-18.02508	2.71359	1.44369	-1.20653	-6.44832	-2.80830	18.28527	7.13605	171.44	4.53
66/10/30	2439428.5	-18.02786	2.69869	1.43720	-1.20046	-6.44929	-2.80881	18.28530	7.13609	171.49	4.51
66/11/ 3	2439432.5	-18.03063	2.68379	1.43071	-1.19438	-6.45025	-2.80932	18.28533	7.13614	171.53	4.49
66/11/ 7	2439436.5	-18.03338	2.66888	1.42422	-1.18831	-6.45120	-2.80982	18.28535	7.13619	171.58	4.47
66/11/11	2439440.5	-18.03612	2.65398	1.41773	-1.18223	-6.45215	-2.81032	18.28538	7.13623	171.63	4.45
66/11/15	2439444.5	-18.03884	2.63907	1.41123	-1.17615	-6.45310	-2.81082	18.28541	7.13628	171.68	4.43
66/11/19	2439448.5	-18.04155	2.62416	1.40474	-1.17007	-6.45404	-2.81132	18.28543	7.13633	171.72	4.41
66/11/23	2439452.5	-18.04425	2.60925	1.39824	-1.16400	-6.45498	-2.81182	18.28546	7.13638	171.77	4.39
66/11/27	2439456.5	-18.04693	2.59434	1.39175	-1.15791	-6.45591	-2.81231	18.28549	7.13642	171.82	4.37
66/12/ 1	2439460.5	-18.04960	2.57943	1.38525	-1.15183	-6.45683	-2.81280	18.28552	7.13647	171.87	4.34
66/12/ 5	2439464.5	-18.05225	2.56451	1.37875	-1.14574	-6.45775	-2.81329	18.28555	7.13651	171.91	4.32
66/12/ 9	2439468.5	-18.05489	2.54959	1.37225	-1.13966	-6.45866	-2.81377	18.28558	7.13656	171.96	4.30
66/12/13	2439472.5	-18.05752	2.53467	1.36575	-1.13357	-6.45957	-2.81426	18.28561	7.13660	172.01	4.28
66/12/17	2439476.5	-18.06013	2.51974	1.35925	-1.12749	-6.46047	-2.81474	18.28565	7.13664	172.06	4.26

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66/12/21	2439480.5	-18.06273	2.50482	1.35275	-1.12140	-6.46137	-2.81522	18.28568	7.13668	172.10	4.24
66/12/25	2439484.5	-18.06531	2.48989	1.34624	-1.11531	-6.46226	-2.81569	18.28571	7.13672	172.15	4.22
66/12/29	2439488.5	-18.06788	2.47496	1.33974	-1.10923	-6.46314	-2.81617	18.28575	7.13676	172.20	4.20
67/ 1/ 2	2439492.5	-18.07043	2.46003	1.33323	-1.10314	-6.46403	-2.81664	18.28578	7.13681	172.25	4.18
67/ 1/ 6	2439496.5	-18.07298	2.44509	1.32672	-1.09705	-6.46490	-2.81711	18.28582	7.13685	172.30	4.16
67/ 1/10	2439500.5	-18.07550	2.43016	1.32021	-1.09096	-6.46578	-2.81757	18.28585	7.13689	172.34	4.14
67/ 1/14	2439504.5	-18.07802	2.41522	1.31370	-1.08487	-6.46664	-2.81804	18.28589	7.13693	172.39	4.12
67/ 1/18	2439508.5	-18.08052	2.40028	1.30719	-1.07878	-6.46751	-2.81850	18.28593	7.13697	172.44	4.10
67/ 1/22	2439512.5	-18.08300	2.38534	1.30068	-1.07269	-6.46837	-2.81896	18.28597	7.13702	172.49	4.08
67/ 1/26	2439516.5	-18.08547	2.37039	1.29417	-1.06660	-6.46922	-2.81942	18.28600	7.13706	172.53	4.06
67/ 1/30	2439520.5	-18.08793	2.35545	1.28765	-1.06050	-6.47007	-2.81988	18.28604	7.13710	172.58	4.04
67/ 2/ 3	2439524.5	-18.09037	2.34050	1.28114	-1.05441	-6.47092	-2.82034	18.28608	7.13715	172.63	4.02
67/ 2/ 7	2439528.5	-18.09280	2.32555	1.27462	-1.04831	-6.47176	-2.82079	18.28612	7.13719	172.68	4.00
67/ 2/11	2439532.5	-18.09522	2.31060	1.26811	-1.04222	-6.47260	-2.82124	18.28616	7.13724	172.72	3.98
67/ 2/15	2439536.5	-18.09762	2.29564	1.26159	-1.03612	-6.47343	-2.82170	18.28621	7.13729	172.77	3.96
67/ 2/19	2439540.5	-18.10000	2.28069	1.25507	-1.03002	-6.47427	-2.82215	18.28625	7.13734	172.82	3.94
67/ 2/23	2439544.5	-18.10238	2.26573	1.24855	-1.02391	-6.47509	-2.82259	18.28629	7.13738	172.87	3.92
67/ 2/27	2439548.5	-18.10473	2.25077	1.24203	-1.01780	-6.47591	-2.82304	18.28633	7.13743	172.91	3.89
67/ 3/ 3	2439552.5	-18.10708	2.23581	1.23551	-1.01169	-6.47673	-2.82348	18.28638	7.13748	172.96	3.87
67/ 3/ 7	2439556.5	-18.10941	2.22085	1.22898	-1.00558	-6.47754	-2.82392	18.28642	7.13752	173.01	3.85
67/ 3/11	2439560.5	-18.11172	2.20588	1.22246	-0.99947	-6.47834	-2.82436	18.28647	7.13757	173.06	3.83
67/ 3/15	2439564.5	-18.11403	2.19091	1.21593	-0.99335	-6.47914	-2.82480	18.28651	7.13761	173.10	3.81
67/ 3/19	2439568.5	-18.11631	2.17594	1.20941	-0.98723	-6.47993	-2.82523	18.28656	7.13765	173.15	3.79
67/ 3/23	2439572.5	-18.11859	2.16097	1.20288	-0.98111	-6.48072	-2.82566	18.28661	7.13769	173.20	3.77
67/ 3/27	2439576.5	-18.12085	2.14600	1.19635	-0.97499	-6.48150	-2.82609	18.28665	7.13773	173.25	3.75
67/ 3/31	2439580.5	-18.12309	2.13103	1.18982	-0.96887	-6.48228	-2.82651	18.28670	7.13777	173.29	3.73
67/ 4/ 4	2439584.5	-18.12532	2.11605	1.18329	-0.96274	-6.48305	-2.82694	18.28675	7.13781	173.34	3.71
67/ 4/ 8	2439588.5	-18.12754	2.10107	1.17676	-0.95662	-6.48381	-2.82736	18.28680	7.13785	173.39	3.69
67/ 4/12	2439592.5	-18.12974	2.08609	1.17023	-0.95049	-6.48457	-2.82778	18.28685	7.13788	173.44	3.67
67/ 4/16	2439596.5	-18.13193	2.07111	1.16370	-0.94436	-6.48532	-2.82819	18.28690	7.13792	173.48	3.65
67/ 4/20	2439600.5	-18.13411	2.05613	1.15716	-0.93823	-6.48607	-2.82861	18.28695	7.13795	173.53	3.63
67/ 4/24	2439604.5	-18.13627	2.04114	1.15063	-0.93209	-6.48681	-2.82902	18.28700	7.13798	173.58	3.61
67/ 4/28	2439608.5	-18.13841	2.02616	1.14409	-0.92596	-6.48754	-2.82943	18.28705	7.13801	173.63	3.59
67/ 5/ 2	2439612.5	-18.14055	2.01117	1.13755	-0.91983	-6.48827	-2.82983	18.28710	7.13804	173.67	3.57
67/ 5/ 6	2439616.5	-18.14266	1.99618	1.13102	-0.91369	-6.48899	-2.83023	18.28716	7.13807	173.72	3.55
67/ 5/10	2439620.5	-18.14477	1.98119	1.12448	-0.90755	-6.48971	-2.83064	18.28721	7.13810	173.77	3.53
67/ 5/14	2439624.5	-18.14686	1.96619	1.11794	-0.90141	-6.49042	-2.83103	18.28727	7.13813	173.82	3.50
67/ 5/18	2439628.5	-18.14893	1.95120	1.11140	-0.89527	-6.49112	-2.83143	18.28732	7.13815	173.86	3.48
67/ 5/22	2439632.5	-18.15099	1.93620	1.10485	-0.88913	-6.49182	-2.83183	18.28738	7.13818	173.91	3.46
67/ 5/26	2439636.5	-18.15304	1.92121	1.09831	-0.88299	-6.49252	-2.83222	18.28743	7.13820	173.96	3.44
67/ 5/30	2439640.5	-18.15507	1.90621	1.09177	-0.87684	-6.49320	-2.83260	18.28749	7.13822	174.01	3.42
67/ 6/ 3	2439644.5	-18.15709	1.89120	1.08522	-0.87069	-6.49388	-2.83299	18.28755	7.13823	174.05	3.40
67/ 6/ 7	2439648.5	-18.15910	1.87620	1.07868	-0.86455	-6.49455	-2.83337	18.28760	7.13825	174.10	3.38
67/ 6/11	2439652.5	-18.16109	1.86120	1.07213	-0.85840	-6.49521	-2.83375	18.28766	7.13826	174.15	3.36
67/ 6/15	2439656.5	-18.16306	1.84619	1.06559	-0.85226	-6.49587	-2.83412	18.28772	7.13827	174.20	3.34

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67/ 6/19	2439660.5	-18.16502	1.83118	1.05904	-0.84611	-6.49652	-2.83449	18.28778	7.13828	174.24	3.32
67/ 6/23	2439664.5	-18.16697	1.81618	1.05249	-0.83997	-6.49717	-2.83486	18.28784	7.13829	174.29	3.30
67/ 6/27	2439668.5	-18.16890	1.80116	1.04594	-0.83382	-6.49780	-2.83523	18.28790	7.13829	174.34	3.28
67/ 7/ 1	2439672.5	-18.17082	1.78615	1.03939	-0.82768	-6.49844	-2.83559	18.28796	7.13830	174.39	3.26
67/ 7/ 5	2439676.5	-18.17273	1.77114	1.03284	-0.82154	-6.49906	-2.83596	18.28802	7.13831	174.43	3.24
67/ 7/ 9	2439680.5	-18.17462	1.75612	1.02629	-0.81540	-6.49969	-2.83631	18.28808	7.13831	174.48	3.22
67/ 7/13	2439684.5	-18.17650	1.74111	1.01973	-0.80925	-6.50030	-2.83667	18.28815	7.13831	174.53	3.20
67/ 7/17	2439688.5	-18.17836	1.72609	1.01318	-0.80311	-6.50091	-2.83703	18.28821	7.13832	174.58	3.18
67/ 7/21	2439692.5	-18.18021	1.71107	1.00663	-0.79698	-6.50152	-2.83738	18.28827	7.13832	174.62	3.16
67/ 7/25	2439696.5	-18.18204	1.69605	1.00007	-0.79084	-6.50212	-2.83773	18.28834	7.13833	174.67	3.13
67/ 7/29	2439700.5	-18.18386	1.68103	0.99351	-0.78470	-6.50272	-2.83807	18.28840	7.13833	174.72	3.11
67/ 8/ 2	2439704.5	-18.18567	1.66601	0.98696	-0.77857	-6.50331	-2.83842	18.28847	7.13834	174.77	3.09
67/ 8/ 6	2439708.5	-18.18746	1.65098	0.98040	-0.77243	-6.50390	-2.83876	18.28854	7.13834	174.81	3.07
67/ 8/10	2439712.5	-18.18923	1.63596	0.97384	-0.76630	-6.50449	-2.83911	18.28860	7.13835	174.86	3.05
67/ 8/14	2439716.5	-18.19100	1.62093	0.96728	-0.76016	-6.50507	-2.83945	18.28867	7.13836	174.91	3.03
67/ 8/18	2439720.5	-18.19275	1.60590	0.96072	-0.75402	-6.50564	-2.83979	18.28874	7.13837	174.96	3.01
67/ 8/22	2439724.5	-18.19448	1.59087	0.95416	-0.74788	-6.50622	-2.84013	18.28881	7.13838	175.00	2.99
67/ 8/26	2439728.5	-18.19620	1.57584	0.94760	-0.74174	-6.50678	-2.84046	18.28888	7.13839	175.05	2.97
67/ 8/30	2439732.5	-18.19791	1.56081	0.94104	-0.73560	-6.50735	-2.84079	18.28895	7.13840	175.10	2.95
67/ 9/ 3	2439736.5	-18.19960	1.54577	0.93447	-0.72947	-6.50790	-2.84112	18.28902	7.13841	175.15	2.93
67/ 9/ 7	2439740.5	-18.20128	1.53074	0.92791	-0.72333	-6.50846	-2.84145	18.28909	7.13842	175.19	2.91
67/ 9/11	2439744.5	-18.20294	1.51570	0.92135	-0.71719	-6.50900	-2.84178	18.28916	7.13843	175.24	2.89
67/ 9/15	2439748.5	-18.20459	1.50066	0.91478	-0.71105	-6.50955	-2.84210	18.28923	7.13844	175.29	2.87
67/ 9/19	2439752.5	-18.20623	1.48563	0.90821	-0.70491	-6.51009	-2.84243	18.28931	7.13846	175.34	2.85
67/ 9/23	2439756.5	-18.20785	1.47059	0.90165	-0.69877	-6.51063	-2.84275	18.28938	7.13847	175.38	2.83
67/ 9/27	2439760.5	-18.20946	1.45554	0.89508	-0.69263	-6.51116	-2.84307	18.28945	7.13848	175.43	2.81
67/10/ 1	2439764.5	-18.21105	1.44050	0.88851	-0.68649	-6.51169	-2.84339	18.28953	7.13850	175.48	2.78
67/10/ 5	2439768.5	-18.21263	1.42546	0.88194	-0.68034	-6.51221	-2.84370	18.28960	7.13851	175.52	2.76
67/10/ 9	2439772.5	-18.21419	1.41041	0.87537	-0.67420	-6.51273	-2.84402	18.28968	7.13853	175.57	2.74
67/10/13	2439776.5	-18.21574	1.39537	0.86880	-0.66806	-6.51325	-2.84433	18.28976	7.13855	175.62	2.72
67/10/17	2439780.5	-18.21728	1.38032	0.86223	-0.66191	-6.51376	-2.84464	18.28983	7.13857	175.67	2.70
67/10/21	2439784.5	-18.21880	1.36527	0.85566	-0.65576	-6.51426	-2.84495	18.28991	7.13859	175.71	2.68
67/10/25	2439788.5	-18.22031	1.35022	0.84909	-0.64962	-6.51477	-2.84526	18.28999	7.13861	175.76	2.66
67/10/29	2439792.5	-18.22180	1.33517	0.84251	-0.64347	-6.51527	-2.84556	18.29007	7.13863	175.81	2.64
67/11/ 2	2439796.5	-18.22328	1.32012	0.83594	-0.63732	-6.51576	-2.84587	18.29015	7.13865	175.86	2.62
67/11/ 6	2439800.5	-18.22475	1.30507	0.82936	-0.63116	-6.51626	-2.84617	18.29023	7.13867	175.90	2.60
67/11/10	2439804.5	-18.22620	1.29001	0.82279	-0.62501	-6.51675	-2.84647	18.29031	7.13870	175.95	2.58
67/11/14	2439808.5	-18.22764	1.27496	0.81621	-0.61884	-6.51723	-2.84677	18.29039	7.13872	176.00	2.56
67/11/18	2439812.5	-18.22906	1.25990	0.80964	-0.61268	-6.51771	-2.84707	18.29047	7.13874	176.05	2.54
67/11/22	2439816.5	-18.23047	1.24484	0.80306	-0.60651	-6.51818	-2.84736	18.29056	7.13876	176.09	2.52
67/11/26	2439820.5	-18.23186	1.22978	0.79648	-0.60035	-6.51864	-2.84765	18.29064	7.13878	176.14	2.50
67/11/30	2439824.5	-18.23324	1.21472	0.78990	-0.59418	-6.51910	-2.84794	18.29072	7.13880	176.19	2.48
67/12/ 4	2439828.5	-18.23461	1.19966	0.78332	-0.58800	-6.51955	-2.84822	18.29081	7.13882	176.24	2.45
67/12/ 8	2439832.5	-18.23596	1.18460	0.77674	-0.58183	-6.52000	-2.84851	18.29089	7.13883	176.28	2.43
67/12/12	2439836.5	-18.23729	1.16954	0.77016	-0.57566	-6.52044	-2.84879	18.29098	7.13884	176.33	2.41

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67/12/16	2439840.5	-18.23862	1.15447	0.76358	-0.56948	-6.52087	-2.84907	18.29106	7.13885	176.38	2.39
67/12/20	2439844.5	-18.23993	1.13941	0.75700	-0.56330	-6.52130	-2.84934	18.29115	7.13886	176.43	2.37
67/12/24	2439848.5	-18.24122	1.12434	0.75041	-0.55712	-6.52172	-2.84961	18.29124	7.13887	176.47	2.35
67/12/28	2439852.5	-18.24250	1.10928	0.74383	-0.55094	-6.52213	-2.84988	18.29133	7.13888	176.52	2.33
68/ 1/ 1	2439856.5	-18.24377	1.09421	0.73725	-0.54476	-6.52254	-2.85015	18.29141	7.13889	176.57	2.31
68/ 1/ 5	2439860.5	-18.24502	1.07914	0.73066	-0.53858	-6.52295	-2.85041	18.29150	7.13889	176.62	2.29
68/ 1/ 9	2439864.5	-18.24625	1.06407	0.72408	-0.53240	-6.52334	-2.85067	18.29159	7.13889	176.66	2.27
68/ 1/13	2439868.5	-18.24748	1.04900	0.71749	-0.52622	-6.52373	-2.85093	18.29168	7.13889	176.71	2.25
68/ 1/17	2439872.5	-18.24869	1.03393	0.71090	-0.52003	-6.52411	-2.85119	18.29177	7.13889	176.76	2.23
68/ 1/21	2439876.5	-18.24988	1.01886	0.70432	-0.51385	-6.52449	-2.85144	18.29186	7.13889	176.80	2.21
68/ 1/25	2439880.5	-18.25106	1.00378	0.69773	-0.50767	-6.52486	-2.85169	18.29195	7.13889	176.85	2.19
68/ 1/29	2439884.5	-18.25223	0.98871	0.69114	-0.50149	-6.52523	-2.85194	18.29205	7.13888	176.90	2.17
68/ 2/ 2	2439888.5	-18.25338	0.97363	0.68455	-0.49530	-6.52559	-2.85219	18.29214	7.13888	176.95	2.14
68/ 2/ 6	2439892.5	-18.25451	0.95856	0.67796	-0.48912	-6.52595	-2.85243	18.29223	7.13888	176.99	2.12
68/ 2/10	2439896.5	-18.25564	0.94348	0.67137	-0.48293	-6.52630	-2.85267	18.29233	7.13887	177.04	2.10
68/ 2/14	2439900.5	-18.25674	0.92841	0.66478	-0.47674	-6.52664	-2.85291	18.29242	7.13886	177.09	2.08
68/ 2/18	2439904.5	-18.25784	0.91333	0.65819	-0.47056	-6.52697	-2.85314	18.29251	7.13885	177.14	2.06
68/ 2/22	2439908.5	-18.25892	0.89825	0.65160	-0.46437	-6.52730	-2.85337	18.29261	7.13884	177.18	2.04
68/ 2/26	2439912.5	-18.25998	0.88317	0.64501	-0.45818	-6.52762	-2.85360	18.29271	7.13883	177.23	2.02
68/ 3/ 1	2439916.5	-18.26104	0.86809	0.63842	-0.45200	-6.52794	-2.85383	18.29280	7.13881	177.28	2.00
68/ 3/ 5	2439920.5	-18.26207	0.85301	0.63182	-0.44581	-6.52825	-2.85405	18.29290	7.13880	177.33	1.98
68/ 3/ 9	2439924.5	-18.26310	0.83793	0.62523	-0.43963	-6.52856	-2.85427	18.29300	7.13878	177.37	1.96
68/ 3/13	2439928.5	-18.26410	0.82284	0.61863	-0.43344	-6.52885	-2.85449	18.29309	7.13876	177.42	1.94
68/ 3/17	2439932.5	-18.26510	0.80776	0.61204	-0.42726	-6.52915	-2.85471	18.29319	7.13874	177.47	1.92
68/ 3/21	2439936.5	-18.26608	0.79268	0.60545	-0.42108	-6.52944	-2.85492	18.29329	7.13872	177.52	1.90
68/ 3/25	2439940.5	-18.26704	0.77759	0.59885	-0.41490	-6.52972	-2.85513	18.29339	7.13871	177.56	1.88
68/ 3/29	2439944.5	-18.26800	0.76251	0.59225	-0.40872	-6.53000	-2.85534	18.29349	7.13869	177.61	1.86
68/ 4/ 2	2439948.5	-18.26893	0.74742	0.58566	-0.40254	-6.53027	-2.85554	18.29359	7.13867	177.66	1.83
68/ 4/ 6	2439952.5	-18.26986	0.73233	0.57906	-0.39636	-6.53054	-2.85575	18.29369	7.13865	177.70	1.81
68/ 4/10	2439956.5	-18.27076	0.71725	0.57246	-0.39018	-6.53080	-2.85595	18.29380	7.13863	177.75	1.79
68/ 4/14	2439960.5	-18.27166	0.70216	0.56586	-0.38400	-6.53106	-2.85615	18.29390	7.13861	177.80	1.77
68/ 4/18	2439964.5	-18.27254	0.68707	0.55927	-0.37783	-6.53131	-2.85635	18.29400	7.13859	177.85	1.75
68/ 4/22	2439968.5	-18.27340	0.67198	0.55267	-0.37165	-6.53156	-2.85654	18.29411	7.13858	177.89	1.73
68/ 4/26	2439972.5	-18.27426	0.65689	0.54607	-0.36547	-6.53181	-2.85674	18.29421	7.13856	177.94	1.71
68/ 4/30	2439976.5	-18.27509	0.64180	0.53947	-0.35930	-6.53205	-2.85693	18.29431	7.13855	177.99	1.69
68/ 5/ 4	2439980.5	-18.27592	0.62671	0.53287	-0.35312	-6.53229	-2.85712	18.29442	7.13853	178.04	1.67
68/ 5/ 8	2439984.5	-18.27672	0.61162	0.52627	-0.34694	-6.53252	-2.85731	18.29453	7.13852	178.08	1.65
68/ 5/12	2439988.5	-18.27752	0.59653	0.51967	-0.34076	-6.53275	-2.85750	18.29463	7.13851	178.13	1.63
68/ 5/16	2439992.5	-18.27830	0.58144	0.51306	-0.33457	-6.53297	-2.85769	18.29474	7.13849	178.18	1.61
68/ 5/20	2439996.5	-18.27906	0.56635	0.50646	-0.32839	-6.53319	-2.85787	18.29485	7.13848	178.23	1.59
68/ 5/24	2440000.5	-18.27982	0.55125	0.49986	-0.32221	-6.53340	-2.85805	18.29496	7.13846	178.27	1.57
68/ 5/28	2440004.5	-18.28055	0.53616	0.49326	-0.31602	-6.53361	-2.85823	18.29506	7.13845	178.32	1.54
68/ 6/ 1	2440008.5	-18.28128	0.52107	0.48665	-0.30984	-6.53381	-2.85840	18.29517	7.13843	178.37	1.52
68/ 6/ 5	2440012.5	-18.28198	0.50597	0.48005	-0.30365	-6.53401	-2.85858	18.29528	7.13841	178.41	1.50
68/ 6/ 9	2440016.5	-18.28268	0.49088	0.47345	-0.29747	-6.53420	-2.85875	18.29539	7.13840	178.46	1.48

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68/ 6/13	2440020.5	-18.28336	0.47578	0.46684	-0.29128	-6.53438	-2.85892	18.29551	7.13838	178.51	1.46
68/ 6/17	2440024.5	-18.28402	0.46068	0.46024	-0.28510	-6.53457	-2.85908	18.29562	7.13836	178.56	1.44
68/ 6/21	2440028.5	-18.28468	0.44559	0.45363	-0.27891	-6.53474	-2.85925	18.29573	7.13834	178.60	1.42
68/ 6/25	2440032.5	-18.28531	0.43049	0.44703	-0.27272	-6.53491	-2.85941	18.29584	7.13832	178.65	1.40
68/ 6/29	2440036.5	-18.28594	0.41540	0.44042	-0.26653	-6.53508	-2.85957	18.29596	7.13830	178.70	1.38
68/ 7/ 3	2440040.5	-18.28654	0.40030	0.43381	-0.26034	-6.53523	-2.85973	18.29607	7.13829	178.75	1.36
68/ 7/ 7	2440044.5	-18.28714	0.38520	0.42721	-0.25415	-6.53539	-2.85988	18.29618	7.13826	178.79	1.34
68/ 7/11	2440048.5	-18.28772	0.37010	0.42060	-0.24796	-6.53554	-2.86004	18.29630	7.13824	178.84	1.32
68/ 7/15	2440052.5	-18.28828	0.35500	0.41399	-0.24177	-6.53568	-2.86019	18.29641	7.13822	178.89	1.30
68/ 7/19	2440056.5	-18.28884	0.33990	0.40739	-0.23558	-6.53582	-2.86033	18.29653	7.13820	178.94	1.28
68/ 7/23	2440060.5	-18.28937	0.32481	0.40078	-0.22939	-6.53595	-2.86048	18.29665	7.13818	178.98	1.26
68/ 7/27	2440064.5	-18.28990	0.30971	0.39417	-0.22320	-6.53608	-2.86063	18.29676	7.13816	179.03	1.23
68/ 7/31	2440068.5	-18.29040	0.29461	0.38756	-0.21701	-6.53620	-2.86077	18.29688	7.13814	179.08	1.21
68/ 8/ 4	2440072.5	-18.29090	0.27951	0.38095	-0.21081	-6.53632	-2.86091	18.29700	7.13811	179.12	1.19
68/ 8/ 8	2440076.5	-18.29138	0.26441	0.37434	-0.20461	-6.53643	-2.86104	18.29712	7.13809	179.17	1.17
68/ 8/12	2440080.5	-18.29184	0.24931	0.36773	-0.19842	-6.53653	-2.86118	18.29724	7.13806	179.22	1.15
68/ 8/16	2440084.5	-18.29230	0.23421	0.36112	-0.19222	-6.53662	-2.86131	18.29736	7.13803	179.27	1.13
68/ 8/20	2440088.5	-18.29273	0.21910	0.35451	-0.18602	-6.53671	-2.86144	18.29748	7.13800	179.31	1.11
68/ 8/24	2440092.5	-18.29315	0.20400	0.34790	-0.17983	-6.53680	-2.86156	18.29760	7.13797	179.36	1.09
68/ 8/28	2440096.5	-18.29356	0.18890	0.34129	-0.17363	-6.53687	-2.86168	18.29772	7.13793	179.41	1.07
68/ 9/ 1	2440100.5	-18.29396	0.17380	0.33468	-0.16743	-6.53694	-2.86180	18.29784	7.13790	179.46	1.05
68/ 9/ 5	2440104.5	-18.29434	0.15870	0.32807	-0.16124	-6.53701	-2.86192	18.29797	7.13786	179.50	1.03
68/ 9/ 9	2440108.5	-18.29470	0.14360	0.32146	-0.15505	-6.53706	-2.86203	18.29809	7.13782	179.55	1.01
68/ 9/13	2440112.5	-18.29505	0.12850	0.31484	-0.14885	-6.53712	-2.86214	18.29821	7.13778	179.60	0.99
68/ 9/17	2440116.5	-18.29539	0.11339	0.30823	-0.14266	-6.53716	-2.86225	18.29834	7.13774	179.64	0.97
68/ 9/21	2440120.5	-18.29571	0.09829	0.30162	-0.13647	-6.53720	-2.86236	18.29846	7.13770	179.69	0.94
68/ 9/25	2440124.5	-18.29602	0.08319	0.29501	-0.13028	-6.53724	-2.86246	18.29859	7.13766	179.74	0.92
68/ 9/29	2440128.5	-18.29631	0.06809	0.28839	-0.12410	-6.53727	-2.86256	18.29871	7.13762	179.79	0.90
68/10/ 3	2440132.5	-18.29659	0.05299	0.28178	-0.11791	-6.53730	-2.86266	18.29884	7.13757	179.83	0.88
68/10/ 7	2440136.5	-18.29686	0.03788	0.27517	-0.11173	-6.53732	-2.86276	18.29897	7.13753	179.88	0.86
68/10/11	2440140.5	-18.29711	0.02278	0.26855	-0.10554	-6.53733	-2.86285	18.29909	7.13749	179.93	0.84
68/10/15	2440144.5	-18.29735	0.00768	0.26194	-0.09936	-6.53734	-2.86294	18.29922	7.13745	179.98	0.82
68/10/19	2440148.5	-18.29757	-0.00742	0.25533	-0.09318	-6.53735	-2.86303	18.29935	7.13741	180.02	0.80
68/10/23	2440152.5	-18.29778	-0.02253	0.24871	-0.08700	-6.53736	-2.86312	18.29948	7.13737	180.07	0.78
68/10/27	2440156.5	-18.29797	-0.03763	0.24210	-0.08082	-6.53736	-2.86321	18.29961	7.13733	180.12	0.76
68/10/31	2440160.5	-18.29815	-0.05273	0.23548	-0.07463	-6.53735	-2.86330	18.29974	7.13730	180.17	0.74
68/11/ 4	2440164.5	-18.29832	-0.06783	0.22887	-0.06845	-6.53734	-2.86338	18.29987	7.13726	180.21	0.72
68/11/ 8	2440168.5	-18.29847	-0.08294	0.22225	-0.06227	-6.53733	-2.86346	18.30000	7.13722	180.26	0.70
68/11/12	2440172.5	-18.29860	-0.09804	0.21564	-0.05608	-6.53731	-2.86354	18.30014	7.13718	180.31	0.68
68/11/16	2440176.5	-18.29873	-0.11314	0.20902	-0.04990	-6.53728	-2.86362	18.30027	7.13715	180.35	0.65
68/11/20	2440180.5	-18.29883	-0.12824	0.20241	-0.04372	-6.53725	-2.86369	18.30040	7.13711	180.40	0.63
68/11/24	2440184.5	-18.29893	-0.14335	0.19579	-0.03754	-6.53722	-2.86376	18.30054	7.13707	180.45	0.61
68/11/28	2440188.5	-18.29901	-0.15845	0.18918	-0.03136	-6.53718	-2.86383	18.30067	7.13703	180.50	0.59
68/12/ 2	2440192.5	-18.29907	-0.17355	0.18256	-0.02518	-6.53714	-2.86390	18.30081	7.13700	180.54	0.57
68/12/ 6	2440196.5	-18.29912	-0.18865	0.17594	-0.01900	-6.53709	-2.86397	18.30094	7.13696	180.59	0.55

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68/12/10	2440200.5	-18.29916	-0.20375	0.16933	-0.01282	-6.53704	-2.86403	18.30108	7.13692	180.64	0.53
68/12/14	2440204.5	-18.29918	-0.21885	0.16271	-0.00664	-6.53698	-2.86409	18.30121	7.13689	180.69	0.51
68/12/18	2440208.5	-18.29919	-0.23396	0.15609	-0.00046	-6.53692	-2.86415	18.30135	7.13685	180.73	0.49
68/12/22	2440212.5	-18.29919	-0.24906	0.14948	0.00572	-6.53685	-2.86421	18.30149	7.13682	180.78	0.47
68/12/26	2440216.5	-18.29916	-0.26416	0.14286	0.01191	-6.53678	-2.86427	18.30163	7.13679	180.83	0.45
68/12/30	2440220.5	-18.29913	-0.27926	0.13624	0.01809	-6.53671	-2.86432	18.30177	7.13675	180.87	0.43
69/ 1/ 3	2440224.5	-18.29908	-0.29436	0.12963	0.02427	-6.53663	-2.86438	18.30191	7.13672	180.92	0.41
69/ 1/ 7	2440228.5	-18.29902	-0.30946	0.12301	0.03045	-6.53655	-2.86443	18.30205	7.13669	180.97	0.39
69/ 1/11	2440232.5	-18.29894	-0.32456	0.11639	0.03664	-6.53646	-2.86448	18.30219	7.13666	181.02	0.36
69/ 1/15	2440236.5	-18.29885	-0.33966	0.10977	0.04282	-6.53637	-2.86453	18.30233	7.13663	181.06	0.34
69/ 1/19	2440240.5	-18.29874	-0.35476	0.10316	0.04901	-6.53628	-2.86457	18.30247	7.13660	181.11	0.32
69/ 1/23	2440244.5	-18.29862	-0.36986	0.09654	0.05520	-6.53618	-2.86462	18.30261	7.13658	181.16	0.30
69/ 1/27	2440248.5	-18.29849	-0.38496	0.08992	0.06139	-6.53608	-2.86466	18.30276	7.13655	181.21	0.28
69/ 1/31	2440252.5	-18.29834	-0.40006	0.08330	0.06758	-6.53596	-2.86470	18.30290	7.13652	181.25	0.26
69/ 2/ 4	2440256.5	-18.29818	-0.41516	0.07668	0.07378	-6.53585	-2.86474	18.30304	7.13649	181.30	0.24
69/ 2/ 8	2440260.5	-18.29800	-0.43026	0.07007	0.07998	-6.53572	-2.86477	18.30319	7.13645	181.35	0.22
69/ 2/12	2440264.5	-18.29781	-0.44536	0.06345	0.08618	-6.53559	-2.86480	18.30333	7.13642	181.39	0.20
69/ 2/16	2440268.5	-18.29760	-0.46046	0.05683	0.09238	-6.53546	-2.86483	18.30348	7.13638	181.44	0.18
69/ 2/20	2440272.5	-18.29738	-0.47555	0.05021	0.09858	-6.53531	-2.86485	18.30363	7.13634	181.49	0.16
69/ 2/24	2440276.5	-18.29714	-0.49065	0.04359	0.10478	-6.53516	-2.86488	18.30377	7.13631	181.54	0.14
69/ 2/28	2440280.5	-18.29689	-0.50575	0.03698	0.11098	-6.53501	-2.86490	18.30392	7.13626	181.58	0.12
69/ 3/ 4	2440284.5	-18.29663	-0.52085	0.03036	0.11718	-6.53484	-2.86491	18.30407	7.13622	181.63	0.10
69/ 3/ 8	2440288.5	-18.29635	-0.53594	0.02374	0.12338	-6.53467	-2.86493	18.30422	7.13618	181.68	0.07
69/ 3/12	2440292.5	-18.29606	-0.55104	0.01712	0.12958	-6.53450	-2.86494	18.30436	7.13613	181.73	0.05
69/ 3/16	2440296.5	-18.29575	-0.56613	0.01050	0.13579	-6.53432	-2.86495	18.30451	7.13608	181.77	0.03
69/ 3/20	2440300.5	-18.29543	-0.58123	0.00388	0.14199	-6.53413	-2.86495	18.30466	7.13603	181.82	0.01
69/ 3/24	2440304.5	-18.29510	-0.59632	-0.00274	0.14819	-6.53393	-2.86496	18.30481	7.13598	181.87	-0.01
69/ 3/28	2440308.5	-18.29475	-0.61142	-0.00935	0.15439	-6.53373	-2.86495	18.30497	7.13592	181.91	-0.03
69/ 4/ 1	2440312.5	-18.29439	-0.62651	-0.01597	0.16059	-6.53352	-2.86495	18.30512	7.13587	181.96	-0.05
69/ 4/ 5	2440316.5	-18.29401	-0.64160	-0.02259	0.16679	-6.53330	-2.86494	18.30527	7.13581	182.01	-0.07
69/ 4/ 9	2440320.5	-18.29361	-0.65670	-0.02921	0.17299	-6.53308	-2.86494	18.30542	7.13575	182.06	-0.09
69/ 4/13	2440324.5	-18.29321	-0.67179	-0.03583	0.17918	-6.53286	-2.86493	18.30557	7.13569	182.10	-0.11
69/ 4/17	2440328.5	-18.29279	-0.68688	-0.04245	0.18538	-6.53262	-2.86491	18.30573	7.13563	182.15	-0.13
69/ 4/21	2440332.5	-18.29235	-0.70197	-0.04907	0.19158	-6.53239	-2.86490	18.30588	7.13557	182.20	-0.15
69/ 4/25	2440336.5	-18.29190	-0.71706	-0.05568	0.19777	-6.53214	-2.86488	18.30604	7.13551	182.24	-0.17
69/ 4/29	2440340.5	-18.29144	-0.73215	-0.06230	0.20397	-6.53189	-2.86486	18.30619	7.13545	182.29	-0.19
69/ 5/ 3	2440344.5	-18.29096	-0.74724	-0.06892	0.21017	-6.53163	-2.86483	18.30635	7.13538	182.34	-0.22
69/ 5/ 7	2440348.5	-18.29047	-0.76233	-0.07554	0.21636	-6.53136	-2.86480	18.30650	7.13531	182.39	-0.24
69/ 5/11	2440352.5	-18.28996	-0.77742	-0.08216	0.22255	-6.53109	-2.86477	18.30666	7.13524	182.43	-0.26
69/ 5/15	2440356.5	-18.28944	-0.79251	-0.08877	0.22874	-6.53081	-2.86474	18.30682	7.13516	182.48	-0.28
69/ 5/19	2440360.5	-18.28890	-0.80759	-0.09539	0.23493	-6.53053	-2.86470	18.30697	7.13509	182.53	-0.30
69/ 5/23	2440364.5	-18.28835	-0.82268	-0.10201	0.24112	-6.53024	-2.86466	18.30713	7.13501	182.58	-0.32
69/ 5/27	2440368.5	-18.28779	-0.83777	-0.10863	0.24730	-6.52994	-2.86462	18.30729	7.13494	182.62	-0.34
69/ 5/31	2440372.5	-18.28721	-0.85285	-0.11525	0.25349	-6.52964	-2.86457	18.30745	7.13486	182.67	-0.36
69/ 6/ 4	2440376.5	-18.28662	-0.86794	-0.12186	0.25967	-6.52933	-2.86453	18.30761	7.13478	182.72	-0.38

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69/ 6/ 8	2440380.5	-18.28601	-0.88302	-0.12848	0.26585	-6.52902	-2.86448	18.30777	7.13471	182.76	-0.40
69/ 6/12	2440384.5	-18.28539	-0.89810	-0.13510	0.27202	-6.52870	-2.86443	18.30793	7.13463	182.81	-0.42
69/ 6/16	2440388.5	-18.28475	-0.91318	-0.14172	0.27820	-6.52838	-2.86437	18.30809	7.13455	182.86	-0.44
69/ 6/20	2440392.5	-18.28410	-0.92827	-0.14833	0.28437	-6.52806	-2.86432	18.30825	7.13447	182.91	-0.46
69/ 6/24	2440396.5	-18.28344	-0.94335	-0.15495	0.29054	-6.52772	-2.86426	18.30842	7.13439	182.95	-0.48
69/ 6/28	2440400.5	-18.28276	-0.95843	-0.16157	0.29671	-6.52739	-2.86420	18.30858	7.13432	183.00	-0.51
69/ 7/ 2	2440404.5	-18.28207	-0.97351	-0.16818	0.30287	-6.52705	-2.86414	18.30874	7.13424	183.05	-0.53
69/ 7/ 6	2440408.5	-18.28136	-0.98858	-0.17480	0.30904	-6.52671	-2.86407	18.30891	7.13417	183.10	-0.55
69/ 7/10	2440412.5	-18.28064	-1.00366	-0.18142	0.31520	-6.52636	-2.86401	18.30907	7.13409	183.14	-0.57
69/ 7/14	2440416.5	-18.27991	-1.01874	-0.18803	0.32136	-6.52601	-2.86394	18.30924	7.13402	183.19	-0.59
69/ 7/18	2440420.5	-18.27916	-1.03381	-0.19465	0.32752	-6.52566	-2.86387	18.30940	7.13395	183.24	-0.61
69/ 7/22	2440424.5	-18.27839	-1.04889	-0.20127	0.33369	-6.52530	-2.86381	18.30957	7.13388	183.28	-0.63
69/ 7/26	2440428.5	-18.27761	-1.06396	-0.20788	0.33985	-6.52494	-2.86373	18.30974	7.13381	183.33	-0.65
69/ 7/30	2440432.5	-18.27682	-1.07904	-0.21450	0.34602	-6.52457	-2.86366	18.30990	7.13374	183.38	-0.67
69/ 8/ 3	2440436.5	-18.27602	-1.09411	-0.22111	0.35218	-6.52420	-2.86358	18.31007	7.13367	183.43	-0.69
69/ 8/ 7	2440440.5	-18.27519	-1.10918	-0.22773	0.35834	-6.52382	-2.86351	18.31024	7.13361	183.47	-0.71
69/ 8/11	2440444.5	-18.27436	-1.12425	-0.23434	0.36450	-6.52344	-2.86343	18.31041	7.13354	183.52	-0.73
69/ 8/15	2440448.5	-18.27351	-1.13932	-0.24096	0.37067	-6.52305	-2.86335	18.31058	7.13347	183.57	-0.75
69/ 8/19	2440452.5	-18.27265	-1.15439	-0.24757	0.37683	-6.52266	-2.86326	18.31075	7.13340	183.61	-0.77
69/ 8/23	2440456.5	-18.27177	-1.16946	-0.25419	0.38299	-6.52227	-2.86318	18.31092	7.13333	183.66	-0.80
69/ 8/27	2440460.5	-18.27088	-1.18452	-0.26080	0.38915	-6.52187	-2.86309	18.31109	7.13326	183.71	-0.82
69/ 8/31	2440464.5	-18.26997	-1.19959	-0.26742	0.39531	-6.52146	-2.86300	18.31126	7.13320	183.76	-0.84
69/ 9/ 4	2440468.5	-18.26905	-1.21466	-0.27403	0.40147	-6.52105	-2.86291	18.31144	7.13313	183.80	-0.86
69/ 9/ 8	2440472.5	-18.26812	-1.22972	-0.28064	0.40763	-6.52064	-2.86281	18.31161	7.13306	183.85	-0.88
69/ 9/12	2440476.5	-18.26717	-1.24478	-0.28726	0.41379	-6.52022	-2.86272	18.31178	7.13300	183.90	-0.90
69/ 9/16	2440480.5	-18.26621	-1.25985	-0.29387	0.41995	-6.51980	-2.86262	18.31196	7.13293	183.95	-0.92
69/ 9/20	2440484.5	-18.26523	-1.27491	-0.30048	0.42611	-6.51937	-2.86252	18.31213	7.13286	183.99	-0.94
69/ 9/24	2440488.5	-18.26424	-1.28997	-0.30710	0.43227	-6.51894	-2.86242	18.31231	7.13280	184.04	-0.96
69/ 9/28	2440492.5	-18.26323	-1.30503	-0.31371	0.43843	-6.51850	-2.86231	18.31248	7.13273	184.09	-0.98
69/10/ 2	2440496.5	-18.26221	-1.32009	-0.32032	0.44459	-6.51805	-2.86221	18.31266	7.13267	184.13	-1.00
69/10/ 6	2440500.5	-18.26118	-1.33514	-0.32693	0.45075	-6.51761	-2.86210	18.31284	7.13260	184.18	-1.02
69/10/10	2440504.5	-18.26013	-1.35020	-0.33354	0.45691	-6.51716	-2.86199	18.31302	7.13254	184.23	-1.04
69/10/14	2440508.5	-18.25907	-1.36525	-0.34016	0.46308	-6.51670	-2.86188	18.31319	7.13247	184.28	-1.06
69/10/18	2440512.5	-18.25799	-1.38031	-0.34677	0.46924	-6.51624	-2.86176	18.31337	7.13241	184.32	-1.08
69/10/22	2440516.5	-18.25690	-1.39536	-0.35338	0.47541	-6.51577	-2.86165	18.31355	7.13234	184.37	-1.11
69/10/26	2440520.5	-18.25579	-1.41041	-0.35999	0.48157	-6.51529	-2.86153	18.31373	7.13227	184.42	-1.13
69/10/30	2440524.5	-18.25467	-1.42546	-0.36660	0.48774	-6.51481	-2.86140	18.31391	7.13220	184.47	-1.15
69/11/ 3	2440528.5	-18.25354	-1.44051	-0.37321	0.49391	-6.51432	-2.86128	18.31409	7.13213	184.51	-1.17
69/11/ 7	2440532.5	-18.25239	-1.45556	-0.37982	0.50007	-6.51383	-2.86115	18.31428	7.13205	184.56	-1.19
69/11/11	2440536.5	-18.25123	-1.47061	-0.38643	0.50624	-6.51333	-2.86102	18.31446	7.13198	184.61	-1.21
69/11/15	2440540.5	-18.25005	-1.48566	-0.39304	0.51240	-6.51282	-2.86088	18.31464	7.13190	184.65	-1.23
69/11/19	2440544.5	-18.24886	-1.50070	-0.39965	0.51857	-6.51231	-2.86075	18.31482	7.13182	184.70	-1.25
69/11/23	2440548.5	-18.24766	-1.51575	-0.40626	0.52473	-6.51179	-2.86061	18.31501	7.13174	184.75	-1.27
69/11/27	2440552.5	-18.24644	-1.53079	-0.41286	0.53089	-6.51126	-2.86046	18.31519	7.13166	184.80	-1.29
69/12/ 1	2440556.5	-18.24520	-1.54583	-0.41947	0.53705	-6.51073	-2.86032	18.31537	7.13158	184.84	-1.31

1.7 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
69/12/ 5	2440560.5	-18.24395	-1.56087	-0.42608	0.54321	-6.51019	-2.86017	18.31556	7.13150	184.89	-1.33
69/12/ 9	2440564.5	-18.24269	-1.57591	-0.43269	0.54937	-6.50965	-2.86002	18.31575	7.13141	184.94	-1.35
69/12/13	2440568.5	-18.24142	-1.59095	-0.43929	0.55552	-6.50910	-2.85987	18.31593	7.13133	184.98	-1.37
69/12/17	2440572.5	-18.24013	-1.60598	-0.44590	0.56168	-6.50855	-2.85971	18.31612	7.13124	185.03	-1.39
69/12/21	2440576.5	-18.23882	-1.62102	-0.45251	0.56783	-6.50799	-2.85955	18.31631	7.13115	185.08	-1.42
69/12/25	2440580.5	-18.23750	-1.63605	-0.45911	0.57398	-6.50742	-2.85939	18.31649	7.13107	185.13	-1.44

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
69/12/17	2440572.5	-18.24013	-1.60598	-0.44590	0.56168	-6.50855	-2.85971	18.31612	7.13124	185.03	-1.39
69/12/21	2440576.5	-18.23882	-1.62102	-0.45251	0.56783	-6.50799	-2.85955	18.31631	7.13115	185.08	-1.42
69/12/25	2440580.5	-18.23750	-1.63605	-0.45911	0.57398	-6.50742	-2.85939	18.31649	7.13107	185.13	-1.44
69/12/29	2440584.5	-18.23617	-1.65109	-0.46572	0.58013	-6.50685	-2.85923	18.31668	7.13098	185.17	-1.46
70/ 1/ 2	2440588.5	-18.23482	-1.66612	-0.47232	0.58628	-6.50628	-2.85907	18.31687	7.13089	185.22	-1.48
70/ 1/ 6	2440592.5	-18.23346	-1.68115	-0.47893	0.59243	-6.50570	-2.85890	18.31706	7.13081	185.27	-1.50
70/ 1/10	2440596.5	-18.23208	-1.69618	-0.48553	0.59858	-6.50512	-2.85873	18.31725	7.13072	185.32	-1.52
70/ 1/14	2440600.5	-18.23069	-1.71120	-0.49214	0.60472	-6.50453	-2.85856	18.31744	7.13064	185.36	-1.54
70/ 1/18	2440604.5	-18.22929	-1.72623	-0.49874	0.61087	-6.50393	-2.85839	18.31763	7.13055	185.41	-1.56
70/ 1/22	2440608.5	-18.22787	-1.74125	-0.50534	0.61702	-6.50333	-2.85821	18.31782	7.13046	185.46	-1.58
70/ 1/26	2440612.5	-18.22644	-1.75628	-0.51195	0.62316	-6.50273	-2.85804	18.31802	7.13037	185.50	-1.60
70/ 1/30	2440616.5	-18.22499	-1.77130	-0.51855	0.62930	-6.50212	-2.85786	18.31821	7.13028	185.55	-1.62
70/ 2/ 3	2440620.5	-18.22353	-1.78632	-0.52515	0.63545	-6.50150	-2.85767	18.31840	7.13019	185.60	-1.64
70/ 2/ 7	2440624.5	-18.22206	-1.80134	-0.53175	0.64159	-6.50088	-2.85749	18.31860	7.13010	185.65	-1.66
70/ 2/11	2440628.5	-18.22057	-1.81636	-0.53835	0.64773	-6.50025	-2.85730	18.31879	7.13001	185.69	-1.68
70/ 2/15	2440632.5	-18.21906	-1.83137	-0.54495	0.65386	-6.49962	-2.85711	18.31898	7.12991	185.74	-1.70
70/ 2/19	2440636.5	-18.21755	-1.84639	-0.55155	0.66000	-6.49898	-2.85692	18.31918	7.12982	185.79	-1.73
70/ 2/23	2440640.5	-18.21601	-1.86140	-0.55815	0.66614	-6.49834	-2.85672	18.31938	7.12973	185.83	-1.75
70/ 2/27	2440644.5	-18.21447	-1.87641	-0.56475	0.67227	-6.49770	-2.85653	18.31957	7.12964	185.88	-1.77
70/ 3/ 3	2440648.5	-18.21291	-1.89142	-0.57135	0.67840	-6.49705	-2.85633	18.31977	7.12955	185.93	-1.79
70/ 3/ 7	2440652.5	-18.21133	-1.90643	-0.57795	0.68453	-6.49639	-2.85613	18.31997	7.12946	185.98	-1.81
70/ 3/11	2440656.5	-18.20975	-1.92144	-0.58455	0.69067	-6.49573	-2.85592	18.32017	7.12936	186.02	-1.83
70/ 3/15	2440660.5	-18.20814	-1.93644	-0.59115	0.69679	-6.49507	-2.85572	18.32036	7.12927	186.07	-1.85
70/ 3/19	2440664.5	-18.20653	-1.95145	-0.59774	0.70292	-6.49440	-2.85551	18.32056	7.12918	186.12	-1.87
70/ 3/23	2440668.5	-18.20490	-1.96645	-0.60434	0.70905	-6.49372	-2.85530	18.32076	7.12909	186.17	-1.89
70/ 3/27	2440672.5	-18.20325	-1.98145	-0.61094	0.71518	-6.49305	-2.85509	18.32096	7.12900	186.21	-1.91
70/ 3/31	2440676.5	-18.20159	-1.99645	-0.61753	0.72131	-6.49237	-2.85488	18.32116	7.12892	186.26	-1.93
70/ 4/ 4	2440680.5	-18.19992	-2.01145	-0.62413	0.72743	-6.49168	-2.85467	18.32137	7.12883	186.31	-1.95
70/ 4/ 8	2440684.5	-18.19823	-2.02644	-0.63072	0.73356	-6.49099	-2.85445	18.32157	7.12874	186.35	-1.97
70/ 4/12	2440688.5	-18.19653	-2.04144	-0.63731	0.73969	-6.49030	-2.85424	18.32177	7.12866	186.40	-1.99
70/ 4/16	2440692.5	-18.19481	-2.05643	-0.64391	0.74582	-6.48960	-2.85402	18.32197	7.12857	186.45	-2.01
70/ 4/20	2440696.5	-18.19308	-2.07142	-0.65050	0.75196	-6.48889	-2.85379	18.32218	7.12848	186.50	-2.03
70/ 4/24	2440700.5	-18.19134	-2.08641	-0.65709	0.75809	-6.48818	-2.85357	18.32238	7.12839	186.54	-2.06
70/ 4/28	2440704.5	-18.18958	-2.10140	-0.66369	0.76422	-6.48746	-2.85334	18.32259	7.12830	186.59	-2.08
70/ 5/ 2	2440708.5	-18.18781	-2.11638	-0.67028	0.77035	-6.48673	-2.85311	18.32279	7.12821	186.64	-2.10
70/ 5/ 6	2440712.5	-18.18602	-2.13137	-0.67687	0.77648	-6.48600	-2.85288	18.32300	7.12812	186.68	-2.12
70/ 5/10	2440716.5	-18.18422	-2.14635	-0.68346	0.78261	-6.48526	-2.85264	18.32320	7.12802	186.73	-2.14
70/ 5/14	2440720.5	-18.18240	-2.16133	-0.69005	0.78874	-6.48452	-2.85240	18.32341	7.12792	186.78	-2.16
70/ 5/18	2440724.5	-18.18058	-2.17631	-0.69664	0.79487	-6.48377	-2.85216	18.32362	7.12783	186.83	-2.18
70/ 5/22	2440728.5	-18.17873	-2.19129	-0.70323	0.80099	-6.48301	-2.85192	18.32383	7.12773	186.87	-2.20
70/ 5/26	2440732.5	-18.17687	-2.20627	-0.70981	0.80712	-6.48225	-2.85167	18.32403	7.12763	186.92	-2.22
70/ 5/30	2440736.5	-18.17500	-2.22124	-0.71640	0.81325	-6.48149	-2.85142	18.32424	7.12753	186.97	-2.24
70/ 6/ 3	2440740.5	-18.17312	-2.23621	-0.72299	0.81937	-6.48071	-2.85117	18.32445	7.12742	187.02	-2.26
70/ 6/ 7	2440744.5	-18.17122	-2.25118	-0.72958	0.82549	-6.47993	-2.85092	18.32466	7.12732	187.06	-2.28
70/ 6/11	2440748.5	-18.16930	-2.26615	-0.73616	0.83162	-6.47914	-2.85066	18.32487	7.12721	187.11	-2.30

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70/ 6/15	2440752.5	-18.16737	-2.28112	-0.74275	0.83774	-6.47835	-2.85040	18.32508	7.12711	187.16	-2.32
70/ 6/19	2440756.5	-18.16543	-2.29609	-0.74933	0.84385	-6.47755	-2.85014	18.32529	7.12700	187.20	-2.34
70/ 6/23	2440760.5	-18.16348	-2.31105	-0.75591	0.84997	-6.47675	-2.84987	18.32551	7.12689	187.25	-2.36
70/ 6/27	2440764.5	-18.16150	-2.32601	-0.76250	0.85609	-6.47594	-2.84961	18.32572	7.12678	187.30	-2.38
70/ 7/ 1	2440768.5	-18.15952	-2.34097	-0.76908	0.86220	-6.47513	-2.84934	18.32593	7.12667	187.35	-2.41
70/ 7/ 5	2440772.5	-18.15752	-2.35593	-0.77566	0.86831	-6.47431	-2.84907	18.32615	7.12656	187.39	-2.43
70/ 7/ 9	2440776.5	-18.15551	-2.37088	-0.78224	0.87443	-6.47349	-2.84879	18.32636	7.12645	187.44	-2.45
70/ 7/13	2440780.5	-18.15348	-2.38584	-0.78883	0.88054	-6.47265	-2.84852	18.32657	7.12633	187.49	-2.47
70/ 7/17	2440784.5	-18.15144	-2.40079	-0.79541	0.88665	-6.47181	-2.84824	18.32679	7.12622	187.53	-2.49
70/ 7/21	2440788.5	-18.14938	-2.41574	-0.80199	0.89276	-6.47097	-2.84795	18.32701	7.12610	187.58	-2.51
70/ 7/25	2440792.5	-18.14732	-2.43069	-0.80856	0.89887	-6.47012	-2.84767	18.32722	7.12598	187.63	-2.53
70/ 7/29	2440796.5	-18.14523	-2.44563	-0.81514	0.90497	-6.46926	-2.84738	18.32744	7.12586	187.68	-2.55
70/ 8/ 2	2440800.5	-18.14313	-2.46058	-0.82172	0.91107	-6.46840	-2.84709	18.32766	7.12574	187.72	-2.57
70/ 8/ 6	2440804.5	-18.14102	-2.47552	-0.82830	0.91717	-6.46753	-2.84679	18.32787	7.12561	187.77	-2.59
70/ 8/10	2440808.5	-18.13890	-2.49046	-0.83487	0.92326	-6.46665	-2.84650	18.32809	7.12549	187.82	-2.61
70/ 8/14	2440812.5	-18.13676	-2.50540	-0.84145	0.92936	-6.46577	-2.84620	18.32831	7.12536	187.87	-2.63
70/ 8/18	2440816.5	-18.13460	-2.52033	-0.84802	0.93545	-6.46489	-2.84590	18.32853	7.12524	187.91	-2.65
70/ 8/22	2440820.5	-18.13243	-2.53527	-0.85460	0.94153	-6.46400	-2.84560	18.32875	7.12511	187.96	-2.67
70/ 8/26	2440824.5	-18.13025	-2.55020	-0.86117	0.94762	-6.46311	-2.84529	18.32897	7.12499	188.01	-2.69
70/ 8/30	2440828.5	-18.12806	-2.56513	-0.86774	0.95370	-6.46221	-2.84498	18.32919	7.12486	188.05	-2.71
70/ 9/ 3	2440832.5	-18.12585	-2.58006	-0.87432	0.95978	-6.46131	-2.84467	18.32941	7.12473	188.10	-2.73
70/ 9/ 7	2440836.5	-18.12362	-2.59498	-0.88089	0.96585	-6.46040	-2.84436	18.32964	7.12461	188.15	-2.75
70/ 9/11	2440840.5	-18.12138	-2.60991	-0.88746	0.97193	-6.45949	-2.84405	18.32986	7.12448	188.20	-2.78
70/ 9/15	2440844.5	-18.11913	-2.62483	-0.89403	0.97800	-6.45857	-2.84373	18.33008	7.12436	188.24	-2.80
70/ 9/19	2440848.5	-18.11686	-2.63975	-0.90060	0.98407	-6.45766	-2.84342	18.33031	7.12424	188.29	-2.82
70/ 9/23	2440852.5	-18.11458	-2.65467	-0.90717	0.99013	-6.45674	-2.84310	18.33053	7.12412	188.34	-2.84
70/ 9/27	2440856.5	-18.11229	-2.66958	-0.91373	0.99620	-6.45581	-2.84278	18.33076	7.12400	188.38	-2.86
70/10/ 1	2440860.5	-18.10998	-2.68449	-0.92030	1.00227	-6.45489	-2.84246	18.33098	7.12388	188.43	-2.88
70/10/ 5	2440864.5	-18.10766	-2.69940	-0.92687	1.00833	-6.45395	-2.84214	18.33121	7.12376	188.48	-2.90
70/10/ 9	2440868.5	-18.10532	-2.71431	-0.93343	1.01440	-6.45302	-2.84182	18.33143	7.12365	188.53	-2.92
70/10/13	2440872.5	-18.10297	-2.72922	-0.94000	1.02046	-6.45208	-2.84149	18.33166	7.12353	188.57	-2.94
70/10/17	2440876.5	-18.10061	-2.74412	-0.94656	1.02652	-6.45113	-2.84116	18.33189	7.12342	188.62	-2.96
70/10/21	2440880.5	-18.09823	-2.75903	-0.95312	1.03259	-6.45018	-2.84083	18.33212	7.12330	188.67	-2.98
70/10/25	2440884.5	-18.09584	-2.77393	-0.95969	1.03865	-6.44923	-2.84050	18.33235	7.12319	188.72	-3.00
70/10/29	2440888.5	-18.09343	-2.78882	-0.96625	1.04471	-6.44827	-2.84017	18.33258	7.12307	188.76	-3.02
70/11/ 2	2440892.5	-18.09101	-2.80372	-0.97281	1.05077	-6.44731	-2.83983	18.33281	7.12296	188.81	-3.04
70/11/ 6	2440896.5	-18.08858	-2.81861	-0.97937	1.05682	-6.44634	-2.83949	18.33304	7.12285	188.86	-3.06
70/11/10	2440900.5	-18.08613	-2.83350	-0.98593	1.06288	-6.44537	-2.83915	18.33327	7.12274	188.90	-3.08
70/11/14	2440904.5	-18.08366	-2.84839	-0.99249	1.06894	-6.44440	-2.83881	18.33350	7.12262	188.95	-3.10
70/11/18	2440908.5	-18.08119	-2.86328	-0.99904	1.07500	-6.44342	-2.83847	18.33373	7.12251	189.00	-3.12
70/11/22	2440912.5	-18.07870	-2.87816	-1.00560	1.08105	-6.44244	-2.83813	18.33397	7.12240	189.05	-3.14
70/11/26	2440916.5	-18.07619	-2.89305	-1.01216	1.08711	-6.44145	-2.83778	18.33420	7.12229	189.09	-3.16
70/11/30	2440920.5	-18.07367	-2.90793	-1.01871	1.09316	-6.44046	-2.83743	18.33444	7.12218	189.14	-3.19
70/12/ 4	2440924.5	-18.07114	-2.92280	-1.02527	1.09922	-6.43946	-2.83708	18.33467	7.12207	189.19	-3.21
70/12/ 8	2440928.5	-18.06860	-2.93768	-1.03182	1.10527	-6.43846	-2.83673	18.33491	7.12196	189.23	-3.23

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
70/12/12	2440932.5	-18.06604	-2.95255	-1.03837	1.11133	-6.43745	-2.83637	18.33514	7.12186	189.28	-3.25
70/12/16	2440936.5	-18.06346	-2.96742	-1.04493	1.11738	-6.43644	-2.83601	18.33538	7.12175	189.33	-3.27
70/12/20	2440940.5	-18.06087	-2.98229	-1.05148	1.12344	-6.43543	-2.83566	18.33561	7.12164	189.38	-3.29
70/12/24	2440944.5	-18.05827	-2.99716	-1.05803	1.12949	-6.43441	-2.83530	18.33585	7.12153	189.42	-3.31
70/12/28	2440948.5	-18.05565	-3.01202	-1.06458	1.13555	-6.43338	-2.83493	18.33609	7.12143	189.47	-3.33
71/ 1/ 1	2440952.5	-18.05302	-3.02688	-1.07113	1.14161	-6.43235	-2.83457	18.33633	7.12132	189.52	-3.35
71/ 1/ 5	2440956.5	-18.05038	-3.04174	-1.07767	1.14767	-6.43131	-2.83420	18.33657	7.12121	189.57	-3.37
71/ 1/ 9	2440960.5	-18.04772	-3.05659	-1.08422	1.15373	-6.43027	-2.83383	18.33681	7.12110	189.61	-3.39
71/ 1/13	2440964.5	-18.04505	-3.07145	-1.09077	1.15979	-6.42922	-2.83346	18.33705	7.12099	189.66	-3.41
71/ 1/17	2440968.5	-18.04236	-3.08630	-1.09731	1.16585	-6.42816	-2.83308	18.33729	7.12087	189.71	-3.43
71/ 1/21	2440972.5	-18.03966	-3.10115	-1.10386	1.17191	-6.42710	-2.83270	18.33753	7.12075	189.75	-3.45
71/ 1/25	2440976.5	-18.03695	-3.11600	-1.11040	1.17796	-6.42602	-2.83232	18.33777	7.12063	189.80	-3.47
71/ 1/29	2440980.5	-18.03422	-3.13084	-1.11694	1.18402	-6.42495	-2.83193	18.33801	7.12051	189.85	-3.49
71/ 2/ 2	2440984.5	-18.03148	-3.14568	-1.12349	1.19007	-6.42386	-2.83154	18.33826	7.12039	189.90	-3.51
71/ 2/ 6	2440988.5	-18.02872	-3.16052	-1.13003	1.19613	-6.42277	-2.83115	18.33850	7.12026	189.94	-3.53
71/ 2/10	2440992.5	-18.02595	-3.17536	-1.13657	1.20218	-6.42168	-2.83076	18.33874	7.12014	189.99	-3.55
71/ 2/14	2440996.5	-18.02317	-3.19019	-1.14311	1.20823	-6.42057	-2.83036	18.33899	7.12001	190.04	-3.57
71/ 2/18	2441000.5	-18.02037	-3.20502	-1.14964	1.21428	-6.41946	-2.82996	18.33923	7.11988	190.08	-3.59
71/ 2/22	2441004.5	-18.01756	-3.21985	-1.15618	1.22032	-6.41835	-2.82956	18.33948	7.11974	190.13	-3.61
71/ 2/26	2441008.5	-18.01473	-3.23468	-1.16272	1.22636	-6.41722	-2.82915	18.33973	7.11961	190.18	-3.63
71/ 3/ 2	2441012.5	-18.01189	-3.24950	-1.16925	1.23240	-6.41610	-2.82874	18.33997	7.11947	190.23	-3.66
71/ 3/ 6	2441016.5	-18.00904	-3.26432	-1.17579	1.23844	-6.41496	-2.82833	18.34022	7.11934	190.27	-3.68
71/ 3/10	2441020.5	-18.00617	-3.27914	-1.18232	1.24448	-6.41382	-2.82792	18.34047	7.11920	190.32	-3.70
71/ 3/14	2441024.5	-18.00329	-3.29396	-1.18885	1.25051	-6.41268	-2.82750	18.34071	7.11906	190.37	-3.72
71/ 3/18	2441028.5	-18.00039	-3.30877	-1.19539	1.25654	-6.41153	-2.82709	18.34096	7.11892	190.42	-3.74
71/ 3/22	2441032.5	-17.99748	-3.32358	-1.20192	1.26257	-6.41038	-2.82667	18.34121	7.11878	190.46	-3.76
71/ 3/26	2441036.5	-17.99456	-3.33839	-1.20845	1.26860	-6.40922	-2.82624	18.34146	7.11864	190.51	-3.78
71/ 3/30	2441040.5	-17.99162	-3.35319	-1.21497	1.27462	-6.40805	-2.82582	18.34171	7.11850	190.56	-3.80
71/ 4/ 3	2441044.5	-17.98867	-3.36799	-1.22150	1.28065	-6.40688	-2.82539	18.34196	7.11836	190.60	-3.82
71/ 4/ 7	2441048.5	-17.98570	-3.38279	-1.22803	1.28667	-6.40570	-2.82496	18.34221	7.11821	190.65	-3.84
71/ 4/11	2441052.5	-17.98272	-3.39759	-1.23455	1.29269	-6.40452	-2.82453	18.34247	7.11807	190.70	-3.86
71/ 4/15	2441056.5	-17.97973	-3.41238	-1.24108	1.29871	-6.40333	-2.82409	18.34272	7.11792	190.75	-3.88
71/ 4/19	2441060.5	-17.97672	-3.42718	-1.24760	1.30472	-6.40214	-2.82366	18.34297	7.11777	190.79	-3.90
71/ 4/23	2441064.5	-17.97370	-3.44196	-1.25412	1.31073	-6.40094	-2.82321	18.34322	7.11762	190.84	-3.92
71/ 4/27	2441068.5	-17.97067	-3.45675	-1.26065	1.31674	-6.39973	-2.82277	18.34348	7.11747	190.89	-3.94
71/ 5/ 1	2441072.5	-17.96762	-3.47153	-1.26717	1.32274	-6.39852	-2.82233	18.34373	7.11732	190.94	-3.96
71/ 5/ 5	2441076.5	-17.96455	-3.48631	-1.27369	1.32875	-6.39731	-2.82188	18.34399	7.11717	190.98	-3.98
71/ 5/ 9	2441080.5	-17.96148	-3.50109	-1.28021	1.33475	-6.39609	-2.82143	18.34424	7.11702	191.03	-4.00
71/ 5/13	2441084.5	-17.95839	-3.51587	-1.28672	1.34074	-6.39487	-2.82098	18.34450	7.11687	191.08	-4.02
71/ 5/17	2441088.5	-17.95528	-3.53064	-1.29324	1.34674	-6.39364	-2.82053	18.34476	7.11672	191.12	-4.04
71/ 5/21	2441092.5	-17.95217	-3.54541	-1.29975	1.35273	-6.39241	-2.82007	18.34501	7.11657	191.17	-4.06
71/ 5/25	2441096.5	-17.94903	-3.56017	-1.30627	1.35872	-6.39118	-2.81962	18.34527	7.11642	191.22	-4.08
71/ 5/29	2441100.5	-17.94589	-3.57494	-1.31278	1.36471	-6.38994	-2.81916	18.34553	7.11627	191.27	-4.10
71/ 6/ 2	2441104.5	-17.94273	-3.58970	-1.31929	1.37069	-6.38869	-2.81870	18.34579	7.11613	191.31	-4.12
71/ 6/ 6	2441108.5	-17.93955	-3.60445	-1.32581	1.37667	-6.38745	-2.81823	18.34605	7.11598	191.36	-4.14

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71/ 6/10	2441112.5	-17.93637	-3.61921	-1.33232	1.38265	-6.38620	-2.81777	18.34631	7.11583	191.41	-4.16
71/ 6/14	2441116.5	-17.93317	-3.63396	-1.33882	1.38863	-6.38494	-2.81731	18.34657	7.11569	191.46	-4.18
71/ 6/18	2441120.5	-17.92995	-3.64871	-1.34533	1.39461	-6.38369	-2.81684	18.34683	7.11554	191.50	-4.21
71/ 6/22	2441124.5	-17.92672	-3.66346	-1.35184	1.40059	-6.38242	-2.81637	18.34709	7.11540	191.55	-4.23
71/ 6/26	2441128.5	-17.92348	-3.67820	-1.35835	1.40656	-6.38116	-2.81590	18.34735	7.11526	191.60	-4.25
71/ 6/30	2441132.5	-17.92022	-3.69294	-1.36485	1.41254	-6.37989	-2.81543	18.34762	7.11512	191.64	-4.27
71/ 7/ 4	2441136.5	-17.91695	-3.70768	-1.37135	1.41852	-6.37861	-2.81496	18.34788	7.11498	191.69	-4.29
71/ 7/ 8	2441140.5	-17.91367	-3.72241	-1.37786	1.42450	-6.37733	-2.81448	18.34814	7.11483	191.74	-4.31
71/ 7/12	2441144.5	-17.91037	-3.73714	-1.38436	1.43047	-6.37605	-2.81400	18.34841	7.11469	191.79	-4.33
71/ 7/16	2441148.5	-17.90706	-3.75187	-1.39086	1.43644	-6.37475	-2.81352	18.34867	7.11455	191.83	-4.35
71/ 7/20	2441152.5	-17.90373	-3.76660	-1.39736	1.44242	-6.37346	-2.81304	18.34894	7.11440	191.88	-4.37
71/ 7/24	2441156.5	-17.90040	-3.78132	-1.40385	1.44839	-6.37216	-2.81256	18.34921	7.11426	191.93	-4.39
71/ 7/28	2441160.5	-17.89704	-3.79604	-1.41035	1.45436	-6.37085	-2.81207	18.34947	7.11411	191.98	-4.41
71/ 8/ 1	2441164.5	-17.89368	-3.81075	-1.41685	1.46032	-6.36954	-2.81158	18.34974	7.11397	192.02	-4.43
71/ 8/ 5	2441168.5	-17.89030	-3.82547	-1.42334	1.46629	-6.36822	-2.81109	18.35001	7.11382	192.07	-4.45
71/ 8/ 9	2441172.5	-17.88690	-3.84018	-1.42984	1.47226	-6.36690	-2.81059	18.35028	7.11368	192.12	-4.47
71/ 8/13	2441176.5	-17.88349	-3.85488	-1.43633	1.47822	-6.36557	-2.81010	18.35054	7.11353	192.16	-4.49
71/ 8/17	2441180.5	-17.88007	-3.86959	-1.44282	1.48418	-6.36424	-2.80960	18.35081	7.11338	192.21	-4.51
71/ 8/21	2441184.5	-17.87664	-3.88429	-1.44931	1.49014	-6.36290	-2.80910	18.35108	7.11323	192.26	-4.53
71/ 8/25	2441188.5	-17.87319	-3.89899	-1.45580	1.49610	-6.36156	-2.80859	18.35136	7.11308	192.31	-4.55
71/ 8/29	2441192.5	-17.86972	-3.91368	-1.46229	1.50206	-6.36021	-2.80809	18.35163	7.11293	192.35	-4.57
71/ 9/ 2	2441196.5	-17.86625	-3.92837	-1.46877	1.50802	-6.35886	-2.80758	18.35190	7.11278	192.40	-4.59
71/ 9/ 6	2441200.5	-17.86276	-3.94306	-1.47526	1.51397	-6.35750	-2.80707	18.35217	7.11263	192.45	-4.61
71/ 9/10	2441204.5	-17.85925	-3.95775	-1.48174	1.51992	-6.35614	-2.80656	18.35244	7.11248	192.50	-4.63
71/ 9/14	2441208.5	-17.85573	-3.97243	-1.48823	1.52587	-6.35477	-2.80604	18.35272	7.11233	192.54	-4.65
71/ 9/18	2441212.5	-17.85220	-3.98711	-1.49471	1.53182	-6.35340	-2.80553	18.35299	7.11218	192.59	-4.67
71/ 9/22	2441216.5	-17.84866	-4.00178	-1.50119	1.53777	-6.35202	-2.80501	18.35327	7.11203	192.64	-4.69
71/ 9/26	2441220.5	-17.84510	-4.01646	-1.50767	1.54372	-6.35063	-2.80449	18.35354	7.11188	192.68	-4.71
71/ 9/30	2441224.5	-17.84152	-4.03113	-1.51415	1.54967	-6.34924	-2.80396	18.35382	7.11172	192.73	-4.73
71/10/ 4	2441228.5	-17.83794	-4.04579	-1.52062	1.55561	-6.34785	-2.80344	18.35409	7.11156	192.78	-4.75
71/10/ 8	2441232.5	-17.83434	-4.06046	-1.52710	1.56155	-6.34644	-2.80291	18.35437	7.11141	192.83	-4.77
71/10/12	2441236.5	-17.83072	-4.07512	-1.53357	1.56749	-6.34504	-2.80237	18.35465	7.11125	192.87	-4.79
71/10/16	2441240.5	-17.82709	-4.08977	-1.54005	1.57343	-6.34362	-2.80184	18.35492	7.11108	192.92	-4.81
71/10/20	2441244.5	-17.82345	-4.10443	-1.54652	1.57936	-6.34220	-2.80130	18.35520	7.11092	192.97	-4.83
71/10/24	2441248.5	-17.81980	-4.11908	-1.55299	1.58529	-6.34078	-2.80076	18.35548	7.11076	193.02	-4.85
71/10/28	2441252.5	-17.81613	-4.13372	-1.55946	1.59122	-6.33935	-2.80022	18.35576	7.11060	193.06	-4.87
71/11/ 1	2441256.5	-17.81244	-4.14837	-1.56593	1.59714	-6.33792	-2.79968	18.35604	7.11043	193.11	-4.89
71/11/ 5	2441260.5	-17.80875	-4.16301	-1.57239	1.60307	-6.33648	-2.79913	18.35632	7.11027	193.16	-4.91
71/11/ 9	2441264.5	-17.80504	-4.17764	-1.57886	1.60898	-6.33503	-2.79858	18.35660	7.11010	193.20	-4.93
71/11/13	2441268.5	-17.80131	-4.19228	-1.58532	1.61490	-6.33358	-2.79803	18.35688	7.10993	193.25	-4.95
71/11/17	2441272.5	-17.79758	-4.20691	-1.59179	1.62081	-6.33213	-2.79748	18.35717	7.10977	193.30	-4.97
71/11/21	2441276.5	-17.79382	-4.22153	-1.59825	1.62672	-6.33068	-2.79692	18.35745	7.10960	193.35	-4.99
71/11/25	2441280.5	-17.79006	-4.23616	-1.60471	1.63263	-6.32921	-2.79637	18.35773	7.10944	193.39	-5.01
71/11/29	2441284.5	-17.78628	-4.25078	-1.61117	1.63853	-6.32775	-2.79581	18.35802	7.10927	193.44	-5.03
71/12/ 3	2441288.5	-17.78249	-4.26539	-1.61763	1.64444	-6.32628	-2.79525	18.35830	7.10911	193.49	-5.06

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71/12/ 7	2441292.5	-17.77868	-4.28000	-1.62409	1.65034	-6.32481	-2.79469	18.35859	7.10895	193.54	-5.08
71/12/11	2441296.5	-17.77486	-4.29461	-1.63054	1.65623	-6.32334	-2.79413	18.35887	7.10879	193.58	-5.10
71/12/15	2441300.5	-17.77103	-4.30922	-1.63700	1.66213	-6.32186	-2.79356	18.35916	7.10863	193.63	-5.12
71/12/19	2441304.5	-17.76718	-4.32382	-1.64345	1.66803	-6.32038	-2.79300	18.35944	7.10847	193.68	-5.14
71/12/23	2441308.5	-17.76332	-4.33842	-1.64990	1.67392	-6.31889	-2.79243	18.35973	7.10831	193.72	-5.16
71/12/27	2441312.5	-17.75945	-4.35302	-1.65635	1.67982	-6.31740	-2.79186	18.36002	7.10815	193.77	-5.18
71/12/31	2441316.5	-17.75556	-4.36761	-1.66280	1.68571	-6.31591	-2.79129	18.36031	7.10799	193.82	-5.20
72/ 1/ 4	2441320.5	-17.75166	-4.38220	-1.66925	1.69160	-6.31441	-2.79071	18.36060	7.10783	193.87	-5.22
72/ 1/ 8	2441324.5	-17.74775	-4.39679	-1.67569	1.69749	-6.31290	-2.79014	18.36089	7.10767	193.91	-5.24
72/ 1/12	2441328.5	-17.74382	-4.41137	-1.68214	1.70337	-6.31139	-2.78956	18.36118	7.10752	193.96	-5.26
72/ 1/16	2441332.5	-17.73988	-4.42595	-1.68858	1.70926	-6.30988	-2.78898	18.36147	7.10736	194.01	-5.28
72/ 1/20	2441336.5	-17.73592	-4.44052	-1.69502	1.71514	-6.30836	-2.78840	18.36176	7.10720	194.06	-5.30
72/ 1/24	2441340.5	-17.73195	-4.45509	-1.70147	1.72103	-6.30684	-2.78781	18.36205	7.10704	194.10	-5.32
72/ 1/28	2441344.5	-17.72797	-4.46966	-1.70791	1.72691	-6.30531	-2.78723	18.36235	7.10688	194.15	-5.34
72/ 2/ 1	2441348.5	-17.72397	-4.48423	-1.71434	1.73279	-6.30378	-2.78664	18.36264	7.10673	194.20	-5.36
72/ 2/ 5	2441352.5	-17.71996	-4.49879	-1.72078	1.73867	-6.30225	-2.78605	18.36293	7.10657	194.25	-5.38
72/ 2/ 9	2441356.5	-17.71594	-4.51335	-1.72722	1.74454	-6.30071	-2.78546	18.36323	7.10641	194.29	-5.40
72/ 2/13	2441360.5	-17.71190	-4.52790	-1.73365	1.75042	-6.29916	-2.78487	18.36352	7.10626	194.34	-5.42
72/ 2/17	2441364.5	-17.70785	-4.54245	-1.74008	1.75629	-6.29762	-2.78427	18.36382	7.10610	194.39	-5.44
72/ 2/21	2441368.5	-17.70379	-4.55700	-1.74651	1.76217	-6.29606	-2.78367	18.36411	7.10595	194.43	-5.46
72/ 2/25	2441372.5	-17.69971	-4.57154	-1.75294	1.76804	-6.29450	-2.78307	18.36441	7.10579	194.48	-5.48
72/ 2/29	2441376.5	-17.69562	-4.58608	-1.75937	1.77391	-6.29294	-2.78247	18.36471	7.10564	194.53	-5.50
72/ 3/ 4	2441380.5	-17.69151	-4.60062	-1.76580	1.77978	-6.29138	-2.78187	18.36500	7.10548	194.58	-5.52
72/ 3/ 8	2441384.5	-17.68740	-4.61515	-1.77223	1.78565	-6.28981	-2.78127	18.36530	7.10533	194.62	-5.54
72/ 3/12	2441388.5	-17.68326	-4.62968	-1.77865	1.79153	-6.28823	-2.78066	18.36560	7.10517	194.67	-5.56
72/ 3/16	2441392.5	-17.67912	-4.64420	-1.78507	1.79740	-6.28665	-2.78005	18.36590	7.10502	194.72	-5.58
72/ 3/20	2441396.5	-17.67496	-4.65872	-1.79150	1.80327	-6.28506	-2.77944	18.36620	7.10486	194.77	-5.60
72/ 3/24	2441400.5	-17.67079	-4.67324	-1.79792	1.80914	-6.28347	-2.77882	18.36650	7.10471	194.81	-5.62
72/ 3/28	2441404.5	-17.66660	-4.68776	-1.80434	1.81501	-6.28187	-2.77821	18.36680	7.10455	194.86	-5.64
72/ 4/ 1	2441408.5	-17.66240	-4.70227	-1.81075	1.82088	-6.28026	-2.77759	18.36710	7.10438	194.91	-5.66
72/ 4/ 5	2441412.5	-17.65819	-4.71677	-1.81717	1.82674	-6.27865	-2.77696	18.36741	7.10422	194.96	-5.68
72/ 4/ 9	2441416.5	-17.65396	-4.73128	-1.82358	1.83261	-6.27703	-2.77634	18.36771	7.10405	195.00	-5.70
72/ 4/13	2441420.5	-17.64972	-4.74577	-1.83000	1.83847	-6.27540	-2.77571	18.36801	7.10389	195.05	-5.72
72/ 4/17	2441424.5	-17.64547	-4.76027	-1.83641	1.84433	-6.27377	-2.77508	18.36832	7.10372	195.10	-5.74
72/ 4/21	2441428.5	-17.64120	-4.77476	-1.84282	1.85019	-6.27213	-2.77444	18.36862	7.10355	195.14	-5.76
72/ 4/25	2441432.5	-17.63692	-4.78925	-1.84923	1.85604	-6.27049	-2.77381	18.36893	7.10337	195.19	-5.78
72/ 4/29	2441436.5	-17.63262	-4.80373	-1.85563	1.86190	-6.26884	-2.77317	18.36923	7.10320	195.24	-5.80
72/ 5/ 3	2441440.5	-17.62832	-4.81821	-1.86204	1.86775	-6.26718	-2.77252	18.36954	7.10302	195.29	-5.82
72/ 5/ 7	2441444.5	-17.62399	-4.83269	-1.86844	1.87359	-6.26552	-2.77188	18.36984	7.10284	195.33	-5.84
72/ 5/11	2441448.5	-17.61966	-4.84716	-1.87485	1.87944	-6.26385	-2.77123	18.37015	7.10266	195.38	-5.86
72/ 5/15	2441452.5	-17.61531	-4.86163	-1.88125	1.88528	-6.26218	-2.77058	18.37046	7.10248	195.43	-5.88
72/ 5/19	2441456.5	-17.61095	-4.87610	-1.88765	1.89111	-6.26050	-2.76993	18.37076	7.10230	195.48	-5.90
72/ 5/23	2441460.5	-17.60657	-4.89056	-1.89405	1.89695	-6.25881	-2.76927	18.37107	7.10211	195.52	-5.92
72/ 5/27	2441464.5	-17.60218	-4.90501	-1.90044	1.90278	-6.25712	-2.76861	18.37138	7.10193	195.57	-5.94
72/ 5/31	2441468.5	-17.59778	-4.91947	-1.90684	1.90860	-6.25543	-2.76795	18.37169	7.10174	195.62	-5.96

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
72/ 6/ 4	2441472.5	-17.59337	-4.93392	-1.91323	1.91443	-6.25373	-2.76729	18.37200	7.10155	195.67	-5.98
72/ 6/ 8	2441476.5	-17.58894	-4.94836	-1.91962	1.92025	-6.25203	-2.76663	18.37231	7.10137	195.71	-6.00
72/ 6/12	2441480.5	-17.58449	-4.96280	-1.92601	1.92607	-6.25032	-2.76596	18.37262	7.10118	195.76	-6.02
72/ 6/16	2441484.5	-17.58004	-4.97724	-1.93240	1.93188	-6.24861	-2.76530	18.37294	7.10099	195.81	-6.04
72/ 6/20	2441488.5	-17.57557	-4.99167	-1.93879	1.93770	-6.24689	-2.76462	18.37325	7.10080	195.86	-6.06
72/ 6/24	2441492.5	-17.57108	-5.00610	-1.94518	1.94351	-6.24516	-2.76395	18.37356	7.10061	195.90	-6.08
72/ 6/28	2441496.5	-17.56659	-5.02053	-1.95156	1.94931	-6.24343	-2.76328	18.37387	7.10042	195.95	-6.10
72/ 7/ 2	2441500.5	-17.56208	-5.03495	-1.95794	1.95512	-6.24169	-2.76260	18.37419	7.10022	196.00	-6.12
72/ 7/ 6	2441504.5	-17.55755	-5.04937	-1.96433	1.96091	-6.23996	-2.76192	18.37450	7.10003	196.04	-6.14
72/ 7/10	2441508.5	-17.55302	-5.06378	-1.97071	1.96671	-6.23821	-2.76124	18.37482	7.09983	196.09	-6.16
72/ 7/14	2441512.5	-17.54847	-5.07819	-1.97708	1.97250	-6.23646	-2.76055	18.37513	7.09964	196.14	-6.18
72/ 7/18	2441516.5	-17.54390	-5.09259	-1.98346	1.97829	-6.23471	-2.75987	18.37545	7.09944	196.19	-6.20
72/ 7/22	2441520.5	-17.53933	-5.10700	-1.98984	1.98407	-6.23295	-2.75918	18.37577	7.09925	196.23	-6.22
72/ 7/26	2441524.5	-17.53474	-5.12139	-1.99621	1.98985	-6.23120	-2.75849	18.37608	7.09905	196.28	-6.24
72/ 7/30	2441528.5	-17.53013	-5.13579	-2.00258	1.99563	-6.22943	-2.75780	18.37640	7.09886	196.33	-6.26
72/ 8/ 3	2441532.5	-17.52552	-5.15018	-2.00895	2.00140	-6.22766	-2.75710	18.37672	7.09866	196.38	-6.28
72/ 8/ 7	2441536.5	-17.52089	-5.16456	-2.01532	2.00717	-6.22589	-2.75641	18.37704	7.09847	196.42	-6.30
72/ 8/11	2441540.5	-17.51624	-5.17894	-2.02169	2.01293	-6.22412	-2.75571	18.37736	7.09828	196.47	-6.32
72/ 8/15	2441544.5	-17.51159	-5.19332	-2.02805	2.01870	-6.22234	-2.75502	18.37768	7.09808	196.52	-6.34
72/ 8/19	2441548.5	-17.50692	-5.20769	-2.03442	2.02446	-6.22056	-2.75432	18.37800	7.09789	196.57	-6.36
72/ 8/23	2441552.5	-17.50223	-5.22206	-2.04078	2.03021	-6.21878	-2.75362	18.37832	7.09770	196.61	-6.38
72/ 8/27	2441556.5	-17.49753	-5.23642	-2.04714	2.03597	-6.21700	-2.75292	18.37865	7.09752	196.66	-6.40
72/ 8/31	2441560.5	-17.49282	-5.25078	-2.05350	2.04172	-6.21521	-2.75221	18.37897	7.09733	196.71	-6.42
72/ 9/ 4	2441564.5	-17.48810	-5.26514	-2.05985	2.04748	-6.21342	-2.75151	18.37929	7.09715	196.76	-6.43
72/ 9/ 8	2441568.5	-17.48336	-5.27949	-2.06621	2.05323	-6.21163	-2.75081	18.37962	7.09697	196.80	-6.45
72/ 9/12	2441572.5	-17.47861	-5.29384	-2.07256	2.05898	-6.20983	-2.75010	18.37994	7.09679	196.85	-6.47
72/ 9/16	2441576.5	-17.47385	-5.30818	-2.07892	2.06473	-6.20803	-2.74939	18.38027	7.09661	196.90	-6.49
72/ 9/20	2441580.5	-17.46907	-5.32252	-2.08527	2.07048	-6.20622	-2.74868	18.38059	7.09643	196.95	-6.51
72/ 9/24	2441584.5	-17.46428	-5.33686	-2.09162	2.07623	-6.20441	-2.74797	18.38092	7.09625	196.99	-6.53
72/ 9/28	2441588.5	-17.45948	-5.35119	-2.09796	2.08198	-6.20259	-2.74726	18.38125	7.09607	197.04	-6.55
72/10/ 2	2441592.5	-17.45467	-5.36552	-2.10431	2.08772	-6.20077	-2.74654	18.38157	7.09589	197.09	-6.57
72/10/ 6	2441596.5	-17.44984	-5.37984	-2.11065	2.09346	-6.19895	-2.74582	18.38190	7.09571	197.13	-6.59
72/10/10	2441600.5	-17.44499	-5.39416	-2.11700	2.09920	-6.19712	-2.74510	18.38223	7.09553	197.18	-6.61
72/10/14	2441604.5	-17.44014	-5.40847	-2.12334	2.10494	-6.19529	-2.74438	18.38256	7.09535	197.23	-6.63
72/10/18	2441608.5	-17.43527	-5.42278	-2.12968	2.11068	-6.19345	-2.74366	18.38289	7.09517	197.28	-6.65
72/10/22	2441612.5	-17.43038	-5.43709	-2.13601	2.11642	-6.19161	-2.74293	18.38322	7.09500	197.32	-6.67
72/10/26	2441616.5	-17.42549	-5.45139	-2.14235	2.12215	-6.18977	-2.74221	18.38355	7.09482	197.37	-6.69
72/10/30	2441620.5	-17.42058	-5.46569	-2.14868	2.12789	-6.18792	-2.74148	18.38388	7.09464	197.42	-6.71
72/11/ 3	2441624.5	-17.41566	-5.47998	-2.15502	2.13362	-6.18606	-2.74075	18.38422	7.09446	197.47	-6.73
72/11/ 7	2441628.5	-17.41072	-5.49427	-2.16135	2.13935	-6.18420	-2.74001	18.38455	7.09428	197.51	-6.75
72/11/11	2441632.5	-17.40577	-5.50855	-2.16768	2.14508	-6.18234	-2.73928	18.38488	7.09411	197.56	-6.77
72/11/15	2441636.5	-17.40081	-5.52283	-2.17400	2.15081	-6.18047	-2.73854	18.38522	7.09393	197.61	-6.79
72/11/19	2441640.5	-17.39584	-5.53711	-2.18033	2.15653	-6.17860	-2.73780	18.38555	7.09375	197.66	-6.81
72/11/23	2441644.5	-17.39085	-5.55138	-2.18665	2.16226	-6.17672	-2.73706	18.38589	7.09357	197.70	-6.83
72/11/27	2441648.5	-17.38584	-5.56565	-2.19297	2.16798	-6.17484	-2.73632	18.38622	7.09339	197.75	-6.85

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
72/12/ 1	2441652.5	-17.38083	-5.57991	-2.19930	2.17371	-6.17295	-2.73557	18.38656	7.09321	197.80	-6.87
72/12/ 5	2441656.5	-17.37580	-5.59417	-2.20561	2.17943	-6.17106	-2.73483	18.38690	7.09304	197.85	-6.89
72/12/ 9	2441660.5	-17.37076	-5.60842	-2.21193	2.18515	-6.16916	-2.73408	18.38723	7.09286	197.89	-6.91
72/12/13	2441664.5	-17.36571	-5.62267	-2.21825	2.19087	-6.16726	-2.73332	18.38757	7.09267	197.94	-6.93
72/12/17	2441668.5	-17.36064	-5.63692	-2.22456	2.19659	-6.16535	-2.73257	18.38791	7.09249	197.99	-6.95
72/12/21	2441672.5	-17.35556	-5.65116	-2.23087	2.20230	-6.16343	-2.73181	18.38825	7.09231	198.04	-6.97
72/12/25	2441676.5	-17.35046	-5.66540	-2.23718	2.20802	-6.16151	-2.73105	18.38859	7.09212	198.08	-6.99
72/12/29	2441680.5	-17.34535	-5.67963	-2.24349	2.21373	-6.15958	-2.73028	18.38893	7.09193	198.13	-7.01
73/ 1/ 2	2441684.5	-17.34023	-5.69385	-2.24980	2.21943	-6.15765	-2.72952	18.38927	7.09174	198.18	-7.03
73/ 1/ 6	2441688.5	-17.33510	-5.70808	-2.25610	2.22514	-6.15571	-2.72875	18.38961	7.09155	198.23	-7.05
73/ 1/10	2441692.5	-17.32995	-5.72230	-2.26240	2.23084	-6.15376	-2.72798	18.38995	7.09135	198.27	-7.07
73/ 1/14	2441696.5	-17.32479	-5.73651	-2.26871	2.23653	-6.15181	-2.72721	18.39030	7.09116	198.32	-7.09
73/ 1/18	2441700.5	-17.31962	-5.75072	-2.27501	2.24223	-6.14986	-2.72643	18.39064	7.09097	198.37	-7.11
73/ 1/22	2441704.5	-17.31443	-5.76492	-2.28130	2.24792	-6.14790	-2.72565	18.39098	7.09077	198.42	-7.13
73/ 1/26	2441708.5	-17.30923	-5.77913	-2.28760	2.25361	-6.14594	-2.72487	18.39133	7.09057	198.46	-7.15
73/ 1/30	2441712.5	-17.30402	-5.79332	-2.29389	2.25929	-6.14397	-2.72409	18.39167	7.09037	198.51	-7.16
73/ 2/ 3	2441716.5	-17.29879	-5.80751	-2.30019	2.26497	-6.14199	-2.72330	18.39202	7.09017	198.56	-7.18
73/ 2/ 7	2441720.5	-17.29356	-5.82170	-2.30648	2.27065	-6.14002	-2.72252	18.39236	7.08997	198.61	-7.20
73/ 2/11	2441724.5	-17.28830	-5.83588	-2.31276	2.27632	-6.13803	-2.72173	18.39271	7.08977	198.65	-7.22
73/ 2/15	2441728.5	-17.28304	-5.85006	-2.31905	2.28199	-6.13605	-2.72094	18.39306	7.08958	198.70	-7.24
73/ 2/19	2441732.5	-17.27776	-5.86423	-2.32534	2.28765	-6.13406	-2.72015	18.39341	7.08938	198.75	-7.26
73/ 2/23	2441736.5	-17.27247	-5.87840	-2.33162	2.29332	-6.13207	-2.71935	18.39375	7.08918	198.80	-7.28
73/ 2/27	2441740.5	-17.26716	-5.89256	-2.33790	2.29898	-6.13007	-2.71856	18.39410	7.08898	198.84	-7.30
73/ 3/ 3	2441744.5	-17.26185	-5.90672	-2.34418	2.30464	-6.12807	-2.71776	18.39445	7.08878	198.89	-7.32
73/ 3/ 7	2441748.5	-17.25652	-5.92088	-2.35046	2.31030	-6.12607	-2.71696	18.39480	7.08859	198.94	-7.34
73/ 3/11	2441752.5	-17.25117	-5.93503	-2.35673	2.31596	-6.12406	-2.71616	18.39515	7.08839	198.99	-7.36
73/ 3/15	2441756.5	-17.24582	-5.94917	-2.36301	2.32161	-6.12204	-2.71536	18.39550	7.08819	199.03	-7.38
73/ 3/19	2441760.5	-17.24045	-5.96331	-2.36928	2.32726	-6.12002	-2.71455	18.39586	7.08799	199.08	-7.40
73/ 3/23	2441764.5	-17.23506	-5.97745	-2.37555	2.33291	-6.11800	-2.71375	18.39621	7.08779	199.13	-7.42
73/ 3/27	2441768.5	-17.22967	-5.99158	-2.38182	2.33855	-6.11597	-2.71294	18.39656	7.08759	199.18	-7.44
73/ 3/31	2441772.5	-17.22426	-6.00571	-2.38808	2.34419	-6.11394	-2.71213	18.39692	7.08739	199.22	-7.46
73/ 4/ 4	2441776.5	-17.21884	-6.01983	-2.39435	2.34983	-6.11190	-2.71131	18.39727	7.08719	199.27	-7.48
73/ 4/ 8	2441780.5	-17.21340	-6.03395	-2.40061	2.35546	-6.10987	-2.71050	18.39762	7.08699	199.32	-7.50
73/ 4/12	2441784.5	-17.20795	-6.04806	-2.40687	2.36109	-6.10782	-2.70968	18.39798	7.08679	199.36	-7.52
73/ 4/16	2441788.5	-17.20249	-6.06217	-2.41313	2.36672	-6.10577	-2.70886	18.39834	7.08659	199.41	-7.54
73/ 4/20	2441792.5	-17.19702	-6.07627	-2.41939	2.37235	-6.10372	-2.70804	18.39869	7.08640	199.46	-7.56
73/ 4/24	2441796.5	-17.19153	-6.09037	-2.42564	2.37798	-6.10167	-2.70722	18.39905	7.08620	199.51	-7.58
73/ 4/28	2441800.5	-17.18603	-6.10446	-2.43190	2.38360	-6.09961	-2.70640	18.39941	7.08600	199.55	-7.60
73/ 5/ 2	2441804.5	-17.18052	-6.11855	-2.43815	2.38922	-6.09755	-2.70557	18.39977	7.08580	199.60	-7.61
73/ 5/ 6	2441808.5	-17.17499	-6.13264	-2.44440	2.39484	-6.09548	-2.70475	18.40013	7.08560	199.65	-7.63
73/ 5/10	2441812.5	-17.16945	-6.14671	-2.45064	2.40045	-6.09341	-2.70392	18.40048	7.08541	199.70	-7.65
73/ 5/14	2441816.5	-17.16390	-6.16079	-2.45689	2.40606	-6.09134	-2.70309	18.40084	7.08521	199.75	-7.67
73/ 5/18	2441820.5	-17.15834	-6.17486	-2.46313	2.41167	-6.08926	-2.70226	18.40121	7.08502	199.79	-7.69
73/ 5/22	2441824.5	-17.15276	-6.18892	-2.46938	2.41728	-6.08718	-2.70143	18.40157	7.08482	199.84	-7.71
73/ 5/26	2441828.5	-17.14717	-6.20298	-2.47561	2.42289	-6.08510	-2.70059	18.40193	7.08463	199.89	-7.73

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
73/ 5/30	2441832.5	-17.14156	-6.21704	-2.48185	2.42850	-6.08301	-2.69976	18.40229	7.08444	199.94	-7.75
73/ 6/ 3	2441836.5	-17.13595	-6.23109	-2.48809	2.43411	-6.08091	-2.69892	18.40265	7.08425	199.98	-7.77
73/ 6/ 7	2441840.5	-17.13032	-6.24514	-2.49432	2.43972	-6.07881	-2.69808	18.40302	7.08405	200.03	-7.79
73/ 6/11	2441844.5	-17.12467	-6.25918	-2.50055	2.44532	-6.07671	-2.69724	18.40338	7.08386	200.08	-7.81
73/ 6/15	2441848.5	-17.11902	-6.27321	-2.50678	2.45092	-6.07460	-2.69639	18.40375	7.08366	200.13	-7.83
73/ 6/19	2441852.5	-17.11335	-6.28724	-2.51301	2.45652	-6.07248	-2.69554	18.40411	7.08346	200.17	-7.85
73/ 6/23	2441856.5	-17.10767	-6.30127	-2.51924	2.46212	-6.07036	-2.69469	18.40448	7.08327	200.22	-7.87
73/ 6/27	2441860.5	-17.10197	-6.31529	-2.52546	2.46772	-6.06823	-2.69384	18.40485	7.08307	200.27	-7.89
73/ 7/ 1	2441864.5	-17.09627	-6.32931	-2.53169	2.47331	-6.06610	-2.69299	18.40521	7.08287	200.32	-7.91
73/ 7/ 5	2441868.5	-17.09055	-6.34332	-2.53791	2.47890	-6.06396	-2.69213	18.40558	7.08266	200.36	-7.93
73/ 7/ 9	2441872.5	-17.08481	-6.35732	-2.54412	2.48448	-6.06182	-2.69127	18.40595	7.08246	200.41	-7.95
73/ 7/13	2441876.5	-17.07907	-6.37132	-2.55034	2.49007	-6.05967	-2.69041	18.40632	7.08226	200.46	-7.96
73/ 7/17	2441880.5	-17.07331	-6.38532	-2.55656	2.49565	-6.05752	-2.68954	18.40669	7.08205	200.51	-7.98
73/ 7/21	2441884.5	-17.06754	-6.39931	-2.56277	2.50123	-6.05536	-2.68868	18.40706	7.08184	200.55	-8.00
73/ 7/25	2441888.5	-17.06175	-6.41330	-2.56898	2.50680	-6.05320	-2.68781	18.40743	7.08163	200.60	-8.02
73/ 7/29	2441892.5	-17.05595	-6.42728	-2.57519	2.51237	-6.05103	-2.68694	18.40780	7.08143	200.65	-8.04
73/ 8/ 2	2441896.5	-17.05014	-6.44126	-2.58139	2.51793	-6.04886	-2.68606	18.40817	7.08122	200.70	-8.06
73/ 8/ 6	2441900.5	-17.04432	-6.45523	-2.58760	2.52350	-6.04668	-2.68519	18.40854	7.08100	200.74	-8.08
73/ 8/10	2441904.5	-17.03848	-6.46919	-2.59380	2.52905	-6.04450	-2.68431	18.40892	7.08079	200.79	-8.10
73/ 8/14	2441908.5	-17.03263	-6.48316	-2.60000	2.53461	-6.04232	-2.68343	18.40929	7.08058	200.84	-8.12
73/ 8/18	2441912.5	-17.02677	-6.49711	-2.60620	2.54016	-6.04013	-2.68255	18.40966	7.08037	200.89	-8.14
73/ 8/22	2441916.5	-17.02090	-6.51106	-2.61239	2.54571	-6.03794	-2.68167	18.41004	7.08016	200.93	-8.16
73/ 8/26	2441920.5	-17.01501	-6.52501	-2.61859	2.55126	-6.03574	-2.68079	18.41041	7.07995	200.98	-8.18
73/ 8/30	2441924.5	-17.00911	-6.53895	-2.62478	2.55680	-6.03354	-2.67990	18.41079	7.07974	201.03	-8.20
73/ 9/ 3	2441928.5	-17.00320	-6.55289	-2.63097	2.56234	-6.03133	-2.67901	18.41117	7.07953	201.08	-8.22
73/ 9/ 7	2441932.5	-16.99727	-6.56682	-2.63716	2.56788	-6.02912	-2.67812	18.41154	7.07931	201.12	-8.24
73/ 9/11	2441936.5	-16.99133	-6.58074	-2.64334	2.57341	-6.02690	-2.67723	18.41192	7.07909	201.17	-8.25
73/ 9/15	2441940.5	-16.98538	-6.59466	-2.64953	2.57894	-6.02468	-2.67634	18.41230	7.07888	201.22	-8.27
73/ 9/19	2441944.5	-16.97942	-6.60858	-2.65571	2.58447	-6.02246	-2.67544	18.41268	7.07866	201.27	-8.29
73/ 9/23	2441948.5	-16.97344	-6.62249	-2.66189	2.58999	-6.02023	-2.67454	18.41306	7.07845	201.31	-8.31
73/ 9/27	2441952.5	-16.96745	-6.63640	-2.66807	2.59551	-6.01800	-2.67364	18.41344	7.07823	201.36	-8.33
73/10/ 1	2441956.5	-16.96145	-6.65030	-2.67424	2.60102	-6.01576	-2.67274	18.41382	7.07801	201.41	-8.35
73/10/ 5	2441960.5	-16.95543	-6.66419	-2.68042	2.60653	-6.01352	-2.67183	18.41420	7.07779	201.46	-8.37
73/10/ 9	2441964.5	-16.94941	-6.67808	-2.68659	2.61203	-6.01128	-2.67093	18.41458	7.07758	201.50	-8.39
73/10/13	2441968.5	-16.94336	-6.69196	-2.69276	2.61754	-6.00904	-2.67002	18.41496	7.07736	201.55	-8.41
73/10/17	2441972.5	-16.93731	-6.70584	-2.69892	2.62304	-6.00679	-2.66911	18.41535	7.07715	201.60	-8.43
73/10/21	2441976.5	-16.93125	-6.71972	-2.70509	2.62853	-6.00454	-2.66820	18.41573	7.07693	201.65	-8.45
73/10/25	2441980.5	-16.92517	-6.73359	-2.71125	2.63402	-6.00229	-2.66729	18.41612	7.07672	201.69	-8.47
73/10/29	2441984.5	-16.91908	-6.74745	-2.71741	2.63951	-6.00003	-2.66638	18.41650	7.07651	201.74	-8.49
73/11/ 2	2441988.5	-16.91297	-6.76131	-2.72357	2.64499	-5.99777	-2.66547	18.41689	7.07630	201.79	-8.50
73/11/ 6	2441992.5	-16.90685	-6.77516	-2.72973	2.65047	-5.99551	-2.66456	18.41727	7.07609	201.84	-8.52
73/11/10	2441996.5	-16.90073	-6.78901	-2.73588	2.65595	-5.99325	-2.66364	18.41766	7.07588	201.89	-8.54
73/11/14	2442000.5	-16.89458	-6.80285	-2.74203	2.66143	-5.99099	-2.66273	18.41805	7.07568	201.93	-8.56
73/11/18	2442004.5	-16.88843	-6.81669	-2.74818	2.66691	-5.98872	-2.66181	18.41844	7.07548	201.98	-8.58
73/11/22	2442008.5	-16.88226	-6.83052	-2.75433	2.67239	-5.98645	-2.66089	18.41883	7.07528	202.03	-8.60

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73/11/26	2442012.5	-16.87608	-6.84435	-2.76048	2.67786	-5.98418	-2.65997	18.41921	7.07508	202.08	-8.62
73/11/30	2442016.5	-16.86989	-6.85817	-2.76662	2.68334	-5.98190	-2.65905	18.41961	7.07488	202.12	-8.64
73/12/ 4	2442020.5	-16.86368	-6.87199	-2.77276	2.68881	-5.97962	-2.65813	18.42000	7.07468	202.17	-8.66
73/12/ 8	2442024.5	-16.85747	-6.88580	-2.77890	2.69428	-5.97733	-2.65721	18.42039	7.07449	202.22	-8.68
73/12/12	2442028.5	-16.85123	-6.89961	-2.78504	2.69975	-5.97504	-2.65628	18.42078	7.07429	202.27	-8.70
73/12/16	2442032.5	-16.84499	-6.91341	-2.79118	2.70521	-5.97275	-2.65535	18.42117	7.07409	202.31	-8.72
73/12/20	2442036.5	-16.83874	-6.92720	-2.79731	2.71068	-5.97045	-2.65442	18.42157	7.07390	202.36	-8.73
73/12/24	2442040.5	-16.83247	-6.94099	-2.80344	2.71614	-5.96815	-2.65349	18.42196	7.07371	202.41	-8.75
73/12/28	2442044.5	-16.82619	-6.95478	-2.80957	2.72160	-5.96585	-2.65256	18.42235	7.07351	202.46	-8.77
74/ 1/ 1	2442048.5	-16.81989	-6.96856	-2.81570	2.72707	-5.96354	-2.65162	18.42275	7.07332	202.50	-8.79
74/ 1/ 5	2442052.5	-16.81359	-6.98233	-2.82182	2.73252	-5.96123	-2.65069	18.42315	7.07312	202.55	-8.81
74/ 1/ 9	2442056.5	-16.80727	-6.99610	-2.82794	2.73798	-5.95891	-2.64975	18.42354	7.07293	202.60	-8.83
74/ 1/13	2442060.5	-16.80094	-7.00986	-2.83406	2.74344	-5.95659	-2.64881	18.42394	7.07274	202.65	-8.85
74/ 1/17	2442064.5	-16.79459	-7.02362	-2.84018	2.74889	-5.95427	-2.64787	18.42434	7.07255	202.70	-8.87
74/ 1/21	2442068.5	-16.78823	-7.03737	-2.84630	2.75435	-5.95194	-2.64692	18.42474	7.07235	202.74	-8.89
74/ 1/25	2442072.5	-16.78187	-7.05112	-2.85241	2.75980	-5.94960	-2.64598	18.42513	7.07216	202.79	-8.91
74/ 1/29	2442076.5	-16.77548	-7.06486	-2.85852	2.76525	-5.94727	-2.64503	18.42553	7.07197	202.84	-8.92
74/ 2/ 2	2442080.5	-16.76909	-7.07860	-2.86463	2.77069	-5.94492	-2.64408	18.42593	7.07178	202.89	-8.94
74/ 2/ 6	2442084.5	-16.76268	-7.09233	-2.87074	2.77614	-5.94258	-2.64313	18.42633	7.07158	202.93	-8.96
74/ 2/10	2442088.5	-16.75626	-7.10606	-2.87685	2.78158	-5.94023	-2.64217	18.42674	7.07139	202.98	-8.98
74/ 2/14	2442092.5	-16.74983	-7.11978	-2.88295	2.78703	-5.93787	-2.64122	18.42714	7.07120	203.03	-9.00
74/ 2/18	2442096.5	-16.74339	-7.13349	-2.88905	2.79247	-5.93551	-2.64026	18.42754	7.07101	203.08	-9.02
74/ 2/22	2442100.5	-16.73693	-7.14720	-2.89515	2.79791	-5.93314	-2.63930	18.42794	7.07082	203.12	-9.04
74/ 2/26	2442104.5	-16.73046	-7.16091	-2.90124	2.80335	-5.93077	-2.63834	18.42835	7.07062	203.17	-9.06
74/ 3/ 2	2442108.5	-16.72398	-7.17460	-2.90734	2.80879	-5.92839	-2.63737	18.42875	7.07042	203.22	-9.08
74/ 3/ 6	2442112.5	-16.71748	-7.18830	-2.91343	2.81422	-5.92601	-2.63641	18.42916	7.07022	203.27	-9.10
74/ 3/10	2442116.5	-16.71097	-7.20198	-2.91952	2.81966	-5.92361	-2.63544	18.42956	7.07002	203.31	-9.11
74/ 3/14	2442120.5	-16.70445	-7.21567	-2.92561	2.82508	-5.92122	-2.63446	18.42997	7.06982	203.36	-9.13
74/ 3/18	2442124.5	-16.69792	-7.22934	-2.93169	2.83051	-5.91882	-2.63349	18.43037	7.06961	203.41	-9.15
74/ 3/22	2442128.5	-16.69137	-7.24301	-2.93777	2.83593	-5.91641	-2.63251	18.43078	7.06940	203.46	-9.17
74/ 3/26	2442132.5	-16.68482	-7.25668	-2.94385	2.84135	-5.91400	-2.63153	18.43119	7.06920	203.51	-9.19
74/ 3/30	2442136.5	-16.67825	-7.27034	-2.94993	2.84676	-5.91158	-2.63054	18.43160	7.06898	203.55	-9.21
74/ 4/ 3	2442140.5	-16.67166	-7.28399	-2.95601	2.85217	-5.90915	-2.62956	18.43201	7.06877	203.60	-9.23
74/ 4/ 7	2442144.5	-16.66507	-7.29764	-2.96208	2.85757	-5.90673	-2.62857	18.43242	7.06856	203.65	-9.25
74/ 4/11	2442148.5	-16.65846	-7.31128	-2.96815	2.86298	-5.90429	-2.62758	18.43283	7.06834	203.70	-9.27
74/ 4/15	2442152.5	-16.65184	-7.32492	-2.97422	2.86837	-5.90186	-2.62659	18.43324	7.06813	203.74	-9.29
74/ 4/19	2442156.5	-16.64521	-7.33855	-2.98029	2.87376	-5.89942	-2.62559	18.43365	7.06791	203.79	-9.30
74/ 4/23	2442160.5	-16.63856	-7.35218	-2.98635	2.87915	-5.89697	-2.62460	18.43406	7.06769	203.84	-9.32
74/ 4/27	2442164.5	-16.63191	-7.36580	-2.99242	2.88454	-5.89452	-2.62360	18.43447	7.06747	203.89	-9.34
74/ 5/ 1	2442168.5	-16.62524	-7.37941	-2.99848	2.88991	-5.89207	-2.62260	18.43489	7.06726	203.93	-9.36
74/ 5/ 5	2442172.5	-16.61855	-7.39302	-3.00453	2.89529	-5.88961	-2.62160	18.43530	7.06704	203.98	-9.38
74/ 5/ 9	2442176.5	-16.61186	-7.40662	-3.01059	2.90066	-5.88716	-2.62060	18.43571	7.06682	204.03	-9.40
74/ 5/13	2442180.5	-16.60515	-7.42022	-3.01664	2.90603	-5.88469	-2.61959	18.43613	7.06660	204.08	-9.42
74/ 5/17	2442184.5	-16.59843	-7.43381	-3.02269	2.91140	-5.88223	-2.61859	18.43654	7.06639	204.13	-9.44
74/ 5/21	2442188.5	-16.59170	-7.44740	-3.02874	2.91676	-5.87976	-2.61758	18.43696	7.06617	204.17	-9.46

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74/ 5/25	2442192.5	-16.58495	-7.46098	-3.03479	2.92212	-5.87728	-2.61657	18.43738	7.06595	204.22	-9.47
74/ 5/29	2442196.5	-16.57820	-7.47455	-3.04083	2.92747	-5.87481	-2.61556	18.43779	7.06573	204.27	-9.49
74/ 6/ 2	2442200.5	-16.57143	-7.48812	-3.04687	2.93283	-5.87232	-2.61455	18.43821	7.06552	204.32	-9.51
74/ 6/ 6	2442204.5	-16.56465	-7.50169	-3.05291	2.93817	-5.86984	-2.61353	18.43863	7.06530	204.36	-9.53
74/ 6/10	2442208.5	-16.55785	-7.51524	-3.05895	2.94352	-5.86735	-2.61252	18.43905	7.06508	204.41	-9.55
74/ 6/14	2442212.5	-16.55105	-7.52880	-3.06498	2.94886	-5.86486	-2.61150	18.43947	7.06486	204.46	-9.57
74/ 6/18	2442216.5	-16.54423	-7.54234	-3.07101	2.95419	-5.86236	-2.61048	18.43989	7.06464	204.51	-9.59
74/ 6/22	2442220.5	-16.53740	-7.55588	-3.07704	2.95953	-5.85986	-2.60946	18.44031	7.06442	204.56	-9.61
74/ 6/26	2442224.5	-16.53055	-7.56942	-3.08307	2.96486	-5.85736	-2.60844	18.44073	7.06420	204.60	-9.62
74/ 6/30	2442228.5	-16.52370	-7.58295	-3.08909	2.97018	-5.85486	-2.60741	18.44115	7.06399	204.65	-9.64
74/ 7/ 4	2442232.5	-16.51683	-7.59647	-3.09512	2.97550	-5.85235	-2.60639	18.44158	7.06377	204.70	-9.66
74/ 7/ 8	2442236.5	-16.50995	-7.60998	-3.10114	2.98082	-5.84984	-2.60536	18.44200	7.06356	204.75	-9.68
74/ 7/12	2442240.5	-16.50306	-7.62350	-3.10715	2.98614	-5.84733	-2.60434	18.44242	7.06334	204.79	-9.70
74/ 7/16	2442244.5	-16.49615	-7.63700	-3.11317	2.99145	-5.84481	-2.60331	18.44285	7.06313	204.84	-9.72
74/ 7/20	2442248.5	-16.48924	-7.65050	-3.11918	2.99676	-5.84229	-2.60228	18.44327	7.06292	204.89	-9.74
74/ 7/24	2442252.5	-16.48231	-7.66400	-3.12519	3.00207	-5.83977	-2.60125	18.44370	7.06271	204.94	-9.76
74/ 7/28	2442256.5	-16.47537	-7.67748	-3.13120	3.00737	-5.83725	-2.60022	18.44413	7.06250	204.99	-9.77
74/ 8/ 1	2442260.5	-16.46841	-7.69097	-3.13721	3.01268	-5.83472	-2.59918	18.44456	7.06229	205.03	-9.79
74/ 8/ 5	2442264.5	-16.46145	-7.70444	-3.14321	3.01798	-5.83220	-2.59815	18.44498	7.06209	205.08	-9.81
74/ 8/ 9	2442268.5	-16.45447	-7.71791	-3.14921	3.02328	-5.82967	-2.59712	18.44541	7.06189	205.13	-9.83
74/ 8/13	2442272.5	-16.44748	-7.73138	-3.15521	3.02858	-5.82713	-2.59608	18.44584	7.06168	205.18	-9.85
74/ 8/17	2442276.5	-16.44048	-7.74484	-3.16120	3.03388	-5.82459	-2.59504	18.44627	7.06148	205.22	-9.87
74/ 8/21	2442280.5	-16.43346	-7.75829	-3.16720	3.03917	-5.82205	-2.59401	18.44670	7.06128	205.27	-9.89
74/ 8/25	2442284.5	-16.42643	-7.77174	-3.17319	3.04447	-5.81950	-2.59296	18.44713	7.06108	205.32	-9.91
74/ 8/29	2442288.5	-16.41939	-7.78518	-3.17918	3.04976	-5.81695	-2.59192	18.44756	7.06088	205.37	-9.92
74/ 9/ 2	2442292.5	-16.41234	-7.79861	-3.18517	3.05505	-5.81440	-2.59088	18.44800	7.06068	205.42	-9.94
74/ 9/ 6	2442296.5	-16.40528	-7.81204	-3.19115	3.06034	-5.81184	-2.58983	18.44843	7.06048	205.46	-9.96
74/ 9/10	2442300.5	-16.39820	-7.82546	-3.19713	3.06563	-5.80927	-2.58878	18.44886	7.06028	205.51	-9.98
74/ 9/14	2442304.5	-16.39111	-7.83888	-3.20311	3.07091	-5.80670	-2.58773	18.44930	7.06007	205.56	-10.00
74/ 9/18	2442308.5	-16.38401	-7.85229	-3.20909	3.07619	-5.80413	-2.58668	18.44973	7.05987	205.61	-10.02
74/ 9/22	2442312.5	-16.37690	-7.86570	-3.21506	3.08147	-5.80156	-2.58562	18.45017	7.05967	205.65	-10.04
74/ 9/26	2442316.5	-16.36978	-7.87910	-3.22103	3.08674	-5.79897	-2.58456	18.45061	7.05947	205.70	-10.05
74/ 9/30	2442320.5	-16.36264	-7.89249	-3.22700	3.09202	-5.79639	-2.58351	18.45104	7.05926	205.75	-10.07
74/10/ 4	2442324.5	-16.35549	-7.90588	-3.23297	3.09729	-5.79380	-2.58244	18.45148	7.05906	205.80	-10.09
74/10/ 8	2442328.5	-16.34833	-7.91926	-3.23894	3.10255	-5.79121	-2.58138	18.45192	7.05886	205.85	-10.11
74/10/12	2442332.5	-16.34116	-7.93264	-3.24490	3.10782	-5.78861	-2.58032	18.45236	7.05865	205.89	-10.13
74/10/16	2442336.5	-16.33397	-7.94601	-3.25086	3.11308	-5.78601	-2.57925	18.45280	7.05845	205.94	-10.15
74/10/20	2442340.5	-16.32677	-7.95937	-3.25681	3.11834	-5.78340	-2.57818	18.45324	7.05824	205.99	-10.17
74/10/24	2442344.5	-16.31956	-7.97273	-3.26277	3.12359	-5.78079	-2.57711	18.45368	7.05804	206.04	-10.18
74/10/28	2442348.5	-16.31234	-7.98608	-3.26872	3.12884	-5.77818	-2.57604	18.45412	7.05783	206.09	-10.20
74/11/ 1	2442352.5	-16.30511	-7.99943	-3.27467	3.13409	-5.77556	-2.57497	18.45456	7.05763	206.13	-10.22
74/11/ 5	2442356.5	-16.29786	-8.01277	-3.28062	3.13934	-5.77294	-2.57390	18.45500	7.05743	206.18	-10.24
74/11/ 9	2442360.5	-16.29060	-8.02610	-3.28656	3.14458	-5.77032	-2.57282	18.45544	7.05722	206.23	-10.26
74/11/13	2442364.5	-16.28333	-8.03943	-3.29251	3.14983	-5.76769	-2.57174	18.45589	7.05702	206.28	-10.28
74/11/17	2442368.5	-16.27605	-8.05275	-3.29845	3.15507	-5.76506	-2.57066	18.45633	7.05681	206.32	-10.29

1.7 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
74/11/21	2442372.5	-16.26875	-8.06606	-3.30438	3.16030	-5.76242	-2.56958	18.45678	7.05661	206.37	-10.31
74/11/25	2442376.5	-16.26145	-8.07937	-3.31032	3.16553	-5.75977	-2.56850	18.45722	7.05640	206.42	-10.33
74/11/29	2442380.5	-16.25413	-8.09267	-3.31625	3.17076	-5.75713	-2.56741	18.45767	7.05619	206.47	-10.35
74/12/ 3	2442384.5	-16.24680	-8.10597	-3.32218	3.17599	-5.75448	-2.56632	18.45812	7.05598	206.52	-10.37
74/12/ 7	2442388.5	-16.23945	-8.11926	-3.32811	3.18121	-5.75182	-2.56523	18.45856	7.05577	206.56	-10.39
74/12/11	2442392.5	-16.23210	-8.13255	-3.33403	3.18643	-5.74916	-2.56414	18.45901	7.05556	206.61	-10.41
74/12/15	2442396.5	-16.22473	-8.14583	-3.33996	3.19164	-5.74650	-2.56304	18.45946	7.05536	206.66	-10.42
74/12/19	2442400.5	-16.21735	-8.15910	-3.34588	3.19685	-5.74384	-2.56195	18.45991	7.05515	206.71	-10.44
74/12/23	2442404.5	-16.20996	-8.17236	-3.35179	3.20206	-5.74117	-2.56085	18.46036	7.05494	206.76	-10.46
74/12/27	2442408.5	-16.20256	-8.18562	-3.35771	3.20726	-5.73849	-2.55975	18.46081	7.05473	206.80	-10.48
74/12/31	2442412.5	-16.19514	-8.19888	-3.36362	3.21246	-5.73582	-2.55865	18.46126	7.05452	206.85	-10.50
75/ 1/ 4	2442416.5	-16.18771	-8.21213	-3.36953	3.21765	-5.73314	-2.55755	18.46171	7.05431	206.90	-10.52
75/ 1/ 8	2442420.5	-16.18027	-8.22537	-3.37544	3.22285	-5.73046	-2.55645	18.46216	7.05410	206.95	-10.53
75/ 1/12	2442424.5	-16.17282	-8.23860	-3.38134	3.22803	-5.72778	-2.55534	18.46262	7.05389	206.99	-10.55
75/ 1/16	2442428.5	-16.16536	-8.25183	-3.38724	3.23322	-5.72509	-2.55424	18.46307	7.05369	207.04	-10.57
75/ 1/20	2442432.5	-16.15788	-8.26505	-3.39314	3.23840	-5.72240	-2.55313	18.46353	7.05348	207.09	-10.59
75/ 1/24	2442436.5	-16.15040	-8.27827	-3.39904	3.24358	-5.71971	-2.55203	18.46398	7.05328	207.14	-10.61
75/ 1/28	2442440.5	-16.14290	-8.29148	-3.40493	3.24876	-5.71702	-2.55092	18.46444	7.05308	207.19	-10.63
75/ 2/ 1	2442444.5	-16.13539	-8.30469	-3.41083	3.25393	-5.71433	-2.54981	18.46489	7.05288	207.23	-10.64
75/ 2/ 5	2442448.5	-16.12786	-8.31788	-3.41672	3.25911	-5.71163	-2.54870	18.46535	7.05268	207.28	-10.66
75/ 2/ 9	2442452.5	-16.12033	-8.33108	-3.42260	3.26428	-5.70893	-2.54759	18.46581	7.05249	207.33	-10.68
75/ 2/13	2442456.5	-16.11278	-8.34426	-3.42849	3.26945	-5.70622	-2.54647	18.46626	7.05229	207.38	-10.70
75/ 2/17	2442460.5	-16.10522	-8.35744	-3.43437	3.27462	-5.70351	-2.54536	18.46672	7.05209	207.43	-10.72
75/ 2/21	2442464.5	-16.09765	-8.37061	-3.44025	3.27978	-5.70080	-2.54424	18.46718	7.05190	207.47	-10.74
75/ 2/25	2442468.5	-16.09007	-8.38378	-3.44612	3.28495	-5.69808	-2.54312	18.46764	7.05170	207.52	-10.75
75/ 3/ 1	2442472.5	-16.08247	-8.39694	-3.45200	3.29011	-5.69536	-2.54200	18.46810	7.05151	207.57	-10.77
75/ 3/ 5	2442476.5	-16.07487	-8.41009	-3.45787	3.29527	-5.69264	-2.54088	18.46856	7.05131	207.62	-10.79
75/ 3/ 9	2442480.5	-16.06725	-8.42324	-3.46374	3.30043	-5.68991	-2.53976	18.46903	7.05112	207.67	-10.81
75/ 3/13	2442484.5	-16.05962	-8.43638	-3.46960	3.30558	-5.68718	-2.53863	18.46949	7.05092	207.71	-10.83
75/ 3/17	2442488.5	-16.05198	-8.44952	-3.47547	3.31073	-5.68444	-2.53751	18.46995	7.05073	207.76	-10.85
75/ 3/21	2442492.5	-16.04432	-8.46265	-3.48133	3.31588	-5.68171	-2.53638	18.47042	7.05054	207.81	-10.86
75/ 3/25	2442496.5	-16.03666	-8.47577	-3.48718	3.32103	-5.67896	-2.53525	18.47088	7.05034	207.86	-10.88
75/ 3/29	2442500.5	-16.02898	-8.48889	-3.49304	3.32618	-5.67622	-2.53412	18.47135	7.05015	207.91	-10.90
75/ 4/ 2	2442504.5	-16.02129	-8.50200	-3.49889	3.33132	-5.67347	-2.53298	18.47181	7.04996	207.95	-10.92
75/ 4/ 6	2442508.5	-16.01359	-8.51510	-3.50474	3.33646	-5.67071	-2.53185	18.47228	7.04977	208.00	-10.94
75/ 4/10	2442512.5	-16.00587	-8.52820	-3.51059	3.34160	-5.66796	-2.53071	18.47275	7.04958	208.05	-10.96
75/ 4/14	2442516.5	-15.99815	-8.54129	-3.51644	3.34674	-5.66519	-2.52957	18.47321	7.04938	208.10	-10.97
75/ 4/18	2442520.5	-15.99041	-8.55437	-3.52228	3.35187	-5.66243	-2.52843	18.47368	7.04919	208.15	-10.99
75/ 4/22	2442524.5	-15.98266	-8.56745	-3.52812	3.35700	-5.65966	-2.52729	18.47415	7.04900	208.19	-11.01
75/ 4/26	2442528.5	-15.97490	-8.58052	-3.53396	3.36213	-5.65689	-2.52615	18.47462	7.04881	208.24	-11.03
75/ 4/30	2442532.5	-15.96712	-8.59359	-3.53979	3.36726	-5.65411	-2.52500	18.47509	7.04862	208.29	-11.05
75/ 5/ 4	2442536.5	-15.95934	-8.60665	-3.54562	3.37239	-5.65133	-2.52386	18.47556	7.04844	208.34	-11.06
75/ 5/ 8	2442540.5	-15.95154	-8.61970	-3.55145	3.37752	-5.64854	-2.52271	18.47603	7.04825	208.39	-11.08
75/ 5/12	2442544.5	-15.94373	-8.63274	-3.55728	3.38264	-5.64575	-2.52156	18.47650	7.04805	208.43	-11.10
75/ 5/16	2442548.5	-15.93591	-8.64578	-3.56310	3.38777	-5.64295	-2.52040	18.47698	7.04786	208.48	-11.12

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
75/ 5/20	2442552.5	-15.92808	-8.65882	-3.56892	3.39288	-5.64015	-2.51925	18.47745	7.04767	208.53	-11.14
75/ 5/24	2442556.5	-15.92024	-8.67184	-3.57474	3.39800	-5.63734	-2.51809	18.47792	7.04747	208.58	-11.15
75/ 5/28	2442560.5	-15.91238	-8.68486	-3.58056	3.40311	-5.63453	-2.51693	18.47840	7.04727	208.63	-11.17
75/ 6/ 1	2442564.5	-15.90451	-8.69788	-3.58637	3.40822	-5.63171	-2.51576	18.47887	7.04707	208.67	-11.19
75/ 6/ 5	2442568.5	-15.89663	-8.71088	-3.59218	3.41332	-5.62889	-2.51460	18.47935	7.04687	208.72	-11.21
75/ 6/ 9	2442572.5	-15.88874	-8.72388	-3.59799	3.41842	-5.62606	-2.51343	18.47982	7.04667	208.77	-11.23
75/ 6/13	2442576.5	-15.88084	-8.73688	-3.60379	3.42352	-5.62323	-2.51226	18.48030	7.04646	208.82	-11.25
75/ 6/17	2442580.5	-15.87293	-8.74987	-3.60960	3.42861	-5.62039	-2.51109	18.48078	7.04626	208.87	-11.26
75/ 6/21	2442584.5	-15.86500	-8.76285	-3.61540	3.43370	-5.61755	-2.50992	18.48125	7.04605	208.91	-11.28
75/ 6/25	2442588.5	-15.85706	-8.77582	-3.62119	3.43878	-5.61471	-2.50874	18.48173	7.04584	208.96	-11.30
75/ 6/29	2442592.5	-15.84911	-8.78879	-3.62699	3.44386	-5.61186	-2.50756	18.48221	7.04563	209.01	-11.32
75/ 7/ 3	2442596.5	-15.84115	-8.80175	-3.63278	3.44893	-5.60900	-2.50638	18.48269	7.04543	209.06	-11.34
75/ 7/ 7	2442600.5	-15.83318	-8.81470	-3.63857	3.45400	-5.60615	-2.50520	18.48317	7.04522	209.11	-11.35
75/ 7/11	2442604.5	-15.82519	-8.82765	-3.64435	3.45906	-5.60329	-2.50402	18.48365	7.04500	209.15	-11.37
75/ 7/15	2442608.5	-15.81719	-8.84059	-3.65014	3.46412	-5.60043	-2.50284	18.48413	7.04479	209.20	-11.39
75/ 7/19	2442612.5	-15.80918	-8.85353	-3.65592	3.46918	-5.59756	-2.50165	18.48462	7.04458	209.25	-11.41
75/ 7/23	2442616.5	-15.80116	-8.86646	-3.66170	3.47423	-5.59470	-2.50047	18.48510	7.04438	209.30	-11.43
75/ 7/27	2442620.5	-15.79313	-8.87938	-3.66747	3.47928	-5.59183	-2.49928	18.48558	7.04417	209.35	-11.44
75/ 7/31	2442624.5	-15.78509	-8.89229	-3.67324	3.48433	-5.58895	-2.49809	18.48607	7.04396	209.39	-11.46
75/ 8/ 4	2442628.5	-15.77703	-8.90520	-3.67901	3.48937	-5.58608	-2.49690	18.48655	7.04375	209.44	-11.48
75/ 8/ 8	2442632.5	-15.76897	-8.91810	-3.68478	3.49441	-5.58320	-2.49571	18.48703	7.04355	209.49	-11.50
75/ 8/12	2442636.5	-15.76089	-8.93100	-3.69054	3.49944	-5.58031	-2.49452	18.48752	7.04334	209.54	-11.51
75/ 8/16	2442640.5	-15.75280	-8.94388	-3.69631	3.50447	-5.57743	-2.49332	18.48801	7.04313	209.59	-11.53
75/ 8/20	2442644.5	-15.74470	-8.95677	-3.70206	3.50950	-5.57454	-2.49212	18.48849	7.04292	209.63	-11.55
75/ 8/24	2442648.5	-15.73658	-8.96964	-3.70782	3.51452	-5.57164	-2.49093	18.48898	7.04271	209.68	-11.57
75/ 8/28	2442652.5	-15.72846	-8.98251	-3.71357	3.51954	-5.56875	-2.48973	18.48947	7.04250	209.73	-11.59
75/ 9/ 1	2442656.5	-15.72032	-8.99537	-3.71932	3.52456	-5.56585	-2.48853	18.48996	7.04230	209.78	-11.60
75/ 9/ 5	2442660.5	-15.71217	-9.00823	-3.72507	3.52957	-5.56295	-2.48733	18.49045	7.04209	209.83	-11.62
75/ 9/ 9	2442664.5	-15.70401	-9.02107	-3.73082	3.53457	-5.56005	-2.48612	18.49094	7.04189	209.87	-11.64
75/ 9/13	2442668.5	-15.69584	-9.03391	-3.73656	3.53958	-5.55714	-2.48492	18.49143	7.04168	209.92	-11.66
75/ 9/17	2442672.5	-15.68766	-9.04675	-3.74230	3.54458	-5.55424	-2.48371	18.49192	7.04148	209.97	-11.68
75/ 9/21	2442676.5	-15.67947	-9.05958	-3.74803	3.54958	-5.55133	-2.48251	18.49241	7.04128	210.02	-11.69
75/ 9/25	2442680.5	-15.67126	-9.07240	-3.75377	3.55457	-5.54842	-2.48130	18.49291	7.04108	210.07	-11.71
75/ 9/29	2442684.5	-15.66304	-9.08521	-3.75950	3.55956	-5.54550	-2.48010	18.49340	7.04088	210.12	-11.73
75/10/ 3	2442688.5	-15.65481	-9.09802	-3.76523	3.56455	-5.54259	-2.47889	18.49389	7.04068	210.16	-11.75
75/10/ 7	2442692.5	-15.64657	-9.11082	-3.77095	3.56954	-5.53967	-2.47768	18.49439	7.04049	210.21	-11.76
75/10/11	2442696.5	-15.63832	-9.12362	-3.77667	3.57452	-5.53676	-2.47647	18.49488	7.04029	210.26	-11.78
75/10/15	2442700.5	-15.63006	-9.13640	-3.78239	3.57950	-5.53384	-2.47526	18.49538	7.04010	210.31	-11.80
75/10/19	2442704.5	-15.62178	-9.14918	-3.78811	3.58448	-5.53092	-2.47405	18.49588	7.03992	210.36	-11.82
75/10/23	2442708.5	-15.61350	-9.16196	-3.79382	3.58946	-5.52799	-2.47284	18.49637	7.03973	210.40	-11.84
75/10/27	2442712.5	-15.60520	-9.17473	-3.79954	3.59444	-5.52507	-2.47163	18.49687	7.03955	210.45	-11.85
75/10/31	2442716.5	-15.59689	-9.18749	-3.80524	3.59942	-5.52214	-2.47041	18.49737	7.03937	210.50	-11.87
75/11/ 4	2442720.5	-15.58857	-9.20024	-3.81095	3.60440	-5.51920	-2.46920	18.49787	7.03919	210.55	-11.89
75/11/ 8	2442724.5	-15.58023	-9.21299	-3.81665	3.60937	-5.51627	-2.46798	18.49837	7.03901	210.60	-11.91
75/11/12	2442728.5	-15.57189	-9.22573	-3.82235	3.61435	-5.51333	-2.46676	18.49887	7.03883	210.65	-11.92

1.7 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
75/11/16	2442732.5	-15.56353	-9.23846	-3.82805	3.61932	-5.51038	-2.46554	18.49937	7.03865	210.69	-11.94
75/11/20	2442736.5	-15.55517	-9.25119	-3.83374	3.62429	-5.50743	-2.46432	18.49987	7.03848	210.74	-11.96
75/11/24	2442740.5	-15.54679	-9.26391	-3.83944	3.62926	-5.50448	-2.46309	18.50038	7.03830	210.79	-11.98
75/11/28	2442744.5	-15.53840	-9.27662	-3.84512	3.63422	-5.50153	-2.46187	18.50088	7.03812	210.84	-12.00
75/12/ 2	2442748.5	-15.53000	-9.28933	-3.85081	3.63919	-5.49857	-2.46064	18.50138	7.03795	210.89	-12.01
75/12/ 6	2442752.5	-15.52158	-9.30202	-3.85649	3.64415	-5.49560	-2.45941	18.50189	7.03777	210.93	-12.03
75/12/10	2442756.5	-15.51316	-9.31472	-3.86217	3.64911	-5.49264	-2.45818	18.50239	7.03759	210.98	-12.05
75/12/14	2442760.5	-15.50472	-9.32740	-3.86785	3.65407	-5.48966	-2.45695	18.50290	7.03742	211.03	-12.07
75/12/18	2442764.5	-15.49628	-9.34008	-3.87353	3.65903	-5.48669	-2.45571	18.50340	7.03724	211.08	-12.08
75/12/22	2442768.5	-15.48782	-9.35275	-3.87920	3.66398	-5.48371	-2.45447	18.50391	7.03706	211.13	-12.10
75/12/26	2442772.5	-15.47935	-9.36542	-3.88487	3.66894	-5.48072	-2.45324	18.50442	7.03689	211.18	-12.12
75/12/30	2442776.5	-15.47087	-9.37808	-3.89053	3.67389	-5.47773	-2.45200	18.50493	7.03671	211.22	-12.14
76/ 1/ 3	2442780.5	-15.46237	-9.39073	-3.89620	3.67883	-5.47474	-2.45075	18.50543	7.03653	211.27	-12.15
76/ 1/ 7	2442784.5	-15.45387	-9.40337	-3.90186	3.68378	-5.47174	-2.44951	18.50594	7.03636	211.32	-12.17
76/ 1/11	2442788.5	-15.44535	-9.41601	-3.90751	3.68872	-5.46875	-2.44826	18.50645	7.03618	211.37	-12.19
76/ 1/15	2442792.5	-15.43683	-9.42864	-3.91317	3.69366	-5.46574	-2.44702	18.50696	7.03600	211.42	-12.21
76/ 1/19	2442796.5	-15.42829	-9.44126	-3.91882	3.69860	-5.46273	-2.44577	18.50747	7.03583	211.46	-12.22
76/ 1/23	2442800.5	-15.41974	-9.45388	-3.92447	3.70353	-5.45972	-2.44452	18.50799	7.03565	211.51	-12.24
76/ 1/27	2442804.5	-15.41118	-9.46649	-3.93011	3.70847	-5.45670	-2.44327	18.50850	7.03547	211.56	-12.26
76/ 1/31	2442808.5	-15.40260	-9.47909	-3.93576	3.71340	-5.45368	-2.44201	18.50901	7.03530	211.61	-12.28
76/ 2/ 4	2442812.5	-15.39402	-9.49169	-3.94140	3.71833	-5.45065	-2.44075	18.50952	7.03512	211.66	-12.29
76/ 2/ 8	2442816.5	-15.38542	-9.50427	-3.94703	3.72325	-5.44762	-2.43949	18.51004	7.03493	211.71	-12.31
76/ 2/12	2442820.5	-15.37682	-9.51686	-3.95267	3.72817	-5.44458	-2.43823	18.51055	7.03475	211.75	-12.33
76/ 2/16	2442824.5	-15.36820	-9.52943	-3.95830	3.73309	-5.44154	-2.43696	18.51107	7.03457	211.80	-12.35
76/ 2/20	2442828.5	-15.35957	-9.54200	-3.96393	3.73800	-5.43850	-2.43570	18.51158	7.03438	211.85	-12.36
76/ 2/24	2442832.5	-15.35093	-9.55456	-3.96955	3.74291	-5.43544	-2.43443	18.51210	7.03419	211.90	-12.38
76/ 2/28	2442836.5	-15.34227	-9.56711	-3.97518	3.74781	-5.43239	-2.43316	18.51262	7.03401	211.95	-12.40
76/ 3/ 3	2442840.5	-15.33361	-9.57966	-3.98079	3.75271	-5.42933	-2.43189	18.51313	7.03382	212.00	-12.42
76/ 3/ 7	2442844.5	-15.32494	-9.59220	-3.98641	3.75761	-5.42627	-2.43061	18.51365	7.03363	212.04	-12.43
76/ 3/11	2442848.5	-15.31625	-9.60473	-3.99203	3.76250	-5.42321	-2.42934	18.51417	7.03344	212.09	-12.45
76/ 3/15	2442852.5	-15.30755	-9.61725	-3.99764	3.76739	-5.42014	-2.42806	18.51469	7.03325	212.14	-12.47
76/ 3/19	2442856.5	-15.29884	-9.62977	-4.00324	3.77227	-5.41706	-2.42678	18.51521	7.03306	212.19	-12.49
76/ 3/23	2442860.5	-15.29012	-9.64228	-4.00885	3.77715	-5.41399	-2.42550	18.51573	7.03287	212.24	-12.50
76/ 3/27	2442864.5	-15.28139	-9.65479	-4.01445	3.78203	-5.41091	-2.42422	18.51625	7.03268	212.28	-12.52
76/ 3/31	2442868.5	-15.27265	-9.66728	-4.02005	3.78690	-5.40783	-2.42294	18.51677	7.03249	212.33	-12.54
76/ 4/ 4	2442872.5	-15.26389	-9.67977	-4.02565	3.79177	-5.40475	-2.42165	18.51730	7.03230	212.38	-12.56
76/ 4/ 8	2442876.5	-15.25513	-9.69225	-4.03124	3.79663	-5.40166	-2.42037	18.51782	7.03211	212.43	-12.57
76/ 4/12	2442880.5	-15.24635	-9.70473	-4.03683	3.80149	-5.39858	-2.41908	18.51834	7.03192	212.48	-12.59
76/ 4/16	2442884.5	-15.23756	-9.71720	-4.04242	3.80635	-5.39549	-2.41780	18.51887	7.03174	212.53	-12.61
76/ 4/20	2442888.5	-15.22877	-9.72966	-4.04800	3.81121	-5.39239	-2.41651	18.51939	7.03155	212.57	-12.63
76/ 4/24	2442892.5	-15.21996	-9.74211	-4.05358	3.81606	-5.38930	-2.41522	18.51992	7.03137	212.62	-12.64
76/ 4/28	2442896.5	-15.21113	-9.75456	-4.05916	3.82091	-5.38620	-2.41393	18.52044	7.03118	212.67	-12.66
76/ 5/ 2	2442900.5	-15.20230	-9.76700	-4.06473	3.82576	-5.38309	-2.41264	18.52097	7.03100	212.72	-12.68
76/ 5/ 6	2442904.5	-15.19346	-9.77943	-4.07031	3.83061	-5.37999	-2.41134	18.52150	7.03082	212.77	-12.70
76/ 5/10	2442908.5	-15.18460	-9.79186	-4.07587	3.83545	-5.37688	-2.41005	18.52202	7.03063	212.82	-12.71

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
76/ 5/14	2442912.5	-15.17574	-9.80427	-4.08144	3.84029	-5.37376	-2.40875	18.52255	7.03045	212.86	-12.73
76/ 5/18	2442916.5	-15.16686	-9.81668	-4.08700	3.84512	-5.37065	-2.40745	18.52308	7.03027	212.91	-12.75
76/ 5/22	2442920.5	-15.15797	-9.82909	-4.09256	3.84996	-5.36753	-2.40615	18.52361	7.03009	212.96	-12.76
76/ 5/26	2442924.5	-15.14907	-9.84148	-4.09812	3.85479	-5.36441	-2.40485	18.52414	7.02991	213.01	-12.78
76/ 5/30	2442928.5	-15.14016	-9.85387	-4.10368	3.85961	-5.36128	-2.40355	18.52467	7.02972	213.06	-12.80
76/ 6/ 3	2442932.5	-15.13124	-9.86626	-4.10923	3.86444	-5.35816	-2.40224	18.52520	7.02955	213.11	-12.82
76/ 6/ 7	2442936.5	-15.12231	-9.87863	-4.11477	3.86926	-5.35503	-2.40094	18.52573	7.02937	213.15	-12.83
76/ 6/11	2442940.5	-15.11336	-9.89100	-4.12032	3.87408	-5.35189	-2.39963	18.52627	7.02919	213.20	-12.85
76/ 6/15	2442944.5	-15.10441	-9.90336	-4.12586	3.87890	-5.34875	-2.39833	18.52680	7.02901	213.25	-12.87
76/ 6/19	2442948.5	-15.09544	-9.91571	-4.13140	3.88371	-5.34561	-2.39702	18.52733	7.02883	213.30	-12.88
76/ 6/23	2442952.5	-15.08646	-9.92806	-4.13694	3.88852	-5.34247	-2.39571	18.52787	7.02866	213.35	-12.90
76/ 6/27	2442956.5	-15.07747	-9.94039	-4.14247	3.89333	-5.33933	-2.39439	18.52840	7.02848	213.40	-12.92
76/ 7/ 1	2442960.5	-15.06847	-9.95273	-4.14800	3.89813	-5.33618	-2.39308	18.52894	7.02830	213.44	-12.94
76/ 7/ 5	2442964.5	-15.05946	-9.96505	-4.15353	3.90294	-5.33303	-2.39177	18.52947	7.02813	213.49	-12.95
76/ 7/ 9	2442968.5	-15.05044	-9.97737	-4.15905	3.90774	-5.32987	-2.39045	18.53001	7.02796	213.54	-12.97
76/ 7/13	2442972.5	-15.04141	-9.98968	-4.16457	3.91254	-5.32671	-2.38914	18.53055	7.02779	213.59	-12.99
76/ 7/17	2442976.5	-15.03236	-10.00198	-4.17009	3.91734	-5.32355	-2.38782	18.53109	7.02762	213.64	-13.00
76/ 7/21	2442980.5	-15.02331	-10.01427	-4.17560	3.92214	-5.32038	-2.38650	18.53162	7.02745	213.69	-13.02
76/ 7/25	2442984.5	-15.01424	-10.02656	-4.18112	3.92693	-5.31721	-2.38518	18.53216	7.02728	213.74	-13.04
76/ 7/29	2442988.5	-15.00516	-10.03884	-4.18662	3.93173	-5.31404	-2.38385	18.53270	7.02711	213.78	-13.06
76/ 8/ 2	2442992.5	-14.99607	-10.05111	-4.19213	3.93652	-5.31086	-2.38253	18.53324	7.02693	213.83	-13.07
76/ 8/ 6	2442996.5	-14.98698	-10.06338	-4.19763	3.94131	-5.30767	-2.38120	18.53378	7.02676	213.88	-13.09
76/ 8/10	2443000.5	-14.97786	-10.07564	-4.20313	3.94609	-5.30448	-2.37987	18.53432	7.02658	213.93	-13.11
76/ 8/14	2443004.5	-14.96874	-10.08789	-4.20863	3.95087	-5.30129	-2.37853	18.53487	7.02641	213.98	-13.12
76/ 8/18	2443008.5	-14.95961	-10.10013	-4.21412	3.95565	-5.29809	-2.37720	18.53541	7.02623	214.03	-13.14
76/ 8/22	2443012.5	-14.95047	-10.11237	-4.21961	3.96042	-5.29488	-2.37586	18.53595	7.02606	214.07	-13.16
76/ 8/26	2443016.5	-14.94131	-10.12459	-4.22510	3.96519	-5.29168	-2.37453	18.53650	7.02588	214.12	-13.18
76/ 8/30	2443020.5	-14.93215	-10.13681	-4.23058	3.96995	-5.28847	-2.37319	18.53704	7.02570	214.17	-13.19
76/ 9/ 3	2443024.5	-14.92297	-10.14903	-4.23606	3.97472	-5.28525	-2.37184	18.53758	7.02552	214.22	-13.21
76/ 9/ 7	2443028.5	-14.91378	-10.16123	-4.24154	3.97947	-5.28203	-2.37050	18.53813	7.02534	214.27	-13.23
76/ 9/11	2443032.5	-14.90458	-10.17343	-4.24702	3.98423	-5.27881	-2.36915	18.53867	7.02516	214.32	-13.24
76/ 9/15	2443036.5	-14.89537	-10.18562	-4.25249	3.98898	-5.27559	-2.36781	18.53922	7.02497	214.36	-13.26
76/ 9/19	2443040.5	-14.88615	-10.19781	-4.25796	3.99372	-5.27236	-2.36646	18.53977	7.02479	214.41	-13.28
76/ 9/23	2443044.5	-14.87692	-10.20998	-4.26342	3.99846	-5.26913	-2.36511	18.54032	7.02461	214.46	-13.29
76/ 9/27	2443048.5	-14.86768	-10.22215	-4.26888	4.00320	-5.26589	-2.36376	18.54086	7.02443	214.51	-13.31
76/10/ 1	2443052.5	-14.85842	-10.23431	-4.27434	4.00793	-5.26265	-2.36240	18.54141	7.02424	214.56	-13.33
76/10/ 5	2443056.5	-14.84916	-10.24647	-4.27980	4.01266	-5.25942	-2.36105	18.54196	7.02406	214.61	-13.35
76/10/ 9	2443060.5	-14.83988	-10.25862	-4.28525	4.01739	-5.25617	-2.35970	18.54251	7.02388	214.66	-13.36
76/10/13	2443064.5	-14.83060	-10.27075	-4.29070	4.02211	-5.25293	-2.35834	18.54306	7.02370	214.70	-13.38
76/10/17	2443068.5	-14.82130	-10.28289	-4.29615	4.02683	-5.24968	-2.35698	18.54361	7.02352	214.75	-13.40
76/10/21	2443072.5	-14.81199	-10.29501	-4.30159	4.03155	-5.24643	-2.35562	18.54416	7.02334	214.80	-13.41
76/10/25	2443076.5	-14.80267	-10.30713	-4.30703	4.03626	-5.24317	-2.35426	18.54472	7.02316	214.85	-13.43
76/10/29	2443080.5	-14.79334	-10.31923	-4.31247	4.04097	-5.23991	-2.35290	18.54527	7.02298	214.90	-13.45
76/11/ 2	2443084.5	-14.78400	-10.33134	-4.31790	4.04568	-5.23665	-2.35154	18.54582	7.02280	214.95	-13.46
76/11/ 6	2443088.5	-14.77465	-10.34343	-4.32333	4.05038	-5.23339	-2.35017	18.54638	7.02262	215.00	-13.48

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76/11/10	2443092.5	-14.76529	-10.35552	-4.32876	4.05508	-5.23012	-2.34881	18.54693	7.02244	215.04	-13.50
76/11/14	2443096.5	-14.75592	-10.36759	-4.33419	4.05977	-5.22685	-2.34744	18.54749	7.02226	215.09	-13.51
76/11/18	2443100.5	-14.74653	-10.37967	-4.33961	4.06446	-5.22358	-2.34607	18.54804	7.02208	215.14	-13.53
76/11/22	2443104.5	-14.73714	-10.39173	-4.34503	4.06915	-5.22030	-2.34470	18.54860	7.02191	215.19	-13.55
76/11/26	2443108.5	-14.72773	-10.40379	-4.35044	4.07384	-5.21703	-2.34333	18.54915	7.02173	215.24	-13.56
76/11/30	2443112.5	-14.71831	-10.41583	-4.35585	4.07852	-5.21375	-2.34196	18.54971	7.02155	215.29	-13.58
76/12/ 4	2443116.5	-14.70889	-10.42788	-4.36126	4.08319	-5.21047	-2.34058	18.55027	7.02138	215.33	-13.60
76/12/ 8	2443120.5	-14.69945	-10.43991	-4.36667	4.08787	-5.20718	-2.33921	18.55083	7.02121	215.38	-13.61
76/12/12	2443124.5	-14.69000	-10.45193	-4.37207	4.09254	-5.20390	-2.33783	18.55139	7.02103	215.43	-13.63
76/12/16	2443128.5	-14.68054	-10.46395	-4.37747	4.09721	-5.20061	-2.33646	18.55195	7.02086	215.48	-13.65
76/12/20	2443132.5	-14.67107	-10.47596	-4.38287	4.10188	-5.19732	-2.33508	18.55251	7.02069	215.53	-13.66
76/12/24	2443136.5	-14.66159	-10.48797	-4.38826	4.10654	-5.19403	-2.33370	18.55307	7.02052	215.58	-13.68
76/12/28	2443140.5	-14.65209	-10.49996	-4.39365	4.11120	-5.19074	-2.33232	18.55363	7.02036	215.63	-13.70
77/ 1/ 1	2443144.5	-14.64259	-10.51195	-4.39903	4.11586	-5.18744	-2.33094	18.55419	7.02020	215.67	-13.71
77/ 1/ 5	2443148.5	-14.63308	-10.52393	-4.40442	4.12052	-5.18415	-2.32957	18.55475	7.02004	215.72	-13.73
77/ 1/ 9	2443152.5	-14.62355	-10.53590	-4.40980	4.12518	-5.18085	-2.32818	18.55532	7.01988	215.77	-13.75
77/ 1/13	2443156.5	-14.61402	-10.54787	-4.41517	4.12984	-5.17754	-2.32680	18.55588	7.01973	215.82	-13.76
77/ 1/17	2443160.5	-14.60447	-10.55982	-4.42055	4.13450	-5.17424	-2.32542	18.55645	7.01957	215.87	-13.78
77/ 1/21	2443164.5	-14.59492	-10.57177	-4.42592	4.13915	-5.17093	-2.32403	18.55701	7.01941	215.92	-13.80
77/ 1/25	2443168.5	-14.58535	-10.58371	-4.43129	4.14381	-5.16761	-2.32264	18.55758	7.01926	215.97	-13.81
77/ 1/29	2443172.5	-14.57577	-10.59565	-4.43665	4.14846	-5.16429	-2.32125	18.55814	7.01911	216.01	-13.83
77/ 2/ 2	2443176.5	-14.56618	-10.60758	-4.44201	4.15311	-5.16097	-2.31986	18.55871	7.01895	216.06	-13.85
77/ 2/ 6	2443180.5	-14.55658	-10.61949	-4.44737	4.15776	-5.15764	-2.31847	18.55928	7.01880	216.11	-13.86
77/ 2/10	2443184.5	-14.54697	-10.63141	-4.45272	4.16240	-5.15431	-2.31708	18.55985	7.01864	216.16	-13.88
77/ 2/14	2443188.5	-14.53735	-10.64331	-4.45807	4.16705	-5.15098	-2.31568	18.56041	7.01849	216.21	-13.90
77/ 2/18	2443192.5	-14.52772	-10.65521	-4.46342	4.17169	-5.14764	-2.31428	18.56098	7.01834	216.26	-13.91
77/ 2/22	2443196.5	-14.51807	-10.66709	-4.46877	4.17633	-5.14429	-2.31288	18.56155	7.01818	216.31	-13.93
77/ 2/26	2443200.5	-14.50842	-10.67897	-4.47411	4.18097	-5.14095	-2.31148	18.56212	7.01803	216.36	-13.95
77/ 3/ 2	2443204.5	-14.49876	-10.69085	-4.47945	4.18560	-5.13759	-2.31008	18.56269	7.01788	216.40	-13.96
77/ 3/ 6	2443208.5	-14.48908	-10.70271	-4.48478	4.19023	-5.13424	-2.30867	18.56326	7.01772	216.45	-13.98
77/ 3/10	2443212.5	-14.47940	-10.71457	-4.49011	4.19486	-5.13088	-2.30726	18.56384	7.01757	216.50	-14.00
77/ 3/14	2443216.5	-14.46970	-10.72642	-4.49544	4.19949	-5.12751	-2.30585	18.56441	7.01741	216.55	-14.01
77/ 3/18	2443220.5	-14.45999	-10.73826	-4.50077	4.20411	-5.12414	-2.30444	18.56498	7.01725	216.60	-14.03
77/ 3/22	2443224.5	-14.45028	-10.75009	-4.50609	4.20873	-5.12077	-2.30303	18.56555	7.01710	216.65	-14.05
77/ 3/26	2443228.5	-14.44055	-10.76192	-4.51141	4.21335	-5.11739	-2.30161	18.56613	7.01694	216.70	-14.06
77/ 3/30	2443232.5	-14.43081	-10.77374	-4.51672	4.21797	-5.11401	-2.30020	18.56670	7.01679	216.74	-14.08
77/ 4/ 3	2443236.5	-14.42106	-10.78555	-4.52204	4.22258	-5.11063	-2.29878	18.56728	7.01663	216.79	-14.10
77/ 4/ 7	2443240.5	-14.41130	-10.79735	-4.52735	4.22719	-5.10724	-2.29736	18.56785	7.01647	216.84	-14.11
77/ 4/11	2443244.5	-14.40153	-10.80914	-4.53265	4.23180	-5.10384	-2.29593	18.56843	7.01631	216.89	-14.13
77/ 4/15	2443248.5	-14.39175	-10.82093	-4.53795	4.23641	-5.10044	-2.29451	18.56900	7.01615	216.94	-14.15
77/ 4/19	2443252.5	-14.38195	-10.83271	-4.54325	4.24101	-5.09704	-2.29308	18.56958	7.01599	216.99	-14.16
77/ 4/23	2443256.5	-14.37215	-10.84448	-4.54855	4.24560	-5.09363	-2.29165	18.57016	7.01583	217.04	-14.18
77/ 4/27	2443260.5	-14.36234	-10.85624	-4.55384	4.25020	-5.09021	-2.29022	18.57074	7.01566	217.09	-14.19
77/ 5/ 1	2443264.5	-14.35251	-10.86800	-4.55913	4.25479	-5.08679	-2.28878	18.57132	7.01550	217.13	-14.21
77/ 5/ 5	2443268.5	-14.34268	-10.87975	-4.56442	4.25937	-5.08337	-2.28735	18.57189	7.01533	217.18	-14.23

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
77/ 5/ 9	2443272.5	-14.33283	-10.89149	-4.56970	4.26395	-5.07994	-2.28591	18.57247	7.01516	217.23	-14.24
77/ 5/13	2443276.5	-14.32298	-10.90322	-4.57498	4.26852	-5.07650	-2.28447	18.57305	7.01498	217.28	-14.26
77/ 5/17	2443280.5	-14.31311	-10.91494	-4.58025	4.27309	-5.07307	-2.28303	18.57363	7.01481	217.33	-14.28
77/ 5/21	2443284.5	-14.30324	-10.92666	-4.58553	4.27766	-5.06963	-2.28158	18.57421	7.01463	217.38	-14.29
77/ 5/25	2443288.5	-14.29335	-10.93837	-4.59080	4.28222	-5.06618	-2.28014	18.57480	7.01446	217.43	-14.31
77/ 5/29	2443292.5	-14.28345	-10.95007	-4.59606	4.28677	-5.06274	-2.27869	18.57538	7.01428	217.47	-14.33
77/ 6/ 2	2443296.5	-14.27354	-10.96176	-4.60132	4.29132	-5.05929	-2.27724	18.57596	7.01410	217.52	-14.34
77/ 6/ 6	2443300.5	-14.26362	-10.97344	-4.60658	4.29587	-5.05583	-2.27579	18.57654	7.01393	217.57	-14.36
77/ 6/10	2443304.5	-14.25369	-10.98512	-4.61184	4.30041	-5.05238	-2.27434	18.57713	7.01375	217.62	-14.37
77/ 6/14	2443308.5	-14.24375	-10.99679	-4.61709	4.30494	-5.04892	-2.27289	18.57771	7.01357	217.67	-14.39
77/ 6/18	2443312.5	-14.23380	-11.00844	-4.62234	4.30947	-5.04546	-2.27143	18.57829	7.01339	217.72	-14.41
77/ 6/22	2443316.5	-14.22384	-11.02010	-4.62759	4.31400	-5.04200	-2.26998	18.57888	7.01321	217.77	-14.42
77/ 6/26	2443320.5	-14.21387	-11.03174	-4.63283	4.31852	-5.03853	-2.26853	18.57946	7.01304	217.82	-14.44
77/ 6/30	2443324.5	-14.20389	-11.04338	-4.63807	4.32304	-5.03507	-2.26707	18.58005	7.01286	217.86	-14.46
77/ 7/ 4	2443328.5	-14.19390	-11.05500	-4.64330	4.32756	-5.03160	-2.26561	18.58064	7.01269	217.91	-14.47
77/ 7/ 8	2443332.5	-14.18389	-11.06662	-4.64854	4.33208	-5.02813	-2.26416	18.58122	7.01251	217.96	-14.49
77/ 7/12	2443336.5	-14.17388	-11.07824	-4.65376	4.33659	-5.02465	-2.26270	18.58181	7.01234	218.01	-14.50
77/ 7/16	2443340.5	-14.16386	-11.08984	-4.65899	4.34110	-5.02118	-2.26123	18.58240	7.01217	218.06	-14.52
77/ 7/20	2443344.5	-14.15382	-11.10144	-4.66421	4.34560	-5.01769	-2.25977	18.58299	7.01199	218.11	-14.54
77/ 7/24	2443348.5	-14.14378	-11.11302	-4.66943	4.35010	-5.01421	-2.25831	18.58358	7.01182	218.16	-14.55
77/ 7/28	2443352.5	-14.13372	-11.12460	-4.67465	4.35460	-5.01073	-2.25684	18.58417	7.01165	218.21	-14.57
77/ 8/ 1	2443356.5	-14.12366	-11.13617	-4.67986	4.35909	-5.00724	-2.25538	18.58476	7.01148	218.25	-14.58
77/ 8/ 5	2443360.5	-14.11358	-11.14774	-4.68507	4.36358	-5.00375	-2.25391	18.58535	7.01131	218.30	-14.60
77/ 8/ 9	2443364.5	-14.10350	-11.15929	-4.69027	4.36806	-5.00026	-2.25244	18.58594	7.01114	218.35	-14.62
77/ 8/13	2443368.5	-14.09340	-11.17084	-4.69547	4.37255	-4.99676	-2.25097	18.58653	7.01097	218.40	-14.63
77/ 8/17	2443372.5	-14.08330	-11.18238	-4.70067	4.37703	-4.99326	-2.24950	18.58712	7.01080	218.45	-14.65
77/ 8/21	2443376.5	-14.07318	-11.19391	-4.70587	4.38150	-4.98976	-2.24803	18.58772	7.01063	218.50	-14.67
77/ 8/25	2443380.5	-14.06305	-11.20544	-4.71106	4.38598	-4.98626	-2.24656	18.58831	7.01046	218.55	-14.68
77/ 8/29	2443384.5	-14.05291	-11.21695	-4.71625	4.39045	-4.98276	-2.24509	18.58890	7.01030	218.60	-14.70
77/ 9/ 2	2443388.5	-14.04277	-11.22846	-4.72143	4.39491	-4.97925	-2.24361	18.58950	7.01014	218.65	-14.71
77/ 9/ 6	2443392.5	-14.03261	-11.23996	-4.72661	4.39938	-4.97574	-2.24214	18.59009	7.00997	218.69	-14.73
77/ 9/10	2443396.5	-14.02244	-11.25145	-4.73179	4.40384	-4.97223	-2.24066	18.59069	7.00981	218.74	-14.75
77/ 9/14	2443400.5	-14.01226	-11.26293	-4.73697	4.40830	-4.96872	-2.23918	18.59128	7.00965	218.79	-14.76
77/ 9/18	2443404.5	-14.00207	-11.27440	-4.74214	4.41276	-4.96520	-2.23771	18.59188	7.00949	218.84	-14.78
77/ 9/22	2443408.5	-13.99187	-11.28587	-4.74730	4.41722	-4.96168	-2.23623	18.59248	7.00934	218.89	-14.79
77/ 9/26	2443412.5	-13.98166	-11.29733	-4.75247	4.42167	-4.95816	-2.23475	18.59308	7.00918	218.94	-14.81
77/ 9/30	2443416.5	-13.97144	-11.30878	-4.75763	4.42613	-4.95464	-2.23327	18.59367	7.00903	218.99	-14.83
77/10/ 4	2443420.5	-13.96121	-11.32022	-4.76279	4.43058	-4.95111	-2.23178	18.59427	7.00888	219.04	-14.84
77/10/ 8	2443424.5	-13.95097	-11.33165	-4.76794	4.43503	-4.94758	-2.23030	18.59487	7.00873	219.09	-14.86
77/10/12	2443428.5	-13.94072	-11.34308	-4.77309	4.43948	-4.94404	-2.22881	18.59547	7.00858	219.13	-14.87
77/10/16	2443432.5	-13.93046	-11.35450	-4.77824	4.44393	-4.94050	-2.22732	18.59607	7.00843	219.18	-14.89
77/10/20	2443436.5	-13.92019	-11.36591	-4.78338	4.44837	-4.93695	-2.22583	18.59667	7.00827	219.23	-14.91
77/10/24	2443440.5	-13.90991	-11.37731	-4.78852	4.45282	-4.93341	-2.22434	18.59727	7.00812	219.28	-14.92
77/10/28	2443444.5	-13.89961	-11.38870	-4.79366	4.45725	-4.92985	-2.22285	18.59788	7.00797	219.33	-14.94
77/11/ 1	2443448.5	-13.88931	-11.40009	-4.79879	4.46169	-4.92629	-2.22135	18.59848	7.00781	219.38	-14.95

1.7 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
77/11/ 5	2443452.5	-13.87900	-11.41146	-4.80392	4.46612	-4.92273	-2.21985	18.59908	7.00766	219.43	-14.97
77/11/ 9	2443456.5	-13.86868	-11.42283	-4.80905	4.47055	-4.91917	-2.21835	18.59968	7.00750	219.48	-14.98
77/11/13	2443460.5	-13.85834	-11.43419	-4.81417	4.47498	-4.91560	-2.21685	18.60029	7.00735	219.53	-15.00
77/11/17	2443464.5	-13.84800	-11.44554	-4.81929	4.47940	-4.91202	-2.21535	18.60089	7.00719	219.57	-15.02
77/11/21	2443468.5	-13.83765	-11.45689	-4.82441	4.48382	-4.90845	-2.21384	18.60150	7.00704	219.62	-15.03
77/11/25	2443472.5	-13.82728	-11.46822	-4.82952	4.48823	-4.90486	-2.21233	18.60210	7.00688	219.67	-15.05
77/11/29	2443476.5	-13.81691	-11.47955	-4.83463	4.49264	-4.90128	-2.21082	18.60271	7.00672	219.72	-15.06
77/12/ 3	2443480.5	-13.80653	-11.49087	-4.83974	4.49705	-4.89769	-2.20931	18.60331	7.00656	219.77	-15.08
77/12/ 7	2443484.5	-13.79613	-11.50218	-4.84484	4.50145	-4.89410	-2.20780	18.60392	7.00640	219.82	-15.10
77/12/11	2443488.5	-13.78573	-11.51348	-4.84994	4.50585	-4.89050	-2.20629	18.60453	7.00624	219.87	-15.11
77/12/15	2443492.5	-13.77531	-11.52477	-4.85503	4.51025	-4.88690	-2.20477	18.60513	7.00608	219.92	-15.13
77/12/19	2443496.5	-13.76489	-11.53606	-4.86012	4.51464	-4.88330	-2.20326	18.60574	7.00592	219.97	-15.14
77/12/23	2443500.5	-13.75445	-11.54734	-4.86521	4.51903	-4.87970	-2.20174	18.60635	7.00577	220.01	-15.16
77/12/27	2443504.5	-13.74401	-11.55860	-4.87030	4.52342	-4.87609	-2.20022	18.60696	7.00561	220.06	-15.17
77/12/31	2443508.5	-13.73355	-11.56987	-4.87538	4.52781	-4.87248	-2.19870	18.60757	7.00545	220.11	-15.19
78/ 1/ 4	2443512.5	-13.72309	-11.58112	-4.88046	4.53219	-4.86886	-2.19718	18.60818	7.00529	220.16	-15.21
78/ 1/ 8	2443516.5	-13.71261	-11.59236	-4.88553	4.53657	-4.86524	-2.19565	18.60879	7.00513	220.21	-15.22
78/ 1/12	2443520.5	-13.70213	-11.60360	-4.89060	4.54094	-4.86162	-2.19412	18.60940	7.00497	220.26	-15.24
78/ 1/16	2443524.5	-13.69163	-11.61482	-4.89567	4.54531	-4.85799	-2.19260	18.61001	7.00481	220.31	-15.25
78/ 1/20	2443528.5	-13.68113	-11.62604	-4.90073	4.54967	-4.85436	-2.19107	18.61062	7.00465	220.36	-15.27
78/ 1/24	2443532.5	-13.67061	-11.63725	-4.90579	4.55403	-4.85073	-2.18953	18.61124	7.00449	220.41	-15.28
78/ 1/28	2443536.5	-13.66009	-11.64845	-4.91085	4.55839	-4.84709	-2.18800	18.61185	7.00432	220.46	-15.30
78/ 2/ 1	2443540.5	-13.64955	-11.65965	-4.91590	4.56274	-4.84345	-2.18647	18.61246	7.00416	220.50	-15.31
78/ 2/ 5	2443544.5	-13.63901	-11.67083	-4.92095	4.56709	-4.83980	-2.18493	18.61307	7.00400	220.55	-15.33
78/ 2/ 9	2443548.5	-13.62845	-11.68201	-4.92600	4.57144	-4.83616	-2.18339	18.61369	7.00383	220.60	-15.35
78/ 2/13	2443552.5	-13.61788	-11.69318	-4.93104	4.57578	-4.83251	-2.18185	18.61430	7.00367	220.65	-15.36
78/ 2/17	2443556.5	-13.60731	-11.70434	-4.93608	4.58011	-4.82886	-2.18031	18.61492	7.00350	220.70	-15.38
78/ 2/21	2443560.5	-13.59672	-11.71549	-4.94111	4.58445	-4.82520	-2.17877	18.61553	7.00334	220.75	-15.39
78/ 2/25	2443564.5	-13.58613	-11.72663	-4.94614	4.58878	-4.82155	-2.17723	18.61615	7.00318	220.80	-15.41
78/ 3/ 1	2443568.5	-13.57552	-11.73777	-4.95117	4.59310	-4.81789	-2.17569	18.61677	7.00302	220.85	-15.42
78/ 3/ 5	2443572.5	-13.56490	-11.74889	-4.95620	4.59742	-4.81423	-2.17414	18.61738	7.00285	220.90	-15.44
78/ 3/ 9	2443576.5	-13.55428	-11.76001	-4.96122	4.60174	-4.81056	-2.17260	18.61800	7.00269	220.95	-15.45
78/ 3/13	2443580.5	-13.54364	-11.77112	-4.96623	4.60606	-4.80690	-2.17105	18.61862	7.00254	220.99	-15.47
78/ 3/17	2443584.5	-13.53300	-11.78222	-4.97125	4.61037	-4.80323	-2.16951	18.61924	7.00238	221.04	-15.49
78/ 3/21	2443588.5	-13.52234	-11.79331	-4.97626	4.61468	-4.79956	-2.16796	18.61986	7.00222	221.09	-15.50
78/ 3/25	2443592.5	-13.51168	-11.80439	-4.98126	4.61899	-4.79589	-2.16641	18.62048	7.00207	221.14	-15.52
78/ 3/29	2443596.5	-13.50100	-11.81547	-4.98627	4.62330	-4.79221	-2.16486	18.62109	7.00192	221.19	-15.53
78/ 4/ 2	2443600.5	-13.49031	-11.82654	-4.99127	4.62761	-4.78853	-2.16331	18.62172	7.00177	221.24	-15.55
78/ 4/ 6	2443604.5	-13.47962	-11.83759	-4.99626	4.63191	-4.78485	-2.16175	18.62234	7.00161	221.29	-15.56
78/ 4/10	2443608.5	-13.46891	-11.84864	-5.00125	4.63621	-4.78116	-2.16020	18.62296	7.00146	221.34	-15.58
78/ 4/14	2443612.5	-13.45820	-11.85968	-5.00624	4.64051	-4.77747	-2.15864	18.62358	7.00131	221.39	-15.59
78/ 4/18	2443616.5	-13.44747	-11.87072	-5.01123	4.64481	-4.77378	-2.15708	18.62420	7.00116	221.44	-15.61
78/ 4/22	2443620.5	-13.43674	-11.88174	-5.01621	4.64910	-4.77008	-2.15552	18.62482	7.00100	221.49	-15.62
78/ 4/26	2443624.5	-13.42599	-11.89276	-5.02119	4.65339	-4.76638	-2.15396	18.62545	7.00085	221.53	-15.64
78/ 4/30	2443628.5	-13.41524	-11.90376	-5.02616	4.65767	-4.76267	-2.15240	18.62607	7.00070	221.58	-15.66

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
78/ 5/ 4	2443632.5	-13.40447	-11.91476	-5.03113	4.66196	-4.75896	-2.15083	18.62669	7.00055	221.63	-15.67
78/ 5/ 8	2443636.5	-13.39370	-11.92575	-5.03610	4.66624	-4.75525	-2.14927	18.62732	7.00039	221.68	-15.69
78/ 5/12	2443640.5	-13.38291	-11.93673	-5.04106	4.67052	-4.75153	-2.14770	18.62794	7.00024	221.73	-15.70
78/ 5/16	2443644.5	-13.37212	-11.94771	-5.04602	4.67479	-4.74781	-2.14613	18.62857	7.00009	221.78	-15.72
78/ 5/20	2443648.5	-13.36131	-11.95867	-5.05098	4.67906	-4.74409	-2.14455	18.62919	6.99993	221.83	-15.73
78/ 5/24	2443652.5	-13.35050	-11.96962	-5.05593	4.68333	-4.74036	-2.14298	18.62982	6.99978	221.88	-15.75
78/ 5/28	2443656.5	-13.33967	-11.98057	-5.06088	4.68759	-4.73663	-2.14141	18.63045	6.99963	221.93	-15.76
78/ 6/ 1	2443660.5	-13.32884	-11.99151	-5.06583	4.69185	-4.73289	-2.13983	18.63107	6.99947	221.98	-15.78
78/ 6/ 5	2443664.5	-13.31800	-12.00244	-5.07077	4.69611	-4.72915	-2.13825	18.63170	6.99932	222.03	-15.79
78/ 6/ 9	2443668.5	-13.30714	-12.01336	-5.07570	4.70036	-4.72541	-2.13667	18.63233	6.99916	222.07	-15.81
78/ 6/13	2443672.5	-13.29628	-12.02427	-5.08064	4.70462	-4.72166	-2.13509	18.63296	6.99901	222.12	-15.82
78/ 6/17	2443676.5	-13.28541	-12.03518	-5.08557	4.70886	-4.71791	-2.13351	18.63358	6.99885	222.17	-15.84
78/ 6/21	2443680.5	-13.27452	-12.04607	-5.09050	4.71311	-4.71416	-2.13192	18.63421	6.99870	222.22	-15.85
78/ 6/25	2443684.5	-13.26363	-12.05696	-5.09542	4.71735	-4.71040	-2.13034	18.63484	6.99854	222.27	-15.87
78/ 6/29	2443688.5	-13.25273	-12.06783	-5.10034	4.72159	-4.70663	-2.12875	18.63547	6.99839	222.32	-15.88
78/ 7/ 3	2443692.5	-13.24181	-12.07870	-5.10526	4.72583	-4.70286	-2.12716	18.63610	6.99823	222.37	-15.90
78/ 7/ 7	2443696.5	-13.23089	-12.08956	-5.11017	4.73006	-4.69909	-2.12556	18.63673	6.99806	222.42	-15.91
78/ 7/11	2443700.5	-13.21996	-12.10041	-5.11508	4.73429	-4.69531	-2.12397	18.63736	6.99790	222.47	-15.93
78/ 7/15	2443704.5	-13.20902	-12.11126	-5.11998	4.73851	-4.69153	-2.12237	18.63800	6.99774	222.52	-15.94
78/ 7/19	2443708.5	-13.19807	-12.12209	-5.12488	4.74273	-4.68774	-2.12077	18.63863	6.99757	222.57	-15.96
78/ 7/23	2443712.5	-13.18710	-12.13292	-5.12978	4.74694	-4.68395	-2.11917	18.63926	6.99740	222.62	-15.97
78/ 7/27	2443716.5	-13.17613	-12.14373	-5.13467	4.75114	-4.68015	-2.11756	18.63989	6.99723	222.67	-15.99
78/ 7/31	2443720.5	-13.16515	-12.15454	-5.13956	4.75535	-4.67636	-2.11596	18.64053	6.99706	222.71	-16.00
78/ 8/ 4	2443724.5	-13.15416	-12.16534	-5.14445	4.75954	-4.67255	-2.11435	18.64116	6.99689	222.76	-16.02
78/ 8/ 8	2443728.5	-13.14316	-12.17613	-5.14933	4.76373	-4.66875	-2.11274	18.64179	6.99672	222.81	-16.04
78/ 8/12	2443732.5	-13.13215	-12.18691	-5.15421	4.76792	-4.66494	-2.11113	18.64243	6.99654	222.86	-16.05
78/ 8/16	2443736.5	-13.12113	-12.19768	-5.15909	4.77210	-4.66113	-2.10952	18.64306	6.99637	222.91	-16.07
78/ 8/20	2443740.5	-13.11010	-12.20845	-5.16396	4.77628	-4.65732	-2.10791	18.64370	6.99619	222.96	-16.08
78/ 8/24	2443744.5	-13.09906	-12.21920	-5.16883	4.78045	-4.65350	-2.10630	18.64433	6.99602	223.01	-16.10
78/ 8/28	2443748.5	-13.08802	-12.22995	-5.17369	4.78461	-4.64969	-2.10468	18.64497	6.99584	223.06	-16.11
78/ 9/ 1	2443752.5	-13.07696	-12.24068	-5.17855	4.78877	-4.64587	-2.10307	18.64560	6.99566	223.11	-16.13
78/ 9/ 5	2443756.5	-13.06589	-12.25141	-5.18341	4.79293	-4.64205	-2.10145	18.64624	6.99549	223.16	-16.14
78/ 9/ 9	2443760.5	-13.05481	-12.26213	-5.18826	4.79708	-4.63822	-2.09984	18.64688	6.99531	223.21	-16.16
78/ 9/13	2443764.5	-13.04373	-12.27284	-5.19311	4.80123	-4.63440	-2.09822	18.64752	6.99514	223.26	-16.17
78/ 9/17	2443768.5	-13.03263	-12.28354	-5.19795	4.80537	-4.63057	-2.09660	18.64815	6.99497	223.31	-16.18
78/ 9/21	2443772.5	-13.02152	-12.29424	-5.20280	4.80951	-4.62674	-2.09498	18.64879	6.99479	223.35	-16.20
78/ 9/25	2443776.5	-13.01041	-12.30492	-5.20763	4.81365	-4.62291	-2.09336	18.64943	6.99462	223.40	-16.21
78/ 9/29	2443780.5	-12.99928	-12.31560	-5.21247	4.81779	-4.61908	-2.09174	18.65007	6.99445	223.45	-16.23
78/10/ 3	2443784.5	-12.98815	-12.32626	-5.21730	4.82192	-4.61524	-2.09011	18.65071	6.99428	223.50	-16.24
78/10/ 7	2443788.5	-12.97700	-12.33692	-5.22213	4.82604	-4.61140	-2.08849	18.65135	6.99411	223.55	-16.26
78/10/11	2443792.5	-12.96585	-12.34757	-5.22695	4.83017	-4.60756	-2.08686	18.65199	6.99393	223.60	-16.27
78/10/15	2443796.5	-12.95469	-12.35821	-5.23177	4.83429	-4.60371	-2.08524	18.65263	6.99376	223.65	-16.29
78/10/19	2443800.5	-12.94351	-12.36884	-5.23658	4.83840	-4.59987	-2.08361	18.65327	6.99359	223.70	-16.30
78/10/23	2443804.5	-12.93233	-12.37946	-5.24139	4.84251	-4.59602	-2.08198	18.65391	6.99342	223.75	-16.32
78/10/27	2443808.5	-12.92114	-12.39008	-5.24620	4.84662	-4.59217	-2.08035	18.65456	6.99326	223.80	-16.33

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78/10/31	2443812.5	-12.90994	-12.40068	-5.25101	4.85072	-4.58832	-2.07872	18.65520	6.99309	223.85	-16.35
78/11/ 4	2443816.5	-12.89873	-12.41128	-5.25581	4.85483	-4.58447	-2.07709	18.65584	6.99292	223.90	-16.36
78/11/ 8	2443820.5	-12.88751	-12.42186	-5.26060	4.85893	-4.58061	-2.07546	18.65649	6.99276	223.95	-16.38
78/11/12	2443824.5	-12.87628	-12.43244	-5.26540	4.86302	-4.57675	-2.07383	18.65713	6.99260	224.00	-16.39
78/11/16	2443828.5	-12.86504	-12.44301	-5.27019	4.86711	-4.57289	-2.07219	18.65777	6.99243	224.04	-16.41
78/11/20	2443832.5	-12.85379	-12.45357	-5.27497	4.87120	-4.56903	-2.07056	18.65842	6.99227	224.09	-16.42
78/11/24	2443836.5	-12.84253	-12.46412	-5.27975	4.87529	-4.56517	-2.06892	18.65906	6.99211	224.14	-16.44
78/11/28	2443840.5	-12.83126	-12.47466	-5.28453	4.87937	-4.56130	-2.06729	18.65971	6.99196	224.19	-16.45
78/12/ 2	2443844.5	-12.81999	-12.48519	-5.28930	4.88346	-4.55744	-2.06565	18.66036	6.99180	224.24	-16.47
78/12/ 6	2443848.5	-12.80870	-12.49572	-5.29407	4.88754	-4.55357	-2.06401	18.66100	6.99165	224.29	-16.48
78/12/10	2443852.5	-12.79741	-12.50623	-5.29884	4.89162	-4.54969	-2.06237	18.66165	6.99150	224.34	-16.50
78/12/14	2443856.5	-12.78610	-12.51674	-5.30360	4.89570	-4.54582	-2.06073	18.66230	6.99135	224.39	-16.51
78/12/18	2443860.5	-12.77479	-12.52724	-5.30836	4.89978	-4.54194	-2.05909	18.66294	6.99120	224.44	-16.52
78/12/22	2443864.5	-12.76346	-12.53772	-5.31312	4.90385	-4.53806	-2.05745	18.66359	6.99105	224.49	-16.54
78/12/26	2443868.5	-12.75213	-12.54820	-5.31787	4.90793	-4.53417	-2.05580	18.66424	6.99091	224.54	-16.55
78/12/30	2443872.5	-12.74079	-12.55867	-5.32261	4.91200	-4.53027	-2.05416	18.66489	6.99076	224.59	-16.57
79/ 1/ 3	2443876.5	-12.72943	-12.56913	-5.32736	4.91607	-4.52638	-2.05251	18.66554	6.99061	224.64	-16.58
79/ 1/ 7	2443880.5	-12.71807	-12.57959	-5.33210	4.92014	-4.52248	-2.05085	18.66619	6.99046	224.69	-16.60
79/ 1/11	2443884.5	-12.70670	-12.59003	-5.33683	4.92420	-4.51857	-2.04920	18.66684	6.99031	224.74	-16.61
79/ 1/15	2443888.5	-12.69532	-12.60046	-5.34157	4.92826	-4.51466	-2.04755	18.66749	6.99016	224.79	-16.63
79/ 1/19	2443892.5	-12.68393	-12.61089	-5.34629	4.93232	-4.51075	-2.04589	18.66814	6.99001	224.83	-16.64
79/ 1/23	2443896.5	-12.67253	-12.62131	-5.35102	4.93637	-4.50683	-2.04423	18.66879	6.98986	224.88	-16.66
79/ 1/27	2443900.5	-12.66112	-12.63171	-5.35574	4.94042	-4.50291	-2.04257	18.66944	6.98971	224.93	-16.67
79/ 1/31	2443904.5	-12.64970	-12.64211	-5.36046	4.94447	-4.49898	-2.04091	18.67010	6.98956	224.98	-16.69
79/ 2/ 4	2443908.5	-12.63828	-12.65250	-5.36517	4.94851	-4.49505	-2.03924	18.67075	6.98940	225.03	-16.70
79/ 2/ 8	2443912.5	-12.62684	-12.66288	-5.36988	4.95255	-4.49111	-2.03757	18.67140	6.98925	225.08	-16.71
79/ 2/12	2443916.5	-12.61539	-12.67325	-5.37458	4.95659	-4.48717	-2.03590	18.67205	6.98909	225.13	-16.73
79/ 2/16	2443920.5	-12.60394	-12.68361	-5.37928	4.96062	-4.48323	-2.03423	18.67271	6.98893	225.18	-16.74
79/ 2/20	2443924.5	-12.59247	-12.69396	-5.38398	4.96465	-4.47928	-2.03256	18.67336	6.98878	225.23	-16.76
79/ 2/24	2443928.5	-12.58100	-12.70431	-5.38868	4.96867	-4.47533	-2.03089	18.67401	6.98862	225.28	-16.77
79/ 2/28	2443932.5	-12.56952	-12.71464	-5.39337	4.97269	-4.47138	-2.02921	18.67467	6.98846	225.33	-16.79
79/ 3/ 4	2443936.5	-12.55803	-12.72497	-5.39805	4.97670	-4.46742	-2.02753	18.67532	6.98830	225.38	-16.80
79/ 3/ 8	2443940.5	-12.54652	-12.73528	-5.40273	4.98071	-4.46346	-2.02586	18.67598	6.98814	225.43	-16.82
79/ 3/12	2443944.5	-12.53501	-12.74559	-5.40741	4.98472	-4.45950	-2.02418	18.67663	6.98798	225.48	-16.83
79/ 3/16	2443948.5	-12.52349	-12.75589	-5.41209	4.98873	-4.45553	-2.02249	18.67729	6.98782	225.53	-16.84
79/ 3/20	2443952.5	-12.51196	-12.76618	-5.41676	4.99273	-4.45155	-2.02081	18.67795	6.98765	225.58	-16.86
79/ 3/24	2443956.5	-12.50042	-12.77645	-5.42142	4.99672	-4.44757	-2.01912	18.67860	6.98749	225.63	-16.87
79/ 3/28	2443960.5	-12.48888	-12.78672	-5.42609	5.00071	-4.44359	-2.01743	18.67926	6.98732	225.68	-16.89
79/ 4/ 1	2443964.5	-12.47732	-12.79699	-5.43074	5.00470	-4.43960	-2.01574	18.67992	6.98715	225.72	-16.90
79/ 4/ 5	2443968.5	-12.46575	-12.80724	-5.43540	5.00868	-4.43561	-2.01405	18.68057	6.98698	225.77	-16.92
79/ 4/ 9	2443972.5	-12.45418	-12.81748	-5.44005	5.01265	-4.43162	-2.01236	18.68123	6.98681	225.82	-16.93
79/ 4/13	2443976.5	-12.44259	-12.82771	-5.44470	5.01662	-4.42762	-2.01066	18.68189	6.98664	225.87	-16.94
79/ 4/17	2443980.5	-12.43100	-12.83794	-5.44934	5.02058	-4.42362	-2.00896	18.68255	6.98646	225.92	-16.96
79/ 4/21	2443984.5	-12.41940	-12.84815	-5.45398	5.02454	-4.41962	-2.00727	18.68321	6.98629	225.97	-16.97
79/ 4/25	2443988.5	-12.40778	-12.85836	-5.45861	5.02850	-4.41561	-2.00557	18.68387	6.98611	226.02	-16.99

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79/ 4/29	2443992.5	-12.39616	-12.86855	-5.46325	5.03245	-4.41161	-2.00387	18.68453	6.98593	226.07	-17.00
79/ 5/ 3	2443996.5	-12.38453	-12.87874	-5.46787	5.03639	-4.40759	-2.00216	18.68519	6.98576	226.12	-17.02
79/ 5/ 7	2444000.5	-12.37289	-12.88892	-5.47250	5.04033	-4.40358	-2.00046	18.68585	6.98558	226.17	-17.03
79/ 5/11	2444004.5	-12.36124	-12.89909	-5.47712	5.04426	-4.39957	-1.99876	18.68651	6.98540	226.22	-17.04
79/ 5/15	2444008.5	-12.34959	-12.90925	-5.48173	5.04819	-4.39555	-1.99705	18.68717	6.98522	226.27	-17.06
79/ 5/19	2444012.5	-12.33792	-12.91940	-5.48634	5.05212	-4.39153	-1.99534	18.68783	6.98504	226.32	-17.07
79/ 5/23	2444016.5	-12.32624	-12.92954	-5.49095	5.05604	-4.38751	-1.99364	18.68849	6.98486	226.37	-17.09
79/ 5/27	2444020.5	-12.31456	-12.93967	-5.49555	5.05995	-4.38349	-1.99193	18.68915	6.98469	226.42	-17.10
79/ 5/31	2444024.5	-12.30286	-12.94979	-5.50015	5.06386	-4.37946	-1.99022	18.68982	6.98451	226.47	-17.11
79/ 6/ 4	2444028.5	-12.29116	-12.95990	-5.50475	5.06777	-4.37544	-1.98851	18.69048	6.98434	226.52	-17.13
79/ 6/ 8	2444032.5	-12.27945	-12.97001	-5.50934	5.07168	-4.37141	-1.98680	18.69114	6.98417	226.57	-17.14
79/ 6/12	2444036.5	-12.26773	-12.98010	-5.51393	5.07558	-4.36738	-1.98509	18.69180	6.98399	226.62	-17.16
79/ 6/16	2444040.5	-12.25600	-12.99018	-5.51851	5.07948	-4.36335	-1.98338	18.69247	6.98382	226.67	-17.17
79/ 6/20	2444044.5	-12.24426	-13.00026	-5.52309	5.08338	-4.35931	-1.98167	18.69313	6.98365	226.72	-17.19
79/ 6/24	2444048.5	-12.23251	-13.01033	-5.52767	5.08728	-4.35527	-1.97995	18.69380	6.98348	226.76	-17.20
79/ 6/28	2444052.5	-12.22075	-13.02038	-5.53224	5.09117	-4.35123	-1.97824	18.69446	6.98331	226.81	-17.21
79/ 7/ 2	2444056.5	-12.20899	-13.03043	-5.53681	5.09505	-4.34718	-1.97652	18.69513	6.98313	226.86	-17.23
79/ 7/ 6	2444060.5	-12.19721	-13.04047	-5.54137	5.09893	-4.34313	-1.97480	18.69579	6.98296	226.91	-17.24
79/ 7/10	2444064.5	-12.18543	-13.05050	-5.54593	5.10281	-4.33908	-1.97308	18.69646	6.98279	226.96	-17.26
79/ 7/14	2444068.5	-12.17364	-13.06052	-5.55049	5.10669	-4.33503	-1.97136	18.69712	6.98262	227.01	-17.27
79/ 7/18	2444072.5	-12.16184	-13.07053	-5.55504	5.11056	-4.33097	-1.96964	18.69779	6.98245	227.06	-17.28
79/ 7/22	2444076.5	-12.15002	-13.08053	-5.55959	5.11443	-4.32692	-1.96791	18.69846	6.98228	227.11	-17.30
79/ 7/26	2444080.5	-12.13820	-13.09052	-5.56413	5.11829	-4.32285	-1.96619	18.69912	6.98211	227.16	-17.31
79/ 7/30	2444084.5	-12.12638	-13.10050	-5.56867	5.12216	-4.31879	-1.96446	18.69979	6.98194	227.21	-17.33
79/ 8/ 3	2444088.5	-12.11454	-13.11047	-5.57321	5.12601	-4.31472	-1.96274	18.70046	6.98177	227.26	-17.34
79/ 8/ 7	2444092.5	-12.10269	-13.12044	-5.57774	5.12987	-4.31065	-1.96101	18.70113	6.98160	227.31	-17.35
79/ 8/11	2444096.5	-12.09084	-13.13039	-5.58227	5.13372	-4.30658	-1.95928	18.70180	6.98143	227.36	-17.37
79/ 8/15	2444100.5	-12.07897	-13.14033	-5.58680	5.13756	-4.30250	-1.95755	18.70247	6.98126	227.41	-17.38
79/ 8/19	2444104.5	-12.06710	-13.15027	-5.59132	5.14141	-4.29842	-1.95581	18.70313	6.98110	227.46	-17.39
79/ 8/23	2444108.5	-12.05522	-13.16019	-5.59583	5.14525	-4.29434	-1.95408	18.70380	6.98093	227.51	-17.41
79/ 8/27	2444112.5	-12.04333	-13.17011	-5.60034	5.14909	-4.29025	-1.95235	18.70447	6.98076	227.56	-17.42
79/ 8/31	2444116.5	-12.03143	-13.18002	-5.60485	5.15292	-4.28617	-1.95061	18.70514	6.98059	227.61	-17.44
79/ 9/ 4	2444120.5	-12.01952	-13.18991	-5.60936	5.15675	-4.28208	-1.94887	18.70581	6.98043	227.66	-17.45
79/ 9/ 8	2444124.5	-12.00760	-13.19980	-5.61386	5.16058	-4.27798	-1.94713	18.70649	6.98026	227.71	-17.46
79/ 9/12	2444128.5	-11.99567	-13.20968	-5.61835	5.16441	-4.27388	-1.94539	18.70716	6.98009	227.76	-17.48
79/ 9/16	2444132.5	-11.98374	-13.21955	-5.62285	5.16823	-4.26977	-1.94365	18.70783	6.97993	227.81	-17.49
79/ 9/20	2444136.5	-11.97180	-13.22941	-5.62733	5.17205	-4.26567	-1.94190	18.70850	6.97976	227.86	-17.51
79/ 9/24	2444140.5	-11.95984	-13.23926	-5.63182	5.17586	-4.26155	-1.94016	18.70917	6.97958	227.91	-17.52
79/ 9/28	2444144.5	-11.94788	-13.24910	-5.63630	5.17967	-4.25744	-1.93841	18.70984	6.97941	227.96	-17.53
79/10/ 2	2444148.5	-11.93591	-13.25893	-5.64077	5.18348	-4.25332	-1.93666	18.71052	6.97924	228.01	-17.55
79/10/ 6	2444152.5	-11.92393	-13.26875	-5.64525	5.18728	-4.24919	-1.93490	18.71119	6.97906	228.06	-17.56
79/10/10	2444156.5	-11.91194	-13.27856	-5.64971	5.19107	-4.24507	-1.93315	18.71186	6.97889	228.11	-17.57
79/10/14	2444160.5	-11.89995	-13.28836	-5.65418	5.19486	-4.24094	-1.93139	18.71254	6.97871	228.16	-17.59
79/10/18	2444164.5	-11.88794	-13.29815	-5.65864	5.19864	-4.23680	-1.92964	18.71321	6.97853	228.20	-17.60
79/10/22	2444168.5	-11.87593	-13.30794	-5.66309	5.20242	-4.23267	-1.92788	18.71388	6.97835	228.25	-17.61

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
79/10/26	2444172.5	-11.86390	-13.31771	-5.66754	5.20620	-4.22853	-1.92612	18.71456	6.97817	228.30	-17.63
79/10/30	2444176.5	-11.85187	-13.32747	-5.67199	5.20997	-4.22438	-1.92436	18.71523	6.97799	228.35	-17.64
79/11/ 3	2444180.5	-11.83983	-13.33723	-5.67644	5.21373	-4.22024	-1.92259	18.71591	6.97781	228.40	-17.66
79/11/ 7	2444184.5	-11.82778	-13.34697	-5.68088	5.21749	-4.21609	-1.92083	18.71658	6.97762	228.45	-17.67
79/11/11	2444188.5	-11.81573	-13.35671	-5.68531	5.22124	-4.21194	-1.91907	18.71726	6.97744	228.50	-17.68
79/11/15	2444192.5	-11.80366	-13.36643	-5.68974	5.22499	-4.20779	-1.91730	18.71794	6.97726	228.55	-17.70
79/11/19	2444196.5	-11.79159	-13.37615	-5.69417	5.22874	-4.20364	-1.91553	18.71861	6.97707	228.60	-17.71
79/11/23	2444200.5	-11.77950	-13.38586	-5.69859	5.23248	-4.19949	-1.91377	18.71929	6.97689	228.65	-17.72
79/11/27	2444204.5	-11.76741	-13.39555	-5.70301	5.23621	-4.19533	-1.91200	18.71997	6.97671	228.70	-17.74
79/12/ 1	2444208.5	-11.75531	-13.40524	-5.70743	5.23995	-4.19117	-1.91023	18.72064	6.97653	228.75	-17.75
79/12/ 5	2444212.5	-11.74320	-13.41492	-5.71184	5.24368	-4.18701	-1.90846	18.72132	6.97635	228.80	-17.76
79/12/ 9	2444216.5	-11.73108	-13.42459	-5.71624	5.24741	-4.18285	-1.90669	18.72200	6.97617	228.85	-17.78
79/12/13	2444220.5	-11.71895	-13.43424	-5.72065	5.25113	-4.17868	-1.90492	18.72268	6.97599	228.90	-17.79
79/12/17	2444224.5	-11.70682	-13.44389	-5.72505	5.25485	-4.17451	-1.90314	18.72335	6.97581	228.95	-17.80
79/12/21	2444228.5	-11.69467	-13.45353	-5.72944	5.25856	-4.17034	-1.90137	18.72403	6.97563	229.00	-17.82
79/12/25	2444232.5	-11.68252	-13.46316	-5.73383	5.26227	-4.16617	-1.89959	18.72471	6.97545	229.05	-17.83
79/12/29	2444236.5	-11.67036	-13.47278	-5.73822	5.26598	-4.16199	-1.89781	18.72539	6.97527	229.10	-17.84
80/ 1/ 2	2444240.5	-11.65819	-13.48239	-5.74260	5.26968	-4.15781	-1.89604	18.72607	6.97509	229.15	-17.86
80/ 1/ 6	2444244.5	-11.64601	-13.49199	-5.74698	5.27337	-4.15363	-1.89426	18.72675	6.97491	229.20	-17.87
80/ 1/10	2444248.5	-11.63383	-13.50158	-5.75135	5.27707	-4.14945	-1.89248	18.72743	6.97473	229.25	-17.89
80/ 1/14	2444252.5	-11.62163	-13.51116	-5.75572	5.28076	-4.14526	-1.89069	18.72811	6.97455	229.30	-17.90
80/ 1/18	2444256.5	-11.60943	-13.52074	-5.76009	5.28444	-4.14108	-1.88891	18.72879	6.97437	229.35	-17.91
80/ 1/22	2444260.5	-11.59722	-13.53030	-5.76445	5.28813	-4.13689	-1.88713	18.72947	6.97419	229.40	-17.93
80/ 1/26	2444264.5	-11.58499	-13.53985	-5.76881	5.29181	-4.13270	-1.88534	18.73016	6.97402	229.45	-17.94
80/ 1/30	2444268.5	-11.57277	-13.54939	-5.77316	5.29548	-4.12850	-1.88356	18.73084	6.97384	229.50	-17.95
80/ 2/ 3	2444272.5	-11.56053	-13.55892	-5.77751	5.29915	-4.12431	-1.88177	18.73152	6.97367	229.55	-17.97
80/ 2/ 7	2444276.5	-11.54828	-13.56845	-5.78185	5.30282	-4.12011	-1.87998	18.73220	6.97349	229.60	-17.98
80/ 2/11	2444280.5	-11.53603	-13.57796	-5.78620	5.30649	-4.11591	-1.87820	18.73289	6.97332	229.65	-17.99
80/ 2/15	2444284.5	-11.52376	-13.58746	-5.79053	5.31015	-4.11171	-1.87641	18.73357	6.97315	229.70	-18.00
80/ 2/19	2444288.5	-11.51149	-13.59696	-5.79487	5.31381	-4.10751	-1.87462	18.73425	6.97298	229.75	-18.02
80/ 2/23	2444292.5	-11.49921	-13.60644	-5.79919	5.31747	-4.10331	-1.87283	18.73494	6.97281	229.80	-18.03
80/ 2/27	2444296.5	-11.48692	-13.61592	-5.80352	5.32113	-4.09910	-1.87104	18.73562	6.97265	229.85	-18.04
80/ 3/ 2	2444300.5	-11.47463	-13.62538	-5.80784	5.32479	-4.09489	-1.86924	18.73630	6.97248	229.90	-18.06
80/ 3/ 6	2444304.5	-11.46232	-13.63484	-5.81215	5.32844	-4.09067	-1.86745	18.73699	6.97232	229.95	-18.07
80/ 3/10	2444308.5	-11.45001	-13.64428	-5.81647	5.33209	-4.08645	-1.86565	18.73767	6.97215	230.00	-18.08
80/ 3/14	2444312.5	-11.43769	-13.65372	-5.82077	5.33574	-4.08222	-1.86385	18.73836	6.97199	230.05	-18.10
80/ 3/18	2444316.5	-11.42535	-13.66314	-5.82508	5.33938	-4.07799	-1.86205	18.73904	6.97182	230.10	-18.11
80/ 3/22	2444320.5	-11.41302	-13.67256	-5.82938	5.34302	-4.07376	-1.86025	18.73973	6.97165	230.15	-18.12
80/ 3/26	2444324.5	-11.40067	-13.68197	-5.83367	5.34666	-4.06952	-1.85845	18.74041	6.97149	230.20	-18.14
80/ 3/30	2444328.5	-11.38831	-13.69136	-5.83796	5.35029	-4.06528	-1.85664	18.74110	6.97132	230.25	-18.15
80/ 4/ 3	2444332.5	-11.37595	-13.70075	-5.84225	5.35392	-4.06104	-1.85483	18.74179	6.97115	230.30	-18.16
80/ 4/ 7	2444336.5	-11.36357	-13.71013	-5.84653	5.35755	-4.05679	-1.85302	18.74247	6.97098	230.35	-18.18
80/ 4/11	2444340.5	-11.35119	-13.71949	-5.85081	5.36117	-4.05254	-1.85121	18.74316	6.97081	230.40	-18.19
80/ 4/15	2444344.5	-11.33880	-13.72885	-5.85509	5.36479	-4.04828	-1.84940	18.74385	6.97064	230.45	-18.20
80/ 4/19	2444348.5	-11.32641	-13.73820	-5.85936	5.36840	-4.04402	-1.84758	18.74454	6.97046	230.50	-18.22

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80/ 4/23	2444352.5	-11.31400	-13.74753	-5.86362	5.37201	-4.03975	-1.84577	18.74522	6.97029	230.55	-18.23
80/ 4/27	2444356.5	-11.30159	-13.75686	-5.86789	5.37561	-4.03548	-1.84395	18.74591	6.97011	230.60	-18.24
80/ 5/ 1	2444360.5	-11.28916	-13.76618	-5.87214	5.37921	-4.03121	-1.84213	18.74660	6.96993	230.65	-18.25
80/ 5/ 5	2444364.5	-11.27673	-13.77549	-5.87640	5.38280	-4.02693	-1.84030	18.74729	6.96975	230.70	-18.27
80/ 5/ 9	2444368.5	-11.26429	-13.78479	-5.88065	5.38639	-4.02265	-1.83848	18.74798	6.96957	230.75	-18.28
80/ 5/13	2444372.5	-11.25185	-13.79407	-5.88489	5.38997	-4.01837	-1.83666	18.74866	6.96939	230.80	-18.29
80/ 5/17	2444376.5	-11.23939	-13.80335	-5.88913	5.39355	-4.01409	-1.83483	18.74935	6.96921	230.85	-18.31
80/ 5/21	2444380.5	-11.22693	-13.81262	-5.89337	5.39713	-4.00980	-1.83300	18.75004	6.96903	230.90	-18.32
80/ 5/25	2444384.5	-11.21445	-13.82188	-5.89760	5.40070	-4.00551	-1.83117	18.75073	6.96885	230.95	-18.33
80/ 5/29	2444388.5	-11.20197	-13.83113	-5.90183	5.40427	-4.00121	-1.82934	18.75142	6.96866	231.00	-18.35
80/ 6/ 2	2444392.5	-11.18948	-13.84037	-5.90605	5.40783	-3.99691	-1.82751	18.75211	6.96848	231.05	-18.36
80/ 6/ 6	2444396.5	-11.17699	-13.84959	-5.91027	5.41139	-3.99260	-1.82567	18.75280	6.96829	231.10	-18.37
80/ 6/10	2444400.5	-11.16448	-13.85881	-5.91449	5.41494	-3.98829	-1.82384	18.75349	6.96810	231.15	-18.38
80/ 6/14	2444404.5	-11.15197	-13.86802	-5.91870	5.41848	-3.98398	-1.82200	18.75418	6.96791	231.20	-18.40
80/ 6/18	2444408.5	-11.13945	-13.87722	-5.92291	5.42202	-3.97966	-1.82016	18.75487	6.96771	231.25	-18.41
80/ 6/22	2444412.5	-11.12692	-13.88641	-5.92711	5.42556	-3.97535	-1.81832	18.75557	6.96752	231.30	-18.42
80/ 6/26	2444416.5	-11.11438	-13.89559	-5.93131	5.42908	-3.97102	-1.81647	18.75626	6.96732	231.35	-18.44
80/ 6/30	2444420.5	-11.10183	-13.90476	-5.93550	5.43261	-3.96670	-1.81463	18.75695	6.96712	231.40	-18.45
80/ 7/ 4	2444424.5	-11.08928	-13.91392	-5.93969	5.43612	-3.96237	-1.81278	18.75764	6.96692	231.45	-18.46
80/ 7/ 8	2444428.5	-11.07671	-13.92306	-5.94388	5.43963	-3.95805	-1.81094	18.75833	6.96672	231.50	-18.47
80/ 7/12	2444432.5	-11.06414	-13.93220	-5.94806	5.44313	-3.95371	-1.80909	18.75902	6.96652	231.55	-18.49
80/ 7/16	2444436.5	-11.05156	-13.94133	-5.95224	5.44663	-3.94938	-1.80724	18.75972	6.96631	231.60	-18.50
80/ 7/20	2444440.5	-11.03898	-13.95045	-5.95641	5.45012	-3.94505	-1.80539	18.76041	6.96611	231.65	-18.51
80/ 7/24	2444444.5	-11.02638	-13.95956	-5.96058	5.45361	-3.94071	-1.80354	18.76110	6.96590	231.70	-18.52
80/ 7/28	2444448.5	-11.01378	-13.96866	-5.96474	5.45709	-3.93637	-1.80169	18.76179	6.96570	231.75	-18.54
80/ 8/ 1	2444452.5	-11.00117	-13.97775	-5.96890	5.46057	-3.93204	-1.79984	18.76249	6.96549	231.80	-18.55
80/ 8/ 5	2444456.5	-10.98855	-13.98682	-5.97306	5.46404	-3.92770	-1.79798	18.76318	6.96529	231.85	-18.56
80/ 8/ 9	2444460.5	-10.97592	-13.99589	-5.97721	5.46750	-3.92336	-1.79613	18.76387	6.96508	231.90	-18.58
80/ 8/13	2444464.5	-10.96329	-14.00495	-5.98136	5.47096	-3.91902	-1.79428	18.76457	6.96488	231.95	-18.59
80/ 8/17	2444468.5	-10.95065	-14.01400	-5.98550	5.47442	-3.91467	-1.79243	18.76526	6.96468	232.00	-18.60
80/ 8/21	2444472.5	-10.93800	-14.02304	-5.98964	5.47788	-3.91033	-1.79057	18.76596	6.96448	232.05	-18.61
80/ 8/25	2444476.5	-10.92534	-14.03207	-5.99377	5.48133	-3.90599	-1.78872	18.76665	6.96428	232.10	-18.63
80/ 8/29	2444480.5	-10.91267	-14.04109	-5.99790	5.48478	-3.90164	-1.78686	18.76735	6.96408	232.15	-18.64
80/ 9/ 2	2444484.5	-10.89999	-14.05009	-6.00203	5.48822	-3.89729	-1.78501	18.76804	6.96388	232.20	-18.65
80/ 9/ 6	2444488.5	-10.88731	-14.05909	-6.00615	5.49166	-3.89294	-1.78315	18.76874	6.96368	232.25	-18.66
80/ 9/10	2444492.5	-10.87462	-14.06808	-6.01027	5.49510	-3.88858	-1.78129	18.76943	6.96349	232.30	-18.68
80/ 9/14	2444496.5	-10.86192	-14.07706	-6.01438	5.49853	-3.88423	-1.77943	18.77013	6.96329	232.35	-18.69
80/ 9/18	2444500.5	-10.84922	-14.08603	-6.01849	5.50196	-3.87987	-1.77757	18.77083	6.96309	232.40	-18.70
80/ 9/22	2444504.5	-10.83650	-14.09499	-6.02259	5.50538	-3.87551	-1.77571	18.77152	6.96290	232.45	-18.71
80/ 9/26	2444508.5	-10.82378	-14.10393	-6.02670	5.50880	-3.87115	-1.77385	18.77222	6.96270	232.50	-18.73
80/ 9/30	2444512.5	-10.81105	-14.11287	-6.03079	5.51222	-3.86679	-1.77198	18.77292	6.96251	232.55	-18.74
80/10/ 4	2444516.5	-10.79831	-14.12180	-6.03488	5.51563	-3.86242	-1.77012	18.77361	6.96231	232.60	-18.75
80/10/ 8	2444520.5	-10.78557	-14.13072	-6.03897	5.51904	-3.85805	-1.76826	18.77431	6.96212	232.65	-18.76
80/10/12	2444524.5	-10.77281	-14.13963	-6.04305	5.52245	-3.85368	-1.76639	18.77501	6.96193	232.70	-18.78
80/10/16	2444528.5	-10.76005	-14.14852	-6.04713	5.52585	-3.84931	-1.76452	18.77571	6.96173	232.75	-18.79

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
80/10/20	2444532.5	-10.74728	-14.15741	-6.05120	5.52925	-3.84494	-1.76266	18.77641	6.96154	232.80	-18.80
80/10/24	2444536.5	-10.73450	-14.16629	-6.05527	5.53264	-3.84056	-1.76079	18.77710	6.96135	232.85	-18.81
80/10/28	2444540.5	-10.72172	-14.17516	-6.05934	5.53604	-3.83618	-1.75892	18.77780	6.96116	232.90	-18.83
80/11/ 1	2444544.5	-10.70892	-14.18401	-6.06340	5.53942	-3.83180	-1.75705	18.77850	6.96097	232.95	-18.84
80/11/ 5	2444548.5	-10.69612	-14.19286	-6.06746	5.54281	-3.82742	-1.75518	18.77920	6.96079	233.00	-18.85
80/11/ 9	2444552.5	-10.68331	-14.20170	-6.07151	5.54619	-3.82304	-1.75331	18.77990	6.96060	233.05	-18.86
80/11/13	2444556.5	-10.67050	-14.21052	-6.07556	5.54958	-3.81865	-1.75143	18.78060	6.96042	233.10	-18.87
80/11/17	2444560.5	-10.65767	-14.21934	-6.07960	5.55295	-3.81426	-1.74956	18.78130	6.96023	233.15	-18.89
80/11/21	2444564.5	-10.64484	-14.22815	-6.08364	5.55633	-3.80987	-1.74768	18.78200	6.96005	233.20	-18.90
80/11/25	2444568.5	-10.63200	-14.23694	-6.08768	5.55971	-3.80547	-1.74580	18.78270	6.95987	233.25	-18.91
80/11/29	2444572.5	-10.61915	-14.24573	-6.09171	5.56308	-3.80107	-1.74392	18.78340	6.95968	233.30	-18.92
80/12/ 3	2444576.5	-10.60630	-14.25451	-6.09574	5.56644	-3.79666	-1.74204	18.78410	6.95950	233.35	-18.94
80/12/ 7	2444580.5	-10.59343	-14.26327	-6.09976	5.56980	-3.79225	-1.74016	18.78480	6.95931	233.40	-18.95
80/12/11	2444584.5	-10.58056	-14.27203	-6.10378	5.57316	-3.78784	-1.73827	18.78550	6.95913	233.45	-18.96
80/12/15	2444588.5	-10.56768	-14.28077	-6.10779	5.57652	-3.78342	-1.73639	18.78621	6.95894	233.50	-18.97
80/12/19	2444592.5	-10.55480	-14.28951	-6.11180	5.57986	-3.77900	-1.73450	18.78691	6.95875	233.55	-18.99
80/12/23	2444596.5	-10.54190	-14.29823	-6.11580	5.58321	-3.77457	-1.73261	18.78761	6.95856	233.60	-19.00
80/12/27	2444600.5	-10.52900	-14.30695	-6.11980	5.58655	-3.77014	-1.73072	18.78831	6.95837	233.65	-19.01
80/12/31	2444604.5	-10.51609	-14.31565	-6.12380	5.58988	-3.76571	-1.72882	18.78901	6.95817	233.70	-19.02
81/ 1/ 4	2444608.5	-10.50317	-14.32435	-6.12779	5.59321	-3.76128	-1.72693	18.78972	6.95798	233.75	-19.03
81/ 1/ 8	2444612.5	-10.49025	-14.33303	-6.13178	5.59654	-3.75684	-1.72503	18.79042	6.95779	233.80	-19.05
81/ 1/12	2444616.5	-10.47732	-14.34170	-6.13576	5.59986	-3.75240	-1.72313	18.79112	6.95759	233.85	-19.06
81/ 1/16	2444620.5	-10.46438	-14.35037	-6.13974	5.60317	-3.74795	-1.72123	18.79182	6.95739	233.90	-19.07
81/ 1/20	2444624.5	-10.45143	-14.35902	-6.14371	5.60648	-3.74351	-1.71933	18.79253	6.95719	233.95	-19.08
81/ 1/24	2444628.5	-10.43847	-14.36766	-6.14768	5.60978	-3.73906	-1.71743	18.79323	6.95699	234.00	-19.09
81/ 1/28	2444632.5	-10.42551	-14.37630	-6.15165	5.61308	-3.73461	-1.71553	18.79393	6.95679	234.05	-19.11
81/ 2/ 1	2444636.5	-10.41254	-14.38492	-6.15561	5.61637	-3.73016	-1.71362	18.79464	6.95659	234.10	-19.12
81/ 2/ 5	2444640.5	-10.39956	-14.39353	-6.15957	5.61966	-3.72570	-1.71172	18.79534	6.95639	234.15	-19.13
81/ 2/ 9	2444644.5	-10.38657	-14.40213	-6.16352	5.62294	-3.72124	-1.70981	18.79605	6.95619	234.20	-19.14
81/ 2/13	2444648.5	-10.37358	-14.41073	-6.16747	5.62623	-3.71678	-1.70790	18.79675	6.95599	234.25	-19.15
81/ 2/17	2444652.5	-10.36058	-14.41931	-6.17141	5.62950	-3.71232	-1.70600	18.79745	6.95579	234.30	-19.17
81/ 2/21	2444656.5	-10.34757	-14.42788	-6.17535	5.63277	-3.70786	-1.70409	18.79816	6.95559	234.35	-19.18
81/ 2/25	2444660.5	-10.33455	-14.43644	-6.17928	5.63604	-3.70339	-1.70217	18.79886	6.95539	234.40	-19.19
81/ 3/ 1	2444664.5	-10.32153	-14.44499	-6.18321	5.63930	-3.69891	-1.70026	18.79957	6.95518	234.45	-19.20
81/ 3/ 5	2444668.5	-10.30850	-14.45353	-6.18714	5.64256	-3.69444	-1.69835	18.80027	6.95498	234.50	-19.21
81/ 3/ 9	2444672.5	-10.29546	-14.46206	-6.19106	5.64581	-3.68996	-1.69643	18.80098	6.95477	234.55	-19.23
81/ 3/13	2444676.5	-10.28241	-14.47058	-6.19498	5.64906	-3.68548	-1.69452	18.80168	6.95457	234.60	-19.24
81/ 3/17	2444680.5	-10.26936	-14.47909	-6.19889	5.65230	-3.68100	-1.69260	18.80239	6.95436	234.65	-19.25
81/ 3/21	2444684.5	-10.25630	-14.48758	-6.20280	5.65553	-3.67652	-1.69068	18.80310	6.95415	234.70	-19.26
81/ 3/25	2444688.5	-10.24323	-14.49607	-6.20670	5.65877	-3.67203	-1.68876	18.80380	6.95395	234.75	-19.27
81/ 3/29	2444692.5	-10.23015	-14.50455	-6.21060	5.66199	-3.66755	-1.68684	18.80451	6.95374	234.80	-19.29
81/ 4/ 2	2444696.5	-10.21707	-14.51302	-6.21450	5.66521	-3.66306	-1.68492	18.80521	6.95353	234.85	-19.30
81/ 4/ 6	2444700.5	-10.20397	-14.52148	-6.21839	5.66843	-3.65857	-1.68300	18.80592	6.95332	234.90	-19.31
81/ 4/10	2444704.5	-10.19088	-14.52992	-6.22227	5.67164	-3.65407	-1.68107	18.80663	6.95311	234.96	-19.32
81/ 4/14	2444708.5	-10.17777	-14.53836	-6.22615	5.67485	-3.64958	-1.67915	18.80734	6.95291	235.01	-19.33

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
81/ 4/18	2444712.5	-10.16466	-14.54678	-6.23003	5.67805	-3.64508	-1.67723	18.80804	6.95270	235.06	-19.34
81/ 4/22	2444716.5	-10.15154	-14.55520	-6.23390	5.68125	-3.64059	-1.67530	18.80875	6.95249	235.11	-19.36
81/ 4/26	2444720.5	-10.13841	-14.56361	-6.23777	5.68444	-3.63609	-1.67338	18.80946	6.95228	235.16	-19.37
81/ 4/30	2444724.5	-10.12527	-14.57200	-6.24163	5.68764	-3.63159	-1.67145	18.81016	6.95208	235.21	-19.38
81/ 5/ 4	2444728.5	-10.11213	-14.58038	-6.24549	5.69082	-3.62709	-1.66952	18.81087	6.95187	235.26	-19.39
81/ 5/ 8	2444732.5	-10.09898	-14.58876	-6.24935	5.69401	-3.62259	-1.66760	18.81158	6.95167	235.31	-19.40
81/ 5/12	2444736.5	-10.08582	-14.59712	-6.25320	5.69719	-3.61808	-1.66567	18.81229	6.95147	235.36	-19.41
81/ 5/16	2444740.5	-10.07265	-14.60548	-6.25704	5.70037	-3.61357	-1.66374	18.81300	6.95127	235.41	-19.43
81/ 5/20	2444744.5	-10.05948	-14.61382	-6.26089	5.70355	-3.60906	-1.66181	18.81371	6.95107	235.46	-19.44
81/ 5/24	2444748.5	-10.04630	-14.62215	-6.26472	5.70672	-3.60455	-1.65988	18.81441	6.95087	235.51	-19.45
81/ 5/28	2444752.5	-10.03311	-14.63047	-6.26855	5.70989	-3.60003	-1.65794	18.81512	6.95067	235.56	-19.46
81/ 6/ 1	2444756.5	-10.01992	-14.63878	-6.27238	5.71305	-3.59551	-1.65601	18.81583	6.95047	235.61	-19.47
81/ 6/ 5	2444760.5	-10.00672	-14.64709	-6.27621	5.71621	-3.59098	-1.65407	18.81654	6.95027	235.66	-19.48
81/ 6/ 9	2444764.5	-9.99351	-14.65538	-6.28002	5.71937	-3.58646	-1.65213	18.81725	6.95007	235.71	-19.50
81/ 6/13	2444768.5	-9.98029	-14.66366	-6.28384	5.72252	-3.58193	-1.65019	18.81796	6.94986	235.76	-19.51
81/ 6/17	2444772.5	-9.96707	-14.67193	-6.28765	5.72567	-3.57739	-1.64825	18.81867	6.94966	235.81	-19.52
81/ 6/21	2444776.5	-9.95384	-14.68018	-6.29145	5.72881	-3.57286	-1.64631	18.81938	6.94946	235.86	-19.53
81/ 6/25	2444780.5	-9.94060	-14.68843	-6.29526	5.73195	-3.56832	-1.64437	18.82009	6.94925	235.91	-19.54
81/ 6/29	2444784.5	-9.92735	-14.69667	-6.29905	5.73509	-3.56377	-1.64242	18.82080	6.94905	235.96	-19.55
81/ 7/ 3	2444788.5	-9.91410	-14.70490	-6.30284	5.73822	-3.55923	-1.64048	18.82151	6.94884	236.01	-19.56
81/ 7/ 7	2444792.5	-9.90084	-14.71312	-6.30663	5.74134	-3.55468	-1.63853	18.82222	6.94863	236.06	-19.58
81/ 7/11	2444796.5	-9.88758	-14.72132	-6.31041	5.74446	-3.55013	-1.63658	18.82293	6.94843	236.11	-19.59
81/ 7/15	2444800.5	-9.87430	-14.72952	-6.31419	5.74758	-3.54557	-1.63463	18.82364	6.94822	236.16	-19.60
81/ 7/19	2444804.5	-9.86102	-14.73770	-6.31797	5.75069	-3.54101	-1.63268	18.82436	6.94801	236.21	-19.61
81/ 7/23	2444808.5	-9.84773	-14.74588	-6.32174	5.75379	-3.53645	-1.63073	18.82507	6.94780	236.26	-19.62
81/ 7/27	2444812.5	-9.83443	-14.75404	-6.32550	5.75689	-3.53189	-1.62877	18.82578	6.94759	236.31	-19.63
81/ 7/31	2444816.5	-9.82113	-14.76220	-6.32926	5.75999	-3.52733	-1.62682	18.82649	6.94737	236.36	-19.64
81/ 8/ 4	2444820.5	-9.80782	-14.77034	-6.33302	5.76308	-3.52276	-1.62486	18.82720	6.94716	236.41	-19.66
81/ 8/ 8	2444824.5	-9.79450	-14.77847	-6.33677	5.76616	-3.51819	-1.62290	18.82791	6.94695	236.47	-19.67
81/ 8/12	2444828.5	-9.78118	-14.78660	-6.34052	5.76925	-3.51362	-1.62095	18.82862	6.94674	236.52	-19.68
81/ 8/16	2444832.5	-9.76785	-14.79471	-6.34426	5.77233	-3.50904	-1.61898	18.82934	6.94653	236.57	-19.69
81/ 8/20	2444836.5	-9.75451	-14.80281	-6.34800	5.77540	-3.50446	-1.61702	18.83005	6.94631	236.62	-19.70
81/ 8/24	2444840.5	-9.74116	-14.81090	-6.35173	5.77846	-3.49988	-1.61506	18.83076	6.94609	236.67	-19.71
81/ 8/28	2444844.5	-9.72781	-14.81898	-6.35546	5.78152	-3.49529	-1.61309	18.83147	6.94587	236.72	-19.72
81/ 9/ 1	2444848.5	-9.71445	-14.82705	-6.35918	5.78458	-3.49070	-1.61113	18.83219	6.94565	236.77	-19.74
81/ 9/ 5	2444852.5	-9.70108	-14.83511	-6.36290	5.78763	-3.48611	-1.60916	18.83290	6.94543	236.82	-19.75
81/ 9/ 9	2444856.5	-9.68771	-14.84316	-6.36662	5.79067	-3.48151	-1.60719	18.83361	6.94520	236.87	-19.76
81/ 9/13	2444860.5	-9.67433	-14.85119	-6.37033	5.79371	-3.47692	-1.60522	18.83432	6.94498	236.92	-19.77
81/ 9/17	2444864.5	-9.66094	-14.85922	-6.37403	5.79674	-3.47232	-1.60325	18.83504	6.94475	236.97	-19.78
81/ 9/21	2444868.5	-9.64755	-14.86724	-6.37774	5.79976	-3.46772	-1.60128	18.83575	6.94452	237.02	-19.79
81/ 9/25	2444872.5	-9.63414	-14.87524	-6.38143	5.80278	-3.46312	-1.59930	18.83646	6.94429	237.07	-19.80
81/ 9/29	2444876.5	-9.62074	-14.88324	-6.38513	5.80579	-3.45852	-1.59733	18.83718	6.94406	237.12	-19.81
81/10/ 3	2444880.5	-9.60732	-14.89122	-6.38881	5.80880	-3.45391	-1.59536	18.83789	6.94383	237.17	-19.82
81/10/ 7	2444884.5	-9.59390	-14.89920	-6.39250	5.81180	-3.44931	-1.59338	18.83860	6.94360	237.22	-19.84
81/10/11	2444888.5	-9.58047	-14.90716	-6.39618	5.81479	-3.44470	-1.59141	18.83932	6.94337	237.27	-19.85

1.7 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

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81/10/15	2444892.5	-9.56703	-14.91511	-6.39985	5.81778	-3.44009	-1.58943	18.84003	6.94314	237.32	-19.86
81/10/19	2444896.5	-9.55359	-14.92306	-6.40352	5.82077	-3.43549	-1.58745	18.84074	6.94290	237.37	-19.87
81/10/23	2444900.5	-9.54014	-14.93099	-6.40718	5.82375	-3.43088	-1.58548	18.84146	6.94267	237.42	-19.88
81/10/27	2444904.5	-9.52668	-14.93891	-6.41084	5.82672	-3.42627	-1.58350	18.84217	6.94244	237.47	-19.89
81/10/31	2444908.5	-9.51322	-14.94682	-6.41450	5.82970	-3.42167	-1.58153	18.84289	6.94222	237.52	-19.90
81/11/ 4	2444912.5	-9.49974	-14.95472	-6.41815	5.83267	-3.41706	-1.57955	18.84360	6.94199	237.57	-19.91
81/11/ 8	2444916.5	-9.48627	-14.96260	-6.42180	5.83563	-3.41245	-1.57757	18.84432	6.94177	237.63	-19.92
81/11/12	2444920.5	-9.47278	-14.97048	-6.42544	5.83859	-3.40783	-1.57559	18.84503	6.94154	237.68	-19.94
81/11/16	2444924.5	-9.45929	-14.97835	-6.42908	5.84155	-3.40322	-1.57362	18.84575	6.94132	237.73	-19.95
81/11/20	2444928.5	-9.44579	-14.98621	-6.43271	5.84450	-3.39860	-1.57164	18.84646	6.94109	237.78	-19.96
81/11/24	2444932.5	-9.43229	-14.99405	-6.43634	5.84745	-3.39399	-1.56965	18.84718	6.94087	237.83	-19.97
81/11/28	2444936.5	-9.41877	-15.00189	-6.43996	5.85040	-3.38937	-1.56767	18.84789	6.94065	237.88	-19.98
81/12/ 2	2444940.5	-9.40526	-15.00971	-6.44358	5.85334	-3.38475	-1.56569	18.84861	6.94042	237.93	-19.99
81/12/ 6	2444944.5	-9.39173	-15.01753	-6.44720	5.85628	-3.38013	-1.56371	18.84933	6.94020	237.98	-20.00
81/12/10	2444948.5	-9.37820	-15.02533	-6.45081	5.85921	-3.37550	-1.56172	18.85004	6.93998	238.03	-20.01
81/12/14	2444952.5	-9.36466	-15.03312	-6.45441	5.86214	-3.37088	-1.55974	18.85076	6.93976	238.08	-20.02
81/12/18	2444956.5	-9.35111	-15.04091	-6.45801	5.86507	-3.36625	-1.55776	18.85147	6.93954	238.13	-20.03
81/12/22	2444960.5	-9.33756	-15.04868	-6.46161	5.86799	-3.36162	-1.55577	18.85219	6.93933	238.18	-20.04
81/12/26	2444964.5	-9.32400	-15.05644	-6.46520	5.87091	-3.35699	-1.55378	18.85291	6.93911	238.23	-20.06
81/12/30	2444968.5	-9.31043	-15.06419	-6.46879	5.87383	-3.35236	-1.55180	18.85362	6.93889	238.28	-20.07
82/ 1/ 3	2444972.5	-9.29686	-15.07193	-6.47237	5.87674	-3.34773	-1.54981	18.85434	6.93868	238.33	-20.08
82/ 1/ 7	2444976.5	-9.28328	-15.07965	-6.47595	5.87965	-3.34309	-1.54782	18.85506	6.93846	238.38	-20.09
82/ 1/11	2444980.5	-9.26969	-15.08737	-6.47952	5.88255	-3.33846	-1.54583	18.85578	6.93825	238.43	-20.10
82/ 1/15	2444984.5	-9.25610	-15.09508	-6.48309	5.88545	-3.33382	-1.54384	18.85649	6.93804	238.48	-20.11
82/ 1/19	2444988.5	-9.24250	-15.10278	-6.48666	5.88835	-3.32918	-1.54185	18.85721	6.93783	238.53	-20.12
82/ 1/23	2444992.5	-9.22890	-15.11046	-6.49022	5.89125	-3.32453	-1.53985	18.85793	6.93762	238.58	-20.13
82/ 1/27	2444996.5	-9.21528	-15.11814	-6.49377	5.89415	-3.31989	-1.53786	18.85865	6.93741	238.64	-20.14
82/ 1/31	2445000.5	-9.20166	-15.12580	-6.49732	5.89704	-3.31524	-1.53587	18.85936	6.93720	238.69	-20.15
82/ 2/ 4	2445004.5	-9.18804	-15.13345	-6.50087	5.89993	-3.31059	-1.53387	18.86008	6.93700	238.74	-20.16
82/ 2/ 8	2445008.5	-9.17440	-15.14110	-6.50441	5.90282	-3.30593	-1.53187	18.86080	6.93679	238.79	-20.17
82/ 2/12	2445012.5	-9.16076	-15.14873	-6.50795	5.90570	-3.30127	-1.52987	18.86152	6.93658	238.84	-20.18
82/ 2/16	2445016.5	-9.14712	-15.15635	-6.51148	5.90858	-3.29661	-1.52787	18.86224	6.93637	238.89	-20.19
82/ 2/20	2445020.5	-9.13346	-15.16396	-6.51501	5.91145	-3.29194	-1.52587	18.86296	6.93616	238.94	-20.21
82/ 2/24	2445024.5	-9.11980	-15.17156	-6.51853	5.91432	-3.28726	-1.52386	18.86367	6.93595	238.99	-20.22
82/ 2/28	2445028.5	-9.10614	-15.17915	-6.52205	5.91719	-3.28259	-1.52186	18.86439	6.93574	239.04	-20.23
82/ 3/ 4	2445032.5	-9.09246	-15.18673	-6.52556	5.92005	-3.27791	-1.51985	18.86511	6.93553	239.09	-20.24
82/ 3/ 8	2445036.5	-9.07878	-15.19429	-6.52907	5.92290	-3.27323	-1.51784	18.86583	6.93532	239.14	-20.25
82/ 3/12	2445040.5	-9.06510	-15.20185	-6.53257	5.92575	-3.26854	-1.51583	18.86655	6.93510	239.19	-20.26
82/ 3/16	2445044.5	-9.05140	-15.20940	-6.53607	5.92860	-3.26385	-1.51381	18.86727	6.93488	239.24	-20.27
82/ 3/20	2445048.5	-9.03771	-15.21693	-6.53957	5.93144	-3.25916	-1.51180	18.86799	6.93466	239.29	-20.28
82/ 3/24	2445052.5	-9.02400	-15.22445	-6.54306	5.93427	-3.25446	-1.50978	18.86871	6.93444	239.34	-20.29
82/ 3/28	2445056.5	-9.01029	-15.23197	-6.54654	5.93710	-3.24976	-1.50776	18.86943	6.93422	239.39	-20.30
82/ 4/ 1	2445060.5	-8.99657	-15.23947	-6.55002	5.93992	-3.24506	-1.50574	18.87015	6.93400	239.44	-20.31
82/ 4/ 5	2445064.5	-8.98284	-15.24696	-6.55350	5.94274	-3.24035	-1.50372	18.87087	6.93377	239.50	-20.32
82/ 4/ 9	2445068.5	-8.96911	-15.25444	-6.55697	5.94555	-3.23564	-1.50170	18.87159	6.93354	239.55	-20.33

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
82/ 4/13	2445072.5	-8.95537	-15.26191	-6.56044	5.94835	-3.23093	-1.49968	18.87231	6.93331	239.60	-20.34
82/ 4/17	2445076.5	-8.94163	-15.26937	-6.56390	5.95115	-3.22622	-1.49765	18.87303	6.93308	239.65	-20.35
82/ 4/21	2445080.5	-8.92788	-15.27682	-6.56736	5.95394	-3.22151	-1.49563	18.87375	6.93285	239.70	-20.36
82/ 4/25	2445084.5	-8.91412	-15.28425	-6.57081	5.95673	-3.21680	-1.49360	18.87446	6.93262	239.75	-20.37
82/ 4/29	2445088.5	-8.90035	-15.29168	-6.57426	5.95951	-3.21208	-1.49158	18.87518	6.93239	239.80	-20.38
82/ 5/ 3	2445092.5	-8.88658	-15.29909	-6.57770	5.96229	-3.20736	-1.48955	18.87590	6.93216	239.85	-20.39
82/ 5/ 7	2445096.5	-8.87281	-15.30650	-6.58114	5.96506	-3.20263	-1.48752	18.87662	6.93192	239.90	-20.40
82/ 5/11	2445100.5	-8.85902	-15.31389	-6.58457	5.96783	-3.19791	-1.48549	18.87734	6.93169	239.95	-20.41
82/ 5/15	2445104.5	-8.84523	-15.32127	-6.58800	5.97059	-3.19318	-1.48346	18.87807	6.93145	240.00	-20.42
82/ 5/19	2445108.5	-8.83144	-15.32864	-6.59143	5.97335	-3.18845	-1.48142	18.87879	6.93121	240.05	-20.44
82/ 5/23	2445112.5	-8.81763	-15.33600	-6.59485	5.97609	-3.18372	-1.47939	18.87951	6.93097	240.10	-20.45
82/ 5/27	2445116.5	-8.80382	-15.34335	-6.59826	5.97884	-3.17898	-1.47735	18.88023	6.93073	240.15	-20.46
82/ 5/31	2445120.5	-8.79001	-15.35069	-6.60167	5.98157	-3.17425	-1.47532	18.88095	6.93049	240.20	-20.47
82/ 6/ 4	2445124.5	-8.77619	-15.35802	-6.60508	5.98430	-3.16951	-1.47328	18.88167	6.93024	240.25	-20.48
82/ 6/ 8	2445128.5	-8.76236	-15.36534	-6.60848	5.98703	-3.16477	-1.47124	18.88239	6.93000	240.31	-20.49
82/ 6/12	2445132.5	-8.74853	-15.37264	-6.61188	5.98975	-3.16003	-1.46921	18.88311	6.92975	240.36	-20.50
82/ 6/16	2445136.5	-8.73468	-15.37994	-6.61527	5.99246	-3.15529	-1.46717	18.88383	6.92950	240.41	-20.51
82/ 6/20	2445140.5	-8.72084	-15.38722	-6.61866	5.99517	-3.15055	-1.46513	18.88455	6.92926	240.46	-20.52
82/ 6/24	2445144.5	-8.70698	-15.39449	-6.62204	5.99787	-3.14581	-1.46309	18.88527	6.92901	240.51	-20.53
82/ 6/28	2445148.5	-8.69313	-15.40176	-6.62542	6.00056	-3.14107	-1.46105	18.88599	6.92876	240.56	-20.54
82/ 7/ 2	2445152.5	-8.67926	-15.40901	-6.62879	6.00326	-3.13632	-1.45901	18.88671	6.92851	240.61	-20.55
82/ 7/ 6	2445156.5	-8.66539	-15.41625	-6.63216	6.00594	-3.13158	-1.45697	18.88743	6.92827	240.66	-20.56
82/ 7/10	2445160.5	-8.65151	-15.42348	-6.63552	6.00862	-3.12683	-1.45493	18.88815	6.92802	240.71	-20.57
82/ 7/14	2445164.5	-8.63763	-15.43069	-6.63888	6.01130	-3.12209	-1.45289	18.88888	6.92777	240.76	-20.58
82/ 7/18	2445168.5	-8.62374	-15.43790	-6.64223	6.01397	-3.11734	-1.45085	18.88960	6.92753	240.81	-20.59
82/ 7/22	2445172.5	-8.60984	-15.44510	-6.64558	6.01664	-3.11260	-1.44881	18.89032	6.92729	240.86	-20.60
82/ 7/26	2445176.5	-8.59594	-15.45228	-6.64893	6.01931	-3.10785	-1.44677	18.89104	6.92704	240.91	-20.61
82/ 7/30	2445180.5	-8.58203	-15.45946	-6.65227	6.02197	-3.10310	-1.44472	18.89176	6.92680	240.96	-20.62
82/ 8/ 3	2445184.5	-8.56811	-15.46662	-6.65560	6.02463	-3.09835	-1.44268	18.89248	6.92656	241.01	-20.63
82/ 8/ 7	2445188.5	-8.55419	-15.47377	-6.65893	6.02729	-3.09360	-1.44064	18.89321	6.92632	241.07	-20.64
82/ 8/11	2445192.5	-8.54027	-15.48091	-6.66226	6.02994	-3.08884	-1.43859	18.89393	6.92609	241.12	-20.65
82/ 8/15	2445196.5	-8.52633	-15.48804	-6.66558	6.03259	-3.08409	-1.43655	18.89465	6.92585	241.17	-20.66
82/ 8/19	2445200.5	-8.51239	-15.49516	-6.66890	6.03523	-3.07933	-1.43450	18.89537	6.92561	241.22	-20.67
82/ 8/23	2445204.5	-8.49845	-15.50227	-6.67221	6.03787	-3.07457	-1.43245	18.89609	6.92537	241.27	-20.68
82/ 8/27	2445208.5	-8.48450	-15.50937	-6.67552	6.04050	-3.06980	-1.43041	18.89682	6.92513	241.32	-20.69
82/ 8/31	2445212.5	-8.47054	-15.51646	-6.67882	6.04313	-3.06504	-1.42836	18.89754	6.92489	241.37	-20.70
82/ 9/ 4	2445216.5	-8.45657	-15.52353	-6.68212	6.04576	-3.06027	-1.42631	18.89826	6.92465	241.42	-20.71
82/ 9/ 8	2445220.5	-8.44260	-15.53059	-6.68541	6.04838	-3.05550	-1.42425	18.89898	6.92441	241.47	-20.72
82/ 9/12	2445224.5	-8.42863	-15.53765	-6.68870	6.05100	-3.05073	-1.42220	18.89971	6.92417	241.52	-20.73
82/ 9/16	2445228.5	-8.41465	-15.54469	-6.69198	6.05361	-3.04596	-1.42015	18.90043	6.92393	241.57	-20.74
82/ 9/20	2445232.5	-8.40066	-15.55172	-6.69526	6.05622	-3.04118	-1.41809	18.90115	6.92370	241.62	-20.75
82/ 9/24	2445236.5	-8.38666	-15.55874	-6.69853	6.05882	-3.03641	-1.41604	18.90188	6.92346	241.67	-20.76
82/ 9/28	2445240.5	-8.37266	-15.56575	-6.70180	6.06142	-3.03163	-1.41398	18.90260	6.92322	241.72	-20.77
82/10/ 2	2445244.5	-8.35866	-15.57275	-6.70506	6.06401	-3.02685	-1.41193	18.90332	6.92298	241.78	-20.78
82/10/ 6	2445248.5	-8.34465	-15.57974	-6.70832	6.06660	-3.02206	-1.40987	18.90404	6.92273	241.83	-20.78

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82/10/10	2445252.5	-8.33063	-15.58671	-6.71158	6.06919	-3.01728	-1.40781	18.90477	6.92249	241.88	-20.79
82/10/14	2445256.5	-8.31661	-15.59368	-6.71483	6.07177	-3.01249	-1.40575	18.90549	6.92225	241.93	-20.80
82/10/18	2445260.5	-8.30258	-15.60063	-6.71807	6.07434	-3.00771	-1.40369	18.90621	6.92202	241.98	-20.81
82/10/22	2445264.5	-8.28854	-15.60757	-6.72131	6.07692	-3.00292	-1.40163	18.90694	6.92178	242.03	-20.82
82/10/26	2445268.5	-8.27450	-15.61450	-6.72455	6.07949	-2.99812	-1.39957	18.90766	6.92154	242.08	-20.83
82/10/30	2445272.5	-8.26045	-15.62143	-6.72778	6.08205	-2.99332	-1.39751	18.90838	6.92130	242.13	-20.84
82/11/ 3	2445276.5	-8.24640	-15.62834	-6.73101	6.08461	-2.98852	-1.39544	18.90911	6.92106	242.18	-20.85
82/11/ 7	2445280.5	-8.23234	-15.63523	-6.73423	6.08717	-2.98372	-1.39337	18.90983	6.92082	242.23	-20.86
82/11/11	2445284.5	-8.21827	-15.64212	-6.73744	6.08972	-2.97892	-1.39130	18.91056	6.92057	242.28	-20.87
82/11/15	2445288.5	-8.20420	-15.64900	-6.74066	6.09226	-2.97411	-1.38924	18.91128	6.92033	242.33	-20.88
82/11/19	2445292.5	-8.19012	-15.65586	-6.74386	6.09480	-2.96930	-1.38716	18.91200	6.92008	242.38	-20.89
82/11/23	2445296.5	-8.17604	-15.66272	-6.74707	6.09733	-2.96449	-1.38509	18.91273	6.91983	242.44	-20.90
82/11/27	2445300.5	-8.16195	-15.66956	-6.75026	6.09985	-2.95967	-1.38302	18.91345	6.91958	242.49	-20.91
82/12/ 1	2445304.5	-8.14786	-15.67639	-6.75346	6.10237	-2.95486	-1.38095	18.91417	6.91933	242.54	-20.92
82/12/ 5	2445308.5	-8.13376	-15.68321	-6.75664	6.10489	-2.95004	-1.37887	18.91490	6.91908	242.59	-20.93
82/12/ 9	2445312.5	-8.11965	-15.69002	-6.75983	6.10740	-2.94522	-1.37680	18.91562	6.91883	242.64	-20.94
82/12/13	2445316.5	-8.10554	-15.69682	-6.76300	6.10990	-2.94040	-1.37472	18.91635	6.91858	242.69	-20.95
82/12/17	2445320.5	-8.09142	-15.70361	-6.76618	6.11240	-2.93558	-1.37264	18.91707	6.91832	242.74	-20.96
82/12/21	2445324.5	-8.07730	-15.71038	-6.76935	6.11489	-2.93076	-1.37057	18.91779	6.91807	242.79	-20.97
82/12/25	2445328.5	-8.06317	-15.71715	-6.77251	6.11737	-2.92593	-1.36849	18.91852	6.91781	242.84	-20.98
82/12/29	2445332.5	-8.04903	-15.72390	-6.77567	6.11985	-2.92111	-1.36641	18.91924	6.91755	242.89	-20.99
83/ 1/ 2	2445336.5	-8.03489	-15.73064	-6.77882	6.12233	-2.91628	-1.36433	18.91997	6.91730	242.94	-21.00
83/ 1/ 6	2445340.5	-8.02075	-15.73738	-6.78197	6.12480	-2.91146	-1.36225	18.92069	6.91704	242.99	-21.00
83/ 1/10	2445344.5	-8.00659	-15.74410	-6.78512	6.12726	-2.90664	-1.36017	18.92141	6.91679	243.04	-21.01
83/ 1/14	2445348.5	-7.99244	-15.75081	-6.78826	6.12972	-2.90181	-1.35810	18.92214	6.91653	243.10	-21.02
83/ 1/18	2445352.5	-7.97827	-15.75750	-6.79139	6.13218	-2.89698	-1.35602	18.92286	6.91628	243.15	-21.03
83/ 1/22	2445356.5	-7.96410	-15.76419	-6.79452	6.13464	-2.89215	-1.35394	18.92359	6.91603	243.20	-21.04
83/ 1/26	2445360.5	-7.94993	-15.77087	-6.79765	6.13708	-2.88732	-1.35185	18.92431	6.91578	243.25	-21.05
83/ 1/30	2445364.5	-7.93575	-15.77753	-6.80077	6.13953	-2.88249	-1.34977	18.92504	6.91552	243.30	-21.06
83/ 2/ 3	2445368.5	-7.92156	-15.78418	-6.80388	6.14197	-2.87766	-1.34769	18.92576	6.91527	243.35	-21.07
83/ 2/ 7	2445372.5	-7.90737	-15.79083	-6.80700	6.14441	-2.87282	-1.34561	18.92649	6.91502	243.40	-21.08
83/ 2/11	2445376.5	-7.89317	-15.79746	-6.81010	6.14684	-2.86799	-1.34352	18.92721	6.91477	243.45	-21.09
83/ 2/15	2445380.5	-7.87897	-15.80408	-6.81320	6.14926	-2.86315	-1.34144	18.92794	6.91451	243.50	-21.10
83/ 2/19	2445384.5	-7.86476	-15.81069	-6.81630	6.15168	-2.85831	-1.33935	18.92866	6.91426	243.55	-21.11
83/ 2/23	2445388.5	-7.85055	-15.81728	-6.81939	6.15410	-2.85347	-1.33727	18.92939	6.91401	243.60	-21.12
83/ 2/27	2445392.5	-7.83633	-15.82387	-6.82248	6.15651	-2.84863	-1.33518	18.93011	6.91376	243.65	-21.12
83/ 3/ 3	2445396.5	-7.82210	-15.83045	-6.82556	6.15892	-2.84379	-1.33309	18.93084	6.91351	243.71	-21.13
83/ 3/ 7	2445400.5	-7.80787	-15.83701	-6.82864	6.16133	-2.83894	-1.33100	18.93156	6.91326	243.76	-21.14
83/ 3/11	2445404.5	-7.79363	-15.84356	-6.83171	6.16373	-2.83410	-1.32891	18.93229	6.91301	243.81	-21.15
83/ 3/15	2445408.5	-7.77939	-15.85011	-6.83478	6.16612	-2.82925	-1.32682	18.93301	6.91276	243.86	-21.16
83/ 3/19	2445412.5	-7.76514	-15.85664	-6.83784	6.16852	-2.82440	-1.32473	18.93374	6.91251	243.91	-21.17
83/ 3/23	2445416.5	-7.75089	-15.86315	-6.84090	6.17090	-2.81955	-1.32264	18.93446	6.91226	243.96	-21.18
83/ 3/27	2445420.5	-7.73663	-15.86966	-6.84395	6.17329	-2.81470	-1.32055	18.93519	6.91201	244.01	-21.19
83/ 3/31	2445424.5	-7.72237	-15.87616	-6.84700	6.17566	-2.80985	-1.31846	18.93591	6.91176	244.06	-21.20
83/ 4/ 4	2445428.5	-7.70810	-15.88265	-6.85004	6.17804	-2.80499	-1.31637	18.93664	6.91151	244.11	-21.21

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83/ 4/ 8	2445432.5	-7.69382	-15.88912	-6.85308	6.18041	-2.80014	-1.31428	18.93736	6.91127	244.16	-21.22
83/ 4/12	2445436.5	-7.67954	-15.89558	-6.85612	6.18278	-2.79528	-1.31218	18.93809	6.91102	244.21	-21.22
83/ 4/16	2445440.5	-7.66526	-15.90203	-6.85914	6.18515	-2.79042	-1.31009	18.93882	6.91078	244.26	-21.23
83/ 4/20	2445444.5	-7.65096	-15.90848	-6.86217	6.18751	-2.78556	-1.30799	18.93954	6.91054	244.32	-21.24
83/ 4/24	2445448.5	-7.63667	-15.91491	-6.86519	6.18987	-2.78069	-1.30590	18.94027	6.91029	244.37	-21.25
83/ 4/28	2445452.5	-7.62236	-15.92132	-6.86820	6.19223	-2.77582	-1.30380	18.94099	6.91005	244.42	-21.26
83/ 5/ 2	2445456.5	-7.60806	-15.92773	-6.87121	6.19458	-2.77095	-1.30170	18.94172	6.90981	244.47	-21.27
83/ 5/ 6	2445460.5	-7.59374	-15.93413	-6.87422	6.19693	-2.76608	-1.29960	18.94244	6.90956	244.52	-21.28
83/ 5/10	2445464.5	-7.57942	-15.94051	-6.87722	6.19927	-2.76120	-1.29749	18.94317	6.90931	244.57	-21.29
83/ 5/14	2445468.5	-7.56510	-15.94688	-6.88021	6.20160	-2.75632	-1.29539	18.94390	6.90907	244.62	-21.30
83/ 5/18	2445472.5	-7.55077	-15.95325	-6.88320	6.20393	-2.75143	-1.29328	18.94462	6.90882	244.67	-21.31
83/ 5/22	2445476.5	-7.53644	-15.95960	-6.88619	6.20626	-2.74654	-1.29118	18.94535	6.90857	244.72	-21.31
83/ 5/26	2445480.5	-7.52210	-15.96594	-6.88917	6.20858	-2.74165	-1.28907	18.94607	6.90832	244.77	-21.32
83/ 5/30	2445484.5	-7.50775	-15.97226	-6.89214	6.21089	-2.73676	-1.28696	18.94680	6.90806	244.82	-21.33
83/ 6/ 3	2445488.5	-7.49340	-15.97858	-6.89511	6.21320	-2.73187	-1.28485	18.94752	6.90781	244.88	-21.34
83/ 6/ 7	2445492.5	-7.47904	-15.98489	-6.89808	6.21550	-2.72697	-1.28273	18.94825	6.90755	244.93	-21.35
83/ 6/11	2445496.5	-7.46468	-15.99118	-6.90104	6.21780	-2.72207	-1.28062	18.94898	6.90729	244.98	-21.36
83/ 6/15	2445500.5	-7.45032	-15.99746	-6.90400	6.22009	-2.71717	-1.27850	18.94970	6.90703	245.03	-21.37
83/ 6/19	2445504.5	-7.43594	-16.00373	-6.90695	6.22237	-2.71226	-1.27639	18.95043	6.90677	245.08	-21.38
83/ 6/23	2445508.5	-7.42157	-16.00999	-6.90989	6.22465	-2.70736	-1.27427	18.95115	6.90650	245.13	-21.38
83/ 6/27	2445512.5	-7.40718	-16.01624	-6.91284	6.22692	-2.70245	-1.27216	18.95188	6.90624	245.18	-21.39
83/ 7/ 1	2445516.5	-7.39279	-16.02248	-6.91577	6.22918	-2.69754	-1.27004	18.95260	6.90597	245.23	-21.40
83/ 7/ 5	2445520.5	-7.37840	-16.02871	-6.91870	6.23144	-2.69263	-1.26792	18.95333	6.90571	245.28	-21.41
83/ 7/ 9	2445524.5	-7.36400	-16.03492	-6.92163	6.23370	-2.68772	-1.26580	18.95406	6.90544	245.33	-21.42
83/ 7/13	2445528.5	-7.34960	-16.04113	-6.92455	6.23595	-2.68281	-1.26368	18.95478	6.90517	245.38	-21.43
83/ 7/17	2445532.5	-7.33519	-16.04732	-6.92747	6.23819	-2.67789	-1.26156	18.95551	6.90490	245.43	-21.44
83/ 7/21	2445536.5	-7.32078	-16.05350	-6.93038	6.24043	-2.67298	-1.25944	18.95623	6.90463	245.49	-21.44
83/ 7/25	2445540.5	-7.30636	-16.05967	-6.93329	6.24266	-2.66806	-1.25732	18.95696	6.90436	245.54	-21.45
83/ 7/29	2445544.5	-7.29193	-16.06583	-6.93619	6.24488	-2.66314	-1.25519	18.95768	6.90408	245.59	-21.46
83/ 8/ 2	2445548.5	-7.27750	-16.07197	-6.93909	6.24710	-2.65822	-1.25307	18.95841	6.90381	245.64	-21.47
83/ 8/ 6	2445552.5	-7.26307	-16.07811	-6.94198	6.24931	-2.65329	-1.25094	18.95913	6.90353	245.69	-21.48
83/ 8/10	2445556.5	-7.24863	-16.08423	-6.94487	6.25152	-2.64837	-1.24882	18.95986	6.90325	245.74	-21.49
83/ 8/14	2445560.5	-7.23419	-16.09034	-6.94775	6.25372	-2.64345	-1.24669	18.96059	6.90297	245.79	-21.50
83/ 8/18	2445564.5	-7.21974	-16.09644	-6.95063	6.25591	-2.63852	-1.24457	18.96131	6.90269	245.84	-21.50
83/ 8/22	2445568.5	-7.20528	-16.10253	-6.95350	6.25810	-2.63360	-1.24244	18.96204	6.90241	245.89	-21.51
83/ 8/26	2445572.5	-7.19082	-16.10861	-6.95637	6.26028	-2.62867	-1.24031	18.96276	6.90213	245.94	-21.52
83/ 8/30	2445576.5	-7.17636	-16.11468	-6.95923	6.26245	-2.62375	-1.23819	18.96349	6.90184	246.00	-21.53
83/ 9/ 3	2445580.5	-7.16189	-16.12074	-6.96209	6.26462	-2.61882	-1.23606	18.96421	6.90156	246.05	-21.54
83/ 9/ 7	2445584.5	-7.14741	-16.12678	-6.96494	6.26678	-2.61389	-1.23393	18.96494	6.90127	246.10	-21.55
83/ 9/11	2445588.5	-7.13293	-16.13281	-6.96779	6.26894	-2.60897	-1.23180	18.96567	6.90099	246.15	-21.55
83/ 9/15	2445592.5	-7.11845	-16.13883	-6.97063	6.27109	-2.60404	-1.22968	18.96639	6.90070	246.20	-21.56
83/ 9/19	2445596.5	-7.10396	-16.14484	-6.97347	6.27323	-2.59912	-1.22755	18.96712	6.90042	246.25	-21.57
83/ 9/23	2445600.5	-7.08946	-16.15084	-6.97630	6.27538	-2.59420	-1.22542	18.96784	6.90013	246.30	-21.58
83/ 9/27	2445604.5	-7.07496	-16.15683	-6.97913	6.27751	-2.58927	-1.22330	18.96857	6.89985	246.35	-21.59
83/10/ 1	2445608.5	-7.06046	-16.16281	-6.98196	6.27964	-2.58435	-1.22117	18.96929	6.89957	246.40	-21.60

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
83/10/ 5	2445612.5	-7.04595	-16.16877	-6.98478	6.28177	-2.57943	-1.21904	18.97002	6.89929	246.45	-21.60
83/10/ 9	2445616.5	-7.03143	-16.17472	-6.98759	6.28390	-2.57451	-1.21692	18.97075	6.89901	246.50	-21.61
83/10/13	2445620.5	-7.01692	-16.18067	-6.99040	6.28603	-2.56958	-1.21479	18.97147	6.89874	246.56	-21.62
83/10/17	2445624.5	-7.00239	-16.18660	-6.99320	6.28815	-2.56466	-1.21267	18.97220	6.89846	246.61	-21.63
83/10/21	2445628.5	-6.98786	-16.19252	-6.99600	6.29026	-2.55973	-1.21054	18.97292	6.89819	246.66	-21.64
83/10/25	2445632.5	-6.97333	-16.19842	-6.99879	6.29237	-2.55480	-1.20841	18.97365	6.89792	246.71	-21.65
83/10/29	2445636.5	-6.95879	-16.20432	-7.00158	6.29448	-2.54988	-1.20628	18.97437	6.89764	246.76	-21.65
83/11/ 2	2445640.5	-6.94425	-16.21020	-7.00437	6.29658	-2.54495	-1.20415	18.97510	6.89737	246.81	-21.66
83/11/ 6	2445644.5	-6.92970	-16.21608	-7.00715	6.29868	-2.54002	-1.20202	18.97583	6.89710	246.86	-21.67
83/11/10	2445648.5	-6.91514	-16.22194	-7.00992	6.30078	-2.53509	-1.19989	18.97655	6.89683	246.91	-21.68
83/11/14	2445652.5	-6.90058	-16.22779	-7.01269	6.30287	-2.53015	-1.19776	18.97728	6.89656	246.96	-21.69
83/11/18	2445656.5	-6.88602	-16.23363	-7.01546	6.30496	-2.52522	-1.19563	18.97801	6.89629	247.01	-21.69
83/11/22	2445660.5	-6.87145	-16.23946	-7.01822	6.30704	-2.52028	-1.19350	18.97873	6.89602	247.07	-21.70
83/11/26	2445664.5	-6.85688	-16.24528	-7.02097	6.30912	-2.51535	-1.19137	18.97946	6.89575	247.12	-21.71
83/11/30	2445668.5	-6.84230	-16.25108	-7.02372	6.31120	-2.51041	-1.18923	18.98018	6.89548	247.17	-21.72
83/12/ 4	2445672.5	-6.82772	-16.25687	-7.02647	6.31327	-2.50547	-1.18710	18.98091	6.89522	247.22	-21.73
83/12/ 8	2445676.5	-6.81313	-16.26266	-7.02921	6.31534	-2.50053	-1.18496	18.98164	6.89495	247.27	-21.74
83/12/12	2445680.5	-6.79854	-16.26843	-7.03194	6.31740	-2.49559	-1.18283	18.98236	6.89468	247.32	-21.74
83/12/16	2445684.5	-6.78394	-16.27419	-7.03467	6.31946	-2.49064	-1.18069	18.98309	6.89441	247.37	-21.75
83/12/20	2445688.5	-6.76934	-16.27994	-7.03740	6.32152	-2.48570	-1.17855	18.98381	6.89415	247.42	-21.76
83/12/24	2445692.5	-6.75474	-16.28567	-7.04012	6.32357	-2.48075	-1.17642	18.98454	6.89388	247.47	-21.77
83/12/28	2445696.5	-6.74013	-16.29140	-7.04283	6.32562	-2.47580	-1.17428	18.98527	6.89362	247.52	-21.78
84/ 1/ 1	2445700.5	-6.72551	-16.29711	-7.04554	6.32766	-2.47085	-1.17214	18.98599	6.89335	247.57	-21.78
84/ 1/ 5	2445704.5	-6.71089	-16.30281	-7.04825	6.32970	-2.46590	-1.17000	18.98672	6.89309	247.63	-21.79
84/ 1/ 9	2445708.5	-6.69627	-16.30850	-7.05095	6.33174	-2.46094	-1.16786	18.98745	6.89283	247.68	-21.80
84/ 1/13	2445712.5	-6.68164	-16.31418	-7.05364	6.33378	-2.45599	-1.16572	18.98817	6.89257	247.73	-21.81
84/ 1/17	2445716.5	-6.66700	-16.31985	-7.05633	6.33580	-2.45102	-1.16357	18.98890	6.89230	247.78	-21.81
84/ 1/21	2445720.5	-6.65236	-16.32551	-7.05902	6.33783	-2.44606	-1.16143	18.98963	6.89204	247.83	-21.82
84/ 1/25	2445724.5	-6.63772	-16.33115	-7.06170	6.33984	-2.44109	-1.15928	18.99035	6.89177	247.88	-21.83
84/ 1/29	2445728.5	-6.62307	-16.33679	-7.06437	6.34186	-2.43612	-1.15713	18.99108	6.89150	247.93	-21.84
84/ 2/ 2	2445732.5	-6.60842	-16.34241	-7.06705	6.34386	-2.43115	-1.15498	18.99180	6.89123	247.98	-21.85
84/ 2/ 6	2445736.5	-6.59376	-16.34802	-7.06971	6.34586	-2.42618	-1.15283	18.99253	6.89096	248.03	-21.85
84/ 2/10	2445740.5	-6.57910	-16.35362	-7.07237	6.34786	-2.42120	-1.15068	18.99326	6.89069	248.08	-21.86
84/ 2/14	2445744.5	-6.56443	-16.35921	-7.07503	6.34985	-2.41622	-1.14853	18.99398	6.89041	248.14	-21.87
84/ 2/18	2445748.5	-6.54976	-16.36478	-7.07768	6.35183	-2.41124	-1.14638	18.99471	6.89014	248.19	-21.88
84/ 2/22	2445752.5	-6.53508	-16.37035	-7.08032	6.35381	-2.40626	-1.14422	18.99544	6.88986	248.24	-21.88
84/ 2/26	2445756.5	-6.52040	-16.37590	-7.08297	6.35578	-2.40128	-1.14207	18.99616	6.88958	248.29	-21.89
84/ 3/ 1	2445760.5	-6.50572	-16.38144	-7.08560	6.35774	-2.39629	-1.13991	18.99689	6.88930	248.34	-21.90
84/ 3/ 5	2445764.5	-6.49103	-16.38697	-7.08823	6.35970	-2.39130	-1.13775	18.99761	6.88902	248.39	-21.91
84/ 3/ 9	2445768.5	-6.47633	-16.39249	-7.09086	6.36165	-2.38632	-1.13560	18.99834	6.88873	248.44	-21.92
84/ 3/13	2445772.5	-6.46163	-16.39800	-7.09348	6.36359	-2.38133	-1.13344	18.99907	6.88845	248.49	-21.92
84/ 3/17	2445776.5	-6.44693	-16.40349	-7.09610	6.36553	-2.37634	-1.13128	18.99979	6.88816	248.54	-21.93
84/ 3/21	2445780.5	-6.43222	-16.40898	-7.09871	6.36746	-2.37135	-1.12912	19.00052	6.88788	248.60	-21.94
84/ 3/25	2445784.5	-6.41751	-16.41445	-7.10131	6.36939	-2.36637	-1.12696	19.00124	6.88759	248.65	-21.95
84/ 3/29	2445788.5	-6.40279	-16.41991	-7.10391	6.37132	-2.36138	-1.12481	19.00197	6.88730	248.70	-21.95

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
84/ 4/ 2	2445792.5	-6.38807	-16.42536	-7.10651	6.37323	-2.35639	-1.12265	19.00269	6.88702	248.75	-21.96
84/ 4/ 6	2445796.5	-6.37335	-16.43080	-7.10910	6.37515	-2.35140	-1.12049	19.00342	6.88673	248.80	-21.97
84/ 4/10	2445800.5	-6.35862	-16.43622	-7.11169	6.37706	-2.34640	-1.11833	19.00415	6.88645	248.85	-21.98
84/ 4/14	2445804.5	-6.34388	-16.44164	-7.11427	6.37896	-2.34141	-1.11617	19.00487	6.88616	248.90	-21.98
84/ 4/18	2445808.5	-6.32914	-16.44704	-7.11684	6.38086	-2.33642	-1.11400	19.00560	6.88587	248.95	-21.99
84/ 4/22	2445812.5	-6.31440	-16.45243	-7.11941	6.38275	-2.33142	-1.11184	19.00632	6.88558	249.00	-22.00
84/ 4/26	2445816.5	-6.29965	-16.45781	-7.12198	6.38464	-2.32642	-1.10968	19.00705	6.88529	249.05	-22.01
84/ 4/30	2445820.5	-6.28490	-16.46318	-7.12454	6.38652	-2.32143	-1.10752	19.00777	6.88500	249.11	-22.01
84/ 5/ 4	2445824.5	-6.27015	-16.46854	-7.12710	6.38839	-2.31643	-1.10535	19.00850	6.88471	249.16	-22.02
84/ 5/ 8	2445828.5	-6.25538	-16.47389	-7.12965	6.39026	-2.31143	-1.10319	19.00923	6.88441	249.21	-22.03
84/ 5/12	2445832.5	-6.24062	-16.47922	-7.13219	6.39212	-2.30643	-1.10103	19.00995	6.88412	249.26	-22.04
84/ 5/16	2445836.5	-6.22585	-16.48454	-7.13474	6.39398	-2.30143	-1.09886	19.01068	6.88383	249.31	-22.04
84/ 5/20	2445840.5	-6.21108	-16.48985	-7.13727	6.39584	-2.29643	-1.09670	19.01140	6.88354	249.36	-22.05
84/ 5/24	2445844.5	-6.19630	-16.49515	-7.13980	6.39769	-2.29143	-1.09453	19.01213	6.88324	249.41	-22.06
84/ 5/28	2445848.5	-6.18152	-16.50044	-7.14233	6.39953	-2.28643	-1.09237	19.01285	6.88295	249.46	-22.06
84/ 6/ 1	2445852.5	-6.16673	-16.50572	-7.14485	6.40137	-2.28143	-1.09020	19.01358	6.88266	249.51	-22.07
84/ 6/ 5	2445856.5	-6.15194	-16.51098	-7.14737	6.40320	-2.27643	-1.08804	19.01430	6.88237	249.56	-22.08
84/ 6/ 9	2445860.5	-6.13715	-16.51623	-7.14988	6.40503	-2.27143	-1.08587	19.01503	6.88207	249.62	-22.09
84/ 6/13	2445864.5	-6.12235	-16.52148	-7.15238	6.40686	-2.26643	-1.08371	19.01575	6.88178	249.67	-22.09
84/ 6/17	2445868.5	-6.10754	-16.52671	-7.15488	6.40868	-2.26143	-1.08154	19.01648	6.88149	249.72	-22.10
84/ 6/21	2445872.5	-6.09274	-16.53193	-7.15738	6.41049	-2.25643	-1.07938	19.01720	6.88120	249.77	-22.11
84/ 6/25	2445876.5	-6.07793	-16.53713	-7.15987	6.41231	-2.25143	-1.07722	19.01793	6.88091	249.82	-22.12
84/ 6/29	2445880.5	-6.06311	-16.54233	-7.16236	6.41412	-2.24642	-1.07505	19.01866	6.88063	249.87	-22.12
84/ 7/ 3	2445884.5	-6.04829	-16.54751	-7.16484	6.41592	-2.24142	-1.07288	19.01938	6.88034	249.92	-22.13
84/ 7/ 7	2445888.5	-6.03347	-16.55268	-7.16731	6.41773	-2.23641	-1.07072	19.02011	6.88006	249.97	-22.14
84/ 7/11	2445892.5	-6.01864	-16.55784	-7.16979	6.41953	-2.23140	-1.06855	19.02083	6.87977	250.02	-22.14
84/ 7/15	2445896.5	-6.00381	-16.56299	-7.17225	6.42132	-2.22639	-1.06638	19.02156	6.87949	250.08	-22.15
84/ 7/19	2445900.5	-5.98897	-16.56813	-7.17471	6.42311	-2.22138	-1.06421	19.02228	6.87920	250.13	-22.16
84/ 7/23	2445904.5	-5.97413	-16.57326	-7.17717	6.42489	-2.21636	-1.06204	19.02301	6.87891	250.18	-22.17
84/ 7/27	2445908.5	-5.95928	-16.57837	-7.17962	6.42667	-2.21134	-1.05986	19.02373	6.87862	250.23	-22.17
84/ 7/31	2445912.5	-5.94444	-16.58347	-7.18207	6.42845	-2.20633	-1.05769	19.02446	6.87833	250.28	-22.18
84/ 8/ 4	2445916.5	-5.92958	-16.58857	-7.18451	6.43021	-2.20131	-1.05552	19.02518	6.87805	250.33	-22.19
84/ 8/ 8	2445920.5	-5.91473	-16.59365	-7.18694	6.43198	-2.19628	-1.05334	19.02591	6.87775	250.38	-22.19
84/ 8/12	2445924.5	-5.89986	-16.59871	-7.18937	6.43373	-2.19126	-1.05117	19.02663	6.87746	250.43	-22.20
84/ 8/16	2445928.5	-5.88500	-16.60377	-7.19180	6.43549	-2.18623	-1.04899	19.02736	6.87717	250.48	-22.21
84/ 8/20	2445932.5	-5.87013	-16.60881	-7.19422	6.43723	-2.18121	-1.04682	19.02808	6.87688	250.53	-22.22
84/ 8/24	2445936.5	-5.85526	-16.61385	-7.19664	6.43897	-2.17618	-1.04464	19.02881	6.87658	250.59	-22.22
84/ 8/28	2445940.5	-5.84038	-16.61887	-7.19905	6.44071	-2.17115	-1.04246	19.02953	6.87629	250.64	-22.23
84/ 9/ 1	2445944.5	-5.82550	-16.62388	-7.20145	6.44243	-2.16612	-1.04028	19.03026	6.87599	250.69	-22.24
84/ 9/ 5	2445948.5	-5.81061	-16.62888	-7.20385	6.44415	-2.16109	-1.03810	19.03098	6.87569	250.74	-22.24
84/ 9/ 9	2445952.5	-5.79572	-16.63386	-7.20625	6.44587	-2.15606	-1.03592	19.03171	6.87539	250.79	-22.25
84/ 9/13	2445956.5	-5.78083	-16.63884	-7.20864	6.44758	-2.15103	-1.03374	19.03243	6.87509	250.84	-22.26
84/ 9/17	2445960.5	-5.76593	-16.64380	-7.21102	6.44929	-2.14599	-1.03156	19.03316	6.87479	250.89	-22.26
84/ 9/21	2445964.5	-5.75103	-16.64875	-7.21341	6.45099	-2.14096	-1.02938	19.03388	6.87449	250.94	-22.27
84/ 9/25	2445968.5	-5.73613	-16.65369	-7.21578	6.45268	-2.13593	-1.02720	19.03461	6.87419	250.99	-22.28

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84/ 9/29	2445972.5	-5.72122	-16.65862	-7.21815	6.45437	-2.13089	-1.02502	19.03533	6.87388	251.05	-22.28
84/10/ 3	2445976.5	-5.70631	-16.66354	-7.22052	6.45606	-2.12585	-1.02284	19.03605	6.87358	251.10	-22.29
84/10/ 7	2445980.5	-5.69139	-16.66845	-7.22288	6.45774	-2.12082	-1.02065	19.03678	6.87328	251.15	-22.30
84/10/11	2445984.5	-5.67647	-16.67334	-7.22523	6.45941	-2.11578	-1.01847	19.03750	6.87297	251.20	-22.30
84/10/15	2445988.5	-5.66155	-16.67822	-7.22758	6.46107	-2.11074	-1.01628	19.03823	6.87266	251.25	-22.31
84/10/19	2445992.5	-5.64662	-16.68309	-7.22993	6.46273	-2.10570	-1.01410	19.03895	6.87236	251.30	-22.32
84/10/23	2445996.5	-5.63169	-16.68795	-7.23227	6.46439	-2.10065	-1.01191	19.03968	6.87205	251.35	-22.32
84/10/27	2446000.5	-5.61675	-16.69280	-7.23460	6.46603	-2.09561	-1.00973	19.04040	6.87173	251.40	-22.33
84/10/31	2446004.5	-5.60181	-16.69763	-7.23693	6.46767	-2.09057	-1.00754	19.04112	6.87142	251.45	-22.34
84/11/ 4	2446008.5	-5.58687	-16.70246	-7.23926	6.46931	-2.08553	-1.00536	19.04185	6.87111	251.51	-22.34
84/11/ 8	2446012.5	-5.57192	-16.70727	-7.24158	6.47094	-2.08049	-1.00317	19.04257	6.87080	251.56	-22.35
84/11/12	2446016.5	-5.55697	-16.71207	-7.24389	6.47256	-2.07545	-1.00099	19.04330	6.87048	251.61	-22.36
84/11/16	2446020.5	-5.54201	-16.71686	-7.24620	6.47418	-2.07041	-0.99880	19.04402	6.87017	251.66	-22.36
84/11/20	2446024.5	-5.52706	-16.72163	-7.24851	6.47579	-2.06537	-0.99661	19.04474	6.86985	251.71	-22.37
84/11/24	2446028.5	-5.51209	-16.72640	-7.25081	6.47740	-2.06033	-0.99443	19.04547	6.86954	251.76	-22.38
84/11/28	2446032.5	-5.49713	-16.73115	-7.25310	6.47900	-2.05529	-0.99224	19.04619	6.86922	251.81	-22.38
84/12/ 2	2446036.5	-5.48216	-16.73590	-7.25539	6.48060	-2.05026	-0.99006	19.04692	6.86891	251.86	-22.39
84/12/ 6	2446040.5	-5.46719	-16.74063	-7.25768	6.48219	-2.04522	-0.98787	19.04764	6.86859	251.91	-22.40
84/12/10	2446044.5	-5.45221	-16.74535	-7.25996	6.48377	-2.04019	-0.98569	19.04836	6.86828	251.96	-22.40
84/12/14	2446048.5	-5.43723	-16.75005	-7.26223	6.48536	-2.03515	-0.98351	19.04909	6.86797	252.02	-22.41
84/12/18	2446052.5	-5.42224	-16.75475	-7.26450	6.48694	-2.03012	-0.98133	19.04981	6.86766	252.07	-22.42
84/12/22	2446056.5	-5.40726	-16.75943	-7.26677	6.48851	-2.02509	-0.97914	19.05054	6.86735	252.12	-22.42
84/12/26	2446060.5	-5.39227	-16.76411	-7.26903	6.49009	-2.02005	-0.97696	19.05126	6.86705	252.17	-22.43
84/12/30	2446064.5	-5.37727	-16.76877	-7.27128	6.49166	-2.01502	-0.97478	19.05198	6.86674	252.22	-22.44
85/ 1/ 3	2446068.5	-5.36227	-16.77342	-7.27353	6.49322	-2.00998	-0.97259	19.05271	6.86644	252.27	-22.44
85/ 1/ 7	2446072.5	-5.34727	-16.77805	-7.27577	6.49479	-2.00495	-0.97041	19.05343	6.86613	252.32	-22.45
85/ 1/11	2446076.5	-5.33226	-16.78268	-7.27801	6.49634	-1.99991	-0.96822	19.05415	6.86583	252.37	-22.46
85/ 1/15	2446080.5	-5.31725	-16.78729	-7.28025	6.49790	-1.99487	-0.96604	19.05488	6.86553	252.42	-22.46
85/ 1/19	2446084.5	-5.30224	-16.79190	-7.28248	6.49945	-1.98984	-0.96385	19.05560	6.86522	252.48	-22.47
85/ 1/23	2446088.5	-5.28722	-16.79649	-7.28470	6.50099	-1.98480	-0.96167	19.05633	6.86492	252.53	-22.47
85/ 1/27	2446092.5	-5.27220	-16.80107	-7.28692	6.50254	-1.97976	-0.95948	19.05705	6.86462	252.58	-22.48
85/ 1/31	2446096.5	-5.25718	-16.80563	-7.28913	6.50408	-1.97472	-0.95730	19.05777	6.86432	252.63	-22.49
85/ 2/ 4	2446100.5	-5.24215	-16.81019	-7.29134	6.50561	-1.96968	-0.95511	19.05850	6.86402	252.68	-22.49
85/ 2/ 8	2446104.5	-5.22712	-16.81474	-7.29355	6.50714	-1.96464	-0.95292	19.05922	6.86373	252.73	-22.50
85/ 2/12	2446108.5	-5.21209	-16.81927	-7.29575	6.50867	-1.95959	-0.95073	19.05995	6.86343	252.78	-22.51
85/ 2/16	2446112.5	-5.19705	-16.82379	-7.29794	6.51019	-1.95455	-0.94855	19.06067	6.86313	252.83	-22.51
85/ 2/20	2446116.5	-5.18201	-16.82830	-7.30013	6.51171	-1.94951	-0.94636	19.06139	6.86283	252.88	-22.52
85/ 2/24	2446120.5	-5.16696	-16.83280	-7.30231	6.51322	-1.94446	-0.94417	19.06212	6.86254	252.94	-22.52
85/ 2/28	2446124.5	-5.15191	-16.83728	-7.30449	6.51473	-1.93941	-0.94198	19.06284	6.86224	252.99	-22.53
85/ 3/ 4	2446128.5	-5.13686	-16.84176	-7.30666	6.51623	-1.93436	-0.93979	19.06356	6.86194	253.04	-22.54
85/ 3/ 8	2446132.5	-5.12181	-16.84622	-7.30883	6.51773	-1.92931	-0.93760	19.06429	6.86165	253.09	-22.54
85/ 3/12	2446136.5	-5.10675	-16.85067	-7.31100	6.51923	-1.92426	-0.93541	19.06501	6.86135	253.14	-22.55
85/ 3/16	2446140.5	-5.09169	-16.85511	-7.31315	6.52073	-1.91921	-0.93321	19.06574	6.86106	253.19	-22.56
85/ 3/20	2446144.5	-5.07662	-16.85954	-7.31531	6.52222	-1.91416	-0.93102	19.06646	6.86077	253.24	-22.56
85/ 3/24	2446148.5	-5.06155	-16.86396	-7.31746	6.52370	-1.90910	-0.92883	19.06718	6.86047	253.29	-22.57

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85/ 3/28	2446152.5	-5.04648	-16.86836	-7.31960	6.52518	-1.90404	-0.92663	19.06791	6.86018	253.34	-22.57
85/ 4/ 1	2446156.5	-5.03140	-16.87275	-7.32174	6.52666	-1.89898	-0.92444	19.06863	6.85988	253.40	-22.58
85/ 4/ 5	2446160.5	-5.01632	-16.87713	-7.32387	6.52813	-1.89391	-0.92224	19.06935	6.85959	253.45	-22.59
85/ 4/ 9	2446164.5	-5.00124	-16.88150	-7.32600	6.52960	-1.88885	-0.92004	19.07008	6.85929	253.50	-22.59
85/ 4/13	2446168.5	-4.98615	-16.88586	-7.32812	6.53106	-1.88378	-0.91784	19.07080	6.85899	253.55	-22.60
85/ 4/17	2446172.5	-4.97106	-16.89021	-7.33024	6.53251	-1.87871	-0.91564	19.07152	6.85869	253.60	-22.60
85/ 4/21	2446176.5	-4.95597	-16.89454	-7.33235	6.53396	-1.87363	-0.91344	19.07225	6.85839	253.65	-22.61
85/ 4/25	2446180.5	-4.94088	-16.89886	-7.33446	6.53540	-1.86856	-0.91123	19.07297	6.85808	253.70	-22.62
85/ 4/29	2446184.5	-4.92578	-16.90317	-7.33656	6.53683	-1.86348	-0.90903	19.07369	6.85778	253.75	-22.62
85/ 5/ 3	2446188.5	-4.91067	-16.90747	-7.33866	6.53826	-1.85841	-0.90683	19.07441	6.85747	253.80	-22.63
85/ 5/ 7	2446192.5	-4.89557	-16.91176	-7.34075	6.53968	-1.85333	-0.90462	19.07514	6.85716	253.86	-22.63
85/ 5/11	2446196.5	-4.88046	-16.91604	-7.34284	6.54110	-1.84825	-0.90242	19.07586	6.85685	253.91	-22.64
85/ 5/15	2446200.5	-4.86534	-16.92030	-7.34492	6.54251	-1.84317	-0.90021	19.07658	6.85653	253.96	-22.65
85/ 5/19	2446204.5	-4.85023	-16.92455	-7.34700	6.54391	-1.83809	-0.89800	19.07731	6.85622	254.01	-22.65
85/ 5/23	2446208.5	-4.83511	-16.92879	-7.34907	6.54530	-1.83301	-0.89580	19.07803	6.85590	254.06	-22.66
85/ 5/27	2446212.5	-4.81999	-16.93302	-7.35114	6.54669	-1.82793	-0.89359	19.07875	6.85558	254.11	-22.66
85/ 5/31	2446216.5	-4.80486	-16.93724	-7.35320	6.54807	-1.82284	-0.89138	19.07947	6.85526	254.16	-22.67
85/ 6/ 4	2446220.5	-4.78973	-16.94144	-7.35526	6.54944	-1.81776	-0.88918	19.08020	6.85493	254.21	-22.67
85/ 6/ 8	2446224.5	-4.77460	-16.94564	-7.35731	6.55081	-1.81269	-0.88697	19.08092	6.85461	254.26	-22.68
85/ 6/12	2446228.5	-4.75947	-16.94982	-7.35935	6.55218	-1.80761	-0.88476	19.08164	6.85429	254.32	-22.69
85/ 6/16	2446232.5	-4.74433	-16.95399	-7.36140	6.55354	-1.80253	-0.88256	19.08236	6.85397	254.37	-22.69
85/ 6/20	2446236.5	-4.72919	-16.95815	-7.36343	6.55489	-1.79745	-0.88035	19.08308	6.85364	254.42	-22.70
85/ 6/24	2446240.5	-4.71404	-16.96229	-7.36546	6.55624	-1.79237	-0.87814	19.08381	6.85332	254.47	-22.70
85/ 6/28	2446244.5	-4.69889	-16.96643	-7.36749	6.55758	-1.78728	-0.87594	19.08453	6.85299	254.52	-22.71
85/ 7/ 2	2446248.5	-4.68374	-16.97055	-7.36951	6.55892	-1.78220	-0.87373	19.08525	6.85267	254.57	-22.71
85/ 7/ 6	2446252.5	-4.66859	-16.97466	-7.37153	6.56025	-1.77712	-0.87152	19.08597	6.85234	254.62	-22.72
85/ 7/10	2446256.5	-4.65343	-16.97876	-7.37354	6.56157	-1.77204	-0.86931	19.08669	6.85201	254.67	-22.73
85/ 7/14	2446260.5	-4.63827	-16.98285	-7.37554	6.56289	-1.76696	-0.86710	19.08741	6.85168	254.72	-22.73
85/ 7/18	2446264.5	-4.62311	-16.98693	-7.37754	6.56420	-1.76188	-0.86490	19.08814	6.85135	254.78	-22.74
85/ 7/22	2446268.5	-4.60794	-16.99099	-7.37954	6.56551	-1.75680	-0.86269	19.08886	6.85102	254.83	-22.74
85/ 7/26	2446272.5	-4.59277	-16.99504	-7.38153	6.56681	-1.75172	-0.86048	19.08958	6.85069	254.88	-22.75
85/ 7/30	2446276.5	-4.57760	-16.99908	-7.38351	6.56810	-1.74665	-0.85827	19.09030	6.85036	254.93	-22.75
85/ 8/ 3	2446280.5	-4.56243	-17.00311	-7.38549	6.56939	-1.74157	-0.85607	19.09102	6.85002	254.98	-22.76
85/ 8/ 7	2446284.5	-4.54725	-17.00713	-7.38747	6.57068	-1.73649	-0.85386	19.09174	6.84969	255.03	-22.76
85/ 8/11	2446288.5	-4.53207	-17.01114	-7.38944	6.57196	-1.73142	-0.85166	19.09247	6.84936	255.08	-22.77
85/ 8/15	2446292.5	-4.51689	-17.01513	-7.39140	6.57323	-1.72634	-0.84945	19.09319	6.84903	255.13	-22.78
85/ 8/19	2446296.5	-4.50170	-17.01911	-7.39336	6.57450	-1.72127	-0.84724	19.09391	6.84870	255.18	-22.78
85/ 8/23	2446300.5	-4.48651	-17.02308	-7.39532	6.57576	-1.71620	-0.84504	19.09463	6.84836	255.24	-22.79
85/ 8/27	2446304.5	-4.47132	-17.02704	-7.39727	6.57702	-1.71113	-0.84283	19.09535	6.84803	255.29	-22.79
85/ 8/31	2446308.5	-4.45612	-17.03099	-7.39921	6.57828	-1.70606	-0.84063	19.09607	6.84770	255.34	-22.80
85/ 9/ 4	2446312.5	-4.44092	-17.03493	-7.40115	6.57953	-1.70099	-0.83843	19.09679	6.84738	255.39	-22.80
85/ 9/ 8	2446316.5	-4.42572	-17.03885	-7.40309	6.58078	-1.69592	-0.83623	19.09752	6.84705	255.44	-22.81
85/ 9/12	2446320.5	-4.41052	-17.04276	-7.40502	6.58203	-1.69086	-0.83402	19.09824	6.84673	255.49	-22.81
85/ 9/16	2446324.5	-4.39531	-17.04666	-7.40694	6.58327	-1.68579	-0.83182	19.09896	6.84641	255.54	-22.82
85/ 9/20	2446328.5	-4.38010	-17.05055	-7.40886	6.58452	-1.68072	-0.82962	19.09968	6.84609	255.59	-22.82

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85/ 9/24	2446332.5	-4.36489	-17.05443	-7.41077	6.58575	-1.67565	-0.82741	19.10040	6.84577	255.64	-22.83
85/ 9/28	2446336.5	-4.34967	-17.05829	-7.41268	6.58698	-1.67058	-0.82521	19.10112	6.84545	255.70	-22.83
85/10/ 2	2446340.5	-4.33445	-17.06215	-7.41459	6.58821	-1.66550	-0.82300	19.10184	6.84513	255.75	-22.84
85/10/ 6	2446344.5	-4.31923	-17.06599	-7.41649	6.58944	-1.66043	-0.82080	19.10256	6.84481	255.80	-22.85
85/10/10	2446348.5	-4.30401	-17.06982	-7.41838	6.59066	-1.65536	-0.81859	19.10328	6.84449	255.85	-22.85
85/10/14	2446352.5	-4.28878	-17.07364	-7.42027	6.59187	-1.65028	-0.81639	19.10401	6.84417	255.90	-22.86
85/10/18	2446356.5	-4.27355	-17.07744	-7.42215	6.59308	-1.64521	-0.81418	19.10473	6.84385	255.95	-22.86
85/10/22	2446360.5	-4.25832	-17.08124	-7.42403	6.59429	-1.64013	-0.81198	19.10545	6.84353	256.00	-22.87
85/10/26	2446364.5	-4.24308	-17.08502	-7.42590	6.59549	-1.63506	-0.80977	19.10617	6.84322	256.05	-22.87
85/10/30	2446368.5	-4.22784	-17.08879	-7.42777	6.59669	-1.62998	-0.80756	19.10689	6.84290	256.10	-22.88
85/11/ 3	2446372.5	-4.21260	-17.09255	-7.42963	6.59788	-1.62490	-0.80535	19.10761	6.84258	256.15	-22.88
85/11/ 7	2446376.5	-4.19736	-17.09630	-7.43149	6.59906	-1.61982	-0.80314	19.10833	6.84226	256.21	-22.89
85/11/11	2446380.5	-4.18211	-17.10004	-7.43334	6.60024	-1.61474	-0.80094	19.10905	6.84194	256.26	-22.89
85/11/15	2446384.5	-4.16686	-17.10376	-7.43519	6.60142	-1.60966	-0.79873	19.10977	6.84162	256.31	-22.90
85/11/19	2446388.5	-4.15161	-17.10747	-7.43704	6.60259	-1.60458	-0.79652	19.11049	6.84130	256.36	-22.90
85/11/23	2446392.5	-4.13636	-17.11117	-7.43887	6.60376	-1.59950	-0.79431	19.11122	6.84097	256.41	-22.91
85/11/27	2446396.5	-4.12110	-17.11486	-7.44071	6.60492	-1.59442	-0.79210	19.11194	6.84065	256.46	-22.91
85/12/ 1	2446400.5	-4.10584	-17.11854	-7.44253	6.60608	-1.58934	-0.78989	19.11266	6.84033	256.51	-22.92
85/12/ 5	2446404.5	-4.09058	-17.12221	-7.44435	6.60723	-1.58426	-0.78768	19.11338	6.84001	256.56	-22.92
85/12/ 9	2446408.5	-4.07531	-17.12586	-7.44617	6.60838	-1.57918	-0.78547	19.11410	6.83969	256.61	-22.93
85/12/13	2446412.5	-4.06005	-17.12950	-7.44798	6.60952	-1.57409	-0.78326	19.11482	6.83937	256.67	-22.93
85/12/17	2446416.5	-4.04477	-17.13313	-7.44979	6.61066	-1.56901	-0.78105	19.11554	6.83905	256.72	-22.94
85/12/21	2446420.5	-4.02950	-17.13675	-7.45159	6.61180	-1.56392	-0.77883	19.11626	6.83873	256.77	-22.94
85/12/25	2446424.5	-4.01423	-17.14036	-7.45339	6.61292	-1.55884	-0.77662	19.11698	6.83841	256.82	-22.95
85/12/29	2446428.5	-3.99895	-17.14395	-7.45518	6.61405	-1.55375	-0.77441	19.11770	6.83809	256.87	-22.95
86/ 1/ 2	2446432.5	-3.98367	-17.14754	-7.45697	6.61516	-1.54866	-0.77219	19.11842	6.83776	256.92	-22.96
86/ 1/ 6	2446436.5	-3.96838	-17.15111	-7.45875	6.61627	-1.54357	-0.76998	19.11914	6.83744	256.97	-22.96
86/ 1/10	2446440.5	-3.95310	-17.15467	-7.46052	6.61738	-1.53848	-0.76776	19.11986	6.83711	257.02	-22.97
86/ 1/14	2446444.5	-3.93781	-17.15822	-7.46230	6.61848	-1.53339	-0.76555	19.12058	6.83678	257.07	-22.97
86/ 1/18	2446448.5	-3.92252	-17.16175	-7.46406	6.61957	-1.52831	-0.76333	19.12130	6.83645	257.13	-22.98
86/ 1/22	2446452.5	-3.90722	-17.16528	-7.46582	6.62066	-1.52322	-0.76112	19.12202	6.83612	257.18	-22.98
86/ 1/26	2446456.5	-3.89193	-17.16879	-7.46758	6.62174	-1.51813	-0.75890	19.12274	6.83579	257.23	-22.99
86/ 1/30	2446460.5	-3.87663	-17.17229	-7.46933	6.62281	-1.51304	-0.75669	19.12346	6.83546	257.28	-22.99
86/ 2/ 3	2446464.5	-3.86133	-17.17578	-7.47107	6.62388	-1.50795	-0.75447	19.12418	6.83513	257.33	-23.00
86/ 2/ 7	2446468.5	-3.84602	-17.17926	-7.47282	6.62495	-1.50287	-0.75226	19.12490	6.83479	257.38	-23.00
86/ 2/11	2446472.5	-3.83072	-17.18273	-7.47455	6.62601	-1.49778	-0.75004	19.12562	6.83446	257.43	-23.01
86/ 2/15	2446476.5	-3.81541	-17.18618	-7.47628	6.62706	-1.49269	-0.74783	19.12634	6.83413	257.48	-23.01
86/ 2/19	2446480.5	-3.80010	-17.18962	-7.47801	6.62811	-1.48761	-0.74562	19.12706	6.83379	257.53	-23.01
86/ 2/23	2446484.5	-3.78479	-17.19305	-7.47973	6.62915	-1.48253	-0.74340	19.12778	6.83346	257.59	-23.02
86/ 2/27	2446488.5	-3.76947	-17.19647	-7.48144	6.63019	-1.47745	-0.74119	19.12850	6.83313	257.64	-23.02
86/ 3/ 3	2446492.5	-3.75415	-17.19988	-7.48315	6.63123	-1.47237	-0.73898	19.12922	6.83280	257.69	-23.03
86/ 3/ 7	2446496.5	-3.73883	-17.20328	-7.48485	6.63226	-1.46729	-0.73677	19.12994	6.83247	257.74	-23.03
86/ 3/11	2446500.5	-3.72351	-17.20666	-7.48655	6.63329	-1.46221	-0.73455	19.13066	6.83214	257.79	-23.04
86/ 3/15	2446504.5	-3.70818	-17.21003	-7.48825	6.63431	-1.45712	-0.73234	19.13138	6.83181	257.84	-23.04
86/ 3/19	2446508.5	-3.69286	-17.21339	-7.48994	6.63533	-1.45204	-0.73013	19.13210	6.83148	257.89	-23.05

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86/ 3/23	2446512.5	-3.67753	-17.21674	-7.49162	6.63635	-1.44696	-0.72792	19.13282	6.83115	257.94	-23.05
86/ 3/27	2446516.5	-3.66219	-17.22008	-7.49330	6.63736	-1.44188	-0.72570	19.13354	6.83083	257.99	-23.06
86/ 3/31	2446520.5	-3.64686	-17.22340	-7.49498	6.63837	-1.43680	-0.72349	19.13426	6.83050	258.04	-23.06
86/ 4/ 4	2446524.5	-3.63152	-17.22672	-7.49664	6.63937	-1.43172	-0.72128	19.13498	6.83017	258.10	-23.07
86/ 4/ 8	2446528.5	-3.61618	-17.23002	-7.49831	6.64037	-1.42664	-0.71906	19.13570	6.82985	258.15	-23.07
86/ 4/12	2446532.5	-3.60084	-17.23331	-7.49997	6.64136	-1.42156	-0.71685	19.13642	6.82952	258.20	-23.07
86/ 4/16	2446536.5	-3.58550	-17.23659	-7.50162	6.64235	-1.41647	-0.71464	19.13714	6.82919	258.25	-23.08
86/ 4/20	2446540.5	-3.57015	-17.23985	-7.50327	6.64333	-1.41139	-0.71242	19.13786	6.82887	258.30	-23.08
86/ 4/24	2446544.5	-3.55480	-17.24311	-7.50491	6.64431	-1.40631	-0.71021	19.13858	6.82854	258.35	-23.09
86/ 4/28	2446548.5	-3.53945	-17.24635	-7.50655	6.64529	-1.40123	-0.70800	19.13929	6.82822	258.40	-23.09
86/ 5/ 2	2446552.5	-3.52410	-17.24958	-7.50818	6.64626	-1.39615	-0.70578	19.14001	6.82789	258.45	-23.10
86/ 5/ 6	2446556.5	-3.50874	-17.25280	-7.50981	6.64723	-1.39106	-0.70357	19.14073	6.82757	258.50	-23.10
86/ 5/10	2446560.5	-3.49339	-17.25601	-7.51143	6.64819	-1.38598	-0.70136	19.14145	6.82724	258.56	-23.10
86/ 5/14	2446564.5	-3.47803	-17.25921	-7.51305	6.64915	-1.38090	-0.69914	19.14217	6.82692	258.61	-23.11
86/ 5/18	2446568.5	-3.46267	-17.26239	-7.51466	6.65010	-1.37582	-0.69693	19.14289	6.82660	258.66	-23.11
86/ 5/22	2446572.5	-3.44730	-17.26556	-7.51627	6.65105	-1.37073	-0.69472	19.14361	6.82627	258.71	-23.12
86/ 5/26	2446576.5	-3.43194	-17.26872	-7.51787	6.65199	-1.36565	-0.69250	19.14433	6.82595	258.76	-23.12
86/ 5/30	2446580.5	-3.41657	-17.27187	-7.51947	6.65294	-1.36057	-0.69029	19.14505	6.82563	258.81	-23.13
86/ 6/ 3	2446584.5	-3.40120	-17.27501	-7.52106	6.65388	-1.35548	-0.68807	19.14577	6.82531	258.86	-23.13
86/ 6/ 7	2446588.5	-3.38582	-17.27813	-7.52265	6.65481	-1.35040	-0.68586	19.14649	6.82499	258.91	-23.14
86/ 6/11	2446592.5	-3.37045	-17.28125	-7.52423	6.65574	-1.34531	-0.68364	19.14721	6.82467	258.96	-23.14
86/ 6/15	2446596.5	-3.35507	-17.28435	-7.52581	6.65667	-1.34022	-0.68143	19.14793	6.82435	259.01	-23.14
86/ 6/19	2446600.5	-3.33969	-17.28744	-7.52738	6.65759	-1.33513	-0.67921	19.14864	6.82403	259.07	-23.15
86/ 6/23	2446604.5	-3.32431	-17.29052	-7.52895	6.65850	-1.33004	-0.67699	19.14936	6.82371	259.12	-23.15
86/ 6/27	2446608.5	-3.30893	-17.29359	-7.53051	6.65941	-1.32494	-0.67477	19.15008	6.82338	259.17	-23.16
86/ 7/ 1	2446612.5	-3.29354	-17.29664	-7.53206	6.66032	-1.31985	-0.67255	19.15080	6.82306	259.22	-23.16
86/ 7/ 5	2446616.5	-3.27815	-17.29968	-7.53362	6.66121	-1.31475	-0.67033	19.15152	6.82273	259.27	-23.16
86/ 7/ 9	2446620.5	-3.26277	-17.30272	-7.53516	6.66211	-1.30966	-0.66811	19.15224	6.82241	259.32	-23.17
86/ 7/13	2446624.5	-3.24737	-17.30573	-7.53670	6.66299	-1.30456	-0.66589	19.15296	6.82208	259.37	-23.17
86/ 7/17	2446628.5	-3.23198	-17.30874	-7.53824	6.66387	-1.29946	-0.66367	19.15368	6.82175	259.42	-23.18
86/ 7/21	2446632.5	-3.21658	-17.31174	-7.53977	6.66474	-1.29436	-0.66145	19.15439	6.82141	259.47	-23.18
86/ 7/25	2446636.5	-3.20119	-17.31472	-7.54129	6.66561	-1.28927	-0.65922	19.15511	6.82108	259.53	-23.18
86/ 7/29	2446640.5	-3.18579	-17.31770	-7.54281	6.66647	-1.28417	-0.65700	19.15583	6.82074	259.58	-23.19
86/ 8/ 2	2446644.5	-3.17039	-17.32066	-7.54433	6.66732	-1.27907	-0.65478	19.15655	6.82041	259.63	-23.19
86/ 8/ 6	2446648.5	-3.15498	-17.32361	-7.54584	6.66817	-1.27397	-0.65256	19.15727	6.82007	259.68	-23.20
86/ 8/10	2446652.5	-3.13958	-17.32654	-7.54735	6.66901	-1.26888	-0.65033	19.15799	6.81973	259.73	-23.20
86/ 8/14	2446656.5	-3.12417	-17.32947	-7.54884	6.66984	-1.26378	-0.64811	19.15870	6.81939	259.78	-23.20
86/ 8/18	2446660.5	-3.10876	-17.33238	-7.55034	6.67067	-1.25869	-0.64589	19.15942	6.81904	259.83	-23.21
86/ 8/22	2446664.5	-3.09335	-17.33528	-7.55183	6.67150	-1.25359	-0.64367	19.16014	6.81870	259.88	-23.21
86/ 8/26	2446668.5	-3.07793	-17.33817	-7.55331	6.67232	-1.24850	-0.64145	19.16086	6.81836	259.93	-23.22
86/ 8/30	2446672.5	-3.06252	-17.34105	-7.55479	6.67313	-1.24341	-0.63923	19.16158	6.81802	259.98	-23.22
86/ 9/ 3	2446676.5	-3.04710	-17.34392	-7.55627	6.67394	-1.23832	-0.63701	19.16229	6.81767	260.04	-23.22
86/ 9/ 7	2446680.5	-3.03168	-17.34677	-7.55774	6.67474	-1.23323	-0.63479	19.16301	6.81733	260.09	-23.23
86/ 9/11	2446684.5	-3.01626	-17.34962	-7.55920	6.67554	-1.22814	-0.63257	19.16373	6.81699	260.14	-23.23
86/ 9/15	2446688.5	-3.00084	-17.35245	-7.56066	6.67633	-1.22305	-0.63035	19.16445	6.81664	260.19	-23.24

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86/ 9/19	2446692.5	-2.98542	-17.35527	-7.56211	6.67712	-1.21796	-0.62813	19.16517	6.81630	260.24	-23.24
86/ 9/23	2446696.5	-2.96999	-17.35808	-7.56356	6.67790	-1.21287	-0.62591	19.16588	6.81595	260.29	-23.24
86/ 9/27	2446700.5	-2.95456	-17.36087	-7.56500	6.67867	-1.20779	-0.62370	19.16660	6.81560	260.34	-23.25
86/10/ 1	2446704.5	-2.93913	-17.36366	-7.56644	6.67944	-1.20270	-0.62148	19.16732	6.81525	260.39	-23.25
86/10/ 5	2446708.5	-2.92370	-17.36643	-7.56788	6.68021	-1.19762	-0.61926	19.16804	6.81491	260.44	-23.25
86/10/ 9	2446712.5	-2.90827	-17.36919	-7.56930	6.68097	-1.19254	-0.61704	19.16875	6.81456	260.49	-23.26
86/10/13	2446716.5	-2.89283	-17.37194	-7.57073	6.68172	-1.18746	-0.61483	19.16947	6.81421	260.55	-23.26
86/10/17	2446720.5	-2.87739	-17.37468	-7.57214	6.68247	-1.18238	-0.61261	19.17019	6.81386	260.60	-23.27
86/10/21	2446724.5	-2.86196	-17.37740	-7.57356	6.68321	-1.17730	-0.61039	19.17091	6.81351	260.65	-23.27
86/10/25	2446728.5	-2.84652	-17.38012	-7.57496	6.68395	-1.17223	-0.60818	19.17162	6.81317	260.70	-23.27
86/10/29	2446732.5	-2.83107	-17.38282	-7.57637	6.68469	-1.16715	-0.60597	19.17234	6.81282	260.75	-23.28
86/11/ 2	2446736.5	-2.81563	-17.38551	-7.57776	6.68542	-1.16208	-0.60375	19.17306	6.81247	260.80	-23.28
86/11/ 6	2446740.5	-2.80018	-17.38819	-7.57916	6.68615	-1.15701	-0.60154	19.17378	6.81213	260.85	-23.28
86/11/10	2446744.5	-2.78474	-17.39085	-7.58054	6.68687	-1.15194	-0.59933	19.17449	6.81178	260.90	-23.29
86/11/14	2446748.5	-2.76929	-17.39351	-7.58193	6.68759	-1.14688	-0.59712	19.17521	6.81144	260.95	-23.29
86/11/18	2446752.5	-2.75384	-17.39615	-7.58330	6.68831	-1.14182	-0.59491	19.17593	6.81110	261.00	-23.29
86/11/22	2446756.5	-2.73839	-17.39878	-7.58467	6.68902	-1.13675	-0.59270	19.17665	6.81076	261.06	-23.30
86/11/26	2446760.5	-2.72293	-17.40141	-7.58604	6.68973	-1.13169	-0.59049	19.17736	6.81043	261.11	-23.30
86/11/30	2446764.5	-2.70748	-17.40401	-7.58740	6.69045	-1.12663	-0.58828	19.17808	6.81010	261.16	-23.31
86/12/ 4	2446768.5	-2.69202	-17.40661	-7.58876	6.69115	-1.12157	-0.58608	19.17880	6.80977	261.21	-23.31
86/12/ 8	2446772.5	-2.67656	-17.40920	-7.59011	6.69186	-1.11650	-0.58387	19.17952	6.80944	261.26	-23.31
86/12/12	2446776.5	-2.66110	-17.41177	-7.59146	6.69256	-1.11144	-0.58166	19.18023	6.80911	261.31	-23.32
86/12/16	2446780.5	-2.64564	-17.41433	-7.59280	6.69326	-1.10638	-0.57945	19.18095	6.80878	261.36	-23.32
86/12/20	2446784.5	-2.63018	-17.41688	-7.59413	6.69395	-1.10131	-0.57724	19.18167	6.80846	261.41	-23.32
86/12/24	2446788.5	-2.61471	-17.41942	-7.59547	6.69464	-1.09625	-0.57503	19.18239	6.80813	261.46	-23.33
86/12/28	2446792.5	-2.59925	-17.42195	-7.59679	6.69533	-1.09119	-0.57282	19.18310	6.80781	261.51	-23.33

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86/12/16	2446780.5	-2.64564	-17.41433	-7.59280	6.69326	-1.10638	-0.57945	19.18095	6.80878	261.36	-23.32
86/12/20	2446784.5	-2.63018	-17.41688	-7.59413	6.69395	-1.10131	-0.57724	19.18167	6.80846	261.41	-23.32
86/12/24	2446788.5	-2.61471	-17.41942	-7.59547	6.69464	-1.09625	-0.57503	19.18239	6.80813	261.46	-23.33
86/12/28	2446792.5	-2.59925	-17.42195	-7.59679	6.69533	-1.09119	-0.57282	19.18310	6.80781	261.51	-23.33
87/ 1/ 1	2446796.5	-2.58378	-17.42446	-7.59811	6.69601	-1.08612	-0.57061	19.18382	6.80749	261.57	-23.33
87/ 1/ 5	2446800.5	-2.56831	-17.42696	-7.59943	6.69670	-1.08106	-0.56840	19.18454	6.80716	261.62	-23.34
87/ 1/ 9	2446804.5	-2.55284	-17.42946	-7.60074	6.69737	-1.07599	-0.56619	19.18526	6.80684	261.67	-23.34
87/ 1/13	2446808.5	-2.53736	-17.43194	-7.60204	6.69804	-1.07093	-0.56398	19.18598	6.80652	261.72	-23.34
87/ 1/17	2446812.5	-2.52189	-17.43440	-7.60334	6.69871	-1.06586	-0.56177	19.18669	6.80620	261.77	-23.35
87/ 1/21	2446816.5	-2.50641	-17.43686	-7.60464	6.69938	-1.06079	-0.55956	19.18741	6.80588	261.82	-23.35
87/ 1/25	2446820.5	-2.49094	-17.43931	-7.60593	6.70004	-1.05572	-0.55734	19.18813	6.80556	261.87	-23.35
87/ 1/29	2446824.5	-2.47546	-17.44174	-7.60721	6.70069	-1.05066	-0.55513	19.18885	6.80524	261.92	-23.36
87/ 2/ 2	2446828.5	-2.45998	-17.44416	-7.60849	6.70134	-1.04559	-0.55292	19.18956	6.80492	261.97	-23.36
87/ 2/ 6	2446832.5	-2.44449	-17.44657	-7.60977	6.70199	-1.04052	-0.55071	19.19028	6.80460	262.02	-23.36
87/ 2/10	2446836.5	-2.42901	-17.44897	-7.61104	6.70263	-1.03545	-0.54850	19.19100	6.80428	262.07	-23.37
87/ 2/14	2446840.5	-2.41353	-17.45135	-7.61230	6.70327	-1.03038	-0.54628	19.19172	6.80396	262.13	-23.37
87/ 2/18	2446844.5	-2.39804	-17.45373	-7.61356	6.70390	-1.02531	-0.54407	19.19243	6.80365	262.18	-23.37
87/ 2/22	2446848.5	-2.38255	-17.45609	-7.61482	6.70454	-1.02024	-0.54186	19.19315	6.80333	262.23	-23.37
87/ 2/26	2446852.5	-2.36706	-17.45844	-7.61607	6.70516	-1.01517	-0.53964	19.19387	6.80301	262.28	-23.38
87/ 3/ 2	2446856.5	-2.35157	-17.46078	-7.61731	6.70578	-1.01009	-0.53743	19.19459	6.80270	262.33	-23.38
87/ 3/ 6	2446860.5	-2.33608	-17.46311	-7.61855	6.70640	-1.00502	-0.53521	19.19530	6.80238	262.38	-23.38
87/ 3/10	2446864.5	-2.32058	-17.46542	-7.61978	6.70701	-0.99994	-0.53300	19.19602	6.80206	262.43	-23.39
87/ 3/14	2446868.5	-2.30509	-17.46773	-7.62101	6.70762	-0.99486	-0.53078	19.19674	6.80174	262.48	-23.39
87/ 3/18	2446872.5	-2.28959	-17.47002	-7.62224	6.70822	-0.98979	-0.52856	19.19746	6.80141	262.53	-23.39
87/ 3/22	2446876.5	-2.27410	-17.47230	-7.62345	6.70881	-0.98471	-0.52634	19.19817	6.80109	262.58	-23.40
87/ 3/26	2446880.5	-2.25860	-17.47457	-7.62467	6.70940	-0.97963	-0.52413	19.19889	6.80077	262.64	-23.40
87/ 3/30	2446884.5	-2.24310	-17.47683	-7.62588	6.70998	-0.97455	-0.52191	19.19961	6.80044	262.69	-23.40
87/ 4/ 3	2446888.5	-2.22759	-17.47907	-7.62708	6.71056	-0.96947	-0.51969	19.20033	6.80011	262.74	-23.41
87/ 4/ 7	2446892.5	-2.21209	-17.48131	-7.62828	6.71113	-0.96440	-0.51747	19.20104	6.79978	262.79	-23.41
87/ 4/11	2446896.5	-2.19659	-17.48353	-7.62947	6.71169	-0.95932	-0.51525	19.20176	6.79945	262.84	-23.41
87/ 4/15	2446900.5	-2.18108	-17.48574	-7.63066	6.71225	-0.95424	-0.51303	19.20248	6.79912	262.89	-23.41
87/ 4/19	2446904.5	-2.16557	-17.48794	-7.63184	6.71280	-0.94916	-0.51082	19.20319	6.79879	262.94	-23.42
87/ 4/23	2446908.5	-2.15006	-17.49013	-7.63302	6.71335	-0.94409	-0.50860	19.20391	6.79846	262.99	-23.42
87/ 4/27	2446912.5	-2.13455	-17.49230	-7.63419	6.71389	-0.93901	-0.50638	19.20463	6.79812	263.04	-23.42
87/ 5/ 1	2446916.5	-2.11904	-17.49446	-7.63536	6.71442	-0.93394	-0.50416	19.20535	6.79779	263.09	-23.43
87/ 5/ 5	2446920.5	-2.10353	-17.49662	-7.63652	6.71495	-0.92887	-0.50195	19.20606	6.79745	263.14	-23.43
87/ 5/ 9	2446924.5	-2.08802	-17.49876	-7.63768	6.71547	-0.92380	-0.49973	19.20678	6.79711	263.20	-23.43
87/ 5/13	2446928.5	-2.07250	-17.50088	-7.63883	6.71599	-0.91873	-0.49752	19.20750	6.79678	263.25	-23.43
87/ 5/17	2446932.5	-2.05699	-17.50300	-7.63998	6.71651	-0.91367	-0.49530	19.20821	6.79644	263.30	-23.44
87/ 5/21	2446936.5	-2.04147	-17.50511	-7.64112	6.71702	-0.90860	-0.49309	19.20893	6.79611	263.35	-23.44
87/ 5/25	2446940.5	-2.02595	-17.50720	-7.64225	6.71753	-0.90354	-0.49088	19.20965	6.79578	263.40	-23.44
87/ 5/29	2446944.5	-2.01043	-17.50928	-7.64338	6.71804	-0.89847	-0.48866	19.21036	6.79544	263.45	-23.45
87/ 6/ 2	2446948.5	-1.99491	-17.51135	-7.64451	6.71853	-0.89341	-0.48645	19.21108	6.79511	263.50	-23.45
87/ 6/ 6	2446952.5	-1.97939	-17.51341	-7.64563	6.71903	-0.88834	-0.48424	19.21180	6.79478	263.55	-23.45
87/ 6/10	2446956.5	-1.96387	-17.51545	-7.64675	6.71952	-0.88328	-0.48203	19.21251	6.79444	263.60	-23.45

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
87/ 6/14	2446960.5	-1.94835	-17.51749	-7.64786	6.72000	-0.87822	-0.47981	19.21323	6.79411	263.65	-23.46
87/ 6/18	2446964.5	-1.93282	-17.51951	-7.64897	6.72048	-0.87316	-0.47760	19.21395	6.79378	263.70	-23.46
87/ 6/22	2446968.5	-1.91729	-17.52152	-7.65007	6.72096	-0.86810	-0.47539	19.21466	6.79344	263.76	-23.46
87/ 6/26	2446972.5	-1.90177	-17.52352	-7.65116	6.72143	-0.86304	-0.47318	19.21538	6.79311	263.81	-23.46
87/ 6/30	2446976.5	-1.88624	-17.52551	-7.65225	6.72190	-0.85798	-0.47097	19.21610	6.79278	263.86	-23.47
87/ 7/ 4	2446980.5	-1.87071	-17.52749	-7.65334	6.72236	-0.85293	-0.46876	19.21681	6.79245	263.91	-23.47
87/ 7/ 8	2446984.5	-1.85518	-17.52945	-7.65442	6.72282	-0.84787	-0.46655	19.21753	6.79211	263.96	-23.47
87/ 7/12	2446988.5	-1.83965	-17.53140	-7.65549	6.72327	-0.84281	-0.46434	19.21825	6.79178	264.01	-23.47
87/ 7/16	2446992.5	-1.82412	-17.53335	-7.65656	6.72372	-0.83776	-0.46213	19.21896	6.79145	264.06	-23.48
87/ 7/20	2446996.5	-1.80858	-17.53528	-7.65763	6.72417	-0.83271	-0.45992	19.21968	6.79112	264.11	-23.48
87/ 7/24	2447000.5	-1.79305	-17.53719	-7.65869	6.72461	-0.82766	-0.45771	19.22040	6.79079	264.16	-23.48
87/ 7/28	2447004.5	-1.77751	-17.53910	-7.65974	6.72505	-0.82260	-0.45550	19.22111	6.79047	264.21	-23.48
87/ 8/ 1	2447008.5	-1.76198	-17.54099	-7.66079	6.72548	-0.81755	-0.45330	19.22183	6.79014	264.26	-23.49
87/ 8/ 5	2447012.5	-1.74644	-17.54288	-7.66184	6.72591	-0.81251	-0.45109	19.22255	6.78981	264.31	-23.49
87/ 8/ 9	2447016.5	-1.73090	-17.54475	-7.66288	6.72634	-0.80746	-0.44888	19.22326	6.78949	264.37	-23.49
87/ 8/13	2447020.5	-1.71536	-17.54661	-7.66391	6.72677	-0.80241	-0.44668	19.22398	6.78917	264.42	-23.49
87/ 8/17	2447024.5	-1.69982	-17.54846	-7.66494	6.72719	-0.79736	-0.44447	19.22470	6.78885	264.47	-23.50
87/ 8/21	2447028.5	-1.68428	-17.55029	-7.66597	6.72761	-0.79231	-0.44227	19.22541	6.78853	264.52	-23.50
87/ 8/25	2447032.5	-1.66874	-17.55212	-7.66698	6.72803	-0.78726	-0.44006	19.22613	6.78821	264.57	-23.50
87/ 8/29	2447036.5	-1.65319	-17.55393	-7.66800	6.72844	-0.78221	-0.43785	19.22685	6.78789	264.62	-23.50
87/ 9/ 2	2447040.5	-1.63765	-17.55573	-7.66901	6.72885	-0.77716	-0.43564	19.22756	6.78757	264.67	-23.51
87/ 9/ 6	2447044.5	-1.62210	-17.55752	-7.67001	6.72925	-0.77211	-0.43344	19.22828	6.78725	264.72	-23.51
87/ 9/10	2447048.5	-1.60656	-17.55930	-7.67101	6.72965	-0.76706	-0.43123	19.22900	6.78694	264.77	-23.51
87/ 9/14	2447052.5	-1.59101	-17.56106	-7.67200	6.73004	-0.76201	-0.42902	19.22971	6.78662	264.82	-23.51
87/ 9/18	2447056.5	-1.57546	-17.56282	-7.67299	6.73043	-0.75696	-0.42681	19.23043	6.78630	264.87	-23.52
87/ 9/22	2447060.5	-1.55991	-17.56456	-7.67398	6.73081	-0.75190	-0.42460	19.23115	6.78598	264.92	-23.52
87/ 9/26	2447064.5	-1.54436	-17.56629	-7.67495	6.73119	-0.74685	-0.42239	19.23186	6.78566	264.98	-23.52
87/ 9/30	2447068.5	-1.52881	-17.56801	-7.67593	6.73157	-0.74180	-0.42018	19.23258	6.78534	265.03	-23.52
87/10/ 4	2447072.5	-1.51326	-17.56972	-7.67690	6.73193	-0.73674	-0.41797	19.23330	6.78502	265.08	-23.52
87/10/ 8	2447076.5	-1.49771	-17.57142	-7.67786	6.73230	-0.73169	-0.41576	19.23401	6.78469	265.13	-23.53
87/10/12	2447080.5	-1.48215	-17.57310	-7.67882	6.73266	-0.72664	-0.41355	19.23473	6.78437	265.18	-23.53
87/10/16	2447084.5	-1.46660	-17.57477	-7.67977	6.73301	-0.72159	-0.41134	19.23545	6.78405	265.23	-23.53
87/10/20	2447088.5	-1.45105	-17.57643	-7.68072	6.73335	-0.71654	-0.40913	19.23616	6.78372	265.28	-23.53
87/10/24	2447092.5	-1.43549	-17.57808	-7.68166	6.73370	-0.71149	-0.40693	19.23688	6.78340	265.33	-23.54
87/10/28	2447096.5	-1.41993	-17.57972	-7.68260	6.73403	-0.70644	-0.40472	19.23760	6.78307	265.38	-23.54
87/11/ 1	2447100.5	-1.40438	-17.58135	-7.68353	6.73436	-0.70139	-0.40251	19.23831	6.78274	265.43	-23.54
87/11/ 5	2447104.5	-1.38882	-17.58296	-7.68446	6.73469	-0.69635	-0.40030	19.23903	6.78242	265.48	-23.54
87/11/ 9	2447108.5	-1.37326	-17.58457	-7.68538	6.73501	-0.69130	-0.39810	19.23975	6.78209	265.53	-23.54
87/11/13	2447112.5	-1.35770	-17.58616	-7.68630	6.73533	-0.68626	-0.39589	19.24046	6.78177	265.59	-23.55
87/11/17	2447116.5	-1.34214	-17.58774	-7.68721	6.73565	-0.68122	-0.39368	19.24118	6.78145	265.64	-23.55
87/11/21	2447120.5	-1.32658	-17.58930	-7.68812	6.73596	-0.67617	-0.39148	19.24190	6.78112	265.69	-23.55
87/11/25	2447124.5	-1.31102	-17.59086	-7.68902	6.73627	-0.67113	-0.38927	19.24261	6.78080	265.74	-23.55
87/11/29	2447128.5	-1.29546	-17.59240	-7.68991	6.73657	-0.66609	-0.38707	19.24333	6.78047	265.79	-23.55
87/12/ 3	2447132.5	-1.27989	-17.59394	-7.69081	6.73686	-0.66105	-0.38486	19.24404	6.78015	265.84	-23.56
87/12/ 7	2447136.5	-1.26433	-17.59546	-7.69169	6.73715	-0.65601	-0.38265	19.24476	6.77982	265.89	-23.56

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

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87/12/11	2447140.5	-1.24876	-17.59697	-7.69257	6.73744	-0.65097	-0.38045	19.24548	6.77950	265.94	-23.56
87/12/15	2447144.5	-1.23320	-17.59847	-7.69345	6.73772	-0.64593	-0.37824	19.24619	6.77917	265.99	-23.56
87/12/19	2447148.5	-1.21763	-17.59995	-7.69432	6.73800	-0.64089	-0.37604	19.24691	6.77885	266.04	-23.56
87/12/23	2447152.5	-1.20207	-17.60143	-7.69519	6.73827	-0.63586	-0.37383	19.24763	6.77852	266.09	-23.57
87/12/27	2447156.5	-1.18650	-17.60289	-7.69605	6.73854	-0.63083	-0.37163	19.24834	6.77820	266.14	-23.57
87/12/31	2447160.5	-1.17093	-17.60434	-7.69690	6.73880	-0.62579	-0.36943	19.24906	6.77787	266.19	-23.57
88/ 1/ 4	2447164.5	-1.15536	-17.60578	-7.69776	6.73906	-0.62076	-0.36723	19.24978	6.77755	266.25	-23.57
88/ 1/ 8	2447168.5	-1.13980	-17.60721	-7.69860	6.73932	-0.61573	-0.36502	19.25049	6.77722	266.30	-23.57
88/ 1/12	2447172.5	-1.12423	-17.60863	-7.69944	6.73957	-0.61071	-0.36282	19.25121	6.77690	266.35	-23.57
88/ 1/16	2447176.5	-1.10866	-17.61003	-7.70028	6.73981	-0.60568	-0.36062	19.25193	6.77658	266.40	-23.58
88/ 1/20	2447180.5	-1.09309	-17.61143	-7.70111	6.74006	-0.60066	-0.35842	19.25264	6.77625	266.45	-23.58
88/ 1/24	2447184.5	-1.07752	-17.61281	-7.70193	6.74029	-0.59564	-0.35622	19.25336	6.77593	266.50	-23.58
88/ 1/28	2447188.5	-1.06194	-17.61418	-7.70275	6.74053	-0.59062	-0.35403	19.25408	6.77561	266.55	-23.58
88/ 2/ 1	2447192.5	-1.04637	-17.61554	-7.70357	6.74077	-0.58560	-0.35183	19.25479	6.77530	266.60	-23.58
88/ 2/ 5	2447196.5	-1.03080	-17.61688	-7.70438	6.74100	-0.58058	-0.34963	19.25551	6.77498	266.65	-23.59
88/ 2/ 9	2447200.5	-1.01523	-17.61822	-7.70519	6.74123	-0.57557	-0.34744	19.25622	6.77467	266.70	-23.59
88/ 2/13	2447204.5	-0.99965	-17.61954	-7.70599	6.74146	-0.57055	-0.34524	19.25694	6.77436	266.75	-23.59
88/ 2/17	2447208.5	-0.98408	-17.62086	-7.70678	6.74168	-0.56553	-0.34305	19.25766	6.77405	266.80	-23.59
88/ 2/21	2447212.5	-0.96850	-17.62216	-7.70757	6.74191	-0.56052	-0.34085	19.25838	6.77375	266.85	-23.59
88/ 2/25	2447216.5	-0.95293	-17.62345	-7.70836	6.74213	-0.55550	-0.33866	19.25909	6.77344	266.90	-23.59
88/ 2/29	2447220.5	-0.93735	-17.62472	-7.70913	6.74234	-0.55048	-0.33646	19.25981	6.77314	266.96	-23.60
88/ 3/ 4	2447224.5	-0.92178	-17.62599	-7.70991	6.74256	-0.54547	-0.33426	19.26053	6.77284	267.01	-23.60
88/ 3/ 8	2447228.5	-0.90620	-17.62724	-7.71068	6.74277	-0.54045	-0.33207	19.26124	6.77254	267.06	-23.60
88/ 3/12	2447232.5	-0.89062	-17.62849	-7.71144	6.74297	-0.53543	-0.32987	19.26196	6.77224	267.11	-23.60
88/ 3/16	2447236.5	-0.87504	-17.62972	-7.71220	6.74317	-0.53041	-0.32767	19.26268	6.77194	267.16	-23.60
88/ 3/20	2447240.5	-0.85947	-17.63094	-7.71296	6.74337	-0.52539	-0.32548	19.26339	6.77164	267.21	-23.60
88/ 3/24	2447244.5	-0.84389	-17.63214	-7.71371	6.74357	-0.52038	-0.32328	19.26411	6.77134	267.26	-23.60
88/ 3/28	2447248.5	-0.82831	-17.63334	-7.71445	6.74376	-0.51536	-0.32108	19.26483	6.77104	267.31	-23.61
88/ 4/ 1	2447252.5	-0.81273	-17.63453	-7.71519	6.74395	-0.51034	-0.31888	19.26554	6.77075	267.36	-23.61
88/ 4/ 5	2447256.5	-0.79715	-17.63570	-7.71592	6.74413	-0.50532	-0.31669	19.26626	6.77045	267.41	-23.61
88/ 4/ 9	2447260.5	-0.78157	-17.63686	-7.71665	6.74431	-0.50030	-0.31449	19.26698	6.77015	267.46	-23.61
88/ 4/13	2447264.5	-0.76599	-17.63801	-7.71738	6.74449	-0.49527	-0.31229	19.26769	6.76986	267.51	-23.61
88/ 4/17	2447268.5	-0.75041	-17.63915	-7.71810	6.74466	-0.49025	-0.31009	19.26841	6.76956	267.56	-23.61
88/ 4/21	2447272.5	-0.73483	-17.64028	-7.71881	6.74483	-0.48523	-0.30789	19.26913	6.76926	267.61	-23.61
88/ 4/25	2447276.5	-0.71924	-17.64139	-7.71952	6.74499	-0.48021	-0.30569	19.26985	6.76897	267.67	-23.62
88/ 4/29	2447280.5	-0.70366	-17.64249	-7.72022	6.74515	-0.47519	-0.30350	19.27056	6.76868	267.72	-23.62
88/ 5/ 3	2447284.5	-0.68808	-17.64359	-7.72092	6.74531	-0.47017	-0.30130	19.27128	6.76838	267.77	-23.62
88/ 5/ 7	2447288.5	-0.67250	-17.64467	-7.72162	6.74546	-0.46515	-0.29910	19.27200	6.76809	267.82	-23.62
88/ 5/11	2447292.5	-0.65691	-17.64574	-7.72230	6.74561	-0.46012	-0.29690	19.27271	6.76780	267.87	-23.62
88/ 5/15	2447296.5	-0.64133	-17.64679	-7.72299	6.74575	-0.45510	-0.29470	19.27343	6.76751	267.92	-23.62
88/ 5/19	2447300.5	-0.62574	-17.64784	-7.72367	6.74589	-0.45007	-0.29250	19.27415	6.76721	267.97	-23.62
88/ 5/23	2447304.5	-0.61016	-17.64887	-7.72434	6.74602	-0.44505	-0.29030	19.27486	6.76692	268.02	-23.62
88/ 5/27	2447308.5	-0.59458	-17.64989	-7.72501	6.74615	-0.44002	-0.28809	19.27558	6.76662	268.07	-23.63
88/ 5/31	2447312.5	-0.57899	-17.65090	-7.72567	6.74627	-0.43499	-0.28589	19.27630	6.76632	268.12	-23.63
88/ 6/ 4	2447316.5	-0.56341	-17.65190	-7.72633	6.74639	-0.42996	-0.28369	19.27701	6.76603	268.17	-23.63

1.7 1 A.U.=149,599,000 KM.

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88/ 6/ 8	2447320.5	-0.54782	-17.65289	-7.72698	6.74650	-0.42494	-0.28149	19.27773	6.76573	268.22	-23.63
88/ 6/12	2447324.5	-0.53223	-17.65387	-7.72763	6.74660	-0.41991	-0.27928	19.27845	6.76542	268.27	-23.63
88/ 6/16	2447328.5	-0.51665	-17.65483	-7.72827	6.74670	-0.41488	-0.27708	19.27916	6.76512	268.32	-23.63
88/ 6/20	2447332.5	-0.50106	-17.65578	-7.72891	6.74679	-0.40985	-0.27488	19.27988	6.76482	268.37	-23.63
88/ 6/24	2447336.5	-0.48548	-17.65673	-7.72954	6.74688	-0.40483	-0.27268	19.28060	6.76451	268.43	-23.63
88/ 6/28	2447340.5	-0.46989	-17.65765	-7.73017	6.74696	-0.39980	-0.27047	19.28131	6.76421	268.48	-23.64
88/ 7/ 2	2447344.5	-0.45430	-17.65857	-7.73079	6.74704	-0.39478	-0.26827	19.28203	6.76390	268.53	-23.64
88/ 7/ 6	2447348.5	-0.43872	-17.65948	-7.73141	6.74710	-0.38975	-0.26607	19.28275	6.76359	268.58	-23.64
88/ 7/10	2447352.5	-0.42313	-17.66037	-7.73202	6.74717	-0.38473	-0.26387	19.28346	6.76328	268.63	-23.64
88/ 7/14	2447356.5	-0.40754	-17.66126	-7.73263	6.74722	-0.37971	-0.26167	19.28418	6.76296	268.68	-23.64
88/ 7/18	2447360.5	-0.39195	-17.66213	-7.73323	6.74728	-0.37470	-0.25947	19.28490	6.76265	268.73	-23.64
88/ 7/22	2447364.5	-0.37637	-17.66299	-7.73383	6.74732	-0.36968	-0.25727	19.28561	6.76234	268.78	-23.64
88/ 7/26	2447368.5	-0.36078	-17.66384	-7.73442	6.74737	-0.36467	-0.25508	19.28633	6.76203	268.83	-23.64
88/ 7/30	2447372.5	-0.34519	-17.66467	-7.73500	6.74741	-0.35966	-0.25288	19.28704	6.76171	268.88	-23.64
88/ 8/ 3	2447376.5	-0.32960	-17.66550	-7.73559	6.74744	-0.35465	-0.25068	19.28776	6.76140	268.93	-23.64
88/ 8/ 7	2447380.5	-0.31402	-17.66631	-7.73616	6.74747	-0.34964	-0.24849	19.28848	6.76109	268.98	-23.65
88/ 8/11	2447384.5	-0.29843	-17.66711	-7.73673	6.74750	-0.34463	-0.24629	19.28919	6.76078	269.03	-23.65
88/ 8/15	2447388.5	-0.28284	-17.66790	-7.73730	6.74752	-0.33963	-0.24410	19.28991	6.76047	269.08	-23.65
88/ 8/19	2447392.5	-0.26725	-17.66868	-7.73786	6.74754	-0.33462	-0.24191	19.29063	6.76016	269.13	-23.65
88/ 8/23	2447396.5	-0.25166	-17.66945	-7.73842	6.74756	-0.32962	-0.23971	19.29134	6.75985	269.18	-23.65
88/ 8/27	2447400.5	-0.23608	-17.67021	-7.73897	6.74757	-0.32462	-0.23752	19.29206	6.75954	269.23	-23.65
88/ 8/31	2447404.5	-0.22049	-17.67095	-7.73952	6.74757	-0.31962	-0.23533	19.29277	6.75923	269.29	-23.65
88/ 9/ 4	2447408.5	-0.20490	-17.67168	-7.74006	6.74757	-0.31462	-0.23314	19.29349	6.75892	269.34	-23.65
88/ 9/ 8	2447412.5	-0.18931	-17.67240	-7.74059	6.74757	-0.30962	-0.23094	19.29421	6.75862	269.39	-23.65
88/ 9/12	2447416.5	-0.17372	-17.67311	-7.74112	6.74756	-0.30463	-0.22875	19.29492	6.75831	269.44	-23.65
88/ 9/16	2447420.5	-0.15814	-17.67381	-7.74165	6.74755	-0.29963	-0.22657	19.29564	6.75800	269.49	-23.65
88/ 9/20	2447424.5	-0.14255	-17.67450	-7.74217	6.74754	-0.29464	-0.22438	19.29636	6.75769	269.54	-23.65
88/ 9/24	2447428.5	-0.12696	-17.67517	-7.74269	6.74752	-0.28965	-0.22219	19.29707	6.75739	269.59	-23.66
88/ 9/28	2447432.5	-0.11137	-17.67584	-7.74320	6.74750	-0.28466	-0.22000	19.29779	6.75708	269.64	-23.66
88/10/ 2	2447436.5	-0.09578	-17.67649	-7.74370	6.74748	-0.27968	-0.21781	19.29850	6.75678	269.69	-23.66
88/10/ 6	2447440.5	-0.08020	-17.67713	-7.74420	6.74745	-0.27469	-0.21563	19.29922	6.75648	269.74	-23.66
88/10/10	2447444.5	-0.06461	-17.67776	-7.74470	6.74742	-0.26971	-0.21344	19.29994	6.75618	269.79	-23.66
88/10/14	2447448.5	-0.04902	-17.67837	-7.74519	6.74738	-0.26473	-0.21126	19.30065	6.75588	269.84	-23.66
88/10/18	2447452.5	-0.03343	-17.67898	-7.74568	6.74735	-0.25975	-0.20908	19.30137	6.75558	269.89	-23.66
88/10/22	2447456.5	-0.01785	-17.67957	-7.74616	6.74731	-0.25477	-0.20689	19.30209	6.75529	269.94	-23.66
88/10/26	2447460.5	-0.00226	-17.68016	-7.74663	6.74727	-0.24979	-0.20471	19.30280	6.75499	269.99	-23.66
88/10/30	2447464.5	0.01333	-17.68073	-7.74710	6.74723	-0.24481	-0.20253	19.30352	6.75470	270.04	-23.66
88/11/ 3	2447468.5	0.02892	-17.68129	-7.74757	6.74718	-0.23983	-0.20035	19.30424	6.75442	270.09	-23.66
88/11/ 7	2447472.5	0.04450	-17.68184	-7.74803	6.74714	-0.23486	-0.19817	19.30495	6.75413	270.14	-23.66
88/11/11	2447476.5	0.06009	-17.68237	-7.74848	6.74709	-0.22988	-0.19598	19.30567	6.75385	270.19	-23.66
88/11/15	2447480.5	0.07568	-17.68290	-7.74893	6.74704	-0.22490	-0.19380	19.30639	6.75357	270.25	-23.66
88/11/19	2447484.5	0.09126	-17.68341	-7.74938	6.74698	-0.21992	-0.19162	19.30710	6.75328	270.30	-23.66
88/11/23	2447488.5	0.10685	-17.68391	-7.74982	6.74692	-0.21494	-0.18943	19.30782	6.75300	270.35	-23.66
88/11/27	2447492.5	0.12244	-17.68440	-7.75025	6.74686	-0.20995	-0.18725	19.30854	6.75272	270.40	-23.67
88/12/ 1	2447496.5	0.13802	-17.68488	-7.75068	6.74679	-0.20497	-0.18506	19.30925	6.75244	270.45	-23.67

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88/12/ 5	2447500.5	0.15361	-17.68535	-7.75111	6.74672	-0.19999	-0.18288	19.30997	6.75216	270.50	-23.67
88/12/ 9	2447504.5	0.16920	-17.68581	-7.75153	6.74665	-0.19501	-0.18070	19.31069	6.75189	270.55	-23.67
88/12/13	2447508.5	0.18478	-17.68625	-7.75194	6.74657	-0.19003	-0.17851	19.31140	6.75161	270.60	-23.67
88/12/17	2447512.5	0.20037	-17.68669	-7.75235	6.74649	-0.18505	-0.17633	19.31212	6.75133	270.65	-23.67
88/12/21	2447516.5	0.21595	-17.68711	-7.75276	6.74640	-0.18007	-0.17414	19.31284	6.75105	270.70	-23.67
88/12/25	2447520.5	0.23154	-17.68752	-7.75316	6.74631	-0.17508	-0.17196	19.31355	6.75077	270.75	-23.67
88/12/29	2447524.5	0.24712	-17.68792	-7.75355	6.74622	-0.17010	-0.16977	19.31427	6.75049	270.80	-23.67
89/ 1/ 2	2447528.5	0.26271	-17.68830	-7.75394	6.74611	-0.16512	-0.16759	19.31499	6.75022	270.85	-23.67
89/ 1/ 6	2447532.5	0.27829	-17.68868	-7.75433	6.74601	-0.16014	-0.16540	19.31570	6.74994	270.90	-23.67
89/ 1/10	2447536.5	0.29388	-17.68904	-7.75471	6.74590	-0.15516	-0.16322	19.31642	6.74966	270.95	-23.67
89/ 1/14	2447540.5	0.30946	-17.68940	-7.75508	6.74579	-0.15018	-0.16103	19.31714	6.74938	271.00	-23.67
89/ 1/18	2447544.5	0.32505	-17.68974	-7.75545	6.74567	-0.14520	-0.15885	19.31785	6.74910	271.05	-23.67
89/ 1/22	2447548.5	0.34063	-17.69007	-7.75581	6.74555	-0.14022	-0.15666	19.31857	6.74882	271.10	-23.67
89/ 1/26	2447552.5	0.35621	-17.69039	-7.75617	6.74542	-0.13524	-0.15448	19.31929	6.74855	271.15	-23.67
89/ 1/30	2447556.5	0.37179	-17.69069	-7.75653	6.74530	-0.13026	-0.15230	19.32000	6.74827	271.20	-23.67
89/ 2/ 3	2447560.5	0.38738	-17.69099	-7.75688	6.74516	-0.12528	-0.15011	19.32072	6.74800	271.25	-23.67
89/ 2/ 7	2447564.5	0.40296	-17.69127	-7.75722	6.74503	-0.12030	-0.14793	19.32144	6.74772	271.30	-23.67
89/ 2/11	2447568.5	0.41854	-17.69154	-7.75756	6.74489	-0.11532	-0.14574	19.32215	6.74745	271.36	-23.67
89/ 2/15	2447572.5	0.43412	-17.69180	-7.75790	6.74474	-0.11035	-0.14356	19.32287	6.74717	271.41	-23.67
89/ 2/19	2447576.5	0.44971	-17.69205	-7.75822	6.74459	-0.10537	-0.14137	19.32359	6.74689	271.46	-23.67
89/ 2/23	2447580.5	0.46529	-17.69229	-7.75855	6.74443	-0.10039	-0.13919	19.32430	6.74661	271.51	-23.67
89/ 2/27	2447584.5	0.48087	-17.69252	-7.75887	6.74427	-0.09541	-0.13700	19.32502	6.74633	271.56	-23.67
89/ 3/ 3	2447588.5	0.49645	-17.69273	-7.75918	6.74410	-0.09043	-0.13482	19.32574	6.74606	271.61	-23.67
89/ 3/ 7	2447592.5	0.51203	-17.69293	-7.75949	6.74393	-0.08546	-0.13263	19.32645	6.74578	271.66	-23.67
89/ 3/11	2447596.5	0.52761	-17.69313	-7.75979	6.74375	-0.08048	-0.13045	19.32717	6.74550	271.71	-23.67
89/ 3/15	2447600.5	0.54319	-17.69331	-7.76009	6.74357	-0.07551	-0.12827	19.32789	6.74522	271.76	-23.67
89/ 3/19	2447604.5	0.55876	-17.69348	-7.76039	6.74339	-0.07054	-0.12608	19.32860	6.74494	271.81	-23.67
89/ 3/23	2447608.5	0.57434	-17.69363	-7.76068	6.74320	-0.06557	-0.12390	19.32932	6.74466	271.86	-23.67
89/ 3/27	2447612.5	0.58992	-17.69378	-7.76096	6.74300	-0.06060	-0.12172	19.33004	6.74437	271.91	-23.67
89/ 3/31	2447616.5	0.60550	-17.69391	-7.76124	6.74281	-0.05563	-0.11954	19.33075	6.74409	271.96	-23.67
89/ 4/ 4	2447620.5	0.62107	-17.69404	-7.76151	6.74260	-0.05066	-0.11736	19.33147	6.74381	272.01	-23.67
89/ 4/ 8	2447624.5	0.63665	-17.69415	-7.76178	6.74239	-0.04570	-0.11518	19.33219	6.74353	272.06	-23.67
89/ 4/12	2447628.5	0.65223	-17.69425	-7.76204	6.74218	-0.04074	-0.11300	19.33290	6.74325	272.11	-23.67
89/ 4/16	2447632.5	0.66780	-17.69433	-7.76230	6.74197	-0.03578	-0.11082	19.33362	6.74298	272.16	-23.67
89/ 4/20	2447636.5	0.68338	-17.69441	-7.76256	6.74176	-0.03082	-0.10865	19.33433	6.74270	272.21	-23.67
89/ 4/24	2447640.5	0.69895	-17.69448	-7.76280	6.74154	-0.02586	-0.10647	19.33505	6.74243	272.26	-23.67
89/ 4/28	2447644.5	0.71452	-17.69453	-7.76305	6.74132	-0.02091	-0.10429	19.33577	6.74216	272.31	-23.67
89/ 5/ 2	2447648.5	0.73010	-17.69457	-7.76329	6.74109	-0.01595	-0.10212	19.33648	6.74189	272.36	-23.67
89/ 5/ 6	2447652.5	0.74567	-17.69461	-7.76352	6.74087	-0.01099	-0.09994	19.33720	6.74162	272.41	-23.67
89/ 5/10	2447656.5	0.76124	-17.69462	-7.76375	6.74064	-0.00603	-0.09776	19.33792	6.74135	272.46	-23.67
89/ 5/14	2447660.5	0.77682	-17.69463	-7.76397	6.74040	-0.00108	-0.09559	19.33863	6.74108	272.51	-23.67
89/ 5/18	2447664.5	0.79239	-17.69463	-7.76419	6.74017	0.00388	-0.09341	19.33935	6.74081	272.56	-23.67
89/ 5/22	2447668.5	0.80796	-17.69461	-7.76440	6.73992	0.00884	-0.09124	19.34007	6.74055	272.61	-23.67
89/ 5/26	2447672.5	0.82353	-17.69459	-7.76461	6.73968	0.01379	-0.08906	19.34078	6.74028	272.66	-23.67
89/ 5/30	2447676.5	0.83910	-17.69455	-7.76481	6.73943	0.01875	-0.08689	19.34150	6.74002	272.71	-23.67

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89/ 6/ 3	2447680.5	0.85467	-17.69450	-7.76501	6.73918	0.02370	-0.08471	19.34221	6.73975	272.77	-23.67
89/ 6/ 7	2447684.5	0.87023	-17.69444	-7.76521	6.73892	0.02866	-0.08253	19.34293	6.73949	272.82	-23.67
89/ 6/11	2447688.5	0.88580	-17.69437	-7.76539	6.73867	0.03361	-0.08036	19.34365	6.73923	272.87	-23.67
89/ 6/15	2447692.5	0.90137	-17.69429	-7.76558	6.73840	0.03857	-0.07818	19.34436	6.73897	272.92	-23.67
89/ 6/19	2447696.5	0.91694	-17.69419	-7.76576	6.73814	0.04352	-0.07601	19.34508	6.73871	272.97	-23.67
89/ 6/23	2447700.5	0.93250	-17.69409	-7.76593	6.73787	0.04848	-0.07383	19.34580	6.73844	273.02	-23.67
89/ 6/27	2447704.5	0.94807	-17.69397	-7.76610	6.73759	0.05343	-0.07166	19.34651	6.73818	273.07	-23.67
89/ 7/ 1	2447708.5	0.96363	-17.69384	-7.76626	6.73731	0.05839	-0.06948	19.34723	6.73792	273.12	-23.67
89/ 7/ 5	2447712.5	0.97920	-17.69370	-7.76642	6.73703	0.06334	-0.06731	19.34795	6.73766	273.17	-23.67
89/ 7/ 9	2447716.5	0.99476	-17.69355	-7.76657	6.73674	0.06829	-0.06513	19.34866	6.73740	273.22	-23.67
89/ 7/13	2447720.5	1.01032	-17.69338	-7.76672	6.73645	0.07325	-0.06296	19.34938	6.73715	273.27	-23.67
89/ 7/17	2447724.5	1.02588	-17.69321	-7.76686	6.73616	0.07820	-0.06078	19.35009	6.73689	273.32	-23.66
89/ 7/21	2447728.5	1.04145	-17.69302	-7.76700	6.73587	0.08315	-0.05861	19.35081	6.73663	273.37	-23.66
89/ 7/25	2447732.5	1.05701	-17.69282	-7.76713	6.73557	0.08811	-0.05644	19.35153	6.73638	273.42	-23.66
89/ 7/29	2447736.5	1.07257	-17.69261	-7.76726	6.73526	0.09306	-0.05426	19.35224	6.73613	273.47	-23.66
89/ 8/ 2	2447740.5	1.08813	-17.69239	-7.76738	6.73496	0.09802	-0.05208	19.35296	6.73587	273.52	-23.66
89/ 8/ 6	2447744.5	1.10368	-17.69216	-7.76750	6.73464	0.10297	-0.04991	19.35368	6.73562	273.57	-23.66
89/ 8/10	2447748.5	1.11924	-17.69192	-7.76761	6.73432	0.10793	-0.04773	19.35439	6.73536	273.62	-23.66
89/ 8/14	2447752.5	1.13480	-17.69166	-7.76772	6.73400	0.11289	-0.04555	19.35511	6.73510	273.67	-23.66
89/ 8/18	2447756.5	1.15036	-17.69140	-7.76782	6.73367	0.11784	-0.04338	19.35582	6.73484	273.72	-23.66
89/ 8/22	2447760.5	1.16591	-17.69112	-7.76792	6.73334	0.12280	-0.04120	19.35654	6.73458	273.77	-23.66
89/ 8/26	2447764.5	1.18147	-17.69083	-7.76801	6.73300	0.12776	-0.03902	19.35725	6.73432	273.82	-23.66
89/ 8/30	2447768.5	1.19702	-17.69053	-7.76810	6.73265	0.13271	-0.03685	19.35797	6.73406	273.87	-23.66
89/ 9/ 3	2447772.5	1.21257	-17.69022	-7.76818	6.73230	0.13767	-0.03467	19.35869	6.73380	273.92	-23.66
89/ 9/ 7	2447776.5	1.22813	-17.68989	-7.76826	6.73195	0.14262	-0.03249	19.35940	6.73354	273.97	-23.66
89/ 9/11	2447780.5	1.24368	-17.68956	-7.76833	6.73159	0.14757	-0.03032	19.36012	6.73327	274.02	-23.66
89/ 9/15	2447784.5	1.25923	-17.68921	-7.76840	6.73122	0.15252	-0.02814	19.36083	6.73301	274.07	-23.66
89/ 9/19	2447788.5	1.27478	-17.68885	-7.76846	6.73085	0.15747	-0.02597	19.36155	6.73274	274.12	-23.66
89/ 9/23	2447792.5	1.29033	-17.68848	-7.76852	6.73047	0.16242	-0.02379	19.36226	6.73247	274.17	-23.65
89/ 9/27	2447796.5	1.30587	-17.68810	-7.76857	6.73009	0.16737	-0.02162	19.36298	6.73220	274.22	-23.65
89/10/ 1	2447800.5	1.32142	-17.68771	-7.76862	6.72970	0.17231	-0.01945	19.36369	6.73193	274.27	-23.65
89/10/ 5	2447804.5	1.33697	-17.68730	-7.76866	6.72931	0.17725	-0.01727	19.36441	6.73167	274.32	-23.65
89/10/ 9	2447808.5	1.35251	-17.68689	-7.76870	6.72891	0.18219	-0.01510	19.36513	6.73140	274.37	-23.65
89/10/13	2447812.5	1.36806	-17.68646	-7.76873	6.72851	0.18713	-0.01293	19.36584	6.73113	274.42	-23.65
89/10/17	2447816.5	1.38360	-17.68603	-7.76876	6.72811	0.19207	-0.01077	19.36656	6.73086	274.47	-23.65
89/10/21	2447820.5	1.39914	-17.68558	-7.76878	6.72771	0.19700	-0.00860	19.36727	6.73060	274.52	-23.65
89/10/25	2447824.5	1.41469	-17.68512	-7.76880	6.72730	0.20193	-0.00643	19.36799	6.73033	274.57	-23.65
89/10/29	2447828.5	1.43023	-17.68464	-7.76881	6.72688	0.20687	-0.00426	19.36870	6.73007	274.62	-23.65
89/11/ 2	2447832.5	1.44577	-17.68416	-7.76882	6.72647	0.21180	-0.00209	19.36942	6.72980	274.67	-23.65
89/11/ 6	2447836.5	1.46131	-17.68366	-7.76882	6.72604	0.21673	0.00007	19.37013	6.72953	274.72	-23.65
89/11/10	2447840.5	1.47684	-17.68316	-7.76882	6.72562	0.22166	0.00224	19.37085	6.72927	274.77	-23.64
89/11/14	2447844.5	1.49238	-17.68264	-7.76881	6.72519	0.22658	0.00441	19.37156	6.72901	274.82	-23.64
89/11/18	2447848.5	1.50792	-17.68211	-7.76880	6.72475	0.23151	0.00657	19.37228	6.72874	274.87	-23.64
89/11/22	2447852.5	1.52345	-17.68157	-7.76878	6.72432	0.23643	0.00874	19.37299	6.72848	274.92	-23.64
89/11/26	2447856.5	1.53898	-17.68102	-7.76876	6.72388	0.24135	0.01090	19.37371	6.72822	274.97	-23.64

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89/11/30	2447860.5	1.55452	-17.68046	-7.76873	6.72343	0.24627	0.01306	19.37442	6.72795	275.02	-23.64
89/12/ 4	2447864.5	1.57005	-17.67988	-7.76870	6.72299	0.25119	0.01522	19.37514	6.72769	275.07	-23.64
89/12/ 8	2447868.5	1.58558	-17.67929	-7.76866	6.72254	0.25610	0.01739	19.37585	6.72744	275.12	-23.64
89/12/12	2447872.5	1.60111	-17.67870	-7.76862	6.72208	0.26102	0.01955	19.37657	6.72718	275.17	-23.64
89/12/16	2447876.5	1.61664	-17.67809	-7.76857	6.72163	0.26593	0.02171	19.37728	6.72692	275.23	-23.64
89/12/20	2447880.5	1.63217	-17.67747	-7.76852	6.72117	0.27084	0.02387	19.37800	6.72667	275.28	-23.63
89/12/24	2447884.5	1.64769	-17.67684	-7.76846	6.72071	0.27575	0.02603	19.37871	6.72641	275.33	-23.63
89/12/28	2447888.5	1.66322	-17.67619	-7.76840	6.72024	0.28066	0.02818	19.37943	6.72616	275.38	-23.63
90/ 1/ 1	2447892.5	1.67874	-17.67554	-7.76833	6.71978	0.28557	0.03034	19.38014	6.72591	275.43	-23.63
90/ 1/ 5	2447896.5	1.69427	-17.67488	-7.76826	6.71931	0.29047	0.03250	19.38086	6.72566	275.48	-23.63
90/ 1/ 9	2447900.5	1.70979	-17.67420	-7.76818	6.71884	0.29538	0.03465	19.38157	6.72542	275.53	-23.63
90/ 1/13	2447904.5	1.72531	-17.67351	-7.76810	6.71837	0.30028	0.03681	19.38229	6.72518	275.58	-23.63
90/ 1/17	2447908.5	1.74083	-17.67281	-7.76801	6.71790	0.30519	0.03896	19.38300	6.72494	275.63	-23.63
90/ 1/21	2447912.5	1.75635	-17.67210	-7.76792	6.71742	0.31009	0.04112	19.38372	6.72470	275.68	-23.62
90/ 1/25	2447916.5	1.77187	-17.67138	-7.76782	6.71695	0.31500	0.04328	19.38443	6.72447	275.73	-23.62
90/ 1/29	2447920.5	1.78738	-17.67064	-7.76772	6.71647	0.31991	0.04543	19.38515	6.72424	275.78	-23.62
90/ 2/ 2	2447924.5	1.80290	-17.66990	-7.76761	6.71599	0.32482	0.04759	19.38586	6.72400	275.83	-23.62
90/ 2/ 6	2447928.5	1.81841	-17.66914	-7.76750	6.71550	0.32973	0.04975	19.38658	6.72377	275.88	-23.62
90/ 2/10	2447932.5	1.83393	-17.66838	-7.76738	6.71501	0.33464	0.05191	19.38729	6.72354	275.93	-23.62
90/ 2/14	2447936.5	1.84944	-17.66760	-7.76726	6.71452	0.33955	0.05407	19.38801	6.72332	275.98	-23.62
90/ 2/18	2447940.5	1.86495	-17.66681	-7.76713	6.71402	0.34446	0.05623	19.38872	6.72309	276.03	-23.62
90/ 2/22	2447944.5	1.88046	-17.66601	-7.76700	6.71352	0.34937	0.05838	19.38943	6.72286	276.08	-23.61
90/ 2/26	2447948.5	1.89597	-17.66519	-7.76686	6.71302	0.35428	0.06054	19.39015	6.72263	276.13	-23.61
90/ 3/ 2	2447952.5	1.91148	-17.66437	-7.76672	6.71251	0.35919	0.06271	19.39086	6.72241	276.18	-23.61
90/ 3/ 6	2447956.5	1.92698	-17.66353	-7.76657	6.71200	0.36411	0.06487	19.39158	6.72218	276.23	-23.61
90/ 3/10	2447960.5	1.94249	-17.66269	-7.76642	6.71148	0.36902	0.06703	19.39229	6.72195	276.28	-23.61
90/ 3/14	2447964.5	1.95799	-17.66183	-7.76626	6.71096	0.37394	0.06919	19.39301	6.72173	276.33	-23.61
90/ 3/18	2447968.5	1.97350	-17.66096	-7.76610	6.71043	0.37885	0.07135	19.39372	6.72150	276.38	-23.61
90/ 3/22	2447972.5	1.98900	-17.66008	-7.76593	6.70990	0.38377	0.07351	19.39444	6.72127	276.43	-23.60
90/ 3/26	2447976.5	2.00450	-17.65919	-7.76576	6.70937	0.38868	0.07567	19.39515	6.72104	276.48	-23.60
90/ 3/30	2447980.5	2.02000	-17.65828	-7.76558	6.70883	0.39359	0.07783	19.39587	6.72081	276.53	-23.60
90/ 4/ 3	2447984.5	2.03549	-17.65737	-7.76540	6.70828	0.39851	0.07999	19.39658	6.72059	276.58	-23.60
90/ 4/ 7	2447988.5	2.05099	-17.65644	-7.76521	6.70774	0.40342	0.08215	19.39729	6.72036	276.63	-23.60
90/ 4/11	2447992.5	2.06649	-17.65550	-7.76502	6.70719	0.40833	0.08431	19.39801	6.72013	276.68	-23.60
90/ 4/15	2447996.5	2.08198	-17.65456	-7.76482	6.70663	0.41325	0.08648	19.39872	6.71991	276.73	-23.60
90/ 4/19	2448000.5	2.09747	-17.65359	-7.76462	6.70607	0.41816	0.08864	19.39944	6.71968	276.78	-23.59
90/ 4/23	2448004.5	2.11297	-17.65262	-7.76441	6.70550	0.42308	0.09080	19.40015	6.71945	276.83	-23.59
90/ 4/27	2448008.5	2.12846	-17.65164	-7.76420	6.70493	0.42800	0.09296	19.40086	6.71922	276.88	-23.59
90/ 5/ 1	2448012.5	2.14394	-17.65065	-7.76398	6.70436	0.43291	0.09513	19.40158	6.71899	276.93	-23.59
90/ 5/ 5	2448016.5	2.15943	-17.64964	-7.76376	6.70377	0.43783	0.09729	19.40229	6.71876	276.98	-23.59
90/ 5/ 9	2448020.5	2.17492	-17.64862	-7.76353	6.70319	0.44274	0.09945	19.40301	6.71853	277.03	-23.59
90/ 5/13	2448024.5	2.19040	-17.64759	-7.76330	6.70259	0.44766	0.10161	19.40372	6.71829	277.08	-23.58
90/ 5/17	2448028.5	2.20589	-17.64655	-7.76307	6.70200	0.45257	0.10377	19.40443	6.71806	277.13	-23.58
90/ 5/21	2448032.5	2.22137	-17.64550	-7.76282	6.70139	0.45748	0.10594	19.40515	6.71782	277.18	-23.58
90/ 5/25	2448036.5	2.23685	-17.64444	-7.76258	6.70078	0.46239	0.10810	19.40586	6.71759	277.23	-23.58

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90/ 5/29	2448040.5	2.25233	-17.64337	-7.76232	6.70017	0.46730	0.11026	19.40657	6.71735	277.27	-23.58
90/ 6/ 2	2448044.5	2.26781	-17.64228	-7.76207	6.69955	0.47221	0.11242	19.40728	6.71711	277.32	-23.58
90/ 6/ 6	2448048.5	2.28328	-17.64118	-7.76180	6.69892	0.47711	0.11458	19.40800	6.71687	277.37	-23.57
90/ 6/10	2448052.5	2.29876	-17.64008	-7.76154	6.69829	0.48202	0.11674	19.40871	6.71663	277.42	-23.57
90/ 6/14	2448056.5	2.31423	-17.63896	-7.76126	6.69766	0.48692	0.11889	19.40942	6.71639	277.47	-23.57
90/ 6/18	2448060.5	2.32970	-17.63783	-7.76099	6.69702	0.49182	0.12105	19.41014	6.71614	277.52	-23.57
90/ 6/22	2448064.5	2.34517	-17.63669	-7.76071	6.69637	0.49672	0.12321	19.41085	6.71590	277.57	-23.57
90/ 6/26	2448068.5	2.36064	-17.63553	-7.76042	6.69572	0.50161	0.12536	19.41156	6.71566	277.62	-23.56
90/ 6/30	2448072.5	2.37611	-17.63437	-7.76013	6.69507	0.50651	0.12752	19.41227	6.71542	277.67	-23.56
90/ 7/ 4	2448076.5	2.39158	-17.63319	-7.75983	6.69442	0.51140	0.12967	19.41299	6.71518	277.72	-23.56
90/ 7/ 8	2448080.5	2.40704	-17.63200	-7.75953	6.69376	0.51629	0.13182	19.41370	6.71494	277.77	-23.56
90/ 7/12	2448084.5	2.42250	-17.63081	-7.75922	6.69310	0.52118	0.13397	19.41441	6.71470	277.82	-23.56
90/ 7/16	2448088.5	2.43797	-17.62960	-7.75891	6.69244	0.52606	0.13612	19.41512	6.71446	277.87	-23.56
90/ 7/20	2448092.5	2.45343	-17.62838	-7.75859	6.69177	0.53095	0.13827	19.41584	6.71423	277.92	-23.55
90/ 7/24	2448096.5	2.46888	-17.62714	-7.75827	6.69110	0.53584	0.14043	19.41655	6.71399	277.97	-23.55
90/ 7/28	2448100.5	2.48434	-17.62590	-7.75794	6.69043	0.54072	0.14258	19.41726	6.71376	278.02	-23.55
90/ 8/ 1	2448104.5	2.49980	-17.62465	-7.75761	6.68975	0.54561	0.14473	19.41797	6.71352	278.07	-23.55
90/ 8/ 5	2448108.5	2.51525	-17.62338	-7.75727	6.68907	0.55049	0.14687	19.41868	6.71329	278.12	-23.55
90/ 8/ 9	2448112.5	2.53070	-17.62210	-7.75693	6.68838	0.55537	0.14902	19.41940	6.71306	278.17	-23.54
90/ 8/13	2448116.5	2.54615	-17.62081	-7.75659	6.68770	0.56025	0.15117	19.42011	6.71282	278.22	-23.54
90/ 8/17	2448120.5	2.56160	-17.61951	-7.75623	6.68700	0.56513	0.15332	19.42082	6.71259	278.27	-23.54
90/ 8/21	2448124.5	2.57705	-17.61820	-7.75588	6.68631	0.57001	0.15547	19.42153	6.71236	278.32	-23.54
90/ 8/25	2448128.5	2.59249	-17.61688	-7.75552	6.68561	0.57489	0.15761	19.42224	6.71213	278.37	-23.54
90/ 8/29	2448132.5	2.60794	-17.61555	-7.75515	6.68491	0.57976	0.15976	19.42295	6.71190	278.42	-23.53
90/ 9/ 2	2448136.5	2.62338	-17.61420	-7.75478	6.68420	0.58464	0.16191	19.42367	6.71168	278.47	-23.53
90/ 9/ 6	2448140.5	2.63882	-17.61284	-7.75440	6.68349	0.58951	0.16405	19.42438	6.71145	278.52	-23.53
90/ 9/10	2448144.5	2.65426	-17.61148	-7.75402	6.68278	0.59439	0.16620	19.42509	6.71122	278.57	-23.53
90/ 9/14	2448148.5	2.66970	-17.61010	-7.75363	6.68207	0.59926	0.16835	19.42580	6.71099	278.62	-23.52
90/ 9/18	2448152.5	2.68513	-17.60871	-7.75324	6.68135	0.60413	0.17049	19.42651	6.71077	278.67	-23.52
90/ 9/22	2448156.5	2.70057	-17.60731	-7.75285	6.68062	0.60900	0.17263	19.42722	6.71055	278.72	-23.52
90/ 9/26	2448160.5	2.71600	-17.60589	-7.75244	6.67990	0.61387	0.17478	19.42793	6.71032	278.77	-23.52
90/ 9/30	2448164.5	2.73143	-17.60447	-7.75204	6.67917	0.61874	0.17692	19.42864	6.71010	278.82	-23.52
90/10/ 4	2448168.5	2.74686	-17.60304	-7.75163	6.67844	0.62361	0.17906	19.42935	6.70988	278.87	-23.51
90/10/ 8	2448172.5	2.76229	-17.60159	-7.75121	6.67771	0.62848	0.18121	19.43007	6.70967	278.92	-23.51
90/10/12	2448176.5	2.77771	-17.60013	-7.75079	6.67698	0.63335	0.18335	19.43078	6.70945	278.97	-23.51
90/10/16	2448180.5	2.79314	-17.59866	-7.75036	6.67624	0.63823	0.18550	19.43149	6.70924	279.02	-23.51
90/10/20	2448184.5	2.80856	-17.59718	-7.74993	6.67549	0.64310	0.18764	19.43220	6.70902	279.07	-23.50
90/10/24	2448188.5	2.82398	-17.59569	-7.74950	6.67474	0.64797	0.18979	19.43291	6.70881	279.12	-23.50
90/10/28	2448192.5	2.83940	-17.59419	-7.74906	6.67399	0.65284	0.19193	19.43362	6.70859	279.17	-23.50
90/11/ 1	2448196.5	2.85482	-17.59268	-7.74861	6.67323	0.65772	0.19408	19.43433	6.70837	279.22	-23.50
90/11/ 5	2448200.5	2.87023	-17.59115	-7.74816	6.67247	0.66259	0.19622	19.43504	6.70816	279.27	-23.50
90/11/ 9	2448204.5	2.88565	-17.58961	-7.74770	6.67170	0.66746	0.19837	19.43575	6.70794	279.32	-23.49
90/11/13	2448208.5	2.90106	-17.58807	-7.74724	6.67093	0.67233	0.20051	19.43646	6.70772	279.37	-23.49
90/11/17	2448212.5	2.91647	-17.58651	-7.74678	6.67016	0.67720	0.20266	19.43717	6.70751	279.42	-23.49
90/11/21	2448216.5	2.93188	-17.58494	-7.74631	6.66937	0.68207	0.20480	19.43788	6.70729	279.47	-23.49

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90/11/25	2448220.5	2.94728	-17.58336	-7.74583	6.66859	0.68694	0.20695	19.43859	6.70707	279.52	-23.48
90/11/29	2448224.5	2.96269	-17.58176	-7.74535	6.66780	0.69181	0.20909	19.43930	6.70685	279.57	-23.48
90/12/ 3	2448228.5	2.97809	-17.58016	-7.74486	6.66700	0.69667	0.21124	19.44001	6.70663	279.61	-23.48
90/12/ 7	2448232.5	2.99349	-17.57854	-7.74437	6.66620	0.70154	0.21338	19.44072	6.70641	279.66	-23.48
90/12/11	2448236.5	3.00889	-17.57692	-7.74388	6.66540	0.70640	0.21552	19.44143	6.70619	279.71	-23.47
90/12/15	2448240.5	3.02429	-17.57528	-7.74338	6.66458	0.71127	0.21766	19.44214	6.70596	279.76	-23.47
90/12/19	2448244.5	3.03968	-17.57363	-7.74287	6.66377	0.71613	0.21981	19.44285	6.70574	279.81	-23.47
90/12/23	2448248.5	3.05508	-17.57197	-7.74236	6.66295	0.72098	0.22195	19.44356	6.70552	279.86	-23.47
90/12/27	2448252.5	3.07047	-17.57030	-7.74185	6.66213	0.72584	0.22409	19.44427	6.70530	279.91	-23.46
90/12/31	2448256.5	3.08586	-17.56862	-7.74133	6.66131	0.73070	0.22623	19.44497	6.70508	279.96	-23.46
91/ 1/ 4	2448260.5	3.10125	-17.56693	-7.74080	6.66048	0.73555	0.22836	19.44568	6.70486	280.01	-23.46
91/ 1/ 8	2448264.5	3.11663	-17.56522	-7.74027	6.65965	0.74041	0.23050	19.44639	6.70465	280.06	-23.46
91/ 1/12	2448268.5	3.13202	-17.56350	-7.73974	6.65882	0.74526	0.23264	19.44710	6.70443	280.11	-23.45
91/ 1/16	2448272.5	3.14740	-17.56178	-7.73920	6.65798	0.75011	0.23478	19.44781	6.70421	280.16	-23.45
91/ 1/20	2448276.5	3.16278	-17.56004	-7.73865	6.65713	0.75497	0.23692	19.44852	6.70399	280.21	-23.45
91/ 1/24	2448280.5	3.17816	-17.55829	-7.73810	6.65628	0.75982	0.23906	19.44923	6.70377	280.26	-23.44
91/ 1/28	2448284.5	3.19353	-17.55653	-7.73755	6.65543	0.76467	0.24120	19.44993	6.70356	280.31	-23.44
91/ 2/ 1	2448288.5	3.20891	-17.55476	-7.73699	6.65458	0.76951	0.24333	19.45064	6.70334	280.36	-23.44
91/ 2/ 5	2448292.5	3.22428	-17.55297	-7.73642	6.65372	0.77436	0.24547	19.45135	6.70312	280.41	-23.44
91/ 2/ 9	2448296.5	3.23965	-17.55118	-7.73585	6.65285	0.77921	0.24760	19.45206	6.70290	280.46	-23.43
91/ 2/13	2448300.5	3.25502	-17.54937	-7.73528	6.65199	0.78405	0.24974	19.45277	6.70269	280.51	-23.43
91/ 2/17	2448304.5	3.27039	-17.54756	-7.73470	6.65112	0.78889	0.25187	19.45347	6.70247	280.56	-23.43
91/ 2/21	2448308.5	3.28575	-17.54573	-7.73412	6.65024	0.79373	0.25401	19.45418	6.70226	280.61	-23.43
91/ 2/25	2448312.5	3.30111	-17.54389	-7.73353	6.64936	0.79857	0.25614	19.45489	6.70204	280.66	-23.42
91/ 3/ 1	2448316.5	3.31647	-17.54204	-7.73293	6.64848	0.80341	0.25827	19.45560	6.70183	280.71	-23.42
91/ 3/ 5	2448320.5	3.33183	-17.54018	-7.73233	6.64760	0.80825	0.26041	19.45631	6.70161	280.76	-23.42
91/ 3/ 9	2448324.5	3.34719	-17.53830	-7.73173	6.64671	0.81308	0.26254	19.45701	6.70140	280.80	-23.41
91/ 3/13	2448328.5	3.36254	-17.53642	-7.73112	6.64582	0.81792	0.26467	19.45772	6.70119	280.85	-23.41
91/ 3/17	2448332.5	3.37789	-17.53452	-7.73051	6.64492	0.82275	0.26680	19.45843	6.70098	280.90	-23.41
91/ 3/21	2448336.5	3.39324	-17.53262	-7.72989	6.64403	0.82758	0.26893	19.45913	6.70077	280.95	-23.41
91/ 3/25	2448340.5	3.40859	-17.53070	-7.72926	6.64313	0.83241	0.27106	19.45984	6.70057	281.00	-23.40
91/ 3/29	2448344.5	3.42394	-17.52877	-7.72863	6.64224	0.83724	0.27318	19.46055	6.70036	281.05	-23.40
91/ 4/ 2	2448348.5	3.43928	-17.52683	-7.72800	6.64134	0.84207	0.27531	19.46126	6.70016	281.10	-23.40
91/ 4/ 6	2448352.5	3.45462	-17.52488	-7.72736	6.64043	0.84690	0.27744	19.46196	6.69997	281.15	-23.39
91/ 4/10	2448356.5	3.46996	-17.52292	-7.72672	6.63953	0.85173	0.27957	19.46267	6.69977	281.20	-23.39
91/ 4/14	2448360.5	3.48530	-17.52095	-7.72607	6.63862	0.85656	0.28170	19.46338	6.69957	281.25	-23.39
91/ 4/18	2448364.5	3.50063	-17.51896	-7.72542	6.63770	0.86139	0.28383	19.46408	6.69938	281.30	-23.38
91/ 4/22	2448368.5	3.51597	-17.51697	-7.72476	6.63679	0.86622	0.28596	19.46479	6.69918	281.35	-23.38
91/ 4/26	2448372.5	3.53130	-17.51496	-7.72410	6.63587	0.87106	0.28809	19.46550	6.69899	281.40	-23.38
91/ 4/30	2448376.5	3.54663	-17.51294	-7.72343	6.63494	0.87589	0.29022	19.46620	6.69880	281.45	-23.38
91/ 5/ 4	2448380.5	3.56195	-17.51091	-7.72276	6.63402	0.88072	0.29235	19.46691	6.69860	281.50	-23.37
91/ 5/ 8	2448384.5	3.57728	-17.50887	-7.72208	6.63308	0.88556	0.29448	19.46761	6.69841	281.55	-23.37
91/ 5/12	2448388.5	3.59260	-17.50682	-7.72139	6.63215	0.89039	0.29661	19.46832	6.69822	281.60	-23.37
91/ 5/16	2448392.5	3.60792	-17.50476	-7.72071	6.63121	0.89522	0.29874	19.46903	6.69803	281.65	-23.36
91/ 5/20	2448396.5	3.62324	-17.50268	-7.72001	6.63026	0.90006	0.30087	19.46973	6.69784	281.70	-23.36

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91/ 5/24	2448400.5	3.63856	-17.50060	-7.71932	6.62931	0.90489	0.30301	19.47044	6.69764	281.75	-23.36
91/ 5/28	2448404.5	3.65387	-17.49850	-7.71861	6.62836	0.90973	0.30514	19.47114	6.69745	281.79	-23.35
91/ 6/ 1	2448408.5	3.66918	-17.49640	-7.71791	6.62740	0.91456	0.30727	19.47185	6.69726	281.84	-23.35
91/ 6/ 5	2448412.5	3.68449	-17.49428	-7.71719	6.62644	0.91940	0.30940	19.47255	6.69706	281.89	-23.35
91/ 6/ 9	2448416.5	3.69980	-17.49215	-7.71648	6.62547	0.92423	0.31153	19.47326	6.69687	281.94	-23.34
91/ 6/13	2448420.5	3.71510	-17.49001	-7.71576	6.62449	0.92906	0.31366	19.47396	6.69667	281.99	-23.34
91/ 6/17	2448424.5	3.73040	-17.48786	-7.71503	6.62352	0.93390	0.31579	19.47467	6.69648	282.04	-23.34
91/ 6/21	2448428.5	3.74570	-17.48569	-7.71430	6.62254	0.93873	0.31792	19.47537	6.69629	282.09	-23.33
91/ 6/25	2448432.5	3.76100	-17.48352	-7.71356	6.62155	0.94356	0.32005	19.47608	6.69609	282.14	-23.33
91/ 6/29	2448436.5	3.77630	-17.48133	-7.71282	6.62056	0.94839	0.32218	19.47678	6.69590	282.19	-23.33
91/ 7/ 3	2448440.5	3.79159	-17.47914	-7.71207	6.61957	0.95323	0.32432	19.47748	6.69571	282.24	-23.33
91/ 7/ 7	2448444.5	3.80688	-17.47693	-7.71132	6.61857	0.95806	0.32645	19.47819	6.69551	282.29	-23.32
91/ 7/11	2448448.5	3.82217	-17.47471	-7.71056	6.61756	0.96289	0.32858	19.47889	6.69532	282.34	-23.32
91/ 7/15	2448452.5	3.83746	-17.47248	-7.70980	6.61655	0.96772	0.33071	19.47960	6.69512	282.39	-23.32
91/ 7/19	2448456.5	3.85274	-17.47024	-7.70903	6.61553	0.97256	0.33284	19.48030	6.69492	282.44	-23.31
91/ 7/23	2448460.5	3.86802	-17.46799	-7.70826	6.61451	0.97739	0.33497	19.48100	6.69472	282.49	-23.31
91/ 7/27	2448464.5	3.88330	-17.46572	-7.70749	6.61348	0.98222	0.33710	19.48171	6.69452	282.54	-23.31
91/ 7/31	2448468.5	3.89858	-17.46345	-7.70671	6.61245	0.98704	0.33923	19.48241	6.69431	282.58	-23.30
91/ 8/ 4	2448472.5	3.91386	-17.46116	-7.70592	6.61141	0.99187	0.34136	19.48311	6.69411	282.63	-23.30
91/ 8/ 8	2448476.5	3.92913	-17.45887	-7.70513	6.61037	0.99670	0.34349	19.48381	6.69390	282.68	-23.29
91/ 8/12	2448480.5	3.94440	-17.45656	-7.70433	6.60932	1.00152	0.34562	19.48452	6.69369	282.73	-23.29
91/ 8/16	2448484.5	3.95967	-17.45424	-7.70353	6.60826	1.00634	0.34775	19.48522	6.69349	282.78	-23.29
91/ 8/20	2448488.5	3.97493	-17.45191	-7.70273	6.60720	1.01116	0.34987	19.48592	6.69328	282.83	-23.28
91/ 8/24	2448492.5	3.99019	-17.44957	-7.70192	6.60613	1.01598	0.35200	19.48662	6.69306	282.88	-23.28
91/ 8/28	2448496.5	4.00545	-17.44721	-7.70110	6.60506	1.02079	0.35413	19.48733	6.69285	282.93	-23.28
91/ 9/ 1	2448500.5	4.02071	-17.44485	-7.70028	6.60399	1.02560	0.35625	19.48803	6.69264	282.98	-23.27
91/ 9/ 5	2448504.5	4.03597	-17.44247	-7.69945	6.60291	1.03041	0.35837	19.48873	6.69242	283.03	-23.27
91/ 9/ 9	2448508.5	4.05122	-17.44009	-7.69862	6.60182	1.03522	0.36049	19.48943	6.69221	283.08	-23.27
91/ 9/13	2448512.5	4.06647	-17.43769	-7.69779	6.60073	1.04002	0.36261	19.49013	6.69200	283.13	-23.26
91/ 9/17	2448516.5	4.08172	-17.43528	-7.69695	6.59964	1.04482	0.36473	19.49083	6.69179	283.18	-23.26
91/ 9/21	2448520.5	4.09696	-17.43286	-7.69610	6.59855	1.04962	0.36685	19.49153	6.69157	283.23	-23.26
91/ 9/25	2448524.5	4.11220	-17.43043	-7.69525	6.59746	1.05442	0.36897	19.49223	6.69137	283.27	-23.25
91/ 9/29	2448528.5	4.12744	-17.42799	-7.69440	6.59636	1.05921	0.37108	19.49293	6.69116	283.32	-23.25
91/10/ 3	2448532.5	4.14268	-17.42554	-7.69354	6.59526	1.06401	0.37320	19.49363	6.69095	283.37	-23.25
91/10/ 7	2448536.5	4.15792	-17.42308	-7.69267	6.59415	1.06880	0.37532	19.49433	6.69074	283.42	-23.24
91/10/11	2448540.5	4.17315	-17.42060	-7.69180	6.59304	1.07359	0.37743	19.49503	6.69053	283.47	-23.24
91/10/15	2448544.5	4.18838	-17.41812	-7.69093	6.59193	1.07838	0.37954	19.49573	6.69033	283.52	-23.23
91/10/19	2448548.5	4.20361	-17.41562	-7.69005	6.59081	1.08317	0.38166	19.49643	6.69012	283.57	-23.23
91/10/23	2448552.5	4.21883	-17.41311	-7.68917	6.58969	1.08796	0.38377	19.49713	6.68991	283.62	-23.23
91/10/27	2448556.5	4.23405	-17.41059	-7.68828	6.58857	1.09274	0.38588	19.49783	6.68971	283.67	-23.22
91/10/31	2448560.5	4.24927	-17.40806	-7.68738	6.58744	1.09752	0.38799	19.49853	6.68951	283.72	-23.22
91/11/ 4	2448564.5	4.26449	-17.40552	-7.68648	6.58631	1.10231	0.39011	19.49923	6.68931	283.77	-23.22
91/11/ 8	2448568.5	4.27970	-17.40297	-7.68558	6.58518	1.10709	0.39222	19.49993	6.68910	283.82	-23.21
91/11/12	2448572.5	4.29491	-17.40041	-7.68467	6.58405	1.11187	0.39433	19.50063	6.68890	283.87	-23.21
91/11/16	2448576.5	4.31012	-17.39783	-7.68376	6.58291	1.11664	0.39643	19.50133	6.68871	283.91	-23.20

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91/11/20	2448580.5	4.32533	-17.39525	-7.68284	6.58177	1.12142	0.39854	19.50203	6.68851	283.96	-23.20
91/11/24	2448584.5	4.34053	-17.39265	-7.68192	6.58063	1.12620	0.40065	19.50273	6.68831	284.01	-23.20
91/11/28	2448588.5	4.35574	-17.39004	-7.68099	6.57948	1.13097	0.40276	19.50343	6.68812	284.06	-23.19
91/12/ 2	2448592.5	4.37093	-17.38743	-7.68006	6.57833	1.13574	0.40487	19.50412	6.68792	284.11	-23.19
91/12/ 6	2448596.5	4.38613	-17.38480	-7.67912	6.57718	1.14051	0.40697	19.50482	6.68773	284.16	-23.19
91/12/10	2448600.5	4.40132	-17.38216	-7.67818	6.57603	1.14528	0.40908	19.50552	6.68754	284.21	-23.18
91/12/14	2448604.5	4.41651	-17.37950	-7.67723	6.57488	1.15005	0.41118	19.50622	6.68735	284.26	-23.18
91/12/18	2448608.5	4.43170	-17.37684	-7.67628	6.57372	1.15482	0.41329	19.50692	6.68717	284.31	-23.17
91/12/22	2448612.5	4.44689	-17.37417	-7.67532	6.57256	1.15960	0.41539	19.50762	6.68699	284.36	-23.17
91/12/26	2448616.5	4.46207	-17.37148	-7.67436	6.57140	1.16437	0.41750	19.50831	6.68681	284.41	-23.17
91/12/30	2448620.5	4.47725	-17.36879	-7.67339	6.57024	1.16914	0.41961	19.50901	6.68663	284.45	-23.16
92/ 1/ 3	2448624.5	4.49243	-17.36608	-7.67242	6.56907	1.17391	0.42171	19.50971	6.68645	284.50	-23.16
92/ 1/ 7	2448628.5	4.50760	-17.36337	-7.67144	6.56790	1.17869	0.42382	19.51041	6.68627	284.55	-23.15
92/ 1/11	2448632.5	4.52277	-17.36064	-7.67046	6.56672	1.18346	0.42593	19.51110	6.68609	284.60	-23.15
92/ 1/15	2448636.5	4.53794	-17.35790	-7.66947	6.56554	1.18824	0.42804	19.51180	6.68591	284.65	-23.15
92/ 1/19	2448640.5	4.55311	-17.35515	-7.66848	6.56435	1.19301	0.43015	19.51250	6.68573	284.70	-23.14
92/ 1/23	2448644.5	4.56827	-17.35239	-7.66749	6.56316	1.19779	0.43225	19.51319	6.68556	284.75	-23.14
92/ 1/27	2448648.5	4.58343	-17.34961	-7.66649	6.56197	1.20256	0.43436	19.51389	6.68538	284.80	-23.13
92/ 1/31	2448652.5	4.59859	-17.34683	-7.66548	6.56077	1.20734	0.43647	19.51459	6.68520	284.85	-23.13
92/ 2/ 4	2448656.5	4.61374	-17.34403	-7.66447	6.55957	1.21211	0.43858	19.51528	6.68502	284.90	-23.13
92/ 2/ 8	2448660.5	4.62890	-17.34123	-7.66345	6.55836	1.21689	0.44069	19.51598	6.68484	284.95	-23.12
92/ 2/12	2448664.5	4.64405	-17.33841	-7.66243	6.55715	1.22166	0.44280	19.51667	6.68466	284.99	-23.12
92/ 2/16	2448668.5	4.65919	-17.33558	-7.66141	6.55593	1.22643	0.44491	19.51737	6.68448	285.04	-23.11
92/ 2/20	2448672.5	4.67434	-17.33275	-7.66038	6.55471	1.23121	0.44701	19.51806	6.68430	285.09	-23.11
92/ 2/24	2448676.5	4.68948	-17.32990	-7.65934	6.55348	1.23598	0.44912	19.51876	6.68412	285.14	-23.10
92/ 2/28	2448680.5	4.70462	-17.32703	-7.65830	6.55225	1.24075	0.45123	19.51945	6.68393	285.19	-23.10
92/ 3/ 3	2448684.5	4.71975	-17.32416	-7.65726	6.55101	1.24552	0.45334	19.52015	6.68375	285.24	-23.10
92/ 3/ 7	2448688.5	4.73488	-17.32128	-7.65621	6.54977	1.25028	0.45544	19.52084	6.68357	285.29	-23.09
92/ 3/11	2448692.5	4.75001	-17.31839	-7.65515	6.54852	1.25505	0.45755	19.52154	6.68339	285.34	-23.09
92/ 3/15	2448696.5	4.76514	-17.31548	-7.65409	6.54727	1.25981	0.45965	19.52223	6.68320	285.39	-23.08
92/ 3/19	2448700.5	4.78026	-17.31257	-7.65303	6.54602	1.26458	0.46176	19.52293	6.68302	285.44	-23.08
92/ 3/23	2448704.5	4.79538	-17.30964	-7.65196	6.54476	1.26935	0.46386	19.52362	6.68284	285.48	-23.07
92/ 3/27	2448708.5	4.81050	-17.30670	-7.65089	6.54350	1.27411	0.46597	19.52431	6.68266	285.53	-23.07
92/ 3/31	2448712.5	4.82562	-17.30375	-7.64981	6.54223	1.27887	0.46807	19.52501	6.68247	285.58	-23.07
92/ 4/ 4	2448716.5	4.84073	-17.30079	-7.64872	6.54096	1.28364	0.47018	19.52570	6.68229	285.63	-23.06
92/ 4/ 8	2448720.5	4.85584	-17.29782	-7.64763	6.53968	1.28840	0.47228	19.52639	6.68210	285.68	-23.06
92/ 4/12	2448724.5	4.87095	-17.29484	-7.64654	6.53840	1.29316	0.47439	19.52709	6.68192	285.73	-23.05
92/ 4/16	2448728.5	4.88605	-17.29185	-7.64544	6.53712	1.29792	0.47649	19.52778	6.68173	285.78	-23.05
92/ 4/20	2448732.5	4.90115	-17.28884	-7.64434	6.53582	1.30267	0.47859	19.52847	6.68154	285.83	-23.04
92/ 4/24	2448736.5	4.91625	-17.28583	-7.64323	6.53453	1.30743	0.48069	19.52916	6.68135	285.88	-23.04
92/ 4/28	2448740.5	4.93134	-17.28280	-7.64212	6.53323	1.31218	0.48280	19.52986	6.68117	285.93	-23.04
92/ 5/ 2	2448744.5	4.94643	-17.27976	-7.64100	6.53192	1.31693	0.48490	19.53055	6.68098	285.97	-23.03
92/ 5/ 6	2448748.5	4.96152	-17.27672	-7.63988	6.53061	1.32168	0.48700	19.53124	6.68079	286.02	-23.03
92/ 5/10	2448752.5	4.97661	-17.27366	-7.63875	6.52930	1.32643	0.48910	19.53193	6.68060	286.07	-23.02
92/ 5/14	2448756.5	4.99169	-17.27059	-7.63762	6.52798	1.33118	0.49119	19.53262	6.68041	286.12	-23.02

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92/ 5/18	2448760.5	5.00677	-17.26751	-7.63648	6.52666	1.33592	0.49329	19.53331	6.68022	286.17	-23.01
92/ 5/22	2448764.5	5.02184	-17.26442	-7.63534	6.52533	1.34066	0.49539	19.53400	6.68003	286.22	-23.01
92/ 5/26	2448768.5	5.03692	-17.26131	-7.63419	6.52400	1.34540	0.49748	19.53470	6.67984	286.27	-23.00
92/ 5/30	2448772.5	5.05199	-17.25820	-7.63304	6.52267	1.35014	0.49958	19.53539	6.67965	286.32	-23.00
92/ 6/ 3	2448776.5	5.06705	-17.25507	-7.63188	6.52134	1.35487	0.50167	19.53608	6.67946	286.37	-23.00
92/ 6/ 7	2448780.5	5.08212	-17.25194	-7.63072	6.52000	1.35961	0.50376	19.53677	6.67927	286.41	-22.99
92/ 6/11	2448784.5	5.09718	-17.24879	-7.62956	6.51866	1.36434	0.50585	19.53746	6.67909	286.46	-22.99
92/ 6/15	2448788.5	5.11224	-17.24564	-7.62839	6.51732	1.36907	0.50794	19.53815	6.67891	286.51	-22.98
92/ 6/19	2448792.5	5.12729	-17.24247	-7.62721	6.51597	1.37380	0.51004	19.53884	6.67873	286.56	-22.98
92/ 6/23	2448796.5	5.14234	-17.23929	-7.62603	6.51463	1.37853	0.51213	19.53953	6.67855	286.61	-22.97
92/ 6/27	2448800.5	5.15739	-17.23610	-7.62484	6.51327	1.38327	0.51422	19.54021	6.67837	286.66	-22.97
92/ 7/ 1	2448804.5	5.17244	-17.23290	-7.62365	6.51192	1.38800	0.51631	19.54090	6.67819	286.71	-22.96
92/ 7/ 5	2448808.5	5.18748	-17.22968	-7.62246	6.51056	1.39273	0.51840	19.54159	6.67801	286.76	-22.96
92/ 7/ 9	2448812.5	5.20252	-17.22646	-7.62126	6.50920	1.39746	0.52049	19.54228	6.67783	286.80	-22.95
92/ 7/13	2448816.5	5.21755	-17.22323	-7.62005	6.50783	1.40218	0.52258	19.54297	6.67766	286.85	-22.95
92/ 7/17	2448820.5	5.23259	-17.21998	-7.61884	6.50646	1.40691	0.52467	19.54366	6.67748	286.90	-22.94
92/ 7/21	2448824.5	5.24762	-17.21673	-7.61763	6.50509	1.41164	0.52676	19.54435	6.67730	286.95	-22.94
92/ 7/25	2448828.5	5.26264	-17.21346	-7.61641	6.50371	1.41637	0.52885	19.54503	6.67713	287.00	-22.93
92/ 7/29	2448832.5	5.27767	-17.21018	-7.61519	6.50233	1.42110	0.53094	19.54572	6.67695	287.05	-22.93
92/ 8/ 2	2448836.5	5.29268	-17.20690	-7.61396	6.50094	1.42582	0.53303	19.54641	6.67678	287.10	-22.93
92/ 8/ 6	2448840.5	5.30770	-17.20360	-7.61272	6.49955	1.43055	0.53512	19.54710	6.67660	287.15	-22.92
92/ 8/10	2448844.5	5.32272	-17.20029	-7.61148	6.49816	1.43527	0.53721	19.54778	6.67642	287.19	-22.92
92/ 8/14	2448848.5	5.33773	-17.19696	-7.61024	6.49676	1.44000	0.53930	19.54847	6.67625	287.24	-22.91
92/ 8/18	2448852.5	5.35273	-17.19363	-7.60899	6.49535	1.44472	0.54139	19.54916	6.67607	287.29	-22.91
92/ 8/22	2448856.5	5.36774	-17.19029	-7.60774	6.49394	1.44944	0.54348	19.54984	6.67589	287.34	-22.90
92/ 8/26	2448860.5	5.38274	-17.18694	-7.60648	6.49253	1.45416	0.54556	19.55053	6.67572	287.39	-22.90
92/ 8/30	2448864.5	5.39773	-17.18357	-7.60522	6.49112	1.45888	0.54765	19.55121	6.67554	287.44	-22.89
92/ 9/ 3	2448868.5	5.41273	-17.18019	-7.60395	6.48970	1.46360	0.54974	19.55190	6.67536	287.49	-22.89
92/ 9/ 7	2448872.5	5.42772	-17.17681	-7.60268	6.48827	1.46832	0.55182	19.55258	6.67519	287.54	-22.88
92/ 9/11	2448876.5	5.44271	-17.17341	-7.60140	6.48685	1.47304	0.55391	19.55327	6.67502	287.58	-22.88
92/ 9/15	2448880.5	5.45769	-17.17000	-7.60012	6.48542	1.47776	0.55600	19.55396	6.67484	287.63	-22.87
92/ 9/19	2448884.5	5.47267	-17.16658	-7.59883	6.48398	1.48248	0.55808	19.55464	6.67467	287.68	-22.87
92/ 9/23	2448888.5	5.48765	-17.16315	-7.59754	6.48254	1.48720	0.56017	19.55532	6.67449	287.73	-22.86
92/ 9/27	2448892.5	5.50262	-17.15971	-7.59624	6.48109	1.49191	0.56226	19.55601	6.67431	287.78	-22.86
92/10/ 1	2448896.5	5.51759	-17.15626	-7.59494	6.47964	1.49663	0.56434	19.55669	6.67414	287.83	-22.85
92/10/ 5	2448900.5	5.53256	-17.15280	-7.59364	6.47818	1.50134	0.56643	19.55738	6.67396	287.88	-22.85
92/10/ 9	2448904.5	5.54752	-17.14932	-7.59233	6.47672	1.50606	0.56851	19.55806	6.67378	287.93	-22.84
92/10/13	2448908.5	5.56249	-17.14584	-7.59101	6.47525	1.51077	0.57060	19.55874	6.67360	287.97	-22.84
92/10/17	2448912.5	5.57744	-17.14234	-7.58969	6.47378	1.51548	0.57268	19.55943	6.67341	288.02	-22.83
92/10/21	2448916.5	5.59240	-17.13884	-7.58836	6.47230	1.52019	0.57477	19.56011	6.67323	288.07	-22.83
92/10/25	2448920.5	5.60735	-17.13532	-7.58703	6.47082	1.52489	0.57685	19.56079	6.67305	288.12	-22.82
92/10/29	2448924.5	5.62229	-17.13179	-7.58570	6.46933	1.52960	0.57893	19.56147	6.67286	288.17	-22.82
92/11/ 2	2448928.5	5.63724	-17.12825	-7.58436	6.46784	1.53430	0.58101	19.56216	6.67267	288.22	-22.81
92/11/ 6	2448932.5	5.65218	-17.12470	-7.58301	6.46634	1.53900	0.58309	19.56284	6.67248	288.27	-22.81
92/11/10	2448936.5	5.66711	-17.12114	-7.58166	6.46483	1.54370	0.58517	19.56352	6.67230	288.31	-22.80

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92/11/14	2448940.5	5.68205	-17.11757	-7.58031	6.46333	1.54839	0.58725	19.56420	6.67210	288.36	-22.80
92/11/18	2448944.5	5.69698	-17.11399	-7.57895	6.46182	1.55309	0.58933	19.56488	6.67191	288.41	-22.79
92/11/22	2448948.5	5.71190	-17.11039	-7.57759	6.46030	1.55777	0.59140	19.56556	6.67172	288.46	-22.79
92/11/26	2448952.5	5.72683	-17.10679	-7.57622	6.45878	1.56246	0.59348	19.56624	6.67153	288.51	-22.78
92/11/30	2448956.5	5.74175	-17.10317	-7.57485	6.45726	1.56714	0.59555	19.56692	6.67134	288.56	-22.78
92/12/ 4	2448960.5	5.75666	-17.09955	-7.57347	6.45574	1.57182	0.59762	19.56760	6.67116	288.61	-22.77
92/12/ 8	2448964.5	5.77157	-17.09591	-7.57208	6.45421	1.57650	0.59969	19.56828	6.67097	288.65	-22.77
92/12/12	2448968.5	5.78648	-17.09226	-7.57070	6.45268	1.58118	0.60176	19.56896	6.67079	288.70	-22.76
92/12/16	2448972.5	5.80139	-17.08861	-7.56930	6.45115	1.58586	0.60383	19.56964	6.67060	288.75	-22.75
92/12/20	2448976.5	5.81629	-17.08494	-7.56791	6.44962	1.59053	0.60590	19.57032	6.67042	288.80	-22.75
92/12/24	2448980.5	5.83119	-17.08126	-7.56650	6.44808	1.59521	0.60797	19.57100	6.67023	288.85	-22.74
92/12/28	2448984.5	5.84608	-17.07757	-7.56510	6.44653	1.59988	0.61004	19.57168	6.67005	288.90	-22.74
93/ 1/ 1	2448988.5	5.86097	-17.07387	-7.56369	6.44499	1.60455	0.61211	19.57236	6.66987	288.95	-22.73
93/ 1/ 5	2448992.5	5.87586	-17.07015	-7.56227	6.44344	1.60922	0.61418	19.57304	6.66969	288.99	-22.73
93/ 1/ 9	2448996.5	5.89074	-17.06643	-7.56085	6.44189	1.61388	0.61624	19.57371	6.66951	289.04	-22.72
93/ 1/13	2449000.5	5.90562	-17.06270	-7.55942	6.44033	1.61855	0.61831	19.57439	6.66933	289.09	-22.72
93/ 1/17	2449004.5	5.92050	-17.05895	-7.55799	6.43878	1.62321	0.62037	19.57507	6.66915	289.14	-22.71
93/ 1/21	2449008.5	5.93537	-17.05520	-7.55656	6.43722	1.62787	0.62244	19.57575	6.66897	289.19	-22.71
93/ 1/25	2449012.5	5.95024	-17.05143	-7.55512	6.43565	1.63253	0.62450	19.57642	6.66879	289.24	-22.70
93/ 1/29	2449016.5	5.96511	-17.04765	-7.55367	6.43409	1.63719	0.62656	19.57710	6.66862	289.29	-22.70
93/ 2/ 2	2449020.5	5.97997	-17.04387	-7.55222	6.43252	1.64185	0.62863	19.57778	6.66844	289.33	-22.69
93/ 2/ 6	2449024.5	5.99483	-17.04007	-7.55077	6.43095	1.64651	0.63069	19.57846	6.66827	289.38	-22.69
93/ 2/10	2449028.5	6.00968	-17.03626	-7.54931	6.42937	1.65116	0.63275	19.57913	6.66810	289.43	-22.68
93/ 2/14	2449032.5	6.02453	-17.03244	-7.54784	6.42780	1.65582	0.63481	19.57981	6.66793	289.48	-22.67
93/ 2/18	2449036.5	6.03938	-17.02861	-7.54637	6.42622	1.66047	0.63687	19.58048	6.66776	289.53	-22.67
93/ 2/22	2449040.5	6.05422	-17.02477	-7.54490	6.42463	1.66512	0.63893	19.58116	6.66759	289.58	-22.66
93/ 2/26	2449044.5	6.06906	-17.02091	-7.54342	6.42305	1.66978	0.64099	19.58184	6.66743	289.62	-22.66
93/ 3/ 2	2449048.5	6.08390	-17.01705	-7.54194	6.42147	1.67443	0.64305	19.58251	6.66727	289.67	-22.65
93/ 3/ 6	2449052.5	6.09873	-17.01318	-7.54045	6.41988	1.67908	0.64511	19.58319	6.66711	289.72	-22.65
93/ 3/10	2449056.5	6.11356	-17.00929	-7.53896	6.41829	1.68373	0.64717	19.58386	6.66695	289.77	-22.64
93/ 3/14	2449060.5	6.12839	-17.00540	-7.53746	6.41670	1.68839	0.64923	19.58454	6.66679	289.82	-22.64
93/ 3/18	2449064.5	6.14321	-17.00149	-7.53596	6.41510	1.69304	0.65129	19.58521	6.66664	289.87	-22.63
93/ 3/22	2449068.5	6.15803	-16.99758	-7.53445	6.41350	1.69770	0.65335	19.58588	6.66648	289.91	-22.62
93/ 3/26	2449072.5	6.17284	-16.99365	-7.53294	6.41189	1.70236	0.65541	19.58656	6.66633	289.96	-22.62
93/ 3/30	2449076.5	6.18765	-16.98971	-7.53142	6.41028	1.70701	0.65748	19.58723	6.66617	290.01	-22.61
93/ 4/ 3	2449080.5	6.20246	-16.98576	-7.52990	6.40867	1.71167	0.65954	19.58791	6.66602	290.06	-22.61
93/ 4/ 7	2449084.5	6.21726	-16.98180	-7.52838	6.40705	1.71633	0.66160	19.58858	6.66586	290.11	-22.60
93/ 4/11	2449088.5	6.23206	-16.97783	-7.52684	6.40542	1.72098	0.66366	19.58925	6.66571	290.16	-22.60
93/ 4/15	2449092.5	6.24686	-16.97385	-7.52531	6.40380	1.72564	0.66573	19.58992	6.66555	290.21	-22.59
93/ 4/19	2449096.5	6.26165	-16.96986	-7.52377	6.40216	1.73030	0.66779	19.59060	6.66540	290.25	-22.58
93/ 4/23	2449100.5	6.27644	-16.96586	-7.52222	6.40052	1.73495	0.66985	19.59127	6.66524	290.30	-22.58
93/ 4/27	2449104.5	6.29122	-16.96184	-7.52067	6.39888	1.73961	0.67191	19.59194	6.66508	290.35	-22.57
93/ 5/ 1	2449108.5	6.30601	-16.95782	-7.51912	6.39723	1.74426	0.67398	19.59261	6.66492	290.40	-22.57
93/ 5/ 5	2449112.5	6.32078	-16.95378	-7.51756	6.39557	1.74892	0.67604	19.59328	6.66476	290.45	-22.56
93/ 5/ 9	2449116.5	6.33556	-16.94974	-7.51600	6.39391	1.75357	0.67810	19.59395	6.66460	290.49	-22.56

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93/ 5/13	2449120.5	6.35032	-16.94568	-7.51443	6.39224	1.75822	0.68016	19.59462	6.66444	290.54	-22.55
93/ 5/17	2449124.5	6.36509	-16.94161	-7.51285	6.39057	1.76287	0.68222	19.59530	6.66428	290.59	-22.54
93/ 5/21	2449128.5	6.37985	-16.93754	-7.51127	6.38890	1.76752	0.68428	19.59597	6.66411	290.64	-22.54
93/ 5/25	2449132.5	6.39461	-16.93345	-7.50969	6.38722	1.77217	0.68634	19.59664	6.66395	290.69	-22.53
93/ 5/29	2449136.5	6.40936	-16.92935	-7.50810	6.38553	1.77681	0.68840	19.59731	6.66378	290.74	-22.53
93/ 6/ 2	2449140.5	6.42411	-16.92524	-7.50651	6.38385	1.78146	0.69046	19.59797	6.66362	290.78	-22.52
93/ 6/ 6	2449144.5	6.43886	-16.92112	-7.50491	6.38215	1.78610	0.69251	19.59864	6.66345	290.83	-22.52
93/ 6/10	2449148.5	6.45360	-16.91699	-7.50331	6.38045	1.79075	0.69457	19.59931	6.66329	290.88	-22.51
93/ 6/14	2449152.5	6.46834	-16.91284	-7.50170	6.37875	1.79539	0.69663	19.59998	6.66312	290.93	-22.50
93/ 6/18	2449156.5	6.48307	-16.90869	-7.50009	6.37704	1.80003	0.69869	19.60065	6.66295	290.98	-22.50
93/ 6/22	2449160.5	6.49780	-16.90453	-7.49848	6.37533	1.80467	0.70074	19.60132	6.66278	291.03	-22.49
93/ 6/26	2449164.5	6.51253	-16.90035	-7.49685	6.37361	1.80931	0.70280	19.60198	6.66261	291.07	-22.49
93/ 6/30	2449168.5	6.52725	-16.89617	-7.49523	6.37188	1.81394	0.70486	19.60265	6.66244	291.12	-22.48
93/ 7/ 4	2449172.5	6.54197	-16.89197	-7.49360	6.37015	1.81857	0.70691	19.60332	6.66226	291.17	-22.47
93/ 7/ 8	2449176.5	6.55668	-16.88776	-7.49196	6.36841	1.82321	0.70896	19.60398	6.66209	291.22	-22.47
93/ 7/12	2449180.5	6.57139	-16.88355	-7.49032	6.36667	1.82783	0.71102	19.60465	6.66191	291.27	-22.46
93/ 7/16	2449184.5	6.58610	-16.87932	-7.48868	6.36493	1.83246	0.71307	19.60532	6.66173	291.32	-22.46
93/ 7/20	2449188.5	6.60080	-16.87508	-7.48703	6.36318	1.83708	0.71512	19.60598	6.66155	291.36	-22.45
93/ 7/24	2449192.5	6.61550	-16.87083	-7.48537	6.36142	1.84170	0.71717	19.60665	6.66137	291.41	-22.44
93/ 7/28	2449196.5	6.63019	-16.86657	-7.48371	6.35966	1.84632	0.71921	19.60731	6.66119	291.46	-22.44
93/ 8/ 1	2449200.5	6.64488	-16.86230	-7.48205	6.35790	1.85094	0.72126	19.60798	6.66101	291.51	-22.43
93/ 8/ 5	2449204.5	6.65957	-16.85802	-7.48038	6.35613	1.85555	0.72331	19.60864	6.66083	291.56	-22.43
93/ 8/ 9	2449208.5	6.67425	-16.85373	-7.47871	6.35436	1.86016	0.72535	19.60930	6.66065	291.60	-22.42
93/ 8/13	2449212.5	6.68893	-16.84942	-7.47703	6.35258	1.86476	0.72739	19.60997	6.66046	291.65	-22.41
93/ 8/17	2449216.5	6.70360	-16.84511	-7.47535	6.35081	1.86937	0.72943	19.61063	6.66028	291.70	-22.41
93/ 8/21	2449220.5	6.71827	-16.84079	-7.47366	6.34903	1.87397	0.73147	19.61129	6.66010	291.75	-22.40
93/ 8/25	2449224.5	6.73294	-16.83645	-7.47197	6.34725	1.87857	0.73351	19.61196	6.65992	291.80	-22.40
93/ 8/29	2449228.5	6.74760	-16.83211	-7.47027	6.34546	1.88316	0.73555	19.61262	6.65975	291.84	-22.39
93/ 9/ 2	2449232.5	6.76225	-16.82775	-7.46857	6.34368	1.88776	0.73759	19.61328	6.65957	291.89	-22.38
93/ 9/ 6	2449236.5	6.77691	-16.82339	-7.46686	6.34189	1.89235	0.73963	19.61394	6.65940	291.94	-22.38
93/ 9/10	2449240.5	6.79156	-16.81901	-7.46515	6.34009	1.89695	0.74166	19.61461	6.65922	291.99	-22.37
93/ 9/14	2449244.5	6.80620	-16.81462	-7.46344	6.33830	1.90154	0.74370	19.61527	6.65905	292.04	-22.36
93/ 9/18	2449248.5	6.82084	-16.81022	-7.46172	6.33650	1.90613	0.74574	19.61593	6.65888	292.09	-22.36
93/ 9/22	2449252.5	6.83548	-16.80581	-7.45999	6.33469	1.91072	0.74777	19.61659	6.65871	292.13	-22.35
93/ 9/26	2449256.5	6.85011	-16.80139	-7.45826	6.33289	1.91531	0.74981	19.61725	6.65853	292.18	-22.35
93/ 9/30	2449260.5	6.86474	-16.79696	-7.45653	6.33108	1.91990	0.75184	19.61791	6.65836	292.23	-22.34
93/10/ 4	2449264.5	6.87936	-16.79252	-7.45479	6.32927	1.92448	0.75387	19.61857	6.65820	292.28	-22.33
93/10/ 8	2449268.5	6.89398	-16.78807	-7.45304	6.32745	1.92907	0.75591	19.61923	6.65803	292.33	-22.33
93/10/12	2449272.5	6.90860	-16.78361	-7.45129	6.32563	1.93365	0.75794	19.61989	6.65786	292.37	-22.32
93/10/16	2449276.5	6.92321	-16.77914	-7.44954	6.32381	1.93823	0.75997	19.62055	6.65769	292.42	-22.31
93/10/20	2449280.5	6.93781	-16.77466	-7.44778	6.32198	1.94281	0.76201	19.62121	6.65752	292.47	-22.31
93/10/24	2449284.5	6.95242	-16.77016	-7.44602	6.32015	1.94739	0.76404	19.62187	6.65736	292.52	-22.30
93/10/28	2449288.5	6.96702	-16.76566	-7.44425	6.31832	1.95197	0.76607	19.62253	6.65719	292.57	-22.29
93/11/ 1	2449292.5	6.98161	-16.76114	-7.44248	6.31648	1.95655	0.76810	19.62318	6.65702	292.61	-22.29
93/11/ 5	2449296.5	6.99620	-16.75662	-7.44070	6.31464	1.96112	0.77013	19.62384	6.65686	292.66	-22.28

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93/11/ 9	2449300.5	7.01079	-16.75208	-7.43892	6.31279	1.96570	0.77216	19.62450	6.65669	292.71	-22.28
93/11/13	2449304.5	7.02537	-16.74754	-7.43714	6.31095	1.97027	0.77419	19.62516	6.65653	292.76	-22.27
93/11/17	2449308.5	7.03995	-16.74298	-7.43535	6.30910	1.97484	0.77621	19.62581	6.65637	292.81	-22.26
93/11/21	2449312.5	7.05452	-16.73841	-7.43355	6.30724	1.97941	0.77824	19.62647	6.65620	292.85	-22.26
93/11/25	2449316.5	7.06909	-16.73383	-7.43175	6.30539	1.98399	0.78027	19.62713	6.65604	292.90	-22.25
93/11/29	2449320.5	7.08365	-16.72925	-7.42995	6.30353	1.98856	0.78230	19.62778	6.65589	292.95	-22.24
93/12/ 3	2449324.5	7.09821	-16.72465	-7.42814	6.30166	1.99313	0.78432	19.62844	6.65573	293.00	-22.24
93/12/ 7	2449328.5	7.11277	-16.72004	-7.42632	6.29979	1.99770	0.78635	19.62909	6.65557	293.05	-22.23
93/12/11	2449332.5	7.12732	-16.71542	-7.42450	6.29792	2.00227	0.78838	19.62975	6.65541	293.09	-22.22
93/12/15	2449336.5	7.14187	-16.71078	-7.42268	6.29604	2.00684	0.79041	19.63040	6.65525	293.14	-22.22
93/12/19	2449340.5	7.15641	-16.70614	-7.42085	6.29416	2.01141	0.79244	19.63106	6.65509	293.19	-22.21
93/12/23	2449344.5	7.17095	-16.70149	-7.41902	6.29227	2.01598	0.79446	19.63171	6.65493	293.24	-22.20
93/12/27	2449348.5	7.18548	-16.69683	-7.41718	6.29038	2.02055	0.79649	19.63237	6.65476	293.28	-22.20
93/12/31	2449352.5	7.20001	-16.69216	-7.41534	6.28848	2.02511	0.79852	19.63302	6.65460	293.33	-22.19
94/ 1/ 4	2449356.5	7.21454	-16.68747	-7.41349	6.28658	2.02967	0.80054	19.63367	6.65444	293.38	-22.18
94/ 1/ 8	2449360.5	7.22906	-16.68278	-7.41164	6.28467	2.03424	0.80257	19.63433	6.65427	293.43	-22.18
94/ 1/12	2449364.5	7.24357	-16.67807	-7.40978	6.28276	2.03880	0.80459	19.63498	6.65411	293.48	-22.17
94/ 1/16	2449368.5	7.25809	-16.67336	-7.40792	6.28085	2.04336	0.80662	19.63563	6.65394	293.52	-22.16
94/ 1/20	2449372.5	7.27259	-16.66863	-7.40606	6.27892	2.04791	0.80864	19.63628	6.65378	293.57	-22.16
94/ 1/24	2449376.5	7.28710	-16.66390	-7.40418	6.27700	2.05247	0.81067	19.63693	6.65361	293.62	-22.15
94/ 1/28	2449380.5	7.30160	-16.65915	-7.40231	6.27507	2.05702	0.81269	19.63758	6.65344	293.67	-22.14
94/ 2/ 1	2449384.5	7.31609	-16.65439	-7.40043	6.27313	2.06157	0.81471	19.63824	6.65327	293.72	-22.14
94/ 2/ 5	2449388.5	7.33058	-16.64962	-7.39855	6.27119	2.06612	0.81673	19.63889	6.65310	293.76	-22.13
94/ 2/ 9	2449392.5	7.34506	-16.64485	-7.39666	6.26925	2.07066	0.81875	19.63954	6.65293	293.81	-22.12
94/ 2/13	2449396.5	7.35955	-16.64006	-7.39476	6.26730	2.07520	0.82076	19.64019	6.65276	293.86	-22.12
94/ 2/17	2449400.5	7.37402	-16.63526	-7.39286	6.26535	2.07974	0.82278	19.64084	6.65259	293.91	-22.11
94/ 2/21	2449404.5	7.38849	-16.63045	-7.39096	6.26340	2.08428	0.82479	19.64148	6.65242	293.95	-22.10
94/ 2/25	2449408.5	7.40296	-16.62563	-7.38905	6.26145	2.08882	0.82681	19.64213	6.65226	294.00	-22.10
94/ 3/ 1	2449412.5	7.41742	-16.62080	-7.38714	6.25949	2.09336	0.82882	19.64278	6.65209	294.05	-22.09
94/ 3/ 5	2449416.5	7.43188	-16.61596	-7.38522	6.25752	2.09789	0.83084	19.64343	6.65192	294.10	-22.08
94/ 3/ 9	2449420.5	7.44634	-16.61110	-7.38330	6.25556	2.10243	0.83285	19.64408	6.65175	294.15	-22.08
94/ 3/13	2449424.5	7.46078	-16.60624	-7.38138	6.25359	2.10696	0.83487	19.64473	6.65159	294.19	-22.07
94/ 3/17	2449428.5	7.47523	-16.60137	-7.37944	6.25161	2.11149	0.83688	19.64537	6.65142	294.24	-22.06
94/ 3/21	2449432.5	7.48967	-16.59649	-7.37751	6.24963	2.11601	0.83889	19.64602	6.65125	294.29	-22.06
94/ 3/25	2449436.5	7.50410	-16.59159	-7.37557	6.24765	2.12054	0.84090	19.64667	6.65109	294.34	-22.05
94/ 3/29	2449440.5	7.51854	-16.58669	-7.37362	6.24566	2.12506	0.84291	19.64731	6.65092	294.38	-22.04
94/ 4/ 2	2449444.5	7.53296	-16.58177	-7.37167	6.24368	2.12959	0.84492	19.64796	6.65075	294.43	-22.04
94/ 4/ 6	2449448.5	7.54738	-16.57685	-7.36972	6.24168	2.13411	0.84693	19.64860	6.65059	294.48	-22.03
94/ 4/10	2449452.5	7.56180	-16.57191	-7.36776	6.23969	2.13863	0.84894	19.64925	6.65042	294.53	-22.02
94/ 4/14	2449456.5	7.57621	-16.56697	-7.36580	6.23769	2.14314	0.85094	19.64990	6.65026	294.58	-22.02
94/ 4/18	2449460.5	7.59062	-16.56201	-7.36383	6.23568	2.14766	0.85295	19.65054	6.65009	294.62	-22.01
94/ 4/22	2449464.5	7.60502	-16.55704	-7.36186	6.23368	2.15217	0.85495	19.65118	6.64993	294.67	-22.00
94/ 4/26	2449468.5	7.61942	-16.55207	-7.35988	6.23167	2.15668	0.85696	19.65183	6.64976	294.72	-21.99
94/ 4/30	2449472.5	7.63382	-16.54708	-7.35790	6.22965	2.16119	0.85896	19.65247	6.64960	294.77	-21.99
94/ 5/ 4	2449476.5	7.64821	-16.54208	-7.35591	6.22764	2.16570	0.86097	19.65312	6.64943	294.81	-21.98

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94/ 5/ 8	2449480.5	7.66259	-16.53707	-7.35392	6.22562	2.17021	0.86297	19.65376	6.64927	294.86	-21.97
94/ 5/12	2449484.5	7.67697	-16.53205	-7.35192	6.22360	2.17471	0.86497	19.65440	6.64911	294.91	-21.97
94/ 5/16	2449488.5	7.69135	-16.52703	-7.34992	6.22158	2.17922	0.86697	19.65504	6.64896	294.96	-21.96
94/ 5/20	2449492.5	7.70572	-16.52199	-7.34792	6.21955	2.18372	0.86897	19.65569	6.64880	295.00	-21.95
94/ 5/24	2449496.5	7.72008	-16.51694	-7.34591	6.21752	2.18823	0.87097	19.65633	6.64865	295.05	-21.95
94/ 5/28	2449500.5	7.73444	-16.51188	-7.34389	6.21549	2.19273	0.87297	19.65697	6.64850	295.10	-21.94
94/ 6/ 1	2449504.5	7.74880	-16.50680	-7.34187	6.21346	2.19724	0.87497	19.65761	6.64834	295.15	-21.93
94/ 6/ 5	2449508.5	7.76315	-16.50172	-7.33985	6.21142	2.20174	0.87697	19.65825	6.64819	295.19	-21.92
94/ 6/ 9	2449512.5	7.77750	-16.49663	-7.33782	6.20937	2.20625	0.87898	19.65889	6.64804	295.24	-21.92
94/ 6/13	2449516.5	7.79184	-16.49153	-7.33579	6.20733	2.21075	0.88098	19.65953	6.64789	295.29	-21.91
94/ 6/17	2449520.5	7.80618	-16.48642	-7.33375	6.20527	2.21525	0.88298	19.66017	6.64774	295.34	-21.90
94/ 6/21	2449524.5	7.82051	-16.48129	-7.33171	6.20322	2.21976	0.88498	19.66081	6.64759	295.38	-21.90
94/ 6/25	2449528.5	7.83484	-16.47616	-7.32966	6.20115	2.22426	0.88698	19.66145	6.64743	295.43	-21.89
94/ 6/29	2449532.5	7.84916	-16.47102	-7.32761	6.19909	2.22876	0.88898	19.66209	6.64728	295.48	-21.88
94/ 7/ 3	2449536.5	7.86348	-16.46586	-7.32556	6.19702	2.23326	0.89098	19.66273	6.64713	295.53	-21.87
94/ 7/ 7	2449540.5	7.87780	-16.46070	-7.32350	6.19494	2.23776	0.89298	19.66336	6.64697	295.57	-21.87
94/ 7/11	2449544.5	7.89210	-16.45552	-7.32143	6.19286	2.24226	0.89498	19.66400	6.64682	295.62	-21.86
94/ 7/15	2449548.5	7.90641	-16.45034	-7.31936	6.19077	2.24676	0.89698	19.66464	6.64666	295.67	-21.85
94/ 7/19	2449552.5	7.92071	-16.44514	-7.31729	6.18868	2.25126	0.89898	19.66527	6.64650	295.72	-21.84
94/ 7/23	2449556.5	7.93500	-16.43994	-7.31521	6.18658	2.25575	0.90098	19.66591	6.64635	295.77	-21.84
94/ 7/27	2449560.5	7.94929	-16.43472	-7.31312	6.18447	2.26024	0.90298	19.66655	6.64619	295.81	-21.83
94/ 7/31	2449564.5	7.96358	-16.42949	-7.31103	6.18236	2.26473	0.90497	19.66718	6.64602	295.86	-21.82
94/ 8/ 4	2449568.5	7.97786	-16.42426	-7.30894	6.18025	2.26922	0.90697	19.66782	6.64586	295.91	-21.82
94/ 8/ 8	2449572.5	7.99213	-16.41901	-7.30684	6.17814	2.27371	0.90896	19.66845	6.64570	295.96	-21.81
94/ 8/12	2449576.5	8.00640	-16.41375	-7.30474	6.17602	2.27819	0.91096	19.66909	6.64554	296.00	-21.80
94/ 8/16	2449580.5	8.02067	-16.40848	-7.30263	6.17389	2.28268	0.91295	19.66972	6.64538	296.05	-21.79
94/ 8/20	2449584.5	8.03493	-16.40321	-7.30052	6.17176	2.28716	0.91494	19.67035	6.64521	296.10	-21.79
94/ 8/24	2449588.5	8.04918	-16.39792	-7.29841	6.16963	2.29164	0.91693	19.67099	6.64505	296.14	-21.78
94/ 8/28	2449592.5	8.06343	-16.39262	-7.29629	6.16749	2.29612	0.91893	19.67162	6.64488	296.19	-21.77
94/ 9/ 1	2449596.5	8.07768	-16.38731	-7.29416	6.16534	2.30060	0.92092	19.67225	6.64472	296.24	-21.76
94/ 9/ 5	2449600.5	8.09192	-16.38199	-7.29203	6.16319	2.30507	0.92291	19.67288	6.64455	296.29	-21.76
94/ 9/ 9	2449604.5	8.10616	-16.37666	-7.28990	6.16103	2.30955	0.92490	19.67352	6.64438	296.33	-21.75
94/ 9/13	2449608.5	8.12039	-16.37132	-7.28776	6.15887	2.31402	0.92689	19.67415	6.64421	296.38	-21.74
94/ 9/17	2449612.5	8.13461	-16.36597	-7.28562	6.15670	2.31848	0.92888	19.67478	6.64403	296.43	-21.73
94/ 9/21	2449616.5	8.14883	-16.36060	-7.28347	6.15453	2.32295	0.93086	19.67541	6.64386	296.48	-21.73
94/ 9/25	2449620.5	8.16305	-16.35523	-7.28131	6.15236	2.32741	0.93285	19.67604	6.64368	296.52	-21.72
94/ 9/29	2449624.5	8.17726	-16.34985	-7.27916	6.15018	2.33187	0.93483	19.67667	6.64351	296.57	-21.71
94/10/ 3	2449628.5	8.19146	-16.34446	-7.27699	6.14799	2.33633	0.93682	19.67730	6.64333	296.62	-21.70
94/10/ 7	2449632.5	8.20566	-16.33906	-7.27483	6.14580	2.34078	0.93880	19.67793	6.64315	296.67	-21.70
94/10/11	2449636.5	8.21986	-16.33364	-7.27266	6.14361	2.34523	0.94078	19.67856	6.64297	296.71	-21.69
94/10/15	2449640.5	8.23405	-16.32822	-7.27048	6.14141	2.34968	0.94276	19.67918	6.64279	296.76	-21.68
94/10/19	2449644.5	8.24823	-16.32279	-7.26830	6.13921	2.35412	0.94473	19.67981	6.64261	296.81	-21.67
94/10/23	2449648.5	8.26241	-16.31734	-7.26612	6.13700	2.35856	0.94671	19.68044	6.64243	296.86	-21.67
94/10/27	2449652.5	8.27659	-16.31189	-7.26393	6.13479	2.36299	0.94868	19.68107	6.64224	296.90	-21.66
94/10/31	2449656.5	8.29076	-16.30643	-7.26173	6.13258	2.36742	0.95066	19.68169	6.64206	296.95	-21.65

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94/11/ 4	2449660.5	8.30492	-16.30095	-7.25953	6.13037	2.37185	0.95263	19.68232	6.64188	297.00	-21.64
94/11/ 8	2449664.5	8.31908	-16.29547	-7.25733	6.12816	2.37628	0.95460	19.68294	6.64170	297.05	-21.64
94/11/12	2449668.5	8.33324	-16.28997	-7.25512	6.12594	2.38070	0.95656	19.68357	6.64153	297.09	-21.63
94/11/16	2449672.5	8.34739	-16.28447	-7.25291	6.12372	2.38512	0.95853	19.68419	6.64135	297.14	-21.62
94/11/20	2449676.5	8.36153	-16.27895	-7.25070	6.12150	2.38954	0.96050	19.68482	6.64118	297.19	-21.61
94/11/24	2449680.5	8.37567	-16.27343	-7.24847	6.11928	2.39396	0.96247	19.68544	6.64101	297.23	-21.61
94/11/28	2449684.5	8.38981	-16.26789	-7.24625	6.11705	2.39838	0.96443	19.68607	6.64083	297.28	-21.60
94/12/ 2	2449688.5	8.40393	-16.26235	-7.24402	6.11482	2.40279	0.96640	19.68669	6.64066	297.33	-21.59
94/12/ 6	2449692.5	8.41806	-16.25679	-7.24178	6.11259	2.40721	0.96836	19.68731	6.64049	297.38	-21.58
94/12/10	2449696.5	8.43218	-16.25122	-7.23954	6.11035	2.41162	0.97033	19.68794	6.64032	297.42	-21.57
94/12/14	2449700.5	8.44629	-16.24565	-7.23730	6.10812	2.41603	0.97229	19.68856	6.64015	297.47	-21.57
94/12/18	2449704.5	8.46040	-16.24006	-7.23505	6.10588	2.42044	0.97425	19.68918	6.63999	297.52	-21.56
94/12/22	2449708.5	8.47450	-16.23446	-7.23280	6.10363	2.42485	0.97621	19.68980	6.63982	297.56	-21.55
94/12/26	2449712.5	8.48860	-16.22886	-7.23054	6.10139	2.42925	0.97818	19.69043	6.63966	297.61	-21.54
94/12/30	2449716.5	8.50269	-16.22324	-7.22828	6.09914	2.43366	0.98014	19.69105	6.63949	297.66	-21.54
95/ 1/ 3	2449720.5	8.51678	-16.21761	-7.22601	6.09689	2.43806	0.98210	19.69167	6.63933	297.71	-21.53
95/ 1/ 7	2449724.5	8.53086	-16.21198	-7.22374	6.09463	2.44246	0.98406	19.69229	6.63917	297.75	-21.52
95/ 1/11	2449728.5	8.54494	-16.20633	-7.22147	6.09237	2.44687	0.98602	19.69291	6.63901	297.80	-21.51
95/ 1/15	2449732.5	8.55901	-16.20067	-7.21919	6.09011	2.45127	0.98798	19.69353	6.63885	297.85	-21.50
95/ 1/19	2449736.5	8.57308	-16.19500	-7.21690	6.08785	2.45566	0.98993	19.69415	6.63869	297.90	-21.50
95/ 1/23	2449740.5	8.58714	-16.18932	-7.21461	6.08558	2.46006	0.99189	19.69477	6.63853	297.94	-21.49
95/ 1/27	2449744.5	8.60119	-16.18364	-7.21232	6.08331	2.46446	0.99385	19.69538	6.63837	297.99	-21.48
95/ 1/31	2449748.5	8.61525	-16.17794	-7.21002	6.08104	2.46885	0.99580	19.69600	6.63822	298.04	-21.47
95/ 2/ 4	2449752.5	8.62929	-16.17223	-7.20772	6.07877	2.47325	0.99776	19.69662	6.63806	298.08	-21.47
95/ 2/ 8	2449756.5	8.64333	-16.16651	-7.20541	6.07649	2.47764	0.99972	19.69724	6.63791	298.13	-21.46
95/ 2/12	2449760.5	8.65737	-16.16078	-7.20310	6.07421	2.48204	1.00168	19.69785	6.63776	298.18	-21.45
95/ 2/16	2449764.5	8.67140	-16.15504	-7.20078	6.07193	2.48644	1.00363	19.69847	6.63761	298.23	-21.44
95/ 2/20	2449768.5	8.68542	-16.14929	-7.19846	6.06964	2.49083	1.00559	19.69909	6.63746	298.27	-21.43
95/ 2/24	2449772.5	8.69944	-16.14353	-7.19614	6.06734	2.49523	1.00755	19.69970	6.63732	298.32	-21.43
95/ 2/28	2449776.5	8.71345	-16.13776	-7.19381	6.06504	2.49962	1.00951	19.70032	6.63717	298.37	-21.42
95/ 3/ 4	2449780.5	8.72746	-16.13198	-7.19147	6.06274	2.50402	1.01146	19.70093	6.63702	298.41	-21.41
95/ 3/ 8	2449784.5	8.74147	-16.12619	-7.18913	6.06043	2.50841	1.01342	19.70155	6.63687	298.46	-21.40
95/ 3/12	2449788.5	8.75546	-16.12039	-7.18679	6.05812	2.51280	1.01538	19.70216	6.63671	298.51	-21.39
95/ 3/16	2449792.5	8.76946	-16.11458	-7.18444	6.05580	2.51720	1.01733	19.70278	6.63656	298.55	-21.39
95/ 3/20	2449796.5	8.78344	-16.10876	-7.18209	6.05348	2.52159	1.01929	19.70339	6.63641	298.60	-21.38
95/ 3/24	2449800.5	8.79743	-16.10293	-7.17973	6.05115	2.52598	1.02125	19.70400	6.63626	298.65	-21.37
95/ 3/28	2449804.5	8.81140	-16.09709	-7.17737	6.04881	2.53036	1.02320	19.70462	6.63610	298.70	-21.36
95/ 4/ 1	2449808.5	8.82537	-16.09124	-7.17500	6.04647	2.53475	1.02516	19.70523	6.63594	298.74	-21.35
95/ 4/ 5	2449812.5	8.83934	-16.08538	-7.17263	6.04413	2.53914	1.02711	19.70584	6.63579	298.79	-21.35
95/ 4/ 9	2449816.5	8.85330	-16.07951	-7.17026	6.04178	2.54352	1.02906	19.70645	6.63563	298.84	-21.34
95/ 4/13	2449820.5	8.86725	-16.07363	-7.16788	6.03942	2.54790	1.03101	19.70706	6.63546	298.88	-21.33
95/ 4/17	2449824.5	8.88120	-16.06774	-7.16550	6.03706	2.55227	1.03297	19.70767	6.63530	298.93	-21.32
95/ 4/21	2449828.5	8.89515	-16.06184	-7.16311	6.03470	2.55665	1.03492	19.70828	6.63514	298.98	-21.31
95/ 4/25	2449832.5	8.90909	-16.05593	-7.16071	6.03233	2.56102	1.03686	19.70889	6.63497	299.02	-21.30
95/ 4/29	2449836.5	8.92302	-16.05000	-7.15832	6.02996	2.56539	1.03881	19.70950	6.63481	299.07	-21.30

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95/ 5/ 3	2449840.5	8.93695	-16.04407	-7.15591	6.02758	2.56975	1.04076	19.71011	6.63465	299.12	-21.29
95/ 5/ 7	2449844.5	8.95087	-16.03813	-7.15351	6.02520	2.57412	1.04270	19.71072	6.63448	299.17	-21.28
95/ 5/11	2449848.5	8.96479	-16.03218	-7.15110	6.02282	2.57848	1.04465	19.71133	6.63432	299.21	-21.27
95/ 5/15	2449852.5	8.97870	-16.02622	-7.14868	6.02043	2.58285	1.04659	19.71193	6.63415	299.26	-21.26
95/ 5/19	2449856.5	8.99260	-16.02025	-7.14626	6.01803	2.58721	1.04854	19.71254	6.63399	299.31	-21.26
95/ 5/23	2449860.5	9.00650	-16.01426	-7.14384	6.01563	2.59156	1.05048	19.71315	6.63382	299.35	-21.25
95/ 5/27	2449864.5	9.02040	-16.00827	-7.14141	6.01323	2.59592	1.05242	19.71375	6.63365	299.40	-21.24
95/ 5/31	2449868.5	9.03429	-16.00227	-7.13897	6.01082	2.60027	1.05436	19.71436	6.63348	299.45	-21.23
95/ 6/ 4	2449872.5	9.04817	-15.99626	-7.13654	6.00841	2.60462	1.05630	19.71496	6.63331	299.49	-21.22
95/ 6/ 8	2449876.5	9.06205	-15.99024	-7.13409	6.00600	2.60897	1.05824	19.71557	6.63314	299.54	-21.21
95/ 6/12	2449880.5	9.07592	-15.98420	-7.13165	6.00358	2.61332	1.06018	19.71617	6.63297	299.59	-21.21
95/ 6/16	2449884.5	9.08979	-15.97816	-7.12919	6.00115	2.61766	1.06212	19.71678	6.63280	299.64	-21.20
95/ 6/20	2449888.5	9.10365	-15.97211	-7.12674	5.99873	2.62200	1.06405	19.71738	6.63263	299.68	-21.19
95/ 6/24	2449892.5	9.11750	-15.96605	-7.12428	5.99629	2.62634	1.06599	19.71798	6.63246	299.73	-21.18
95/ 6/28	2449896.5	9.13135	-15.95997	-7.12181	5.99386	2.63067	1.06792	19.71858	6.63229	299.78	-21.17
95/ 7/ 2	2449900.5	9.14520	-15.95389	-7.11934	5.99142	2.63500	1.06985	19.71919	6.63211	299.82	-21.16
95/ 7/ 6	2449904.5	9.15903	-15.94780	-7.11687	5.98898	2.63933	1.07178	19.71979	6.63194	299.87	-21.16
95/ 7/10	2449908.5	9.17287	-15.94170	-7.11439	5.98653	2.64366	1.07371	19.72039	6.63177	299.92	-21.15
95/ 7/14	2449912.5	9.18669	-15.93559	-7.11191	5.98408	2.64798	1.07564	19.72099	6.63159	299.96	-21.14
95/ 7/18	2449916.5	9.20051	-15.92946	-7.10942	5.98163	2.65230	1.07757	19.72159	6.63142	300.01	-21.13
95/ 7/22	2449920.5	9.21433	-15.92333	-7.10693	5.97918	2.65662	1.07949	19.72219	6.63125	300.06	-21.12
95/ 7/26	2449924.5	9.22814	-15.91719	-7.10443	5.97672	2.66093	1.08142	19.72279	6.63108	300.10	-21.11
95/ 7/30	2449928.5	9.24195	-15.91104	-7.10193	5.97426	2.66525	1.08334	19.72339	6.63091	300.15	-21.10
95/ 8/ 3	2449932.5	9.25574	-15.90487	-7.09943	5.97180	2.66956	1.08526	19.72399	6.63074	300.20	-21.10
95/ 8/ 7	2449936.5	9.26954	-15.89870	-7.09692	5.96934	2.67387	1.08719	19.72459	6.63058	300.24	-21.09
95/ 8/11	2449940.5	9.28332	-15.89252	-7.09441	5.96687	2.67818	1.08911	19.72518	6.63041	300.29	-21.08
95/ 8/15	2449944.5	9.29711	-15.88633	-7.09189	5.96440	2.68249	1.09103	19.72578	6.63025	300.34	-21.07
95/ 8/19	2449948.5	9.31088	-15.88013	-7.08937	5.96193	2.68680	1.09295	19.72638	6.63009	300.38	-21.06
95/ 8/23	2449952.5	9.32465	-15.87391	-7.08684	5.95945	2.69111	1.09488	19.72697	6.62992	300.43	-21.05
95/ 8/27	2449956.5	9.33842	-15.86769	-7.08431	5.95697	2.69542	1.09680	19.72757	6.62976	300.48	-21.05
95/ 8/31	2449960.5	9.35218	-15.86146	-7.08177	5.95448	2.69972	1.09872	19.72817	6.62960	300.52	-21.04
95/ 9/ 4	2449964.5	9.36593	-15.85522	-7.07923	5.95199	2.70403	1.10064	19.72876	6.62943	300.57	-21.03
95/ 9/ 8	2449968.5	9.37968	-15.84897	-7.07668	5.94950	2.70833	1.10256	19.72936	6.62927	300.62	-21.02
95/ 9/12	2449972.5	9.39342	-15.84270	-7.07414	5.94700	2.71263	1.10448	19.72995	6.62911	300.66	-21.01
95/ 9/16	2449976.5	9.40715	-15.83643	-7.07158	5.94450	2.71693	1.10640	19.73055	6.62895	300.71	-21.00
95/ 9/20	2449980.5	9.42088	-15.83015	-7.06902	5.94199	2.72123	1.10831	19.73114	6.62878	300.76	-20.99
95/ 9/24	2449984.5	9.43461	-15.82386	-7.06646	5.93948	2.72553	1.11023	19.73173	6.62862	300.80	-20.99
95/ 9/28	2449988.5	9.44833	-15.81756	-7.06389	5.93697	2.72983	1.11215	19.73232	6.62845	300.85	-20.98
95/10/ 2	2449992.5	9.46204	-15.81125	-7.06132	5.93445	2.73412	1.11407	19.73292	6.62829	300.90	-20.97
95/10/ 6	2449996.5	9.47574	-15.80493	-7.05875	5.93192	2.73841	1.11598	19.73351	6.62812	300.94	-20.96
95/10/10	2450000.5	9.48945	-15.79860	-7.05617	5.92939	2.74270	1.11789	19.73410	6.62795	300.99	-20.95
95/10/14	2450004.5	9.50314	-15.79225	-7.05358	5.92686	2.74699	1.11981	19.73469	6.62779	301.04	-20.94
95/10/18	2450008.5	9.51683	-15.78590	-7.05099	5.92432	2.75127	1.12172	19.73528	6.62762	301.08	-20.93
95/10/22	2450012.5	9.53051	-15.77954	-7.04840	5.92178	2.75555	1.12363	19.73587	6.62745	301.13	-20.92
95/10/26	2450016.5	9.54419	-15.77317	-7.04580	5.91923	2.75983	1.12554	19.73646	6.62728	301.18	-20.92

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95/10/30	2450020.5	9.55786	-15.76679	-7.04320	5.91669	2.76411	1.12745	19.73705	6.62711	301.22	-20.91
95/11/ 3	2450024.5	9.57153	-15.76040	-7.04059	5.91413	2.76839	1.12936	19.73764	6.62695	301.27	-20.90
95/11/ 7	2450028.5	9.58519	-15.75400	-7.03798	5.91158	2.77267	1.13127	19.73822	6.62678	301.32	-20.89
95/11/11	2450032.5	9.59884	-15.74759	-7.03536	5.90902	2.77694	1.13318	19.73881	6.62661	301.36	-20.88
95/11/15	2450036.5	9.61249	-15.74117	-7.03274	5.90645	2.78121	1.13509	19.73940	6.62644	301.41	-20.87
95/11/19	2450040.5	9.62613	-15.73474	-7.03012	5.90388	2.78548	1.13699	19.73998	6.62627	301.46	-20.86
95/11/23	2450044.5	9.63977	-15.72830	-7.02749	5.90130	2.78975	1.13890	19.74057	6.62610	301.50	-20.85
95/11/27	2450048.5	9.65340	-15.72185	-7.02486	5.89872	2.79402	1.14080	19.74116	6.62592	301.55	-20.85
95/12/ 1	2450052.5	9.66702	-15.71539	-7.02222	5.89613	2.79828	1.14271	19.74174	6.62575	301.60	-20.84
95/12/ 5	2450056.5	9.68064	-15.70892	-7.01958	5.89354	2.80254	1.14461	19.74233	6.62557	301.64	-20.83
95/12/ 9	2450060.5	9.69425	-15.70244	-7.01693	5.89095	2.80679	1.14651	19.74291	6.62539	301.69	-20.82
95/12/13	2450064.5	9.70786	-15.69595	-7.01428	5.88835	2.81105	1.14841	19.74349	6.62522	301.74	-20.81
95/12/17	2450068.5	9.72146	-15.68945	-7.01163	5.88575	2.81530	1.15031	19.74408	6.62504	301.78	-20.80
95/12/21	2450072.5	9.73505	-15.68294	-7.00897	5.88314	2.81954	1.15221	19.74466	6.62486	301.83	-20.79
95/12/25	2450076.5	9.74864	-15.67643	-7.00630	5.88053	2.82379	1.15411	19.74524	6.62468	301.88	-20.78
95/12/29	2450080.5	9.76222	-15.66990	-7.00363	5.87791	2.82803	1.15600	19.74582	6.62450	301.92	-20.77
96/ 1/ 2	2450084.5	9.77580	-15.66336	-7.00096	5.87529	2.83227	1.15790	19.74640	6.62431	301.97	-20.77
96/ 1/ 6	2450088.5	9.78937	-15.65681	-6.99828	5.87267	2.83650	1.15979	19.74699	6.62413	302.02	-20.76
96/ 1/10	2450092.5	9.80293	-15.65025	-6.99560	5.87004	2.84073	1.16168	19.74757	6.62394	302.06	-20.75
96/ 1/14	2450096.5	9.81649	-15.64369	-6.99292	5.86742	2.84495	1.16357	19.74815	6.62376	302.11	-20.74
96/ 1/18	2450100.5	9.83004	-15.63711	-6.99023	5.86479	2.84918	1.16545	19.74873	6.62358	302.15	-20.73
96/ 1/22	2450104.5	9.84359	-15.63052	-6.98753	5.86216	2.85340	1.16734	19.74930	6.62340	302.20	-20.72
96/ 1/26	2450108.5	9.85713	-15.62393	-6.98483	5.85952	2.85761	1.16922	19.74988	6.62322	302.25	-20.71
96/ 1/30	2450112.5	9.87066	-15.61732	-6.98213	5.85689	2.86183	1.17111	19.75046	6.62304	302.29	-20.70
96/ 2/ 3	2450116.5	9.88419	-15.61070	-6.97942	5.85425	2.86605	1.17299	19.75104	6.62287	302.34	-20.69
96/ 2/ 7	2450120.5	9.89771	-15.60408	-6.97671	5.85161	2.87026	1.17488	19.75162	6.62269	302.39	-20.68
96/ 2/11	2450124.5	9.91122	-15.59744	-6.97399	5.84896	2.87447	1.17676	19.75219	6.62252	302.43	-20.68
96/ 2/15	2450128.5	9.92473	-15.59080	-6.97127	5.84632	2.87868	1.17864	19.75277	6.62234	302.48	-20.67
96/ 2/19	2450132.5	9.93824	-15.58414	-6.96855	5.84367	2.88289	1.18052	19.75334	6.62217	302.53	-20.66
96/ 2/23	2450136.5	9.95173	-15.57748	-6.96582	5.84101	2.88709	1.18240	19.75392	6.62199	302.57	-20.65
96/ 2/27	2450140.5	9.96522	-15.57080	-6.96308	5.83836	2.89130	1.18428	19.75450	6.62182	302.62	-20.64
96/ 3/ 2	2450144.5	9.97871	-15.56412	-6.96035	5.83570	2.89550	1.18616	19.75507	6.62165	302.67	-20.63
96/ 3/ 6	2450148.5	9.99219	-15.55742	-6.95760	5.83304	2.89970	1.18803	19.75564	6.62148	302.71	-20.62
96/ 3/10	2450152.5	10.00566	-15.55072	-6.95486	5.83037	2.90390	1.18991	19.75622	6.62131	302.76	-20.61
96/ 3/14	2450156.5	10.01912	-15.54401	-6.95211	5.82771	2.90809	1.19179	19.75679	6.62114	302.80	-20.60
96/ 3/18	2450160.5	10.03258	-15.53728	-6.94935	5.82504	2.91229	1.19366	19.75736	6.62098	302.85	-20.59
96/ 3/22	2450164.5	10.04604	-15.53055	-6.94659	5.82236	2.91648	1.19554	19.75794	6.62081	302.90	-20.58
96/ 3/26	2450168.5	10.05949	-15.52381	-6.94383	5.81968	2.92068	1.19741	19.75851	6.62064	302.94	-20.58
96/ 3/30	2450172.5	10.07293	-15.51706	-6.94106	5.81700	2.92487	1.19929	19.75908	6.62047	302.99	-20.57
96/ 4/ 3	2450176.5	10.08636	-15.51029	-6.93829	5.81432	2.92906	1.20116	19.75965	6.62031	303.04	-20.56
96/ 4/ 7	2450180.5	10.09979	-15.50352	-6.93551	5.81163	2.93324	1.20303	19.76022	6.62014	303.08	-20.55
96/ 4/11	2450184.5	10.11321	-15.49674	-6.93273	5.80894	2.93743	1.20490	19.76079	6.61998	303.13	-20.54
96/ 4/15	2450188.5	10.12663	-15.48995	-6.92994	5.80625	2.94162	1.20677	19.76136	6.61982	303.17	-20.53
96/ 4/19	2450192.5	10.14004	-15.48315	-6.92715	5.80356	2.94580	1.20864	19.76193	6.61966	303.22	-20.52
96/ 4/23	2450196.5	10.15345	-15.47634	-6.92436	5.80086	2.94998	1.21051	19.76250	6.61950	303.27	-20.51

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96/ 4/27	2450200.5	10.16684	-15.46952	-6.92156	5.79816	2.95417	1.21238	19.76306	6.61934	303.31	-20.50
96/ 5/ 1	2450204.5	10.18024	-15.46269	-6.91876	5.79546	2.95835	1.21426	19.76363	6.61919	303.36	-20.49
96/ 5/ 5	2450208.5	10.19362	-15.45585	-6.91595	5.79275	2.96254	1.21613	19.76420	6.61903	303.41	-20.48
96/ 5/ 9	2450212.5	10.20700	-15.44900	-6.91314	5.79003	2.96672	1.21800	19.76477	6.61887	303.45	-20.47
96/ 5/13	2450216.5	10.22037	-15.44214	-6.91032	5.78732	2.97090	1.21987	19.76533	6.61871	303.50	-20.46
96/ 5/17	2450220.5	10.23374	-15.43528	-6.90750	5.78459	2.97508	1.22174	19.76590	6.61855	303.54	-20.45
96/ 5/21	2450224.5	10.24710	-15.42840	-6.90468	5.78186	2.97926	1.22361	19.76646	6.61840	303.59	-20.45
96/ 5/25	2450228.5	10.26045	-15.42151	-6.90185	5.77913	2.98344	1.22548	19.76703	6.61824	303.64	-20.44
96/ 5/29	2450232.5	10.27380	-15.41461	-6.89901	5.77639	2.98762	1.22734	19.76759	6.61807	303.68	-20.43
96/ 6/ 2	2450236.5	10.28714	-15.40771	-6.89618	5.77364	2.99180	1.22921	19.76816	6.61791	303.73	-20.42
96/ 6/ 6	2450240.5	10.30048	-15.40079	-6.89333	5.77089	2.99597	1.23108	19.76872	6.61775	303.78	-20.41
96/ 6/10	2450244.5	10.31381	-15.39386	-6.89049	5.76814	3.00014	1.23295	19.76928	6.61758	303.82	-20.40
96/ 6/14	2450248.5	10.32713	-15.38693	-6.88764	5.76538	3.00431	1.23481	19.76984	6.61742	303.87	-20.39
96/ 6/18	2450252.5	10.34044	-15.37998	-6.88478	5.76261	3.00848	1.23668	19.77041	6.61725	303.91	-20.38
96/ 6/22	2450256.5	10.35375	-15.37303	-6.88192	5.75984	3.01264	1.23854	19.77097	6.61708	303.96	-20.37
96/ 6/26	2450260.5	10.36706	-15.36606	-6.87906	5.75706	3.01680	1.24040	19.77153	6.61690	304.01	-20.36
96/ 6/30	2450264.5	10.38035	-15.35909	-6.87619	5.75427	3.02096	1.24227	19.77209	6.61673	304.05	-20.35
96/ 7/ 4	2450268.5	10.39364	-15.35211	-6.87332	5.75149	3.02512	1.24413	19.77265	6.61655	304.10	-20.34
96/ 7/ 8	2450272.5	10.40693	-15.34511	-6.87044	5.74869	3.02927	1.24598	19.77320	6.61638	304.14	-20.33
96/ 7/12	2450276.5	10.42020	-15.33811	-6.86756	5.74590	3.03342	1.24784	19.77376	6.61620	304.19	-20.32
96/ 7/16	2450280.5	10.43347	-15.33110	-6.86468	5.74310	3.03756	1.24970	19.77432	6.61602	304.24	-20.31
96/ 7/20	2450284.5	10.44674	-15.32408	-6.86179	5.74030	3.04170	1.25155	19.77488	6.61584	304.28	-20.30
96/ 7/24	2450288.5	10.46000	-15.31704	-6.85890	5.73749	3.04585	1.25340	19.77543	6.61566	304.33	-20.29
96/ 7/28	2450292.5	10.47325	-15.31000	-6.85600	5.73468	3.04998	1.25526	19.77599	6.61548	304.38	-20.28
96/ 8/ 1	2450296.5	10.48649	-15.30295	-6.85310	5.73186	3.05412	1.25711	19.77655	6.61530	304.42	-20.28
96/ 8/ 5	2450300.5	10.49973	-15.29589	-6.85019	5.72904	3.05825	1.25896	19.77710	6.61512	304.47	-20.27
96/ 8/ 9	2450304.5	10.51296	-15.28882	-6.84728	5.72621	3.06238	1.26081	19.77766	6.61493	304.51	-20.26
96/ 8/13	2450308.5	10.52619	-15.28174	-6.84437	5.72338	3.06651	1.26266	19.77821	6.61475	304.56	-20.25
96/ 8/17	2450312.5	10.53941	-15.27465	-6.84145	5.72055	3.07063	1.26450	19.77876	6.61456	304.61	-20.24
96/ 8/21	2450316.5	10.55262	-15.26755	-6.83852	5.71771	3.07475	1.26635	19.77932	6.61437	304.65	-20.23
96/ 8/25	2450320.5	10.56583	-15.26045	-6.83560	5.71486	3.07886	1.26819	19.77987	6.61418	304.70	-20.22
96/ 8/29	2450324.5	10.57902	-15.25333	-6.83266	5.71202	3.08298	1.27003	19.78042	6.61399	304.74	-20.21
96/ 9/ 2	2450328.5	10.59222	-15.24620	-6.82973	5.70917	3.08708	1.27188	19.78097	6.61380	304.79	-20.20
96/ 9/ 6	2450332.5	10.60540	-15.23907	-6.82679	5.70631	3.09119	1.27371	19.78152	6.61361	304.84	-20.19
96/ 9/10	2450336.5	10.61858	-15.23192	-6.82384	5.70345	3.09529	1.27555	19.78207	6.61341	304.88	-20.18
96/ 9/14	2450340.5	10.63175	-15.22476	-6.82089	5.70059	3.09939	1.27739	19.78262	6.61322	304.93	-20.17
96/ 9/18	2450344.5	10.64492	-15.21760	-6.81794	5.69773	3.10348	1.27922	19.78317	6.61302	304.97	-20.16
96/ 9/22	2450348.5	10.65808	-15.21043	-6.81498	5.69486	3.10757	1.28105	19.78372	6.61283	305.02	-20.15
96/ 9/26	2450352.5	10.67123	-15.20324	-6.81202	5.69199	3.11166	1.28289	19.78427	6.61263	305.07	-20.14
96/ 9/30	2450356.5	10.68438	-15.19605	-6.80906	5.68911	3.11574	1.28471	19.78482	6.61244	305.11	-20.13
96/10/ 4	2450360.5	10.69752	-15.18885	-6.80609	5.68624	3.11982	1.28654	19.78537	6.61224	305.16	-20.12
96/10/ 8	2450364.5	10.71065	-15.18163	-6.80311	5.68336	3.12389	1.28837	19.78591	6.61205	305.20	-20.11
96/10/12	2450368.5	10.72378	-15.17441	-6.80013	5.68049	3.12796	1.29019	19.78646	6.61186	305.25	-20.10
96/10/16	2450372.5	10.73690	-15.16718	-6.79715	5.67761	3.13203	1.29201	19.78701	6.61167	305.29	-20.09
96/10/20	2450376.5	10.75001	-15.15994	-6.79416	5.67473	3.13610	1.29384	19.78755	6.61148	305.34	-20.08

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96/10/24	2450380.5	10.76312	-15.15269	-6.79117	5.67185	3.14017	1.29566	19.78810	6.61130	305.39	-20.07
96/10/28	2450384.5	10.77622	-15.14543	-6.78818	5.66896	3.14424	1.29748	19.78864	6.61111	305.43	-20.06
96/11/ 1	2450388.5	10.78931	-15.13816	-6.78518	5.66607	3.14830	1.29930	19.78918	6.61093	305.48	-20.05
96/11/ 5	2450392.5	10.80240	-15.13089	-6.78217	5.66318	3.15237	1.30112	19.78973	6.61074	305.52	-20.04
96/11/ 9	2450396.5	10.81548	-15.12360	-6.77917	5.66028	3.15643	1.30294	19.79027	6.61056	305.57	-20.03
96/11/13	2450400.5	10.82855	-15.11630	-6.77615	5.65739	3.16048	1.30476	19.79081	6.61038	305.62	-20.02
96/11/17	2450404.5	10.84161	-15.10900	-6.77314	5.65449	3.16454	1.30658	19.79136	6.61020	305.66	-20.01
96/11/21	2450408.5	10.85467	-15.10168	-6.77012	5.65158	3.16860	1.30840	19.79190	6.61001	305.71	-20.00
96/11/25	2450412.5	10.86773	-15.09436	-6.76709	5.64868	3.17265	1.31021	19.79244	6.60983	305.75	-19.99
96/11/29	2450416.5	10.88077	-15.08702	-6.76406	5.64576	3.17670	1.31203	19.79298	6.60965	305.80	-19.98
96/12/ 3	2450420.5	10.89381	-15.07968	-6.76103	5.64285	3.18075	1.31385	19.79352	6.60947	305.84	-19.97
96/12/ 7	2450424.5	10.90684	-15.07233	-6.75799	5.63993	3.18480	1.31566	19.79406	6.60929	305.89	-19.96
96/12/11	2450428.5	10.91987	-15.06496	-6.75495	5.63701	3.18885	1.31748	19.79460	6.60912	305.94	-19.95
96/12/15	2450432.5	10.93289	-15.05759	-6.75191	5.63409	3.19289	1.31929	19.79514	6.60894	305.98	-19.94
96/12/19	2450436.5	10.94590	-15.05021	-6.74886	5.63116	3.19694	1.32110	19.79567	6.60876	306.03	-19.93
96/12/23	2450440.5	10.95891	-15.04282	-6.74580	5.62823	3.20098	1.32291	19.79621	6.60858	306.07	-19.92
96/12/27	2450444.5	10.97191	-15.03542	-6.74274	5.62529	3.20501	1.32472	19.79675	6.60840	306.12	-19.91
96/12/31	2450448.5	10.98490	-15.02801	-6.73968	5.62235	3.20905	1.32653	19.79728	6.60822	306.17	-19.90
97/ 1/ 4	2450452.5	10.99788	-15.02060	-6.73661	5.61941	3.21308	1.32834	19.79782	6.60804	306.21	-19.89
97/ 1/ 8	2450456.5	11.01086	-15.01317	-6.73354	5.61647	3.21711	1.33015	19.79836	6.60786	306.26	-19.88
97/ 1/12	2450460.5	11.02383	-15.00573	-6.73047	5.61352	3.22115	1.33195	19.79889	6.60768	306.30	-19.87
97/ 1/16	2450464.5	11.03680	-14.99828	-6.72739	5.61057	3.22518	1.33376	19.79943	6.60751	306.35	-19.86
97/ 1/20	2450468.5	11.04976	-14.99083	-6.72431	5.60761	3.22920	1.33557	19.79996	6.60733	306.39	-19.85
97/ 1/24	2450472.5	11.06271	-14.98336	-6.72122	5.60465	3.23323	1.33738	19.80049	6.60716	306.44	-19.84
97/ 1/28	2450476.5	11.07565	-14.97589	-6.71813	5.60169	3.23726	1.33918	19.80103	6.60698	306.49	-19.83
97/ 2/ 1	2450480.5	11.08859	-14.96841	-6.71503	5.59872	3.24128	1.34099	19.80156	6.60680	306.53	-19.82
97/ 2/ 5	2450484.5	11.10152	-14.96092	-6.71193	5.59575	3.24530	1.34279	19.80209	6.60662	306.58	-19.81
97/ 2/ 9	2450488.5	11.11444	-14.95341	-6.70883	5.59277	3.24932	1.34459	19.80262	6.60644	306.62	-19.80
97/ 2/13	2450492.5	11.12736	-14.94590	-6.70572	5.58979	3.25334	1.34640	19.80315	6.60626	306.67	-19.79
97/ 2/17	2450496.5	11.14027	-14.93838	-6.70261	5.58680	3.25735	1.34820	19.80368	6.60608	306.71	-19.78
97/ 2/21	2450500.5	11.15317	-14.93085	-6.69949	5.58381	3.26136	1.35000	19.80421	6.60590	306.76	-19.77
97/ 2/25	2450504.5	11.16607	-14.92331	-6.69637	5.58081	3.26537	1.35180	19.80474	6.60571	306.80	-19.76
97/ 3/ 1	2450508.5	11.17896	-14.91576	-6.69324	5.57781	3.26938	1.35360	19.80527	6.60553	306.85	-19.75
97/ 3/ 5	2450512.5	11.19184	-14.90821	-6.69011	5.57480	3.27338	1.35539	19.80580	6.60534	306.90	-19.74
97/ 3/ 9	2450516.5	11.20472	-14.90064	-6.68698	5.57179	3.27738	1.35719	19.80632	6.60515	306.94	-19.73
97/ 3/13	2450520.5	11.21758	-14.89306	-6.68384	5.56878	3.28137	1.35898	19.80685	6.60496	306.99	-19.72
97/ 3/17	2450524.5	11.23045	-14.88548	-6.68070	5.56576	3.28537	1.36078	19.80738	6.60477	307.03	-19.71
97/ 3/21	2450528.5	11.24330	-14.87789	-6.67756	5.56274	3.28935	1.36257	19.80790	6.60458	307.08	-19.70
97/ 3/25	2450532.5	11.25615	-14.87028	-6.67441	5.55971	3.29334	1.36436	19.80843	6.60439	307.12	-19.69
97/ 3/29	2450536.5	11.26899	-14.86267	-6.67125	5.55668	3.29732	1.36614	19.80895	6.60419	307.17	-19.68
97/ 4/ 2	2450540.5	11.28182	-14.85505	-6.66809	5.55365	3.30129	1.36793	19.80948	6.60400	307.22	-19.67
97/ 4/ 6	2450544.5	11.29465	-14.84742	-6.66493	5.55062	3.30527	1.36971	19.81000	6.60381	307.26	-19.66
97/ 4/10	2450548.5	11.30747	-14.83978	-6.66177	5.54759	3.30924	1.37150	19.81052	6.60362	307.31	-19.65
97/ 4/14	2450552.5	11.32028	-14.83213	-6.65860	5.54455	3.31321	1.37328	19.81105	6.60343	307.35	-19.64
97/ 4/18	2450556.5	11.33309	-14.82447	-6.65542	5.54151	3.31718	1.37506	19.81157	6.60324	307.40	-19.63

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97/ 4/22	2450560.5	11.34588	-14.81680	-6.65224	5.53846	3.32115	1.37684	19.81209	6.60305	307.44	-19.62
97/ 4/26	2450564.5	11.35867	-14.80912	-6.64906	5.53541	3.32511	1.37862	19.81261	6.60286	307.49	-19.61
97/ 4/30	2450568.5	11.37146	-14.80144	-6.64587	5.53236	3.32907	1.38040	19.81313	6.60267	307.53	-19.60
97/ 5/ 4	2450572.5	11.38424	-14.79374	-6.64268	5.52931	3.33303	1.38218	19.81365	6.60248	307.58	-19.59
97/ 5/ 8	2450576.5	11.39701	-14.78604	-6.63949	5.52625	3.33698	1.38395	19.81417	6.60229	307.62	-19.58
97/ 5/12	2450580.5	11.40977	-14.77832	-6.63629	5.52319	3.34093	1.38573	19.81469	6.60210	307.67	-19.57
97/ 5/16	2450584.5	11.42253	-14.77060	-6.63308	5.52012	3.34488	1.38750	19.81521	6.60191	307.72	-19.56
97/ 5/20	2450588.5	11.43527	-14.76287	-6.62988	5.51706	3.34883	1.38928	19.81573	6.60172	307.76	-19.55
97/ 5/24	2450592.5	11.44802	-14.75513	-6.62667	5.51399	3.35277	1.39105	19.81624	6.60153	307.81	-19.54
97/ 5/28	2450596.5	11.46075	-14.74738	-6.62345	5.51091	3.35672	1.39282	19.81676	6.60134	307.85	-19.53
97/ 6/ 1	2450600.5	11.47348	-14.73962	-6.62023	5.50784	3.36066	1.39459	19.81728	6.60115	307.90	-19.52
97/ 6/ 5	2450604.5	11.48620	-14.73185	-6.61701	5.50476	3.36459	1.39636	19.81779	6.60096	307.94	-19.51
97/ 6/ 9	2450608.5	11.49891	-14.72407	-6.61378	5.50167	3.36853	1.39813	19.81831	6.60077	307.99	-19.49
97/ 6/13	2450612.5	11.51162	-14.71629	-6.61055	5.49859	3.37246	1.39989	19.81882	6.60058	308.03	-19.48
97/ 6/17	2450616.5	11.52432	-14.70849	-6.60731	5.49550	3.37639	1.40166	19.81934	6.60039	308.08	-19.47
97/ 6/21	2450620.5	11.53701	-14.70069	-6.60407	5.49240	3.38032	1.40342	19.81985	6.60020	308.12	-19.46
97/ 6/25	2450624.5	11.54969	-14.69287	-6.60083	5.48931	3.38424	1.40519	19.82036	6.60001	308.17	-19.45
97/ 6/29	2450628.5	11.56237	-14.68505	-6.59758	5.48621	3.38816	1.40695	19.82088	6.59983	308.22	-19.44
97/ 7/ 3	2450632.5	11.57504	-14.67722	-6.59433	5.48312	3.39208	1.40871	19.82139	6.59964	308.26	-19.43
97/ 7/ 7	2450636.5	11.58771	-14.66938	-6.59107	5.48002	3.39600	1.41047	19.82190	6.59946	308.31	-19.42
97/ 7/11	2450640.5	11.60036	-14.66153	-6.58781	5.47691	3.39992	1.41223	19.82241	6.59927	308.35	-19.41
97/ 7/15	2450644.5	11.61301	-14.65367	-6.58454	5.47380	3.40384	1.41399	19.82292	6.59909	308.40	-19.40
97/ 7/19	2450648.5	11.62565	-14.64580	-6.58128	5.47069	3.40776	1.41575	19.82343	6.59891	308.44	-19.39
97/ 7/23	2450652.5	11.63829	-14.63792	-6.57800	5.46757	3.41167	1.41751	19.82394	6.59873	308.49	-19.38
97/ 7/27	2450656.5	11.65092	-14.63004	-6.57473	5.46445	3.41559	1.41927	19.82445	6.59854	308.53	-19.37
97/ 7/31	2450660.5	11.66354	-14.62214	-6.57145	5.46133	3.41950	1.42103	19.82496	6.59836	308.58	-19.36
97/ 8/ 4	2450664.5	11.67615	-14.61424	-6.56816	5.45820	3.42341	1.42278	19.82547	6.59818	308.62	-19.35
97/ 8/ 8	2450668.5	11.68875	-14.60632	-6.56487	5.45506	3.42731	1.42454	19.82597	6.59799	308.67	-19.34
97/ 8/12	2450672.5	11.70135	-14.59840	-6.56158	5.45192	3.43122	1.42629	19.82648	6.59781	308.71	-19.33
97/ 8/16	2450676.5	11.71394	-14.59047	-6.55828	5.44878	3.43512	1.42805	19.82699	6.59762	308.76	-19.32
97/ 8/20	2450680.5	11.72653	-14.58253	-6.55498	5.44563	3.43902	1.42980	19.82749	6.59743	308.80	-19.31
97/ 8/24	2450684.5	11.73910	-14.57458	-6.55168	5.44248	3.44292	1.43156	19.82800	6.59724	308.85	-19.29
97/ 8/28	2450688.5	11.75167	-14.56662	-6.54837	5.43932	3.44682	1.43331	19.82850	6.59705	308.89	-19.28
97/ 9/ 1	2450692.5	11.76424	-14.55866	-6.54505	5.43616	3.45071	1.43506	19.82901	6.59686	308.94	-19.27
97/ 9/ 5	2450696.5	11.77679	-14.55068	-6.54174	5.43299	3.45460	1.43681	19.82951	6.59667	308.99	-19.26
97/ 9/ 9	2450700.5	11.78934	-14.54269	-6.53841	5.42981	3.45849	1.43856	19.83001	6.59647	309.03	-19.25
97/ 9/13	2450704.5	11.80188	-14.53470	-6.53509	5.42663	3.46237	1.44030	19.83051	6.59627	309.08	-19.24
97/ 9/17	2450708.5	11.81441	-14.52670	-6.53176	5.42345	3.46624	1.44205	19.83101	6.59607	309.12	-19.23
97/ 9/21	2450712.5	11.82694	-14.51869	-6.52843	5.42027	3.47012	1.44379	19.83152	6.59587	309.17	-19.22
97/ 9/25	2450716.5	11.83946	-14.51066	-6.52509	5.41708	3.47399	1.44553	19.83202	6.59567	309.21	-19.21
97/ 9/29	2450720.5	11.85197	-14.50263	-6.52175	5.41389	3.47785	1.44727	19.83252	6.59547	309.26	-19.20
97/10/ 3	2450724.5	11.86447	-14.49460	-6.51840	5.41069	3.48172	1.44901	19.83301	6.59527	309.30	-19.19
97/10/ 7	2450728.5	11.87697	-14.48655	-6.51505	5.40749	3.48558	1.45075	19.83351	6.59507	309.35	-19.18
97/10/11	2450732.5	11.88945	-14.47849	-6.51170	5.40429	3.48944	1.45248	19.83401	6.59486	309.39	-19.17
97/10/15	2450736.5	11.90194	-14.47042	-6.50834	5.40108	3.49329	1.45422	19.83451	6.59466	309.44	-19.16

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
97/10/19	2450740.5	11.91441	-14.46235	-6.50498	5.39787	3.49714	1.45595	19.83501	6.59445	309.48	-19.14
97/10/23	2450744.5	11.92688	-14.45427	-6.50161	5.39465	3.50099	1.45768	19.83550	6.59424	309.53	-19.13
97/10/27	2450748.5	11.93933	-14.44617	-6.49824	5.39143	3.50483	1.45941	19.83600	6.59403	309.57	-19.12
97/10/31	2450752.5	11.95179	-14.43807	-6.49487	5.38821	3.50867	1.46114	19.83649	6.59382	309.62	-19.11
97/11/ 4	2450756.5	11.96423	-14.42996	-6.49149	5.38498	3.51251	1.46287	19.83699	6.59361	309.66	-19.10
97/11/ 8	2450760.5	11.97667	-14.42184	-6.48811	5.38175	3.51634	1.46459	19.83748	6.59340	309.71	-19.09
97/11/12	2450764.5	11.98909	-14.41372	-6.48473	5.37852	3.52017	1.46632	19.83798	6.59319	309.75	-19.08
97/11/16	2450768.5	12.00152	-14.40558	-6.48134	5.37528	3.52399	1.46804	19.83847	6.59297	309.80	-19.07
97/11/20	2450772.5	12.01393	-14.39743	-6.47794	5.37204	3.52781	1.46976	19.83896	6.59276	309.84	-19.06
97/11/24	2450776.5	12.02634	-14.38928	-6.47455	5.36880	3.53163	1.47148	19.83945	6.59254	309.89	-19.05
97/11/28	2450780.5	12.03874	-14.38112	-6.47115	5.36555	3.53544	1.47320	19.83995	6.59233	309.93	-19.04
97/12/ 2	2450784.5	12.05113	-14.37295	-6.46774	5.36230	3.53924	1.47491	19.84044	6.59211	309.98	-19.03
97/12/ 6	2450788.5	12.06351	-14.36476	-6.46433	5.35905	3.54305	1.47662	19.84093	6.59189	310.02	-19.01
97/12/10	2450792.5	12.07589	-14.35658	-6.46092	5.35580	3.54685	1.47833	19.84142	6.59167	310.07	-19.00
97/12/14	2450796.5	12.08826	-14.34838	-6.45750	5.35254	3.55064	1.48004	19.84191	6.59145	310.11	-18.99
97/12/18	2450800.5	12.10062	-14.34017	-6.45408	5.34929	3.55443	1.48175	19.84239	6.59124	310.16	-18.98
97/12/22	2450804.5	12.11297	-14.33195	-6.45065	5.34603	3.55821	1.48346	19.84288	6.59102	310.20	-18.97
97/12/26	2450808.5	12.12532	-14.32373	-6.44722	5.34277	3.56200	1.48516	19.84337	6.59081	310.25	-18.96
97/12/30	2450812.5	12.13766	-14.31550	-6.44379	5.33952	3.56578	1.48686	19.84386	6.59060	310.29	-18.95
98/ 1/ 3	2450816.5	12.14999	-14.30725	-6.44036	5.33626	3.56956	1.48857	19.84434	6.59039	310.34	-18.94
98/ 1/ 7	2450820.5	12.16231	-14.29900	-6.43691	5.33300	3.57334	1.49027	19.84483	6.59018	310.38	-18.93
98/ 1/11	2450824.5	12.17463	-14.29074	-6.43347	5.32973	3.57711	1.49197	19.84532	6.58997	310.43	-18.92
98/ 1/15	2450828.5	12.18694	-14.28248	-6.43002	5.32647	3.58089	1.49367	19.84580	6.58977	310.47	-18.90
98/ 1/19	2450832.5	12.19924	-14.27420	-6.42657	5.32320	3.58466	1.49537	19.84628	6.58956	310.52	-18.89
98/ 1/23	2450836.5	12.21153	-14.26591	-6.42311	5.31993	3.58843	1.49706	19.84677	6.58936	310.56	-18.88
98/ 1/27	2450840.5	12.22382	-14.25762	-6.41965	5.31666	3.59220	1.49876	19.84725	6.58916	310.61	-18.87
98/ 1/31	2450844.5	12.23610	-14.24932	-6.41619	5.31339	3.59596	1.50046	19.84774	6.58896	310.65	-18.86
98/ 2/ 4	2450848.5	12.24837	-14.24101	-6.41272	5.31011	3.59972	1.50215	19.84822	6.58876	310.70	-18.85
98/ 2/ 8	2450852.5	12.26063	-14.23268	-6.40925	5.30683	3.60349	1.50385	19.84870	6.58856	310.74	-18.84
98/ 2/12	2450856.5	12.27289	-14.22436	-6.40577	5.30355	3.60725	1.50554	19.84918	6.58836	310.79	-18.83
98/ 2/16	2450860.5	12.28514	-14.21602	-6.40229	5.30026	3.61101	1.50724	19.84966	6.58817	310.83	-18.82
98/ 2/20	2450864.5	12.29738	-14.20767	-6.39881	5.29697	3.61476	1.50893	19.85014	6.58797	310.88	-18.81
98/ 2/24	2450868.5	12.30961	-14.19932	-6.39532	5.29368	3.61852	1.51062	19.85062	6.58777	310.92	-18.79
98/ 2/28	2450872.5	12.32184	-14.19095	-6.39183	5.29039	3.62227	1.51232	19.85110	6.58758	310.97	-18.78
98/ 3/ 4	2450876.5	12.33406	-14.18258	-6.38833	5.28709	3.62602	1.51401	19.85158	6.58738	311.01	-18.77
98/ 3/ 8	2450880.5	12.34627	-14.17420	-6.38483	5.28379	3.62977	1.51570	19.85206	6.58718	311.06	-18.76
98/ 3/12	2450884.5	12.35847	-14.16581	-6.38133	5.28048	3.63352	1.51738	19.85254	6.58699	311.10	-18.75
98/ 3/16	2450888.5	12.37066	-14.15741	-6.37782	5.27718	3.63726	1.51907	19.85301	6.58679	311.15	-18.74
98/ 3/20	2450892.5	12.38285	-14.14900	-6.37431	5.27387	3.64100	1.52076	19.85349	6.58660	311.19	-18.73
98/ 3/24	2450896.5	12.39503	-14.14059	-6.37079	5.27056	3.64474	1.52244	19.85397	6.58641	311.24	-18.72
98/ 3/28	2450900.5	12.40720	-14.13216	-6.36728	5.26724	3.64848	1.52413	19.85444	6.58622	311.28	-18.71
98/ 4/ 1	2450904.5	12.41937	-14.12373	-6.36375	5.26392	3.65222	1.52581	19.85492	6.58603	311.33	-18.69
98/ 4/ 5	2450908.5	12.43152	-14.11529	-6.36023	5.26060	3.65596	1.52750	19.85539	6.58583	311.37	-18.68
98/ 4/ 9	2450912.5	12.44367	-14.10684	-6.35669	5.25727	3.65970	1.52918	19.85587	6.58564	311.42	-18.67
98/ 4/13	2450916.5	12.45581	-14.09838	-6.35316	5.25394	3.66343	1.53087	19.85634	6.58545	311.46	-18.66

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98/ 4/17	2450920.5	12.46795	-14.08991	-6.34962	5.25060	3.66716	1.53255	19.85681	6.58526	311.51	-18.65
98/ 4/21	2450924.5	12.48007	-14.08144	-6.34608	5.24726	3.67089	1.53423	19.85729	6.58506	311.55	-18.64
98/ 4/25	2450928.5	12.49219	-14.07295	-6.34253	5.24392	3.67462	1.53591	19.85776	6.58487	311.59	-18.63
98/ 4/29	2450932.5	12.50430	-14.06446	-6.33898	5.24056	3.67834	1.53759	19.85823	6.58467	311.64	-18.62
98/ 5/ 3	2450936.5	12.51641	-14.05596	-6.33543	5.23721	3.68206	1.53927	19.85870	6.58447	311.68	-18.60
98/ 5/ 7	2450940.5	12.52850	-14.04745	-6.33187	5.23385	3.68578	1.54095	19.85917	6.58428	311.73	-18.59
98/ 5/11	2450944.5	12.54059	-14.03893	-6.32831	5.23048	3.68950	1.54263	19.85964	6.58407	311.77	-18.58
98/ 5/15	2450948.5	12.55267	-14.03040	-6.32474	5.22711	3.69321	1.54430	19.86011	6.58387	311.82	-18.57
98/ 5/19	2450952.5	12.56474	-14.02186	-6.32117	5.22374	3.69692	1.54598	19.86058	6.58367	311.86	-18.56
98/ 5/23	2450956.5	12.57680	-14.01332	-6.31760	5.22036	3.70062	1.54765	19.86105	6.58346	311.91	-18.55
98/ 5/27	2450960.5	12.58886	-14.00477	-6.31402	5.21698	3.70432	1.54932	19.86151	6.58325	311.95	-18.54
98/ 5/31	2450964.5	12.60091	-13.99620	-6.31044	5.21359	3.70802	1.55099	19.86198	6.58304	312.00	-18.52
98/ 6/ 4	2450968.5	12.61295	-13.98763	-6.30686	5.21020	3.71171	1.55266	19.86245	6.58283	312.04	-18.51
98/ 6/ 8	2450972.5	12.62498	-13.97905	-6.30327	5.20680	3.71540	1.55432	19.86291	6.58262	312.09	-18.50
98/ 6/12	2450976.5	12.63700	-13.97047	-6.29968	5.20340	3.71908	1.55598	19.86338	6.58240	312.13	-18.49
98/ 6/16	2450980.5	12.64902	-13.96187	-6.29608	5.20000	3.72276	1.55764	19.86384	6.58219	312.18	-18.48
98/ 6/20	2450984.5	12.66103	-13.95327	-6.29248	5.19660	3.72644	1.55930	19.86430	6.58198	312.22	-18.47
98/ 6/24	2450988.5	12.67303	-13.94465	-6.28887	5.19319	3.73011	1.56096	19.86477	6.58176	312.26	-18.46
98/ 6/28	2450992.5	12.68502	-13.93603	-6.28527	5.18979	3.73378	1.56262	19.86523	6.58155	312.31	-18.45
98/ 7/ 2	2450996.5	12.69701	-13.92740	-6.28165	5.18637	3.73744	1.56428	19.86569	6.58133	312.35	-18.43
98/ 7/ 6	2451000.5	12.70899	-13.91876	-6.27804	5.18296	3.74111	1.56593	19.86615	6.58112	312.40	-18.42
98/ 7/10	2451004.5	12.72096	-13.91012	-6.27442	5.17954	3.74477	1.56758	19.86662	6.58090	312.44	-18.41
98/ 7/14	2451008.5	12.73292	-13.90146	-6.27080	5.17612	3.74842	1.56923	19.86708	6.58068	312.49	-18.40
98/ 7/18	2451012.5	12.74487	-13.89280	-6.26717	5.17269	3.75207	1.57088	19.86754	6.58046	312.53	-18.39
98/ 7/22	2451016.5	12.75682	-13.88413	-6.26354	5.16927	3.75572	1.57253	19.86800	6.58024	312.58	-18.38
98/ 7/26	2451020.5	12.76876	-13.87544	-6.25990	5.16584	3.75937	1.57418	19.86845	6.58003	312.62	-18.36
98/ 7/30	2451024.5	12.78069	-13.86676	-6.25626	5.16240	3.76301	1.57582	19.86891	6.57981	312.67	-18.35
98/ 8/ 3	2451028.5	12.79261	-13.85806	-6.25262	5.15897	3.76664	1.57746	19.86937	6.57959	312.71	-18.34
98/ 8/ 7	2451032.5	12.80452	-13.84935	-6.24898	5.15553	3.77028	1.57911	19.86983	6.57937	312.76	-18.33
98/ 8/11	2451036.5	12.81643	-13.84064	-6.24533	5.15209	3.77391	1.58075	19.87028	6.57915	312.80	-18.32
98/ 8/15	2451040.5	12.82833	-13.83192	-6.24167	5.14865	3.77753	1.58239	19.87074	6.57893	312.84	-18.31
98/ 8/19	2451044.5	12.84022	-13.82318	-6.23802	5.14520	3.78116	1.58402	19.87120	6.57871	312.89	-18.30
98/ 8/23	2451048.5	12.85210	-13.81445	-6.23435	5.14175	3.78478	1.58566	19.87165	6.57848	312.93	-18.28
98/ 8/27	2451052.5	12.86397	-13.80570	-6.23069	5.13830	3.78839	1.58729	19.87211	6.57826	312.98	-18.27
98/ 8/31	2451056.5	12.87584	-13.79694	-6.22702	5.13485	3.79200	1.58892	19.87256	6.57804	313.02	-18.26
98/ 9/ 4	2451060.5	12.88770	-13.78818	-6.22335	5.13139	3.79561	1.59055	19.87301	6.57782	313.07	-18.25
98/ 9/ 8	2451064.5	12.89955	-13.77940	-6.21967	5.12794	3.79922	1.59218	19.87347	6.57760	313.11	-18.24
98/ 9/12	2451068.5	12.91139	-13.77062	-6.21599	5.12448	3.80282	1.59381	19.87392	6.57738	313.16	-18.23
98/ 9/16	2451072.5	12.92323	-13.76183	-6.21231	5.12102	3.80642	1.59543	19.87437	6.57717	313.20	-18.21
98/ 9/20	2451076.5	12.93505	-13.75304	-6.20862	5.11756	3.81002	1.59706	19.87482	6.57695	313.24	-18.20
98/ 9/24	2451080.5	12.94687	-13.74423	-6.20493	5.11410	3.81361	1.59869	19.87527	6.57674	313.29	-18.19
98/ 9/28	2451084.5	12.95868	-13.73542	-6.20123	5.11064	3.81721	1.60031	19.87572	6.57653	313.33	-18.18
98/10/ 2	2451088.5	12.97048	-13.72659	-6.19753	5.10717	3.82080	1.60193	19.87617	6.57631	313.38	-18.17
98/10/ 6	2451092.5	12.98228	-13.71776	-6.19383	5.10370	3.82439	1.60356	19.87662	6.57610	313.42	-18.16
98/10/10	2451096.5	12.99407	-13.70892	-6.19013	5.10023	3.82798	1.60518	19.87707	6.57589	313.47	-18.14

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
98/10/14	2451100.5	13.00584	-13.70008	-6.18642	5.09675	3.83157	1.60680	19.87752	6.57568	313.51	-18.13
98/10/18	2451104.5	13.01761	-13.69122	-6.18270	5.09327	3.83515	1.60842	19.87797	6.57547	313.56	-18.12
98/10/22	2451108.5	13.02938	-13.68236	-6.17898	5.08979	3.83873	1.61004	19.87841	6.57526	313.60	-18.11
98/10/26	2451112.5	13.04113	-13.67348	-6.17526	5.08630	3.84231	1.61166	19.87886	6.57505	313.64	-18.10
98/10/30	2451116.5	13.05288	-13.66460	-6.17154	5.08281	3.84589	1.61327	19.87931	6.57484	313.69	-18.09
98/11/ 3	2451120.5	13.06462	-13.65571	-6.16781	5.07932	3.84946	1.61489	19.87975	6.57462	313.73	-18.07
98/11/ 7	2451124.5	13.07635	-13.64682	-6.16408	5.07582	3.85303	1.61650	19.88020	6.57441	313.78	-18.06
98/11/11	2451128.5	13.08807	-13.63791	-6.16034	5.07232	3.85660	1.61812	19.88064	6.57420	313.82	-18.05
98/11/15	2451132.5	13.09978	-13.62900	-6.15660	5.06882	3.86016	1.61973	19.88109	6.57399	313.87	-18.04
98/11/19	2451136.5	13.11149	-13.62008	-6.15286	5.06531	3.86373	1.62134	19.88153	6.57377	313.91	-18.03
98/11/23	2451140.5	13.12318	-13.61115	-6.14911	5.06179	3.86728	1.62295	19.88197	6.57355	313.95	-18.02
98/11/27	2451144.5	13.13487	-13.60221	-6.14536	5.05828	3.87084	1.62456	19.88241	6.57334	314.00	-18.00
98/12/ 1	2451148.5	13.14656	-13.59326	-6.14160	5.05476	3.87439	1.62616	19.88286	6.57312	314.04	-17.99
98/12/ 5	2451152.5	13.15823	-13.58431	-6.13784	5.05124	3.87793	1.62777	19.88330	6.57290	314.09	-17.98
98/12/ 9	2451156.5	13.16989	-13.57535	-6.13408	5.04772	3.88147	1.62937	19.88374	6.57268	314.13	-17.97
98/12/13	2451160.5	13.18155	-13.56637	-6.13032	5.04419	3.88501	1.63097	19.88418	6.57246	314.18	-17.96
98/12/17	2451164.5	13.19320	-13.55740	-6.12655	5.04066	3.88855	1.63257	19.88462	6.57225	314.22	-17.95
98/12/21	2451168.5	13.20484	-13.54841	-6.12277	5.03713	3.89209	1.63417	19.88506	6.57203	314.26	-17.93
98/12/25	2451172.5	13.21647	-13.53941	-6.11900	5.03360	3.89562	1.63577	19.88550	6.57181	314.31	-17.92
98/12/29	2451176.5	13.22810	-13.53041	-6.11521	5.03006	3.89915	1.63737	19.88593	6.57159	314.35	-17.91
99/ 1/ 2	2451180.5	13.23971	-13.52140	-6.11143	5.02652	3.90267	1.63897	19.88637	6.57137	314.40	-17.90
99/ 1/ 6	2451184.5	13.25132	-13.51238	-6.10764	5.02297	3.90619	1.64056	19.88681	6.57115	314.44	-17.89
99/ 1/10	2451188.5	13.26292	-13.50335	-6.10385	5.01942	3.90971	1.64215	19.88724	6.57093	314.49	-17.87
99/ 1/14	2451192.5	13.27451	-13.49431	-6.10005	5.01587	3.91323	1.64375	19.88768	6.57071	314.53	-17.86
99/ 1/18	2451196.5	13.28610	-13.48527	-6.09626	5.01232	3.91674	1.64534	19.88812	6.57049	314.57	-17.85
99/ 1/22	2451200.5	13.29767	-13.47622	-6.09245	5.00876	3.92024	1.64692	19.88855	6.57026	314.62	-17.84
99/ 1/26	2451204.5	13.30924	-13.46716	-6.08865	5.00520	3.92375	1.64851	19.88899	6.57004	314.66	-17.83
99/ 1/30	2451208.5	13.32080	-13.45809	-6.08484	5.00164	3.92725	1.65010	19.88942	6.56981	314.71	-17.81
99/ 2/ 3	2451212.5	13.33235	-13.44901	-6.08102	4.99807	3.93074	1.65168	19.88985	6.56959	314.75	-17.80
99/ 2/ 7	2451216.5	13.34389	-13.43993	-6.07720	4.99450	3.93423	1.65326	19.89028	6.56936	314.79	-17.79
99/ 2/11	2451220.5	13.35542	-13.43083	-6.07338	4.99093	3.93772	1.65484	19.89072	6.56914	314.84	-17.78
99/ 2/15	2451224.5	13.36695	-13.42173	-6.06956	4.98736	3.94121	1.65642	19.89115	6.56891	314.88	-17.77
99/ 2/19	2451228.5	13.37847	-13.41262	-6.06573	4.98378	3.94468	1.65800	19.89158	6.56868	314.93	-17.75
99/ 2/23	2451232.5	13.38998	-13.40351	-6.06190	4.98020	3.94816	1.65957	19.89201	6.56845	314.97	-17.74
99/ 2/27	2451236.5	13.40148	-13.39438	-6.05806	4.97662	3.95163	1.66115	19.89244	6.56822	315.02	-17.73
99/ 3/ 3	2451240.5	13.41297	-13.38525	-6.05422	4.97304	3.95509	1.66272	19.89287	6.56799	315.06	-17.72
99/ 3/ 7	2451244.5	13.42446	-13.37611	-6.05038	4.96946	3.95856	1.66428	19.89330	6.56777	315.10	-17.71
99/ 3/11	2451248.5	13.43593	-13.36696	-6.04653	4.96588	3.96202	1.66585	19.89373	6.56754	315.15	-17.69
99/ 3/15	2451252.5	13.44740	-13.35780	-6.04268	4.96230	3.96548	1.66742	19.89416	6.56732	315.19	-17.68
99/ 3/19	2451256.5	13.45886	-13.34864	-6.03883	4.95872	3.96893	1.66899	19.89458	6.56710	315.24	-17.67
99/ 3/23	2451260.5	13.47031	-13.33946	-6.03497	4.95513	3.97239	1.67055	19.89501	6.56688	315.28	-17.66
99/ 3/27	2451264.5	13.48175	-13.33028	-6.03111	4.95155	3.97584	1.67211	19.89544	6.56666	315.32	-17.65
99/ 3/31	2451268.5	13.49319	-13.32109	-6.02725	4.94796	3.97929	1.67368	19.89586	6.56645	315.37	-17.63
99/ 4/ 4	2451272.5	13.50462	-13.31190	-6.02338	4.94437	3.98273	1.67524	19.89629	6.56623	315.41	-17.62
99/ 4/ 8	2451276.5	13.51603	-13.30269	-6.01951	4.94077	3.98618	1.67680	19.89671	6.56601	315.46	-17.61

1.7 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
99/ 4/12	2451280.5	13.52744	-13.29348	-6.01563	4.93718	3.98962	1.67836	19.89714	6.56580	315.50	-17.60
99/ 4/16	2451284.5	13.53884	-13.28426	-6.01175	4.93358	3.99306	1.67992	19.89756	6.56558	315.54	-17.59
99/ 4/20	2451288.5	13.55024	-13.27503	-6.00787	4.92998	3.99650	1.68148	19.89799	6.56537	315.59	-17.57
99/ 4/24	2451292.5	13.56162	-13.26579	-6.00398	4.92638	3.99993	1.68303	19.89841	6.56516	315.63	-17.56
99/ 4/28	2451296.5	13.57300	-13.25655	-6.00009	4.92278	4.00337	1.68459	19.89883	6.56495	315.68	-17.55
99/ 5/ 2	2451300.5	13.58437	-13.24730	-5.99620	4.91917	4.00680	1.68615	19.89925	6.56474	315.72	-17.54
99/ 5/ 6	2451304.5	13.59573	-13.23804	-5.99230	4.91556	4.01023	1.68770	19.89968	6.56453	315.76	-17.53
99/ 5/10	2451308.5	13.60708	-13.22877	-5.98840	4.91195	4.01366	1.68925	19.90010	6.56432	315.81	-17.51
99/ 5/14	2451312.5	13.61842	-13.21949	-5.98450	4.90833	4.01708	1.69081	19.90052	6.56411	315.85	-17.50
99/ 5/18	2451316.5	13.62976	-13.21021	-5.98059	4.90472	4.02050	1.69236	19.90094	6.56390	315.90	-17.49
99/ 5/22	2451320.5	13.64108	-13.20092	-5.97668	4.90110	4.02392	1.69391	19.90136	6.56369	315.94	-17.48
99/ 5/26	2451324.5	13.65240	-13.19162	-5.97276	4.89747	4.02734	1.69546	19.90178	6.56348	315.98	-17.46
99/ 5/30	2451328.5	13.66371	-13.18231	-5.96884	4.89385	4.03075	1.69701	19.90220	6.56327	316.03	-17.45
99/ 6/ 3	2451332.5	13.67501	-13.17299	-5.96492	4.89022	4.03416	1.69855	19.90261	6.56306	316.07	-17.44
99/ 6/ 7	2451336.5	13.68631	-13.16367	-5.96100	4.88659	4.03757	1.70010	19.90303	6.56286	316.12	-17.43
99/ 6/11	2451340.5	13.69759	-13.15434	-5.95707	4.88296	4.04098	1.70164	19.90345	6.56265	316.16	-17.42
99/ 6/15	2451344.5	13.70887	-13.14500	-5.95313	4.87932	4.04439	1.70319	19.90386	6.56245	316.20	-17.40
99/ 6/19	2451348.5	13.72014	-13.13565	-5.94920	4.87568	4.04780	1.70473	19.90428	6.56224	316.25	-17.39
99/ 6/23	2451352.5	13.73140	-13.12630	-5.94526	4.87204	4.05120	1.70628	19.90470	6.56204	316.29	-17.38
99/ 6/27	2451356.5	13.74265	-13.11693	-5.94131	4.86839	4.05460	1.70782	19.90511	6.56184	316.33	-17.37
99/ 7/ 1	2451360.5	13.75389	-13.10756	-5.93737	4.86474	4.05800	1.70936	19.90553	6.56163	316.38	-17.35
99/ 7/ 5	2451364.5	13.76512	-13.09818	-5.93342	4.86108	4.06140	1.71090	19.90594	6.56142	316.42	-17.34
99/ 7/ 9	2451368.5	13.77635	-13.08880	-5.92946	4.85742	4.06479	1.71244	19.90635	6.56122	316.47	-17.33
99/ 7/13	2451372.5	13.78757	-13.07940	-5.92550	4.85376	4.06818	1.71398	19.90677	6.56101	316.51	-17.32
99/ 7/17	2451376.5	13.79878	-13.07000	-5.92154	4.85009	4.07157	1.71552	19.90718	6.56080	316.55	-17.30
99/ 7/21	2451380.5	13.80998	-13.06059	-5.91758	4.84642	4.07495	1.71706	19.90759	6.56059	316.60	-17.29
99/ 7/25	2451384.5	13.82117	-13.05117	-5.91361	4.84274	4.07834	1.71859	19.90800	6.56037	316.64	-17.28
99/ 7/29	2451388.5	13.83235	-13.04175	-5.90964	4.83906	4.08171	1.72012	19.90841	6.56016	316.69	-17.27
99/ 8/ 2	2451392.5	13.84353	-13.03231	-5.90566	4.83537	4.08509	1.72166	19.90882	6.55994	316.73	-17.26
99/ 8/ 6	2451396.5	13.85469	-13.02287	-5.90168	4.83168	4.08845	1.72319	19.90923	6.55972	316.77	-17.24
99/ 8/10	2451400.5	13.86585	-13.01342	-5.89770	4.82799	4.09182	1.72471	19.90964	6.55950	316.82	-17.23
99/ 8/14	2451404.5	13.87700	-13.00397	-5.89371	4.82429	4.09518	1.72624	19.91005	6.55928	316.86	-17.22
99/ 8/18	2451408.5	13.88814	-12.99450	-5.88972	4.82059	4.09853	1.72776	19.91046	6.55906	316.90	-17.21
99/ 8/22	2451412.5	13.89927	-12.98503	-5.88573	4.81688	4.10188	1.72929	19.91087	6.55883	316.95	-17.19
99/ 8/26	2451416.5	13.91040	-12.97555	-5.88173	4.81318	4.10523	1.73080	19.91127	6.55860	316.99	-17.18
99/ 8/30	2451420.5	13.92151	-12.96606	-5.87773	4.80947	4.10857	1.73232	19.91168	6.55837	317.04	-17.17
99/ 9/ 3	2451424.5	13.93262	-12.95657	-5.87373	4.80576	4.11191	1.73384	19.91209	6.55815	317.08	-17.16
99/ 9/ 7	2451428.5	13.94371	-12.94706	-5.86972	4.80205	4.11524	1.73535	19.91249	6.55792	317.12	-17.14
99/ 9/11	2451432.5	13.95480	-12.93755	-5.86571	4.79833	4.11857	1.73686	19.91290	6.55769	317.17	-17.13
99/ 9/15	2451436.5	13.96588	-12.92803	-5.86170	4.79462	4.12189	1.73838	19.91330	6.55746	317.21	-17.12
99/ 9/19	2451440.5	13.97696	-12.91851	-5.85768	4.79090	4.12522	1.73989	19.91370	6.55723	317.25	-17.11
99/ 9/23	2451444.5	13.98802	-12.90897	-5.85366	4.78717	4.12853	1.74139	19.91411	6.55700	317.30	-17.09
99/ 9/27	2451448.5	13.99907	-12.89943	-5.84963	4.78345	4.13185	1.74290	19.91451	6.55677	317.34	-17.08
99/10/ 1	2451452.5	14.01012	-12.88988	-5.84561	4.77972	4.13516	1.74440	19.91491	6.55654	317.38	-17.07
99/10/ 5	2451456.5	14.02116	-12.88033	-5.84157	4.77599	4.13846	1.74591	19.91531	6.55631	317.43	-17.06

1.7 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM URANUS

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
99/10/ 9	2451460.5	14.03219	-12.87076	-5.83754	4.77226	4.14176	1.74741	19.91571	6.55607	317.47	-17.04
99/10/13	2451464.5	14.04321	-12.86119	-5.83350	4.76853	4.14506	1.74891	19.91612	6.55584	317.52	-17.03
99/10/17	2451468.5	14.05422	-12.85161	-5.82946	4.76479	4.14835	1.75040	19.91652	6.55561	317.56	-17.02
99/10/21	2451472.5	14.06522	-12.84202	-5.82541	4.76106	4.15164	1.75190	19.91692	6.55537	317.60	-17.01
99/10/25	2451476.5	14.07622	-12.83243	-5.82136	4.75732	4.15493	1.75339	19.91732	6.55514	317.65	-16.99
99/10/29	2451480.5	14.08720	-12.82283	-5.81731	4.75358	4.15821	1.75488	19.91771	6.55491	317.69	-16.98
99/11/ 2	2451484.5	14.09818	-12.81322	-5.81326	4.74984	4.16148	1.75637	19.91811	6.55467	317.73	-16.97
99/11/ 6	2451488.5	14.10915	-12.80360	-5.80920	4.74610	4.16476	1.75786	19.91851	6.55444	317.78	-16.96
99/11/10	2451492.5	14.12011	-12.79397	-5.80513	4.74235	4.16802	1.75935	19.91891	6.55421	317.82	-16.94
99/11/14	2451496.5	14.13106	-12.78434	-5.80107	4.73861	4.17129	1.76083	19.91930	6.55397	317.86	-16.93
99/11/18	2451500.5	14.14200	-12.77470	-5.79700	4.73486	4.17455	1.76231	19.91970	6.55374	317.91	-16.92
99/11/22	2451504.5	14.15294	-12.76505	-5.79293	4.73112	4.17780	1.76379	19.92010	6.55351	317.95	-16.91
99/11/26	2451508.5	14.16386	-12.75540	-5.78885	4.72737	4.18106	1.76527	19.92049	6.55328	318.00	-16.89
99/11/30	2451512.5	14.17478	-12.74574	-5.78477	4.72363	4.18431	1.76675	19.92089	6.55305	318.04	-16.88
99/12/ 4	2451516.5	14.18569	-12.73607	-5.78069	4.71988	4.18756	1.76823	19.92128	6.55283	318.08	-16.87
99/12/ 8	2451520.5	14.19659	-12.72639	-5.77660	4.71614	4.19081	1.76971	19.92168	6.55261	318.13	-16.86
99/12/12	2451524.5	14.20748	-12.71670	-5.77251	4.71239	4.19405	1.77118	19.92207	6.55239	318.17	-16.84
99/12/16	2451528.5	14.21836	-12.70701	-5.76842	4.70864	4.19730	1.77266	19.92246	6.55217	318.21	-16.83
99/12/20	2451532.5	14.22923	-12.69731	-5.76432	4.70489	4.20054	1.77413	19.92285	6.55195	318.26	-16.82
99/12/24	2451536.5	14.24010	-12.68760	-5.76022	4.70114	4.20378	1.77560	19.92325	6.55174	318.30	-16.81

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
64/12/31	2438760.5	-20.41023	-20.92679	-8.05865	3.97558	-3.31202	-1.45669	30.32243	5.37556	225.72	-15.41
65/ 1/ 4	2438764.5	-20.40104	-20.93444	-8.06202	3.97703	-3.31054	-1.45612	30.32242	5.37557	225.74	-15.42
65/ 1/ 8	2438768.5	-20.39185	-20.94208	-8.06538	3.97848	-3.30906	-1.45555	30.32241	5.37557	225.76	-15.43
65/ 1/12	2438772.5	-20.38266	-20.94972	-8.06874	3.97993	-3.30757	-1.45498	30.32241	5.37558	225.79	-15.43
65/ 1/16	2438776.5	-20.37346	-20.95736	-8.07210	3.98138	-3.30609	-1.45441	30.32240	5.37559	225.81	-15.44
65/ 1/20	2438780.5	-20.36426	-20.96500	-8.07546	3.98283	-3.30461	-1.45384	30.32239	5.37559	225.83	-15.45
65/ 1/24	2438784.5	-20.35506	-20.97263	-8.07882	3.98428	-3.30312	-1.45327	30.32239	5.37560	225.86	-15.45
65/ 1/28	2438788.5	-20.34585	-20.98026	-8.08218	3.98573	-3.30164	-1.45270	30.32238	5.37561	225.88	-15.46
65/ 2/ 1	2438792.5	-20.33665	-20.98789	-8.08553	3.98718	-3.30015	-1.45213	30.32237	5.37562	225.90	-15.47
65/ 2/ 5	2438796.5	-20.32743	-20.99551	-8.08889	3.98863	-3.29866	-1.45155	30.32237	5.37563	225.93	-15.47
65/ 2/ 9	2438800.5	-20.31822	-21.00313	-8.09224	3.99008	-3.29718	-1.45098	30.32236	5.37564	225.95	-15.48
65/ 2/13	2438804.5	-20.30900	-21.01074	-8.09559	3.99153	-3.29569	-1.45041	30.32236	5.37565	225.97	-15.48
65/ 2/17	2438808.5	-20.29977	-21.01836	-8.09894	3.99298	-3.29421	-1.44984	30.32235	5.37566	226.00	-15.49
65/ 2/21	2438812.5	-20.29055	-21.02596	-8.10229	3.99443	-3.29272	-1.44927	30.32235	5.37567	226.02	-15.50
65/ 2/25	2438816.5	-20.28132	-21.03357	-8.10564	3.99588	-3.29123	-1.44870	30.32234	5.37568	226.04	-15.50
65/ 3/ 1	2438820.5	-20.27209	-21.04117	-8.10898	3.99733	-3.28974	-1.44813	30.32233	5.37569	226.07	-15.51
65/ 3/ 5	2438824.5	-20.26285	-21.04877	-8.11233	3.99877	-3.28825	-1.44755	30.32233	5.37571	226.09	-15.52
65/ 3/ 9	2438828.5	-20.25361	-21.05636	-8.11567	4.00022	-3.28677	-1.44698	30.32232	5.37572	226.11	-15.52
65/ 3/13	2438832.5	-20.24437	-21.06396	-8.11901	4.00167	-3.28528	-1.44641	30.32232	5.37573	226.14	-15.53
65/ 3/17	2438836.5	-20.23512	-21.07154	-8.12235	4.00312	-3.28379	-1.44584	30.32231	5.37575	226.16	-15.54
65/ 3/21	2438840.5	-20.22587	-21.07913	-8.12569	4.00456	-3.28230	-1.44526	30.32231	5.37576	226.18	-15.54
65/ 3/25	2438844.5	-20.21662	-21.08671	-8.12903	4.00601	-3.28081	-1.44469	30.32230	5.37577	226.21	-15.55
65/ 3/29	2438848.5	-20.20736	-21.09429	-8.13237	4.00746	-3.27932	-1.44412	30.32230	5.37579	226.23	-15.56
65/ 4/ 2	2438852.5	-20.19810	-21.10186	-8.13570	4.00890	-3.27783	-1.44354	30.32229	5.37580	226.25	-15.56
65/ 4/ 6	2438856.5	-20.18884	-21.10943	-8.13904	4.01035	-3.27634	-1.44297	30.32229	5.37582	226.28	-15.57
65/ 4/10	2438860.5	-20.17957	-21.11700	-8.14237	4.01179	-3.27484	-1.44240	30.32229	5.37584	226.30	-15.58
65/ 4/14	2438864.5	-20.17030	-21.12456	-8.14570	4.01324	-3.27335	-1.44182	30.32228	5.37585	226.32	-15.58
65/ 4/18	2438868.5	-20.16103	-21.13212	-8.14903	4.01468	-3.27186	-1.44125	30.32228	5.37587	226.35	-15.59
65/ 4/22	2438872.5	-20.15175	-21.13968	-8.15236	4.01613	-3.27037	-1.44068	30.32227	5.37589	226.37	-15.60
65/ 4/26	2438876.5	-20.14248	-21.14723	-8.15569	4.01757	-3.26887	-1.44010	30.32227	5.37590	226.39	-15.60
65/ 4/30	2438880.5	-20.13319	-21.15478	-8.15902	4.01902	-3.26738	-1.43953	30.32226	5.37592	226.42	-15.61
65/ 5/ 4	2438884.5	-20.12391	-21.16233	-8.16234	4.02046	-3.26589	-1.43895	30.32226	5.37594	226.44	-15.62
65/ 5/ 8	2438888.5	-20.11462	-21.16987	-8.16566	4.02191	-3.26439	-1.43838	30.32226	5.37596	226.46	-15.62
65/ 5/12	2438892.5	-20.10532	-21.17741	-8.16899	4.02335	-3.26290	-1.43780	30.32225	5.37598	226.49	-15.63
65/ 5/16	2438896.5	-20.09603	-21.18495	-8.17231	4.02479	-3.26140	-1.43723	30.32225	5.37600	226.51	-15.64
65/ 5/20	2438900.5	-20.08673	-21.19248	-8.17563	4.02624	-3.25991	-1.43665	30.32225	5.37602	226.53	-15.64
65/ 5/24	2438904.5	-20.07742	-21.20001	-8.17894	4.02768	-3.25841	-1.43608	30.32224	5.37604	226.56	-15.65
65/ 5/28	2438908.5	-20.06812	-21.20753	-8.18226	4.02912	-3.25691	-1.43550	30.32224	5.37606	226.58	-15.65
65/ 6/ 1	2438912.5	-20.05881	-21.21506	-8.18558	4.03057	-3.25542	-1.43493	30.32224	5.37608	226.60	-15.66
65/ 6/ 5	2438916.5	-20.04950	-21.22258	-8.18889	4.03201	-3.25392	-1.43435	30.32224	5.37610	226.63	-15.67
65/ 6/ 9	2438920.5	-20.04018	-21.23009	-8.19220	4.03345	-3.25242	-1.43378	30.32223	5.37612	226.65	-15.67
65/ 6/13	2438924.5	-20.03086	-21.23760	-8.19552	4.03489	-3.25092	-1.43320	30.32223	5.37614	226.67	-15.68
65/ 6/17	2438928.5	-20.02154	-21.24511	-8.19883	4.03633	-3.24943	-1.43262	30.32223	5.37617	226.70	-15.69
65/ 6/21	2438932.5	-20.01221	-21.25262	-8.20214	4.03778	-3.24793	-1.43205	30.32222	5.37619	226.72	-15.69
65/ 6/25	2438936.5	-20.00288	-21.26012	-8.20544	4.03922	-3.24643	-1.43147	30.32222	5.37621	226.75	-15.70

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
65/ 6/29	2438940.5	-19.99355	-21.26762	-8.20875	4.04066	-3.24493	-1.43089	30.32222	5.37624	226.77	-15.71
65/ 7/ 3	2438944.5	-19.98421	-21.27511	-8.21205	4.04210	-3.24343	-1.43032	30.32222	5.37626	226.79	-15.71
65/ 7/ 7	2438948.5	-19.97487	-21.28260	-8.21536	4.04354	-3.24193	-1.42974	30.32222	5.37629	226.82	-15.72
65/ 7/11	2438952.5	-19.96553	-21.29009	-8.21866	4.04498	-3.24042	-1.42916	30.32221	5.37631	226.84	-15.73
65/ 7/15	2438956.5	-19.95618	-21.29757	-8.22196	4.04642	-3.23892	-1.42858	30.32221	5.37634	226.86	-15.73
65/ 7/19	2438960.5	-19.94683	-21.30505	-8.22526	4.04786	-3.23742	-1.42800	30.32221	5.37636	226.89	-15.74
65/ 7/23	2438964.5	-19.93748	-21.31253	-8.22856	4.04930	-3.23592	-1.42743	30.32221	5.37639	226.91	-15.75
65/ 7/27	2438968.5	-19.92812	-21.32001	-8.23186	4.05074	-3.23442	-1.42685	30.32221	5.37641	226.93	-15.75
65/ 7/31	2438972.5	-19.91876	-21.32748	-8.23515	4.05218	-3.23291	-1.42627	30.32220	5.37644	226.96	-15.76
65/ 8/ 4	2438976.5	-19.90940	-21.33494	-8.23845	4.05362	-3.23141	-1.42569	30.32220	5.37647	226.98	-15.77
65/ 8/ 8	2438980.5	-19.90003	-21.34241	-8.24174	4.05505	-3.22990	-1.42511	30.32220	5.37649	227.00	-15.77
65/ 8/12	2438984.5	-19.89067	-21.34987	-8.24503	4.05649	-3.22840	-1.42453	30.32220	5.37652	227.03	-15.78
65/ 8/16	2438988.5	-19.88129	-21.35732	-8.24832	4.05793	-3.22689	-1.42395	30.32220	5.37655	227.05	-15.78
65/ 8/20	2438992.5	-19.87192	-21.36478	-8.25161	4.05937	-3.22539	-1.42338	30.32220	5.37658	227.07	-15.79
65/ 8/24	2438996.5	-19.86254	-21.37223	-8.25490	4.06081	-3.22388	-1.42280	30.32220	5.37661	227.10	-15.80
65/ 8/28	2439000.5	-19.85315	-21.37967	-8.25818	4.06224	-3.22238	-1.42222	30.32220	5.37664	227.12	-15.80
65/ 9/ 1	2439004.5	-19.84377	-21.38711	-8.26147	4.06368	-3.22087	-1.42164	30.32220	5.37667	227.14	-15.81
65/ 9/ 5	2439008.5	-19.83438	-21.39455	-8.26475	4.06512	-3.21936	-1.42106	30.32220	5.37670	227.17	-15.82
65/ 9/ 9	2439012.5	-19.82499	-21.40199	-8.26803	4.06655	-3.21785	-1.42048	30.32220	5.37673	227.19	-15.82
65/ 9/13	2439016.5	-19.81559	-21.40942	-8.27131	4.06799	-3.21634	-1.41989	30.32219	5.37676	227.21	-15.83
65/ 9/17	2439020.5	-19.80619	-21.41685	-8.27459	4.06943	-3.21483	-1.41931	30.32219	5.37679	227.24	-15.84
65/ 9/21	2439024.5	-19.79679	-21.42427	-8.27787	4.07086	-3.21333	-1.41873	30.32219	5.37682	227.26	-15.84
65/ 9/25	2439028.5	-19.78738	-21.43170	-8.28115	4.07230	-3.21182	-1.41815	30.32219	5.37685	227.28	-15.85
65/ 9/29	2439032.5	-19.77797	-21.43911	-8.28443	4.07373	-3.21030	-1.41757	30.32219	5.37688	227.31	-15.86
65/10/ 3	2439036.5	-19.76856	-21.44653	-8.28770	4.07517	-3.20879	-1.41699	30.32219	5.37691	227.33	-15.86
65/10/ 7	2439040.5	-19.75914	-21.45394	-8.29097	4.07660	-3.20728	-1.41641	30.32219	5.37695	227.35	-15.87
65/10/11	2439044.5	-19.74972	-21.46135	-8.29424	4.07804	-3.20577	-1.41582	30.32219	5.37698	227.38	-15.87
65/10/15	2439048.5	-19.74030	-21.46875	-8.29751	4.07947	-3.20426	-1.41524	30.32219	5.37701	227.40	-15.88
65/10/19	2439052.5	-19.73088	-21.47615	-8.30078	4.08091	-3.20274	-1.41466	30.32220	5.37705	227.43	-15.89
65/10/23	2439056.5	-19.72145	-21.48355	-8.30405	4.08234	-3.20123	-1.41408	30.32220	5.37708	227.45	-15.89
65/10/27	2439060.5	-19.71201	-21.49094	-8.30732	4.08377	-3.19972	-1.41349	30.32220	5.37711	227.47	-15.90
65/10/31	2439064.5	-19.70258	-21.49833	-8.31058	4.08521	-3.19820	-1.41291	30.32220	5.37715	227.50	-15.91
65/11/ 4	2439068.5	-19.69314	-21.50572	-8.31384	4.08664	-3.19669	-1.41233	30.32220	5.37718	227.52	-15.91
65/11/ 8	2439072.5	-19.68370	-21.51310	-8.31711	4.08807	-3.19517	-1.41174	30.32220	5.37722	227.54	-15.92
65/11/12	2439076.5	-19.67425	-21.52048	-8.32037	4.08951	-3.19366	-1.41116	30.32220	5.37725	227.57	-15.93
65/11/16	2439080.5	-19.66480	-21.52786	-8.32363	4.09094	-3.19214	-1.41058	30.32220	5.37729	227.59	-15.93
65/11/20	2439084.5	-19.65535	-21.53523	-8.32688	4.09237	-3.19062	-1.40999	30.32220	5.37733	227.61	-15.94
65/11/24	2439088.5	-19.64589	-21.54260	-8.33014	4.09380	-3.18910	-1.40941	30.32220	5.37736	227.64	-15.95
65/11/28	2439092.5	-19.63643	-21.54997	-8.33340	4.09523	-3.18759	-1.40882	30.32220	5.37740	227.66	-15.95
65/12/ 2	2439096.5	-19.62697	-21.55733	-8.33665	4.09667	-3.18607	-1.40824	30.32221	5.37744	227.68	-15.96
65/12/ 6	2439100.5	-19.61751	-21.56469	-8.33990	4.09810	-3.18455	-1.40765	30.32221	5.37747	227.71	-15.96
65/12/10	2439104.5	-19.60804	-21.57204	-8.34315	4.09953	-3.18303	-1.40707	30.32221	5.37751	227.73	-15.97
65/12/14	2439108.5	-19.59856	-21.57939	-8.34640	4.10096	-3.18151	-1.40648	30.32221	5.37755	227.75	-15.98
65/12/18	2439112.5	-19.58909	-21.58674	-8.34965	4.10239	-3.17999	-1.40590	30.32221	5.37759	227.78	-15.98
65/12/22	2439116.5	-19.57961	-21.59409	-8.35290	4.10382	-3.17846	-1.40531	30.32221	5.37763	227.80	-15.99

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
65/12/26	2439120.5	-19.57013	-21.60143	-8.35615	4.10525	-3.17694	-1.40472	30.32221	5.37767	227.82	-16.00
65/12/30	2439124.5	-19.56064	-21.60876	-8.35939	4.10668	-3.17542	-1.40414	30.32222	5.37771	227.85	-16.00
66/ 1/ 3	2439128.5	-19.55115	-21.61610	-8.36263	4.10811	-3.17390	-1.40355	30.32222	5.37774	227.87	-16.01
66/ 1/ 7	2439132.5	-19.54166	-21.62343	-8.36587	4.10954	-3.17237	-1.40296	30.32222	5.37778	227.90	-16.02
66/ 1/11	2439136.5	-19.53217	-21.63076	-8.36912	4.11097	-3.17085	-1.40238	30.32222	5.37782	227.92	-16.02
66/ 1/15	2439140.5	-19.52267	-21.63808	-8.37235	4.11240	-3.16932	-1.40179	30.32222	5.37786	227.94	-16.03
66/ 1/19	2439144.5	-19.51316	-21.64540	-8.37559	4.11382	-3.16780	-1.40120	30.32223	5.37791	227.97	-16.03
66/ 1/23	2439148.5	-19.50366	-21.65272	-8.37883	4.11525	-3.16627	-1.40061	30.32223	5.37795	227.99	-16.04
66/ 1/27	2439152.5	-19.49415	-21.66003	-8.38206	4.11668	-3.16475	-1.40003	30.32223	5.37799	228.01	-16.05
66/ 1/31	2439156.5	-19.48464	-21.66734	-8.38530	4.11811	-3.16322	-1.39944	30.32223	5.37803	228.04	-16.05
66/ 2/ 4	2439160.5	-19.47512	-21.67464	-8.38853	4.11954	-3.16169	-1.39885	30.32224	5.37807	228.06	-16.06
66/ 2/ 8	2439164.5	-19.46561	-21.68195	-8.39176	4.12096	-3.16016	-1.39826	30.32224	5.37811	228.08	-16.07
66/ 2/12	2439168.5	-19.45608	-21.68925	-8.39499	4.12239	-3.15864	-1.39767	30.32224	5.37816	228.11	-16.07
66/ 2/16	2439172.5	-19.44656	-21.69654	-8.39822	4.12382	-3.15711	-1.39708	30.32225	5.37820	228.13	-16.08
66/ 2/20	2439176.5	-19.43703	-21.70383	-8.40144	4.12524	-3.15558	-1.39649	30.32225	5.37824	228.15	-16.09
66/ 2/24	2439180.5	-19.42750	-21.71112	-8.40467	4.12667	-3.15405	-1.39590	30.32225	5.37828	228.18	-16.09
66/ 2/28	2439184.5	-19.41796	-21.71841	-8.40789	4.12809	-3.15252	-1.39531	30.32225	5.37833	228.20	-16.10
66/ 3/ 4	2439188.5	-19.40843	-21.72569	-8.41112	4.12952	-3.15098	-1.39472	30.32226	5.37837	228.22	-16.10
66/ 3/ 8	2439192.5	-19.39888	-21.73296	-8.41434	4.13094	-3.14945	-1.39413	30.32226	5.37842	228.25	-16.11
66/ 3/12	2439196.5	-19.38934	-21.74024	-8.41756	4.13237	-3.14792	-1.39354	30.32226	5.37846	228.27	-16.12
66/ 3/16	2439200.5	-19.37979	-21.74751	-8.42078	4.13379	-3.14639	-1.39295	30.32227	5.37850	228.29	-16.12
66/ 3/20	2439204.5	-19.37024	-21.75478	-8.42399	4.13522	-3.14485	-1.39236	30.32227	5.37855	228.32	-16.13
66/ 3/24	2439208.5	-19.36068	-21.76204	-8.42721	4.13664	-3.14332	-1.39177	30.32227	5.37859	228.34	-16.14
66/ 3/28	2439212.5	-19.35113	-21.76930	-8.43042	4.13807	-3.14178	-1.39117	30.32228	5.37864	228.37	-16.14
66/ 4/ 1	2439216.5	-19.34156	-21.77655	-8.43364	4.13949	-3.14025	-1.39058	30.32228	5.37868	228.39	-16.15
66/ 4/ 5	2439220.5	-19.33200	-21.78381	-8.43685	4.14091	-3.13871	-1.38999	30.32228	5.37873	228.41	-16.16
66/ 4/ 9	2439224.5	-19.32243	-21.79106	-8.44006	4.14234	-3.13717	-1.38940	30.32229	5.37878	228.44	-16.16
66/ 4/13	2439228.5	-19.31286	-21.79830	-8.44327	4.14376	-3.13564	-1.38880	30.32229	5.37882	228.46	-16.17
66/ 4/17	2439232.5	-19.30329	-21.80554	-8.44648	4.14518	-3.13410	-1.38821	30.32230	5.37887	228.48	-16.17
66/ 4/21	2439236.5	-19.29371	-21.81278	-8.44968	4.14660	-3.13256	-1.38762	30.32230	5.37892	228.51	-16.18
66/ 4/25	2439240.5	-19.28413	-21.82002	-8.45289	4.14803	-3.13102	-1.38702	30.32230	5.37896	228.53	-16.19
66/ 4/29	2439244.5	-19.27454	-21.82725	-8.45609	4.14945	-3.12948	-1.38643	30.32231	5.37901	228.55	-16.19
66/ 5/ 3	2439248.5	-19.26496	-21.83448	-8.45929	4.15087	-3.12794	-1.38584	30.32231	5.37906	228.58	-16.20
66/ 5/ 7	2439252.5	-19.25537	-21.84170	-8.46249	4.15229	-3.12640	-1.38524	30.32232	5.37910	228.60	-16.21
66/ 5/11	2439256.5	-19.24577	-21.84892	-8.46569	4.15371	-3.12486	-1.38465	30.32232	5.37915	228.62	-16.21
66/ 5/15	2439260.5	-19.23617	-21.85614	-8.46889	4.15513	-3.12331	-1.38405	30.32232	5.37920	228.65	-16.22
66/ 5/19	2439264.5	-19.22657	-21.86335	-8.47209	4.15655	-3.12177	-1.38346	30.32233	5.37925	228.67	-16.22
66/ 5/23	2439268.5	-19.21697	-21.87056	-8.47528	4.15797	-3.12023	-1.38286	30.32233	5.37930	228.70	-16.23
66/ 5/27	2439272.5	-19.20736	-21.87777	-8.47848	4.15939	-3.11868	-1.38227	30.32234	5.37935	228.72	-16.24
66/ 5/31	2439276.5	-19.19775	-21.88497	-8.48167	4.16081	-3.11714	-1.38167	30.32234	5.37940	228.74	-16.24
66/ 6/ 4	2439280.5	-19.18814	-21.89217	-8.48486	4.16223	-3.11559	-1.38107	30.32235	5.37945	228.77	-16.25
66/ 6/ 8	2439284.5	-19.17852	-21.89937	-8.48805	4.16365	-3.11405	-1.38048	30.32235	5.37949	228.79	-16.26
66/ 6/12	2439288.5	-19.16890	-21.90656	-8.49124	4.16507	-3.11250	-1.37988	30.32236	5.37954	228.81	-16.26
66/ 6/16	2439292.5	-19.15928	-21.91375	-8.49443	4.16648	-3.11095	-1.37928	30.32236	5.37959	228.84	-16.27
66/ 6/20	2439296.5	-19.14965	-21.92093	-8.49761	4.16790	-3.10940	-1.37869	30.32236	5.37964	228.86	-16.27

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
66/ 6/24	2439300.5	-19.14002	-21.92811	-8.50080	4.16932	-3.10786	-1.37809	30.32237	5.37969	228.88	-16.28
66/ 6/28	2439304.5	-19.13039	-21.93529	-8.50398	4.17074	-3.10631	-1.37749	30.32237	5.37975	228.91	-16.29
66/ 7/ 2	2439308.5	-19.12075	-21.94247	-8.50716	4.17215	-3.10476	-1.37689	30.32238	5.37980	228.93	-16.29
66/ 7/ 6	2439312.5	-19.11111	-21.94964	-8.51034	4.17357	-3.10321	-1.37629	30.32238	5.37985	228.95	-16.30
66/ 7/10	2439316.5	-19.10147	-21.95680	-8.51352	4.17499	-3.10165	-1.37570	30.32239	5.37990	228.98	-16.31
66/ 7/14	2439320.5	-19.09182	-21.96397	-8.51670	4.17640	-3.10010	-1.37510	30.32239	5.37995	229.00	-16.31
66/ 7/18	2439324.5	-19.08217	-21.97113	-8.51987	4.17782	-3.09855	-1.37450	30.32240	5.38000	229.03	-16.32
66/ 7/22	2439328.5	-19.07252	-21.97829	-8.52305	4.17923	-3.09700	-1.37390	30.32240	5.38005	229.05	-16.32
66/ 7/26	2439332.5	-19.06286	-21.98544	-8.52622	4.18065	-3.09544	-1.37330	30.32241	5.38011	229.07	-16.33
66/ 7/30	2439336.5	-19.05320	-21.99259	-8.52939	4.18206	-3.09389	-1.37270	30.32242	5.38016	229.10	-16.34
66/ 8/ 3	2439340.5	-19.04354	-21.99973	-8.53256	4.18348	-3.09233	-1.37210	30.32242	5.38021	229.12	-16.34
66/ 8/ 7	2439344.5	-19.03387	-22.00687	-8.53573	4.18489	-3.09078	-1.37150	30.32243	5.38026	229.14	-16.35
66/ 8/11	2439348.5	-19.02420	-22.01401	-8.53890	4.18630	-3.08922	-1.37090	30.32243	5.38032	229.17	-16.36
66/ 8/15	2439352.5	-19.01453	-22.02115	-8.54207	4.18772	-3.08766	-1.37030	30.32244	5.38037	229.19	-16.36
66/ 8/19	2439356.5	-19.00485	-22.02828	-8.54523	4.18913	-3.08611	-1.36969	30.32244	5.38042	229.21	-16.37
66/ 8/23	2439360.5	-18.99517	-22.03541	-8.54840	4.19054	-3.08455	-1.36909	30.32245	5.38047	229.24	-16.37
66/ 8/27	2439364.5	-18.98549	-22.04253	-8.55156	4.19196	-3.08299	-1.36849	30.32245	5.38053	229.26	-16.38
66/ 8/31	2439368.5	-18.97580	-22.04965	-8.55472	4.19337	-3.08143	-1.36789	30.32246	5.38058	229.28	-16.39
66/ 9/ 4	2439372.5	-18.96612	-22.05677	-8.55788	4.19478	-3.07987	-1.36729	30.32246	5.38064	229.31	-16.39
66/ 9/ 8	2439376.5	-18.95642	-22.06388	-8.56104	4.19619	-3.07831	-1.36668	30.32247	5.38069	229.33	-16.40
66/ 9/12	2439380.5	-18.94673	-22.07099	-8.56419	4.19760	-3.07675	-1.36608	30.32248	5.38074	229.36	-16.41
66/ 9/16	2439384.5	-18.93703	-22.07810	-8.56735	4.19901	-3.07518	-1.36548	30.32248	5.38080	229.38	-16.41
66/ 9/20	2439388.5	-18.92733	-22.08520	-8.57050	4.20042	-3.07362	-1.36487	30.32249	5.38085	229.40	-16.42
66/ 9/24	2439392.5	-18.91762	-22.09230	-8.57365	4.20183	-3.07206	-1.36427	30.32249	5.38091	229.43	-16.42
66/ 9/28	2439396.5	-18.90791	-22.09939	-8.57681	4.20324	-3.07049	-1.36366	30.32250	5.38096	229.45	-16.43
66/10/ 2	2439400.5	-18.89820	-22.10649	-8.57996	4.20465	-3.06893	-1.36306	30.32250	5.38102	229.47	-16.44
66/10/ 6	2439404.5	-18.88849	-22.11357	-8.58310	4.20606	-3.06736	-1.36245	30.32251	5.38107	229.50	-16.44
66/10/10	2439408.5	-18.87877	-22.12066	-8.58625	4.20747	-3.06579	-1.36185	30.32252	5.38113	229.52	-16.45
66/10/14	2439412.5	-18.86905	-22.12774	-8.58940	4.20888	-3.06423	-1.36124	30.32252	5.38118	229.54	-16.46
66/10/18	2439416.5	-18.85932	-22.13482	-8.59254	4.21029	-3.06266	-1.36064	30.32253	5.38124	229.57	-16.46
66/10/22	2439420.5	-18.84959	-22.14189	-8.59568	4.21169	-3.06109	-1.36003	30.32254	5.38129	229.59	-16.47
66/10/26	2439424.5	-18.83986	-22.14896	-8.59882	4.21310	-3.05952	-1.35943	30.32254	5.38135	229.62	-16.47
66/10/30	2439428.5	-18.83013	-22.15602	-8.60196	4.21451	-3.05795	-1.35882	30.32255	5.38141	229.64	-16.48
66/11/ 3	2439432.5	-18.82039	-22.16309	-8.60510	4.21592	-3.05638	-1.35821	30.32255	5.38146	229.66	-16.49
66/11/ 7	2439436.5	-18.81065	-22.17015	-8.60824	4.21732	-3.05481	-1.35760	30.32256	5.38152	229.69	-16.49
66/11/11	2439440.5	-18.80090	-22.17720	-8.61137	4.21873	-3.05324	-1.35700	30.32257	5.38158	229.71	-16.50
66/11/15	2439444.5	-18.79116	-22.18425	-8.61451	4.22013	-3.05167	-1.35639	30.32257	5.38163	229.73	-16.50
66/11/19	2439448.5	-18.78141	-22.19130	-8.61764	4.22154	-3.05009	-1.35578	30.32258	5.38169	229.76	-16.51
66/11/23	2439452.5	-18.77165	-22.19835	-8.62077	4.22294	-3.04852	-1.35517	30.32258	5.38175	229.78	-16.52
66/11/27	2439456.5	-18.76189	-22.20539	-8.62390	4.22435	-3.04694	-1.35456	30.32259	5.38180	229.80	-16.52
66/12/ 1	2439460.5	-18.75213	-22.21242	-8.62703	4.22575	-3.04537	-1.35396	30.32260	5.38186	229.83	-16.53
66/12/ 5	2439464.5	-18.74237	-22.21946	-8.63016	4.22715	-3.04379	-1.35335	30.32260	5.38192	229.85	-16.54
66/12/ 9	2439468.5	-18.73260	-22.22649	-8.63328	4.22856	-3.04222	-1.35274	30.32261	5.38198	229.88	-16.54
66/12/13	2439472.5	-18.72283	-22.23351	-8.63641	4.22996	-3.04064	-1.35213	30.32262	5.38203	229.90	-16.55
66/12/17	2439476.5	-18.71306	-22.24054	-8.63953	4.23136	-3.03906	-1.35152	30.32262	5.38209	229.92	-16.55

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66/12/21	2439480.5	-18.70328	-22.24756	-8.64265	4.23277	-3.03748	-1.35091	30.32263	5.38215	229.95	-16.56
66/12/25	2439484.5	-18.69350	-22.25457	-8.64577	4.23417	-3.03590	-1.35029	30.32264	5.38221	229.97	-16.57
66/12/29	2439488.5	-18.68372	-22.26158	-8.64889	4.23557	-3.03432	-1.34968	30.32264	5.38227	229.99	-16.57
67/ 1/ 2	2439492.5	-18.67393	-22.26859	-8.65201	4.23697	-3.03274	-1.34907	30.32265	5.38232	230.02	-16.58
67/ 1/ 6	2439496.5	-18.66414	-22.27559	-8.65512	4.23837	-3.03116	-1.34846	30.32266	5.38238	230.04	-16.58
67/ 1/10	2439500.5	-18.65435	-22.28259	-8.65824	4.23977	-3.02958	-1.34785	30.32266	5.38244	230.06	-16.59
67/ 1/14	2439504.5	-18.64455	-22.28959	-8.66135	4.24117	-3.02799	-1.34724	30.32267	5.38250	230.09	-16.60
67/ 1/18	2439508.5	-18.63475	-22.29659	-8.66446	4.24257	-3.02641	-1.34662	30.32268	5.38256	230.11	-16.60
67/ 1/22	2439512.5	-18.62495	-22.30358	-8.66757	4.24397	-3.02482	-1.34601	30.32268	5.38262	230.14	-16.61
67/ 1/26	2439516.5	-18.61514	-22.31056	-8.67068	4.24537	-3.02324	-1.34540	30.32269	5.38268	230.16	-16.62
67/ 1/30	2439520.5	-18.60534	-22.31754	-8.67379	4.24677	-3.02165	-1.34478	30.32270	5.38274	230.18	-16.62
67/ 2/ 3	2439524.5	-18.59552	-22.32452	-8.67690	4.24816	-3.02007	-1.34417	30.32270	5.38280	230.21	-16.63
67/ 2/ 7	2439528.5	-18.58571	-22.33150	-8.68000	4.24956	-3.01848	-1.34356	30.32271	5.38285	230.23	-16.63
67/ 2/11	2439532.5	-18.57589	-22.33847	-8.68310	4.25096	-3.01689	-1.34294	30.32272	5.38291	230.25	-16.64
67/ 2/15	2439536.5	-18.56607	-22.34544	-8.68621	4.25235	-3.01530	-1.34233	30.32272	5.38297	230.28	-16.65
67/ 2/19	2439540.5	-18.55624	-22.35240	-8.68931	4.25375	-3.01371	-1.34171	30.32273	5.38303	230.30	-16.65
67/ 2/23	2439544.5	-18.54641	-22.35936	-8.69241	4.25515	-3.01212	-1.34110	30.32274	5.38309	230.33	-16.66
67/ 2/27	2439548.5	-18.53658	-22.36632	-8.69550	4.25654	-3.01053	-1.34048	30.32274	5.38315	230.35	-16.66
67/ 3/ 3	2439552.5	-18.52675	-22.37327	-8.69860	4.25794	-3.00894	-1.33986	30.32275	5.38321	230.37	-16.67
67/ 3/ 7	2439556.5	-18.51691	-22.38022	-8.70169	4.25933	-3.00735	-1.33925	30.32276	5.38327	230.40	-16.68
67/ 3/11	2439560.5	-18.50707	-22.38717	-8.70479	4.26073	-3.00575	-1.33863	30.32276	5.38333	230.42	-16.68
67/ 3/15	2439564.5	-18.49722	-22.39411	-8.70788	4.26212	-3.00416	-1.33801	30.32277	5.38339	230.44	-16.69
67/ 3/19	2439568.5	-18.48737	-22.40105	-8.71097	4.26351	-3.00256	-1.33740	30.32278	5.38345	230.47	-16.69
67/ 3/23	2439572.5	-18.47752	-22.40798	-8.71406	4.26491	-3.00097	-1.33678	30.32278	5.38351	230.49	-16.70
67/ 3/27	2439576.5	-18.46767	-22.41491	-8.71714	4.26630	-2.99937	-1.33616	30.32279	5.38357	230.51	-16.71
67/ 3/31	2439580.5	-18.45781	-22.42184	-8.72023	4.26769	-2.99777	-1.33554	30.32280	5.38363	230.54	-16.71
67/ 4/ 4	2439584.5	-18.44795	-22.42876	-8.72332	4.26908	-2.99618	-1.33492	30.32280	5.38370	230.56	-16.72
67/ 4/ 8	2439588.5	-18.43809	-22.43568	-8.72640	4.27047	-2.99458	-1.33431	30.32281	5.38376	230.59	-16.73
67/ 4/12	2439592.5	-18.42822	-22.44260	-8.72948	4.27187	-2.99298	-1.33369	30.32282	5.38382	230.61	-16.73
67/ 4/16	2439596.5	-18.41835	-22.44951	-8.73256	4.27326	-2.99138	-1.33307	30.32282	5.38388	230.63	-16.74
67/ 4/20	2439600.5	-18.40847	-22.45642	-8.73564	4.27465	-2.98978	-1.33245	30.32283	5.38394	230.66	-16.74
67/ 4/24	2439604.5	-18.39860	-22.46332	-8.73872	4.27604	-2.98818	-1.33183	30.32284	5.38400	230.68	-16.75
67/ 4/28	2439608.5	-18.38872	-22.47023	-8.74179	4.27742	-2.98658	-1.33121	30.32284	5.38406	230.70	-16.76
67/ 5/ 2	2439612.5	-18.37883	-22.47712	-8.74487	4.27881	-2.98497	-1.33059	30.32285	5.38412	230.73	-16.76
67/ 5/ 6	2439616.5	-18.36895	-22.48402	-8.74794	4.28020	-2.98337	-1.32996	30.32286	5.38418	230.75	-16.77
67/ 5/10	2439620.5	-18.35906	-22.49091	-8.75101	4.28159	-2.98177	-1.32934	30.32287	5.38424	230.78	-16.77
67/ 5/14	2439624.5	-18.34917	-22.49779	-8.75408	4.28298	-2.98016	-1.32872	30.32287	5.38431	230.80	-16.78
67/ 5/18	2439628.5	-18.33927	-22.50468	-8.75715	4.28436	-2.97855	-1.32810	30.32288	5.38437	230.82	-16.79
67/ 5/22	2439632.5	-18.32937	-22.51156	-8.76022	4.28575	-2.97695	-1.32748	30.32289	5.38443	230.85	-16.79
67/ 5/26	2439636.5	-18.31947	-22.51843	-8.76329	4.28714	-2.97534	-1.32685	30.32289	5.38449	230.87	-16.80
67/ 5/30	2439640.5	-18.30956	-22.52530	-8.76635	4.28852	-2.97373	-1.32623	30.32290	5.38455	230.89	-16.80
67/ 6/ 3	2439644.5	-18.29965	-22.53217	-8.76941	4.28991	-2.97212	-1.32561	30.32291	5.38461	230.92	-16.81
67/ 6/ 7	2439648.5	-18.28974	-22.53904	-8.77247	4.29129	-2.97051	-1.32498	30.32291	5.38467	230.94	-16.82
67/ 6/11	2439652.5	-18.27983	-22.54590	-8.77553	4.29268	-2.96890	-1.32436	30.32292	5.38474	230.97	-16.82
67/ 6/15	2439656.5	-18.26991	-22.55275	-8.77859	4.29406	-2.96729	-1.32374	30.32293	5.38480	230.99	-16.83

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67/ 6/19	2439660.5	-18.25999	-22.55961	-8.78165	4.29544	-2.96568	-1.32311	30.32293	5.38486	231.01	-16.83
67/ 6/23	2439664.5	-18.25006	-22.56646	-8.78471	4.29683	-2.96407	-1.32249	30.32294	5.38492	231.04	-16.84
67/ 6/27	2439668.5	-18.24013	-22.57330	-8.78776	4.29821	-2.96246	-1.32186	30.32295	5.38498	231.06	-16.85
67/ 7/ 1	2439672.5	-18.23020	-22.58014	-8.79081	4.29959	-2.96084	-1.32124	30.32295	5.38505	231.08	-16.85
67/ 7/ 5	2439676.5	-18.22027	-22.58698	-8.79387	4.30097	-2.95923	-1.32061	30.32296	5.38511	231.11	-16.86
67/ 7/ 9	2439680.5	-18.21033	-22.59382	-8.79692	4.30235	-2.95761	-1.31998	30.32297	5.38517	231.13	-16.86
67/ 7/13	2439684.5	-18.20039	-22.60065	-8.79996	4.30373	-2.95599	-1.31936	30.32297	5.38523	231.16	-16.87
67/ 7/17	2439688.5	-18.19045	-22.60747	-8.80301	4.30511	-2.95438	-1.31873	30.32298	5.38529	231.18	-16.88
67/ 7/21	2439692.5	-18.18050	-22.61430	-8.80606	4.30649	-2.95276	-1.31810	30.32299	5.38536	231.20	-16.88
67/ 7/25	2439696.5	-18.17055	-22.62112	-8.80910	4.30787	-2.95114	-1.31747	30.32299	5.38542	231.23	-16.89
67/ 7/29	2439700.5	-18.16059	-22.62793	-8.81214	4.30925	-2.94952	-1.31685	30.32300	5.38548	231.25	-16.89
67/ 8/ 2	2439704.5	-18.15064	-22.63474	-8.81519	4.31063	-2.94790	-1.31622	30.32301	5.38554	231.27	-16.90
67/ 8/ 6	2439708.5	-18.14068	-22.64155	-8.81823	4.31201	-2.94628	-1.31559	30.32301	5.38560	231.30	-16.91
67/ 8/10	2439712.5	-18.13072	-22.64836	-8.82126	4.31338	-2.94466	-1.31496	30.32302	5.38567	231.32	-16.91
67/ 8/14	2439716.5	-18.12075	-22.65516	-8.82430	4.31476	-2.94304	-1.31433	30.32303	5.38573	231.35	-16.92
67/ 8/18	2439720.5	-18.11078	-22.66195	-8.82734	4.31613	-2.94141	-1.31370	30.32303	5.38579	231.37	-16.92
67/ 8/22	2439724.5	-18.10081	-22.66875	-8.83037	4.31751	-2.93979	-1.31307	30.32304	5.38585	231.39	-16.93
67/ 8/26	2439728.5	-18.09083	-22.67554	-8.83340	4.31889	-2.93817	-1.31244	30.32305	5.38592	231.42	-16.94
67/ 8/30	2439732.5	-18.08085	-22.68232	-8.83644	4.32026	-2.93654	-1.31181	30.32305	5.38598	231.44	-16.94
67/ 9/ 3	2439736.5	-18.07087	-22.68911	-8.83947	4.32163	-2.93491	-1.31118	30.32306	5.38604	231.46	-16.95
67/ 9/ 7	2439740.5	-18.06088	-22.69588	-8.84249	4.32301	-2.93329	-1.31055	30.32307	5.38610	231.49	-16.95
67/ 9/11	2439744.5	-18.05090	-22.70266	-8.84552	4.32438	-2.93166	-1.30992	30.32307	5.38617	231.51	-16.96
67/ 9/15	2439748.5	-18.04090	-22.70943	-8.84855	4.32575	-2.93003	-1.30929	30.32308	5.38623	231.54	-16.97
67/ 9/19	2439752.5	-18.03091	-22.71620	-8.85157	4.32713	-2.92840	-1.30865	30.32309	5.38629	231.56	-16.97
67/ 9/23	2439756.5	-18.02091	-22.72296	-8.85459	4.32850	-2.92677	-1.30802	30.32309	5.38635	231.58	-16.98
67/ 9/27	2439760.5	-18.01091	-22.72972	-8.85761	4.32987	-2.92514	-1.30739	30.32310	5.38642	231.61	-16.98
67/10/ 1	2439764.5	-18.00091	-22.73647	-8.86063	4.33124	-2.92351	-1.30675	30.32310	5.38648	231.63	-16.99
67/10/ 5	2439768.5	-17.99090	-22.74323	-8.86365	4.33261	-2.92188	-1.30612	30.32311	5.38654	231.65	-17.00
67/10/ 9	2439772.5	-17.98089	-22.74997	-8.86667	4.33398	-2.92024	-1.30549	30.32312	5.38660	231.68	-17.00
67/10/13	2439776.5	-17.97087	-22.75672	-8.86968	4.33535	-2.91861	-1.30485	30.32312	5.38667	231.70	-17.01
67/10/17	2439780.5	-17.96086	-22.76346	-8.87270	4.33672	-2.91698	-1.30422	30.32313	5.38673	231.73	-17.01
67/10/21	2439784.5	-17.95084	-22.77020	-8.87571	4.33808	-2.91534	-1.30358	30.32314	5.38679	231.75	-17.02
67/10/25	2439788.5	-17.94081	-22.77693	-8.87872	4.33945	-2.91370	-1.30295	30.32314	5.38685	231.77	-17.03
67/10/29	2439792.5	-17.93079	-22.78366	-8.88173	4.34082	-2.91207	-1.30231	30.32315	5.38692	231.80	-17.03
67/11/ 2	2439796.5	-17.92076	-22.79038	-8.88474	4.34219	-2.91043	-1.30168	30.32315	5.38698	231.82	-17.04
67/11/ 6	2439800.5	-17.91072	-22.79711	-8.88774	4.34355	-2.90879	-1.30104	30.32316	5.38704	231.84	-17.04
67/11/10	2439804.5	-17.90069	-22.80382	-8.89075	4.34492	-2.90715	-1.30040	30.32317	5.38710	231.87	-17.05
67/11/14	2439808.5	-17.89065	-22.81054	-8.89375	4.34628	-2.90551	-1.29977	30.32317	5.38717	231.89	-17.06
67/11/18	2439812.5	-17.88061	-22.81725	-8.89675	4.34765	-2.90387	-1.29913	30.32318	5.38723	231.92	-17.06
67/11/22	2439816.5	-17.87056	-22.82395	-8.89975	4.34901	-2.90223	-1.29849	30.32318	5.38729	231.94	-17.07
67/11/26	2439820.5	-17.86051	-22.83066	-8.90275	4.35037	-2.90059	-1.29786	30.32319	5.38735	231.96	-17.07
67/11/30	2439824.5	-17.85046	-22.83736	-8.90575	4.35174	-2.89894	-1.29722	30.32320	5.38742	231.99	-17.08
67/12/ 4	2439828.5	-17.84041	-22.84405	-8.90875	4.35310	-2.89730	-1.29658	30.32320	5.38748	232.01	-17.09
67/12/ 8	2439832.5	-17.83035	-22.85074	-8.91174	4.35446	-2.89566	-1.29594	30.32321	5.38754	232.04	-17.09
67/12/12	2439836.5	-17.82029	-22.85743	-8.91473	4.35582	-2.89401	-1.29530	30.32321	5.38760	232.06	-17.10

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
67/12/16	2439840.5	-17.81022	-22.86411	-8.91773	4.35718	-2.89236	-1.29466	30.32322	5.38767	232.08	-17.10
67/12/20	2439844.5	-17.80016	-22.87079	-8.92072	4.35854	-2.89072	-1.29402	30.32322	5.38773	232.11	-17.11
67/12/24	2439848.5	-17.79009	-22.87747	-8.92370	4.35990	-2.88907	-1.29338	30.32323	5.38779	232.13	-17.11
67/12/28	2439852.5	-17.78001	-22.88414	-8.92669	4.36126	-2.88742	-1.29274	30.32324	5.38785	232.15	-17.12
68/ 1/ 1	2439856.5	-17.76993	-22.89081	-8.92968	4.36262	-2.88577	-1.29210	30.32324	5.38791	232.18	-17.13
68/ 1/ 5	2439860.5	-17.75985	-22.89748	-8.93266	4.36398	-2.88412	-1.29146	30.32325	5.38798	232.20	-17.13
68/ 1/ 9	2439864.5	-17.74977	-22.90414	-8.93564	4.36533	-2.88247	-1.29082	30.32325	5.38804	232.23	-17.14
68/ 1/13	2439868.5	-17.73969	-22.91079	-8.93863	4.36669	-2.88082	-1.29017	30.32326	5.38810	232.25	-17.14
68/ 1/17	2439872.5	-17.72960	-22.91745	-8.94161	4.36804	-2.87917	-1.28953	30.32326	5.38816	232.27	-17.15
68/ 1/21	2439876.5	-17.71950	-22.92410	-8.94458	4.36940	-2.87751	-1.28889	30.32327	5.38823	232.30	-17.16
68/ 1/25	2439880.5	-17.70941	-22.93074	-8.94756	4.37076	-2.87586	-1.28825	30.32327	5.38829	232.32	-17.16
68/ 1/29	2439884.5	-17.69931	-22.93738	-8.95054	4.37211	-2.87420	-1.28760	30.32328	5.38835	232.34	-17.17
68/ 2/ 2	2439888.5	-17.68921	-22.94402	-8.95351	4.37346	-2.87255	-1.28696	30.32328	5.38841	232.37	-17.17
68/ 2/ 6	2439892.5	-17.67910	-22.95066	-8.95648	4.37482	-2.87089	-1.28632	30.32329	5.38847	232.39	-17.18
68/ 2/10	2439896.5	-17.66899	-22.95729	-8.95945	4.37617	-2.86923	-1.28567	30.32329	5.38854	232.42	-17.19
68/ 2/14	2439900.5	-17.65888	-22.96391	-8.96242	4.37752	-2.86758	-1.28503	30.32330	5.38860	232.44	-17.19
68/ 2/18	2439904.5	-17.64877	-22.97054	-8.96539	4.37887	-2.86592	-1.28438	30.32330	5.38866	232.46	-17.20
68/ 2/22	2439908.5	-17.63865	-22.97715	-8.96836	4.38022	-2.86426	-1.28374	30.32331	5.38872	232.49	-17.20
68/ 2/26	2439912.5	-17.62853	-22.98377	-8.97132	4.38157	-2.86260	-1.28309	30.32331	5.38878	232.51	-17.21
68/ 3/ 1	2439916.5	-17.61841	-22.99038	-8.97429	4.38292	-2.86094	-1.28244	30.32332	5.38884	232.54	-17.21
68/ 3/ 5	2439920.5	-17.60828	-22.99699	-8.97725	4.38427	-2.85928	-1.28180	30.32332	5.38891	232.56	-17.22
68/ 3/ 9	2439924.5	-17.59815	-23.00359	-8.98021	4.38562	-2.85761	-1.28115	30.32333	5.38897	232.58	-17.23
68/ 3/13	2439928.5	-17.58802	-23.01019	-8.98317	4.38697	-2.85595	-1.28050	30.32333	5.38903	232.61	-17.23
68/ 3/17	2439932.5	-17.57788	-23.01679	-8.98612	4.38832	-2.85429	-1.27986	30.32334	5.38909	232.63	-17.24
68/ 3/21	2439936.5	-17.56774	-23.02338	-8.98908	4.38966	-2.85262	-1.27921	30.32334	5.38915	232.65	-17.24
68/ 3/25	2439940.5	-17.55760	-23.02997	-8.99203	4.39101	-2.85096	-1.27856	30.32335	5.38921	232.68	-17.25
68/ 3/29	2439944.5	-17.54745	-23.03655	-8.99499	4.39235	-2.84929	-1.27791	30.32335	5.38928	232.70	-17.26
68/ 4/ 2	2439948.5	-17.53730	-23.04313	-8.99794	4.39370	-2.84762	-1.27726	30.32336	5.38934	232.73	-17.26
68/ 4/ 6	2439952.5	-17.52715	-23.04971	-9.00089	4.39504	-2.84595	-1.27661	30.32336	5.38940	232.75	-17.27
68/ 4/10	2439956.5	-17.51700	-23.05628	-9.00384	4.39639	-2.84428	-1.27597	30.32336	5.38946	232.77	-17.27
68/ 4/14	2439960.5	-17.50684	-23.06285	-9.00678	4.39773	-2.84262	-1.27532	30.32337	5.38952	232.80	-17.28
68/ 4/18	2439964.5	-17.49668	-23.06942	-9.00973	4.39907	-2.84094	-1.27467	30.32337	5.38958	232.82	-17.28
68/ 4/22	2439968.5	-17.48651	-23.07598	-9.01267	4.40041	-2.83927	-1.27401	30.32338	5.38964	232.85	-17.29
68/ 4/26	2439972.5	-17.47635	-23.08253	-9.01562	4.40176	-2.83760	-1.27336	30.32338	5.38970	232.87	-17.30
68/ 4/30	2439976.5	-17.46618	-23.08909	-9.01856	4.40310	-2.83593	-1.27271	30.32338	5.38976	232.89	-17.30
68/ 5/ 4	2439980.5	-17.45600	-23.09564	-9.02150	4.40444	-2.83426	-1.27206	30.32339	5.38982	232.92	-17.31
68/ 5/ 8	2439984.5	-17.44583	-23.10218	-9.02443	4.40578	-2.83258	-1.27141	30.32339	5.38989	232.94	-17.31
68/ 5/12	2439988.5	-17.43565	-23.10872	-9.02737	4.40711	-2.83091	-1.27076	30.32340	5.38995	232.97	-17.32
68/ 5/16	2439992.5	-17.42546	-23.11526	-9.03031	4.40845	-2.82923	-1.27010	30.32340	5.39001	232.99	-17.33
68/ 5/20	2439996.5	-17.41528	-23.12180	-9.03324	4.40979	-2.82755	-1.26945	30.32340	5.39007	233.01	-17.33
68/ 5/24	2440000.5	-17.40509	-23.12833	-9.03617	4.41113	-2.82588	-1.26880	30.32341	5.39013	233.04	-17.34
68/ 5/28	2440004.5	-17.39490	-23.13485	-9.03910	4.41246	-2.82420	-1.26815	30.32341	5.39019	233.06	-17.34
68/ 6/ 1	2440008.5	-17.38470	-23.14138	-9.04203	4.41380	-2.82252	-1.26749	30.32341	5.39025	233.08	-17.35
68/ 6/ 5	2440012.5	-17.37450	-23.14789	-9.04496	4.41513	-2.82084	-1.26684	30.32342	5.39031	233.11	-17.35
68/ 6/ 9	2440016.5	-17.36430	-23.15441	-9.04788	4.41647	-2.81916	-1.26618	30.32342	5.39037	233.13	-17.36

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
68/ 6/13	2440020.5	-17.35410	-23.16092	-9.05081	4.41780	-2.81748	-1.26553	30.32342	5.39043	233.16	-17.37
68/ 6/17	2440024.5	-17.34389	-23.16743	-9.05373	4.41914	-2.81579	-1.26487	30.32343	5.39049	233.18	-17.37
68/ 6/21	2440028.5	-17.33368	-23.17393	-9.05665	4.42047	-2.81411	-1.26422	30.32343	5.39055	233.20	-17.38
68/ 6/25	2440032.5	-17.32347	-23.18043	-9.05957	4.42180	-2.81243	-1.26356	30.32343	5.39061	233.23	-17.38
68/ 6/29	2440036.5	-17.31325	-23.18692	-9.06249	4.42313	-2.81074	-1.26290	30.32344	5.39067	233.25	-17.39
68/ 7/ 3	2440040.5	-17.30303	-23.19342	-9.06541	4.42446	-2.80906	-1.26225	30.32344	5.39073	233.28	-17.39
68/ 7/ 7	2440044.5	-17.29281	-23.19990	-9.06832	4.42579	-2.80737	-1.26159	30.32344	5.39079	233.30	-17.40
68/ 7/11	2440048.5	-17.28258	-23.20639	-9.07124	4.42712	-2.80569	-1.26093	30.32344	5.39085	233.32	-17.41
68/ 7/15	2440052.5	-17.27235	-23.21287	-9.07415	4.42845	-2.80400	-1.26028	30.32345	5.39091	233.35	-17.41
68/ 7/19	2440056.5	-17.26212	-23.21934	-9.07706	4.42978	-2.80231	-1.25962	30.32345	5.39096	233.37	-17.42
68/ 7/23	2440060.5	-17.25189	-23.22581	-9.07997	4.43110	-2.80062	-1.25896	30.32345	5.39102	233.40	-17.42
68/ 7/27	2440064.5	-17.24165	-23.23228	-9.08288	4.43243	-2.79893	-1.25830	30.32346	5.39108	233.42	-17.43
68/ 7/31	2440068.5	-17.23141	-23.23875	-9.08578	4.43376	-2.79724	-1.25764	30.32346	5.39114	233.44	-17.44
68/ 8/ 4	2440072.5	-17.22116	-23.24521	-9.08869	4.43508	-2.79555	-1.25698	30.32346	5.39120	233.47	-17.44
68/ 8/ 8	2440076.5	-17.21091	-23.25166	-9.09159	4.43641	-2.79386	-1.25632	30.32346	5.39126	233.49	-17.45
68/ 8/12	2440080.5	-17.20066	-23.25811	-9.09449	4.43773	-2.79216	-1.25566	30.32346	5.39132	233.52	-17.45
68/ 8/16	2440084.5	-17.19041	-23.26456	-9.09739	4.43905	-2.79047	-1.25500	30.32347	5.39138	233.54	-17.46
68/ 8/20	2440088.5	-17.18015	-23.27101	-9.10029	4.44038	-2.78877	-1.25434	30.32347	5.39144	233.56	-17.46
68/ 8/24	2440092.5	-17.16989	-23.27745	-9.10319	4.44170	-2.78708	-1.25368	30.32347	5.39149	233.59	-17.47
68/ 8/28	2440096.5	-17.15963	-23.28388	-9.10608	4.44302	-2.78538	-1.25302	30.32347	5.39155	233.61	-17.48
68/ 9/ 1	2440100.5	-17.14937	-23.29032	-9.10898	4.44434	-2.78369	-1.25236	30.32347	5.39161	233.63	-17.48
68/ 9/ 5	2440104.5	-17.13910	-23.29675	-9.11187	4.44566	-2.78199	-1.25169	30.32348	5.39167	233.66	-17.49
68/ 9/ 9	2440108.5	-17.12883	-23.30317	-9.11476	4.44698	-2.78029	-1.25103	30.32348	5.39173	233.68	-17.49
68/ 9/13	2440112.5	-17.11855	-23.30959	-9.11765	4.44830	-2.77859	-1.25037	30.32348	5.39178	233.71	-17.50
68/ 9/17	2440116.5	-17.10827	-23.31601	-9.12054	4.44962	-2.77689	-1.24971	30.32348	5.39184	233.73	-17.50
68/ 9/21	2440120.5	-17.09799	-23.32242	-9.12342	4.45093	-2.77519	-1.24904	30.32348	5.39190	233.75	-17.51
68/ 9/25	2440124.5	-17.08771	-23.32883	-9.12631	4.45225	-2.77349	-1.24838	30.32348	5.39196	233.78	-17.52
68/ 9/29	2440128.5	-17.07742	-23.33524	-9.12919	4.45357	-2.77178	-1.24771	30.32348	5.39201	233.80	-17.52
68/10/ 3	2440132.5	-17.06713	-23.34164	-9.13207	4.45488	-2.77008	-1.24705	30.32349	5.39207	233.83	-17.53
68/10/ 7	2440136.5	-17.05684	-23.34804	-9.13495	4.45619	-2.76838	-1.24639	30.32349	5.39213	233.85	-17.53
68/10/11	2440140.5	-17.04654	-23.35443	-9.13783	4.45751	-2.76667	-1.24572	30.32349	5.39219	233.87	-17.54
68/10/15	2440144.5	-17.03624	-23.36082	-9.14071	4.45882	-2.76497	-1.24505	30.32349	5.39224	233.90	-17.54
68/10/19	2440148.5	-17.02594	-23.36720	-9.14358	4.46013	-2.76326	-1.24439	30.32349	5.39230	233.92	-17.55
68/10/23	2440152.5	-17.01564	-23.37359	-9.14646	4.46145	-2.76155	-1.24372	30.32349	5.39236	233.95	-17.56
68/10/27	2440156.5	-17.00533	-23.37996	-9.14933	4.46276	-2.75984	-1.24306	30.32349	5.39241	233.97	-17.56
68/10/31	2440160.5	-16.99502	-23.38634	-9.15220	4.46407	-2.75814	-1.24239	30.32349	5.39247	233.99	-17.57
68/11/ 4	2440164.5	-16.98470	-23.39271	-9.15507	4.46538	-2.75643	-1.24172	30.32349	5.39253	234.02	-17.57
68/11/ 8	2440168.5	-16.97438	-23.39907	-9.15794	4.46669	-2.75472	-1.24105	30.32349	5.39258	234.04	-17.58
68/11/12	2440172.5	-16.96406	-23.40543	-9.16080	4.46799	-2.75301	-1.24039	30.32349	5.39264	234.07	-17.58
68/11/16	2440176.5	-16.95374	-23.41179	-9.16367	4.46930	-2.75129	-1.23972	30.32349	5.39270	234.09	-17.59
68/11/20	2440180.5	-16.94341	-23.41815	-9.16653	4.47061	-2.74958	-1.23905	30.32349	5.39275	234.11	-17.60
68/11/24	2440184.5	-16.93308	-23.42450	-9.16939	4.47191	-2.74787	-1.23838	30.32349	5.39281	234.14	-17.60
68/11/28	2440188.5	-16.92275	-23.43084	-9.17225	4.47322	-2.74615	-1.23771	30.32349	5.39286	234.16	-17.61
68/12/ 2	2440192.5	-16.91242	-23.43719	-9.17511	4.47452	-2.74444	-1.23704	30.32349	5.39292	234.19	-17.61
68/12/ 6	2440196.5	-16.90208	-23.44352	-9.17797	4.47583	-2.74272	-1.23637	30.32349	5.39297	234.21	-17.62

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
68/12/10	2440200.5	-16.89174	-23.44986	-9.18082	4.47713	-2.74101	-1.23570	30.32349	5.39303	234.23	-17.62
68/12/14	2440204.5	-16.88139	-23.45619	-9.18368	4.47843	-2.73929	-1.23503	30.32349	5.39308	234.26	-17.63
68/12/18	2440208.5	-16.87105	-23.46251	-9.18653	4.47973	-2.73757	-1.23436	30.32349	5.39314	234.28	-17.63
68/12/22	2440212.5	-16.86069	-23.46884	-9.18938	4.48103	-2.73585	-1.23369	30.32349	5.39319	234.31	-17.64
68/12/26	2440216.5	-16.85034	-23.47515	-9.19223	4.48233	-2.73413	-1.23302	30.32349	5.39325	234.33	-17.65
68/12/30	2440220.5	-16.83998	-23.48147	-9.19508	4.48363	-2.73241	-1.23234	30.32349	5.39330	234.35	-17.65
69/ 1/ 3	2440224.5	-16.82963	-23.48778	-9.19793	4.48493	-2.73069	-1.23167	30.32349	5.39336	234.38	-17.66
69/ 1/ 7	2440228.5	-16.81926	-23.49409	-9.20077	4.48623	-2.72897	-1.23100	30.32349	5.39341	234.40	-17.66
69/ 1/11	2440232.5	-16.80890	-23.50039	-9.20361	4.48753	-2.72725	-1.23032	30.32348	5.39347	234.43	-17.67
69/ 1/15	2440236.5	-16.79853	-23.50669	-9.20645	4.48882	-2.72552	-1.22965	30.32348	5.39352	234.45	-17.67
69/ 1/19	2440240.5	-16.78816	-23.51298	-9.20929	4.49012	-2.72380	-1.22898	30.32348	5.39357	234.47	-17.68
69/ 1/23	2440244.5	-16.77778	-23.51927	-9.21213	4.49142	-2.72207	-1.22830	30.32348	5.39363	234.50	-17.69
69/ 1/27	2440248.5	-16.76741	-23.52556	-9.21497	4.49271	-2.72035	-1.22763	30.32348	5.39368	234.52	-17.69
69/ 1/31	2440252.5	-16.75703	-23.53184	-9.21780	4.49400	-2.71862	-1.22695	30.32348	5.39373	234.55	-17.70
69/ 2/ 4	2440256.5	-16.74664	-23.53812	-9.22064	4.49530	-2.71689	-1.22628	30.32348	5.39379	234.57	-17.70
69/ 2/ 8	2440260.5	-16.73626	-23.54439	-9.22347	4.49659	-2.71516	-1.22560	30.32347	5.39384	234.59	-17.71
69/ 2/12	2440264.5	-16.72587	-23.55066	-9.22630	4.49788	-2.71344	-1.22493	30.32347	5.39389	234.62	-17.71
69/ 2/16	2440268.5	-16.71547	-23.55693	-9.22913	4.49917	-2.71171	-1.22425	30.32347	5.39395	234.64	-17.72
69/ 2/20	2440272.5	-16.70508	-23.56319	-9.23196	4.50046	-2.70998	-1.22357	30.32347	5.39400	234.67	-17.73
69/ 2/24	2440276.5	-16.69468	-23.56945	-9.23478	4.50175	-2.70824	-1.22290	30.32347	5.39405	234.69	-17.73
69/ 2/28	2440280.5	-16.68428	-23.57571	-9.23761	4.50304	-2.70651	-1.22222	30.32346	5.39411	234.71	-17.74
69/ 3/ 4	2440284.5	-16.67387	-23.58196	-9.24043	4.50432	-2.70478	-1.22154	30.32346	5.39416	234.74	-17.74
69/ 3/ 8	2440288.5	-16.66347	-23.58820	-9.24325	4.50561	-2.70305	-1.22087	30.32346	5.39421	234.76	-17.75
69/ 3/12	2440292.5	-16.65306	-23.59445	-9.24607	4.50690	-2.70131	-1.22019	30.32346	5.39426	234.79	-17.75
69/ 3/16	2440296.5	-16.64264	-23.60068	-9.24889	4.50818	-2.69958	-1.21951	30.32345	5.39431	234.81	-17.76
69/ 3/20	2440300.5	-16.63223	-23.60692	-9.25171	4.50947	-2.69784	-1.21883	30.32345	5.39437	234.83	-17.76
69/ 3/24	2440304.5	-16.62181	-23.61315	-9.25452	4.51075	-2.69610	-1.21815	30.32345	5.39442	234.86	-17.77
69/ 3/28	2440308.5	-16.61139	-23.61938	-9.25733	4.51203	-2.69437	-1.21747	30.32344	5.39447	234.88	-17.78
69/ 4/ 1	2440312.5	-16.60096	-23.62560	-9.26015	4.51332	-2.69263	-1.21679	30.32344	5.39452	234.91	-17.78
69/ 4/ 5	2440316.5	-16.59053	-23.63182	-9.26296	4.51460	-2.69089	-1.21611	30.32344	5.39457	234.93	-17.79
69/ 4/ 9	2440320.5	-16.58010	-23.63803	-9.26576	4.51588	-2.68915	-1.21543	30.32343	5.39462	234.95	-17.79
69/ 4/13	2440324.5	-16.56967	-23.64424	-9.26857	4.51716	-2.68741	-1.21475	30.32343	5.39467	234.98	-17.80
69/ 4/17	2440328.5	-16.55923	-23.65045	-9.27138	4.51844	-2.68567	-1.21407	30.32343	5.39472	235.00	-17.80
69/ 4/21	2440332.5	-16.54879	-23.65665	-9.27418	4.51971	-2.68393	-1.21339	30.32342	5.39477	235.03	-17.81
69/ 4/25	2440336.5	-16.53835	-23.66285	-9.27698	4.52099	-2.68218	-1.21270	30.32342	5.39482	235.05	-17.81
69/ 4/29	2440340.5	-16.52790	-23.66904	-9.27978	4.52227	-2.68044	-1.21202	30.32342	5.39487	235.07	-17.82
69/ 5/ 3	2440344.5	-16.51745	-23.67523	-9.28258	4.52354	-2.67870	-1.21134	30.32341	5.39492	235.10	-17.83
69/ 5/ 7	2440348.5	-16.50700	-23.68142	-9.28538	4.52482	-2.67695	-1.21066	30.32341	5.39497	235.12	-17.83
69/ 5/11	2440352.5	-16.49655	-23.68760	-9.28818	4.52609	-2.67520	-1.20997	30.32340	5.39502	235.15	-17.84
69/ 5/15	2440356.5	-16.48609	-23.69378	-9.29097	4.52737	-2.67346	-1.20929	30.32340	5.39507	235.17	-17.84
69/ 5/19	2440360.5	-16.47563	-23.69995	-9.29376	4.52864	-2.67171	-1.20860	30.32339	5.39512	235.19	-17.85
69/ 5/23	2440364.5	-16.46517	-23.70612	-9.29656	4.52991	-2.66996	-1.20792	30.32339	5.39517	235.22	-17.85
69/ 5/27	2440368.5	-16.45470	-23.71229	-9.29935	4.53118	-2.66821	-1.20724	30.32338	5.39522	235.24	-17.86
69/ 5/31	2440372.5	-16.44423	-23.71845	-9.30213	4.53245	-2.66646	-1.20655	30.32338	5.39527	235.27	-17.86
69/ 6/ 4	2440376.5	-16.43376	-23.72461	-9.30492	4.53372	-2.66471	-1.20587	30.32337	5.39532	235.29	-17.87

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69/ 6/ 8	2440380.5	-16.42328	-23.73076	-9.30771	4.53499	-2.66296	-1.20518	30.32337	5.39537	235.31	-17.88
69/ 6/12	2440384.5	-16.41281	-23.73691	-9.31049	4.53626	-2.66121	-1.20449	30.32336	5.39541	235.34	-17.88
69/ 6/16	2440388.5	-16.40232	-23.74306	-9.31327	4.53753	-2.65946	-1.20381	30.32336	5.39546	235.36	-17.89
69/ 6/20	2440392.5	-16.39184	-23.74920	-9.31605	4.53879	-2.65770	-1.20312	30.32335	5.39551	235.39	-17.89
69/ 6/24	2440396.5	-16.38135	-23.75534	-9.31883	4.54006	-2.65595	-1.20243	30.32335	5.39556	235.41	-17.90
69/ 6/28	2440400.5	-16.37086	-23.76147	-9.32161	4.54132	-2.65419	-1.20175	30.32334	5.39560	235.43	-17.90
69/ 7/ 2	2440404.5	-16.36037	-23.76760	-9.32438	4.54259	-2.65244	-1.20106	30.32334	5.39565	235.46	-17.91
69/ 7/ 6	2440408.5	-16.34987	-23.77373	-9.32716	4.54385	-2.65068	-1.20037	30.32333	5.39570	235.48	-17.91
69/ 7/10	2440412.5	-16.33938	-23.77985	-9.32993	4.54511	-2.64893	-1.19968	30.32332	5.39575	235.51	-17.92
69/ 7/14	2440416.5	-16.32888	-23.78597	-9.33270	4.54637	-2.64717	-1.19899	30.32332	5.39579	235.53	-17.93
69/ 7/18	2440420.5	-16.31837	-23.79208	-9.33547	4.54763	-2.64541	-1.19830	30.32331	5.39584	235.55	-17.93
69/ 7/22	2440424.5	-16.30786	-23.79819	-9.33824	4.54889	-2.64365	-1.19761	30.32331	5.39589	235.58	-17.94
69/ 7/26	2440428.5	-16.29735	-23.80429	-9.34100	4.55015	-2.64189	-1.19693	30.32330	5.39593	235.60	-17.94
69/ 7/30	2440432.5	-16.28684	-23.81040	-9.34377	4.55141	-2.64013	-1.19624	30.32329	5.39598	235.63	-17.95
69/ 8/ 3	2440436.5	-16.27632	-23.81649	-9.34653	4.55267	-2.63837	-1.19554	30.32329	5.39602	235.65	-17.95
69/ 8/ 7	2440440.5	-16.26581	-23.82259	-9.34929	4.55392	-2.63660	-1.19485	30.32328	5.39607	235.68	-17.96
69/ 8/11	2440444.5	-16.25528	-23.82868	-9.35205	4.55518	-2.63484	-1.19416	30.32327	5.39612	235.70	-17.96
69/ 8/15	2440448.5	-16.24476	-23.83476	-9.35481	4.55643	-2.63308	-1.19347	30.32326	5.39616	235.72	-17.97
69/ 8/19	2440452.5	-16.23423	-23.84084	-9.35756	4.55769	-2.63131	-1.19278	30.32326	5.39621	235.75	-17.97
69/ 8/23	2440456.5	-16.22370	-23.84692	-9.36032	4.55894	-2.62955	-1.19209	30.32325	5.39625	235.77	-17.98
69/ 8/27	2440460.5	-16.21317	-23.85299	-9.36307	4.56019	-2.62778	-1.19140	30.32324	5.39630	235.80	-17.99
69/ 8/31	2440464.5	-16.20263	-23.85906	-9.36582	4.56144	-2.62601	-1.19070	30.32323	5.39634	235.82	-17.99
69/ 9/ 4	2440468.5	-16.19209	-23.86512	-9.36857	4.56269	-2.62425	-1.19001	30.32323	5.39638	235.84	-18.00
69/ 9/ 8	2440472.5	-16.18155	-23.87118	-9.37132	4.56394	-2.62248	-1.18932	30.32322	5.39643	235.87	-18.00
69/ 9/12	2440476.5	-16.17100	-23.87724	-9.37407	4.56519	-2.62071	-1.18862	30.32321	5.39647	235.89	-18.01
69/ 9/16	2440480.5	-16.16046	-23.88329	-9.37681	4.56644	-2.61894	-1.18793	30.32320	5.39652	235.92	-18.01
69/ 9/20	2440484.5	-16.14991	-23.88934	-9.37956	4.56769	-2.61717	-1.18723	30.32319	5.39656	235.94	-18.02
69/ 9/24	2440488.5	-16.13935	-23.89538	-9.38230	4.56893	-2.61540	-1.18654	30.32319	5.39660	235.96	-18.02
69/ 9/28	2440492.5	-16.12880	-23.90142	-9.38504	4.57018	-2.61362	-1.18584	30.32318	5.39665	235.99	-18.03
69/10/ 2	2440496.5	-16.11824	-23.90746	-9.38778	4.57142	-2.61185	-1.18515	30.32317	5.39669	236.01	-18.03
69/10/ 6	2440500.5	-16.10767	-23.91349	-9.39051	4.57267	-2.61008	-1.18445	30.32316	5.39673	236.04	-18.04
69/10/10	2440504.5	-16.09711	-23.91952	-9.39325	4.57391	-2.60830	-1.18376	30.32315	5.39678	236.06	-18.05
69/10/14	2440508.5	-16.08654	-23.92554	-9.39598	4.57515	-2.60653	-1.18306	30.32314	5.39682	236.08	-18.05
69/10/18	2440512.5	-16.07597	-23.93156	-9.39872	4.57639	-2.60475	-1.18236	30.32313	5.39686	236.11	-18.06
69/10/22	2440516.5	-16.06540	-23.93758	-9.40145	4.57763	-2.60297	-1.18167	30.32312	5.39690	236.13	-18.06
69/10/26	2440520.5	-16.05482	-23.94359	-9.40418	4.57887	-2.60120	-1.18097	30.32311	5.39694	236.16	-18.07
69/10/30	2440524.5	-16.04424	-23.94960	-9.40690	4.58011	-2.59942	-1.18027	30.32310	5.39699	236.18	-18.07
69/11/ 3	2440528.5	-16.03366	-23.95560	-9.40963	4.58135	-2.59764	-1.17957	30.32309	5.39703	236.21	-18.08
69/11/ 7	2440532.5	-16.02307	-23.96160	-9.41235	4.58259	-2.59586	-1.17887	30.32308	5.39707	236.23	-18.08
69/11/11	2440536.5	-16.01249	-23.96759	-9.41508	4.58382	-2.59408	-1.17818	30.32307	5.39711	236.25	-18.09
69/11/15	2440540.5	-16.00189	-23.97358	-9.41780	4.58506	-2.59230	-1.17748	30.32306	5.39715	236.28	-18.09
69/11/19	2440544.5	-15.99130	-23.97957	-9.42052	4.58629	-2.59052	-1.17678	30.32305	5.39719	236.30	-18.10
69/11/23	2440548.5	-15.98070	-23.98555	-9.42323	4.58753	-2.58873	-1.17608	30.32304	5.39723	236.33	-18.11
69/11/27	2440552.5	-15.97010	-23.99153	-9.42595	4.58876	-2.58695	-1.17538	30.32303	5.39727	236.35	-18.11
69/12/ 1	2440556.5	-15.95950	-23.99751	-9.42866	4.58999	-2.58517	-1.17468	30.32302	5.39731	236.37	-18.12

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69/12/ 5	2440560.5	-15.94890	-24.00348	-9.43138	4.59122	-2.58338	-1.17398	30.32301	5.39735	236.40	-18.12
69/12/ 9	2440564.5	-15.93829	-24.00944	-9.43409	4.59245	-2.58160	-1.17328	30.32300	5.39739	236.42	-18.13
69/12/13	2440568.5	-15.92768	-24.01540	-9.43680	4.59368	-2.57981	-1.17257	30.32299	5.39743	236.45	-18.13
69/12/17	2440572.5	-15.91707	-24.02136	-9.43951	4.59491	-2.57802	-1.17187	30.32298	5.39747	236.47	-18.14
69/12/21	2440576.5	-15.90645	-24.02732	-9.44221	4.59613	-2.57624	-1.17117	30.32297	5.39751	236.49	-18.14
69/12/25	2440580.5	-15.89583	-24.03326	-9.44492	4.59736	-2.57445	-1.17047	30.32296	5.39755	236.52	-18.15

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69/12/17	2440572.5	-15.91707	-24.02136	-9.43951	4.59491	-2.57802	-1.17187	30.32298	5.39747	236.47	-18.14
69/12/21	2440576.5	-15.90645	-24.02732	-9.44221	4.59613	-2.57624	-1.17117	30.32297	5.39751	236.49	-18.14
69/12/25	2440580.5	-15.89583	-24.03326	-9.44492	4.59736	-2.57445	-1.17047	30.32296	5.39755	236.52	-18.15
69/12/29	2440584.5	-15.88521	-24.03921	-9.44762	4.59859	-2.57266	-1.16977	30.32294	5.39758	236.54	-18.15
70/ 1/ 2	2440588.5	-15.87458	-24.04515	-9.45032	4.59981	-2.57087	-1.16906	30.32293	5.39762	236.57	-18.16
70/ 1/ 6	2440592.5	-15.86395	-24.05109	-9.45302	4.60103	-2.56908	-1.16836	30.32292	5.39766	236.59	-18.16
70/ 1/10	2440596.5	-15.85332	-24.05702	-9.45572	4.60226	-2.56729	-1.16766	30.32291	5.39770	236.62	-18.17
70/ 1/14	2440600.5	-15.84269	-24.06295	-9.45842	4.60348	-2.56549	-1.16695	30.32290	5.39774	236.64	-18.18
70/ 1/18	2440604.5	-15.83205	-24.06888	-9.46111	4.60470	-2.56370	-1.16625	30.32288	5.39777	236.66	-18.18
70/ 1/22	2440608.5	-15.82141	-24.07480	-9.46381	4.60592	-2.56191	-1.16554	30.32287	5.39781	236.69	-18.19
70/ 1/26	2440612.5	-15.81077	-24.08071	-9.46650	4.60714	-2.56011	-1.16484	30.32286	5.39785	236.71	-18.19
70/ 1/30	2440616.5	-15.80013	-24.08662	-9.46919	4.60836	-2.55832	-1.16413	30.32285	5.39788	236.74	-18.20
70/ 2/ 3	2440620.5	-15.78948	-24.09253	-9.47188	4.60957	-2.55652	-1.16343	30.32283	5.39792	236.76	-18.20
70/ 2/ 7	2440624.5	-15.77883	-24.09844	-9.47456	4.61079	-2.55473	-1.16272	30.32282	5.39796	236.78	-18.21
70/ 2/11	2440628.5	-15.76818	-24.10434	-9.47725	4.61201	-2.55293	-1.16202	30.32281	5.39799	236.81	-18.21
70/ 2/15	2440632.5	-15.75752	-24.11023	-9.47993	4.61322	-2.55113	-1.16131	30.32279	5.39803	236.83	-18.22
70/ 2/19	2440636.5	-15.74686	-24.11612	-9.48261	4.61443	-2.54933	-1.16060	30.32278	5.39806	236.86	-18.22
70/ 2/23	2440640.5	-15.73620	-24.12201	-9.48529	4.61565	-2.54754	-1.15990	30.32277	5.39810	236.88	-18.23
70/ 2/27	2440644.5	-15.72554	-24.12789	-9.48797	4.61686	-2.54574	-1.15919	30.32275	5.39813	236.91	-18.23
70/ 3/ 3	2440648.5	-15.71487	-24.13377	-9.49065	4.61807	-2.54393	-1.15848	30.32274	5.39817	236.93	-18.24
70/ 3/ 7	2440652.5	-15.70420	-24.13965	-9.49333	4.61928	-2.54213	-1.15777	30.32273	5.39820	236.95	-18.24
70/ 3/11	2440656.5	-15.69353	-24.14552	-9.49600	4.62049	-2.54033	-1.15706	30.32271	5.39824	236.98	-18.25
70/ 3/15	2440660.5	-15.68285	-24.15138	-9.49867	4.62170	-2.53853	-1.15635	30.32270	5.39827	237.00	-18.26
70/ 3/19	2440664.5	-15.67217	-24.15725	-9.50134	4.62290	-2.53672	-1.15565	30.32268	5.39831	237.03	-18.26
70/ 3/23	2440668.5	-15.66149	-24.16311	-9.50401	4.62411	-2.53492	-1.15494	30.32267	5.39834	237.05	-18.27
70/ 3/27	2440672.5	-15.65081	-24.16896	-9.50668	4.62531	-2.53312	-1.15423	30.32265	5.39837	237.07	-18.27
70/ 3/31	2440676.5	-15.64012	-24.17481	-9.50934	4.62652	-2.53131	-1.15352	30.32264	5.39841	237.10	-18.28
70/ 4/ 4	2440680.5	-15.62943	-24.18065	-9.51201	4.62772	-2.52950	-1.15281	30.32262	5.39844	237.12	-18.28
70/ 4/ 8	2440684.5	-15.61874	-24.18650	-9.51467	4.62892	-2.52770	-1.15210	30.32261	5.39847	237.15	-18.29
70/ 4/12	2440688.5	-15.60804	-24.19233	-9.51733	4.63013	-2.52589	-1.15138	30.32259	5.39851	237.17	-18.29
70/ 4/16	2440692.5	-15.59735	-24.19817	-9.51999	4.63133	-2.52408	-1.15067	30.32258	5.39854	237.20	-18.30
70/ 4/20	2440696.5	-15.58665	-24.20400	-9.52265	4.63253	-2.52227	-1.14996	30.32256	5.39857	237.22	-18.30
70/ 4/24	2440700.5	-15.57594	-24.20982	-9.52530	4.63372	-2.52046	-1.14925	30.32255	5.39860	237.24	-18.31
70/ 4/28	2440704.5	-15.56524	-24.21564	-9.52796	4.63492	-2.51865	-1.14854	30.32253	5.39863	237.27	-18.31
70/ 5/ 2	2440708.5	-15.55453	-24.22146	-9.53061	4.63612	-2.51684	-1.14783	30.32251	5.39867	237.29	-18.32
70/ 5/ 6	2440712.5	-15.54382	-24.22727	-9.53326	4.63732	-2.51503	-1.14711	30.32250	5.39870	237.32	-18.32
70/ 5/10	2440716.5	-15.53310	-24.23308	-9.53591	4.63851	-2.51322	-1.14640	30.32248	5.39873	237.34	-18.33
70/ 5/14	2440720.5	-15.52238	-24.23888	-9.53856	4.63970	-2.51140	-1.14569	30.32247	5.39876	237.36	-18.33
70/ 5/18	2440724.5	-15.51166	-24.24468	-9.54120	4.64090	-2.50959	-1.14497	30.32245	5.39879	237.39	-18.34
70/ 5/22	2440728.5	-15.50094	-24.25048	-9.54385	4.64209	-2.50777	-1.14426	30.32243	5.39882	237.41	-18.35
70/ 5/26	2440732.5	-15.49022	-24.25627	-9.54649	4.64328	-2.50596	-1.14354	30.32241	5.39885	237.44	-18.35
70/ 5/30	2440736.5	-15.47949	-24.26206	-9.54913	4.64447	-2.50414	-1.14283	30.32240	5.39888	237.46	-18.36
70/ 6/ 3	2440740.5	-15.46876	-24.26784	-9.55177	4.64566	-2.50233	-1.14211	30.32238	5.39891	237.49	-18.36
70/ 6/ 7	2440744.5	-15.45802	-24.27362	-9.55441	4.64685	-2.50051	-1.14140	30.32236	5.39894	237.51	-18.37
70/ 6/11	2440748.5	-15.44729	-24.27939	-9.55704	4.64804	-2.49869	-1.14068	30.32235	5.39897	237.53	-18.37

1.8 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
70/ 6/15	2440752.5	-15.43655	-24.28516	-9.55968	4.64922	-2.49687	-1.13997	30.32233	5.39900	237.56	-18.38
70/ 6/19	2440756.5	-15.42581	-24.29093	-9.56231	4.65041	-2.49505	-1.13925	30.32231	5.39902	237.58	-18.38
70/ 6/23	2440760.5	-15.41506	-24.29669	-9.56494	4.65159	-2.49323	-1.13853	30.32229	5.39905	237.61	-18.39
70/ 6/27	2440764.5	-15.40431	-24.30245	-9.56757	4.65277	-2.49141	-1.13782	30.32227	5.39908	237.63	-18.39
70/ 7/ 1	2440768.5	-15.39356	-24.30820	-9.57020	4.65396	-2.48959	-1.13710	30.32226	5.39911	237.66	-18.40
70/ 7/ 5	2440772.5	-15.38281	-24.31395	-9.57283	4.65514	-2.48777	-1.13638	30.32224	5.39914	237.68	-18.40
70/ 7/ 9	2440776.5	-15.37206	-24.31970	-9.57545	4.65632	-2.48594	-1.13566	30.32222	5.39916	237.70	-18.41
70/ 7/13	2440780.5	-15.36130	-24.32544	-9.57807	4.65750	-2.48412	-1.13495	30.32220	5.39919	237.73	-18.41
70/ 7/17	2440784.5	-15.35054	-24.33117	-9.58069	4.65868	-2.48230	-1.13423	30.32218	5.39922	237.75	-18.42
70/ 7/21	2440788.5	-15.33977	-24.33691	-9.58331	4.65985	-2.48047	-1.13351	30.32216	5.39924	237.78	-18.42
70/ 7/25	2440792.5	-15.32901	-24.34263	-9.58593	4.66103	-2.47864	-1.13279	30.32214	5.39927	237.80	-18.43
70/ 7/29	2440796.5	-15.31824	-24.34836	-9.58855	4.66221	-2.47682	-1.13207	30.32212	5.39929	237.82	-18.43
70/ 8/ 2	2440800.5	-15.30747	-24.35408	-9.59116	4.66338	-2.47499	-1.13135	30.32210	5.39932	237.85	-18.44
70/ 8/ 6	2440804.5	-15.29669	-24.35979	-9.59377	4.66456	-2.47316	-1.13063	30.32208	5.39935	237.87	-18.45
70/ 8/10	2440808.5	-15.28591	-24.36550	-9.59639	4.66573	-2.47134	-1.12991	30.32206	5.39937	237.90	-18.45
70/ 8/14	2440812.5	-15.27513	-24.37121	-9.59900	4.66690	-2.46951	-1.12919	30.32204	5.39940	237.92	-18.46
70/ 8/18	2440816.5	-15.26435	-24.37691	-9.60160	4.66807	-2.46768	-1.12847	30.32202	5.39942	237.95	-18.46
70/ 8/22	2440820.5	-15.25357	-24.38261	-9.60421	4.66924	-2.46585	-1.12775	30.32200	5.39945	237.97	-18.47
70/ 8/26	2440824.5	-15.24278	-24.38831	-9.60681	4.67041	-2.46402	-1.12703	30.32198	5.39947	237.99	-18.47
70/ 8/30	2440828.5	-15.23199	-24.39400	-9.60942	4.67158	-2.46218	-1.12630	30.32196	5.39949	238.02	-18.48
70/ 9/ 3	2440832.5	-15.22119	-24.39968	-9.61202	4.67274	-2.46035	-1.12558	30.32194	5.39952	238.04	-18.48
70/ 9/ 7	2440836.5	-15.21040	-24.40537	-9.61462	4.67391	-2.45852	-1.12486	30.32192	5.39954	238.07	-18.49
70/ 9/11	2440840.5	-15.19960	-24.41104	-9.61721	4.67507	-2.45668	-1.12414	30.32190	5.39956	238.09	-18.49
70/ 9/15	2440844.5	-15.18880	-24.41672	-9.61981	4.67624	-2.45485	-1.12341	30.32188	5.39959	238.12	-18.50
70/ 9/19	2440848.5	-15.17799	-24.42238	-9.62241	4.67740	-2.45301	-1.12269	30.32186	5.39961	238.14	-18.50
70/ 9/23	2440852.5	-15.16719	-24.42805	-9.62500	4.67856	-2.45118	-1.12197	30.32184	5.39963	238.16	-18.51
70/ 9/27	2440856.5	-15.15638	-24.43371	-9.62759	4.67972	-2.44934	-1.12124	30.32181	5.39965	238.19	-18.51
70/10/ 1	2440860.5	-15.14556	-24.43937	-9.63018	4.68088	-2.44751	-1.12052	30.32179	5.39968	238.21	-18.52
70/10/ 5	2440864.5	-15.13475	-24.44502	-9.63277	4.68204	-2.44567	-1.11979	30.32177	5.39970	238.24	-18.52
70/10/ 9	2440868.5	-15.12393	-24.45067	-9.63535	4.68320	-2.44383	-1.11907	30.32175	5.39972	238.26	-18.53
70/10/13	2440872.5	-15.11311	-24.45631	-9.63794	4.68435	-2.44199	-1.11834	30.32173	5.39974	238.29	-18.53
70/10/17	2440876.5	-15.10229	-24.46195	-9.64052	4.68551	-2.44015	-1.11762	30.32170	5.39976	238.31	-18.54
70/10/21	2440880.5	-15.09146	-24.46758	-9.64310	4.68667	-2.43831	-1.11689	30.32168	5.39978	238.33	-18.54
70/10/25	2440884.5	-15.08063	-24.47322	-9.64568	4.68782	-2.43647	-1.11617	30.32166	5.39980	238.36	-18.55
70/10/29	2440888.5	-15.06980	-24.47884	-9.64826	4.68897	-2.43463	-1.11544	30.32163	5.39982	238.38	-18.55
70/11/ 2	2440892.5	-15.05897	-24.48446	-9.65083	4.69012	-2.43279	-1.11471	30.32161	5.39984	238.41	-18.56
70/11/ 6	2440896.5	-15.04813	-24.49008	-9.65341	4.69127	-2.43094	-1.11399	30.32159	5.39986	238.43	-18.56
70/11/10	2440900.5	-15.03729	-24.49570	-9.65598	4.69242	-2.42910	-1.11326	30.32156	5.39988	238.46	-18.57
70/11/14	2440904.5	-15.02645	-24.50131	-9.65855	4.69357	-2.42726	-1.11253	30.32154	5.39990	238.48	-18.57
70/11/18	2440908.5	-15.01561	-24.50691	-9.66112	4.69472	-2.42541	-1.11180	30.32152	5.39992	238.50	-18.58
70/11/22	2440912.5	-15.00476	-24.51251	-9.66369	4.69587	-2.42357	-1.11108	30.32149	5.39994	238.53	-18.58
70/11/26	2440916.5	-14.99391	-24.51811	-9.66625	4.69701	-2.42172	-1.11035	30.32147	5.39995	238.55	-18.59
70/11/30	2440920.5	-14.98306	-24.52370	-9.66882	4.69816	-2.41987	-1.10962	30.32144	5.39997	238.58	-18.60
70/12/ 4	2440924.5	-14.97220	-24.52929	-9.67138	4.69930	-2.41803	-1.10889	30.32142	5.39999	238.60	-18.60
70/12/ 8	2440928.5	-14.96135	-24.53487	-9.67394	4.70044	-2.41618	-1.10816	30.32140	5.40001	238.63	-18.61

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
70/12/12	2440932.5	-14.95049	-24.54045	-9.67650	4.70158	-2.41433	-1.10743	30.32137	5.40002	238.65	-18.61
70/12/16	2440936.5	-14.93962	-24.54603	-9.67906	4.70272	-2.41248	-1.10670	30.32135	5.40004	238.67	-18.62
70/12/20	2440940.5	-14.92876	-24.55160	-9.68161	4.70386	-2.41063	-1.10597	30.32132	5.40006	238.70	-18.62
70/12/24	2440944.5	-14.91789	-24.55717	-9.68417	4.70500	-2.40878	-1.10524	30.32130	5.40007	238.72	-18.63
70/12/28	2440948.5	-14.90702	-24.56273	-9.68672	4.70614	-2.40693	-1.10451	30.32127	5.40009	238.75	-18.63
71/ 1/ 1	2440952.5	-14.89615	-24.56829	-9.68927	4.70727	-2.40508	-1.10378	30.32124	5.40010	238.77	-18.64
71/ 1/ 5	2440956.5	-14.88527	-24.57384	-9.69182	4.70841	-2.40322	-1.10305	30.32122	5.40012	238.80	-18.64
71/ 1/ 9	2440960.5	-14.87439	-24.57939	-9.69437	4.70954	-2.40137	-1.10232	30.32119	5.40014	238.82	-18.65
71/ 1/13	2440964.5	-14.86351	-24.58494	-9.69691	4.71067	-2.39952	-1.10158	30.32117	5.40015	238.84	-18.65
71/ 1/17	2440968.5	-14.85263	-24.59048	-9.69946	4.71181	-2.39766	-1.10085	30.32114	5.40016	238.87	-18.66
71/ 1/21	2440972.5	-14.84174	-24.59601	-9.70200	4.71294	-2.39581	-1.10012	30.32111	5.40018	238.89	-18.66
71/ 1/25	2440976.5	-14.83085	-24.60155	-9.70454	4.71407	-2.39395	-1.09939	30.32109	5.40019	238.92	-18.67
71/ 1/29	2440980.5	-14.81996	-24.60707	-9.70708	4.71520	-2.39210	-1.09865	30.32106	5.40021	238.94	-18.67
71/ 2/ 2	2440984.5	-14.80906	-24.61260	-9.70962	4.71632	-2.39024	-1.09792	30.32103	5.40022	238.97	-18.68
71/ 2/ 6	2440988.5	-14.79817	-24.61812	-9.71215	4.71745	-2.38838	-1.09719	30.32101	5.40023	238.99	-18.68
71/ 2/10	2440992.5	-14.78727	-24.62363	-9.71469	4.71858	-2.38652	-1.09645	30.32098	5.40025	239.01	-18.69
71/ 2/14	2440996.5	-14.77637	-24.62915	-9.71722	4.71970	-2.38466	-1.09572	30.32095	5.40026	239.04	-18.69
71/ 2/18	2441000.5	-14.76546	-24.63465	-9.71975	4.72082	-2.38281	-1.09498	30.32092	5.40027	239.06	-18.70
71/ 2/22	2441004.5	-14.75455	-24.64015	-9.72228	4.72195	-2.38095	-1.09425	30.32090	5.40028	239.09	-18.70
71/ 2/26	2441008.5	-14.74364	-24.64565	-9.72481	4.72307	-2.37908	-1.09352	30.32087	5.40029	239.11	-18.71
71/ 3/ 2	2441012.5	-14.73273	-24.65115	-9.72733	4.72419	-2.37722	-1.09278	30.32084	5.40031	239.14	-18.71
71/ 3/ 6	2441016.5	-14.72182	-24.65664	-9.72985	4.72531	-2.37536	-1.09204	30.32081	5.40032	239.16	-18.72
71/ 3/10	2441020.5	-14.71090	-24.66212	-9.73238	4.72642	-2.37350	-1.09131	30.32078	5.40033	239.18	-18.72
71/ 3/14	2441024.5	-14.69998	-24.66760	-9.73490	4.72754	-2.37164	-1.09057	30.32076	5.40034	239.21	-18.73
71/ 3/18	2441028.5	-14.68906	-24.67308	-9.73742	4.72866	-2.36977	-1.08984	30.32073	5.40035	239.23	-18.73
71/ 3/22	2441032.5	-14.67813	-24.67855	-9.73993	4.72977	-2.36791	-1.08910	30.32070	5.40036	239.26	-18.74
71/ 3/26	2441036.5	-14.66720	-24.68402	-9.74245	4.73089	-2.36604	-1.08836	30.32067	5.40037	239.28	-18.74
71/ 3/30	2441040.5	-14.65627	-24.68948	-9.74496	4.73200	-2.36418	-1.08763	30.32064	5.40038	239.31	-18.75
71/ 4/ 3	2441044.5	-14.64534	-24.69494	-9.74747	4.73311	-2.36231	-1.08689	30.32061	5.40039	239.33	-18.75
71/ 4/ 7	2441048.5	-14.63440	-24.70040	-9.74998	4.73422	-2.36045	-1.08615	30.32058	5.40040	239.35	-18.76
71/ 4/11	2441052.5	-14.62347	-24.70585	-9.75249	4.73533	-2.35858	-1.08541	30.32055	5.40041	239.38	-18.76
71/ 4/15	2441056.5	-14.61253	-24.71130	-9.75500	4.73644	-2.35671	-1.08467	30.32052	5.40041	239.40	-18.77
71/ 4/19	2441060.5	-14.60158	-24.71674	-9.75750	4.73755	-2.35484	-1.08394	30.32049	5.40042	239.43	-18.77
71/ 4/23	2441064.5	-14.59064	-24.72218	-9.76001	4.73865	-2.35297	-1.08320	30.32046	5.40043	239.45	-18.78
71/ 4/27	2441068.5	-14.57969	-24.72761	-9.76251	4.73976	-2.35111	-1.08246	30.32043	5.40044	239.48	-18.78
71/ 5/ 1	2441072.5	-14.56874	-24.73304	-9.76501	4.74086	-2.34924	-1.08172	30.32040	5.40044	239.50	-18.79
71/ 5/ 5	2441076.5	-14.55778	-24.73846	-9.76751	4.74196	-2.34736	-1.08098	30.32037	5.40045	239.52	-18.79
71/ 5/ 9	2441080.5	-14.54683	-24.74389	-9.77000	4.74307	-2.34549	-1.08024	30.32034	5.40046	239.55	-18.80
71/ 5/13	2441084.5	-14.53587	-24.74930	-9.77250	4.74417	-2.34362	-1.07950	30.32031	5.40046	239.57	-18.80
71/ 5/17	2441088.5	-14.52491	-24.75471	-9.77499	4.74527	-2.34175	-1.07876	30.32028	5.40047	239.60	-18.81
71/ 5/21	2441092.5	-14.51394	-24.76012	-9.77748	4.74637	-2.33988	-1.07802	30.32025	5.40047	239.62	-18.81
71/ 5/25	2441096.5	-14.50298	-24.76552	-9.77997	4.74746	-2.33800	-1.07728	30.32021	5.40048	239.65	-18.82
71/ 5/29	2441100.5	-14.49201	-24.77092	-9.78246	4.74856	-2.33613	-1.07653	30.32018	5.40049	239.67	-18.82
71/ 6/ 2	2441104.5	-14.48104	-24.77632	-9.78494	4.74965	-2.33425	-1.07579	30.32015	5.40049	239.69	-18.83
71/ 6/ 6	2441108.5	-14.47006	-24.78171	-9.78743	4.75075	-2.33238	-1.07505	30.32012	5.40049	239.72	-18.83

1.8 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
71/ 6/10	2441112.5	-14.45909	-24.78709	-9.78991	4.75184	-2.33050	-1.07431	30.32009	5.40050	239.74	-18.84
71/ 6/14	2441116.5	-14.44811	-24.79248	-9.79239	4.75293	-2.32863	-1.07357	30.32005	5.40050	239.77	-18.84
71/ 6/18	2441120.5	-14.43713	-24.79785	-9.79487	4.75402	-2.32675	-1.07282	30.32002	5.40051	239.79	-18.85
71/ 6/22	2441124.5	-14.42614	-24.80323	-9.79735	4.75511	-2.32487	-1.07208	30.31999	5.40051	239.82	-18.85
71/ 6/26	2441128.5	-14.41516	-24.80860	-9.79982	4.75620	-2.32299	-1.07134	30.31996	5.40051	239.84	-18.86
71/ 6/30	2441132.5	-14.40417	-24.81396	-9.80230	4.75729	-2.32112	-1.07060	30.31992	5.40052	239.87	-18.86
71/ 7/ 4	2441136.5	-14.39318	-24.81932	-9.80477	4.75838	-2.31924	-1.06985	30.31989	5.40052	239.89	-18.87
71/ 7/ 8	2441140.5	-14.38218	-24.82468	-9.80724	4.75946	-2.31736	-1.06911	30.31986	5.40052	239.91	-18.87
71/ 7/12	2441144.5	-14.37119	-24.83003	-9.80971	4.76055	-2.31548	-1.06836	30.31982	5.40052	239.94	-18.88
71/ 7/16	2441148.5	-14.36019	-24.83537	-9.81218	4.76163	-2.31360	-1.06762	30.31979	5.40052	239.96	-18.88
71/ 7/20	2441152.5	-14.34919	-24.84072	-9.81464	4.76271	-2.31171	-1.06687	30.31976	5.40052	239.99	-18.89
71/ 7/24	2441156.5	-14.33818	-24.84605	-9.81711	4.76379	-2.30983	-1.06613	30.31972	5.40053	240.01	-18.89
71/ 7/28	2441160.5	-14.32718	-24.85139	-9.81957	4.76487	-2.30795	-1.06538	30.31969	5.40053	240.04	-18.90
71/ 8/ 1	2441164.5	-14.31617	-24.85672	-9.82203	4.76595	-2.30607	-1.06464	30.31965	5.40053	240.06	-18.90
71/ 8/ 5	2441168.5	-14.30516	-24.86204	-9.82449	4.76703	-2.30418	-1.06389	30.31962	5.40053	240.08	-18.91
71/ 8/ 9	2441172.5	-14.29414	-24.86736	-9.82695	4.76810	-2.30230	-1.06315	30.31958	5.40053	240.11	-18.91
71/ 8/13	2441176.5	-14.28313	-24.87268	-9.82940	4.76918	-2.30041	-1.06240	30.31955	5.40053	240.13	-18.92
71/ 8/17	2441180.5	-14.27211	-24.87799	-9.83185	4.77025	-2.29853	-1.06166	30.31951	5.40052	240.16	-18.92
71/ 8/21	2441184.5	-14.26109	-24.88330	-9.83431	4.77133	-2.29664	-1.06091	30.31948	5.40052	240.18	-18.93
71/ 8/25	2441188.5	-14.25006	-24.88860	-9.83676	4.77240	-2.29476	-1.06016	30.31944	5.40052	240.21	-18.93
71/ 8/29	2441192.5	-14.23903	-24.89390	-9.83920	4.77347	-2.29287	-1.05941	30.31941	5.40052	240.23	-18.94
71/ 9/ 2	2441196.5	-14.22801	-24.89920	-9.84165	4.77454	-2.29098	-1.05867	30.31937	5.40052	240.26	-18.94
71/ 9/ 6	2441200.5	-14.21697	-24.90449	-9.84410	4.77561	-2.28909	-1.05792	30.31934	5.40052	240.28	-18.95
71/ 9/10	2441204.5	-14.20594	-24.90977	-9.84654	4.77667	-2.28721	-1.05717	30.31930	5.40051	240.30	-18.95
71/ 9/14	2441208.5	-14.19490	-24.91506	-9.84898	4.77774	-2.28532	-1.05642	30.31926	5.40051	240.33	-18.96
71/ 9/18	2441212.5	-14.18387	-24.92033	-9.85142	4.77881	-2.28343	-1.05567	30.31923	5.40051	240.35	-18.96
71/ 9/22	2441216.5	-14.17283	-24.92561	-9.85386	4.77987	-2.28154	-1.05493	30.31919	5.40050	240.38	-18.97
71/ 9/26	2441220.5	-14.16178	-24.93088	-9.85629	4.78093	-2.27965	-1.05418	30.31915	5.40050	240.40	-18.97
71/ 9/30	2441224.5	-14.15074	-24.93614	-9.85873	4.78199	-2.27776	-1.05343	30.31912	5.40049	240.43	-18.98
71/10/ 4	2441228.5	-14.13969	-24.94140	-9.86116	4.78305	-2.27586	-1.05268	30.31908	5.40049	240.45	-18.98
71/10/ 8	2441232.5	-14.12864	-24.94665	-9.86359	4.78411	-2.27397	-1.05193	30.31904	5.40049	240.47	-18.99
71/10/12	2441236.5	-14.11758	-24.95191	-9.86602	4.78517	-2.27208	-1.05118	30.31901	5.40048	240.50	-18.99
71/10/16	2441240.5	-14.10653	-24.95715	-9.86845	4.78623	-2.27019	-1.05043	30.31897	5.40048	240.52	-19.00
71/10/20	2441244.5	-14.09547	-24.96239	-9.87087	4.78728	-2.26829	-1.04968	30.31893	5.40047	240.55	-19.00
71/10/24	2441248.5	-14.08441	-24.96763	-9.87330	4.78834	-2.26640	-1.04893	30.31889	5.40046	240.57	-19.00
71/10/28	2441252.5	-14.07334	-24.97287	-9.87572	4.78939	-2.26450	-1.04818	30.31885	5.40046	240.60	-19.01
71/11/ 1	2441256.5	-14.06228	-24.97810	-9.87814	4.79044	-2.26261	-1.04743	30.31882	5.40045	240.62	-19.01
71/11/ 5	2441260.5	-14.05121	-24.98332	-9.88056	4.79150	-2.26071	-1.04667	30.31878	5.40044	240.65	-19.02
71/11/ 9	2441264.5	-14.04014	-24.98854	-9.88298	4.79255	-2.25882	-1.04592	30.31874	5.40044	240.67	-19.02
71/11/13	2441268.5	-14.02907	-24.99376	-9.88539	4.79360	-2.25692	-1.04517	30.31870	5.40043	240.69	-19.03
71/11/17	2441272.5	-14.01799	-24.99897	-9.88781	4.79464	-2.25502	-1.04442	30.31866	5.40042	240.72	-19.03
71/11/21	2441276.5	-14.00692	-25.00418	-9.89022	4.79569	-2.25313	-1.04367	30.31862	5.40041	240.74	-19.04
71/11/25	2441280.5	-13.99584	-25.00938	-9.89263	4.79673	-2.25123	-1.04291	30.31858	5.40040	240.77	-19.04
71/11/29	2441284.5	-13.98475	-25.01458	-9.89504	4.79778	-2.24933	-1.04216	30.31854	5.40040	240.79	-19.05
71/12/ 3	2441288.5	-13.97367	-25.01977	-9.89744	4.79882	-2.24743	-1.04141	30.31851	5.40039	240.82	-19.05

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
71/12/ 7	2441292.5	-13.96258	-25.02496	-9.89985	4.79986	-2.24553	-1.04066	30.31847	5.40038	240.84	-19.06
71/12/11	2441296.5	-13.95149	-25.03015	-9.90225	4.80091	-2.24363	-1.03990	30.31843	5.40037	240.87	-19.06
71/12/15	2441300.5	-13.94040	-25.03533	-9.90465	4.80194	-2.24173	-1.03915	30.31839	5.40036	240.89	-19.07
71/12/19	2441304.5	-13.92930	-25.04050	-9.90705	4.80298	-2.23983	-1.03839	30.31835	5.40035	240.91	-19.07
71/12/23	2441308.5	-13.91821	-25.04568	-9.90945	4.80402	-2.23793	-1.03764	30.31831	5.40034	240.94	-19.08
71/12/27	2441312.5	-13.90711	-25.05084	-9.91185	4.80506	-2.23603	-1.03689	30.31826	5.40032	240.96	-19.08
71/12/31	2441316.5	-13.89601	-25.05601	-9.91424	4.80609	-2.23412	-1.03613	30.31822	5.40031	240.99	-19.09
72/ 1/ 4	2441320.5	-13.88490	-25.06117	-9.91664	4.80713	-2.23222	-1.03538	30.31818	5.40030	241.01	-19.09
72/ 1/ 8	2441324.5	-13.87380	-25.06632	-9.91903	4.80816	-2.23032	-1.03462	30.31814	5.40029	241.04	-19.10
72/ 1/12	2441328.5	-13.86269	-25.07147	-9.92142	4.80919	-2.22841	-1.03387	30.31810	5.40028	241.06	-19.10
72/ 1/16	2441332.5	-13.85158	-25.07662	-9.92380	4.81022	-2.22651	-1.03311	30.31806	5.40027	241.09	-19.11
72/ 1/20	2441336.5	-13.84046	-25.08176	-9.92619	4.81125	-2.22460	-1.03236	30.31802	5.40025	241.11	-19.11
72/ 1/24	2441340.5	-13.82935	-25.08690	-9.92857	4.81228	-2.22270	-1.03160	30.31798	5.40024	241.13	-19.12
72/ 1/28	2441344.5	-13.81823	-25.09203	-9.93096	4.81330	-2.22079	-1.03084	30.31793	5.40023	241.16	-19.12
72/ 2/ 1	2441348.5	-13.80711	-25.09716	-9.93334	4.81433	-2.21889	-1.03009	30.31789	5.40021	241.18	-19.13
72/ 2/ 5	2441352.5	-13.79598	-25.10228	-9.93571	4.81535	-2.21698	-1.02933	30.31785	5.40020	241.21	-19.13
72/ 2/ 9	2441356.5	-13.78486	-25.10740	-9.93809	4.81638	-2.21507	-1.02857	30.31781	5.40018	241.23	-19.14
72/ 2/13	2441360.5	-13.77373	-25.11251	-9.94047	4.81740	-2.21316	-1.02782	30.31777	5.40017	241.26	-19.14
72/ 2/17	2441364.5	-13.76260	-25.11763	-9.94284	4.81842	-2.21126	-1.02706	30.31772	5.40015	241.28	-19.14
72/ 2/21	2441368.5	-13.75147	-25.12273	-9.94521	4.81944	-2.20935	-1.02630	30.31768	5.40014	241.30	-19.15
72/ 2/25	2441372.5	-13.74033	-25.12783	-9.94758	4.82046	-2.20744	-1.02554	30.31764	5.40012	241.33	-19.15
72/ 2/29	2441376.5	-13.72919	-25.13293	-9.94995	4.82147	-2.20553	-1.02479	30.31759	5.40011	241.35	-19.16
72/ 3/ 4	2441380.5	-13.71806	-25.13802	-9.95232	4.82249	-2.20362	-1.02403	30.31755	5.40009	241.38	-19.16
72/ 3/ 8	2441384.5	-13.70691	-25.14311	-9.95468	4.82351	-2.20171	-1.02327	30.31751	5.40007	241.40	-19.17
72/ 3/12	2441388.5	-13.69577	-25.14820	-9.95704	4.82452	-2.19980	-1.02251	30.31746	5.40006	241.43	-19.17
72/ 3/16	2441392.5	-13.68462	-25.15328	-9.95941	4.82553	-2.19789	-1.02175	30.31742	5.40004	241.45	-19.18
72/ 3/20	2441396.5	-13.67347	-25.15835	-9.96177	4.82654	-2.19598	-1.02099	30.31738	5.40002	241.48	-19.18
72/ 3/24	2441400.5	-13.66232	-25.16342	-9.96412	4.82755	-2.19406	-1.02024	30.31733	5.40001	241.50	-19.19
72/ 3/28	2441404.5	-13.65117	-25.16849	-9.96648	4.82856	-2.19215	-1.01948	30.31729	5.39999	241.52	-19.19
72/ 4/ 1	2441408.5	-13.64001	-25.17355	-9.96883	4.82957	-2.19024	-1.01872	30.31724	5.39997	241.55	-19.20
72/ 4/ 5	2441412.5	-13.62885	-25.17861	-9.97119	4.83058	-2.18832	-1.01796	30.31720	5.39995	241.57	-19.20
72/ 4/ 9	2441416.5	-13.61769	-25.18366	-9.97354	4.83158	-2.18641	-1.01720	30.31715	5.39993	241.60	-19.21
72/ 4/13	2441420.5	-13.60653	-25.18871	-9.97589	4.83259	-2.18450	-1.01644	30.31711	5.39991	241.62	-19.21
72/ 4/17	2441424.5	-13.59537	-25.19375	-9.97823	4.83359	-2.18258	-1.01568	30.31706	5.39989	241.65	-19.22
72/ 4/21	2441428.5	-13.58420	-25.19879	-9.98058	4.83459	-2.18067	-1.01492	30.31702	5.39987	241.67	-19.22
72/ 4/25	2441432.5	-13.57303	-25.20383	-9.98292	4.83559	-2.17875	-1.01416	30.31697	5.39985	241.70	-19.23
72/ 4/29	2441436.5	-13.56186	-25.20886	-9.98526	4.83659	-2.17684	-1.01339	30.31693	5.39983	241.72	-19.23
72/ 5/ 3	2441440.5	-13.55068	-25.21389	-9.98761	4.83759	-2.17492	-1.01263	30.31688	5.39981	241.75	-19.23
72/ 5/ 7	2441444.5	-13.53950	-25.21891	-9.98994	4.83859	-2.17300	-1.01187	30.31684	5.39979	241.77	-19.24
72/ 5/11	2441448.5	-13.52832	-25.22393	-9.99228	4.83958	-2.17109	-1.01111	30.31679	5.39977	241.79	-19.24
72/ 5/15	2441452.5	-13.51714	-25.22894	-9.99462	4.84058	-2.16917	-1.01035	30.31674	5.39975	241.82	-19.25
72/ 5/19	2441456.5	-13.50596	-25.23395	-9.99695	4.84157	-2.16725	-1.00959	30.31670	5.39972	241.84	-19.25
72/ 5/23	2441460.5	-13.49477	-25.23895	-9.99928	4.84256	-2.16533	-1.00882	30.31665	5.39970	241.87	-19.26
72/ 5/27	2441464.5	-13.48359	-25.24395	-10.00161	4.84355	-2.16341	-1.00806	30.31660	5.39968	241.89	-19.26
72/ 5/31	2441468.5	-13.47239	-25.24895	-10.00394	4.84454	-2.16149	-1.00730	30.31656	5.39966	241.92	-19.27

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72/ 6/ 4	2441472.5	-13.46120	-25.25394	-10.00626	4.84553	-2.15958	-1.00654	30.31651	5.39963	241.94	-19.27
72/ 6/ 8	2441476.5	-13.45001	-25.25893	-10.00859	4.84652	-2.15766	-1.00577	30.31646	5.39961	241.97	-19.28
72/ 6/12	2441480.5	-13.43881	-25.26391	-10.01091	4.84750	-2.15574	-1.00501	30.31642	5.39959	241.99	-19.28
72/ 6/16	2441484.5	-13.42761	-25.26889	-10.01323	4.84849	-2.15381	-1.00425	30.31637	5.39956	242.01	-19.29
72/ 6/20	2441488.5	-13.41641	-25.27386	-10.01555	4.84947	-2.15189	-1.00348	30.31632	5.39954	242.04	-19.29
72/ 6/24	2441492.5	-13.40520	-25.27883	-10.01787	4.85045	-2.14997	-1.00272	30.31627	5.39951	242.06	-19.30
72/ 6/28	2441496.5	-13.39400	-25.28380	-10.02018	4.85144	-2.14805	-1.00196	30.31623	5.39949	242.09	-19.30
72/ 7/ 2	2441500.5	-13.38279	-25.28876	-10.02250	4.85242	-2.14613	-1.00119	30.31618	5.39946	242.11	-19.31
72/ 7/ 6	2441504.5	-13.37158	-25.29371	-10.02481	4.85339	-2.14421	-1.00043	30.31613	5.39944	242.14	-19.31
72/ 7/10	2441508.5	-13.36036	-25.29866	-10.02712	4.85437	-2.14228	-0.99966	30.31608	5.39941	242.16	-19.31
72/ 7/14	2441512.5	-13.34915	-25.30361	-10.02943	4.85535	-2.14036	-0.99890	30.31603	5.39938	242.19	-19.32
72/ 7/18	2441516.5	-13.33793	-25.30855	-10.03174	4.85632	-2.13844	-0.99814	30.31598	5.39936	242.21	-19.32
72/ 7/22	2441520.5	-13.32671	-25.31349	-10.03404	4.85730	-2.13651	-0.99737	30.31594	5.39933	242.23	-19.33
72/ 7/26	2441524.5	-13.31549	-25.31842	-10.03634	4.85827	-2.13459	-0.99661	30.31589	5.39930	242.26	-19.33
72/ 7/30	2441528.5	-13.30426	-25.32335	-10.03864	4.85924	-2.13266	-0.99584	30.31584	5.39928	242.28	-19.34
72/ 8/ 3	2441532.5	-13.29304	-25.32828	-10.04094	4.86021	-2.13074	-0.99507	30.31579	5.39925	242.31	-19.34
72/ 8/ 7	2441536.5	-13.28181	-25.33320	-10.04324	4.86118	-2.12881	-0.99431	30.31574	5.39922	242.33	-19.35
72/ 8/11	2441540.5	-13.27058	-25.33811	-10.04554	4.86215	-2.12689	-0.99354	30.31569	5.39919	242.36	-19.35
72/ 8/15	2441544.5	-13.25934	-25.34302	-10.04783	4.86312	-2.12496	-0.99278	30.31564	5.39916	242.38	-19.36
72/ 8/19	2441548.5	-13.24811	-25.34793	-10.05013	4.86408	-2.12303	-0.99201	30.31559	5.39913	242.41	-19.36
72/ 8/23	2441552.5	-13.23687	-25.35283	-10.05242	4.86504	-2.12111	-0.99125	30.31554	5.39910	242.43	-19.37
72/ 8/27	2441556.5	-13.22563	-25.35773	-10.05471	4.86601	-2.11918	-0.99048	30.31549	5.39907	242.46	-19.37
72/ 8/31	2441560.5	-13.21439	-25.36263	-10.05699	4.86697	-2.11725	-0.98971	30.31544	5.39904	242.48	-19.37
72/ 9/ 4	2441564.5	-13.20314	-25.36751	-10.05928	4.86793	-2.11533	-0.98895	30.31539	5.39901	242.50	-19.38
72/ 9/ 8	2441568.5	-13.19189	-25.37240	-10.06156	4.86889	-2.11340	-0.98818	30.31534	5.39898	242.53	-19.38
72/ 9/12	2441572.5	-13.18065	-25.37728	-10.06384	4.86985	-2.11147	-0.98741	30.31529	5.39895	242.55	-19.39
72/ 9/16	2441576.5	-13.16939	-25.38215	-10.06612	4.87080	-2.10954	-0.98664	30.31524	5.39892	242.58	-19.39
72/ 9/20	2441580.5	-13.15814	-25.38703	-10.06840	4.87176	-2.10761	-0.98588	30.31519	5.39889	242.60	-19.40
72/ 9/24	2441584.5	-13.14688	-25.39189	-10.07068	4.87271	-2.10568	-0.98511	30.31513	5.39886	242.63	-19.40
72/ 9/28	2441588.5	-13.13563	-25.39675	-10.07295	4.87367	-2.10375	-0.98434	30.31508	5.39883	242.65	-19.41
72/10/ 2	2441592.5	-13.12437	-25.40161	-10.07523	4.87462	-2.10182	-0.98357	30.31503	5.39879	242.68	-19.41
72/10/ 6	2441596.5	-13.11310	-25.40647	-10.07750	4.87557	-2.09989	-0.98281	30.31498	5.39876	242.70	-19.42
72/10/10	2441600.5	-13.10184	-25.41131	-10.07977	4.87652	-2.09796	-0.98204	30.31493	5.39873	242.72	-19.42
72/10/14	2441604.5	-13.09057	-25.41616	-10.08204	4.87747	-2.09603	-0.98127	30.31488	5.39870	242.75	-19.43
72/10/18	2441608.5	-13.07930	-25.42100	-10.08430	4.87841	-2.09410	-0.98050	30.31482	5.39866	242.77	-19.43
72/10/22	2441612.5	-13.06803	-25.42583	-10.08657	4.87936	-2.09217	-0.97973	30.31477	5.39863	242.80	-19.43
72/10/26	2441616.5	-13.05676	-25.43067	-10.08883	4.88030	-2.09024	-0.97896	30.31472	5.39859	242.82	-19.44
72/10/30	2441620.5	-13.04548	-25.43549	-10.09109	4.88125	-2.08830	-0.97819	30.31467	5.39856	242.85	-19.44
72/11/ 3	2441624.5	-13.03421	-25.44031	-10.09335	4.88219	-2.08637	-0.97742	30.31461	5.39853	242.87	-19.45
72/11/ 7	2441628.5	-13.02293	-25.44513	-10.09561	4.88313	-2.08444	-0.97666	30.31456	5.39849	242.90	-19.45
72/11/11	2441632.5	-13.01165	-25.44994	-10.09786	4.88407	-2.08250	-0.97589	30.31451	5.39846	242.92	-19.46
72/11/15	2441636.5	-13.00036	-25.45475	-10.10011	4.88501	-2.08057	-0.97512	30.31445	5.39842	242.95	-19.46
72/11/19	2441640.5	-12.98907	-25.45956	-10.10237	4.88595	-2.07864	-0.97435	30.31440	5.39838	242.97	-19.47
72/11/23	2441644.5	-12.97779	-25.46436	-10.10462	4.88688	-2.07670	-0.97358	30.31435	5.39835	242.99	-19.47
72/11/27	2441648.5	-12.96650	-25.46915	-10.10686	4.88782	-2.07477	-0.97281	30.31429	5.39831	243.02	-19.48

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
72/12/ 1	2441652.5	-12.95520	-25.47394	-10.10911	4.88875	-2.07284	-0.97204	30.31424	5.39828	243.04	-19.48
72/12/ 5	2441656.5	-12.94391	-25.47873	-10.11136	4.88968	-2.07090	-0.97127	30.31419	5.39824	243.07	-19.48
72/12/ 9	2441660.5	-12.93261	-25.48351	-10.11360	4.89061	-2.06897	-0.97050	30.31413	5.39820	243.09	-19.49
72/12/13	2441664.5	-12.92131	-25.48829	-10.11584	4.89154	-2.06703	-0.96972	30.31408	5.39816	243.12	-19.49
72/12/17	2441668.5	-12.91001	-25.49306	-10.11808	4.89247	-2.06509	-0.96895	30.31402	5.39813	243.14	-19.50
72/12/21	2441672.5	-12.89871	-25.49783	-10.12032	4.89340	-2.06316	-0.96818	30.31397	5.39809	243.17	-19.50
72/12/25	2441676.5	-12.88740	-25.50260	-10.12255	4.89433	-2.06122	-0.96741	30.31392	5.39805	243.19	-19.51
72/12/29	2441680.5	-12.87609	-25.50735	-10.12479	4.89525	-2.05929	-0.96664	30.31386	5.39801	243.22	-19.51
73/ 1/ 2	2441684.5	-12.86478	-25.51211	-10.12702	4.89617	-2.05735	-0.96587	30.31381	5.39797	243.24	-19.52
73/ 1/ 6	2441688.5	-12.85347	-25.51686	-10.12925	4.89710	-2.05541	-0.96510	30.31375	5.39793	243.26	-19.52
73/ 1/10	2441692.5	-12.84216	-25.52161	-10.13148	4.89802	-2.05348	-0.96433	30.31370	5.39789	243.29	-19.53
73/ 1/14	2441696.5	-12.83084	-25.52635	-10.13370	4.89894	-2.05154	-0.96355	30.31364	5.39785	243.31	-19.53
73/ 1/18	2441700.5	-12.81952	-25.53109	-10.13593	4.89986	-2.04960	-0.96278	30.31359	5.39781	243.34	-19.53
73/ 1/22	2441704.5	-12.80820	-25.53582	-10.13815	4.90077	-2.04766	-0.96201	30.31353	5.39777	243.36	-19.54
73/ 1/26	2441708.5	-12.79688	-25.54055	-10.14037	4.90169	-2.04572	-0.96124	30.31348	5.39773	243.39	-19.54
73/ 1/30	2441712.5	-12.78555	-25.54527	-10.14259	4.90260	-2.04379	-0.96047	30.31342	5.39769	243.41	-19.55
73/ 2/ 3	2441716.5	-12.77423	-25.54999	-10.14481	4.90352	-2.04185	-0.95969	30.31336	5.39765	243.44	-19.55
73/ 2/ 7	2441720.5	-12.76290	-25.55470	-10.14703	4.90443	-2.03991	-0.95892	30.31331	5.39761	243.46	-19.56
73/ 2/11	2441724.5	-12.75157	-25.55941	-10.14924	4.90534	-2.03797	-0.95815	30.31325	5.39757	243.49	-19.56
73/ 2/15	2441728.5	-12.74023	-25.56412	-10.15146	4.90625	-2.03603	-0.95738	30.31320	5.39753	243.51	-19.57
73/ 2/19	2441732.5	-12.72890	-25.56882	-10.15367	4.90716	-2.03409	-0.95660	30.31314	5.39749	243.53	-19.57
73/ 2/23	2441736.5	-12.71756	-25.57352	-10.15587	4.90807	-2.03215	-0.95583	30.31308	5.39744	243.56	-19.57
73/ 2/27	2441740.5	-12.70622	-25.57821	-10.15808	4.90898	-2.03021	-0.95506	30.31303	5.39740	243.58	-19.58
73/ 3/ 3	2441744.5	-12.69488	-25.58290	-10.16029	4.90988	-2.02827	-0.95428	30.31297	5.39736	243.61	-19.58
73/ 3/ 7	2441748.5	-12.68354	-25.58758	-10.16249	4.91078	-2.02633	-0.95351	30.31291	5.39731	243.63	-19.59
73/ 3/11	2441752.5	-12.67219	-25.59226	-10.16469	4.91169	-2.02439	-0.95274	30.31286	5.39727	243.66	-19.59
73/ 3/15	2441756.5	-12.66084	-25.59694	-10.16689	4.91259	-2.02245	-0.95196	30.31280	5.39723	243.68	-19.60
73/ 3/19	2441760.5	-12.64949	-25.60161	-10.16909	4.91349	-2.02051	-0.95119	30.31274	5.39718	243.71	-19.60
73/ 3/23	2441764.5	-12.63814	-25.60627	-10.17129	4.91439	-2.01857	-0.95042	30.31268	5.39714	243.73	-19.61
73/ 3/27	2441768.5	-12.62679	-25.61093	-10.17348	4.91529	-2.01662	-0.94964	30.31263	5.39709	243.76	-19.61
73/ 3/31	2441772.5	-12.61543	-25.61559	-10.17568	4.91618	-2.01468	-0.94887	30.31257	5.39705	243.78	-19.61
73/ 4/ 4	2441776.5	-12.60407	-25.62024	-10.17787	4.91708	-2.01274	-0.94810	30.31251	5.39700	243.80	-19.62
73/ 4/ 8	2441780.5	-12.59271	-25.62489	-10.18006	4.91797	-2.01080	-0.94732	30.31245	5.39696	243.83	-19.62
73/ 4/12	2441784.5	-12.58135	-25.62953	-10.18224	4.91886	-2.00886	-0.94655	30.31239	5.39691	243.85	-19.63
73/ 4/16	2441788.5	-12.56998	-25.63417	-10.18443	4.91976	-2.00691	-0.94577	30.31234	5.39687	243.88	-19.63
73/ 4/20	2441792.5	-12.55862	-25.63880	-10.18661	4.92065	-2.00497	-0.94500	30.31228	5.39682	243.90	-19.64
73/ 4/24	2441796.5	-12.54725	-25.64343	-10.18880	4.92154	-2.00303	-0.94422	30.31222	5.39678	243.93	-19.64
73/ 4/28	2441800.5	-12.53588	-25.64806	-10.19098	4.92242	-2.00109	-0.94345	30.31216	5.39673	243.95	-19.65
73/ 5/ 2	2441804.5	-12.52451	-25.65268	-10.19316	4.92331	-1.99914	-0.94267	30.31210	5.39668	243.98	-19.65
73/ 5/ 6	2441808.5	-12.51313	-25.65730	-10.19533	4.92420	-1.99720	-0.94190	30.31204	5.39664	244.00	-19.65
73/ 5/10	2441812.5	-12.50175	-25.66191	-10.19751	4.92508	-1.99526	-0.94112	30.31199	5.39659	244.03	-19.66
73/ 5/14	2441816.5	-12.49038	-25.66651	-10.19968	4.92596	-1.99331	-0.94035	30.31193	5.39654	244.05	-19.66
73/ 5/18	2441820.5	-12.47899	-25.67112	-10.20185	4.92684	-1.99137	-0.93957	30.31187	5.39649	244.08	-19.67
73/ 5/22	2441824.5	-12.46761	-25.67571	-10.20402	4.92773	-1.98942	-0.93880	30.31181	5.39645	244.10	-19.67
73/ 5/26	2441828.5	-12.45623	-25.68031	-10.20619	4.92860	-1.98748	-0.93802	30.31175	5.39640	244.12	-19.68

1.8 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
73/ 5/30	2441832.5	-12.44484	-25.68490	-10.20836	4.92948	-1.98554	-0.93725	30.31169	5.39635	244.15	-19.68
73/ 6/ 3	2441836.5	-12.43345	-25.68948	-10.21052	4.93036	-1.98359	-0.93647	30.31163	5.39630	244.17	-19.69
73/ 6/ 7	2441840.5	-12.42206	-25.69406	-10.21268	4.93124	-1.98165	-0.93570	30.31157	5.39625	244.20	-19.69
73/ 6/11	2441844.5	-12.41067	-25.69864	-10.21484	4.93211	-1.97970	-0.93492	30.31151	5.39620	244.22	-19.69
73/ 6/15	2441848.5	-12.39927	-25.70321	-10.21700	4.93298	-1.97776	-0.93414	30.31145	5.39615	244.25	-19.70
73/ 6/19	2441852.5	-12.38787	-25.70778	-10.21916	4.93386	-1.97581	-0.93337	30.31139	5.39610	244.27	-19.70
73/ 6/23	2441856.5	-12.37648	-25.71234	-10.22131	4.93473	-1.97387	-0.93259	30.31133	5.39605	244.30	-19.71
73/ 6/27	2441860.5	-12.36507	-25.71690	-10.22347	4.93560	-1.97192	-0.93182	30.31127	5.39600	244.32	-19.71
73/ 7/ 1	2441864.5	-12.35367	-25.72145	-10.22562	4.93646	-1.96998	-0.93104	30.31121	5.39595	244.35	-19.72
73/ 7/ 5	2441868.5	-12.34227	-25.72600	-10.22777	4.93733	-1.96803	-0.93026	30.31115	5.39590	244.37	-19.72
73/ 7/ 9	2441872.5	-12.33086	-25.73054	-10.22992	4.93820	-1.96608	-0.92949	30.31109	5.39585	244.39	-19.72
73/ 7/13	2441876.5	-12.31945	-25.73508	-10.23206	4.93906	-1.96414	-0.92871	30.31103	5.39580	244.42	-19.73
73/ 7/17	2441880.5	-12.30804	-25.73962	-10.23421	4.93993	-1.96219	-0.92794	30.31097	5.39575	244.44	-19.73
73/ 7/21	2441884.5	-12.29663	-25.74415	-10.23635	4.94079	-1.96025	-0.92716	30.31091	5.39570	244.47	-19.74
73/ 7/25	2441888.5	-12.28521	-25.74867	-10.23849	4.94165	-1.95830	-0.92638	30.31085	5.39565	244.49	-19.74
73/ 7/29	2441892.5	-12.27379	-25.75320	-10.24063	4.94251	-1.95635	-0.92561	30.31078	5.39560	244.52	-19.75
73/ 8/ 2	2441896.5	-12.26237	-25.75771	-10.24277	4.94337	-1.95441	-0.92483	30.31072	5.39554	244.54	-19.75
73/ 8/ 6	2441900.5	-12.25095	-25.76223	-10.24490	4.94423	-1.95246	-0.92405	30.31066	5.39549	244.57	-19.75
73/ 8/10	2441904.5	-12.23953	-25.76673	-10.24704	4.94508	-1.95051	-0.92328	30.31060	5.39544	244.59	-19.76
73/ 8/14	2441908.5	-12.22811	-25.77124	-10.24917	4.94594	-1.94857	-0.92250	30.31054	5.39539	244.62	-19.76
73/ 8/18	2441912.5	-12.21668	-25.77574	-10.25130	4.94679	-1.94662	-0.92172	30.31048	5.39534	244.64	-19.77
73/ 8/22	2441916.5	-12.20525	-25.78023	-10.25343	4.94764	-1.94467	-0.92094	30.31042	5.39528	244.67	-19.77
73/ 8/26	2441920.5	-12.19382	-25.78472	-10.25556	4.94850	-1.94273	-0.92017	30.31035	5.39523	244.69	-19.78
73/ 8/30	2441924.5	-12.18239	-25.78921	-10.25768	4.94935	-1.94078	-0.91939	30.31029	5.39518	244.71	-19.78
73/ 9/ 3	2441928.5	-12.17095	-25.79369	-10.25980	4.95019	-1.93883	-0.91861	30.31023	5.39512	244.74	-19.79
73/ 9/ 7	2441932.5	-12.15951	-25.79817	-10.26193	4.95104	-1.93688	-0.91783	30.31017	5.39507	244.76	-19.79
73/ 9/11	2441936.5	-12.14808	-25.80264	-10.26404	4.95189	-1.93494	-0.91706	30.31011	5.39501	244.79	-19.79
73/ 9/15	2441940.5	-12.13663	-25.80711	-10.26616	4.95273	-1.93299	-0.91628	30.31004	5.39496	244.81	-19.80
73/ 9/19	2441944.5	-12.12519	-25.81157	-10.26828	4.95358	-1.93104	-0.91550	30.30998	5.39491	244.84	-19.80
73/ 9/23	2441948.5	-12.11375	-25.81603	-10.27039	4.95442	-1.92909	-0.91472	30.30992	5.39485	244.86	-19.81
73/ 9/27	2441952.5	-12.10230	-25.82048	-10.27250	4.95526	-1.92715	-0.91395	30.30986	5.39480	244.89	-19.81
73/10/ 1	2441956.5	-12.09085	-25.82493	-10.27462	4.95611	-1.92520	-0.91317	30.30979	5.39474	244.91	-19.82
73/10/ 5	2441960.5	-12.07940	-25.82938	-10.27672	4.95694	-1.92325	-0.91239	30.30973	5.39469	244.94	-19.82
73/10/ 9	2441964.5	-12.06795	-25.83382	-10.27883	4.95778	-1.92130	-0.91161	30.30967	5.39463	244.96	-19.82
73/10/13	2441968.5	-12.05650	-25.83826	-10.28094	4.95862	-1.91935	-0.91084	30.30960	5.39458	244.99	-19.83
73/10/17	2441972.5	-12.04504	-25.84269	-10.28304	4.95946	-1.91741	-0.91006	30.30954	5.39452	245.01	-19.83
73/10/21	2441976.5	-12.03358	-25.84711	-10.28514	4.96029	-1.91546	-0.90928	30.30948	5.39447	245.03	-19.84
73/10/25	2441980.5	-12.02212	-25.85154	-10.28724	4.96112	-1.91351	-0.90850	30.30942	5.39441	245.06	-19.84
73/10/29	2441984.5	-12.01066	-25.85596	-10.28934	4.96196	-1.91156	-0.90772	30.30935	5.39435	245.08	-19.85
73/11/ 2	2441988.5	-11.99919	-25.86037	-10.29143	4.96279	-1.90961	-0.90695	30.30929	5.39430	245.11	-19.85
73/11/ 6	2441992.5	-11.98773	-25.86478	-10.29353	4.96362	-1.90766	-0.90617	30.30923	5.39424	245.13	-19.85
73/11/10	2441996.5	-11.97626	-25.86918	-10.29562	4.96445	-1.90572	-0.90539	30.30916	5.39418	245.16	-19.86
73/11/14	2442000.5	-11.96479	-25.87358	-10.29771	4.96527	-1.90377	-0.90461	30.30910	5.39413	245.18	-19.86
73/11/18	2442004.5	-11.95332	-25.87798	-10.29980	4.96610	-1.90182	-0.90383	30.30903	5.39407	245.21	-19.87
73/11/22	2442008.5	-11.94185	-25.88237	-10.30189	4.96693	-1.89987	-0.90305	30.30897	5.39401	245.23	-19.87

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

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73/11/26	2442012.5	-11.93037	-25.88676	-10.30397	4.96775	-1.89792	-0.90228	30.30891	5.39396	245.26	-19.87
73/11/30	2442016.5	-11.91889	-25.89114	-10.30606	4.96857	-1.89597	-0.90150	30.30884	5.39390	245.28	-19.88
73/12/ 4	2442020.5	-11.90741	-25.89552	-10.30814	4.96940	-1.89402	-0.90072	30.30878	5.39384	245.31	-19.88
73/12/ 8	2442024.5	-11.89593	-25.89989	-10.31022	4.97022	-1.89207	-0.89994	30.30871	5.39378	245.33	-19.89
73/12/12	2442028.5	-11.88445	-25.90426	-10.31230	4.97104	-1.89013	-0.89916	30.30865	5.39373	245.36	-19.89
73/12/16	2442032.5	-11.87297	-25.90862	-10.31437	4.97185	-1.88818	-0.89838	30.30859	5.39367	245.38	-19.90
73/12/20	2442036.5	-11.86148	-25.91298	-10.31645	4.97267	-1.88623	-0.89761	30.30852	5.39361	245.40	-19.90
73/12/24	2442040.5	-11.84999	-25.91734	-10.31852	4.97349	-1.88428	-0.89683	30.30846	5.39355	245.43	-19.90
73/12/28	2442044.5	-11.83850	-25.92169	-10.32059	4.97430	-1.88233	-0.89605	30.30839	5.39349	245.45	-19.91
74/ 1/ 1	2442048.5	-11.82701	-25.92604	-10.32266	4.97512	-1.88038	-0.89527	30.30833	5.39343	245.48	-19.91
74/ 1/ 5	2442052.5	-11.81551	-25.93038	-10.32473	4.97593	-1.87843	-0.89449	30.30826	5.39338	245.50	-19.92
74/ 1/ 9	2442056.5	-11.80402	-25.93471	-10.32679	4.97674	-1.87648	-0.89371	30.30820	5.39332	245.53	-19.92
74/ 1/13	2442060.5	-11.79252	-25.93905	-10.32886	4.97755	-1.87454	-0.89293	30.30813	5.39326	245.55	-19.93
74/ 1/17	2442064.5	-11.78102	-25.94338	-10.33092	4.97836	-1.87259	-0.89215	30.30807	5.39320	245.58	-19.93
74/ 1/21	2442068.5	-11.76952	-25.94770	-10.33298	4.97917	-1.87064	-0.89138	30.30800	5.39314	245.60	-19.93
74/ 1/25	2442072.5	-11.75801	-25.95202	-10.33504	4.97997	-1.86869	-0.89060	30.30794	5.39308	245.63	-19.94
74/ 1/29	2442076.5	-11.74651	-25.95633	-10.33709	4.98078	-1.86674	-0.88982	30.30787	5.39302	245.65	-19.94
74/ 2/ 2	2442080.5	-11.73500	-25.96064	-10.33915	4.98159	-1.86479	-0.88904	30.30781	5.39296	245.68	-19.95
74/ 2/ 6	2442084.5	-11.72349	-25.96495	-10.34120	4.98239	-1.86284	-0.88826	30.30774	5.39290	245.70	-19.95
74/ 2/10	2442088.5	-11.71198	-25.96925	-10.34325	4.98319	-1.86089	-0.88748	30.30768	5.39284	245.72	-19.95
74/ 2/14	2442092.5	-11.70047	-25.97355	-10.34530	4.98399	-1.85894	-0.88670	30.30761	5.39278	245.75	-19.96
74/ 2/18	2442096.5	-11.68895	-25.97784	-10.34735	4.98479	-1.85699	-0.88592	30.30755	5.39272	245.77	-19.96
74/ 2/22	2442100.5	-11.67743	-25.98213	-10.34939	4.98559	-1.85505	-0.88515	30.30748	5.39266	245.80	-19.97
74/ 2/26	2442104.5	-11.66592	-25.98641	-10.35144	4.98639	-1.85310	-0.88437	30.30742	5.39260	245.82	-19.97
74/ 3/ 2	2442108.5	-11.65440	-25.99069	-10.35348	4.98719	-1.85115	-0.88359	30.30735	5.39254	245.85	-19.98
74/ 3/ 6	2442112.5	-11.64287	-25.99496	-10.35552	4.98798	-1.84920	-0.88281	30.30728	5.39248	245.87	-19.98
74/ 3/10	2442116.5	-11.63135	-25.99923	-10.35756	4.98878	-1.84725	-0.88203	30.30722	5.39242	245.90	-19.98
74/ 3/14	2442120.5	-11.61982	-26.00350	-10.35960	4.98957	-1.84530	-0.88125	30.30715	5.39236	245.92	-19.99
74/ 3/18	2442124.5	-11.60830	-26.00776	-10.36163	4.99036	-1.84335	-0.88047	30.30709	5.39230	245.95	-19.99
74/ 3/22	2442128.5	-11.59677	-26.01202	-10.36366	4.99115	-1.84140	-0.87969	30.30702	5.39224	245.97	-20.00
74/ 3/26	2442132.5	-11.58524	-26.01627	-10.36570	4.99194	-1.83946	-0.87891	30.30695	5.39218	246.00	-20.00
74/ 3/30	2442136.5	-11.57370	-26.02051	-10.36773	4.99273	-1.83751	-0.87813	30.30689	5.39212	246.02	-20.00
74/ 4/ 3	2442140.5	-11.56217	-26.02476	-10.36975	4.99352	-1.83556	-0.87736	30.30682	5.39205	246.05	-20.01
74/ 4/ 7	2442144.5	-11.55063	-26.02900	-10.37178	4.99430	-1.83361	-0.87658	30.30676	5.39199	246.07	-20.01
74/ 4/11	2442148.5	-11.53909	-26.03323	-10.37380	4.99509	-1.83166	-0.87580	30.30669	5.39193	246.09	-20.02
74/ 4/15	2442152.5	-11.52755	-26.03746	-10.37583	4.99587	-1.82971	-0.87502	30.30662	5.39187	246.12	-20.02
74/ 4/19	2442156.5	-11.51601	-26.04168	-10.37785	4.99666	-1.82777	-0.87424	30.30656	5.39181	246.14	-20.02
74/ 4/23	2442160.5	-11.50446	-26.04590	-10.37987	4.99744	-1.82582	-0.87346	30.30649	5.39175	246.17	-20.03
74/ 4/27	2442164.5	-11.49292	-26.05012	-10.38188	4.99822	-1.82387	-0.87268	30.30642	5.39169	246.19	-20.03
74/ 5/ 1	2442168.5	-11.48137	-26.05433	-10.38390	4.99900	-1.82192	-0.87190	30.30636	5.39162	246.22	-20.04
74/ 5/ 5	2442172.5	-11.46982	-26.05854	-10.38591	4.99978	-1.81997	-0.87112	30.30629	5.39156	246.24	-20.04
74/ 5/ 9	2442176.5	-11.45827	-26.06274	-10.38792	5.00056	-1.81802	-0.87034	30.30622	5.39150	246.27	-20.05
74/ 5/13	2442180.5	-11.44672	-26.06694	-10.38993	5.00133	-1.81608	-0.86957	30.30616	5.39144	246.29	-20.05
74/ 5/17	2442184.5	-11.43516	-26.07113	-10.39194	5.00211	-1.81413	-0.86879	30.30609	5.39138	246.32	-20.05
74/ 5/21	2442188.5	-11.42361	-26.07532	-10.39395	5.00288	-1.81218	-0.86801	30.30602	5.39132	246.34	-20.06

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74/ 5/25	2442192.5	-11.41205	-26.07950	-10.39595	5.00366	-1.81023	-0.86723	30.30596	5.39125	246.37	-20.06
74/ 5/29	2442196.5	-11.40049	-26.08368	-10.39795	5.00443	-1.80828	-0.86645	30.30589	5.39119	246.39	-20.07
74/ 6/ 2	2442200.5	-11.38893	-26.08786	-10.39995	5.00520	-1.80634	-0.86567	30.30582	5.39113	246.42	-20.07
74/ 6/ 6	2442204.5	-11.37736	-26.09203	-10.40195	5.00597	-1.80439	-0.86489	30.30576	5.39107	246.44	-20.07
74/ 6/10	2442208.5	-11.36580	-26.09619	-10.40395	5.00674	-1.80244	-0.86411	30.30569	5.39101	246.47	-20.08
74/ 6/14	2442212.5	-11.35423	-26.10036	-10.40595	5.00751	-1.80049	-0.86333	30.30562	5.39094	246.49	-20.08
74/ 6/18	2442216.5	-11.34266	-26.10451	-10.40794	5.00828	-1.79855	-0.86255	30.30556	5.39088	246.51	-20.09
74/ 6/22	2442220.5	-11.33109	-26.10867	-10.40993	5.00904	-1.79660	-0.86178	30.30549	5.39082	246.54	-20.09
74/ 6/26	2442224.5	-11.31952	-26.11281	-10.41192	5.00981	-1.79465	-0.86100	30.30542	5.39076	246.56	-20.09
74/ 6/30	2442228.5	-11.30794	-26.11696	-10.41391	5.01057	-1.79270	-0.86022	30.30535	5.39069	246.59	-20.10
74/ 7/ 4	2442232.5	-11.29637	-26.12110	-10.41589	5.01133	-1.79076	-0.85944	30.30529	5.39063	246.61	-20.10
74/ 7/ 8	2442236.5	-11.28479	-26.12523	-10.41788	5.01210	-1.78881	-0.85866	30.30522	5.39057	246.64	-20.11
74/ 7/12	2442240.5	-11.27321	-26.12936	-10.41986	5.01286	-1.78686	-0.85788	30.30515	5.39051	246.66	-20.11
74/ 7/16	2442244.5	-11.26163	-26.13349	-10.42184	5.01362	-1.78492	-0.85710	30.30509	5.39044	246.69	-20.11
74/ 7/20	2442248.5	-11.25004	-26.13761	-10.42382	5.01437	-1.78297	-0.85632	30.30502	5.39038	246.71	-20.12
74/ 7/24	2442252.5	-11.23846	-26.14173	-10.42580	5.01513	-1.78102	-0.85555	30.30495	5.39032	246.74	-20.12
74/ 7/28	2442256.5	-11.22687	-26.14584	-10.42778	5.01589	-1.77908	-0.85477	30.30488	5.39026	246.76	-20.13
74/ 8/ 1	2442260.5	-11.21528	-26.14995	-10.42975	5.01664	-1.77713	-0.85399	30.30482	5.39020	246.79	-20.13
74/ 8/ 5	2442264.5	-11.20369	-26.15405	-10.43172	5.01740	-1.77518	-0.85321	30.30475	5.39013	246.81	-20.13
74/ 8/ 9	2442268.5	-11.19210	-26.15815	-10.43369	5.01815	-1.77324	-0.85243	30.30468	5.39007	246.84	-20.14
74/ 8/13	2442272.5	-11.18051	-26.16224	-10.43566	5.01890	-1.77129	-0.85165	30.30461	5.39001	246.86	-20.14
74/ 8/17	2442276.5	-11.16891	-26.16633	-10.43763	5.01966	-1.76935	-0.85087	30.30455	5.38995	246.89	-20.15
74/ 8/21	2442280.5	-11.15731	-26.17042	-10.43959	5.02041	-1.76740	-0.85009	30.30448	5.38988	246.91	-20.15
74/ 8/25	2442284.5	-11.14572	-26.17450	-10.44155	5.02116	-1.76545	-0.84932	30.30441	5.38982	246.93	-20.15
74/ 8/29	2442288.5	-11.13411	-26.17857	-10.44351	5.02190	-1.76351	-0.84854	30.30434	5.38976	246.96	-20.16
74/ 9/ 2	2442292.5	-11.12251	-26.18265	-10.44547	5.02265	-1.76156	-0.84776	30.30428	5.38970	246.98	-20.16
74/ 9/ 6	2442296.5	-11.11091	-26.18671	-10.44743	5.02340	-1.75962	-0.84698	30.30421	5.38963	247.01	-20.17
74/ 9/10	2442300.5	-11.09930	-26.19078	-10.44939	5.02414	-1.75767	-0.84620	30.30414	5.38957	247.03	-20.17
74/ 9/14	2442304.5	-11.08770	-26.19483	-10.45134	5.02489	-1.75573	-0.84542	30.30407	5.38951	247.06	-20.17
74/ 9/18	2442308.5	-11.07609	-26.19889	-10.45329	5.02563	-1.75378	-0.84465	30.30401	5.38945	247.08	-20.18
74/ 9/22	2442312.5	-11.06448	-26.20294	-10.45524	5.02637	-1.75184	-0.84387	30.30394	5.38938	247.11	-20.18
74/ 9/26	2442316.5	-11.05286	-26.20698	-10.45719	5.02711	-1.74989	-0.84309	30.30387	5.38932	247.13	-20.19
74/ 9/30	2442320.5	-11.04125	-26.21102	-10.45914	5.02785	-1.74795	-0.84231	30.30380	5.38926	247.16	-20.19
74/10/ 4	2442324.5	-11.02963	-26.21506	-10.46108	5.02859	-1.74600	-0.84153	30.30374	5.38920	247.18	-20.19
74/10/ 8	2442328.5	-11.01801	-26.21909	-10.46303	5.02933	-1.74406	-0.84075	30.30367	5.38914	247.21	-20.20
74/10/12	2442332.5	-11.00639	-26.22312	-10.46497	5.03007	-1.74211	-0.83998	30.30360	5.38907	247.23	-20.20
74/10/16	2442336.5	-10.99477	-26.22714	-10.46691	5.03081	-1.74017	-0.83920	30.30353	5.38901	247.26	-20.21
74/10/20	2442340.5	-10.98315	-26.23116	-10.46885	5.03154	-1.73823	-0.83842	30.30346	5.38895	247.28	-20.21
74/10/24	2442344.5	-10.97153	-26.23517	-10.47078	5.03228	-1.73628	-0.83764	30.30340	5.38889	247.31	-20.21
74/10/28	2442348.5	-10.95990	-26.23918	-10.47272	5.03301	-1.73434	-0.83686	30.30333	5.38883	247.33	-20.22
74/11/ 1	2442352.5	-10.94827	-26.24318	-10.47465	5.03374	-1.73239	-0.83609	30.30326	5.38876	247.35	-20.22
74/11/ 5	2442356.5	-10.93664	-26.24718	-10.47658	5.03447	-1.73045	-0.83531	30.30319	5.38870	247.38	-20.23
74/11/ 9	2442360.5	-10.92501	-26.25118	-10.47851	5.03520	-1.72851	-0.83453	30.30312	5.38864	247.40	-20.23
74/11/13	2442364.5	-10.91338	-26.25517	-10.48044	5.03593	-1.72656	-0.83375	30.30306	5.38858	247.43	-20.23
74/11/17	2442368.5	-10.90174	-26.25916	-10.48236	5.03666	-1.72462	-0.83297	30.30299	5.38852	247.45	-20.24

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74/11/21	2442372.5	-10.89011	-26.26314	-10.48428	5.03739	-1.72268	-0.83220	30.30292	5.38846	247.48	-20.24
74/11/25	2442376.5	-10.87847	-26.26712	-10.48621	5.03812	-1.72074	-0.83142	30.30285	5.38840	247.50	-20.25
74/11/29	2442380.5	-10.86683	-26.27109	-10.48813	5.03884	-1.71879	-0.83064	30.30279	5.38833	247.53	-20.25
74/12/ 3	2442384.5	-10.85519	-26.27506	-10.49004	5.03957	-1.71685	-0.82986	30.30272	5.38827	247.55	-20.25
74/12/ 7	2442388.5	-10.84354	-26.27902	-10.49196	5.04029	-1.71491	-0.82909	30.30265	5.38821	247.58	-20.26
74/12/11	2442392.5	-10.83190	-26.28298	-10.49387	5.04101	-1.71297	-0.82831	30.30258	5.38815	247.60	-20.26
74/12/15	2442396.5	-10.82025	-26.28694	-10.49579	5.04174	-1.71102	-0.82753	30.30251	5.38809	247.63	-20.27
74/12/19	2442400.5	-10.80860	-26.29089	-10.49770	5.04246	-1.70908	-0.82675	30.30245	5.38803	247.65	-20.27
74/12/23	2442404.5	-10.79695	-26.29483	-10.49961	5.04318	-1.70714	-0.82598	30.30238	5.38797	247.68	-20.27
74/12/27	2442408.5	-10.78530	-26.29877	-10.50151	5.04390	-1.70520	-0.82520	30.30231	5.38791	247.70	-20.28
74/12/31	2442412.5	-10.77365	-26.30271	-10.50342	5.04462	-1.70326	-0.82442	30.30224	5.38785	247.73	-20.28
75/ 1/ 4	2442416.5	-10.76200	-26.30664	-10.50532	5.04533	-1.70132	-0.82364	30.30218	5.38779	247.75	-20.28
75/ 1/ 8	2442420.5	-10.75034	-26.31057	-10.50723	5.04605	-1.69937	-0.82287	30.30211	5.38773	247.78	-20.29
75/ 1/12	2442424.5	-10.73868	-26.31449	-10.50913	5.04677	-1.69743	-0.82209	30.30204	5.38767	247.80	-20.29
75/ 1/16	2442428.5	-10.72702	-26.31841	-10.51102	5.04748	-1.69549	-0.82131	30.30197	5.38761	247.82	-20.30
75/ 1/20	2442432.5	-10.71536	-26.32233	-10.51292	5.04819	-1.69355	-0.82054	30.30190	5.38755	247.85	-20.30
75/ 1/24	2442436.5	-10.70370	-26.32624	-10.51481	5.04891	-1.69161	-0.81976	30.30184	5.38749	247.87	-20.30
75/ 1/28	2442440.5	-10.69203	-26.33014	-10.51671	5.04962	-1.68967	-0.81898	30.30177	5.38743	247.90	-20.31
75/ 2/ 1	2442444.5	-10.68037	-26.33405	-10.51860	5.05033	-1.68773	-0.81821	30.30170	5.38737	247.92	-20.31
75/ 2/ 5	2442448.5	-10.66870	-26.33794	-10.52049	5.05104	-1.68579	-0.81743	30.30163	5.38731	247.95	-20.32
75/ 2/ 9	2442452.5	-10.65703	-26.34183	-10.52238	5.05175	-1.68385	-0.81665	30.30157	5.38725	247.97	-20.32
75/ 2/13	2442456.5	-10.64536	-26.34572	-10.52426	5.05246	-1.68191	-0.81588	30.30150	5.38719	248.00	-20.32
75/ 2/17	2442460.5	-10.63368	-26.34961	-10.52615	5.05317	-1.67997	-0.81510	30.30143	5.38713	248.02	-20.33
75/ 2/21	2442464.5	-10.62201	-26.35348	-10.52803	5.05387	-1.67803	-0.81432	30.30136	5.38707	248.05	-20.33
75/ 2/25	2442468.5	-10.61033	-26.35736	-10.52991	5.05458	-1.67609	-0.81355	30.30129	5.38701	248.07	-20.33
75/ 3/ 1	2442472.5	-10.59866	-26.36123	-10.53179	5.05528	-1.67415	-0.81277	30.30123	5.38695	248.10	-20.34
75/ 3/ 5	2442476.5	-10.58698	-26.36509	-10.53366	5.05599	-1.67221	-0.81199	30.30116	5.38690	248.12	-20.34
75/ 3/ 9	2442480.5	-10.57530	-26.36895	-10.53554	5.05669	-1.67028	-0.81122	30.30109	5.38684	248.15	-20.35
75/ 3/13	2442484.5	-10.56361	-26.37281	-10.53741	5.05739	-1.66834	-0.81044	30.30102	5.38678	248.17	-20.35
75/ 3/17	2442488.5	-10.55193	-26.37666	-10.53928	5.05809	-1.66640	-0.80966	30.30096	5.38672	248.20	-20.35
75/ 3/21	2442492.5	-10.54024	-26.38051	-10.54115	5.05880	-1.66446	-0.80889	30.30089	5.38666	248.22	-20.36
75/ 3/25	2442496.5	-10.52855	-26.38435	-10.54302	5.05950	-1.66252	-0.80811	30.30082	5.38661	248.25	-20.36
75/ 3/29	2442500.5	-10.51687	-26.38819	-10.54489	5.06019	-1.66058	-0.80733	30.30075	5.38655	248.27	-20.37
75/ 4/ 2	2442504.5	-10.50517	-26.39203	-10.54675	5.06089	-1.65865	-0.80656	30.30069	5.38649	248.30	-20.37
75/ 4/ 6	2442508.5	-10.49348	-26.39586	-10.54861	5.06159	-1.65671	-0.80578	30.30062	5.38643	248.32	-20.37
75/ 4/10	2442512.5	-10.48179	-26.39968	-10.55047	5.06229	-1.65477	-0.80501	30.30055	5.38638	248.34	-20.38
75/ 4/14	2442516.5	-10.47009	-26.40350	-10.55233	5.06298	-1.65283	-0.80423	30.30049	5.38632	248.37	-20.38
75/ 4/18	2442520.5	-10.45840	-26.40732	-10.55419	5.06368	-1.65090	-0.80346	30.30042	5.38626	248.39	-20.38
75/ 4/22	2442524.5	-10.44670	-26.41113	-10.55604	5.06437	-1.64896	-0.80268	30.30035	5.38621	248.42	-20.39
75/ 4/26	2442528.5	-10.43500	-26.41494	-10.55790	5.06506	-1.64702	-0.80190	30.30028	5.38615	248.44	-20.39
75/ 4/30	2442532.5	-10.42329	-26.41874	-10.55975	5.06576	-1.64509	-0.80113	30.30022	5.38609	248.47	-20.40
75/ 5/ 4	2442536.5	-10.41159	-26.42254	-10.56160	5.06645	-1.64315	-0.80035	30.30015	5.38604	248.49	-20.40
75/ 5/ 8	2442540.5	-10.39989	-26.42633	-10.56345	5.06714	-1.64121	-0.79958	30.30008	5.38598	248.52	-20.40
75/ 5/12	2442544.5	-10.38818	-26.43012	-10.56529	5.06783	-1.63928	-0.79880	30.30001	5.38593	248.54	-20.41
75/ 5/16	2442548.5	-10.37647	-26.43390	-10.56714	5.06852	-1.63734	-0.79803	30.29995	5.38587	248.57	-20.41

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75/ 5/20	2442552.5	-10.36476	-26.43768	-10.56898	5.06921	-1.63540	-0.79725	30.29988	5.38582	248.59	-20.41
75/ 5/24	2442556.5	-10.35305	-26.44146	-10.57082	5.06989	-1.63347	-0.79648	30.29981	5.38576	248.62	-20.42
75/ 5/28	2442560.5	-10.34134	-26.44523	-10.57266	5.07058	-1.63153	-0.79570	30.29975	5.38571	248.64	-20.42
75/ 6/ 1	2442564.5	-10.32962	-26.44900	-10.57450	5.07127	-1.62960	-0.79492	30.29968	5.38565	248.67	-20.43
75/ 6/ 5	2442568.5	-10.31791	-26.45276	-10.57633	5.07195	-1.62766	-0.79415	30.29961	5.38560	248.69	-20.43
75/ 6/ 9	2442572.5	-10.30619	-26.45652	-10.57817	5.07264	-1.62573	-0.79337	30.29955	5.38554	248.72	-20.43
75/ 6/13	2442576.5	-10.29447	-26.46027	-10.58000	5.07332	-1.62379	-0.79260	30.29948	5.38549	248.74	-20.44
75/ 6/17	2442580.5	-10.28275	-26.46402	-10.58183	5.07400	-1.62186	-0.79182	30.29941	5.38544	248.77	-20.44
75/ 6/21	2442584.5	-10.27102	-26.46777	-10.58366	5.07468	-1.61992	-0.79105	30.29935	5.38538	248.79	-20.44
75/ 6/25	2442588.5	-10.25930	-26.47151	-10.58548	5.07537	-1.61799	-0.79027	30.29928	5.38533	248.82	-20.45
75/ 6/29	2442592.5	-10.24757	-26.47524	-10.58731	5.07605	-1.61606	-0.78950	30.29921	5.38528	248.84	-20.45
75/ 7/ 3	2442596.5	-10.23585	-26.47897	-10.58913	5.07673	-1.61412	-0.78873	30.29915	5.38522	248.87	-20.46
75/ 7/ 7	2442600.5	-10.22412	-26.48270	-10.59095	5.07741	-1.61219	-0.78795	30.29908	5.38517	248.89	-20.46
75/ 7/11	2442604.5	-10.21239	-26.48642	-10.59277	5.07808	-1.61025	-0.78718	30.29901	5.38512	248.91	-20.46
75/ 7/15	2442608.5	-10.20066	-26.49014	-10.59459	5.07876	-1.60832	-0.78640	30.29895	5.38507	248.94	-20.47
75/ 7/19	2442612.5	-10.18892	-26.49385	-10.59641	5.07944	-1.60639	-0.78563	30.29888	5.38501	248.96	-20.47
75/ 7/23	2442616.5	-10.17719	-26.49756	-10.59822	5.08011	-1.60445	-0.78485	30.29881	5.38496	248.99	-20.47
75/ 7/27	2442620.5	-10.16545	-26.50127	-10.60003	5.08079	-1.60252	-0.78408	30.29875	5.38491	249.01	-20.48
75/ 7/31	2442624.5	-10.15371	-26.50497	-10.60184	5.08146	-1.60059	-0.78330	30.29868	5.38486	249.04	-20.48
75/ 8/ 4	2442628.5	-10.14197	-26.50866	-10.60365	5.08214	-1.59866	-0.78253	30.29862	5.38481	249.06	-20.49
75/ 8/ 8	2442632.5	-10.13023	-26.51235	-10.60546	5.08281	-1.59672	-0.78176	30.29855	5.38476	249.09	-20.49
75/ 8/12	2442636.5	-10.11849	-26.51604	-10.60726	5.08348	-1.59479	-0.78098	30.29848	5.38471	249.11	-20.49
75/ 8/16	2442640.5	-10.10674	-26.51972	-10.60907	5.08415	-1.59286	-0.78021	30.29842	5.38466	249.14	-20.50
75/ 8/20	2442644.5	-10.09500	-26.52340	-10.61087	5.08482	-1.59093	-0.77943	30.29835	5.38461	249.16	-20.50
75/ 8/24	2442648.5	-10.08325	-26.52707	-10.61267	5.08549	-1.58900	-0.77866	30.29829	5.38456	249.19	-20.50
75/ 8/28	2442652.5	-10.07150	-26.53074	-10.61447	5.08616	-1.58706	-0.77789	30.29822	5.38451	249.21	-20.51
75/ 9/ 1	2442656.5	-10.05975	-26.53440	-10.61626	5.08683	-1.58513	-0.77711	30.29815	5.38446	249.24	-20.51
75/ 9/ 5	2442660.5	-10.04800	-26.53806	-10.61806	5.08750	-1.58320	-0.77634	30.29809	5.38441	249.26	-20.52
75/ 9/ 9	2442664.5	-10.03624	-26.54172	-10.61985	5.08817	-1.58127	-0.77556	30.29802	5.38436	249.29	-20.52
75/ 9/13	2442668.5	-10.02449	-26.54537	-10.62164	5.08883	-1.57934	-0.77479	30.29796	5.38432	249.31	-20.52
75/ 9/17	2442672.5	-10.01273	-26.54902	-10.62343	5.08950	-1.57741	-0.77402	30.29789	5.38427	249.34	-20.53
75/ 9/21	2442676.5	-10.00097	-26.55266	-10.62522	5.09017	-1.57548	-0.77324	30.29783	5.38422	249.36	-20.53
75/ 9/25	2442680.5	-9.98921	-26.55630	-10.62700	5.09083	-1.57355	-0.77247	30.29776	5.38417	249.39	-20.53
75/ 9/29	2442684.5	-9.97745	-26.55993	-10.62878	5.09149	-1.57162	-0.77170	30.29770	5.38413	249.41	-20.54
75/10/ 3	2442688.5	-9.96569	-26.56356	-10.63057	5.09216	-1.56969	-0.77092	30.29763	5.38408	249.44	-20.54
75/10/ 7	2442692.5	-9.95392	-26.56718	-10.63235	5.09282	-1.56776	-0.77015	30.29757	5.38403	249.46	-20.54
75/10/11	2442696.5	-9.94216	-26.57080	-10.63412	5.09348	-1.56583	-0.76938	30.29750	5.38399	249.49	-20.55
75/10/15	2442700.5	-9.93039	-26.57442	-10.63590	5.09414	-1.56390	-0.76860	30.29744	5.38394	249.51	-20.55
75/10/19	2442704.5	-9.91862	-26.57803	-10.63768	5.09480	-1.56197	-0.76783	30.29737	5.38389	249.53	-20.56
75/10/23	2442708.5	-9.90685	-26.58163	-10.63945	5.09546	-1.56004	-0.76706	30.29731	5.38385	249.56	-20.56
75/10/27	2442712.5	-9.89508	-26.58523	-10.64122	5.09612	-1.55811	-0.76628	30.29724	5.38380	249.58	-20.56
75/10/31	2442716.5	-9.88330	-26.58883	-10.64299	5.09678	-1.55618	-0.76551	30.29718	5.38376	249.61	-20.57
75/11/ 4	2442720.5	-9.87153	-26.59242	-10.64476	5.09744	-1.55425	-0.76474	30.29711	5.38371	249.63	-20.57
75/11/ 8	2442724.5	-9.85975	-26.59601	-10.64652	5.09809	-1.55232	-0.76396	30.29705	5.38367	249.66	-20.57
75/11/12	2442728.5	-9.84797	-26.59960	-10.64829	5.09875	-1.55039	-0.76319	30.29698	5.38363	249.68	-20.58

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75/11/16	2442732.5	-9.83619	-26.60318	-10.65005	5.09941	-1.54846	-0.76242	30.29692	5.38358	249.71	-20.58
75/11/20	2442736.5	-9.82441	-26.60675	-10.65181	5.10006	-1.54654	-0.76165	30.29685	5.38354	249.73	-20.58
75/11/24	2442740.5	-9.81263	-26.61032	-10.65357	5.10072	-1.54461	-0.76087	30.29679	5.38350	249.76	-20.59
75/11/28	2442744.5	-9.80085	-26.61389	-10.65533	5.10137	-1.54268	-0.76010	30.29673	5.38345	249.78	-20.59
75/12/ 2	2442748.5	-9.78906	-26.61745	-10.65708	5.10202	-1.54075	-0.75933	30.29666	5.38341	249.81	-20.59
75/12/ 6	2442752.5	-9.77727	-26.62101	-10.65883	5.10268	-1.53882	-0.75855	30.29660	5.38337	249.83	-20.60
75/12/10	2442756.5	-9.76548	-26.62456	-10.66059	5.10333	-1.53690	-0.75778	30.29653	5.38333	249.86	-20.60
75/12/14	2442760.5	-9.75369	-26.62811	-10.66233	5.10398	-1.53497	-0.75701	30.29647	5.38329	249.88	-20.61
75/12/18	2442764.5	-9.74190	-26.63165	-10.66408	5.10463	-1.53304	-0.75624	30.29641	5.38325	249.91	-20.61
75/12/22	2442768.5	-9.73011	-26.63519	-10.66583	5.10528	-1.53111	-0.75547	30.29634	5.38321	249.93	-20.61
75/12/26	2442772.5	-9.71831	-26.63873	-10.66757	5.10593	-1.52919	-0.75469	30.29628	5.38317	249.96	-20.62
75/12/30	2442776.5	-9.70652	-26.64226	-10.66932	5.10658	-1.52726	-0.75392	30.29621	5.38313	249.98	-20.62
76/ 1/ 3	2442780.5	-9.69472	-26.64578	-10.67106	5.10723	-1.52533	-0.75315	30.29615	5.38309	250.01	-20.62
76/ 1/ 7	2442784.5	-9.68292	-26.64930	-10.67280	5.10787	-1.52341	-0.75238	30.29609	5.38305	250.03	-20.63
76/ 1/11	2442788.5	-9.67112	-26.65282	-10.67453	5.10852	-1.52148	-0.75160	30.29602	5.38301	250.06	-20.63
76/ 1/15	2442792.5	-9.65932	-26.65633	-10.67627	5.10917	-1.51955	-0.75083	30.29596	5.38297	250.08	-20.63
76/ 1/19	2442796.5	-9.64751	-26.65984	-10.67800	5.10981	-1.51763	-0.75006	30.29590	5.38293	250.11	-20.64
76/ 1/23	2442800.5	-9.63571	-26.66335	-10.67973	5.11046	-1.51570	-0.74929	30.29583	5.38289	250.13	-20.64
76/ 1/27	2442804.5	-9.62390	-26.66684	-10.68146	5.11110	-1.51377	-0.74852	30.29577	5.38286	250.16	-20.64
76/ 1/31	2442808.5	-9.61209	-26.67034	-10.68319	5.11174	-1.51185	-0.74774	30.29571	5.38282	250.18	-20.65
76/ 2/ 4	2442812.5	-9.60028	-26.67383	-10.68492	5.11239	-1.50992	-0.74697	30.29564	5.38278	250.21	-20.65
76/ 2/ 8	2442816.5	-9.58847	-26.67732	-10.68664	5.11303	-1.50800	-0.74620	30.29558	5.38275	250.23	-20.66
76/ 2/12	2442820.5	-9.57666	-26.68080	-10.68837	5.11367	-1.50607	-0.74543	30.29552	5.38271	250.26	-20.66
76/ 2/16	2442824.5	-9.56484	-26.68427	-10.69009	5.11431	-1.50414	-0.74466	30.29546	5.38267	250.28	-20.66
76/ 2/20	2442828.5	-9.55303	-26.68775	-10.69181	5.11496	-1.50222	-0.74388	30.29539	5.38264	250.30	-20.67
76/ 2/24	2442832.5	-9.54121	-26.69122	-10.69352	5.11560	-1.50029	-0.74311	30.29533	5.38260	250.33	-20.67
76/ 2/28	2442836.5	-9.52939	-26.69468	-10.69524	5.11624	-1.49837	-0.74234	30.29527	5.38257	250.35	-20.67
76/ 3/ 3	2442840.5	-9.51757	-26.69814	-10.69695	5.11687	-1.49644	-0.74157	30.29521	5.38253	250.38	-20.68
76/ 3/ 7	2442844.5	-9.50575	-26.70159	-10.69867	5.11751	-1.49452	-0.74080	30.29515	5.38250	250.40	-20.68
76/ 3/11	2442848.5	-9.49393	-26.70504	-10.70038	5.11815	-1.49259	-0.74003	30.29508	5.38247	250.43	-20.68
76/ 3/15	2442852.5	-9.48210	-26.70849	-10.70209	5.11879	-1.49067	-0.73925	30.29502	5.38243	250.45	-20.69
76/ 3/19	2442856.5	-9.47028	-26.71193	-10.70379	5.11943	-1.48874	-0.73848	30.29496	5.38240	250.48	-20.69
76/ 3/23	2442860.5	-9.45845	-26.71537	-10.70550	5.12006	-1.48682	-0.73771	30.29490	5.38237	250.50	-20.69
76/ 3/27	2442864.5	-9.44662	-26.71880	-10.70720	5.12070	-1.48489	-0.73694	30.29484	5.38234	250.53	-20.70
76/ 3/31	2442868.5	-9.43479	-26.72223	-10.70890	5.12133	-1.48297	-0.73617	30.29477	5.38230	250.55	-20.70
76/ 4/ 4	2442872.5	-9.42296	-26.72565	-10.71060	5.12197	-1.48105	-0.73540	30.29471	5.38227	250.58	-20.70
76/ 4/ 8	2442876.5	-9.41113	-26.72907	-10.71230	5.12260	-1.47912	-0.73463	30.29465	5.38224	250.60	-20.71
76/ 4/12	2442880.5	-9.39929	-26.73249	-10.71400	5.12324	-1.47720	-0.73386	30.29459	5.38221	250.63	-20.71
76/ 4/16	2442884.5	-9.38745	-26.73590	-10.71569	5.12387	-1.47527	-0.73308	30.29453	5.38218	250.65	-20.71
76/ 4/20	2442888.5	-9.37562	-26.73930	-10.71738	5.12450	-1.47335	-0.73231	30.29447	5.38215	250.68	-20.72
76/ 4/24	2442892.5	-9.36378	-26.74270	-10.71907	5.12513	-1.47143	-0.73154	30.29441	5.38212	250.70	-20.72
76/ 4/28	2442896.5	-9.35194	-26.74610	-10.72076	5.12576	-1.46950	-0.73077	30.29435	5.38209	250.73	-20.73
76/ 5/ 2	2442900.5	-9.34009	-26.74949	-10.72245	5.12640	-1.46758	-0.73000	30.29429	5.38206	250.75	-20.73
76/ 5/ 6	2442904.5	-9.32825	-26.75288	-10.72414	5.12703	-1.46565	-0.72923	30.29422	5.38204	250.78	-20.73
76/ 5/10	2442908.5	-9.31641	-26.75627	-10.72582	5.12766	-1.46373	-0.72846	30.29416	5.38201	250.80	-20.74

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76/ 5/14	2442912.5	-9.30456	-26.75964	-10.72750	5.12828	-1.46181	-0.72769	30.29410	5.38198	250.83	-20.74
76/ 5/18	2442916.5	-9.29271	-26.76302	-10.72918	5.12891	-1.45988	-0.72692	30.29404	5.38195	250.85	-20.74
76/ 5/22	2442920.5	-9.28086	-26.76639	-10.73086	5.12954	-1.45796	-0.72614	30.29398	5.38193	250.88	-20.75
76/ 5/26	2442924.5	-9.26901	-26.76976	-10.73254	5.13017	-1.45604	-0.72537	30.29392	5.38190	250.90	-20.75
76/ 5/30	2442928.5	-9.25716	-26.77312	-10.73421	5.13080	-1.45411	-0.72460	30.29386	5.38187	250.93	-20.75
76/ 6/ 3	2442932.5	-9.24530	-26.77647	-10.73589	5.13142	-1.45219	-0.72383	30.29380	5.38185	250.95	-20.76
76/ 6/ 7	2442936.5	-9.23345	-26.77983	-10.73756	5.13205	-1.45027	-0.72306	30.29374	5.38182	250.98	-20.76
76/ 6/11	2442940.5	-9.22159	-26.78318	-10.73923	5.13267	-1.44834	-0.72229	30.29368	5.38180	251.00	-20.76
76/ 6/15	2442944.5	-9.20973	-26.78652	-10.74089	5.13330	-1.44642	-0.72152	30.29362	5.38177	251.03	-20.77
76/ 6/19	2442948.5	-9.19788	-26.78986	-10.74256	5.13392	-1.44450	-0.72075	30.29356	5.38175	251.05	-20.77
76/ 6/23	2442952.5	-9.18601	-26.79319	-10.74422	5.13455	-1.44258	-0.71998	30.29350	5.38173	251.08	-20.77
76/ 6/27	2442956.5	-9.17415	-26.79652	-10.74589	5.13517	-1.44065	-0.71921	30.29345	5.38170	251.10	-20.78
76/ 7/ 1	2442960.5	-9.16229	-26.79985	-10.74755	5.13580	-1.43873	-0.71843	30.29339	5.38168	251.13	-20.78
76/ 7/ 5	2442964.5	-9.15042	-26.80317	-10.74921	5.13642	-1.43681	-0.71766	30.29333	5.38166	251.15	-20.78
76/ 7/ 9	2442968.5	-9.13856	-26.80649	-10.75086	5.13704	-1.43489	-0.71689	30.29327	5.38164	251.18	-20.79
76/ 7/13	2442972.5	-9.12669	-26.80980	-10.75252	5.13766	-1.43296	-0.71612	30.29321	5.38161	251.20	-20.79
76/ 7/17	2442976.5	-9.11482	-26.81311	-10.75417	5.13828	-1.43104	-0.71535	30.29315	5.38159	251.23	-20.79
76/ 7/21	2442980.5	-9.10295	-26.81641	-10.75582	5.13890	-1.42912	-0.71458	30.29309	5.38157	251.25	-20.80
76/ 7/25	2442984.5	-9.09107	-26.81971	-10.75747	5.13952	-1.42719	-0.71381	30.29303	5.38155	251.27	-20.80
76/ 7/29	2442988.5	-9.07920	-26.82301	-10.75912	5.14014	-1.42527	-0.71304	30.29297	5.38153	251.30	-20.80
76/ 8/ 2	2442992.5	-9.06733	-26.82630	-10.76077	5.14076	-1.42335	-0.71227	30.29292	5.38151	251.32	-20.81
76/ 8/ 6	2442996.5	-9.05545	-26.82958	-10.76241	5.14138	-1.42143	-0.71150	30.29286	5.38149	251.35	-20.81
76/ 8/10	2443000.5	-9.04357	-26.83286	-10.76406	5.14200	-1.41951	-0.71073	30.29280	5.38148	251.37	-20.81
76/ 8/14	2443004.5	-9.03169	-26.83614	-10.76570	5.14262	-1.41758	-0.70996	30.29274	5.38146	251.40	-20.82
76/ 8/18	2443008.5	-9.01981	-26.83941	-10.76734	5.14323	-1.41566	-0.70919	30.29268	5.38144	251.42	-20.82
76/ 8/22	2443012.5	-9.00793	-26.84268	-10.76897	5.14385	-1.41374	-0.70841	30.29263	5.38142	251.45	-20.82
76/ 8/26	2443016.5	-8.99604	-26.84595	-10.77061	5.14447	-1.41182	-0.70764	30.29257	5.38140	251.47	-20.83
76/ 8/30	2443020.5	-8.98416	-26.84921	-10.77224	5.14508	-1.40989	-0.70687	30.29251	5.38139	251.50	-20.83
76/ 9/ 3	2443024.5	-8.97227	-26.85246	-10.77387	5.14570	-1.40797	-0.70610	30.29245	5.38137	251.52	-20.83
76/ 9/ 7	2443028.5	-8.96038	-26.85571	-10.77551	5.14631	-1.40605	-0.70533	30.29239	5.38136	251.55	-20.84
76/ 9/11	2443032.5	-8.94849	-26.85896	-10.77713	5.14693	-1.40413	-0.70456	30.29234	5.38134	251.57	-20.84
76/ 9/15	2443036.5	-8.93660	-26.86220	-10.77876	5.14754	-1.40221	-0.70379	30.29228	5.38133	251.60	-20.84
76/ 9/19	2443040.5	-8.92471	-26.86544	-10.78039	5.14815	-1.40028	-0.70302	30.29222	5.38131	251.62	-20.85
76/ 9/23	2443044.5	-8.91282	-26.86867	-10.78201	5.14877	-1.39836	-0.70225	30.29217	5.38130	251.65	-20.85
76/ 9/27	2443048.5	-8.90092	-26.87190	-10.78363	5.14938	-1.39644	-0.70148	30.29211	5.38128	251.67	-20.85
76/10/ 1	2443052.5	-8.88902	-26.87512	-10.78525	5.14999	-1.39452	-0.70071	30.29205	5.38127	251.70	-20.86
76/10/ 5	2443056.5	-8.87713	-26.87834	-10.78687	5.15060	-1.39259	-0.69994	30.29200	5.38126	251.72	-20.86
76/10/ 9	2443060.5	-8.86523	-26.88155	-10.78848	5.15121	-1.39067	-0.69917	30.29194	5.38125	251.75	-20.86
76/10/13	2443064.5	-8.85333	-26.88477	-10.79010	5.15182	-1.38875	-0.69840	30.29188	5.38123	251.77	-20.87
76/10/17	2443068.5	-8.84142	-26.88797	-10.79171	5.15243	-1.38683	-0.69762	30.29183	5.38122	251.80	-20.87
76/10/21	2443072.5	-8.82952	-26.89117	-10.79332	5.15304	-1.38491	-0.69685	30.29177	5.38121	251.82	-20.87
76/10/25	2443076.5	-8.81761	-26.89437	-10.79493	5.15365	-1.38298	-0.69608	30.29171	5.38120	251.85	-20.88
76/10/29	2443080.5	-8.80571	-26.89756	-10.79654	5.15426	-1.38106	-0.69531	30.29166	5.38119	251.87	-20.88
76/11/ 2	2443084.5	-8.79380	-26.90075	-10.79814	5.15487	-1.37914	-0.69454	30.29160	5.38118	251.90	-20.88
76/11/ 6	2443088.5	-8.78189	-26.90393	-10.79975	5.15548	-1.37722	-0.69377	30.29155	5.38117	251.92	-20.89

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
76/11/10	2443092.5	-8.76998	-26.90711	-10.80135	5.15609	-1.37529	-0.69300	30.29149	5.38116	251.95	-20.89
76/11/14	2443096.5	-8.75807	-26.91029	-10.80295	5.15669	-1.37337	-0.69223	30.29144	5.38115	251.97	-20.89
76/11/18	2443100.5	-8.74615	-26.91346	-10.80455	5.15730	-1.37145	-0.69146	30.29138	5.38114	252.00	-20.90
76/11/22	2443104.5	-8.73424	-26.91663	-10.80614	5.15790	-1.36953	-0.69069	30.29133	5.38114	252.02	-20.90
76/11/26	2443108.5	-8.72232	-26.91979	-10.80774	5.15851	-1.36761	-0.68992	30.29127	5.38113	252.05	-20.90
76/11/30	2443112.5	-8.71041	-26.92294	-10.80933	5.15912	-1.36568	-0.68914	30.29122	5.38112	252.07	-20.91
76/12/ 4	2443116.5	-8.69849	-26.92610	-10.81092	5.15972	-1.36376	-0.68837	30.29116	5.38112	252.10	-20.91
76/12/ 8	2443120.5	-8.68657	-26.92925	-10.81251	5.16032	-1.36184	-0.68760	30.29111	5.38111	252.12	-20.91
76/12/12	2443124.5	-8.67464	-26.93239	-10.81410	5.16093	-1.35992	-0.68683	30.29105	5.38110	252.15	-20.92
76/12/16	2443128.5	-8.66272	-26.93553	-10.81568	5.16153	-1.35799	-0.68606	30.29100	5.38110	252.17	-20.92
76/12/20	2443132.5	-8.65080	-26.93866	-10.81727	5.16213	-1.35607	-0.68529	30.29094	5.38110	252.20	-20.92
76/12/24	2443136.5	-8.63887	-26.94179	-10.81885	5.16274	-1.35415	-0.68452	30.29089	5.38109	252.22	-20.93
76/12/28	2443140.5	-8.62694	-26.94492	-10.82043	5.16334	-1.35222	-0.68375	30.29083	5.38109	252.25	-20.93
77/ 1/ 1	2443144.5	-8.61501	-26.94804	-10.82201	5.16394	-1.35030	-0.68298	30.29078	5.38108	252.27	-20.93
77/ 1/ 5	2443148.5	-8.60308	-26.95116	-10.82359	5.16454	-1.34838	-0.68220	30.29073	5.38108	252.30	-20.94
77/ 1/ 9	2443152.5	-8.59115	-26.95427	-10.82516	5.16514	-1.34646	-0.68143	30.29067	5.38108	252.32	-20.94
77/ 1/13	2443156.5	-8.57922	-26.95738	-10.82674	5.16574	-1.34453	-0.68066	30.29062	5.38108	252.35	-20.94
77/ 1/17	2443160.5	-8.56728	-26.96048	-10.82831	5.16634	-1.34261	-0.67989	30.29056	5.38107	252.37	-20.95
77/ 1/21	2443164.5	-8.55535	-26.96358	-10.82988	5.16694	-1.34069	-0.67912	30.29051	5.38107	252.40	-20.95
77/ 1/25	2443168.5	-8.54341	-26.96668	-10.83144	5.16754	-1.33876	-0.67835	30.29046	5.38107	252.42	-20.95
77/ 1/29	2443172.5	-8.53147	-26.96977	-10.83301	5.16814	-1.33684	-0.67758	30.29040	5.38107	252.45	-20.96
77/ 2/ 2	2443176.5	-8.51953	-26.97286	-10.83458	5.16874	-1.33492	-0.67681	30.29035	5.38107	252.47	-20.96
77/ 2/ 6	2443180.5	-8.50759	-26.97594	-10.83614	5.16934	-1.33299	-0.67603	30.29030	5.38107	252.50	-20.96
77/ 2/10	2443184.5	-8.49565	-26.97901	-10.83770	5.16993	-1.33107	-0.67526	30.29025	5.38107	252.52	-20.96
77/ 2/14	2443188.5	-8.48370	-26.98209	-10.83926	5.17053	-1.32915	-0.67449	30.29019	5.38107	252.55	-20.97
77/ 2/18	2443192.5	-8.47176	-26.98516	-10.84082	5.17113	-1.32722	-0.67372	30.29014	5.38108	252.57	-20.97
77/ 2/22	2443196.5	-8.45981	-26.98822	-10.84237	5.17172	-1.32530	-0.67295	30.29009	5.38108	252.60	-20.97
77/ 2/26	2443200.5	-8.44786	-26.99128	-10.84392	5.17232	-1.32337	-0.67218	30.29003	5.38108	252.62	-20.98
77/ 3/ 2	2443204.5	-8.43591	-26.99433	-10.84548	5.17291	-1.32145	-0.67140	30.28998	5.38108	252.65	-20.98
77/ 3/ 6	2443208.5	-8.42396	-26.99738	-10.84703	5.17351	-1.31953	-0.67063	30.28993	5.38109	252.67	-20.98
77/ 3/10	2443212.5	-8.41201	-27.00043	-10.84858	5.17410	-1.31760	-0.66986	30.28988	5.38109	252.70	-20.99
77/ 3/14	2443216.5	-8.40006	-27.00347	-10.85012	5.17470	-1.31568	-0.66909	30.28983	5.38110	252.72	-20.99
77/ 3/18	2443220.5	-8.38810	-27.00651	-10.85167	5.17529	-1.31375	-0.66832	30.28977	5.38110	252.75	-20.99
77/ 3/22	2443224.5	-8.37614	-27.00954	-10.85321	5.17588	-1.31183	-0.66754	30.28972	5.38111	252.77	-21.00
77/ 3/26	2443228.5	-8.36419	-27.01257	-10.85475	5.17648	-1.30990	-0.66677	30.28967	5.38111	252.80	-21.00
77/ 3/30	2443232.5	-8.35223	-27.01559	-10.85629	5.17707	-1.30798	-0.66600	30.28962	5.38112	252.82	-21.00
77/ 4/ 3	2443236.5	-8.34027	-27.01861	-10.85783	5.17766	-1.30605	-0.66523	30.28957	5.38112	252.85	-21.01
77/ 4/ 7	2443240.5	-8.32830	-27.02163	-10.85936	5.17825	-1.30413	-0.66446	30.28952	5.38113	252.87	-21.01
77/ 4/11	2443244.5	-8.31634	-27.02464	-10.86090	5.17884	-1.30221	-0.66368	30.28947	5.38114	252.90	-21.01
77/ 4/15	2443248.5	-8.30438	-27.02765	-10.86243	5.17943	-1.30028	-0.66291	30.28941	5.38115	252.92	-21.02
77/ 4/19	2443252.5	-8.29241	-27.03065	-10.86396	5.18002	-1.29835	-0.66214	30.28936	5.38115	252.95	-21.02
77/ 4/23	2443256.5	-8.28044	-27.03364	-10.86549	5.18061	-1.29643	-0.66137	30.28931	5.38116	252.97	-21.02
77/ 4/27	2443260.5	-8.26847	-27.03664	-10.86702	5.18120	-1.29450	-0.66059	30.28926	5.38117	253.00	-21.02
77/ 5/ 1	2443264.5	-8.25650	-27.03963	-10.86854	5.18179	-1.29258	-0.65982	30.28921	5.38118	253.02	-21.03
77/ 5/ 5	2443268.5	-8.24453	-27.04261	-10.87007	5.18238	-1.29065	-0.65905	30.28916	5.38119	253.05	-21.03

1.8 1 A.U.=149,599,000 KM.

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77/ 5/ 9	2443272.5	-8.23256	-27.04559	-10.87159	5.18297	-1.28873	-0.65828	30.28911	5.38120	253.07	-21.03
77/ 5/13	2443276.5	-8.22058	-27.04856	-10.87311	5.18356	-1.28680	-0.65750	30.28906	5.38121	253.09	-21.04
77/ 5/17	2443280.5	-8.20861	-27.05153	-10.87462	5.18414	-1.28487	-0.65673	30.28901	5.38122	253.12	-21.04
77/ 5/21	2443284.5	-8.19663	-27.05450	-10.87614	5.18473	-1.28295	-0.65596	30.28896	5.38123	253.14	-21.04
77/ 5/25	2443288.5	-8.18465	-27.05746	-10.87766	5.18532	-1.28102	-0.65518	30.28891	5.38125	253.17	-21.05
77/ 5/29	2443292.5	-8.17267	-27.06042	-10.87917	5.18590	-1.27909	-0.65441	30.28886	5.38126	253.19	-21.05
77/ 6/ 2	2443296.5	-8.16069	-27.06337	-10.88068	5.18649	-1.27717	-0.65364	30.28881	5.38127	253.22	-21.05
77/ 6/ 6	2443300.5	-8.14871	-27.06632	-10.88219	5.18707	-1.27524	-0.65286	30.28876	5.38128	253.24	-21.06
77/ 6/10	2443304.5	-8.13673	-27.06926	-10.88370	5.18766	-1.27331	-0.65209	30.28871	5.38130	253.27	-21.06
77/ 6/14	2443308.5	-8.12474	-27.07220	-10.88520	5.18824	-1.27139	-0.65132	30.28866	5.38131	253.29	-21.06
77/ 6/18	2443312.5	-8.11276	-27.07514	-10.88670	5.18883	-1.26946	-0.65054	30.28862	5.38133	253.32	-21.07
77/ 6/22	2443316.5	-8.10077	-27.07807	-10.88821	5.18941	-1.26753	-0.64977	30.28857	5.38134	253.34	-21.07
77/ 6/26	2443320.5	-8.08878	-27.08099	-10.88971	5.18999	-1.26560	-0.64900	30.28852	5.38136	253.37	-21.07
77/ 6/30	2443324.5	-8.07679	-27.08392	-10.89121	5.19058	-1.26368	-0.64822	30.28847	5.38137	253.39	-21.07
77/ 7/ 4	2443328.5	-8.06480	-27.08683	-10.89270	5.19116	-1.26175	-0.64745	30.28842	5.38139	253.42	-21.08
77/ 7/ 8	2443332.5	-8.05280	-27.08975	-10.89420	5.19174	-1.25982	-0.64668	30.28837	5.38140	253.44	-21.08
77/ 7/12	2443336.5	-8.04081	-27.09265	-10.89569	5.19232	-1.25789	-0.64590	30.28832	5.38142	253.47	-21.08
77/ 7/16	2443340.5	-8.02881	-27.09556	-10.89718	5.19290	-1.25596	-0.64513	30.28828	5.38144	253.49	-21.09
77/ 7/20	2443344.5	-8.01682	-27.09846	-10.89867	5.19348	-1.25403	-0.64435	30.28823	5.38146	253.52	-21.09
77/ 7/24	2443348.5	-8.00482	-27.10135	-10.90016	5.19406	-1.25210	-0.64358	30.28818	5.38147	253.54	-21.09
77/ 7/28	2443352.5	-7.99282	-27.10424	-10.90164	5.19464	-1.25017	-0.64281	30.28813	5.38149	253.57	-21.10
77/ 8/ 1	2443356.5	-7.98082	-27.10713	-10.90313	5.19522	-1.24825	-0.64203	30.28808	5.38151	253.59	-21.10
77/ 8/ 5	2443360.5	-7.96881	-27.11001	-10.90461	5.19580	-1.24632	-0.64126	30.28804	5.38153	253.62	-21.10
77/ 8/ 9	2443364.5	-7.95681	-27.11289	-10.90609	5.19638	-1.24439	-0.64048	30.28799	5.38155	253.64	-21.11
77/ 8/13	2443368.5	-7.94480	-27.11576	-10.90757	5.19696	-1.24246	-0.63971	30.28794	5.38157	253.67	-21.11
77/ 8/17	2443372.5	-7.93280	-27.11863	-10.90905	5.19754	-1.24053	-0.63893	30.28789	5.38159	253.69	-21.11
77/ 8/21	2443376.5	-7.92079	-27.12149	-10.91052	5.19811	-1.23860	-0.63816	30.28785	5.38161	253.72	-21.11
77/ 8/25	2443380.5	-7.90878	-27.12435	-10.91200	5.19869	-1.23666	-0.63738	30.28780	5.38163	253.74	-21.12
77/ 8/29	2443384.5	-7.89677	-27.12720	-10.91347	5.19927	-1.23473	-0.63661	30.28775	5.38166	253.77	-21.12
77/ 9/ 2	2443388.5	-7.88476	-27.13005	-10.91494	5.19984	-1.23280	-0.63583	30.28771	5.38168	253.79	-21.12
77/ 9/ 6	2443392.5	-7.87275	-27.13290	-10.91640	5.20042	-1.23087	-0.63506	30.28766	5.38170	253.82	-21.13
77/ 9/10	2443396.5	-7.86073	-27.13574	-10.91787	5.20099	-1.22894	-0.63428	30.28761	5.38172	253.84	-21.13
77/ 9/14	2443400.5	-7.84871	-27.13858	-10.91934	5.20157	-1.22701	-0.63351	30.28757	5.38175	253.87	-21.13
77/ 9/18	2443404.5	-7.83670	-27.14141	-10.92080	5.20214	-1.22508	-0.63273	30.28752	5.38177	253.89	-21.14
77/ 9/22	2443408.5	-7.82468	-27.14424	-10.92226	5.20272	-1.22314	-0.63196	30.28747	5.38180	253.92	-21.14
77/ 9/26	2443412.5	-7.81266	-27.14706	-10.92372	5.20329	-1.22121	-0.63118	30.28743	5.38182	253.94	-21.14
77/ 9/30	2443416.5	-7.80064	-27.14988	-10.92518	5.20386	-1.21928	-0.63041	30.28738	5.38184	253.97	-21.14
77/10/ 4	2443420.5	-7.78862	-27.15270	-10.92663	5.20444	-1.21735	-0.62963	30.28733	5.38187	253.99	-21.15
77/10/ 8	2443424.5	-7.77659	-27.15551	-10.92808	5.20501	-1.21541	-0.62885	30.28729	5.38190	254.02	-21.15
77/10/12	2443428.5	-7.76457	-27.15831	-10.92954	5.20558	-1.21348	-0.62808	30.28724	5.38192	254.04	-21.15
77/10/16	2443432.5	-7.75254	-27.16111	-10.93099	5.20615	-1.21155	-0.62730	30.28720	5.38195	254.07	-21.16
77/10/20	2443436.5	-7.74051	-27.16391	-10.93243	5.20672	-1.20961	-0.62653	30.28715	5.38198	254.09	-21.16
77/10/24	2443440.5	-7.72848	-27.16670	-10.93388	5.20729	-1.20768	-0.62575	30.28711	5.38200	254.12	-21.16
77/10/28	2443444.5	-7.71645	-27.16949	-10.93533	5.20786	-1.20575	-0.62497	30.28706	5.38203	254.14	-21.17
77/11/ 1	2443448.5	-7.70442	-27.17227	-10.93677	5.20843	-1.20381	-0.62420	30.28702	5.38206	254.17	-21.17

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77/11/ 5	2443452.5	-7.69239	-27.17505	-10.93821	5.20900	-1.20188	-0.62342	30.28697	5.38209	254.19	-21.17
77/11/ 9	2443456.5	-7.68035	-27.17783	-10.93965	5.20957	-1.19994	-0.62264	30.28693	5.38212	254.22	-21.17
77/11/13	2443460.5	-7.66832	-27.18060	-10.94109	5.21014	-1.19801	-0.62187	30.28688	5.38215	254.24	-21.18
77/11/17	2443464.5	-7.65628	-27.18336	-10.94252	5.21071	-1.19607	-0.62109	30.28684	5.38218	254.27	-21.18
77/11/21	2443468.5	-7.64424	-27.18612	-10.94396	5.21128	-1.19414	-0.62031	30.28679	5.38221	254.29	-21.18
77/11/25	2443472.5	-7.63220	-27.18888	-10.94539	5.21184	-1.19220	-0.61953	30.28675	5.38224	254.32	-21.19
77/11/29	2443476.5	-7.62016	-27.19163	-10.94682	5.21241	-1.19026	-0.61876	30.28670	5.38227	254.35	-21.19
77/12/ 3	2443480.5	-7.60812	-27.19438	-10.94825	5.21297	-1.18833	-0.61798	30.28666	5.38230	254.37	-21.19
77/12/ 7	2443484.5	-7.59608	-27.19712	-10.94967	5.21354	-1.18639	-0.61720	30.28662	5.38233	254.40	-21.19
77/12/11	2443488.5	-7.58403	-27.19986	-10.95110	5.21411	-1.18445	-0.61642	30.28657	5.38236	254.42	-21.20
77/12/15	2443492.5	-7.57199	-27.20259	-10.95252	5.21467	-1.18252	-0.61565	30.28653	5.38239	254.45	-21.20
77/12/19	2443496.5	-7.55994	-27.20532	-10.95394	5.21524	-1.18058	-0.61487	30.28648	5.38243	254.47	-21.20
77/12/23	2443500.5	-7.54789	-27.20805	-10.95536	5.21580	-1.17864	-0.61409	30.28644	5.38246	254.50	-21.21
77/12/27	2443504.5	-7.53584	-27.21077	-10.95678	5.21636	-1.17670	-0.61331	30.28640	5.38249	254.52	-21.21
77/12/31	2443508.5	-7.52379	-27.21348	-10.95820	5.21693	-1.17477	-0.61253	30.28635	5.38253	254.55	-21.21
78/ 1/ 4	2443512.5	-7.51173	-27.21620	-10.95961	5.21749	-1.17283	-0.61175	30.28631	5.38256	254.57	-21.21
78/ 1/ 8	2443516.5	-7.49968	-27.21890	-10.96102	5.21805	-1.17089	-0.61098	30.28627	5.38259	254.60	-21.22
78/ 1/12	2443520.5	-7.48763	-27.22161	-10.96243	5.21861	-1.16895	-0.61020	30.28622	5.38263	254.62	-21.22
78/ 1/16	2443524.5	-7.47557	-27.22430	-10.96384	5.21917	-1.16701	-0.60942	30.28618	5.38267	254.65	-21.22
78/ 1/20	2443528.5	-7.46351	-27.22700	-10.96525	5.21974	-1.16507	-0.60864	30.28614	5.38270	254.67	-21.23
78/ 1/24	2443532.5	-7.45145	-27.22969	-10.96665	5.22030	-1.16313	-0.60786	30.28609	5.38274	254.70	-21.23
78/ 1/28	2443536.5	-7.43939	-27.23237	-10.96806	5.22086	-1.16119	-0.60708	30.28605	5.38277	254.72	-21.23
78/ 2/ 1	2443540.5	-7.42733	-27.23505	-10.96946	5.22142	-1.15925	-0.60630	30.28601	5.38281	254.75	-21.24
78/ 2/ 5	2443544.5	-7.41527	-27.23773	-10.97086	5.22197	-1.15731	-0.60552	30.28597	5.38285	254.77	-21.24
78/ 2/ 9	2443548.5	-7.40320	-27.24040	-10.97226	5.22253	-1.15537	-0.60474	30.28592	5.38288	254.80	-21.24
78/ 2/13	2443552.5	-7.39114	-27.24307	-10.97365	5.22309	-1.15343	-0.60396	30.28588	5.38292	254.82	-21.24
78/ 2/17	2443556.5	-7.37907	-27.24573	-10.97505	5.22365	-1.15149	-0.60318	30.28584	5.38296	254.85	-21.25
78/ 2/21	2443560.5	-7.36700	-27.24839	-10.97644	5.22421	-1.14954	-0.60240	30.28580	5.38300	254.87	-21.25
78/ 2/25	2443564.5	-7.35493	-27.25104	-10.97783	5.22476	-1.14760	-0.60162	30.28576	5.38304	254.90	-21.25
78/ 3/ 1	2443568.5	-7.34286	-27.25369	-10.97922	5.22532	-1.14566	-0.60084	30.28571	5.38308	254.92	-21.26
78/ 3/ 5	2443572.5	-7.33079	-27.25633	-10.98061	5.22588	-1.14372	-0.60006	30.28567	5.38312	254.95	-21.26
78/ 3/ 9	2443576.5	-7.31872	-27.25897	-10.98199	5.22643	-1.14177	-0.59928	30.28563	5.38316	254.97	-21.26
78/ 3/13	2443580.5	-7.30664	-27.26161	-10.98338	5.22699	-1.13983	-0.59850	30.28559	5.38320	255.00	-21.26
78/ 3/17	2443584.5	-7.29457	-27.26424	-10.98476	5.22754	-1.13789	-0.59772	30.28555	5.38324	255.02	-21.27
78/ 3/21	2443588.5	-7.28249	-27.26687	-10.98614	5.22809	-1.13594	-0.59694	30.28551	5.38328	255.05	-21.27
78/ 3/25	2443592.5	-7.27041	-27.26949	-10.98752	5.22865	-1.13400	-0.59616	30.28546	5.38332	255.07	-21.27
78/ 3/29	2443596.5	-7.25833	-27.27211	-10.98889	5.22920	-1.13205	-0.59538	30.28542	5.38336	255.10	-21.27
78/ 4/ 2	2443600.5	-7.24625	-27.27472	-10.99027	5.22975	-1.13011	-0.59459	30.28538	5.38340	255.12	-21.28
78/ 4/ 6	2443604.5	-7.23417	-27.27733	-10.99164	5.23031	-1.12816	-0.59381	30.28534	5.38344	255.15	-21.28
78/ 4/10	2443608.5	-7.22208	-27.27993	-10.99301	5.23086	-1.12622	-0.59303	30.28530	5.38349	255.17	-21.28
78/ 4/14	2443612.5	-7.21000	-27.28253	-10.99438	5.23141	-1.12427	-0.59225	30.28526	5.38353	255.20	-21.29
78/ 4/18	2443616.5	-7.19791	-27.28513	-10.99575	5.23196	-1.12232	-0.59147	30.28522	5.38357	255.22	-21.29
78/ 4/22	2443620.5	-7.18583	-27.28772	-10.99711	5.23251	-1.12038	-0.59068	30.28518	5.38362	255.25	-21.29
78/ 4/26	2443624.5	-7.17374	-27.29030	-10.99848	5.23306	-1.11843	-0.58990	30.28514	5.38366	255.27	-21.29
78/ 4/30	2443628.5	-7.16165	-27.29288	-10.99984	5.23361	-1.11648	-0.58912	30.28510	5.38370	255.30	-21.30

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78/ 5/ 4	2443632.5	-7.14956	-27.29546	-11.00120	5.23416	-1.11453	-0.58834	30.28506	5.38375	255.32	-21.30
78/ 5/ 8	2443636.5	-7.13746	-27.29803	-11.00256	5.23471	-1.11259	-0.58755	30.28502	5.38379	255.35	-21.30
78/ 5/12	2443640.5	-7.12537	-27.30060	-11.00391	5.23526	-1.11064	-0.58677	30.28498	5.38384	255.37	-21.31
78/ 5/16	2443644.5	-7.11327	-27.30316	-11.00527	5.23580	-1.10869	-0.58599	30.28494	5.38388	255.40	-21.31
78/ 5/20	2443648.5	-7.10118	-27.30572	-11.00662	5.23635	-1.10674	-0.58520	30.28490	5.38393	255.42	-21.31
78/ 5/24	2443652.5	-7.08908	-27.30828	-11.00797	5.23690	-1.10479	-0.58442	30.28486	5.38398	255.45	-21.31
78/ 5/28	2443656.5	-7.07698	-27.31083	-11.00932	5.23744	-1.10284	-0.58364	30.28482	5.38402	255.47	-21.32
78/ 6/ 1	2443660.5	-7.06488	-27.31337	-11.01067	5.23799	-1.10089	-0.58285	30.28478	5.38407	255.50	-21.32
78/ 6/ 5	2443664.5	-7.05278	-27.31591	-11.01201	5.23853	-1.09894	-0.58207	30.28474	5.38412	255.52	-21.32
78/ 6/ 9	2443668.5	-7.04068	-27.31845	-11.01336	5.23908	-1.09699	-0.58129	30.28470	5.38416	255.55	-21.33
78/ 6/13	2443672.5	-7.02857	-27.32098	-11.01470	5.23962	-1.09504	-0.58050	30.28466	5.38421	255.57	-21.33
78/ 6/17	2443676.5	-7.01647	-27.32351	-11.01604	5.24017	-1.09309	-0.57972	30.28462	5.38426	255.60	-21.33
78/ 6/21	2443680.5	-7.00436	-27.32603	-11.01738	5.24071	-1.09114	-0.57893	30.28458	5.38431	255.62	-21.33
78/ 6/25	2443684.5	-6.99225	-27.32855	-11.01871	5.24125	-1.08918	-0.57815	30.28454	5.38436	255.65	-21.34
78/ 6/29	2443688.5	-6.98015	-27.33107	-11.02005	5.24179	-1.08723	-0.57736	30.28450	5.38441	255.67	-21.34
78/ 7/ 3	2443692.5	-6.96804	-27.33358	-11.02138	5.24234	-1.08528	-0.57658	30.28446	5.38445	255.70	-21.34
78/ 7/ 7	2443696.5	-6.95592	-27.33608	-11.02271	5.24288	-1.08332	-0.57579	30.28442	5.38450	255.72	-21.34
78/ 7/11	2443700.5	-6.94381	-27.33858	-11.02404	5.24342	-1.08137	-0.57501	30.28439	5.38455	255.75	-21.35
78/ 7/15	2443704.5	-6.93170	-27.34108	-11.02537	5.24396	-1.07942	-0.57422	30.28435	5.38460	255.77	-21.35
78/ 7/19	2443708.5	-6.91958	-27.34357	-11.02670	5.24450	-1.07746	-0.57344	30.28431	5.38465	255.80	-21.35
78/ 7/23	2443712.5	-6.90747	-27.34606	-11.02802	5.24504	-1.07551	-0.57265	30.28427	5.38471	255.82	-21.36
78/ 7/27	2443716.5	-6.89535	-27.34854	-11.02934	5.24557	-1.07355	-0.57187	30.28423	5.38476	255.85	-21.36
78/ 7/31	2443720.5	-6.88323	-27.35102	-11.03066	5.24611	-1.07160	-0.57108	30.28419	5.38481	255.87	-21.36
78/ 8/ 4	2443724.5	-6.87111	-27.35349	-11.03198	5.24665	-1.06964	-0.57029	30.28416	5.38486	255.90	-21.36
78/ 8/ 8	2443728.5	-6.85899	-27.35596	-11.03330	5.24719	-1.06769	-0.56951	30.28412	5.38491	255.92	-21.37
78/ 8/12	2443732.5	-6.84687	-27.35842	-11.03461	5.24772	-1.06573	-0.56872	30.28408	5.38496	255.95	-21.37
78/ 8/16	2443736.5	-6.83474	-27.36088	-11.03592	5.24826	-1.06377	-0.56793	30.28404	5.38502	255.97	-21.37
78/ 8/20	2443740.5	-6.82262	-27.36334	-11.03723	5.24880	-1.06182	-0.56715	30.28400	5.38507	256.00	-21.37
78/ 8/24	2443744.5	-6.81049	-27.36579	-11.03854	5.24933	-1.05986	-0.56636	30.28397	5.38512	256.02	-21.38
78/ 8/28	2443748.5	-6.79836	-27.36823	-11.03985	5.24987	-1.05790	-0.56557	30.28393	5.38517	256.05	-21.38
78/ 9/ 1	2443752.5	-6.78624	-27.37068	-11.04116	5.25040	-1.05594	-0.56478	30.28389	5.38523	256.07	-21.38
78/ 9/ 5	2443756.5	-6.77411	-27.37311	-11.04246	5.25093	-1.05398	-0.56400	30.28385	5.38528	256.10	-21.38
78/ 9/ 9	2443760.5	-6.76197	-27.37555	-11.04376	5.25147	-1.05202	-0.56321	30.28381	5.38534	256.13	-21.39
78/ 9/13	2443764.5	-6.74984	-27.37797	-11.04506	5.25200	-1.05006	-0.56242	30.28378	5.38539	256.15	-21.39
78/ 9/17	2443768.5	-6.73771	-27.38040	-11.04636	5.25253	-1.04810	-0.56163	30.28374	5.38545	256.18	-21.39
78/ 9/21	2443772.5	-6.72557	-27.38282	-11.04766	5.25306	-1.04614	-0.56084	30.28370	5.38550	256.20	-21.40
78/ 9/25	2443776.5	-6.71344	-27.38523	-11.04895	5.25359	-1.04418	-0.56005	30.28367	5.38556	256.23	-21.40
78/ 9/29	2443780.5	-6.70130	-27.38764	-11.05025	5.25412	-1.04222	-0.55927	30.28363	5.38561	256.25	-21.40
78/10/ 3	2443784.5	-6.68916	-27.39005	-11.05154	5.25465	-1.04026	-0.55848	30.28359	5.38567	256.28	-21.40
78/10/ 7	2443788.5	-6.67702	-27.39245	-11.05283	5.25518	-1.03830	-0.55769	30.28355	5.38572	256.30	-21.41
78/10/11	2443792.5	-6.66488	-27.39484	-11.05411	5.25571	-1.03634	-0.55690	30.28352	5.38578	256.33	-21.41
78/10/15	2443796.5	-6.65274	-27.39723	-11.05540	5.25624	-1.03437	-0.55611	30.28348	5.38584	256.35	-21.41
78/10/19	2443800.5	-6.64059	-27.39962	-11.05668	5.25677	-1.03241	-0.55532	30.28344	5.38589	256.38	-21.41
78/10/23	2443804.5	-6.62845	-27.40200	-11.05797	5.25729	-1.03045	-0.55453	30.28341	5.38595	256.40	-21.42
78/10/27	2443808.5	-6.61630	-27.40438	-11.05925	5.25782	-1.02848	-0.55374	30.28337	5.38601	256.43	-21.42

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78/10/31	2443812.5	-6.60416	-27.40676	-11.06052	5.25835	-1.02652	-0.55295	30.28333	5.38606	256.45	-21.42
78/11/ 4	2443816.5	-6.59201	-27.40913	-11.06180	5.25887	-1.02455	-0.55216	30.28330	5.38612	256.48	-21.42
78/11/ 8	2443820.5	-6.57986	-27.41149	-11.06307	5.25940	-1.02259	-0.55137	30.28326	5.38618	256.50	-21.43
78/11/12	2443824.5	-6.56771	-27.41385	-11.06435	5.25992	-1.02062	-0.55058	30.28323	5.38624	256.53	-21.43
78/11/16	2443828.5	-6.55556	-27.41621	-11.06562	5.26044	-1.01866	-0.54979	30.28319	5.38630	256.55	-21.43
78/11/20	2443832.5	-6.54340	-27.41856	-11.06689	5.26097	-1.01669	-0.54900	30.28315	5.38636	256.58	-21.44
78/11/24	2443836.5	-6.53125	-27.42090	-11.06816	5.26149	-1.01472	-0.54820	30.28312	5.38642	256.60	-21.44
78/11/28	2443840.5	-6.51909	-27.42325	-11.06942	5.26201	-1.01276	-0.54741	30.28308	5.38648	256.63	-21.44
78/12/ 2	2443844.5	-6.50694	-27.42558	-11.07068	5.26253	-1.01079	-0.54662	30.28305	5.38653	256.65	-21.44
78/12/ 6	2443848.5	-6.49478	-27.42792	-11.07195	5.26306	-1.00882	-0.54583	30.28301	5.38659	256.68	-21.45
78/12/10	2443852.5	-6.48262	-27.43024	-11.07321	5.26358	-1.00685	-0.54504	30.28297	5.38665	256.70	-21.45
78/12/14	2443856.5	-6.47046	-27.43257	-11.07446	5.26410	-1.00488	-0.54425	30.28294	5.38671	256.73	-21.45
78/12/18	2443860.5	-6.45830	-27.43489	-11.07572	5.26461	-1.00291	-0.54345	30.28290	5.38678	256.75	-21.45
78/12/22	2443864.5	-6.44613	-27.43720	-11.07698	5.26513	-1.00095	-0.54266	30.28287	5.38684	256.78	-21.46
78/12/26	2443868.5	-6.43397	-27.43951	-11.07823	5.26565	-0.99898	-0.54187	30.28283	5.38690	256.80	-21.46
78/12/30	2443872.5	-6.42181	-27.44182	-11.07948	5.26617	-0.99700	-0.54107	30.28280	5.38696	256.83	-21.46
79/ 1/ 3	2443876.5	-6.40964	-27.44412	-11.08073	5.26669	-0.99503	-0.54028	30.28276	5.38702	256.85	-21.46
79/ 1/ 7	2443880.5	-6.39747	-27.44641	-11.08198	5.26720	-0.99306	-0.53949	30.28273	5.38708	256.88	-21.47
79/ 1/11	2443884.5	-6.38530	-27.44871	-11.08322	5.26772	-0.99109	-0.53869	30.28269	5.38714	256.90	-21.47
79/ 1/15	2443888.5	-6.37313	-27.45099	-11.08446	5.26823	-0.98912	-0.53790	30.28266	5.38721	256.93	-21.47
79/ 1/19	2443892.5	-6.36096	-27.45328	-11.08571	5.26875	-0.98715	-0.53711	30.28262	5.38727	256.95	-21.47
79/ 1/23	2443896.5	-6.34879	-27.45555	-11.08695	5.26926	-0.98517	-0.53631	30.28259	5.38733	256.98	-21.48
79/ 1/27	2443900.5	-6.33662	-27.45783	-11.08818	5.26978	-0.98320	-0.53552	30.28255	5.38739	257.00	-21.48
79/ 1/31	2443904.5	-6.32444	-27.46010	-11.08942	5.27029	-0.98123	-0.53472	30.28252	5.38746	257.03	-21.48
79/ 2/ 4	2443908.5	-6.31227	-27.46236	-11.09065	5.27080	-0.97925	-0.53393	30.28248	5.38752	257.06	-21.48
79/ 2/ 8	2443912.5	-6.30009	-27.46462	-11.09189	5.27131	-0.97728	-0.53313	30.28245	5.38758	257.08	-21.49
79/ 2/12	2443916.5	-6.28791	-27.46688	-11.09312	5.27182	-0.97530	-0.53234	30.28241	5.38765	257.11	-21.49
79/ 2/16	2443920.5	-6.27573	-27.46913	-11.09435	5.27234	-0.97333	-0.53154	30.28238	5.38771	257.13	-21.49
79/ 2/20	2443924.5	-6.26355	-27.47137	-11.09557	5.27285	-0.97135	-0.53075	30.28234	5.38777	257.16	-21.49
79/ 2/24	2443928.5	-6.25137	-27.47362	-11.09680	5.27335	-0.96937	-0.52995	30.28231	5.38784	257.18	-21.50
79/ 2/28	2443932.5	-6.23919	-27.47585	-11.09802	5.27386	-0.96740	-0.52916	30.28227	5.38790	257.21	-21.50
79/ 3/ 4	2443936.5	-6.22700	-27.47809	-11.09924	5.27437	-0.96542	-0.52836	30.28224	5.38797	257.23	-21.50
79/ 3/ 8	2443940.5	-6.21482	-27.48031	-11.10046	5.27488	-0.96344	-0.52756	30.28220	5.38803	257.26	-21.50
79/ 3/12	2443944.5	-6.20263	-27.48254	-11.10168	5.27539	-0.96146	-0.52677	30.28217	5.38810	257.28	-21.51
79/ 3/16	2443948.5	-6.19044	-27.48476	-11.10290	5.27589	-0.95949	-0.52597	30.28214	5.38816	257.31	-21.51
79/ 3/20	2443952.5	-6.17825	-27.48697	-11.10411	5.27640	-0.95751	-0.52517	30.28210	5.38823	257.33	-21.51
79/ 3/24	2443956.5	-6.16606	-27.48918	-11.10532	5.27690	-0.95553	-0.52438	30.28207	5.38829	257.36	-21.51
79/ 3/28	2443960.5	-6.15387	-27.49139	-11.10653	5.27741	-0.95355	-0.52358	30.28203	5.38836	257.38	-21.52
79/ 4/ 1	2443964.5	-6.14168	-27.49359	-11.10774	5.27791	-0.95157	-0.52278	30.28200	5.38843	257.41	-21.52
79/ 4/ 5	2443968.5	-6.12949	-27.49578	-11.10895	5.27842	-0.94959	-0.52199	30.28196	5.38849	257.43	-21.52
79/ 4/ 9	2443972.5	-6.11729	-27.49797	-11.11015	5.27892	-0.94761	-0.52119	30.28193	5.38856	257.46	-21.52
79/ 4/13	2443976.5	-6.10510	-27.50016	-11.11136	5.27942	-0.94562	-0.52039	30.28190	5.38863	257.48	-21.53
79/ 4/17	2443980.5	-6.09290	-27.50234	-11.11256	5.27992	-0.94364	-0.51959	30.28186	5.38869	257.51	-21.53
79/ 4/21	2443984.5	-6.08070	-27.50452	-11.11376	5.28042	-0.94166	-0.51879	30.28183	5.38876	257.53	-21.53
79/ 4/25	2443988.5	-6.06850	-27.50669	-11.11496	5.28092	-0.93968	-0.51799	30.28180	5.38883	257.56	-21.53

1.8 1 A.U.=149,599,000 KM.

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79/ 4/29	2443992.5	-6.05630	-27.50886	-11.11615	5.28142	-0.93769	-0.51720	30.28176	5.38889	257.58	-21.54
79/ 5/ 3	2443996.5	-6.04410	-27.51103	-11.11735	5.28192	-0.93571	-0.51640	30.28173	5.38896	257.61	-21.54
79/ 5/ 7	2444000.5	-6.03190	-27.51319	-11.11854	5.28242	-0.93373	-0.51560	30.28169	5.38903	257.63	-21.54
79/ 5/11	2444004.5	-6.01969	-27.51534	-11.11973	5.28292	-0.93174	-0.51480	30.28166	5.38910	257.66	-21.54
79/ 5/15	2444008.5	-6.00749	-27.51749	-11.12092	5.28341	-0.92976	-0.51400	30.28163	5.38917	257.68	-21.55
79/ 5/19	2444012.5	-5.99528	-27.51964	-11.12210	5.28391	-0.92777	-0.51320	30.28159	5.38923	257.71	-21.55
79/ 5/23	2444016.5	-5.98307	-27.52178	-11.12329	5.28441	-0.92578	-0.51240	30.28156	5.38930	257.74	-21.55
79/ 5/27	2444020.5	-5.97087	-27.52391	-11.12447	5.28490	-0.92380	-0.51160	30.28153	5.38937	257.76	-21.55
79/ 5/31	2444024.5	-5.95866	-27.52605	-11.12565	5.28540	-0.92181	-0.51080	30.28149	5.38944	257.79	-21.56
79/ 6/ 4	2444028.5	-5.94644	-27.52817	-11.12683	5.28589	-0.91982	-0.51000	30.28146	5.38951	257.81	-21.56
79/ 6/ 8	2444032.5	-5.93423	-27.53030	-11.12801	5.28638	-0.91784	-0.50920	30.28143	5.38958	257.84	-21.56
79/ 6/12	2444036.5	-5.92202	-27.53241	-11.12918	5.28688	-0.91585	-0.50839	30.28139	5.38965	257.86	-21.56
79/ 6/16	2444040.5	-5.90981	-27.53453	-11.13036	5.28737	-0.91386	-0.50759	30.28136	5.38972	257.89	-21.57
79/ 6/20	2444044.5	-5.89759	-27.53664	-11.13153	5.28786	-0.91187	-0.50679	30.28133	5.38979	257.91	-21.57
79/ 6/24	2444048.5	-5.88537	-27.53874	-11.13270	5.28835	-0.90988	-0.50599	30.28129	5.38986	257.94	-21.57
79/ 6/28	2444052.5	-5.87316	-27.54084	-11.13387	5.28884	-0.90789	-0.50519	30.28126	5.38993	257.96	-21.57
79/ 7/ 2	2444056.5	-5.86094	-27.54293	-11.13503	5.28933	-0.90590	-0.50439	30.28123	5.39000	257.99	-21.58
79/ 7/ 6	2444060.5	-5.84872	-27.54503	-11.13620	5.28982	-0.90391	-0.50358	30.28119	5.39007	258.01	-21.58
79/ 7/10	2444064.5	-5.83650	-27.54711	-11.13736	5.29031	-0.90192	-0.50278	30.28116	5.39014	258.04	-21.58
79/ 7/14	2444068.5	-5.82427	-27.54919	-11.13852	5.29079	-0.89992	-0.50198	30.28113	5.39021	258.06	-21.58
79/ 7/18	2444072.5	-5.81205	-27.55127	-11.13968	5.29128	-0.89793	-0.50117	30.28110	5.39028	258.09	-21.58
79/ 7/22	2444076.5	-5.79983	-27.55334	-11.14084	5.29177	-0.89594	-0.50037	30.28106	5.39035	258.11	-21.59
79/ 7/26	2444080.5	-5.78760	-27.55541	-11.14199	5.29225	-0.89395	-0.49957	30.28103	5.39042	258.14	-21.59
79/ 7/30	2444084.5	-5.77538	-27.55747	-11.14314	5.29274	-0.89195	-0.49876	30.28100	5.39049	258.16	-21.59
79/ 8/ 3	2444088.5	-5.76315	-27.55953	-11.14429	5.29322	-0.88996	-0.49796	30.28096	5.39056	258.19	-21.59
79/ 8/ 7	2444092.5	-5.75092	-27.56158	-11.14544	5.29370	-0.88796	-0.49716	30.28093	5.39063	258.21	-21.60
79/ 8/11	2444096.5	-5.73869	-27.56363	-11.14659	5.29419	-0.88597	-0.49635	30.28090	5.39071	258.24	-21.60
79/ 8/15	2444100.5	-5.72646	-27.56568	-11.14774	5.29467	-0.88397	-0.49555	30.28087	5.39078	258.26	-21.60
79/ 8/19	2444104.5	-5.71423	-27.56772	-11.14888	5.29515	-0.88198	-0.49474	30.28083	5.39085	258.29	-21.60
79/ 8/23	2444108.5	-5.70199	-27.56975	-11.15002	5.29563	-0.87998	-0.49394	30.28080	5.39092	258.31	-21.61
79/ 8/27	2444112.5	-5.68976	-27.57178	-11.15116	5.29611	-0.87798	-0.49313	30.28077	5.39099	258.34	-21.61
79/ 8/31	2444116.5	-5.67752	-27.57381	-11.15230	5.29659	-0.87599	-0.49233	30.28074	5.39107	258.37	-21.61
79/ 9/ 4	2444120.5	-5.66529	-27.57583	-11.15344	5.29707	-0.87399	-0.49152	30.28070	5.39114	258.39	-21.61
79/ 9/ 8	2444124.5	-5.65305	-27.57785	-11.15457	5.29754	-0.87199	-0.49072	30.28067	5.39121	258.42	-21.62
79/ 9/12	2444128.5	-5.64081	-27.57986	-11.15571	5.29802	-0.86999	-0.48991	30.28064	5.39128	258.44	-21.62
79/ 9/16	2444132.5	-5.62857	-27.58187	-11.15684	5.29850	-0.86799	-0.48910	30.28061	5.39136	258.47	-21.62
79/ 9/20	2444136.5	-5.61633	-27.58387	-11.15797	5.29897	-0.86599	-0.48830	30.28057	5.39143	258.49	-21.62
79/ 9/24	2444140.5	-5.60409	-27.58587	-11.15909	5.29945	-0.86399	-0.48749	30.28054	5.39150	258.52	-21.62
79/ 9/28	2444144.5	-5.59184	-27.58786	-11.16022	5.29992	-0.86199	-0.48668	30.28051	5.39157	258.54	-21.63
79/10/ 2	2444148.5	-5.57960	-27.58985	-11.16134	5.30040	-0.85999	-0.48588	30.28048	5.39165	258.57	-21.63
79/10/ 6	2444152.5	-5.56735	-27.59183	-11.16246	5.30087	-0.85799	-0.48507	30.28044	5.39172	258.59	-21.63
79/10/10	2444156.5	-5.55511	-27.59381	-11.16358	5.30134	-0.85599	-0.48426	30.28041	5.39179	258.62	-21.63
79/10/14	2444160.5	-5.54286	-27.59579	-11.16470	5.30181	-0.85398	-0.48346	30.28038	5.39187	258.64	-21.64
79/10/18	2444164.5	-5.53061	-27.59776	-11.16582	5.30228	-0.85198	-0.48265	30.28035	5.39194	258.67	-21.64
79/10/22	2444168.5	-5.51836	-27.59973	-11.16693	5.30275	-0.84998	-0.48184	30.28032	5.39202	258.69	-21.64

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79/10/26	2444172.5	-5.50611	-27.60169	-11.16804	5.30322	-0.84797	-0.48103	30.28028	5.39209	258.72	-21.64
79/10/30	2444176.5	-5.49386	-27.60364	-11.16915	5.30369	-0.84597	-0.48022	30.28025	5.39216	258.74	-21.65
79/11/ 3	2444180.5	-5.48160	-27.60560	-11.17026	5.30416	-0.84396	-0.47941	30.28022	5.39224	258.77	-21.65
79/11/ 7	2444184.5	-5.46935	-27.60754	-11.17137	5.30463	-0.84196	-0.47861	30.28019	5.39231	258.79	-21.65
79/11/11	2444188.5	-5.45710	-27.60949	-11.17247	5.30509	-0.83995	-0.47780	30.28015	5.39239	258.82	-21.65
79/11/15	2444192.5	-5.44484	-27.61142	-11.17358	5.30556	-0.83795	-0.47699	30.28012	5.39246	258.84	-21.65
79/11/19	2444196.5	-5.43258	-27.61336	-11.17468	5.30602	-0.83594	-0.47618	30.28009	5.39254	258.87	-21.66
79/11/23	2444200.5	-5.42032	-27.61529	-11.17578	5.30649	-0.83393	-0.47537	30.28006	5.39261	258.90	-21.66
79/11/27	2444204.5	-5.40806	-27.61721	-11.17687	5.30695	-0.83193	-0.47456	30.28003	5.39269	258.92	-21.66
79/12/ 1	2444208.5	-5.39580	-27.61913	-11.17797	5.30742	-0.82992	-0.47375	30.27999	5.39276	258.95	-21.66
79/12/ 5	2444212.5	-5.38354	-27.62105	-11.17906	5.30788	-0.82791	-0.47294	30.27996	5.39283	258.97	-21.67
79/12/ 9	2444216.5	-5.37128	-27.62296	-11.18015	5.30834	-0.82590	-0.47213	30.27993	5.39291	259.00	-21.67
79/12/13	2444220.5	-5.35902	-27.62486	-11.18124	5.30880	-0.82389	-0.47132	30.27990	5.39299	259.02	-21.67
79/12/17	2444224.5	-5.34675	-27.62676	-11.18233	5.30926	-0.82188	-0.47050	30.27987	5.39306	259.05	-21.67
79/12/21	2444228.5	-5.33449	-27.62866	-11.18342	5.30972	-0.81987	-0.46969	30.27983	5.39314	259.07	-21.67
79/12/25	2444232.5	-5.32222	-27.63055	-11.18450	5.31018	-0.81786	-0.46888	30.27980	5.39321	259.10	-21.68
79/12/29	2444236.5	-5.30995	-27.63244	-11.18558	5.31064	-0.81585	-0.46807	30.27977	5.39329	259.12	-21.68
80/ 1/ 2	2444240.5	-5.29768	-27.63432	-11.18666	5.31109	-0.81384	-0.46726	30.27974	5.39336	259.15	-21.68
80/ 1/ 6	2444244.5	-5.28541	-27.63620	-11.18774	5.31155	-0.81182	-0.46645	30.27971	5.39344	259.17	-21.68
80/ 1/10	2444248.5	-5.27314	-27.63807	-11.18882	5.31200	-0.80981	-0.46563	30.27967	5.39351	259.20	-21.69
80/ 1/14	2444252.5	-5.26087	-27.63994	-11.18989	5.31246	-0.80780	-0.46482	30.27964	5.39359	259.22	-21.69
80/ 1/18	2444256.5	-5.24859	-27.64180	-11.19097	5.31291	-0.80578	-0.46401	30.27961	5.39367	259.25	-21.69
80/ 1/22	2444260.5	-5.23632	-27.64366	-11.19204	5.31337	-0.80377	-0.46319	30.27958	5.39374	259.27	-21.69
80/ 1/26	2444264.5	-5.22404	-27.64552	-11.19311	5.31382	-0.80175	-0.46238	30.27955	5.39382	259.30	-21.69
80/ 1/30	2444268.5	-5.21177	-27.64737	-11.19417	5.31427	-0.79974	-0.46157	30.27951	5.39389	259.32	-21.70
80/ 2/ 3	2444272.5	-5.19949	-27.64921	-11.19524	5.31472	-0.79772	-0.46075	30.27948	5.39397	259.35	-21.70
80/ 2/ 7	2444276.5	-5.18721	-27.65105	-11.19630	5.31517	-0.79571	-0.45994	30.27945	5.39405	259.38	-21.70
80/ 2/11	2444280.5	-5.17493	-27.65289	-11.19736	5.31562	-0.79369	-0.45913	30.27942	5.39412	259.40	-21.70
80/ 2/15	2444284.5	-5.16265	-27.65472	-11.19842	5.31607	-0.79167	-0.45831	30.27939	5.39420	259.43	-21.71
80/ 2/19	2444288.5	-5.15037	-27.65655	-11.19948	5.31652	-0.78966	-0.45750	30.27935	5.39428	259.45	-21.71
80/ 2/23	2444292.5	-5.13809	-27.65837	-11.20054	5.31696	-0.78764	-0.45668	30.27932	5.39435	259.48	-21.71
80/ 2/27	2444296.5	-5.12580	-27.66019	-11.20159	5.31741	-0.78562	-0.45587	30.27929	5.39443	259.50	-21.71
80/ 3/ 2	2444300.5	-5.11352	-27.66200	-11.20264	5.31786	-0.78360	-0.45505	30.27926	5.39451	259.53	-21.71
80/ 3/ 6	2444304.5	-5.10123	-27.66381	-11.20369	5.31830	-0.78158	-0.45424	30.27923	5.39458	259.55	-21.72
80/ 3/10	2444308.5	-5.08895	-27.66561	-11.20474	5.31874	-0.77956	-0.45342	30.27919	5.39466	259.58	-21.72
80/ 3/14	2444312.5	-5.07666	-27.66741	-11.20579	5.31919	-0.77754	-0.45260	30.27916	5.39474	259.60	-21.72
80/ 3/18	2444316.5	-5.06437	-27.66920	-11.20683	5.31963	-0.77552	-0.45179	30.27913	5.39481	259.63	-21.72
80/ 3/22	2444320.5	-5.05208	-27.67099	-11.20788	5.32007	-0.77350	-0.45097	30.27910	5.39489	259.65	-21.73
80/ 3/26	2444324.5	-5.03979	-27.67278	-11.20892	5.32051	-0.77148	-0.45016	30.27907	5.39497	259.68	-21.73
80/ 3/30	2444328.5	-5.02750	-27.67456	-11.20996	5.32095	-0.76946	-0.44934	30.27903	5.39504	259.70	-21.73
80/ 4/ 3	2444332.5	-5.01521	-27.67633	-11.21099	5.32139	-0.76743	-0.44852	30.27900	5.39512	259.73	-21.73
80/ 4/ 7	2444336.5	-5.00291	-27.67810	-11.21203	5.32183	-0.76541	-0.44770	30.27897	5.39520	259.75	-21.73
80/ 4/11	2444340.5	-4.99062	-27.67987	-11.21306	5.32227	-0.76339	-0.44689	30.27894	5.39528	259.78	-21.74
80/ 4/15	2444344.5	-4.97832	-27.68163	-11.21409	5.32270	-0.76136	-0.44607	30.27890	5.39535	259.80	-21.74
80/ 4/19	2444348.5	-4.96602	-27.68338	-11.21512	5.32314	-0.75934	-0.44525	30.27887	5.39543	259.83	-21.74

1.8 1 A.U.=149,599,000 KM.

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80/ 4/23	2444352.5	-4.95373	-27.68514	-11.21615	5.32358	-0.75731	-0.44443	30.27884	5.39551	259.86	-21.74
80/ 4/27	2444356.5	-4.94143	-27.68688	-11.21718	5.32401	-0.75529	-0.44362	30.27881	5.39558	259.88	-21.74
80/ 5/ 1	2444360.5	-4.92913	-27.68863	-11.21820	5.32444	-0.75326	-0.44280	30.27878	5.39566	259.91	-21.75
80/ 5/ 5	2444364.5	-4.91683	-27.69036	-11.21922	5.32488	-0.75123	-0.44198	30.27874	5.39574	259.93	-21.75
80/ 5/ 9	2444368.5	-4.90452	-27.69210	-11.22024	5.32531	-0.74921	-0.44116	30.27871	5.39582	259.96	-21.75
80/ 5/13	2444372.5	-4.89222	-27.69383	-11.22126	5.32574	-0.74718	-0.44034	30.27868	5.39589	259.98	-21.75
80/ 5/17	2444376.5	-4.87992	-27.69555	-11.22228	5.32617	-0.74515	-0.43952	30.27865	5.39597	260.01	-21.75
80/ 5/21	2444380.5	-4.86761	-27.69727	-11.22329	5.32660	-0.74312	-0.43870	30.27862	5.39605	260.03	-21.76
80/ 5/25	2444384.5	-4.85531	-27.69898	-11.22430	5.32703	-0.74110	-0.43788	30.27858	5.39613	260.06	-21.76
80/ 5/29	2444388.5	-4.84300	-27.70069	-11.22531	5.32746	-0.73907	-0.43706	30.27855	5.39621	260.08	-21.76
80/ 6/ 2	2444392.5	-4.83069	-27.70240	-11.22632	5.32788	-0.73704	-0.43624	30.27852	5.39628	260.11	-21.76
80/ 6/ 6	2444396.5	-4.81838	-27.70410	-11.22733	5.32831	-0.73501	-0.43542	30.27849	5.39636	260.13	-21.77
80/ 6/10	2444400.5	-4.80607	-27.70579	-11.22834	5.32874	-0.73298	-0.43460	30.27846	5.39644	260.16	-21.77
80/ 6/14	2444404.5	-4.79376	-27.70748	-11.22934	5.32916	-0.73094	-0.43378	30.27842	5.39652	260.18	-21.77
80/ 6/18	2444408.5	-4.78145	-27.70917	-11.23034	5.32958	-0.72891	-0.43296	30.27839	5.39659	260.21	-21.77
80/ 6/22	2444412.5	-4.76914	-27.71085	-11.23134	5.33001	-0.72688	-0.43214	30.27836	5.39667	260.23	-21.77
80/ 6/26	2444416.5	-4.75682	-27.71253	-11.23234	5.33043	-0.72485	-0.43131	30.27833	5.39675	260.26	-21.78
80/ 6/30	2444420.5	-4.74451	-27.71420	-11.23333	5.33085	-0.72281	-0.43049	30.27829	5.39683	260.29	-21.78
80/ 7/ 4	2444424.5	-4.73219	-27.71587	-11.23433	5.33127	-0.72078	-0.42967	30.27826	5.39691	260.31	-21.78
80/ 7/ 8	2444428.5	-4.71988	-27.71753	-11.23532	5.33169	-0.71875	-0.42885	30.27823	5.39698	260.34	-21.78
80/ 7/12	2444432.5	-4.70756	-27.71919	-11.23631	5.33211	-0.71671	-0.42803	30.27820	5.39706	260.36	-21.78
80/ 7/16	2444436.5	-4.69524	-27.72084	-11.23729	5.33253	-0.71468	-0.42720	30.27816	5.39714	260.39	-21.79
80/ 7/20	2444440.5	-4.68292	-27.72249	-11.23828	5.33295	-0.71264	-0.42638	30.27813	5.39722	260.41	-21.79
80/ 7/24	2444444.5	-4.67060	-27.72414	-11.23926	5.33336	-0.71061	-0.42556	30.27810	5.39730	260.44	-21.79
80/ 7/28	2444448.5	-4.65828	-27.72578	-11.24025	5.33378	-0.70857	-0.42473	30.27807	5.39737	260.46	-21.79
80/ 8/ 1	2444452.5	-4.64596	-27.72741	-11.24123	5.33419	-0.70653	-0.42391	30.27803	5.39745	260.49	-21.79
80/ 8/ 5	2444456.5	-4.63363	-27.72904	-11.24221	5.33461	-0.70450	-0.42309	30.27800	5.39753	260.51	-21.80
80/ 8/ 9	2444460.5	-4.62131	-27.73066	-11.24318	5.33502	-0.70246	-0.42226	30.27797	5.39761	260.54	-21.80
80/ 8/13	2444464.5	-4.60898	-27.73229	-11.24416	5.33543	-0.70042	-0.42144	30.27794	5.39769	260.56	-21.80
80/ 8/17	2444468.5	-4.59666	-27.73390	-11.24513	5.33584	-0.69838	-0.42061	30.27790	5.39776	260.59	-21.80
80/ 8/21	2444472.5	-4.58433	-27.73551	-11.24610	5.33625	-0.69634	-0.41979	30.27787	5.39784	260.61	-21.80
80/ 8/25	2444476.5	-4.57200	-27.73712	-11.24707	5.33666	-0.69430	-0.41896	30.27784	5.39792	260.64	-21.81
80/ 8/29	2444480.5	-4.55967	-27.73872	-11.24804	5.33707	-0.69226	-0.41814	30.27781	5.39800	260.67	-21.81
80/ 9/ 2	2444484.5	-4.54734	-27.74032	-11.24900	5.33748	-0.69022	-0.41731	30.27777	5.39808	260.69	-21.81
80/ 9/ 6	2444488.5	-4.53501	-27.74191	-11.24996	5.33789	-0.68818	-0.41649	30.27774	5.39815	260.72	-21.81
80/ 9/10	2444492.5	-4.52268	-27.74350	-11.25092	5.33829	-0.68614	-0.41566	30.27771	5.39823	260.74	-21.81
80/ 9/14	2444496.5	-4.51035	-27.74508	-11.25188	5.33870	-0.68410	-0.41484	30.27767	5.39831	260.77	-21.82
80/ 9/18	2444500.5	-4.49801	-27.74666	-11.25284	5.33910	-0.68206	-0.41401	30.27764	5.39839	260.79	-21.82
80/ 9/22	2444504.5	-4.48568	-27.74823	-11.25380	5.33950	-0.68001	-0.41318	30.27761	5.39847	260.82	-21.82
80/ 9/26	2444508.5	-4.47334	-27.74980	-11.25475	5.33991	-0.67797	-0.41236	30.27758	5.39855	260.84	-21.82
80/ 9/30	2444512.5	-4.46101	-27.75136	-11.25570	5.34031	-0.67593	-0.41153	30.27754	5.39862	260.87	-21.82
80/10/ 4	2444516.5	-4.44867	-27.75292	-11.25665	5.34071	-0.67388	-0.41070	30.27751	5.39870	260.89	-21.83
80/10/ 8	2444520.5	-4.43633	-27.75448	-11.25760	5.34111	-0.67184	-0.40988	30.27748	5.39878	260.92	-21.83
80/10/12	2444524.5	-4.42399	-27.75603	-11.25855	5.34151	-0.66979	-0.40905	30.27744	5.39886	260.94	-21.83
80/10/16	2444528.5	-4.41165	-27.75757	-11.25949	5.34191	-0.66775	-0.40822	30.27741	5.39894	260.97	-21.83

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80/10/20	2444532.5	-4.39931	-27.75911	-11.26043	5.34230	-0.66570	-0.40739	30.27738	5.39901	260.99	-21.83
80/10/24	2444536.5	-4.38697	-27.76065	-11.26137	5.34270	-0.66365	-0.40656	30.27734	5.39909	261.02	-21.84
80/10/28	2444540.5	-4.37463	-27.76218	-11.26231	5.34310	-0.66161	-0.40574	30.27731	5.39917	261.05	-21.84
80/11/ 1	2444544.5	-4.36228	-27.76370	-11.26325	5.34349	-0.65956	-0.40491	30.27728	5.39925	261.07	-21.84
80/11/ 5	2444548.5	-4.34994	-27.76523	-11.26418	5.34388	-0.65751	-0.40408	30.27724	5.39932	261.10	-21.84
80/11/ 9	2444552.5	-4.33759	-27.76674	-11.26511	5.34428	-0.65546	-0.40325	30.27721	5.39940	261.12	-21.84
80/11/13	2444556.5	-4.32524	-27.76825	-11.26604	5.34467	-0.65341	-0.40242	30.27718	5.39948	261.15	-21.85
80/11/17	2444560.5	-4.31290	-27.76976	-11.26697	5.34506	-0.65136	-0.40159	30.27714	5.39956	261.17	-21.85
80/11/21	2444564.5	-4.30055	-27.77126	-11.26790	5.34545	-0.64932	-0.40076	30.27711	5.39964	261.20	-21.85
80/11/25	2444568.5	-4.28820	-27.77276	-11.26882	5.34584	-0.64726	-0.39993	30.27708	5.39971	261.22	-21.85
80/11/29	2444572.5	-4.27585	-27.77425	-11.26975	5.34623	-0.64521	-0.39910	30.27704	5.39979	261.25	-21.85
80/12/ 3	2444576.5	-4.26350	-27.77574	-11.27067	5.34662	-0.64316	-0.39827	30.27701	5.39987	261.27	-21.85
80/12/ 7	2444580.5	-4.25115	-27.77723	-11.27159	5.34700	-0.64111	-0.39744	30.27697	5.39995	261.30	-21.86
80/12/11	2444584.5	-4.23879	-27.77870	-11.27250	5.34739	-0.63906	-0.39661	30.27694	5.40002	261.32	-21.86
80/12/15	2444588.5	-4.22644	-27.78018	-11.27342	5.34777	-0.63701	-0.39578	30.27691	5.40010	261.35	-21.86
80/12/19	2444592.5	-4.21408	-27.78165	-11.27433	5.34816	-0.63495	-0.39495	30.27687	5.40018	261.37	-21.86
80/12/23	2444596.5	-4.20173	-27.78311	-11.27524	5.34854	-0.63290	-0.39412	30.27684	5.40026	261.40	-21.86
80/12/27	2444600.5	-4.18937	-27.78457	-11.27615	5.34892	-0.63085	-0.39328	30.27680	5.40033	261.43	-21.87
80/12/31	2444604.5	-4.17701	-27.78603	-11.27706	5.34930	-0.62879	-0.39245	30.27677	5.40041	261.45	-21.87
81/ 1/ 4	2444608.5	-4.16466	-27.78748	-11.27797	5.34968	-0.62674	-0.39162	30.27674	5.40049	261.48	-21.87
81/ 1/ 8	2444612.5	-4.15230	-27.78892	-11.27887	5.35006	-0.62468	-0.39079	30.27670	5.40057	261.50	-21.87
81/ 1/12	2444616.5	-4.13994	-27.79036	-11.27977	5.35044	-0.62263	-0.38996	30.27667	5.40064	261.53	-21.87
81/ 1/16	2444620.5	-4.12758	-27.79180	-11.28067	5.35082	-0.62057	-0.38912	30.27663	5.40072	261.55	-21.88
81/ 1/20	2444624.5	-4.11521	-27.79323	-11.28157	5.35120	-0.61851	-0.38829	30.27660	5.40080	261.58	-21.88
81/ 1/24	2444628.5	-4.10285	-27.79466	-11.28247	5.35157	-0.61646	-0.38746	30.27656	5.40088	261.60	-21.88
81/ 1/28	2444632.5	-4.09049	-27.79608	-11.28336	5.35195	-0.61440	-0.38662	30.27653	5.40095	261.63	-21.88
81/ 2/ 1	2444636.5	-4.07812	-27.79750	-11.28425	5.35232	-0.61234	-0.38579	30.27650	5.40103	261.65	-21.88
81/ 2/ 5	2444640.5	-4.06576	-27.79891	-11.28514	5.35269	-0.61028	-0.38496	30.27646	5.40111	261.68	-21.88
81/ 2/ 9	2444644.5	-4.05339	-27.80032	-11.28603	5.35306	-0.60822	-0.38412	30.27643	5.40118	261.70	-21.89
81/ 2/13	2444648.5	-4.04103	-27.80172	-11.28692	5.35344	-0.60617	-0.38329	30.27639	5.40126	261.73	-21.89
81/ 2/17	2444652.5	-4.02866	-27.80312	-11.28780	5.35381	-0.60411	-0.38245	30.27636	5.40134	261.76	-21.89
81/ 2/21	2444656.5	-4.01629	-27.80451	-11.28869	5.35417	-0.60205	-0.38162	30.27632	5.40141	261.78	-21.89
81/ 2/25	2444660.5	-4.00392	-27.80590	-11.28957	5.35454	-0.59998	-0.38078	30.27629	5.40149	261.81	-21.89
81/ 3/ 1	2444664.5	-3.99155	-27.80728	-11.29045	5.35491	-0.59792	-0.37995	30.27625	5.40157	261.83	-21.90
81/ 3/ 5	2444668.5	-3.97918	-27.80866	-11.29132	5.35528	-0.59586	-0.37911	30.27622	5.40164	261.86	-21.90
81/ 3/ 9	2444672.5	-3.96681	-27.81003	-11.29220	5.35564	-0.59380	-0.37828	30.27618	5.40172	261.88	-21.90
81/ 3/13	2444676.5	-3.95443	-27.81140	-11.29307	5.35601	-0.59174	-0.37744	30.27615	5.40180	261.91	-21.90
81/ 3/17	2444680.5	-3.94206	-27.81277	-11.29394	5.35637	-0.58967	-0.37661	30.27611	5.40187	261.93	-21.90
81/ 3/21	2444684.5	-3.92968	-27.81413	-11.29481	5.35673	-0.58761	-0.37577	30.27608	5.40195	261.96	-21.90
81/ 3/25	2444688.5	-3.91731	-27.81548	-11.29568	5.35709	-0.58555	-0.37493	30.27604	5.40203	261.98	-21.91
81/ 3/29	2444692.5	-3.90493	-27.81683	-11.29654	5.35745	-0.58348	-0.37410	30.27601	5.40210	262.01	-21.91
81/ 4/ 2	2444696.5	-3.89256	-27.81818	-11.29741	5.35781	-0.58142	-0.37326	30.27597	5.40218	262.03	-21.91
81/ 4/ 6	2444700.5	-3.88018	-27.81952	-11.29827	5.35817	-0.57935	-0.37242	30.27594	5.40225	262.06	-21.91
81/ 4/10	2444704.5	-3.86780	-27.82086	-11.29913	5.35853	-0.57729	-0.37159	30.27590	5.40233	262.09	-21.91
81/ 4/14	2444708.5	-3.85542	-27.82219	-11.29998	5.35889	-0.57522	-0.37075	30.27586	5.40241	262.11	-21.92

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81/ 4/18	2444712.5	-3.84304	-27.82351	-11.30084	5.35924	-0.57316	-0.36991	30.27583	5.40248	262.14	-21.92
81/ 4/22	2444716.5	-3.83066	-27.82484	-11.30169	5.35960	-0.57109	-0.36907	30.27579	5.40256	262.16	-21.92
81/ 4/26	2444720.5	-3.81828	-27.82615	-11.30254	5.35995	-0.56902	-0.36824	30.27576	5.40263	262.19	-21.92
81/ 4/30	2444724.5	-3.80589	-27.82746	-11.30339	5.36030	-0.56695	-0.36740	30.27572	5.40271	262.21	-21.92
81/ 5/ 4	2444728.5	-3.79351	-27.82877	-11.30424	5.36066	-0.56489	-0.36656	30.27569	5.40279	262.24	-21.92
81/ 5/ 8	2444732.5	-3.78112	-27.83007	-11.30509	5.36101	-0.56282	-0.36572	30.27565	5.40286	262.26	-21.93
81/ 5/12	2444736.5	-3.76874	-27.83137	-11.30593	5.36136	-0.56075	-0.36488	30.27561	5.40294	262.29	-21.93
81/ 5/16	2444740.5	-3.75635	-27.83267	-11.30677	5.36171	-0.55868	-0.36404	30.27558	5.40301	262.31	-21.93
81/ 5/20	2444744.5	-3.74397	-27.83395	-11.30761	5.36205	-0.55661	-0.36320	30.27554	5.40309	262.34	-21.93
81/ 5/24	2444748.5	-3.73158	-27.83524	-11.30845	5.36240	-0.55454	-0.36236	30.27550	5.40316	262.36	-21.93
81/ 5/28	2444752.5	-3.71919	-27.83652	-11.30929	5.36275	-0.55247	-0.36152	30.27547	5.40324	262.39	-21.93
81/ 6/ 1	2444756.5	-3.70680	-27.83779	-11.31012	5.36309	-0.55040	-0.36068	30.27543	5.40331	262.42	-21.94
81/ 6/ 5	2444760.5	-3.69441	-27.83906	-11.31095	5.36344	-0.54833	-0.35984	30.27540	5.40339	262.44	-21.94
81/ 6/ 9	2444764.5	-3.68202	-27.84032	-11.31178	5.36378	-0.54625	-0.35900	30.27536	5.40346	262.47	-21.94
81/ 6/13	2444768.5	-3.66963	-27.84158	-11.31261	5.36412	-0.54418	-0.35816	30.27532	5.40354	262.49	-21.94
81/ 6/17	2444772.5	-3.65724	-27.84284	-11.31344	5.36446	-0.54211	-0.35732	30.27529	5.40361	262.52	-21.94
81/ 6/21	2444776.5	-3.64484	-27.84409	-11.31426	5.36480	-0.54003	-0.35648	30.27525	5.40369	262.54	-21.94
81/ 6/25	2444780.5	-3.63245	-27.84533	-11.31509	5.36514	-0.53796	-0.35564	30.27521	5.40376	262.57	-21.95
81/ 6/29	2444784.5	-3.62005	-27.84657	-11.31591	5.36548	-0.53589	-0.35480	30.27517	5.40383	262.59	-21.95
81/ 7/ 3	2444788.5	-3.60766	-27.84781	-11.31673	5.36582	-0.53381	-0.35396	30.27514	5.40391	262.62	-21.95
81/ 7/ 7	2444792.5	-3.59526	-27.84904	-11.31754	5.36615	-0.53174	-0.35312	30.27510	5.40398	262.64	-21.95
81/ 7/11	2444796.5	-3.58286	-27.85027	-11.31836	5.36649	-0.52966	-0.35227	30.27506	5.40406	262.67	-21.95
81/ 7/15	2444800.5	-3.57047	-27.85149	-11.31917	5.36682	-0.52759	-0.35143	30.27503	5.40413	262.69	-21.95
81/ 7/19	2444804.5	-3.55807	-27.85270	-11.31998	5.36716	-0.52551	-0.35059	30.27499	5.40420	262.72	-21.96
81/ 7/23	2444808.5	-3.54567	-27.85391	-11.32079	5.36749	-0.52343	-0.34975	30.27495	5.40428	262.75	-21.96
81/ 7/27	2444812.5	-3.53327	-27.85512	-11.32160	5.36782	-0.52136	-0.34890	30.27491	5.40435	262.77	-21.96
81/ 7/31	2444816.5	-3.52087	-27.85632	-11.32240	5.36815	-0.51928	-0.34806	30.27487	5.40443	262.80	-21.96
81/ 8/ 4	2444820.5	-3.50847	-27.85752	-11.32321	5.36848	-0.51720	-0.34722	30.27484	5.40450	262.82	-21.96
81/ 8/ 8	2444824.5	-3.49606	-27.85871	-11.32401	5.36881	-0.51512	-0.34637	30.27480	5.40457	262.85	-21.97
81/ 8/12	2444828.5	-3.48366	-27.85990	-11.32481	5.36913	-0.51304	-0.34553	30.27476	5.40465	262.87	-21.97
81/ 8/16	2444832.5	-3.47126	-27.86108	-11.32560	5.36946	-0.51096	-0.34469	30.27472	5.40472	262.90	-21.97
81/ 8/20	2444836.5	-3.45885	-27.86226	-11.32640	5.36978	-0.50888	-0.34384	30.27468	5.40479	262.92	-21.97
81/ 8/24	2444840.5	-3.44645	-27.86343	-11.32719	5.37011	-0.50680	-0.34300	30.27465	5.40486	262.95	-21.97
81/ 8/28	2444844.5	-3.43404	-27.86460	-11.32798	5.37043	-0.50472	-0.34215	30.27461	5.40494	262.97	-21.97
81/ 9/ 1	2444848.5	-3.42163	-27.86577	-11.32877	5.37075	-0.50264	-0.34131	30.27457	5.40501	263.00	-21.97
81/ 9/ 5	2444852.5	-3.40922	-27.86693	-11.32956	5.37107	-0.50056	-0.34047	30.27453	5.40508	263.03	-21.98
81/ 9/ 9	2444856.5	-3.39682	-27.86808	-11.33035	5.37139	-0.49848	-0.33962	30.27449	5.40516	263.05	-21.98
81/ 9/13	2444860.5	-3.38441	-27.86923	-11.33113	5.37171	-0.49640	-0.33877	30.27445	5.40523	263.08	-21.98
81/ 9/17	2444864.5	-3.37200	-27.87037	-11.33191	5.37203	-0.49431	-0.33793	30.27442	5.40530	263.10	-21.98
81/ 9/21	2444868.5	-3.35959	-27.87151	-11.33269	5.37235	-0.49223	-0.33708	30.27438	5.40537	263.13	-21.98
81/ 9/25	2444872.5	-3.34717	-27.87265	-11.33347	5.37266	-0.49015	-0.33624	30.27434	5.40544	263.15	-21.98
81/ 9/29	2444876.5	-3.33476	-27.87378	-11.33424	5.37298	-0.48806	-0.33539	30.27430	5.40552	263.18	-21.99
81/10/ 3	2444880.5	-3.32235	-27.87490	-11.33502	5.37329	-0.48598	-0.33455	30.27426	5.40559	263.20	-21.99
81/10/ 7	2444884.5	-3.30994	-27.87602	-11.33579	5.37361	-0.48389	-0.33370	30.27422	5.40566	263.23	-21.99
81/10/11	2444888.5	-3.29752	-27.87714	-11.33656	5.37392	-0.48181	-0.33285	30.27418	5.40573	263.25	-21.99

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

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81/10/15	2444892.5	-3.28511	-27.87825	-11.33733	5.37423	-0.47972	-0.33201	30.27414	5.40580	263.28	-21.99
81/10/19	2444896.5	-3.27269	-27.87935	-11.33809	5.37454	-0.47764	-0.33116	30.27410	5.40587	263.30	-21.99
81/10/23	2444900.5	-3.26027	-27.88046	-11.33886	5.37485	-0.47555	-0.33031	30.27406	5.40594	263.33	-22.00
81/10/27	2444904.5	-3.24786	-27.88155	-11.33962	5.37515	-0.47346	-0.32946	30.27402	5.40601	263.36	-22.00
81/10/31	2444908.5	-3.23544	-27.88264	-11.34038	5.37546	-0.47138	-0.32862	30.27398	5.40609	263.38	-22.00
81/11/ 4	2444912.5	-3.22302	-27.88373	-11.34114	5.37577	-0.46929	-0.32777	30.27394	5.40616	263.41	-22.00
81/11/ 8	2444916.5	-3.21060	-27.88481	-11.34189	5.37607	-0.46720	-0.32692	30.27390	5.40623	263.43	-22.00
81/11/12	2444920.5	-3.19818	-27.88589	-11.34265	5.37637	-0.46511	-0.32607	30.27386	5.40630	263.46	-22.00
81/11/16	2444924.5	-3.18576	-27.88696	-11.34340	5.37668	-0.46302	-0.32522	30.27382	5.40637	263.48	-22.01
81/11/20	2444928.5	-3.17334	-27.88803	-11.34415	5.37698	-0.46094	-0.32438	30.27378	5.40644	263.51	-22.01
81/11/24	2444932.5	-3.16092	-27.88909	-11.34490	5.37728	-0.45885	-0.32353	30.27374	5.40651	263.53	-22.01
81/11/28	2444936.5	-3.14849	-27.89015	-11.34565	5.37758	-0.45676	-0.32268	30.27370	5.40658	263.56	-22.01
81/12/ 2	2444940.5	-3.13607	-27.89120	-11.34639	5.37787	-0.45467	-0.32183	30.27366	5.40665	263.58	-22.01
81/12/ 6	2444944.5	-3.12365	-27.89225	-11.34713	5.37817	-0.45258	-0.32098	30.27362	5.40672	263.61	-22.01
81/12/10	2444948.5	-3.11122	-27.89329	-11.34787	5.37847	-0.45048	-0.32013	30.27358	5.40679	263.64	-22.01
81/12/14	2444952.5	-3.09880	-27.89433	-11.34861	5.37876	-0.44839	-0.31928	30.27354	5.40686	263.66	-22.02
81/12/18	2444956.5	-3.08637	-27.89536	-11.34935	5.37906	-0.44630	-0.31843	30.27350	5.40692	263.69	-22.02
81/12/22	2444960.5	-3.07394	-27.89639	-11.35008	5.37935	-0.44421	-0.31758	30.27346	5.40699	263.71	-22.02
81/12/26	2444964.5	-3.06152	-27.89742	-11.35082	5.37964	-0.44212	-0.31673	30.27342	5.40706	263.74	-22.02
81/12/30	2444968.5	-3.04909	-27.89843	-11.35155	5.37993	-0.44002	-0.31588	30.27337	5.40713	263.76	-22.02
82/ 1/ 3	2444972.5	-3.03666	-27.89945	-11.35228	5.38022	-0.43793	-0.31503	30.27333	5.40720	263.79	-22.02
82/ 1/ 7	2444976.5	-3.02423	-27.90046	-11.35300	5.38051	-0.43584	-0.31418	30.27329	5.40727	263.81	-22.03
82/ 1/11	2444980.5	-3.01180	-27.90146	-11.35373	5.38080	-0.43374	-0.31333	30.27325	5.40734	263.84	-22.03
82/ 1/15	2444984.5	-2.99937	-27.90246	-11.35445	5.38108	-0.43165	-0.31247	30.27321	5.40740	263.86	-22.03
82/ 1/19	2444988.5	-2.98694	-27.90346	-11.35517	5.38137	-0.42955	-0.31162	30.27317	5.40747	263.89	-22.03
82/ 1/23	2444992.5	-2.97450	-27.90445	-11.35589	5.38165	-0.42746	-0.31077	30.27312	5.40754	263.92	-22.03
82/ 1/27	2444996.5	-2.96207	-27.90543	-11.35661	5.38194	-0.42536	-0.30992	30.27308	5.40761	263.94	-22.03
82/ 1/31	2445000.5	-2.94964	-27.90641	-11.35732	5.38222	-0.42326	-0.30907	30.27304	5.40768	263.97	-22.03
82/ 2/ 4	2445004.5	-2.93720	-27.90739	-11.35803	5.38250	-0.42117	-0.30822	30.27300	5.40774	263.99	-22.04
82/ 2/ 8	2445008.5	-2.92477	-27.90836	-11.35875	5.38278	-0.41907	-0.30736	30.27296	5.40781	264.02	-22.04
82/ 2/12	2445012.5	-2.91233	-27.90932	-11.35945	5.38306	-0.41697	-0.30651	30.27291	5.40788	264.04	-22.04
82/ 2/16	2445016.5	-2.89990	-27.91028	-11.36016	5.38334	-0.41488	-0.30566	30.27287	5.40794	264.07	-22.04
82/ 2/20	2445020.5	-2.88746	-27.91124	-11.36087	5.38361	-0.41278	-0.30480	30.27283	5.40801	264.09	-22.04
82/ 2/24	2445024.5	-2.87502	-27.91219	-11.36157	5.38389	-0.41068	-0.30395	30.27278	5.40808	264.12	-22.04
82/ 2/28	2445028.5	-2.86258	-27.91314	-11.36227	5.38416	-0.40858	-0.30310	30.27274	5.40814	264.14	-22.04
82/ 3/ 4	2445032.5	-2.85015	-27.91408	-11.36297	5.38444	-0.40648	-0.30224	30.27270	5.40821	264.17	-22.05
82/ 3/ 8	2445036.5	-2.83771	-27.91502	-11.36367	5.38471	-0.40438	-0.30139	30.27266	5.40828	264.20	-22.05
82/ 3/12	2445040.5	-2.82527	-27.91595	-11.36436	5.38498	-0.40228	-0.30054	30.27261	5.40834	264.22	-22.05
82/ 3/16	2445044.5	-2.81283	-27.91687	-11.36506	5.38525	-0.40018	-0.29968	30.27257	5.40841	264.25	-22.05
82/ 3/20	2445048.5	-2.80038	-27.91780	-11.36575	5.38552	-0.39808	-0.29883	30.27252	5.40847	264.27	-22.05
82/ 3/24	2445052.5	-2.78794	-27.91871	-11.36644	5.38579	-0.39598	-0.29797	30.27248	5.40854	264.30	-22.05
82/ 3/28	2445056.5	-2.77550	-27.91963	-11.36712	5.38605	-0.39388	-0.29712	30.27244	5.40860	264.32	-22.05
82/ 4/ 1	2445060.5	-2.76306	-27.92053	-11.36781	5.38632	-0.39178	-0.29626	30.27239	5.40867	264.35	-22.06
82/ 4/ 5	2445064.5	-2.75061	-27.92144	-11.36849	5.38658	-0.38967	-0.29541	30.27235	5.40873	264.37	-22.06
82/ 4/ 9	2445068.5	-2.73817	-27.92233	-11.36917	5.38685	-0.38757	-0.29455	30.27231	5.40880	264.40	-22.06

1.8 1 A.U.=149,599,000 KM.

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82/ 4/13	2445072.5	-2.72572	-27.92323	-11.36985	5.38711	-0.38547	-0.29370	30.27226	5.40886	264.42	-22.06
82/ 4/17	2445076.5	-2.71328	-27.92412	-11.37053	5.38737	-0.38336	-0.29284	30.27222	5.40893	264.45	-22.06
82/ 4/21	2445080.5	-2.70083	-27.92500	-11.37121	5.38763	-0.38126	-0.29199	30.27217	5.40899	264.48	-22.06
82/ 4/25	2445084.5	-2.68839	-27.92588	-11.37188	5.38789	-0.37916	-0.29113	30.27213	5.40905	264.50	-22.06
82/ 4/29	2445088.5	-2.67594	-27.92675	-11.37255	5.38815	-0.37705	-0.29027	30.27208	5.40912	264.53	-22.07
82/ 5/ 3	2445092.5	-2.66349	-27.92762	-11.37322	5.38840	-0.37495	-0.28942	30.27204	5.40918	264.55	-22.07
82/ 5/ 7	2445096.5	-2.65104	-27.92848	-11.37389	5.38866	-0.37284	-0.28856	30.27199	5.40924	264.58	-22.07
82/ 5/11	2445100.5	-2.63859	-27.92934	-11.37456	5.38891	-0.37074	-0.28770	30.27195	5.40931	264.60	-22.07
82/ 5/15	2445104.5	-2.62614	-27.93020	-11.37522	5.38917	-0.36863	-0.28685	30.27190	5.40937	264.63	-22.07
82/ 5/19	2445108.5	-2.61369	-27.93105	-11.37588	5.38942	-0.36653	-0.28599	30.27186	5.40943	264.65	-22.07
82/ 5/23	2445112.5	-2.60124	-27.93189	-11.37654	5.38967	-0.36442	-0.28513	30.27181	5.40950	264.68	-22.07
82/ 5/27	2445116.5	-2.58879	-27.93273	-11.37720	5.38992	-0.36231	-0.28428	30.27177	5.40956	264.70	-22.08
82/ 5/31	2445120.5	-2.57634	-27.93356	-11.37785	5.39017	-0.36021	-0.28342	30.27172	5.40962	264.73	-22.08
82/ 6/ 4	2445124.5	-2.56389	-27.93439	-11.37851	5.39042	-0.35810	-0.28256	30.27167	5.40968	264.76	-22.08
82/ 6/ 8	2445128.5	-2.55143	-27.93522	-11.37916	5.39066	-0.35599	-0.28170	30.27163	5.40974	264.78	-22.08
82/ 6/12	2445132.5	-2.53898	-27.93604	-11.37981	5.39091	-0.35388	-0.28084	30.27158	5.40981	264.81	-22.08
82/ 6/16	2445136.5	-2.52653	-27.93685	-11.38046	5.39115	-0.35177	-0.27999	30.27154	5.40987	264.83	-22.08
82/ 6/20	2445140.5	-2.51407	-27.93766	-11.38110	5.39140	-0.34966	-0.27913	30.27149	5.40993	264.86	-22.08
82/ 6/24	2445144.5	-2.50162	-27.93847	-11.38175	5.39164	-0.34755	-0.27827	30.27144	5.40999	264.88	-22.09
82/ 6/28	2445148.5	-2.48916	-27.93927	-11.38239	5.39188	-0.34544	-0.27741	30.27140	5.41005	264.91	-22.09
82/ 7/ 2	2445152.5	-2.47670	-27.94006	-11.38303	5.39212	-0.34333	-0.27655	30.27135	5.41011	264.93	-22.09
82/ 7/ 6	2445156.5	-2.46425	-27.94086	-11.38367	5.39236	-0.34122	-0.27569	30.27130	5.41017	264.96	-22.09
82/ 7/10	2445160.5	-2.45179	-27.94164	-11.38430	5.39260	-0.33911	-0.27483	30.27126	5.41023	264.99	-22.09
82/ 7/14	2445164.5	-2.43933	-27.94242	-11.38494	5.39283	-0.33700	-0.27397	30.27121	5.41029	265.01	-22.09
82/ 7/18	2445168.5	-2.42687	-27.94320	-11.38557	5.39307	-0.33489	-0.27311	30.27116	5.41035	265.04	-22.09
82/ 7/22	2445172.5	-2.41441	-27.94397	-11.38620	5.39330	-0.33278	-0.27225	30.27111	5.41041	265.06	-22.09
82/ 7/26	2445176.5	-2.40195	-27.94474	-11.38683	5.39353	-0.33067	-0.27139	30.27107	5.41047	265.09	-22.10
82/ 7/30	2445180.5	-2.38949	-27.94550	-11.38745	5.39377	-0.32856	-0.27053	30.27102	5.41053	265.11	-22.10
82/ 8/ 3	2445184.5	-2.37703	-27.94625	-11.38808	5.39400	-0.32644	-0.26967	30.27097	5.41059	265.14	-22.10
82/ 8/ 7	2445188.5	-2.36457	-27.94701	-11.38870	5.39423	-0.32433	-0.26881	30.27092	5.41065	265.16	-22.10
82/ 8/11	2445192.5	-2.35211	-27.94775	-11.38932	5.39445	-0.32222	-0.26795	30.27087	5.41071	265.19	-22.10
82/ 8/15	2445196.5	-2.33965	-27.94849	-11.38994	5.39468	-0.32010	-0.26709	30.27083	5.41077	265.21	-22.10
82/ 8/19	2445200.5	-2.32718	-27.94923	-11.39055	5.39491	-0.31799	-0.26623	30.27078	5.41082	265.24	-22.10
82/ 8/23	2445204.5	-2.31472	-27.94996	-11.39117	5.39513	-0.31587	-0.26537	30.27073	5.41088	265.27	-22.11
82/ 8/27	2445208.5	-2.30226	-27.95069	-11.39178	5.39535	-0.31376	-0.26451	30.27068	5.41094	265.29	-22.11
82/ 8/31	2445212.5	-2.28979	-27.95141	-11.39239	5.39558	-0.31164	-0.26365	30.27063	5.41100	265.32	-22.11
82/ 9/ 4	2445216.5	-2.27733	-27.95213	-11.39300	5.39580	-0.30953	-0.26278	30.27058	5.41105	265.34	-22.11
82/ 9/ 8	2445220.5	-2.26486	-27.95284	-11.39360	5.39602	-0.30741	-0.26192	30.27053	5.41111	265.37	-22.11
82/ 9/12	2445224.5	-2.25240	-27.95355	-11.39421	5.39624	-0.30530	-0.26106	30.27048	5.41117	265.39	-22.11
82/ 9/16	2445228.5	-2.23993	-27.95425	-11.39481	5.39646	-0.30318	-0.26020	30.27044	5.41122	265.42	-22.11
82/ 9/20	2445232.5	-2.22746	-27.95495	-11.39541	5.39667	-0.30107	-0.25934	30.27039	5.41128	265.44	-22.11
82/ 9/24	2445236.5	-2.21499	-27.95564	-11.39601	5.39689	-0.29895	-0.25847	30.27034	5.41134	265.47	-22.12
82/ 9/28	2445240.5	-2.20253	-27.95633	-11.39660	5.39710	-0.29683	-0.25761	30.27029	5.41139	265.50	-22.12
82/10/ 2	2445244.5	-2.19006	-27.95702	-11.39720	5.39732	-0.29471	-0.25675	30.27024	5.41145	265.52	-22.12
82/10/ 6	2445248.5	-2.17759	-27.95769	-11.39779	5.39753	-0.29260	-0.25588	30.27019	5.41151	265.55	-22.12

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

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82/10/10	2445252.5	-2.16512	-27.95837	-11.39838	5.39774	-0.29048	-0.25502	30.27014	5.41156	265.57	-22.12
82/10/14	2445256.5	-2.15265	-27.95904	-11.39897	5.39795	-0.28836	-0.25416	30.27009	5.41162	265.60	-22.12
82/10/18	2445260.5	-2.14018	-27.95970	-11.39955	5.39816	-0.28624	-0.25329	30.27004	5.41167	265.62	-22.12
82/10/22	2445264.5	-2.12771	-27.96036	-11.40014	5.39836	-0.28412	-0.25243	30.26998	5.41172	265.65	-22.12
82/10/26	2445268.5	-2.11524	-27.96101	-11.40072	5.39857	-0.28200	-0.25157	30.26993	5.41178	265.67	-22.13
82/10/30	2445272.5	-2.10277	-27.96166	-11.40130	5.39877	-0.27988	-0.25070	30.26988	5.41183	265.70	-22.13
82/11/ 3	2445276.5	-2.09029	-27.96231	-11.40188	5.39898	-0.27776	-0.24984	30.26983	5.41189	265.72	-22.13
82/11/ 7	2445280.5	-2.07782	-27.96295	-11.40245	5.39918	-0.27564	-0.24897	30.26978	5.41194	265.75	-22.13
82/11/11	2445284.5	-2.06535	-27.96358	-11.40303	5.39938	-0.27352	-0.24811	30.26973	5.41199	265.78	-22.13
82/11/15	2445288.5	-2.05287	-27.96421	-11.40360	5.39958	-0.27140	-0.24725	30.26968	5.41205	265.80	-22.13
82/11/19	2445292.5	-2.04040	-27.96483	-11.40417	5.39978	-0.26928	-0.24638	30.26963	5.41210	265.83	-22.13
82/11/23	2445296.5	-2.02792	-27.96545	-11.40474	5.39998	-0.26716	-0.24552	30.26957	5.41215	265.85	-22.13
82/11/27	2445300.5	-2.01545	-27.96607	-11.40531	5.40017	-0.26504	-0.24465	30.26952	5.41221	265.88	-22.14
82/12/ 1	2445304.5	-2.00297	-27.96668	-11.40587	5.40037	-0.26291	-0.24379	30.26947	5.41226	265.90	-22.14
82/12/ 5	2445308.5	-1.99050	-27.96728	-11.40643	5.40056	-0.26079	-0.24292	30.26942	5.41231	265.93	-22.14
82/12/ 9	2445312.5	-1.97802	-27.96788	-11.40699	5.40076	-0.25867	-0.24205	30.26937	5.41236	265.95	-22.14
82/12/13	2445316.5	-1.96554	-27.96848	-11.40755	5.40095	-0.25655	-0.24119	30.26931	5.41241	265.98	-22.14
82/12/17	2445320.5	-1.95307	-27.96907	-11.40811	5.40114	-0.25442	-0.24032	30.26926	5.41247	266.01	-22.14
82/12/21	2445324.5	-1.94059	-27.96965	-11.40866	5.40133	-0.25230	-0.23946	30.26921	5.41252	266.03	-22.14
82/12/25	2445328.5	-1.92811	-27.97023	-11.40921	5.40152	-0.25018	-0.23859	30.26915	5.41257	266.06	-22.14
82/12/29	2445332.5	-1.91563	-27.97081	-11.40976	5.40170	-0.24805	-0.23772	30.26910	5.41262	266.08	-22.14
83/ 1/ 2	2445336.5	-1.90315	-27.97138	-11.41031	5.40189	-0.24593	-0.23686	30.26905	5.41267	266.11	-22.15
83/ 1/ 6	2445340.5	-1.89067	-27.97195	-11.41086	5.40207	-0.24380	-0.23599	30.26899	5.41272	266.13	-22.15
83/ 1/10	2445344.5	-1.87819	-27.97251	-11.41140	5.40226	-0.24168	-0.23513	30.26894	5.41277	266.16	-22.15
83/ 1/14	2445348.5	-1.86571	-27.97306	-11.41194	5.40244	-0.23955	-0.23426	30.26889	5.41282	266.18	-22.15
83/ 1/18	2445352.5	-1.85323	-27.97361	-11.41248	5.40262	-0.23743	-0.23339	30.26883	5.41287	266.21	-22.15
83/ 1/22	2445356.5	-1.84075	-27.97416	-11.41302	5.40280	-0.23530	-0.23252	30.26878	5.41292	266.24	-22.15
83/ 1/26	2445360.5	-1.82827	-27.97470	-11.41356	5.40298	-0.23318	-0.23166	30.26873	5.41297	266.26	-22.15
83/ 1/30	2445364.5	-1.81579	-27.97524	-11.41409	5.40315	-0.23105	-0.23079	30.26867	5.41301	266.29	-22.15
83/ 2/ 3	2445368.5	-1.80330	-27.97577	-11.41462	5.40333	-0.22892	-0.22992	30.26862	5.41306	266.31	-22.15
83/ 2/ 7	2445372.5	-1.79082	-27.97629	-11.41515	5.40350	-0.22680	-0.22905	30.26856	5.41311	266.34	-22.16
83/ 2/11	2445376.5	-1.77834	-27.97682	-11.41568	5.40368	-0.22467	-0.22819	30.26851	5.41316	266.36	-22.16
83/ 2/15	2445380.5	-1.76586	-27.97733	-11.41621	5.40385	-0.22254	-0.22732	30.26845	5.41321	266.39	-22.16
83/ 2/19	2445384.5	-1.75337	-27.97784	-11.41673	5.40402	-0.22042	-0.22645	30.26840	5.41325	266.41	-22.16
83/ 2/23	2445388.5	-1.74089	-27.97835	-11.41726	5.40419	-0.21829	-0.22558	30.26834	5.41330	266.44	-22.16
83/ 2/27	2445392.5	-1.72840	-27.97885	-11.41778	5.40436	-0.21616	-0.22471	30.26829	5.41335	266.47	-22.16
83/ 3/ 3	2445396.5	-1.71592	-27.97935	-11.41829	5.40453	-0.21403	-0.22384	30.26823	5.41339	266.49	-22.16
83/ 3/ 7	2445400.5	-1.70343	-27.97984	-11.41881	5.40469	-0.21190	-0.22298	30.26818	5.41344	266.52	-22.16
83/ 3/11	2445404.5	-1.69094	-27.98033	-11.41932	5.40486	-0.20977	-0.22211	30.26812	5.41349	266.54	-22.16
83/ 3/15	2445408.5	-1.67846	-27.98081	-11.41984	5.40502	-0.20764	-0.22124	30.26806	5.41353	266.57	-22.17
83/ 3/19	2445412.5	-1.66597	-27.98129	-11.42035	5.40518	-0.20552	-0.22037	30.26801	5.41358	266.59	-22.17
83/ 3/23	2445416.5	-1.65348	-27.98176	-11.42085	5.40535	-0.20339	-0.21950	30.26795	5.41362	266.62	-22.17
83/ 3/27	2445420.5	-1.64100	-27.98223	-11.42136	5.40551	-0.20126	-0.21863	30.26789	5.41367	266.64	-22.17
83/ 3/31	2445424.5	-1.62851	-27.98269	-11.42186	5.40566	-0.19913	-0.21776	30.26784	5.41371	266.67	-22.17
83/ 4/ 4	2445428.5	-1.61602	-27.98315	-11.42237	5.40582	-0.19700	-0.21689	30.26778	5.41376	266.69	-22.17

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83/ 4/ 8	2445432.5	-1.60353	-27.98360	-11.42287	5.40598	-0.19486	-0.21602	30.26772	5.41380	266.72	-22.17
83/ 4/12	2445436.5	-1.59104	-27.98405	-11.42336	5.40613	-0.19273	-0.21515	30.26767	5.41384	266.75	-22.17
83/ 4/16	2445440.5	-1.57855	-27.98449	-11.42386	5.40629	-0.19060	-0.21428	30.26761	5.41389	266.77	-22.17
83/ 4/20	2445444.5	-1.56606	-27.98493	-11.42435	5.40644	-0.18847	-0.21341	30.26755	5.41393	266.80	-22.18
83/ 4/24	2445448.5	-1.55357	-27.98536	-11.42485	5.40659	-0.18634	-0.21254	30.26749	5.41397	266.82	-22.18
83/ 4/28	2445452.5	-1.54108	-27.98579	-11.42534	5.40674	-0.18421	-0.21167	30.26744	5.41402	266.85	-22.18
83/ 5/ 2	2445456.5	-1.52859	-27.98621	-11.42582	5.40689	-0.18208	-0.21080	30.26738	5.41406	266.87	-22.18
83/ 5/ 6	2445460.5	-1.51610	-27.98663	-11.42631	5.40704	-0.17994	-0.20993	30.26732	5.41410	266.90	-22.18
83/ 5/10	2445464.5	-1.50361	-27.98704	-11.42679	5.40718	-0.17781	-0.20906	30.26726	5.41414	266.92	-22.18
83/ 5/14	2445468.5	-1.49112	-27.98745	-11.42728	5.40733	-0.17568	-0.20819	30.26720	5.41419	266.95	-22.18
83/ 5/18	2445472.5	-1.47863	-27.98786	-11.42776	5.40747	-0.17355	-0.20732	30.26714	5.41423	266.98	-22.18
83/ 5/22	2445476.5	-1.46614	-27.98825	-11.42823	5.40761	-0.17141	-0.20644	30.26709	5.41427	267.00	-22.18
83/ 5/26	2445480.5	-1.45364	-27.98865	-11.42871	5.40776	-0.16928	-0.20557	30.26703	5.41431	267.03	-22.18
83/ 5/30	2445484.5	-1.44115	-27.98904	-11.42918	5.40790	-0.16715	-0.20470	30.26697	5.41435	267.05	-22.19
83/ 6/ 3	2445488.5	-1.42866	-27.98942	-11.42966	5.40803	-0.16501	-0.20383	30.26691	5.41439	267.08	-22.19
83/ 6/ 7	2445492.5	-1.41616	-27.98980	-11.43013	5.40817	-0.16288	-0.20296	30.26685	5.41443	267.10	-22.19
83/ 6/11	2445496.5	-1.40367	-27.99017	-11.43059	5.40831	-0.16074	-0.20209	30.26679	5.41447	267.13	-22.19
83/ 6/15	2445500.5	-1.39117	-27.99054	-11.43106	5.40844	-0.15861	-0.20121	30.26673	5.41451	267.15	-22.19
83/ 6/19	2445504.5	-1.37868	-27.99091	-11.43152	5.40858	-0.15648	-0.20034	30.26667	5.41455	267.18	-22.19
83/ 6/23	2445508.5	-1.36618	-27.99126	-11.43198	5.40871	-0.15434	-0.19947	30.26661	5.41459	267.21	-22.19
83/ 6/27	2445512.5	-1.35369	-27.99162	-11.43244	5.40884	-0.15221	-0.19860	30.26655	5.41462	267.23	-22.19
83/ 7/ 1	2445516.5	-1.34119	-27.99197	-11.43290	5.40897	-0.15007	-0.19773	30.26649	5.41466	267.26	-22.19
83/ 7/ 5	2445520.5	-1.32870	-27.99231	-11.43336	5.40910	-0.14794	-0.19685	30.26643	5.41470	267.28	-22.19
83/ 7/ 9	2445524.5	-1.31620	-27.99265	-11.43381	5.40923	-0.14580	-0.19598	30.26637	5.41474	267.31	-22.20
83/ 7/13	2445528.5	-1.30371	-27.99299	-11.43426	5.40935	-0.14366	-0.19511	30.26631	5.41478	267.33	-22.20
83/ 7/17	2445532.5	-1.29121	-27.99332	-11.43471	5.40948	-0.14153	-0.19423	30.26625	5.41481	267.36	-22.20
83/ 7/21	2445536.5	-1.27871	-27.99364	-11.43516	5.40960	-0.13939	-0.19336	30.26618	5.41485	267.38	-22.20
83/ 7/25	2445540.5	-1.26621	-27.99396	-11.43561	5.40972	-0.13726	-0.19249	30.26612	5.41489	267.41	-22.20
83/ 7/29	2445544.5	-1.25372	-27.99427	-11.43605	5.40984	-0.13512	-0.19161	30.26606	5.41492	267.44	-22.20
83/ 8/ 2	2445548.5	-1.24122	-27.99458	-11.43649	5.40996	-0.13298	-0.19074	30.26600	5.41496	267.46	-22.20
83/ 8/ 6	2445552.5	-1.22872	-27.99489	-11.43693	5.41008	-0.13084	-0.18987	30.26594	5.41499	267.49	-22.20
83/ 8/10	2445556.5	-1.21622	-27.99519	-11.43737	5.41020	-0.12871	-0.18899	30.26587	5.41503	267.51	-22.20
83/ 8/14	2445560.5	-1.20372	-27.99548	-11.43781	5.41031	-0.12657	-0.18812	30.26581	5.41506	267.54	-22.20
83/ 8/18	2445564.5	-1.19123	-27.99577	-11.43824	5.41043	-0.12443	-0.18725	30.26575	5.41510	267.56	-22.21
83/ 8/22	2445568.5	-1.17873	-27.99606	-11.43867	5.41054	-0.12230	-0.18637	30.26569	5.41513	267.59	-22.21
83/ 8/26	2445572.5	-1.16623	-27.99634	-11.43910	5.41065	-0.12016	-0.18550	30.26562	5.41517	267.61	-22.21
83/ 8/30	2445576.5	-1.15373	-27.99661	-11.43953	5.41076	-0.11802	-0.18462	30.26556	5.41520	267.64	-22.21
83/ 9/ 3	2445580.5	-1.14123	-27.99688	-11.43995	5.41087	-0.11588	-0.18375	30.26550	5.41523	267.67	-22.21
83/ 9/ 7	2445584.5	-1.12873	-27.99715	-11.44038	5.41098	-0.11374	-0.18288	30.26543	5.41527	267.69	-22.21
83/ 9/11	2445588.5	-1.11623	-27.99741	-11.44080	5.41109	-0.11160	-0.18200	30.26537	5.41530	267.72	-22.21
83/ 9/15	2445592.5	-1.10373	-27.99766	-11.44122	5.41119	-0.10947	-0.18113	30.26531	5.41533	267.74	-22.21
83/ 9/19	2445596.5	-1.09122	-27.99791	-11.44163	5.41130	-0.10733	-0.18025	30.26524	5.41536	267.77	-22.21
83/ 9/23	2445600.5	-1.07872	-27.99816	-11.44205	5.41140	-0.10519	-0.17938	30.26518	5.41540	267.79	-22.21
83/ 9/27	2445604.5	-1.06622	-27.99840	-11.44246	5.41150	-0.10305	-0.17850	30.26512	5.41543	267.82	-22.21
83/10/ 1	2445608.5	-1.05372	-27.99864	-11.44287	5.41160	-0.10091	-0.17763	30.26505	5.41546	267.84	-22.22

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83/10/ 5	2445612.5	-1.04122	-27.99887	-11.44328	5.41170	-0.09877	-0.17675	30.26499	5.41549	267.87	-22.22
83/10/ 9	2445616.5	-1.02872	-27.99909	-11.44369	5.41180	-0.09663	-0.17588	30.26492	5.41552	267.90	-22.22
83/10/13	2445620.5	-1.01621	-27.99931	-11.44410	5.41190	-0.09449	-0.17500	30.26486	5.41555	267.92	-22.22
83/10/17	2445624.5	-1.00371	-27.99953	-11.44450	5.41199	-0.09235	-0.17413	30.26479	5.41558	267.95	-22.22
83/10/21	2445628.5	-0.99121	-27.99974	-11.44490	5.41209	-0.09021	-0.17325	30.26473	5.41561	267.97	-22.22
83/10/25	2445632.5	-0.97871	-27.99995	-11.44530	5.41218	-0.08807	-0.17238	30.26466	5.41564	268.00	-22.22
83/10/29	2445636.5	-0.96620	-28.00015	-11.44570	5.41227	-0.08593	-0.17150	30.26460	5.41567	268.02	-22.22
83/11/ 2	2445640.5	-0.95370	-28.00034	-11.44609	5.41236	-0.08379	-0.17062	30.26453	5.41570	268.05	-22.22
83/11/ 6	2445644.5	-0.94120	-28.00053	-11.44649	5.41245	-0.08165	-0.16975	30.26446	5.41573	268.07	-22.22
83/11/10	2445648.5	-0.92869	-28.00072	-11.44688	5.41254	-0.07951	-0.16887	30.26440	5.41575	268.10	-22.22
83/11/14	2445652.5	-0.91619	-28.00090	-11.44727	5.41262	-0.07737	-0.16800	30.26433	5.41578	268.13	-22.22
83/11/18	2445656.5	-0.90368	-28.00108	-11.44765	5.41271	-0.07522	-0.16712	30.26427	5.41581	268.15	-22.23
83/11/22	2445660.5	-0.89118	-28.00125	-11.44804	5.41279	-0.07308	-0.16624	30.26420	5.41584	268.18	-22.23
83/11/26	2445664.5	-0.87867	-28.00142	-11.44842	5.41287	-0.07094	-0.16537	30.26413	5.41586	268.20	-22.23
83/11/30	2445668.5	-0.86617	-28.00158	-11.44880	5.41295	-0.06880	-0.16449	30.26406	5.41589	268.23	-22.23
83/12/ 4	2445672.5	-0.85366	-28.00173	-11.44918	5.41303	-0.06666	-0.16362	30.26400	5.41592	268.25	-22.23
83/12/ 8	2445676.5	-0.84116	-28.00188	-11.44956	5.41311	-0.06452	-0.16274	30.26393	5.41594	268.28	-22.23
83/12/12	2445680.5	-0.82865	-28.00203	-11.44993	5.41319	-0.06238	-0.16186	30.26386	5.41597	268.30	-22.23
83/12/16	2445684.5	-0.81615	-28.00217	-11.45031	5.41326	-0.06023	-0.16099	30.26380	5.41599	268.33	-22.23
83/12/20	2445688.5	-0.80364	-28.00231	-11.45068	5.41334	-0.05809	-0.16011	30.26373	5.41602	268.36	-22.23
83/12/24	2445692.5	-0.79114	-28.00244	-11.45105	5.41341	-0.05595	-0.15923	30.26366	5.41604	268.38	-22.23
83/12/28	2445696.5	-0.77863	-28.00257	-11.45141	5.41348	-0.05381	-0.15836	30.26359	5.41607	268.41	-22.23
84/ 1/ 1	2445700.5	-0.76613	-28.00269	-11.45178	5.41355	-0.05166	-0.15748	30.26352	5.41609	268.43	-22.23
84/ 1/ 5	2445704.5	-0.75362	-28.00281	-11.45214	5.41362	-0.04952	-0.15660	30.26345	5.41611	268.46	-22.24
84/ 1/ 9	2445708.5	-0.74111	-28.00292	-11.45250	5.41369	-0.04738	-0.15572	30.26339	5.41614	268.48	-22.24
84/ 1/13	2445712.5	-0.72861	-28.00303	-11.45286	5.41376	-0.04524	-0.15485	30.26332	5.41616	268.51	-22.24
84/ 1/17	2445716.5	-0.71610	-28.00313	-11.45322	5.41382	-0.04309	-0.15397	30.26325	5.41618	268.54	-22.24
84/ 1/21	2445720.5	-0.70359	-28.00322	-11.45357	5.41389	-0.04095	-0.15309	30.26318	5.41620	268.56	-22.24
84/ 1/25	2445724.5	-0.69108	-28.00332	-11.45392	5.41395	-0.03881	-0.15221	30.26311	5.41623	268.59	-22.24
84/ 1/29	2445728.5	-0.67858	-28.00340	-11.45427	5.41401	-0.03666	-0.15134	30.26304	5.41625	268.61	-22.24
84/ 2/ 2	2445732.5	-0.66607	-28.00349	-11.45462	5.41407	-0.03452	-0.15046	30.26297	5.41627	268.64	-22.24
84/ 2/ 6	2445736.5	-0.65356	-28.00356	-11.45497	5.41413	-0.03238	-0.14958	30.26290	5.41629	268.66	-22.24
84/ 2/10	2445740.5	-0.64105	-28.00364	-11.45531	5.41418	-0.03023	-0.14870	30.26283	5.41631	268.69	-22.24
84/ 2/14	2445744.5	-0.62855	-28.00370	-11.45566	5.41424	-0.02809	-0.14783	30.26276	5.41633	268.71	-22.24
84/ 2/18	2445748.5	-0.61604	-28.00377	-11.45600	5.41429	-0.02595	-0.14695	30.26269	5.41635	268.74	-22.24
84/ 2/22	2445752.5	-0.60353	-28.00382	-11.45634	5.41435	-0.02380	-0.14607	30.26262	5.41637	268.77	-22.24
84/ 2/26	2445756.5	-0.59102	-28.00388	-11.45667	5.41440	-0.02166	-0.14519	30.26255	5.41639	268.79	-22.25
84/ 3/ 1	2445760.5	-0.57851	-28.00392	-11.45701	5.41445	-0.01952	-0.14431	30.26248	5.41641	268.82	-22.25
84/ 3/ 5	2445764.5	-0.56601	-28.00397	-11.45734	5.41450	-0.01737	-0.14344	30.26240	5.41643	268.84	-22.25
84/ 3/ 9	2445768.5	-0.55350	-28.00400	-11.45767	5.41455	-0.01523	-0.14256	30.26233	5.41644	268.87	-22.25
84/ 3/13	2445772.5	-0.54099	-28.00404	-11.45800	5.41459	-0.01308	-0.14168	30.26226	5.41646	268.89	-22.25
84/ 3/17	2445776.5	-0.52848	-28.00406	-11.45832	5.41464	-0.01094	-0.14080	30.26219	5.41648	268.92	-22.25
84/ 3/21	2445780.5	-0.51597	-28.00409	-11.45865	5.41468	-0.00880	-0.13992	30.26212	5.41650	268.94	-22.25
84/ 3/25	2445784.5	-0.50346	-28.00410	-11.45897	5.41472	-0.00665	-0.13904	30.26204	5.41651	268.97	-22.25
84/ 3/29	2445788.5	-0.49095	-28.00412	-11.45929	5.41477	-0.00451	-0.13817	30.26197	5.41653	269.00	-22.25

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84/ 4/ 2	2445792.5	-0.47844	-28.00413	-11.45961	5.41481	-0.00236	-0.13729	30.26190	5.41655	269.02	-22.25
84/ 4/ 6	2445796.5	-0.46594	-28.00413	-11.45993	5.41484	-0.00022	-0.13641	30.26183	5.41656	269.05	-22.25
84/ 4/10	2445800.5	-0.45343	-28.00413	-11.46024	5.41488	0.00193	-0.13553	30.26175	5.41658	269.07	-22.25
84/ 4/14	2445804.5	-0.44092	-28.00412	-11.46055	5.41492	0.00407	-0.13465	30.26168	5.41659	269.10	-22.25
84/ 4/18	2445808.5	-0.42841	-28.00411	-11.46086	5.41495	0.00621	-0.13377	30.26161	5.41661	269.12	-22.25
84/ 4/22	2445812.5	-0.41590	-28.00409	-11.46117	5.41498	0.00836	-0.13289	30.26153	5.41662	269.15	-22.26
84/ 4/26	2445816.5	-0.40339	-28.00407	-11.46148	5.41502	0.01050	-0.13201	30.26146	5.41664	269.17	-22.26
84/ 4/30	2445820.5	-0.39088	-28.00404	-11.46178	5.41505	0.01265	-0.13114	30.26139	5.41665	269.20	-22.26
84/ 5/ 4	2445824.5	-0.37837	-28.00401	-11.46208	5.41508	0.01479	-0.13026	30.26131	5.41666	269.23	-22.26
84/ 5/ 8	2445828.5	-0.36586	-28.00397	-11.46238	5.41510	0.01694	-0.12938	30.26124	5.41668	269.25	-22.26
84/ 5/12	2445832.5	-0.35335	-28.00393	-11.46268	5.41513	0.01908	-0.12850	30.26116	5.41669	269.28	-22.26
84/ 5/16	2445836.5	-0.34084	-28.00389	-11.46297	5.41516	0.02123	-0.12762	30.26109	5.41670	269.30	-22.26
84/ 5/20	2445840.5	-0.32833	-28.00383	-11.46327	5.41518	0.02337	-0.12674	30.26102	5.41671	269.33	-22.26
84/ 5/24	2445844.5	-0.31582	-28.00378	-11.46356	5.41520	0.02552	-0.12586	30.26094	5.41672	269.35	-22.26
84/ 5/28	2445848.5	-0.30331	-28.00372	-11.46385	5.41522	0.02766	-0.12498	30.26087	5.41673	269.38	-22.26
84/ 6/ 1	2445852.5	-0.29080	-28.00365	-11.46414	5.41524	0.02981	-0.12410	30.26079	5.41675	269.41	-22.26
84/ 6/ 5	2445856.5	-0.27829	-28.00358	-11.46442	5.41526	0.03195	-0.12322	30.26072	5.41676	269.43	-22.26
84/ 6/ 9	2445860.5	-0.26578	-28.00350	-11.46471	5.41528	0.03410	-0.12234	30.26064	5.41677	269.46	-22.26
84/ 6/13	2445864.5	-0.25327	-28.00342	-11.46499	5.41529	0.03624	-0.12146	30.26056	5.41678	269.48	-22.26
84/ 6/17	2445868.5	-0.24076	-28.00333	-11.46527	5.41531	0.03839	-0.12058	30.26049	5.41679	269.51	-22.26
84/ 6/21	2445872.5	-0.22825	-28.00324	-11.46555	5.41532	0.04053	-0.11971	30.26041	5.41679	269.53	-22.27
84/ 6/25	2445876.5	-0.21574	-28.00315	-11.46582	5.41533	0.04268	-0.11883	30.26034	5.41680	269.56	-22.27
84/ 6/29	2445880.5	-0.20323	-28.00305	-11.46610	5.41534	0.04482	-0.11795	30.26026	5.41681	269.58	-22.27
84/ 7/ 3	2445884.5	-0.19072	-28.00294	-11.46637	5.41535	0.04697	-0.11707	30.26018	5.41682	269.61	-22.27
84/ 7/ 7	2445888.5	-0.17821	-28.00283	-11.46664	5.41536	0.04911	-0.11619	30.26011	5.41683	269.64	-22.27
84/ 7/11	2445892.5	-0.16570	-28.00271	-11.46690	5.41536	0.05126	-0.11531	30.26003	5.41683	269.66	-22.27
84/ 7/15	2445896.5	-0.15319	-28.00259	-11.46717	5.41537	0.05340	-0.11443	30.25995	5.41684	269.69	-22.27
84/ 7/19	2445900.5	-0.14067	-28.00247	-11.46743	5.41537	0.05555	-0.11355	30.25987	5.41685	269.71	-22.27
84/ 7/23	2445904.5	-0.12816	-28.00234	-11.46769	5.41538	0.05769	-0.11267	30.25980	5.41685	269.74	-22.27
84/ 7/27	2445908.5	-0.11565	-28.00220	-11.46795	5.41538	0.05984	-0.11179	30.25972	5.41686	269.76	-22.27
84/ 7/31	2445912.5	-0.10314	-28.00206	-11.46821	5.41538	0.06198	-0.11091	30.25964	5.41687	269.79	-22.27
84/ 8/ 4	2445916.5	-0.09063	-28.00191	-11.46847	5.41537	0.06413	-0.11003	30.25956	5.41687	269.81	-22.27
84/ 8/ 8	2445920.5	-0.07812	-28.00176	-11.46872	5.41537	0.06627	-0.10915	30.25948	5.41688	269.84	-22.27
84/ 8/12	2445924.5	-0.06561	-28.00161	-11.46897	5.41537	0.06841	-0.10827	30.25941	5.41688	269.87	-22.27
84/ 8/16	2445928.5	-0.05310	-28.00145	-11.46922	5.41536	0.07056	-0.10739	30.25933	5.41688	269.89	-22.27
84/ 8/20	2445932.5	-0.04059	-28.00128	-11.46947	5.41535	0.07270	-0.10651	30.25925	5.41689	269.92	-22.27
84/ 8/24	2445936.5	-0.02808	-28.00111	-11.46971	5.41534	0.07485	-0.10563	30.25917	5.41689	269.94	-22.27
84/ 8/28	2445940.5	-0.01557	-28.00094	-11.46995	5.41533	0.07699	-0.10475	30.25909	5.41689	269.97	-22.28
84/ 9/ 1	2445944.5	-0.00306	-28.00076	-11.47019	5.41532	0.07914	-0.10387	30.25901	5.41690	269.99	-22.28
84/ 9/ 5	2445948.5	0.00945	-28.00057	-11.47043	5.41531	0.08128	-0.10299	30.25893	5.41690	270.02	-22.28
84/ 9/ 9	2445952.5	0.02196	-28.00038	-11.47067	5.41530	0.08343	-0.10211	30.25885	5.41690	270.04	-22.28
84/ 9/13	2445956.5	0.03447	-28.00019	-11.47091	5.41528	0.08557	-0.10123	30.25877	5.41690	270.07	-22.28
84/ 9/17	2445960.5	0.04698	-27.99998	-11.47114	5.41526	0.08772	-0.10035	30.25869	5.41690	270.10	-22.28
84/ 9/21	2445964.5	0.05949	-27.99978	-11.47137	5.41525	0.08986	-0.09947	30.25861	5.41691	270.12	-22.28
84/ 9/25	2445968.5	0.07200	-27.99957	-11.47160	5.41523	0.09200	-0.09859	30.25853	5.41691	270.15	-22.28

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84/ 9/29	2445972.5	0.08451	-27.99935	-11.47182	5.41521	0.09415	-0.09771	30.25845	5.41691	270.17	-22.28
84/10/ 3	2445976.5	0.09702	-27.99913	-11.47205	5.41518	0.09629	-0.09683	30.25837	5.41691	270.20	-22.28
84/10/ 7	2445980.5	0.10953	-27.99891	-11.47227	5.41516	0.09844	-0.09595	30.25829	5.41690	270.22	-22.28
84/10/11	2445984.5	0.12204	-27.99868	-11.47249	5.41514	0.10058	-0.09507	30.25821	5.41690	270.25	-22.28
84/10/15	2445988.5	0.13455	-27.99845	-11.47271	5.41511	0.10273	-0.09419	30.25812	5.41690	270.28	-22.28
84/10/19	2445992.5	0.14706	-27.99821	-11.47293	5.41508	0.10487	-0.09331	30.25804	5.41690	270.30	-22.28
84/10/23	2445996.5	0.15957	-27.99796	-11.47314	5.41505	0.10701	-0.09243	30.25796	5.41690	270.33	-22.28
84/10/27	2446000.5	0.17208	-27.99771	-11.47335	5.41502	0.10916	-0.09155	30.25788	5.41690	270.35	-22.28
84/10/31	2446004.5	0.18459	-27.99746	-11.47357	5.41499	0.11130	-0.09067	30.25780	5.41689	270.38	-22.28
84/11/ 4	2446008.5	0.19710	-27.99720	-11.47377	5.41496	0.11344	-0.08979	30.25771	5.41689	270.40	-22.28
84/11/ 8	2446012.5	0.20961	-27.99693	-11.47398	5.41492	0.11559	-0.08891	30.25763	5.41689	270.43	-22.28
84/11/12	2446016.5	0.22212	-27.99666	-11.47418	5.41489	0.11773	-0.08803	30.25755	5.41688	270.45	-22.29
84/11/16	2446020.5	0.23463	-27.99639	-11.47439	5.41485	0.11987	-0.08715	30.25747	5.41688	270.48	-22.29
84/11/20	2446024.5	0.24714	-27.99611	-11.47459	5.41481	0.12202	-0.08627	30.25738	5.41687	270.51	-22.29
84/11/24	2446028.5	0.25965	-27.99582	-11.47479	5.41477	0.12416	-0.08539	30.25730	5.41687	270.53	-22.29
84/11/28	2446032.5	0.27216	-27.99553	-11.47498	5.41473	0.12630	-0.08451	30.25722	5.41686	270.56	-22.29
84/12/ 2	2446036.5	0.28466	-27.99524	-11.47518	5.41469	0.12845	-0.08363	30.25713	5.41686	270.58	-22.29
84/12/ 6	2446040.5	0.29717	-27.99494	-11.47537	5.41465	0.13059	-0.08275	30.25705	5.41685	270.61	-22.29
84/12/10	2446044.5	0.30968	-27.99464	-11.47556	5.41460	0.13273	-0.08187	30.25697	5.41685	270.63	-22.29
84/12/14	2446048.5	0.32219	-27.99433	-11.47575	5.41455	0.13487	-0.08099	30.25688	5.41684	270.66	-22.29
84/12/18	2446052.5	0.33470	-27.99401	-11.47593	5.41451	0.13702	-0.08011	30.25680	5.41683	270.68	-22.29
84/12/22	2446056.5	0.34721	-27.99370	-11.47612	5.41446	0.13916	-0.07923	30.25671	5.41682	270.71	-22.29
84/12/26	2446060.5	0.35972	-27.99337	-11.47630	5.41441	0.14130	-0.07835	30.25663	5.41682	270.74	-22.29
84/12/30	2446064.5	0.37222	-27.99304	-11.47648	5.41435	0.14344	-0.07747	30.25654	5.41681	270.76	-22.29
85/ 1/ 3	2446068.5	0.38473	-27.99271	-11.47666	5.41430	0.14559	-0.07659	30.25646	5.41680	270.79	-22.29
85/ 1/ 7	2446072.5	0.39724	-27.99237	-11.47683	5.41425	0.14773	-0.07571	30.25638	5.41679	270.81	-22.29
85/ 1/11	2446076.5	0.40975	-27.99203	-11.47701	5.41419	0.14987	-0.07483	30.25629	5.41678	270.84	-22.29
85/ 1/15	2446080.5	0.42226	-27.99168	-11.47718	5.41413	0.15201	-0.07395	30.25620	5.41677	270.86	-22.29
85/ 1/19	2446084.5	0.43476	-27.99132	-11.47735	5.41407	0.15415	-0.07307	30.25612	5.41676	270.89	-22.29
85/ 1/23	2446088.5	0.44727	-27.99096	-11.47752	5.41401	0.15629	-0.07219	30.25603	5.41675	270.92	-22.29
85/ 1/27	2446092.5	0.45978	-27.99060	-11.47768	5.41395	0.15843	-0.07131	30.25595	5.41674	270.94	-22.29
85/ 1/31	2446096.5	0.47228	-27.99023	-11.47785	5.41389	0.16058	-0.07043	30.25586	5.41673	270.97	-22.29
85/ 2/ 4	2446100.5	0.48479	-27.98986	-11.47801	5.41383	0.16272	-0.06955	30.25577	5.41672	270.99	-22.29
85/ 2/ 8	2446104.5	0.49730	-27.98948	-11.47817	5.41376	0.16486	-0.06867	30.25569	5.41671	271.02	-22.29
85/ 2/12	2446108.5	0.50981	-27.98910	-11.47832	5.41369	0.16700	-0.06779	30.25560	5.41669	271.04	-22.30
85/ 2/16	2446112.5	0.52231	-27.98871	-11.47848	5.41363	0.16914	-0.06691	30.25551	5.41668	271.07	-22.30
85/ 2/20	2446116.5	0.53482	-27.98832	-11.47863	5.41356	0.17128	-0.06603	30.25543	5.41667	271.09	-22.30
85/ 2/24	2446120.5	0.54732	-27.98792	-11.47878	5.41349	0.17342	-0.06515	30.25534	5.41665	271.12	-22.30
85/ 2/28	2446124.5	0.55983	-27.98751	-11.47893	5.41341	0.17556	-0.06427	30.25525	5.41664	271.15	-22.30
85/ 3/ 4	2446128.5	0.57234	-27.98711	-11.47908	5.41334	0.17770	-0.06339	30.25517	5.41663	271.17	-22.30
85/ 3/ 8	2446132.5	0.58484	-27.98669	-11.47923	5.41326	0.17984	-0.06251	30.25508	5.41661	271.20	-22.30
85/ 3/12	2446136.5	0.59735	-27.98628	-11.47937	5.41319	0.18198	-0.06163	30.25499	5.41660	271.22	-22.30
85/ 3/16	2446140.5	0.60985	-27.98585	-11.47951	5.41311	0.18412	-0.06076	30.25490	5.41658	271.25	-22.30
85/ 3/20	2446144.5	0.62236	-27.98543	-11.47965	5.41303	0.18626	-0.05988	30.25481	5.41657	271.27	-22.30
85/ 3/24	2446148.5	0.63486	-27.98499	-11.47979	5.41295	0.18839	-0.05900	30.25473	5.41655	271.30	-22.30

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85/ 3/28	2446152.5	0.64737	-27.98456	-11.47992	5.41287	0.19053	-0.05812	30.25464	5.41653	271.33	-22.30
85/ 4/ 1	2446156.5	0.65987	-27.98411	-11.48006	5.41279	0.19267	-0.05724	30.25455	5.41652	271.35	-22.30
85/ 4/ 5	2446160.5	0.67238	-27.98366	-11.48019	5.41270	0.19481	-0.05636	30.25446	5.41650	271.38	-22.30
85/ 4/ 9	2446164.5	0.68488	-27.98321	-11.48032	5.41262	0.19695	-0.05548	30.25437	5.41648	271.40	-22.30
85/ 4/13	2446168.5	0.69738	-27.98275	-11.48044	5.41253	0.19909	-0.05460	30.25428	5.41647	271.43	-22.30
85/ 4/17	2446172.5	0.70989	-27.98229	-11.48057	5.41244	0.20122	-0.05372	30.25419	5.41645	271.45	-22.30
85/ 4/21	2446176.5	0.72239	-27.98183	-11.48069	5.41235	0.20336	-0.05284	30.25410	5.41643	271.48	-22.30
85/ 4/25	2446180.5	0.73490	-27.98135	-11.48081	5.41226	0.20550	-0.05196	30.25401	5.41641	271.50	-22.30
85/ 4/29	2446184.5	0.74740	-27.98088	-11.48093	5.41217	0.20764	-0.05109	30.25392	5.41639	271.53	-22.30
85/ 5/ 3	2446188.5	0.75990	-27.98039	-11.48105	5.41208	0.20977	-0.05021	30.25383	5.41637	271.56	-22.30
85/ 5/ 7	2446192.5	0.77240	-27.97991	-11.48116	5.41198	0.21191	-0.04933	30.25374	5.41635	271.58	-22.30
85/ 5/11	2446196.5	0.78491	-27.97941	-11.48128	5.41188	0.21405	-0.04845	30.25365	5.41633	271.61	-22.30
85/ 5/15	2446200.5	0.79741	-27.97892	-11.48139	5.41179	0.21618	-0.04757	30.25356	5.41631	271.63	-22.30
85/ 5/19	2446204.5	0.80991	-27.97842	-11.48150	5.41169	0.21832	-0.04669	30.25347	5.41629	271.66	-22.30
85/ 5/23	2446208.5	0.82241	-27.97791	-11.48160	5.41159	0.22045	-0.04581	30.25338	5.41627	271.68	-22.30
85/ 5/27	2446212.5	0.83491	-27.97740	-11.48171	5.41149	0.22259	-0.04494	30.25329	5.41625	271.71	-22.30
85/ 5/31	2446216.5	0.84742	-27.97688	-11.48181	5.41138	0.22472	-0.04406	30.25320	5.41623	271.73	-22.30
85/ 6/ 4	2446220.5	0.85992	-27.97636	-11.48191	5.41128	0.22686	-0.04318	30.25311	5.41620	271.76	-22.30
85/ 6/ 8	2446224.5	0.87242	-27.97583	-11.48201	5.41117	0.22899	-0.04230	30.25301	5.41618	271.79	-22.30
85/ 6/12	2446228.5	0.88492	-27.97530	-11.48211	5.41107	0.23113	-0.04142	30.25292	5.41616	271.81	-22.31
85/ 6/16	2446232.5	0.89742	-27.97476	-11.48220	5.41096	0.23326	-0.04055	30.25283	5.41614	271.84	-22.31
85/ 6/20	2446236.5	0.90992	-27.97422	-11.48230	5.41085	0.23540	-0.03967	30.25274	5.41611	271.86	-22.31
85/ 6/24	2446240.5	0.92242	-27.97368	-11.48239	5.41074	0.23753	-0.03879	30.25265	5.41609	271.89	-22.31
85/ 6/28	2446244.5	0.93492	-27.97313	-11.48247	5.41063	0.23967	-0.03791	30.25255	5.41606	271.91	-22.31
85/ 7/ 2	2446248.5	0.94742	-27.97257	-11.48256	5.41051	0.24180	-0.03703	30.25246	5.41604	271.94	-22.31
85/ 7/ 6	2446252.5	0.95992	-27.97201	-11.48265	5.41040	0.24393	-0.03616	30.25237	5.41601	271.97	-22.31
85/ 7/10	2446256.5	0.97242	-27.97144	-11.48273	5.41028	0.24606	-0.03528	30.25228	5.41599	271.99	-22.31
85/ 7/14	2446260.5	0.98491	-27.97087	-11.48281	5.41016	0.24820	-0.03440	30.25218	5.41596	272.02	-22.31
85/ 7/18	2446264.5	0.99741	-27.97030	-11.48289	5.41005	0.25033	-0.03352	30.25209	5.41594	272.04	-22.31
85/ 7/22	2446268.5	1.00991	-27.96971	-11.48296	5.40993	0.25246	-0.03265	30.25200	5.41591	272.07	-22.31
85/ 7/26	2446272.5	1.02241	-27.96913	-11.48304	5.40980	0.25459	-0.03177	30.25190	5.41588	272.09	-22.31
85/ 7/30	2446276.5	1.03491	-27.96854	-11.48311	5.40968	0.25673	-0.03089	30.25181	5.41586	272.12	-22.31
85/ 8/ 3	2446280.5	1.04740	-27.96794	-11.48318	5.40956	0.25886	-0.03002	30.25172	5.41583	272.14	-22.31
85/ 8/ 7	2446284.5	1.05990	-27.96734	-11.48325	5.40943	0.26099	-0.02914	30.25162	5.41580	272.17	-22.31
85/ 8/11	2446288.5	1.07240	-27.96674	-11.48332	5.40931	0.26312	-0.02826	30.25153	5.41577	272.20	-22.31
85/ 8/15	2446292.5	1.08489	-27.96613	-11.48338	5.40918	0.26525	-0.02738	30.25143	5.41575	272.22	-22.31
85/ 8/19	2446296.5	1.09739	-27.96551	-11.48344	5.40905	0.26738	-0.02651	30.25134	5.41572	272.25	-22.31
85/ 8/23	2446300.5	1.10988	-27.96489	-11.48350	5.40892	0.26951	-0.02563	30.25124	5.41569	272.27	-22.31
85/ 8/27	2446304.5	1.12238	-27.96427	-11.48356	5.40879	0.27164	-0.02475	30.25115	5.41566	272.30	-22.31
85/ 8/31	2446308.5	1.13488	-27.96364	-11.48362	5.40865	0.27377	-0.02388	30.25106	5.41563	272.32	-22.31
85/ 9/ 4	2446312.5	1.14737	-27.96300	-11.48367	5.40852	0.27590	-0.02300	30.25096	5.41560	272.35	-22.31
85/ 9/ 8	2446316.5	1.15986	-27.96236	-11.48372	5.40838	0.27802	-0.02213	30.25086	5.41557	272.38	-22.31
85/ 9/12	2446320.5	1.17236	-27.96172	-11.48377	5.40825	0.28015	-0.02125	30.25077	5.41554	272.40	-22.31
85/ 9/16	2446324.5	1.18485	-27.96107	-11.48382	5.40811	0.28228	-0.02037	30.25067	5.41551	272.43	-22.31
85/ 9/20	2446328.5	1.19735	-27.96041	-11.48387	5.40797	0.28441	-0.01950	30.25058	5.41548	272.45	-22.31

1.8 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

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85/ 9/24	2446332.5	1.20984	-27.95975	-11.48391	5.40783	0.28654	-0.01862	30.25048	5.41544	272.48	-22.31
85/ 9/28	2446336.5	1.22233	-27.95909	-11.48395	5.40768	0.28866	-0.01775	30.25039	5.41541	272.50	-22.31
85/10/ 2	2446340.5	1.23482	-27.95842	-11.48399	5.40754	0.29079	-0.01687	30.25029	5.41538	272.53	-22.31
85/10/ 6	2446344.5	1.24732	-27.95775	-11.48403	5.40740	0.29292	-0.01599	30.25019	5.41535	272.55	-22.31
85/10/10	2446348.5	1.25981	-27.95707	-11.48407	5.40725	0.29504	-0.01512	30.25010	5.41531	272.58	-22.31
85/10/14	2446352.5	1.27230	-27.95638	-11.48410	5.40710	0.29717	-0.01424	30.25000	5.41528	272.61	-22.31
85/10/18	2446356.5	1.28479	-27.95569	-11.48413	5.40695	0.29929	-0.01337	30.24990	5.41525	272.63	-22.31
85/10/22	2446360.5	1.29728	-27.95500	-11.48416	5.40680	0.30142	-0.01249	30.24981	5.41521	272.66	-22.31
85/10/26	2446364.5	1.30977	-27.95430	-11.48419	5.40665	0.30354	-0.01162	30.24971	5.41518	272.68	-22.31
85/10/30	2446368.5	1.32226	-27.95360	-11.48422	5.40650	0.30567	-0.01074	30.24961	5.41515	272.71	-22.31
85/11/ 3	2446372.5	1.33475	-27.95289	-11.48424	5.40635	0.30779	-0.00987	30.24952	5.41511	272.73	-22.31
85/11/ 7	2446376.5	1.34724	-27.95217	-11.48426	5.40619	0.30992	-0.00899	30.24942	5.41508	272.76	-22.31
85/11/11	2446380.5	1.35973	-27.95146	-11.48428	5.40604	0.31204	-0.00812	30.24932	5.41504	272.79	-22.31
85/11/15	2446384.5	1.37222	-27.95073	-11.48430	5.40588	0.31416	-0.00724	30.24922	5.41500	272.81	-22.31
85/11/19	2446388.5	1.38471	-27.95000	-11.48432	5.40572	0.31629	-0.00637	30.24913	5.41497	272.84	-22.31
85/11/23	2446392.5	1.39720	-27.94927	-11.48433	5.40556	0.31841	-0.00550	30.24903	5.41493	272.86	-22.31
85/11/27	2446396.5	1.40968	-27.94853	-11.48434	5.40540	0.32053	-0.00462	30.24893	5.41490	272.89	-22.31
85/12/ 1	2446400.5	1.42217	-27.94779	-11.48435	5.40524	0.32265	-0.00375	30.24883	5.41486	272.91	-22.31
85/12/ 5	2446404.5	1.43466	-27.94704	-11.48436	5.40507	0.32477	-0.00287	30.24873	5.41482	272.94	-22.31
85/12/ 9	2446408.5	1.44714	-27.94629	-11.48436	5.40491	0.32690	-0.00200	30.24864	5.41478	272.96	-22.31
85/12/13	2446412.5	1.45963	-27.94553	-11.48437	5.40474	0.32902	-0.00113	30.24854	5.41475	272.99	-22.31
85/12/17	2446416.5	1.47212	-27.94477	-11.48437	5.40457	0.33114	-0.00025	30.24844	5.41471	273.02	-22.31
85/12/21	2446420.5	1.48460	-27.94400	-11.48437	5.40440	0.33326	0.00062	30.24834	5.41467	273.04	-22.31
85/12/25	2446424.5	1.49709	-27.94323	-11.48437	5.40423	0.33538	0.00149	30.24824	5.41463	273.07	-22.31
85/12/29	2446428.5	1.50957	-27.94245	-11.48436	5.40406	0.33749	0.00237	30.24814	5.41459	273.09	-22.31
86/ 1/ 2	2446432.5	1.52206	-27.94167	-11.48436	5.40389	0.33961	0.00324	30.24804	5.41455	273.12	-22.31
86/ 1/ 6	2446436.5	1.53454	-27.94088	-11.48435	5.40372	0.34173	0.00411	30.24794	5.41451	273.14	-22.31
86/ 1/10	2446440.5	1.54702	-27.94009	-11.48434	5.40354	0.34385	0.00498	30.24784	5.41447	273.17	-22.31
86/ 1/14	2446444.5	1.55950	-27.93929	-11.48432	5.40336	0.34597	0.00586	30.24774	5.41443	273.19	-22.31
86/ 1/18	2446448.5	1.57199	-27.93849	-11.48431	5.40319	0.34808	0.00673	30.24764	5.41439	273.22	-22.31
86/ 1/22	2446452.5	1.58447	-27.93769	-11.48429	5.40301	0.35020	0.00760	30.24754	5.41435	273.25	-22.31
86/ 1/26	2446456.5	1.59695	-27.93688	-11.48427	5.40283	0.35232	0.00847	30.24744	5.41431	273.27	-22.31
86/ 1/30	2446460.5	1.60943	-27.93606	-11.48425	5.40265	0.35443	0.00935	30.24734	5.41427	273.30	-22.31
86/ 2/ 3	2446464.5	1.62191	-27.93524	-11.48423	5.40246	0.35655	0.01022	30.24724	5.41423	273.32	-22.31
86/ 2/ 7	2446468.5	1.63439	-27.93441	-11.48421	5.40228	0.35867	0.01109	30.24714	5.41419	273.35	-22.31
86/ 2/11	2446472.5	1.64687	-27.93358	-11.48418	5.40210	0.36078	0.01196	30.24704	5.41414	273.37	-22.31
86/ 2/15	2446476.5	1.65935	-27.93274	-11.48415	5.40191	0.36289	0.01283	30.24694	5.41410	273.40	-22.31
86/ 2/19	2446480.5	1.67183	-27.93190	-11.48412	5.40172	0.36501	0.01370	30.24684	5.41406	273.43	-22.31
86/ 2/23	2446484.5	1.68431	-27.93106	-11.48409	5.40153	0.36712	0.01458	30.24674	5.41402	273.45	-22.31
86/ 2/27	2446488.5	1.69679	-27.93021	-11.48405	5.40134	0.36924	0.01545	30.24664	5.41397	273.48	-22.31
86/ 3/ 3	2446492.5	1.70927	-27.92935	-11.48402	5.40115	0.37135	0.01632	30.24654	5.41393	273.50	-22.31
86/ 3/ 7	2446496.5	1.72174	-27.92849	-11.48398	5.40096	0.37346	0.01719	30.24643	5.41389	273.53	-22.31
86/ 3/11	2446500.5	1.73422	-27.92763	-11.48394	5.40077	0.37557	0.01806	30.24633	5.41384	273.55	-22.31
86/ 3/15	2446504.5	1.74670	-27.92676	-11.48389	5.40057	0.37768	0.01893	30.24623	5.41380	273.58	-22.31
86/ 3/19	2446508.5	1.75917	-27.92588	-11.48385	5.40038	0.37980	0.01980	30.24613	5.41375	273.60	-22.31

1.8 1 A.U.=149,599,000 KM.

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86/ 3/23	2446512.5	1.77165	-27.92500	-11.48380	5.40018	0.38191	0.02067	30.24603	5.41371	273.63	-22.31
86/ 3/27	2446516.5	1.78413	-27.92412	-11.48375	5.39998	0.38402	0.02154	30.24593	5.41366	273.66	-22.31
86/ 3/31	2446520.5	1.79660	-27.92323	-11.48370	5.39978	0.38613	0.02241	30.24582	5.41362	273.68	-22.31
86/ 4/ 4	2446524.5	1.80907	-27.92233	-11.48365	5.39958	0.38824	0.02328	30.24572	5.41357	273.71	-22.31
86/ 4/ 8	2446528.5	1.82155	-27.92143	-11.48360	5.39938	0.39035	0.02415	30.24562	5.41353	273.73	-22.31
86/ 4/12	2446532.5	1.83402	-27.92053	-11.48354	5.39918	0.39245	0.02502	30.24552	5.41348	273.76	-22.31
86/ 4/16	2446536.5	1.84649	-27.91962	-11.48348	5.39897	0.39456	0.02589	30.24541	5.41343	273.78	-22.31
86/ 4/20	2446540.5	1.85897	-27.91871	-11.48342	5.39877	0.39667	0.02676	30.24531	5.41339	273.81	-22.31
86/ 4/24	2446544.5	1.87144	-27.91779	-11.48336	5.39856	0.39878	0.02763	30.24521	5.41334	273.84	-22.31
86/ 4/28	2446548.5	1.88391	-27.91686	-11.48329	5.39835	0.40088	0.02849	30.24510	5.41329	273.86	-22.31
86/ 5/ 2	2446552.5	1.89638	-27.91594	-11.48322	5.39815	0.40299	0.02936	30.24500	5.41325	273.89	-22.31
86/ 5/ 6	2446556.5	1.90885	-27.91500	-11.48316	5.39794	0.40510	0.03023	30.24490	5.41320	273.91	-22.31
86/ 5/10	2446560.5	1.92132	-27.91406	-11.48309	5.39772	0.40720	0.03110	30.24480	5.41315	273.94	-22.31
86/ 5/14	2446564.5	1.93379	-27.91312	-11.48301	5.39751	0.40931	0.03197	30.24469	5.41310	273.96	-22.31
86/ 5/18	2446568.5	1.94626	-27.91217	-11.48294	5.39730	0.41141	0.03284	30.24459	5.41306	273.99	-22.31
86/ 5/22	2446572.5	1.95873	-27.91122	-11.48286	5.39708	0.41352	0.03370	30.24448	5.41301	274.01	-22.31
86/ 5/26	2446576.5	1.97120	-27.91026	-11.48278	5.39687	0.41562	0.03457	30.24438	5.41296	274.04	-22.31
86/ 5/30	2446580.5	1.98366	-27.90930	-11.48270	5.39665	0.41772	0.03544	30.24428	5.41291	274.07	-22.31
86/ 6/ 3	2446584.5	1.99613	-27.90833	-11.48262	5.39643	0.41983	0.03631	30.24417	5.41286	274.09	-22.31
86/ 6/ 7	2446588.5	2.00860	-27.90736	-11.48253	5.39621	0.42193	0.03717	30.24407	5.41281	274.12	-22.31
86/ 6/11	2446592.5	2.02106	-27.90638	-11.48245	5.39599	0.42403	0.03804	30.24397	5.41276	274.14	-22.31
86/ 6/15	2446596.5	2.03353	-27.90540	-11.48236	5.39577	0.42613	0.03891	30.24386	5.41271	274.17	-22.31
86/ 6/19	2446600.5	2.04599	-27.90441	-11.48227	5.39555	0.42823	0.03977	30.24376	5.41266	274.19	-22.31
86/ 6/23	2446604.5	2.05846	-27.90342	-11.48217	5.39533	0.43033	0.04064	30.24365	5.41261	274.22	-22.31
86/ 6/27	2446608.5	2.07092	-27.90243	-11.48208	5.39510	0.43243	0.04151	30.24355	5.41256	274.24	-22.31
86/ 7/ 1	2446612.5	2.08338	-27.90142	-11.48198	5.39488	0.43453	0.04237	30.24344	5.41251	274.27	-22.31
86/ 7/ 5	2446616.5	2.09585	-27.90042	-11.48188	5.39465	0.43663	0.04324	30.24334	5.41246	274.30	-22.31
86/ 7/ 9	2446620.5	2.10831	-27.89941	-11.48178	5.39442	0.43873	0.04410	30.24323	5.41241	274.32	-22.31
86/ 7/13	2446624.5	2.12077	-27.89839	-11.48168	5.39419	0.44083	0.04497	30.24313	5.41236	274.35	-22.31
86/ 7/17	2446628.5	2.13323	-27.89737	-11.48157	5.39396	0.44293	0.04583	30.24302	5.41231	274.37	-22.31
86/ 7/21	2446632.5	2.14569	-27.89634	-11.48147	5.39373	0.44502	0.04670	30.24292	5.41226	274.40	-22.31
86/ 7/25	2446636.5	2.15815	-27.89531	-11.48136	5.39350	0.44712	0.04757	30.24281	5.41221	274.42	-22.31
86/ 7/29	2446640.5	2.17061	-27.89428	-11.48125	5.39326	0.44922	0.04843	30.24271	5.41215	274.45	-22.31
86/ 8/ 2	2446644.5	2.18307	-27.89324	-11.48113	5.39303	0.45131	0.04929	30.24260	5.41210	274.48	-22.31
86/ 8/ 6	2446648.5	2.19553	-27.89219	-11.48102	5.39279	0.45341	0.05016	30.24250	5.41205	274.50	-22.31
86/ 8/10	2446652.5	2.20799	-27.89114	-11.48090	5.39255	0.45550	0.05102	30.24239	5.41200	274.53	-22.31
86/ 8/14	2446656.5	2.22045	-27.89009	-11.48078	5.39232	0.45760	0.05189	30.24228	5.41195	274.55	-22.31
86/ 8/18	2446660.5	2.23290	-27.88903	-11.48066	5.39208	0.45969	0.05275	30.24218	5.41189	274.58	-22.31
86/ 8/22	2446664.5	2.24536	-27.88796	-11.48054	5.39184	0.46178	0.05362	30.24207	5.41184	274.60	-22.31
86/ 8/26	2446668.5	2.25782	-27.88689	-11.48042	5.39160	0.46387	0.05448	30.24197	5.41179	274.63	-22.31
86/ 8/30	2446672.5	2.27027	-27.88582	-11.48029	5.39135	0.46597	0.05534	30.24186	5.41173	274.65	-22.31
86/ 9/ 3	2446676.5	2.28273	-27.88474	-11.48016	5.39111	0.46806	0.05621	30.24175	5.41168	274.68	-22.31
86/ 9/ 7	2446680.5	2.29518	-27.88366	-11.48003	5.39086	0.47015	0.05707	30.24165	5.41163	274.71	-22.31
86/ 9/11	2446684.5	2.30763	-27.88257	-11.47990	5.39062	0.47224	0.05793	30.24154	5.41157	274.73	-22.31
86/ 9/15	2446688.5	2.32009	-27.88148	-11.47976	5.39037	0.47433	0.05879	30.24144	5.41152	274.76	-22.31

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86/ 9/19	2446692.5	2.33254	-27.88038	-11.47962	5.39012	0.47642	0.05966	30.24133	5.41147	274.78	-22.31
86/ 9/23	2446696.5	2.34499	-27.87928	-11.47949	5.38987	0.47851	0.06052	30.24122	5.41141	274.81	-22.31
86/ 9/27	2446700.5	2.35744	-27.87817	-11.47934	5.38962	0.48060	0.06138	30.24112	5.41136	274.83	-22.31
86/10/ 1	2446704.5	2.36989	-27.87705	-11.47920	5.38937	0.48269	0.06224	30.24101	5.41130	274.86	-22.31
86/10/ 5	2446708.5	2.38234	-27.87594	-11.47906	5.38912	0.48477	0.06310	30.24090	5.41125	274.88	-22.31
86/10/ 9	2446712.5	2.39479	-27.87481	-11.47891	5.38887	0.48686	0.06397	30.24080	5.41119	274.91	-22.31
86/10/13	2446716.5	2.40724	-27.87369	-11.47876	5.38861	0.48895	0.06483	30.24069	5.41114	274.94	-22.31
86/10/17	2446720.5	2.41969	-27.87256	-11.47861	5.38836	0.49103	0.06569	30.24058	5.41109	274.96	-22.31
86/10/21	2446724.5	2.43214	-27.87142	-11.47846	5.38810	0.49312	0.06655	30.24047	5.41103	274.99	-22.31
86/10/25	2446728.5	2.44458	-27.87028	-11.47830	5.38785	0.49521	0.06741	30.24037	5.41097	275.01	-22.31
86/10/29	2446732.5	2.45703	-27.86913	-11.47815	5.38759	0.49729	0.06827	30.24026	5.41092	275.04	-22.31
86/11/ 2	2446736.5	2.46948	-27.86798	-11.47799	5.38733	0.49937	0.06913	30.24015	5.41086	275.06	-22.31
86/11/ 6	2446740.5	2.48192	-27.86682	-11.47783	5.38707	0.50146	0.06999	30.24004	5.41081	275.09	-22.31
86/11/10	2446744.5	2.49437	-27.86566	-11.47766	5.38681	0.50354	0.07085	30.23994	5.41075	275.12	-22.31
86/11/14	2446748.5	2.50681	-27.86450	-11.47750	5.38654	0.50562	0.07171	30.23983	5.41070	275.14	-22.31
86/11/18	2446752.5	2.51925	-27.86333	-11.47733	5.38628	0.50771	0.07257	30.23972	5.41064	275.17	-22.31
86/11/22	2446756.5	2.53170	-27.86215	-11.47716	5.38602	0.50979	0.07343	30.23961	5.41059	275.19	-22.31
86/11/26	2446760.5	2.54414	-27.86097	-11.47699	5.38575	0.51187	0.07429	30.23951	5.41053	275.22	-22.30
86/11/30	2446764.5	2.55658	-27.85979	-11.47682	5.38548	0.51395	0.07515	30.23940	5.41047	275.24	-22.30
86/12/ 4	2446768.5	2.56902	-27.85860	-11.47665	5.38522	0.51603	0.07601	30.23929	5.41042	275.27	-22.30
86/12/ 8	2446772.5	2.58146	-27.85740	-11.47647	5.38495	0.51811	0.07687	30.23918	5.41036	275.29	-22.30
86/12/12	2446776.5	2.59390	-27.85620	-11.47629	5.38468	0.52019	0.07772	30.23907	5.41030	275.32	-22.30
86/12/16	2446780.5	2.60634	-27.85500	-11.47611	5.38441	0.52226	0.07858	30.23897	5.41025	275.35	-22.30
86/12/20	2446784.5	2.61878	-27.85379	-11.47593	5.38414	0.52434	0.07944	30.23886	5.41019	275.37	-22.30
86/12/24	2446788.5	2.63122	-27.85258	-11.47574	5.38386	0.52642	0.08030	30.23875	5.41013	275.40	-22.30
86/12/28	2446792.5	2.64366	-27.85136	-11.47556	5.38359	0.52850	0.08115	30.23864	5.41008	275.42	-22.30

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86/12/16	2446780.5	2.60634	-27.85500	-11.47611	5.38441	0.52226	0.07858	30.23897	5.41025	275.35	-22.30
86/12/20	2446784.5	2.61878	-27.85379	-11.47593	5.38414	0.52434	0.07944	30.23886	5.41019	275.37	-22.30
86/12/24	2446788.5	2.63122	-27.85258	-11.47574	5.38386	0.52642	0.08030	30.23875	5.41013	275.40	-22.30
86/12/28	2446792.5	2.64366	-27.85136	-11.47556	5.38359	0.52850	0.08115	30.23864	5.41008	275.42	-22.30
87/ 1/ 1	2446796.5	2.65609	-27.85013	-11.47537	5.38332	0.53057	0.08201	30.23853	5.41002	275.45	-22.30
87/ 1/ 5	2446800.5	2.66853	-27.84891	-11.47518	5.38304	0.53265	0.08287	30.23842	5.40996	275.47	-22.30
87/ 1/ 9	2446804.5	2.68096	-27.84767	-11.47499	5.38276	0.53472	0.08373	30.23832	5.40991	275.50	-22.30
87/ 1/13	2446808.5	2.69340	-27.84644	-11.47479	5.38249	0.53680	0.08458	30.23821	5.40985	275.52	-22.30
87/ 1/17	2446812.5	2.70583	-27.84519	-11.47460	5.38221	0.53887	0.08544	30.23810	5.40979	275.55	-22.30
87/ 1/21	2446816.5	2.71827	-27.84395	-11.47440	5.38193	0.54095	0.08630	30.23799	5.40973	275.58	-22.30
87/ 1/25	2446820.5	2.73070	-27.84269	-11.47420	5.38165	0.54302	0.08715	30.23788	5.40968	275.60	-22.30
87/ 1/29	2446824.5	2.74313	-27.84144	-11.47399	5.38137	0.54509	0.08801	30.23777	5.40962	275.63	-22.30
87/ 2/ 2	2446828.5	2.75556	-27.84018	-11.47379	5.38109	0.54716	0.08886	30.23766	5.40956	275.65	-22.30
87/ 2/ 6	2446832.5	2.76799	-27.83891	-11.47358	5.38080	0.54923	0.08972	30.23756	5.40951	275.68	-22.30
87/ 2/10	2446836.5	2.78042	-27.83764	-11.47338	5.38052	0.55131	0.09057	30.23745	5.40945	275.70	-22.30
87/ 2/14	2446840.5	2.79285	-27.83636	-11.47317	5.38023	0.55338	0.09143	30.23734	5.40939	275.73	-22.30
87/ 2/18	2446844.5	2.80528	-27.83508	-11.47295	5.37995	0.55545	0.09228	30.23723	5.40933	275.75	-22.30
87/ 2/22	2446848.5	2.81771	-27.83380	-11.47274	5.37966	0.55751	0.09314	30.23712	5.40927	275.78	-22.30
87/ 2/26	2446852.5	2.83014	-27.83250	-11.47252	5.37937	0.55958	0.09399	30.23701	5.40922	275.81	-22.30
87/ 3/ 2	2446856.5	2.84257	-27.83121	-11.47230	5.37908	0.56165	0.09485	30.23690	5.40916	275.83	-22.30
87/ 3/ 6	2446860.5	2.85499	-27.82991	-11.47208	5.37880	0.56372	0.09570	30.23679	5.40910	275.86	-22.30
87/ 3/10	2446864.5	2.86742	-27.82860	-11.47186	5.37850	0.56579	0.09656	30.23668	5.40904	275.88	-22.30
87/ 3/14	2446868.5	2.87984	-27.82730	-11.47164	5.37821	0.56785	0.09741	30.23657	5.40899	275.91	-22.30
87/ 3/18	2446872.5	2.89227	-27.82598	-11.47141	5.37792	0.56992	0.09826	30.23646	5.40893	275.93	-22.30
87/ 3/22	2446876.5	2.90469	-27.82466	-11.47118	5.37763	0.57198	0.09912	30.23635	5.40887	275.96	-22.30
87/ 3/26	2446880.5	2.91711	-27.82334	-11.47095	5.37733	0.57405	0.09997	30.23624	5.40881	275.99	-22.30
87/ 3/30	2446884.5	2.92954	-27.82201	-11.47072	5.37704	0.57611	0.10082	30.23614	5.40875	276.01	-22.29
87/ 4/ 3	2446888.5	2.94196	-27.82068	-11.47049	5.37674	0.57818	0.10168	30.23603	5.40870	276.04	-22.29
87/ 4/ 7	2446892.5	2.95438	-27.81934	-11.47025	5.37645	0.58024	0.10253	30.23592	5.40864	276.06	-22.29
87/ 4/11	2446896.5	2.96680	-27.81800	-11.47001	5.37615	0.58230	0.10338	30.23581	5.40858	276.09	-22.29
87/ 4/15	2446900.5	2.97922	-27.81665	-11.46977	5.37585	0.58437	0.10423	30.23570	5.40852	276.11	-22.29
87/ 4/19	2446904.5	2.99164	-27.81530	-11.46953	5.37555	0.58643	0.10508	30.23559	5.40846	276.14	-22.29
87/ 4/23	2446908.5	3.00406	-27.81394	-11.46929	5.37525	0.58849	0.10594	30.23548	5.40841	276.16	-22.29
87/ 4/27	2446912.5	3.01647	-27.81258	-11.46904	5.37495	0.59055	0.10679	30.23537	5.40835	276.19	-22.29
87/ 5/ 1	2446916.5	3.02889	-27.81121	-11.46880	5.37465	0.59261	0.10764	30.23526	5.40829	276.22	-22.29
87/ 5/ 5	2446920.5	3.04131	-27.80984	-11.46855	5.37434	0.59467	0.10849	30.23515	5.40823	276.24	-22.29
87/ 5/ 9	2446924.5	3.05372	-27.80846	-11.46829	5.37404	0.59673	0.10934	30.23504	5.40817	276.27	-22.29
87/ 5/13	2446928.5	3.06614	-27.80708	-11.46804	5.37374	0.59879	0.11019	30.23493	5.40812	276.29	-22.29
87/ 5/17	2446932.5	3.07855	-27.80570	-11.46779	5.37343	0.60084	0.11104	30.23482	5.40806	276.32	-22.29
87/ 5/21	2446936.5	3.09096	-27.80431	-11.46753	5.37312	0.60290	0.11189	30.23471	5.40800	276.34	-22.29
87/ 5/25	2446940.5	3.10338	-27.80291	-11.46727	5.37282	0.60496	0.11274	30.23460	5.40794	276.37	-22.29
87/ 5/29	2446944.5	3.11579	-27.80151	-11.46701	5.37251	0.60701	0.11359	30.23449	5.40788	276.39	-22.29
87/ 6/ 2	2446948.5	3.12820	-27.80011	-11.46674	5.37220	0.60907	0.11444	30.23438	5.40783	276.42	-22.29
87/ 6/ 6	2446952.5	3.14061	-27.79870	-11.46648	5.37189	0.61112	0.11529	30.23427	5.40777	276.45	-22.29
87/ 6/10	2446956.5	3.15302	-27.79728	-11.46621	5.37158	0.61318	0.11614	30.23416	5.40771	276.47	-22.29

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87/ 6/14	2446960.5	3.16543	-27.79586	-11.46594	5.37127	0.61523	0.11699	30.23405	5.40765	276.50	-22.29
87/ 6/18	2446964.5	3.17784	-27.79444	-11.46567	5.37096	0.61729	0.11784	30.23394	5.40760	276.52	-22.29
87/ 6/22	2446968.5	3.19024	-27.79301	-11.46540	5.37064	0.61934	0.11868	30.23383	5.40754	276.55	-22.29
87/ 6/26	2446972.5	3.20265	-27.79158	-11.46512	5.37033	0.62139	0.11953	30.23372	5.40748	276.57	-22.29
87/ 6/30	2446976.5	3.21506	-27.79014	-11.46485	5.37001	0.62344	0.12038	30.23361	5.40742	276.60	-22.28
87/ 7/ 4	2446980.5	3.22746	-27.78870	-11.46457	5.36970	0.62550	0.12123	30.23350	5.40737	276.62	-22.28
87/ 7/ 8	2446984.5	3.23987	-27.78725	-11.46429	5.36938	0.62755	0.12208	30.23339	5.40731	276.65	-22.28
87/ 7/12	2446988.5	3.25227	-27.78580	-11.46400	5.36907	0.62960	0.12292	30.23328	5.40725	276.68	-22.28
87/ 7/16	2446992.5	3.26467	-27.78434	-11.46372	5.36875	0.63165	0.12377	30.23317	5.40719	276.70	-22.28
87/ 7/20	2446996.5	3.27707	-27.78288	-11.46343	5.36843	0.63370	0.12462	30.23306	5.40714	276.73	-22.28
87/ 7/24	2447000.5	3.28948	-27.78141	-11.46314	5.36811	0.63574	0.12546	30.23295	5.40708	276.75	-22.28
87/ 7/28	2447004.5	3.30188	-27.77994	-11.46285	5.36779	0.63779	0.12631	30.23284	5.40702	276.78	-22.28
87/ 8/ 1	2447008.5	3.31428	-27.77847	-11.46256	5.36747	0.63984	0.12716	30.23273	5.40697	276.80	-22.28
87/ 8/ 5	2447012.5	3.32668	-27.77699	-11.46226	5.36715	0.64189	0.12800	30.23262	5.40691	276.83	-22.28
87/ 8/ 9	2447016.5	3.33908	-27.77550	-11.46197	5.36682	0.64393	0.12885	30.23251	5.40685	276.86	-22.28
87/ 8/13	2447020.5	3.35147	-27.77401	-11.46167	5.36650	0.64598	0.12969	30.23240	5.40679	276.88	-22.28
87/ 8/17	2447024.5	3.36387	-27.77252	-11.46137	5.36618	0.64803	0.13054	30.23229	5.40674	276.91	-22.28
87/ 8/21	2447028.5	3.37627	-27.77102	-11.46106	5.36585	0.65007	0.13139	30.23218	5.40668	276.93	-22.28
87/ 8/25	2447032.5	3.38866	-27.76951	-11.46076	5.36552	0.65211	0.13223	30.23207	5.40663	276.96	-22.28
87/ 8/29	2447036.5	3.40106	-27.76800	-11.46045	5.36520	0.65416	0.13308	30.23196	5.40657	276.98	-22.28
87/ 9/ 2	2447040.5	3.41345	-27.76649	-11.46015	5.36487	0.65620	0.13392	30.23185	5.40651	277.01	-22.28
87/ 9/ 6	2447044.5	3.42585	-27.76497	-11.45983	5.36454	0.65824	0.13477	30.23174	5.40646	277.03	-22.28
87/ 9/10	2447048.5	3.43824	-27.76345	-11.45952	5.36421	0.66029	0.13561	30.23163	5.40640	277.06	-22.28
87/ 9/14	2447052.5	3.45063	-27.76192	-11.45921	5.36388	0.66233	0.13645	30.23152	5.40634	277.09	-22.27
87/ 9/18	2447056.5	3.46302	-27.76039	-11.45889	5.36355	0.66437	0.13730	30.23141	5.40629	277.11	-22.27
87/ 9/22	2447060.5	3.47541	-27.75885	-11.45857	5.36322	0.66641	0.13814	30.23130	5.40623	277.14	-22.27
87/ 9/26	2447064.5	3.48780	-27.75731	-11.45825	5.36289	0.66845	0.13898	30.23119	5.40618	277.16	-22.27
87/ 9/30	2447068.5	3.50019	-27.75576	-11.45793	5.36256	0.67049	0.13983	30.23107	5.40612	277.19	-22.27
87/10/ 4	2447072.5	3.51258	-27.75421	-11.45761	5.36223	0.67253	0.14067	30.23096	5.40607	277.21	-22.27
87/10/ 8	2447076.5	3.52497	-27.75266	-11.45728	5.36189	0.67457	0.14151	30.23085	5.40601	277.24	-22.27
87/10/12	2447080.5	3.53735	-27.75109	-11.45695	5.36156	0.67661	0.14236	30.23074	5.40596	277.26	-22.27
87/10/16	2447084.5	3.54974	-27.74953	-11.45662	5.36122	0.67864	0.14320	30.23063	5.40590	277.29	-22.27
87/10/20	2447088.5	3.56212	-27.74796	-11.45629	5.36089	0.68068	0.14404	30.23052	5.40585	277.32	-22.27
87/10/24	2447092.5	3.57451	-27.74638	-11.45596	5.36055	0.68272	0.14488	30.23041	5.40579	277.34	-22.27
87/10/28	2447096.5	3.58689	-27.74480	-11.45562	5.36021	0.68475	0.14573	30.23030	5.40574	277.37	-22.27
87/11/ 1	2447100.5	3.59927	-27.74322	-11.45529	5.35987	0.68679	0.14657	30.23019	5.40568	277.39	-22.27
87/11/ 5	2447104.5	3.61165	-27.74163	-11.45495	5.35953	0.68882	0.14741	30.23008	5.40563	277.42	-22.27
87/11/ 9	2447108.5	3.62404	-27.74004	-11.45460	5.35919	0.69086	0.14825	30.22997	5.40557	277.44	-22.27
87/11/13	2447112.5	3.63642	-27.73844	-11.45426	5.35885	0.69289	0.14909	30.22986	5.40552	277.47	-22.27
87/11/17	2447116.5	3.64880	-27.73684	-11.45392	5.35851	0.69493	0.14993	30.22975	5.40547	277.49	-22.27
87/11/21	2447120.5	3.66117	-27.73523	-11.45357	5.35817	0.69696	0.15077	30.22964	5.40541	277.52	-22.26
87/11/25	2447124.5	3.67355	-27.73362	-11.45322	5.35783	0.69899	0.15161	30.22953	5.40536	277.55	-22.26
87/11/29	2447128.5	3.68593	-27.73200	-11.45287	5.35748	0.70102	0.15245	30.22942	5.40530	277.57	-22.26
87/12/ 3	2447132.5	3.69831	-27.73038	-11.45251	5.35714	0.70306	0.15329	30.22931	5.40525	277.60	-22.26
87/12/ 7	2447136.5	3.71068	-27.72875	-11.45216	5.35680	0.70509	0.15413	30.22920	5.40520	277.62	-22.26

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87/12/11	2447140.5	3.72306	-27.72712	-11.45180	5.35645	0.70712	0.15497	30.22909	5.40515	277.65	-22.26
87/12/15	2447144.5	3.73543	-27.72548	-11.45144	5.35610	0.70915	0.15581	30.22898	5.40509	277.67	-22.26
87/12/19	2447148.5	3.74780	-27.72384	-11.45108	5.35576	0.71118	0.15665	30.22887	5.40504	277.70	-22.26
87/12/23	2447152.5	3.76018	-27.72220	-11.45072	5.35541	0.71321	0.15749	30.22876	5.40499	277.72	-22.26
87/12/27	2447156.5	3.77255	-27.72055	-11.45035	5.35506	0.71523	0.15833	30.22865	5.40494	277.75	-22.26
87/12/31	2447160.5	3.78492	-27.71889	-11.44999	5.35471	0.71726	0.15917	30.22854	5.40488	277.78	-22.26
88/ 1/ 4	2447164.5	3.79729	-27.71723	-11.44962	5.35436	0.71929	0.16001	30.22843	5.40483	277.80	-22.26
88/ 1/ 8	2447168.5	3.80966	-27.71557	-11.44925	5.35401	0.72132	0.16085	30.22832	5.40478	277.83	-22.26
88/ 1/12	2447172.5	3.82202	-27.71390	-11.44888	5.35366	0.72334	0.16168	30.22821	5.40473	277.85	-22.26
88/ 1/16	2447176.5	3.83439	-27.71223	-11.44850	5.35331	0.72537	0.16252	30.22810	5.40468	277.88	-22.26
88/ 1/20	2447180.5	3.84676	-27.71055	-11.44813	5.35296	0.72739	0.16336	30.22799	5.40463	277.90	-22.25
88/ 1/24	2447184.5	3.85912	-27.70887	-11.44775	5.35261	0.72942	0.16420	30.22789	5.40458	277.93	-22.25
88/ 1/28	2447188.5	3.87149	-27.70718	-11.44737	5.35226	0.73144	0.16503	30.22778	5.40452	277.95	-22.25
88/ 2/ 1	2447192.5	3.88385	-27.70549	-11.44698	5.35190	0.73347	0.16587	30.22767	5.40447	277.98	-22.25
88/ 2/ 5	2447196.5	3.89622	-27.70379	-11.44660	5.35155	0.73549	0.16671	30.22756	5.40442	278.01	-22.25
88/ 2/ 9	2447200.5	3.90858	-27.70209	-11.44621	5.35119	0.73752	0.16755	30.22745	5.40437	278.03	-22.25
88/ 2/13	2447204.5	3.92094	-27.70038	-11.44583	5.35084	0.73954	0.16838	30.22734	5.40432	278.06	-22.25
88/ 2/17	2447208.5	3.93330	-27.69867	-11.44544	5.35048	0.74156	0.16922	30.22723	5.40427	278.08	-22.25
88/ 2/21	2447212.5	3.94566	-27.69696	-11.44504	5.35012	0.74358	0.17005	30.22712	5.40422	278.11	-22.25
88/ 2/25	2447216.5	3.95802	-27.69524	-11.44465	5.34976	0.74560	0.17089	30.22701	5.40418	278.13	-22.25
88/ 2/29	2447220.5	3.97038	-27.69351	-11.44425	5.34941	0.74762	0.17173	30.22690	5.40413	278.16	-22.25
88/ 3/ 4	2447224.5	3.98274	-27.69178	-11.44386	5.34905	0.74964	0.17256	30.22679	5.40408	278.18	-22.25
88/ 3/ 8	2447228.5	3.99510	-27.69005	-11.44346	5.34869	0.75166	0.17340	30.22668	5.40403	278.21	-22.25
88/ 3/12	2447232.5	4.00745	-27.68831	-11.44306	5.34833	0.75368	0.17423	30.22657	5.40398	278.24	-22.25
88/ 3/16	2447236.5	4.01981	-27.68657	-11.44265	5.34797	0.75570	0.17507	30.22646	5.40393	278.26	-22.24
88/ 3/20	2447240.5	4.03216	-27.68482	-11.44225	5.34761	0.75772	0.17590	30.22635	5.40388	278.29	-22.24
88/ 3/24	2447244.5	4.04451	-27.68306	-11.44184	5.34724	0.75974	0.17674	30.22624	5.40384	278.31	-22.24
88/ 3/28	2447248.5	4.05687	-27.68131	-11.44143	5.34688	0.76176	0.17757	30.22614	5.40379	278.34	-22.24
88/ 4/ 1	2447252.5	4.06922	-27.67955	-11.44102	5.34652	0.76377	0.17841	30.22603	5.40374	278.36	-22.24
88/ 4/ 5	2447256.5	4.08157	-27.67778	-11.44061	5.34615	0.76579	0.17924	30.22592	5.40370	278.39	-22.24
88/ 4/ 9	2447260.5	4.09392	-27.67601	-11.44019	5.34579	0.76781	0.18008	30.22581	5.40365	278.41	-22.24
88/ 4/13	2447264.5	4.10627	-27.67423	-11.43977	5.34542	0.76982	0.18091	30.22570	5.40360	278.44	-22.24
88/ 4/17	2447268.5	4.11862	-27.67245	-11.43936	5.34506	0.77184	0.18174	30.22559	5.40356	278.47	-22.24
88/ 4/21	2447272.5	4.13097	-27.67067	-11.43893	5.34469	0.77385	0.18258	30.22548	5.40351	278.49	-22.24
88/ 4/25	2447276.5	4.14331	-27.66887	-11.43851	5.34433	0.77587	0.18341	30.22537	5.40346	278.52	-22.24
88/ 4/29	2447280.5	4.15566	-27.66708	-11.43809	5.34396	0.77788	0.18424	30.22527	5.40342	278.54	-22.24
88/ 5/ 3	2447284.5	4.16800	-27.66528	-11.43766	5.34359	0.77989	0.18508	30.22516	5.40337	278.57	-22.24
88/ 5/ 7	2447288.5	4.18035	-27.66348	-11.43723	5.34322	0.78191	0.18591	30.22505	5.40333	278.59	-22.23
88/ 5/11	2447292.5	4.19269	-27.66167	-11.43680	5.34285	0.78392	0.18674	30.22494	5.40328	278.62	-22.23
88/ 5/15	2447296.5	4.20503	-27.65985	-11.43637	5.34248	0.78593	0.18758	30.22483	5.40324	278.64	-22.23
88/ 5/19	2447300.5	4.21737	-27.65804	-11.43593	5.34211	0.78794	0.18841	30.22472	5.40320	278.67	-22.23
88/ 5/23	2447304.5	4.22972	-27.65621	-11.43550	5.34174	0.78996	0.18924	30.22461	5.40315	278.70	-22.23
88/ 5/27	2447308.5	4.24206	-27.65439	-11.43506	5.34137	0.79197	0.19007	30.22451	5.40311	278.72	-22.23
88/ 5/31	2447312.5	4.25439	-27.65255	-11.43462	5.34100	0.79398	0.19090	30.22440	5.40306	278.75	-22.23
88/ 6/ 4	2447316.5	4.26673	-27.65072	-11.43418	5.34063	0.79599	0.19174	30.22429	5.40302	278.77	-22.23

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88/ 6/ 8	2447320.5	4.27907	-27.64888	-11.43373	5.34025	0.79800	0.19257	30.22418	5.40298	278.80	-22.23
88/ 6/12	2447324.5	4.29141	-27.64703	-11.43329	5.33988	0.80001	0.19340	30.22407	5.40294	278.82	-22.23
88/ 6/16	2447328.5	4.30374	-27.64518	-11.43284	5.33951	0.80201	0.19423	30.22397	5.40289	278.85	-22.23
88/ 6/20	2447332.5	4.31608	-27.64333	-11.43239	5.33913	0.80402	0.19506	30.22386	5.40285	278.87	-22.23
88/ 6/24	2447336.5	4.32841	-27.64147	-11.43194	5.33876	0.80603	0.19589	30.22375	5.40281	278.90	-22.22
88/ 6/28	2447340.5	4.34074	-27.63960	-11.43149	5.33838	0.80804	0.19672	30.22364	5.40277	278.93	-22.22
88/ 7/ 2	2447344.5	4.35308	-27.63773	-11.43103	5.33800	0.81005	0.19755	30.22353	5.40273	278.95	-22.22
88/ 7/ 6	2447348.5	4.36541	-27.63586	-11.43057	5.33763	0.81205	0.19838	30.22343	5.40269	278.98	-22.22
88/ 7/10	2447352.5	4.37774	-27.63398	-11.43011	5.33725	0.81406	0.19921	30.22332	5.40265	279.00	-22.22
88/ 7/14	2447356.5	4.39007	-27.63210	-11.42965	5.33687	0.81607	0.20004	30.22321	5.40261	279.03	-22.22
88/ 7/18	2447360.5	4.40240	-27.63021	-11.42919	5.33649	0.81807	0.20087	30.22310	5.40257	279.05	-22.22
88/ 7/22	2447364.5	4.41472	-27.62832	-11.42872	5.33611	0.82008	0.20170	30.22300	5.40253	279.08	-22.22
88/ 7/26	2447368.5	4.42705	-27.62642	-11.42826	5.33573	0.82208	0.20253	30.22289	5.40249	279.10	-22.22
88/ 7/30	2447372.5	4.43938	-27.62452	-11.42779	5.33535	0.82409	0.20336	30.22278	5.40245	279.13	-22.22
88/ 8/ 3	2447376.5	4.45170	-27.62261	-11.42732	5.33497	0.82609	0.20419	30.22267	5.40241	279.16	-22.22
88/ 8/ 7	2447380.5	4.46403	-27.62070	-11.42685	5.33459	0.82809	0.20502	30.22257	5.40237	279.18	-22.22
88/ 8/11	2447384.5	4.47635	-27.61879	-11.42637	5.33421	0.83010	0.20585	30.22246	5.40233	279.21	-22.21
88/ 8/15	2447388.5	4.48867	-27.61687	-11.42589	5.33383	0.83210	0.20668	30.22235	5.40230	279.23	-22.21
88/ 8/19	2447392.5	4.50099	-27.61494	-11.42542	5.33344	0.83410	0.20751	30.22225	5.40226	279.26	-22.21
88/ 8/23	2447396.5	4.51331	-27.61301	-11.42494	5.33306	0.83610	0.20834	30.22214	5.40222	279.28	-22.21
88/ 8/27	2447400.5	4.52563	-27.61108	-11.42445	5.33268	0.83811	0.20917	30.22203	5.40218	279.31	-22.21
88/ 8/31	2447404.5	4.53795	-27.60914	-11.42397	5.33229	0.84011	0.20999	30.22193	5.40215	279.33	-22.21
88/ 9/ 4	2447408.5	4.55027	-27.60720	-11.42348	5.33191	0.84211	0.21082	30.22182	5.40211	279.36	-22.21
88/ 9/ 8	2447412.5	4.56259	-27.60525	-11.42300	5.33152	0.84411	0.21165	30.22171	5.40208	279.38	-22.21
88/ 9/12	2447416.5	4.57490	-27.60330	-11.42251	5.33113	0.84611	0.21248	30.22161	5.40204	279.41	-22.21
88/ 9/16	2447420.5	4.58722	-27.60134	-11.42201	5.33075	0.84811	0.21331	30.2215C	5.40200	279.44	-22.21
88/ 9/20	2447424.5	4.59953	-27.59938	-11.42152	5.33036	0.85011	0.21413	30.22139	5.40197	279.46	-22.21
88/ 9/24	2447428.5	4.61185	-27.59741	-11.42102	5.32997	0.85211	0.21496	30.22129	5.40194	279.49	-22.20
88/ 9/28	2447432.5	4.62416	-27.59544	-11.42053	5.32958	0.85411	0.21579	30.22118	5.40190	279.51	-22.20
88/10/ 2	2447436.5	4.63647	-27.59347	-11.42003	5.32920	0.85610	0.21662	30.22107	5.40187	279.54	-22.20
88/10/ 6	2447440.5	4.64878	-27.59149	-11.41953	5.32881	0.85810	0.21744	30.22097	5.40183	279.56	-22.20
88/10/10	2447444.5	4.66109	-27.58950	-11.41902	5.32842	0.86010	0.21827	30.22086	5.40180	279.59	-22.20
88/10/14	2447448.5	4.67340	-27.58751	-11.41852	5.32803	0.86210	0.21910	30.22076	5.40177	279.61	-22.20
88/10/18	2447452.5	4.68571	-27.58552	-11.41801	5.32764	0.86409	0.21992	30.22065	5.40173	279.64	-22.20
88/10/22	2447456.5	4.69802	-27.58352	-11.41750	5.32724	0.86609	0.22075	30.22054	5.40170	279.67	-22.20
88/10/26	2447460.5	4.71033	-27.58152	-11.41699	5.32685	0.86809	0.22158	30.22044	5.40167	279.69	-22.20
88/10/30	2447464.5	4.72263	-27.57951	-11.41648	5.32646	0.87008	0.22240	30.22033	5.40164	279.72	-22.20
88/11/ 3	2447468.5	4.73494	-27.57750	-11.41596	5.32607	0.87208	0.22323	30.22023	5.40161	279.74	-22.19
88/11/ 7	2447472.5	4.74724	-27.57548	-11.41545	5.32567	0.87407	0.22406	30.22012	5.40158	279.77	-22.19
88/11/11	2447476.5	4.75954	-27.57346	-11.41493	5.32528	0.87607	0.22488	30.22002	5.40154	279.79	-22.19
88/11/15	2447480.5	4.77184	-27.57143	-11.41441	5.32489	0.87806	0.22571	30.21991	5.40151	279.82	-22.19
88/11/19	2447484.5	4.78414	-27.56940	-11.41388	5.32449	0.88006	0.22653	30.21981	5.40148	279.84	-22.19
88/11/23	2447488.5	4.79644	-27.56737	-11.41336	5.32410	0.88205	0.22736	30.21970	5.40146	279.87	-22.19
88/11/27	2447492.5	4.80874	-27.56533	-11.41283	5.32370	0.88405	0.22818	30.21960	5.40143	279.90	-22.19
88/12/ 1	2447496.5	4.82104	-27.56328	-11.41231	5.32330	0.88604	0.22901	30.21949	5.40140	279.92	-22.19

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88/12/ 5	2447500.5	4.83334	-27.56123	-11.41178	5.32291	0.88803	0.22983	30.21939	5.40137	279.95	-22.19
88/12/ 9	2447504.5	4.84564	-27.55918	-11.41124	5.32251	0.89003	0.23066	30.21928	5.40134	279.97	-22.19
88/12/13	2447508.5	4.85793	-27.55712	-11.41071	5.32211	0.89202	0.23148	30.21918	5.40131	280.00	-22.18
88/12/17	2447512.5	4.87023	-27.55506	-11.41017	5.32172	0.89401	0.23231	30.21907	5.40128	280.02	-22.18
88/12/21	2447516.5	4.88252	-27.55299	-11.40964	5.32132	0.89600	0.23313	30.21897	5.40126	280.05	-22.18
88/12/25	2447520.5	4.89481	-27.55092	-11.40910	5.32092	0.89799	0.23396	30.21886	5.40123	280.07	-22.18
88/12/29	2447524.5	4.90710	-27.54884	-11.40856	5.32052	0.89999	0.23478	30.21876	5.40120	280.10	-22.18
89/ 1/ 2	2447528.5	4.91939	-27.54676	-11.40801	5.32012	0.90198	0.23561	30.21866	5.40118	280.13	-22.18
89/ 1/ 6	2447532.5	4.93168	-27.54467	-11.40747	5.31972	0.90397	0.23643	30.21855	5.40115	280.15	-22.18
89/ 1/10	2447536.5	4.94397	-27.54258	-11.40692	5.31932	0.90596	0.23726	30.21845	5.40113	280.18	-22.18
89/ 1/14	2447540.5	4.95626	-27.54049	-11.40637	5.31891	0.90795	0.23808	30.21834	5.40110	280.20	-22.18
89/ 1/18	2447544.5	4.96855	-27.53839	-11.40582	5.31851	0.90994	0.23890	30.21824	5.40108	280.23	-22.18
89/ 1/22	2447548.5	4.98084	-27.53628	-11.40527	5.31811	0.91193	0.23973	30.21814	5.40105	280.25	-22.17
89/ 1/26	2447552.5	4.99312	-27.53417	-11.40471	5.31771	0.91392	0.24055	30.21803	5.40103	280.28	-22.17
89/ 1/30	2447556.5	5.00540	-27.53206	-11.40416	5.31730	0.91590	0.24138	30.21793	5.40101	280.30	-22.17
89/ 2/ 3	2447560.5	5.01769	-27.52994	-11.40360	5.31690	0.91789	0.24220	30.21782	5.40098	280.33	-22.17
89/ 2/ 7	2447564.5	5.02997	-27.52782	-11.40304	5.31649	0.91988	0.24302	30.21772	5.40096	280.36	-22.17
89/ 2/11	2447568.5	5.04225	-27.52569	-11.40247	5.31609	0.92187	0.24385	30.21762	5.40094	280.38	-22.17
89/ 2/15	2447572.5	5.05453	-27.52356	-11.40191	5.31568	0.92386	0.24467	30.21752	5.40091	280.41	-22.17
89/ 2/19	2447576.5	5.06681	-27.52142	-11.40134	5.31528	0.92585	0.24549	30.21741	5.40089	280.43	-22.17
89/ 2/23	2447580.5	5.07909	-27.51928	-11.40078	5.31487	0.92783	0.24631	30.21731	5.40087	280.46	-22.17
89/ 2/27	2447584.5	5.09137	-27.51714	-11.40021	5.31447	0.92982	0.24714	30.21721	5.40085	280.48	-22.17
89/ 3/ 3	2447588.5	5.10365	-27.51499	-11.39963	5.31406	0.93181	0.24796	30.21710	5.40083	280.51	-22.16
89/ 3/ 7	2447592.5	5.11592	-27.51283	-11.39906	5.31365	0.93379	0.24878	30.21700	5.40081	280.53	-22.16
89/ 3/11	2447596.5	5.12820	-27.51067	-11.39848	5.31324	0.93578	0.24961	30.21690	5.40079	280.56	-22.16
89/ 3/15	2447600.5	5.14047	-27.50851	-11.39791	5.31283	0.93777	0.25043	30.21680	5.40077	280.58	-22.16
89/ 3/19	2447604.5	5.15274	-27.50634	-11.39733	5.31242	0.93975	0.25125	30.21669	5.40075	280.61	-22.16
89/ 3/23	2447608.5	5.16502	-27.50417	-11.39675	5.31201	0.94174	0.25207	30.21659	5.40073	280.64	-22.16
89/ 3/27	2447612.5	5.17729	-27.50199	-11.39616	5.31160	0.94372	0.25290	30.21649	5.40071	280.66	-22.16
89/ 3/31	2447616.5	5.18956	-27.49981	-11.39558	5.31119	0.94571	0.25372	30.21639	5.40070	280.69	-22.16
89/ 4/ 4	2447620.5	5.20183	-27.49762	-11.39499	5.31078	0.94769	0.25454	30.21628	5.40068	280.71	-22.16
89/ 4/ 8	2447624.5	5.21410	-27.49543	-11.39440	5.31037	0.94968	0.25536	30.21618	5.40066	280.74	-22.15
89/ 4/12	2447628.5	5.22636	-27.49323	-11.39381	5.30996	0.95166	0.25618	30.21608	5.40064	280.76	-22.15
89/ 4/16	2447632.5	5.23863	-27.49103	-11.39322	5.30955	0.95364	0.25701	30.21598	5.40063	280.79	-22.15
89/ 4/20	2447636.5	5.25090	-27.48882	-11.39262	5.30913	0.95563	0.25783	30.21588	5.40061	280.81	-22.15
89/ 4/24	2447640.5	5.26316	-27.48661	-11.39203	5.30872	0.95761	0.25865	30.21578	5.40059	280.84	-22.15
89/ 4/28	2447644.5	5.27542	-27.48440	-11.39143	5.30831	0.95960	0.25947	30.21567	5.40058	280.87	-22.15
89/ 5/ 2	2447648.5	5.28769	-27.48218	-11.39083	5.30789	0.96158	0.26029	30.21557	5.40056	280.89	-22.15
89/ 5/ 6	2447652.5	5.29995	-27.47996	-11.39023	5.30748	0.96356	0.26111	30.21547	5.40055	280.92	-22.15
89/ 5/10	2447656.5	5.31221	-27.47773	-11.38962	5.30706	0.96554	0.26193	30.21537	5.40054	280.94	-22.14
89/ 5/14	2447660.5	5.32447	-27.47550	-11.38902	5.30665	0.96753	0.26276	30.21527	5.40052	280.97	-22.14
89/ 5/18	2447664.5	5.33673	-27.47326	-11.38841	5.30623	0.96951	0.26358	30.21517	5.40051	280.99	-22.14
89/ 5/22	2447668.5	5.34898	-27.47102	-11.38780	5.30581	0.97149	0.26440	30.21507	5.40049	281.02	-22.14
89/ 5/26	2447672.5	5.36124	-27.46877	-11.38719	5.30540	0.97347	0.26522	30.21497	5.40048	281.04	-22.14
89/ 5/30	2447676.5	5.37350	-27.46652	-11.38657	5.30498	0.97545	0.26604	30.21487	5.40047	281.07	-22.14

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89/ 6/ 3	2447680.5	5.38575	-27.46426	-11.38596	5.30456	0.97744	0.26686	30.21477	5.40046	281.09	-22.14
89/ 6/ 7	2447684.5	5.39801	-27.46200	-11.38534	5.30414	0.97942	0.26768	30.21467	5.40045	281.12	-22.14
89/ 6/11	2447688.5	5.41026	-27.45974	-11.38472	5.30372	0.98140	0.26850	30.21457	5.40044	281.15	-22.14
89/ 6/15	2447692.5	5.42251	-27.45747	-11.38410	5.30330	0.98338	0.26932	30.21446	5.40042	281.17	-22.13
89/ 6/19	2447696.5	5.43476	-27.45519	-11.38348	5.30288	0.98536	0.27014	30.21436	5.40041	281.20	-22.13
89/ 6/23	2447700.5	5.44701	-27.45292	-11.38285	5.30246	0.98734	0.27096	30.21426	5.40040	281.22	-22.13
89/ 6/27	2447704.5	5.45926	-27.45063	-11.38222	5.30204	0.98932	0.27178	30.21416	5.40039	281.25	-22.13
89/ 7/ 1	2447708.5	5.47151	-27.44834	-11.38159	5.30162	0.99130	0.27261	30.21407	5.40038	281.27	-22.13
89/ 7/ 5	2447712.5	5.48376	-27.44605	-11.38096	5.30120	0.99328	0.27343	30.21397	5.40038	281.30	-22.13
89/ 7/ 9	2447716.5	5.49600	-27.44376	-11.38033	5.30077	0.99526	0.27425	30.21387	5.40037	281.32	-22.13
89/ 7/13	2447720.5	5.50825	-27.44145	-11.37970	5.30035	0.99724	0.27507	30.21377	5.40036	281.35	-22.13
89/ 7/17	2447724.5	5.52049	-27.43915	-11.37906	5.29993	0.99922	0.27589	30.21367	5.40035	281.38	-22.12
89/ 7/21	2447728.5	5.53274	-27.43684	-11.37842	5.29950	1.00120	0.27671	30.21357	5.40034	281.40	-22.12
89/ 7/25	2447732.5	5.54498	-27.43452	-11.37778	5.29908	1.00318	0.27753	30.21347	5.40034	281.43	-22.12
89/ 7/29	2447736.5	5.55722	-27.43220	-11.37714	5.29866	1.00516	0.27835	30.21337	5.40033	281.45	-22.12
89/ 8/ 2	2447740.5	5.56946	-27.42988	-11.37650	5.29823	1.00713	0.27917	30.21327	5.40032	281.48	-22.12
89/ 8/ 6	2447744.5	5.58170	-27.42755	-11.37585	5.29780	1.00911	0.27999	30.21317	5.40032	281.50	-22.12
89/ 8/10	2447748.5	5.59394	-27.42522	-11.37520	5.29738	1.01109	0.28081	30.21307	5.40031	281.53	-22.12
89/ 8/14	2447752.5	5.60618	-27.42288	-11.37455	5.29695	1.01307	0.28163	30.21297	5.40031	281.55	-22.12
89/ 8/18	2447756.5	5.61841	-27.42053	-11.37390	5.29652	1.01505	0.28245	30.21288	5.40030	281.58	-22.11
89/ 8/22	2447760.5	5.63065	-27.41819	-11.37325	5.29610	1.01703	0.28326	30.21278	5.40030	281.61	-22.11
89/ 8/26	2447764.5	5.64288	-27.41584	-11.37259	5.29567	1.01900	0.28408	30.21268	5.40029	281.63	-22.11
89/ 8/30	2447768.5	5.65511	-27.41348	-11.37193	5.29524	1.02098	0.28490	30.21258	5.40029	281.66	-22.11
89/ 9/ 3	2447772.5	5.66735	-27.41112	-11.37128	5.29481	1.02296	0.28572	30.21248	5.40029	281.68	-22.11
89/ 9/ 7	2447776.5	5.67958	-27.40875	-11.37061	5.29438	1.02494	0.28654	30.21238	5.40029	281.71	-22.11
89/ 9/11	2447780.5	5.69181	-27.40638	-11.36995	5.29395	1.02691	0.28736	30.21229	5.40028	281.73	-22.11
89/ 9/15	2447784.5	5.70404	-27.40401	-11.36929	5.29352	1.02889	0.28818	30.21219	5.40028	281.76	-22.11
89/ 9/19	2447788.5	5.71627	-27.40163	-11.36862	5.29309	1.03087	0.28900	30.21209	5.40028	281.78	-22.10
89/ 9/23	2447792.5	5.72849	-27.39925	-11.36795	5.29266	1.03284	0.28982	30.21199	5.40028	281.81	-22.10
89/ 9/27	2447796.5	5.74072	-27.39686	-11.36728	5.29223	1.03482	0.29064	30.21190	5.40028	281.83	-22.10
89/10/ 1	2447800.5	5.75295	-27.39446	-11.36661	5.29180	1.03680	0.29146	30.21180	5.40028	281.86	-22.10
89/10/ 5	2447804.5	5.76517	-27.39207	-11.36593	5.29136	1.03877	0.29228	30.21170	5.40028	281.89	-22.10
89/10/ 9	2447808.5	5.77739	-27.38966	-11.36526	5.29093	1.04075	0.29310	30.21161	5.40028	281.91	-22.10
89/10/13	2447812.5	5.78962	-27.38726	-11.36458	5.29050	1.04272	0.29392	30.21151	5.40028	281.94	-22.10
89/10/17	2447816.5	5.80184	-27.38485	-11.36390	5.29006	1.04470	0.29473	30.21141	5.40028	281.96	-22.10
89/10/21	2447820.5	5.81406	-27.38243	-11.36322	5.28963	1.04667	0.29555	30.21131	5.40028	281.99	-22.09
89/10/25	2447824.5	5.82628	-27.38001	-11.36253	5.28919	1.04865	0.29637	30.21122	5.40028	282.01	-22.09
89/10/29	2447828.5	5.83850	-27.37759	-11.36185	5.28876	1.05063	0.29719	30.21112	5.40028	282.04	-22.09
89/11/ 2	2447832.5	5.85071	-27.37516	-11.36116	5.28832	1.05260	0.29801	30.21102	5.40029	282.06	-22.09
89/11/ 6	2447836.5	5.86293	-27.37272	-11.36047	5.28788	1.05458	0.29883	30.21093	5.40029	282.09	-22.09
89/11/10	2447840.5	5.87515	-27.37028	-11.35978	5.28745	1.05655	0.29965	30.21083	5.40029	282.11	-22.09
89/11/14	2447844.5	5.88736	-27.36784	-11.35909	5.28701	1.05853	0.30047	30.21074	5.40030	282.14	-22.09
89/11/18	2447848.5	5.89957	-27.36539	-11.35839	5.28657	1.06050	0.30129	30.21064	5.40030	282.17	-22.08
89/11/22	2447852.5	5.91179	-27.36294	-11.35770	5.28613	1.06248	0.30210	30.21054	5.40031	282.19	-22.08
89/11/26	2447856.5	5.92400	-27.36048	-11.35700	5.28569	1.06445	0.30292	30.21045	5.40031	282.22	-22.08

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89/11/30	2447860.5	5.93621	-27.35802	-11.35630	5.28525	1.06642	0.30374	30.21035	5.40032	282.24	-22.08
89/12/ 4	2447864.5	5.94842	-27.35556	-11.35559	5.28481	1.06840	0.30456	30.21026	5.40032	282.27	-22.08
89/12/ 8	2447868.5	5.96063	-27.35309	-11.35489	5.28437	1.07037	0.30538	30.21016	5.40033	282.29	-22.08
89/12/12	2447872.5	5.97283	-27.35061	-11.35418	5.28393	1.07235	0.30620	30.21007	5.40034	282.32	-22.08
89/12/16	2447876.5	5.98504	-27.34813	-11.35347	5.28349	1.07432	0.30702	30.20997	5.40034	282.34	-22.07
89/12/20	2447880.5	5.99724	-27.34565	-11.35276	5.28305	1.07630	0.30783	30.20988	5.40035	282.37	-22.07
89/12/24	2447884.5	6.00945	-27.34316	-11.35205	5.28261	1.07827	0.30865	30.20978	5.40036	282.40	-22.07
89/12/28	2447888.5	6.02165	-27.34067	-11.35134	5.28216	1.08024	0.30947	30.20969	5.40036	282.42	-22.07
90/ 1/ 1	2447892.5	6.03385	-27.33817	-11.35062	5.28172	1.08222	0.31029	30.20959	5.40037	282.45	-22.07
90/ 1/ 5	2447896.5	6.04606	-27.33567	-11.34990	5.28128	1.08419	0.31111	30.20950	5.40038	282.47	-22.07
90/ 1/ 9	2447900.5	6.05826	-27.33316	-11.34918	5.28083	1.08616	0.31193	30.20940	5.40039	282.50	-22.07
90/ 1/13	2447904.5	6.07045	-27.33065	-11.34846	5.28039	1.08814	0.31274	30.20931	5.40040	282.52	-22.07
90/ 1/17	2447908.5	6.08265	-27.32813	-11.34774	5.27994	1.09011	0.31356	30.20921	5.40041	282.55	-22.06
90/ 1/21	2447912.5	6.09485	-27.32561	-11.34701	5.27949	1.09208	0.31438	30.20912	5.40042	282.57	-22.06
90/ 1/25	2447916.5	6.10705	-27.32309	-11.34629	5.27905	1.09406	0.31520	30.20903	5.40043	282.60	-22.06
90/ 1/29	2447920.5	6.11924	-27.32056	-11.34556	5.27860	1.09603	0.31602	30.20893	5.40044	282.62	-22.06
90/ 2/ 2	2447924.5	6.13144	-27.31802	-11.34483	5.27815	1.09800	0.31684	30.20884	5.40045	282.65	-22.06
90/ 2/ 6	2447928.5	6.14363	-27.31548	-11.34409	5.27771	1.09998	0.31765	30.20874	5.40047	282.68	-22.06
90/ 2/10	2447932.5	6.15582	-27.31294	-11.34336	5.27726	1.10195	0.31847	30.20865	5.40048	282.70	-22.06
90/ 2/14	2447936.5	6.16801	-27.31039	-11.34262	5.27681	1.10392	0.31929	30.20856	5.40049	282.73	-22.05
90/ 2/18	2447940.5	6.18020	-27.30784	-11.34188	5.27636	1.10590	0.32011	30.20846	5.40050	282.75	-22.05
90/ 2/22	2447944.5	6.19239	-27.30528	-11.34114	5.27591	1.10787	0.32093	30.20837	5.40052	282.78	-22.05
90/ 2/26	2447948.5	6.20458	-27.30272	-11.34040	5.27546	1.10984	0.32174	30.20828	5.40053	282.80	-22.05
90/ 3/ 2	2447952.5	6.21676	-27.30015	-11.33966	5.27501	1.11181	0.32256	30.20818	5.40054	282.83	-22.05
90/ 3/ 6	2447956.5	6.22895	-27.29758	-11.33891	5.27456	1.11379	0.32338	30.20809	5.40056	282.85	-22.05
90/ 3/10	2447960.5	6.24113	-27.29501	-11.33816	5.27410	1.11576	0.32420	30.20800	5.40057	282.88	-22.05
90/ 3/14	2447964.5	6.25332	-27.29243	-11.33741	5.27365	1.11773	0.32502	30.20790	5.40059	282.91	-22.04
90/ 3/18	2447968.5	6.26550	-27.28984	-11.33666	5.27320	1.11970	0.32584	30.20781	5.40060	282.93	-22.04
90/ 3/22	2447972.5	6.27768	-27.28725	-11.33591	5.27274	1.12168	0.32665	30.20772	5.40062	282.96	-22.04
90/ 3/26	2447976.5	6.28986	-27.28466	-11.33515	5.27229	1.12365	0.32747	30.20763	5.40064	282.98	-22.04
90/ 3/30	2447980.5	6.30204	-27.28206	-11.33439	5.27184	1.12562	0.32829	30.20753	5.40065	283.01	-22.04
90/ 4/ 3	2447984.5	6.31422	-27.27946	-11.33364	5.27138	1.12759	0.32911	30.20744	5.40067	283.03	-22.04
90/ 4/ 7	2447988.5	6.32640	-27.27685	-11.33287	5.27092	1.12956	0.32993	30.20735	5.40069	283.06	-22.03
90/ 4/11	2447992.5	6.33857	-27.27424	-11.33211	5.27047	1.13154	0.33074	30.20726	5.40070	283.08	-22.03
90/ 4/15	2447996.5	6.35075	-27.27162	-11.33135	5.27001	1.13351	0.33156	30.20717	5.40072	283.11	-22.03
90/ 4/19	2448000.5	6.36292	-27.26900	-11.33058	5.26955	1.13548	0.33238	30.20707	5.40074	283.13	-22.03
90/ 4/23	2448004.5	6.37510	-27.26638	-11.32981	5.26910	1.13745	0.33320	30.20698	5.40076	283.16	-22.03
90/ 4/27	2448008.5	6.38727	-27.26375	-11.32904	5.26864	1.13942	0.33402	30.20689	5.40078	283.19	-22.03
90/ 5/ 1	2448012.5	6.39944	-27.26111	-11.32827	5.26818	1.14140	0.33483	30.20680	5.40080	283.21	-22.03
90/ 5/ 5	2448016.5	6.41161	-27.25847	-11.32749	5.26772	1.14337	0.33565	30.20671	5.40082	283.24	-22.02
90/ 5/ 9	2448020.5	6.42378	-27.25583	-11.32672	5.26726	1.14534	0.33647	30.20662	5.40084	283.26	-22.02
90/ 5/13	2448024.5	6.43595	-27.25318	-11.32594	5.26680	1.14731	0.33729	30.20653	5.40086	283.29	-22.02
90/ 5/17	2448028.5	6.44811	-27.25053	-11.32516	5.26634	1.14928	0.33811	30.20643	5.40088	283.31	-22.02
90/ 5/21	2448032.5	6.46028	-27.24787	-11.32438	5.26588	1.15125	0.33892	30.20634	5.40090	283.34	-22.02
90/ 5/25	2448036.5	6.47244	-27.24521	-11.32359	5.26542	1.15323	0.33974	30.20625	5.40092	283.36	-22.02

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90/ 5/29	2448040.5	6.48461	-27.24254	-11.32281	5.26495	1.15520	0.34056	30.20616	5.40094	283.39	-22.02
90/ 6/ 2	2448044.5	6.49677	-27.23987	-11.32202	5.26449	1.15717	0.34138	30.20607	5.40097	283.41	-22.01
90/ 6/ 6	2448048.5	6.50893	-27.23720	-11.32123	5.26403	1.15914	0.34220	30.20598	5.40099	283.44	-22.01
90/ 6/10	2448052.5	6.52109	-27.23452	-11.32044	5.26356	1.16111	0.34302	30.20589	5.40101	283.47	-22.01
90/ 6/14	2448056.5	6.53325	-27.23183	-11.31964	5.26310	1.16308	0.34383	30.20580	5.40104	283.49	-22.01
90/ 6/18	2448060.5	6.54541	-27.22914	-11.31885	5.26263	1.16506	0.34465	30.20571	5.40106	283.52	-22.01
90/ 6/22	2448064.5	6.55756	-27.22645	-11.31805	5.26217	1.16703	0.34547	30.20562	5.40108	283.54	-22.01
90/ 6/26	2448068.5	6.56972	-27.22375	-11.31725	5.26170	1.16900	0.34629	30.20553	5.40111	283.57	-22.00
90/ 6/30	2448072.5	6.58188	-27.22105	-11.31645	5.26123	1.17097	0.34711	30.20544	5.40113	283.59	-22.00
90/ 7/ 4	2448076.5	6.59403	-27.21834	-11.31565	5.26077	1.17294	0.34792	30.20535	5.40116	283.62	-22.00
90/ 7/ 8	2448080.5	6.60618	-27.21563	-11.31484	5.26030	1.17491	0.34874	30.20526	5.40118	283.64	-22.00
90/ 7/12	2448084.5	6.61833	-27.21291	-11.31404	5.25983	1.17688	0.34956	30.20517	5.40121	283.67	-22.00
90/ 7/16	2448088.5	6.63048	-27.21019	-11.31323	5.25936	1.17886	0.35038	30.20508	5.40124	283.69	-22.00
90/ 7/20	2448092.5	6.64263	-27.20747	-11.31242	5.25889	1.18083	0.35120	30.20499	5.40126	283.72	-21.99
90/ 7/24	2448096.5	6.65478	-27.20474	-11.31161	5.25842	1.18280	0.35202	30.20490	5.40129	283.75	-21.99
90/ 7/28	2448100.5	6.66693	-27.20200	-11.31079	5.25795	1.18477	0.35283	30.20481	5.40132	283.77	-21.99
90/ 8/ 1	2448104.5	6.67908	-27.19926	-11.30998	5.25748	1.18674	0.35365	30.20473	5.40134	283.80	-21.99
90/ 8/ 5	2448108.5	6.69122	-27.19652	-11.30916	5.25701	1.18871	0.35447	30.20464	5.40137	283.82	-21.99
90/ 8/ 9	2448112.5	6.70336	-27.19377	-11.30834	5.25654	1.19068	0.35529	30.20455	5.40140	283.85	-21.99
90/ 8/13	2448116.5	6.71551	-27.19102	-11.30752	5.25606	1.19265	0.35611	30.20446	5.40143	283.87	-21.99
90/ 8/17	2448120.5	6.72765	-27.18826	-11.30669	5.25559	1.19463	0.35693	30.20437	5.40146	283.90	-21.98
90/ 8/21	2448124.5	6.73979	-27.18550	-11.30587	5.25512	1.19660	0.35774	30.20428	5.40149	283.92	-21.98
90/ 8/25	2448128.5	6.75193	-27.18273	-11.30504	5.25464	1.19857	0.35856	30.20419	5.40152	283.95	-21.98
90/ 8/29	2448132.5	6.76407	-27.17996	-11.30421	5.25417	1.20054	0.35938	30.20411	5.40155	283.97	-21.98
90/ 9/ 2	2448136.5	6.77621	-27.17718	-11.30338	5.25369	1.20251	0.36020	30.20402	5.40158	284.00	-21.98
90/ 9/ 6	2448140.5	6.78834	-27.17440	-11.30255	5.25321	1.20448	0.36102	30.20393	5.40161	284.03	-21.98
90/ 9/10	2448144.5	6.80048	-27.17162	-11.30171	5.25274	1.20645	0.36184	30.20384	5.40164	284.05	-21.97
90/ 9/14	2448148.5	6.81261	-27.16883	-11.30087	5.25226	1.20843	0.36265	30.20375	5.40167	284.08	-21.97
90/ 9/18	2448152.5	6.82475	-27.16603	-11.30004	5.25178	1.21040	0.36347	30.20367	5.40170	284.10	-21.97
90/ 9/22	2448156.5	6.83688	-27.16324	-11.29920	5.25130	1.21237	0.36429	30.20358	5.40173	284.13	-21.97
90/ 9/26	2448160.5	6.84901	-27.16043	-11.29835	5.25082	1.21434	0.36511	30.20349	5.40177	284.15	-21.97
90/ 9/30	2448164.5	6.86114	-27.15763	-11.29751	5.25034	1.21631	0.36593	30.20340	5.40180	284.18	-21.97
90/10/ 4	2448168.5	6.87327	-27.15481	-11.29666	5.24986	1.21828	0.36675	30.20332	5.40183	284.20	-21.96
90/10/ 8	2448172.5	6.88539	-27.15200	-11.29581	5.24938	1.22025	0.36757	30.20323	5.40186	284.23	-21.96
90/10/12	2448176.5	6.89752	-27.14918	-11.29496	5.24890	1.22223	0.36838	30.20314	5.40190	284.25	-21.96
90/10/16	2448180.5	6.90965	-27.14635	-11.29411	5.24842	1.22420	0.36920	30.20305	5.40193	284.28	-21.96
90/10/20	2448184.5	6.92177	-27.14352	-11.29326	5.24794	1.22617	0.37002	30.20297	5.40197	284.31	-21.96
90/10/24	2448188.5	6.93389	-27.14068	-11.29240	5.24745	1.22814	0.37084	30.20288	5.40200	284.33	-21.96
90/10/28	2448192.5	6.94602	-27.13784	-11.29154	5.24697	1.23011	0.37166	30.20279	5.40203	284.36	-21.95
90/11/ 1	2448196.5	6.95814	-27.13500	-11.29068	5.24648	1.23208	0.37248	30.20271	5.40207	284.38	-21.95
90/11/ 5	2448200.5	6.97026	-27.13215	-11.28982	5.24600	1.23405	0.37330	30.20262	5.40211	284.41	-21.95
90/11/ 9	2448204.5	6.98237	-27.12930	-11.28896	5.24551	1.23603	0.37412	30.20253	5.40214	284.43	-21.95
90/11/13	2448208.5	6.99449	-27.12644	-11.28809	5.24503	1.23800	0.37493	30.20245	5.40218	284.46	-21.95
90/11/17	2448212.5	7.00661	-27.12358	-11.28723	5.24454	1.23997	0.37575	30.20236	5.40221	284.48	-21.95
90/11/21	2448216.5	7.01872	-27.12071	-11.28636	5.24405	1.24194	0.37657	30.20227	5.40225	284.51	-21.94

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90/11/25	2448220.5	7.03084	-27.11784	-11.28549	5.24356	1.24391	0.37739	30.20219	5.40229	284.54	-21.94
90/11/29	2448224.5	7.04295	-27.11496	-11.28462	5.24308	1.24588	0.37821	30.20210	5.40232	284.56	-21.94
90/12/ 3	2448228.5	7.05506	-27.11208	-11.28374	5.24259	1.24786	0.37903	30.20202	5.40236	284.59	-21.94
90/12/ 7	2448232.5	7.06717	-27.10920	-11.28286	5.24210	1.24983	0.37985	30.20193	5.40240	284.61	-21.94
90/12/11	2448236.5	7.07928	-27.10631	-11.28199	5.24161	1.25180	0.38067	30.20185	5.40244	284.64	-21.93
90/12/15	2448240.5	7.09139	-27.10342	-11.28111	5.24112	1.25377	0.38149	30.20176	5.40248	284.66	-21.93
90/12/19	2448244.5	7.10350	-27.10052	-11.28022	5.24062	1.25574	0.38231	30.20167	5.40252	284.69	-21.93
90/12/23	2448248.5	7.11560	-27.09761	-11.27934	5.24013	1.25772	0.38313	30.20159	5.40256	284.71	-21.93
90/12/27	2448252.5	7.12771	-27.09471	-11.27845	5.23964	1.25969	0.38394	30.20150	5.40259	284.74	-21.93
90/12/31	2448256.5	7.13981	-27.09179	-11.27756	5.23914	1.26166	0.38476	30.20142	5.40263	284.76	-21.93
91/ 1/ 4	2448260.5	7.15192	-27.08888	-11.27667	5.23865	1.26363	0.38558	30.20133	5.40267	284.79	-21.92
91/ 1/ 8	2448264.5	7.16402	-27.08595	-11.27578	5.23816	1.26560	0.38640	30.20125	5.40272	284.82	-21.92
91/ 1/12	2448268.5	7.17612	-27.08303	-11.27489	5.23766	1.26758	0.38722	30.20116	5.40276	284.84	-21.92
91/ 1/16	2448272.5	7.18822	-27.08010	-11.27399	5.23716	1.26955	0.38804	30.20108	5.40280	284.87	-21.92
91/ 1/20	2448276.5	7.20032	-27.07716	-11.27310	5.23667	1.27152	0.38886	30.20099	5.40284	284.89	-21.92
91/ 1/24	2448280.5	7.21241	-27.07422	-11.27220	5.23617	1.27349	0.38968	30.20091	5.40288	284.92	-21.92
91/ 1/28	2448284.5	7.22451	-27.07128	-11.27130	5.23567	1.27546	0.39050	30.20082	5.40292	284.94	-21.91
91/ 2/ 1	2448288.5	7.23660	-27.06833	-11.27039	5.23517	1.27744	0.39132	30.20074	5.40296	284.97	-21.91
91/ 2/ 5	2448292.5	7.24870	-27.06538	-11.26949	5.23467	1.27941	0.39214	30.20066	5.40301	284.99	-21.91
91/ 2/ 9	2448296.5	7.26079	-27.06242	-11.26858	5.23417	1.28138	0.39296	30.20057	5.40305	285.02	-21.91
91/ 2/13	2448300.5	7.27288	-27.05946	-11.26767	5.23367	1.28335	0.39378	30.20049	5.40309	285.04	-21.91
91/ 2/17	2448304.5	7.28497	-27.05649	-11.26676	5.23317	1.28533	0.39460	30.20040	5.40314	285.07	-21.90
91/ 2/21	2448308.5	7.29706	-27.05352	-11.26585	5.23267	1.28730	0.39542	30.20032	5.40318	285.09	-21.90
91/ 2/25	2448312.5	7.30915	-27.05054	-11.26493	5.23217	1.28927	0.39624	30.20024	5.40322	285.12	-21.90
91/ 3/ 1	2448316.5	7.32123	-27.04756	-11.26402	5.23167	1.29124	0.39706	30.20015	5.40327	285.15	-21.90
91/ 3/ 5	2448320.5	7.33332	-27.04458	-11.26310	5.23116	1.29322	0.39788	30.20007	5.40331	285.17	-21.90
91/ 3/ 9	2448324.5	7.34540	-27.04159	-11.26218	5.23066	1.29519	0.39870	30.19998	5.40336	285.20	-21.90
91/ 3/13	2448328.5	7.35749	-27.03859	-11.26126	5.23015	1.29716	0.39952	30.19990	5.40340	285.22	-21.89
91/ 3/17	2448332.5	7.36957	-27.03559	-11.26033	5.22965	1.29913	0.40034	30.19982	5.40345	285.25	-21.89
91/ 3/21	2448336.5	7.38165	-27.03259	-11.25941	5.22914	1.30111	0.40116	30.19973	5.40349	285.27	-21.89
91/ 3/25	2448340.5	7.39373	-27.02958	-11.25848	5.22863	1.30308	0.40198	30.19965	5.40354	285.30	-21.89
91/ 3/29	2448344.5	7.40581	-27.02657	-11.25755	5.22813	1.30505	0.40280	30.19957	5.40358	285.32	-21.89
91/ 4/ 2	2448348.5	7.41789	-27.02355	-11.25662	5.22762	1.30703	0.40362	30.19948	5.40363	285.35	-21.88
91/ 4/ 6	2448352.5	7.42996	-27.02053	-11.25569	5.22711	1.30900	0.40444	30.19940	5.40368	285.37	-21.88
91/ 4/10	2448356.5	7.44204	-27.01750	-11.25475	5.22660	1.31097	0.40526	30.19932	5.40372	285.40	-21.88
91/ 4/14	2448360.5	7.45411	-27.01447	-11.25381	5.22609	1.31295	0.40608	30.19923	5.40377	285.43	-21.88
91/ 4/18	2448364.5	7.46618	-27.01144	-11.25287	5.22558	1.31492	0.40690	30.19915	5.40382	285.45	-21.88
91/ 4/22	2448368.5	7.47825	-27.00840	-11.25193	5.22507	1.31689	0.40772	30.19907	5.40387	285.48	-21.88
91/ 4/26	2448372.5	7.49033	-27.00535	-11.25099	5.22456	1.31887	0.40854	30.19899	5.40391	285.50	-21.87
91/ 4/30	2448376.5	7.50239	-27.00230	-11.25005	5.22404	1.32084	0.40936	30.19890	5.40396	285.53	-21.87
91/ 5/ 4	2448380.5	7.51446	-26.99925	-11.24910	5.22353	1.32281	0.41018	30.19882	5.40401	285.55	-21.87
91/ 5/ 8	2448384.5	7.52653	-26.99619	-11.24815	5.22301	1.32479	0.41100	30.19874	5.40406	285.58	-21.87
91/ 5/12	2448388.5	7.53859	-26.99313	-11.24720	5.22250	1.32676	0.41182	30.19866	5.40411	285.60	-21.87
91/ 5/16	2448392.5	7.55066	-26.99006	-11.24625	5.22198	1.32873	0.41264	30.19858	5.40416	285.63	-21.86
91/ 5/20	2448396.5	7.56272	-26.98699	-11.24529	5.22147	1.33071	0.41346	30.19849	5.40421	285.65	-21.86

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91/ 5/24	2448400.5	7.57478	-26.98391	-11.24434	5.22095	1.33268	0.41428	30.19841	5.40426	285.68	-21.86
91/ 5/28	2448404.5	7.58684	-26.98083	-11.24338	5.22043	1.33465	0.41511	30.19833	5.40431	285.71	-21.86
91/ 6/ 1	2448408.5	7.59890	-26.97775	-11.24242	5.21992	1.33663	0.41593	30.19825	5.40436	285.73	-21.86
91/ 6/ 5	2448412.5	7.61096	-26.97466	-11.24146	5.21940	1.33860	0.41675	30.19817	5.40441	285.76	-21.85
91/ 6/ 9	2448416.5	7.62302	-26.97156	-11.24049	5.21888	1.34058	0.41757	30.19808	5.40446	285.78	-21.85
91/ 6/13	2448420.5	7.63508	-26.96846	-11.23953	5.21836	1.34255	0.41839	30.19800	5.40451	285.81	-21.85
91/ 6/17	2448424.5	7.64713	-26.96536	-11.23856	5.21784	1.34452	0.41921	30.19792	5.40456	285.83	-21.85
91/ 6/21	2448428.5	7.65918	-26.96225	-11.23759	5.21731	1.34650	0.42003	30.19784	5.40461	285.86	-21.85
91/ 6/25	2448432.5	7.67124	-26.95914	-11.23662	5.21679	1.34847	0.42085	30.19776	5.40466	285.88	-21.85
91/ 6/29	2448436.5	7.68329	-26.95602	-11.23565	5.21627	1.35045	0.42167	30.19768	5.40472	285.91	-21.84
91/ 7/ 3	2448440.5	7.69534	-26.95290	-11.23467	5.21574	1.35242	0.42249	30.19760	5.40477	285.93	-21.84
91/ 7/ 7	2448444.5	7.70739	-26.94977	-11.23370	5.21522	1.35440	0.42332	30.19751	5.40482	285.96	-21.84
91/ 7/11	2448448.5	7.71943	-26.94664	-11.23272	5.21469	1.35637	0.42414	30.19743	5.40487	285.99	-21.84
91/ 7/15	2448452.5	7.73148	-26.94350	-11.23174	5.21417	1.35834	0.42496	30.19735	5.40493	286.01	-21.84
91/ 7/19	2448456.5	7.74352	-26.94036	-11.23075	5.21364	1.36032	0.42578	30.19727	5.40498	286.04	-21.83
91/ 7/23	2448460.5	7.75557	-26.93722	-11.22977	5.21311	1.36229	0.42660	30.19719	5.40503	286.06	-21.83
91/ 7/27	2448464.5	7.76761	-26.93407	-11.22878	5.21259	1.36427	0.42742	30.19711	5.40509	286.09	-21.83
91/ 7/31	2448468.5	7.77965	-26.93092	-11.22779	5.21206	1.36624	0.42825	30.19703	5.40514	286.11	-21.83
91/ 8/ 4	2448472.5	7.79169	-26.92776	-11.22680	5.21153	1.36822	0.42907	30.19695	5.40520	286.14	-21.83
91/ 8/ 8	2448476.5	7.80373	-26.92459	-11.22581	5.21100	1.37019	0.42989	30.19687	5.40525	286.16	-21.82
91/ 8/12	2448480.5	7.81577	-26.92143	-11.22482	5.21047	1.37217	0.43071	30.19679	5.40531	286.19	-21.82
91/ 8/16	2448484.5	7.82781	-26.91825	-11.22382	5.20994	1.37414	0.43153	30.19671	5.40536	286.21	-21.82
91/ 8/20	2448488.5	7.83984	-26.91508	-11.22282	5.20940	1.37612	0.43235	30.19663	5.40542	286.24	-21.82
91/ 8/24	2448492.5	7.85187	-26.91190	-11.22182	5.20887	1.37809	0.43318	30.19655	5.40547	286.27	-21.82
91/ 8/28	2448496.5	7.86391	-26.90871	-11.22082	5.20834	1.38007	0.43400	30.19647	5.40553	286.29	-21.81
91/ 9/ 1	2448500.5	7.87594	-26.90552	-11.21982	5.20780	1.38204	0.43482	30.19639	5.40558	286.32	-21.81
91/ 9/ 5	2448504.5	7.88797	-26.90232	-11.21881	5.20727	1.38402	0.43564	30.19631	5.40564	286.34	-21.81
91/ 9/ 9	2448508.5	7.90000	-26.89912	-11.21781	5.20673	1.38600	0.43646	30.19623	5.40570	286.37	-21.81
91/ 9/13	2448512.5	7.91203	-26.89592	-11.21680	5.20620	1.38797	0.43729	30.19615	5.40575	286.39	-21.81
91/ 9/17	2448516.5	7.92405	-26.89271	-11.21579	5.20566	1.38995	0.43811	30.19607	5.40581	286.42	-21.80
91/ 9/21	2448520.5	7.93608	-26.88950	-11.21477	5.20512	1.39192	0.43893	30.19599	5.40587	286.44	-21.80
91/ 9/25	2448524.5	7.94810	-26.88628	-11.21376	5.20458	1.39390	0.43975	30.19591	5.40592	286.47	-21.80
91/ 9/29	2448528.5	7.96013	-26.88306	-11.21274	5.20404	1.39587	0.44058	30.19583	5.40598	286.49	-21.80
91/10/ 3	2448532.5	7.97215	-26.87983	-11.21172	5.20350	1.39785	0.44140	30.19575	5.40604	286.52	-21.80
91/10/ 7	2448536.5	7.98417	-26.87660	-11.21070	5.20296	1.39983	0.44222	30.19567	5.40610	286.54	-21.79
91/10/11	2448540.5	7.99619	-26.87336	-11.20968	5.20242	1.40180	0.44304	30.19559	5.40615	286.57	-21.79
91/10/15	2448544.5	8.00820	-26.87012	-11.20865	5.20188	1.40378	0.44387	30.19551	5.40621	286.60	-21.79
91/10/19	2448548.5	8.02022	-26.86688	-11.20763	5.20133	1.40575	0.44469	30.19543	5.40627	286.62	-21.79
91/10/23	2448552.5	8.03224	-26.86363	-11.20660	5.20079	1.40773	0.44551	30.19535	5.40633	286.65	-21.79
91/10/27	2448556.5	8.04425	-26.86037	-11.20557	5.20024	1.40971	0.44633	30.19527	5.40639	286.67	-21.78
91/10/31	2448560.5	8.05626	-26.85711	-11.20454	5.19970	1.41168	0.44716	30.19519	5.40645	286.70	-21.78
91/11/ 4	2448564.5	8.06827	-26.85385	-11.20350	5.19915	1.41366	0.44798	30.19511	5.40651	286.72	-21.78
91/11/ 8	2448568.5	8.08028	-26.85058	-11.20247	5.19861	1.41564	0.44880	30.19503	5.40657	286.75	-21.78
91/11/12	2448572.5	8.09229	-26.84731	-11.20143	5.19806	1.41761	0.44963	30.19495	5.40663	286.77	-21.78
91/11/16	2448576.5	8.10430	-26.84403	-11.20039	5.19751	1.41959	0.45045	30.19488	5.40669	286.80	-21.77

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91/11/20	2448580.5	8.11631	-26.84075	-11.19935	5.19696	1.42157	0.45127	30.19480	5.40675	286.82	-21.77
91/11/24	2448584.5	8.12831	-26.83746	-11.19830	5.19641	1.42354	0.45210	30.19472	5.40681	286.85	-21.77
91/11/28	2448588.5	8.14032	-26.83417	-11.19726	5.19586	1.42552	0.45292	30.19464	5.40687	286.88	-21.77
91/12/ 2	2448592.5	8.15232	-26.83088	-11.19621	5.19531	1.42750	0.45374	30.19456	5.40693	286.90	-21.77
91/12/ 6	2448596.5	8.16432	-26.82758	-11.19516	5.19476	1.42947	0.45457	30.19448	5.40699	286.93	-21.76
91/12/10	2448600.5	8.17632	-26.82427	-11.19411	5.19420	1.43145	0.45539	30.19440	5.40705	286.95	-21.76
91/12/14	2448604.5	8.18832	-26.82096	-11.19306	5.19365	1.43343	0.45621	30.19433	5.40711	286.98	-21.76
91/12/18	2448608.5	8.20032	-26.81765	-11.19200	5.19310	1.43541	0.45704	30.19425	5.40717	287.00	-21.76
91/12/22	2448612.5	8.21231	-26.81433	-11.19095	5.19254	1.43738	0.45786	30.19417	5.40723	287.03	-21.75
91/12/26	2448616.5	8.22431	-26.81101	-11.18989	5.19198	1.43936	0.45868	30.19409	5.40730	287.05	-21.75
91/12/30	2448620.5	8.23630	-26.80768	-11.18883	5.19143	1.44134	0.45951	30.19401	5.40736	287.08	-21.75
92/ 1/ 3	2448624.5	8.24830	-26.80435	-11.18777	5.19087	1.44332	0.46033	30.19393	5.40742	287.10	-21.75
92/ 1/ 7	2448628.5	8.26029	-26.80101	-11.18670	5.19031	1.44529	0.46115	30.19386	5.40748	287.13	-21.75
92/ 1/11	2448632.5	8.27228	-26.79767	-11.18563	5.18975	1.44727	0.46198	30.19378	5.40754	287.16	-21.74
92/ 1/15	2448636.5	8.28427	-26.79433	-11.18457	5.18919	1.44925	0.46280	30.19370	5.40761	287.18	-21.74
92/ 1/19	2448640.5	8.29625	-26.79098	-11.18350	5.18863	1.45123	0.46363	30.19362	5.40767	287.21	-21.74
92/ 1/23	2448644.5	8.30824	-26.78762	-11.18242	5.18807	1.45321	0.46445	30.19354	5.40773	287.23	-21.74
92/ 1/27	2448648.5	8.32022	-26.78426	-11.18135	5.18751	1.45518	0.46527	30.19347	5.40780	287.26	-21.74
92/ 1/31	2448652.5	8.33221	-26.78090	-11.18027	5.18694	1.45716	0.46610	30.19339	5.40786	287.28	-21.73
92/ 2/ 4	2448656.5	8.34419	-26.77753	-11.17920	5.18638	1.45914	0.46692	30.19331	5.40792	287.31	-21.73
92/ 2/ 8	2448660.5	8.35617	-26.77416	-11.17812	5.18582	1.46112	0.46775	30.19323	5.40799	287.33	-21.73
92/ 2/12	2448664.5	8.36815	-26.77078	-11.17704	5.18525	1.46310	0.46857	30.19316	5.40805	287.36	-21.73
92/ 2/16	2448668.5	8.38013	-26.76740	-11.17595	5.18468	1.46507	0.46939	30.19308	5.40812	287.38	-21.72
92/ 2/20	2448672.5	8.39210	-26.76401	-11.17487	5.18412	1.46705	0.47022	30.19300	5.40818	287.41	-21.72
92/ 2/24	2448676.5	8.40408	-26.76062	-11.17378	5.18355	1.46903	0.47104	30.19292	5.40825	287.43	-21.72
92/ 2/28	2448680.5	8.41605	-26.75722	-11.17269	5.18298	1.47101	0.47187	30.19285	5.40831	287.46	-21.72
92/ 3/ 3	2448684.5	8.42803	-26.75382	-11.17160	5.18241	1.47299	0.47269	30.19277	5.40838	287.49	-21.72
92/ 3/ 7	2448688.5	8.44000	-26.75042	-11.17051	5.18184	1.47497	0.47352	30.19269	5.40844	287.51	-21.71
92/ 3/11	2448692.5	8.45197	-26.74701	-11.16941	5.18127	1.47695	0.47434	30.19261	5.40851	287.54	-21.71
92/ 3/15	2448696.5	8.46394	-26.74359	-11.16832	5.18070	1.47893	0.47517	30.19254	5.40857	287.56	-21.71
92/ 3/19	2448700.5	8.47591	-26.74017	-11.16722	5.18013	1.48090	0.47599	30.19246	5.40864	287.59	-21.71
92/ 3/23	2448704.5	8.48787	-26.73675	-11.16612	5.17955	1.48288	0.47682	30.19238	5.40870	287.61	-21.71
92/ 3/27	2448708.5	8.49984	-26.73332	-11.16501	5.17898	1.48486	0.47764	30.19230	5.40877	287.64	-21.70
92/ 3/31	2448712.5	8.51180	-26.72989	-11.16391	5.17840	1.48684	0.47847	30.19223	5.40883	287.66	-21.70
92/ 4/ 4	2448716.5	8.52376	-26.72645	-11.16280	5.17783	1.48882	0.47929	30.19215	5.40890	287.69	-21.70
92/ 4/ 8	2448720.5	8.53572	-26.72301	-11.16169	5.17725	1.49080	0.48012	30.19207	5.40897	287.71	-21.70
92/ 4/12	2448724.5	8.54768	-26.71956	-11.16058	5.17667	1.49278	0.48094	30.19200	5.40903	287.74	-21.69
92/ 4/16	2448728.5	8.55964	-26.71611	-11.15947	5.17609	1.49476	0.48177	30.19192	5.40910	287.77	-21.69
92/ 4/20	2448732.5	8.57160	-26.71266	-11.15836	5.17551	1.49674	0.48259	30.19184	5.40917	287.79	-21.69
92/ 4/24	2448736.5	8.58355	-26.70920	-11.15724	5.17494	1.49872	0.48342	30.19177	5.40923	287.82	-21.69
92/ 4/28	2448740.5	8.59551	-26.70573	-11.15612	5.17435	1.50070	0.48424	30.19169	5.40930	287.84	-21.69
92/ 5/ 2	2448744.5	8.60746	-26.70226	-11.15501	5.17377	1.50268	0.48507	30.19161	5.40937	287.87	-21.68
92/ 5/ 6	2448748.5	8.61941	-26.69879	-11.15388	5.17319	1.50466	0.48589	30.19154	5.40943	287.89	-21.68
92/ 5/10	2448752.5	8.63136	-26.69531	-11.15276	5.17261	1.50664	0.48672	30.19146	5.40950	287.92	-21.68
92/ 5/14	2448756.5	8.64331	-26.69183	-11.15163	5.17202	1.50862	0.48754	30.19138	5.40957	287.94	-21.68

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92/ 5/18	2448760.5	8.65526	-26.68834	-11.15051	5.17144	1.51060	0.48837	30.19131	5.40964	287.97	-21.67
92/ 5/22	2448764.5	8.66721	-26.68485	-11.14938	5.17085	1.51258	0.48920	30.19123	5.40971	287.99	-21.67
92/ 5/26	2448768.5	8.67915	-26.68135	-11.14825	5.17027	1.51456	0.49002	30.19115	5.40977	288.02	-21.67
92/ 5/30	2448772.5	8.69110	-26.67785	-11.14711	5.16968	1.51654	0.49085	30.19108	5.40984	288.04	-21.67
92/ 6/ 3	2448776.5	8.70304	-26.67435	-11.14598	5.16909	1.51852	0.49167	30.19100	5.40991	288.07	-21.67
92/ 6/ 7	2448780.5	8.71498	-26.67084	-11.14484	5.16850	1.52050	0.49250	30.19092	5.40998	288.10	-21.66
92/ 6/11	2448784.5	8.72692	-26.66732	-11.14370	5.16791	1.52248	0.49333	30.19085	5.41005	288.12	-21.66
92/ 6/15	2448788.5	8.73886	-26.66380	-11.14256	5.16732	1.52446	0.49415	30.19077	5.41012	288.15	-21.66
92/ 6/19	2448792.5	8.75079	-26.66028	-11.14142	5.16673	1.52644	0.49498	30.19069	5.41019	288.17	-21.66
92/ 6/23	2448796.5	8.76273	-26.65675	-11.14028	5.16614	1.52842	0.49580	30.19062	5.41025	288.20	-21.65
92/ 6/27	2448800.5	8.77466	-26.65322	-11.13913	5.16554	1.53040	0.49663	30.19054	5.41032	288.22	-21.65
92/ 7/ 1	2448804.5	8.78659	-26.64968	-11.13798	5.16495	1.53238	0.49746	30.19047	5.41039	288.25	-21.65
92/ 7/ 5	2448808.5	8.79853	-26.64614	-11.13683	5.16435	1.53436	0.49828	30.19039	5.41046	288.27	-21.65
92/ 7/ 9	2448812.5	8.81046	-26.64259	-11.13568	5.16376	1.53634	0.49911	30.19031	5.41053	288.30	-21.64
92/ 7/13	2448816.5	8.82238	-26.63904	-11.13453	5.16316	1.53833	0.49994	30.19024	5.41060	288.32	-21.64
92/ 7/17	2448820.5	8.83431	-26.63548	-11.13337	5.16256	1.54031	0.50076	30.19016	5.41067	288.35	-21.64
92/ 7/21	2448824.5	8.84624	-26.63192	-11.13221	5.16196	1.54229	0.50159	30.19008	5.41074	288.37	-21.64
92/ 7/25	2448828.5	8.85816	-26.62835	-11.13105	5.16137	1.54427	0.50241	30.19001	5.41081	288.40	-21.64
92/ 7/29	2448832.5	8.87008	-26.62478	-11.12989	5.16076	1.54625	0.50324	30.18993	5.41088	288.43	-21.63
92/ 8/ 2	2448836.5	8.88201	-26.62121	-11.12873	5.16016	1.54823	0.50407	30.18986	5.41095	288.45	-21.63
92/ 8/ 6	2448840.5	8.89393	-26.61763	-11.12756	5.15956	1.55021	0.50489	30.18978	5.41102	288.48	-21.63
92/ 8/10	2448844.5	8.90585	-26.61405	-11.12639	5.15896	1.55219	0.50572	30.18970	5.41109	288.50	-21.63
92/ 8/14	2448848.5	8.91776	-26.61046	-11.12522	5.15836	1.55418	0.50655	30.18963	5.41116	288.53	-21.62
92/ 8/18	2448852.5	8.92968	-26.60687	-11.12405	5.15775	1.55616	0.50738	30.18955	5.41123	288.55	-21.62
92/ 8/22	2448856.5	8.94159	-26.60327	-11.12288	5.15715	1.55814	0.50820	30.18948	5.41130	288.58	-21.62
92/ 8/26	2448860.5	8.95351	-26.59967	-11.12171	5.15654	1.56012	0.50903	30.18940	5.41138	288.60	-21.62
92/ 8/30	2448864.5	8.96542	-26.59606	-11.12053	5.15593	1.56210	0.50986	30.18933	5.41145	288.63	-21.61
92/ 9/ 3	2448868.5	8.97733	-26.59245	-11.11935	5.15532	1.56408	0.51068	30.18925	5.41152	288.65	-21.61
92/ 9/ 7	2448872.5	8.98924	-26.58884	-11.11817	5.15472	1.56607	0.51151	30.18917	5.41159	288.68	-21.61
92/ 9/11	2448876.5	9.00115	-26.58521	-11.11699	5.15411	1.56805	0.51234	30.18910	5.41166	288.70	-21.61
92/ 9/15	2448880.5	9.01305	-26.58159	-11.11580	5.15349	1.57003	0.51317	30.18902	5.41173	288.73	-21.61
92/ 9/19	2448884.5	9.02496	-26.57796	-11.11462	5.15288	1.57201	0.51399	30.18895	5.41180	288.76	-21.60
92/ 9/23	2448888.5	9.03686	-26.57433	-11.11343	5.15227	1.57399	0.51482	30.18887	5.41188	288.78	-21.60
92/ 9/27	2448892.5	9.04876	-26.57069	-11.11224	5.15166	1.57598	0.51565	30.18880	5.41195	288.81	-21.60
92/10/ 1	2448896.5	9.06066	-26.56705	-11.11104	5.15104	1.57796	0.51647	30.18872	5.41202	288.83	-21.60
92/10/ 5	2448900.5	9.07256	-26.56340	-11.10985	5.15043	1.57994	0.51730	30.18864	5.41209	288.86	-21.59
92/10/ 9	2448904.5	9.08446	-26.55975	-11.10865	5.14981	1.58192	0.51813	30.18857	5.41216	288.88	-21.59
92/10/13	2448908.5	9.09636	-26.55609	-11.10746	5.14920	1.58391	0.51896	30.18849	5.41224	288.91	-21.59
92/10/17	2448912.5	9.10825	-26.55243	-11.10626	5.14858	1.58589	0.51979	30.18842	5.41231	288.93	-21.59
92/10/21	2448916.5	9.12014	-26.54876	-11.10506	5.14796	1.58787	0.52061	30.18834	5.41238	288.96	-21.58
92/10/25	2448920.5	9.13204	-26.54509	-11.10385	5.14734	1.58985	0.52144	30.18827	5.41245	288.98	-21.58
92/10/29	2448924.5	9.14393	-26.54142	-11.10265	5.14672	1.59184	0.52227	30.18819	5.41252	289.01	-21.58
92/11/ 2	2448928.5	9.15581	-26.53774	-11.10144	5.14610	1.59382	0.52310	30.18812	5.41260	289.04	-21.58
92/11/ 6	2448932.5	9.16770	-26.53405	-11.10023	5.14548	1.59580	0.52392	30.18804	5.41267	289.06	-21.57
92/11/10	2448936.5	9.17959	-26.53036	-11.09902	5.14485	1.59778	0.52475	30.18796	5.41274	289.09	-21.57

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92/11/14	2448940.5	9.19147	-26.52667	-11.09780	5.14423	1.59977	0.52558	30.18789	5.41282	289.11	-21.57
92/11/18	2448944.5	9.20336	-26.52297	-11.09659	5.14360	1.60175	0.52641	30.18781	5.41289	289.14	-21.57
92/11/22	2448948.5	9.21524	-26.51927	-11.09537	5.14298	1.60373	0.52724	30.18774	5.41296	289.16	-21.56
92/11/26	2448952.5	9.22712	-26.51556	-11.09415	5.14235	1.60572	0.52806	30.18766	5.41304	289.19	-21.56
92/11/30	2448956.5	9.23900	-26.51185	-11.09293	5.14172	1.60770	0.52889	30.18759	5.41311	289.21	-21.56
92/12/ 4	2448960.5	9.25088	-26.50813	-11.09171	5.14110	1.60968	0.52972	30.18751	5.41318	289.24	-21.56
92/12/ 8	2448964.5	9.26275	-26.50441	-11.09048	5.14047	1.61167	0.53055	30.18744	5.41326	289.26	-21.55
92/12/12	2448968.5	9.27463	-26.50069	-11.08926	5.13984	1.61365	0.53138	30.18736	5.41333	289.29	-21.55
92/12/16	2448972.5	9.28650	-26.49696	-11.08803	5.13920	1.61563	0.53221	30.18728	5.41340	289.31	-21.55
92/12/20	2448976.5	9.29837	-26.49322	-11.08680	5.13857	1.61761	0.53304	30.18721	5.41348	289.34	-21.55
92/12/24	2448980.5	9.31024	-26.48948	-11.08557	5.13794	1.61960	0.53386	30.18713	5.41355	289.37	-21.54
92/12/28	2448984.5	9.32211	-26.48574	-11.08433	5.13730	1.62158	0.53469	30.18706	5.41362	289.39	-21.54
93/ 1/ 1	2448988.5	9.33398	-26.48199	-11.08310	5.13667	1.62356	0.53552	30.18698	5.41370	289.42	-21.54
93/ 1/ 5	2448992.5	9.34584	-26.47824	-11.08186	5.13603	1.62555	0.53635	30.18691	5.41377	289.44	-21.54
93/ 1/ 9	2448996.5	9.35771	-26.47448	-11.08062	5.13540	1.62753	0.53718	30.18683	5.41385	289.47	-21.53
93/ 1/13	2449000.5	9.36957	-26.47072	-11.07938	5.13476	1.62952	0.53801	30.18676	5.41392	289.49	-21.53
93/ 1/17	2449004.5	9.38143	-26.46695	-11.07813	5.13412	1.63150	0.53884	30.18668	5.41399	289.52	-21.53
93/ 1/21	2449008.5	9.39329	-26.46318	-11.07689	5.13348	1.63348	0.53967	30.18661	5.41407	289.54	-21.53
93/ 1/25	2449012.5	9.40515	-26.45940	-11.07564	5.13284	1.63547	0.54049	30.18653	5.41414	289.57	-21.52
93/ 1/29	2449016.5	9.41701	-26.45562	-11.07439	5.13220	1.63745	0.54132	30.18646	5.41422	289.59	-21.52
93/ 2/ 2	2449020.5	9.42886	-26.45184	-11.07314	5.13156	1.63943	0.54215	30.18638	5.41429	289.62	-21.52
93/ 2/ 6	2449024.5	9.44072	-26.44805	-11.07188	5.13091	1.64142	0.54298	30.18631	5.41436	289.64	-21.52
93/ 2/10	2449028.5	9.45257	-26.44425	-11.07063	5.13027	1.64340	0.54381	30.18623	5.41444	289.67	-21.51
93/ 2/14	2449032.5	9.46442	-26.44046	-11.06937	5.12962	1.64539	0.54464	30.18615	5.41451	289.69	-21.51
93/ 2/18	2449036.5	9.47627	-26.43665	-11.06811	5.12898	1.64737	0.54547	30.18608	5.41459	289.72	-21.51
93/ 2/22	2449040.5	9.48812	-26.43284	-11.06685	5.12833	1.64935	0.54630	30.18600	5.41466	289.75	-21.51
93/ 2/26	2449044.5	9.49997	-26.42903	-11.06559	5.12768	1.65134	0.54713	30.18593	5.41474	289.77	-21.50
93/ 3/ 2	2449048.5	9.51181	-26.42521	-11.06432	5.12703	1.65332	0.54796	30.18585	5.41481	289.80	-21.50
93/ 3/ 6	2449052.5	9.52365	-26.42139	-11.06306	5.12638	1.65531	0.54879	30.18578	5.41489	289.82	-21.50
93/ 3/10	2449056.5	9.53550	-26.41757	-11.06179	5.12573	1.65729	0.54962	30.18570	5.41496	289.85	-21.50
93/ 3/14	2449060.5	9.54734	-26.41374	-11.06052	5.12508	1.65927	0.55044	30.18563	5.41504	289.87	-21.49
93/ 3/18	2449064.5	9.55918	-26.40990	-11.05924	5.12443	1.66126	0.55127	30.18555	5.41511	289.90	-21.49
93/ 3/22	2449068.5	9.57101	-26.40606	-11.05797	5.12377	1.66324	0.55210	30.18548	5.41519	289.92	-21.49
93/ 3/26	2449072.5	9.58285	-26.40221	-11.05669	5.12312	1.66523	0.55293	30.18540	5.41526	289.95	-21.49
93/ 3/30	2449076.5	9.59468	-26.39837	-11.05542	5.12246	1.66721	0.55376	30.18533	5.41534	289.97	-21.48
93/ 4/ 3	2449080.5	9.60652	-26.39451	-11.05414	5.12181	1.66920	0.55459	30.18525	5.41541	290.00	-21.48
93/ 4/ 7	2449084.5	9.61835	-26.39065	-11.05285	5.12115	1.67118	0.55542	30.18517	5.41549	290.02	-21.48
93/ 4/11	2449088.5	9.63018	-26.38679	-11.05157	5.12049	1.67316	0.55625	30.18510	5.41556	290.05	-21.48
93/ 4/15	2449092.5	9.64201	-26.38292	-11.05028	5.11983	1.67515	0.55708	30.18502	5.41564	290.08	-21.47
93/ 4/19	2449096.5	9.65383	-26.37905	-11.04900	5.11917	1.67713	0.55791	30.18495	5.41571	290.10	-21.47
93/ 4/23	2449100.5	9.66566	-26.37517	-11.04771	5.11851	1.67912	0.55874	30.18487	5.41579	290.13	-21.47
93/ 4/27	2449104.5	9.67748	-26.37129	-11.04641	5.11785	1.68110	0.55957	30.18480	5.41586	290.15	-21.47
93/ 5/ 1	2449108.5	9.68931	-26.36741	-11.04512	5.11718	1.68309	0.56040	30.18472	5.41594	290.18	-21.46
93/ 5/ 5	2449112.5	9.70113	-26.36352	-11.04382	5.11652	1.68507	0.56123	30.18465	5.41601	290.20	-21.46
93/ 5/ 9	2449116.5	9.71295	-26.35962	-11.04253	5.11585	1.68706	0.56206	30.18457	5.41609	290.23	-21.46

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93/ 5/13	2449120.5	9.72476	-26.35572	-11.04123	5.11519	1.68904	0.56289	30.18450	5.41617	290.25	-21.46
93/ 5/17	2449124.5	9.73658	-26.35182	-11.03993	5.11452	1.69103	0.56372	30.18442	5.41624	290.28	-21.45
93/ 5/21	2449128.5	9.74839	-26.34791	-11.03862	5.11385	1.69301	0.56455	30.18434	5.41632	290.30	-21.45
93/ 5/25	2449132.5	9.76021	-26.34399	-11.03732	5.11318	1.69500	0.56538	30.18427	5.41639	290.33	-21.45
93/ 5/29	2449136.5	9.77202	-26.34008	-11.03601	5.11251	1.69698	0.56621	30.18419	5.41647	290.35	-21.45
93/ 6/ 2	2449140.5	9.78383	-26.33615	-11.03470	5.11184	1.69896	0.56704	30.18412	5.41654	290.38	-21.44
93/ 6/ 6	2449144.5	9.79564	-26.33223	-11.03339	5.11117	1.70095	0.56787	30.18404	5.41662	290.41	-21.44
93/ 6/10	2449148.5	9.80744	-26.32829	-11.03208	5.11050	1.70293	0.56870	30.18397	5.41669	290.43	-21.44
93/ 6/14	2449152.5	9.81925	-26.32436	-11.03076	5.10982	1.70492	0.56954	30.18389	5.41677	290.46	-21.44
93/ 6/18	2449156.5	9.83105	-26.32042	-11.02945	5.10915	1.70690	0.57037	30.18382	5.41685	290.48	-21.43
93/ 6/22	2449160.5	9.84286	-26.31647	-11.02813	5.10847	1.70889	0.57120	30.18374	5.41692	290.51	-21.43
93/ 6/26	2449164.5	9.85466	-26.31252	-11.02681	5.10779	1.71087	0.57203	30.18366	5.41700	290.53	-21.43
93/ 6/30	2449168.5	9.86646	-26.30857	-11.02548	5.10712	1.71286	0.57286	30.18359	5.41707	290.56	-21.42
93/ 7/ 4	2449172.5	9.87825	-26.30461	-11.02416	5.10644	1.71484	0.57369	30.18351	5.41715	290.58	-21.42
93/ 7/ 8	2449176.5	9.89005	-26.30064	-11.02283	5.10576	1.71683	0.57452	30.18344	5.41722	290.61	-21.42
93/ 7/12	2449180.5	9.90184	-26.29668	-11.02151	5.10508	1.71881	0.57535	30.18336	5.41730	290.63	-21.42
93/ 7/16	2449184.5	9.91364	-26.29270	-11.02018	5.10439	1.72080	0.57618	30.18328	5.41738	290.66	-21.41
93/ 7/20	2449188.5	9.92543	-26.28872	-11.01884	5.10371	1.72278	0.57701	30.18321	5.41745	290.68	-21.41
93/ 7/24	2449192.5	9.93722	-26.28474	-11.01751	5.10303	1.72477	0.57784	30.18313	5.41753	290.71	-21.41
93/ 7/28	2449196.5	9.94901	-26.28076	-11.01617	5.10234	1.72675	0.57867	30.18306	5.41760	290.73	-21.41
93/ 8/ 1	2449200.5	9.96079	-26.27676	-11.01484	5.10165	1.72874	0.57950	30.18298	5.41768	290.76	-21.40
93/ 8/ 5	2449204.5	9.97258	-26.27277	-11.01350	5.10097	1.73072	0.58033	30.18291	5.41775	290.79	-21.40
93/ 8/ 9	2449208.5	9.98436	-26.26877	-11.01215	5.10028	1.73271	0.58117	30.18283	5.41783	290.81	-21.40
93/ 8/13	2449212.5	9.99614	-26.26476	-11.01081	5.09959	1.73469	0.58200	30.18275	5.41791	290.84	-21.40
93/ 8/17	2449216.5	10.00792	-26.26075	-11.00947	5.09890	1.73668	0.58283	30.18268	5.41798	290.86	-21.39
93/ 8/21	2449220.5	10.01970	-26.25674	-11.00812	5.09821	1.73866	0.58366	30.18260	5.41806	290.89	-21.39
93/ 8/25	2449224.5	10.03148	-26.25272	-11.00677	5.09752	1.74065	0.58449	30.18252	5.41813	290.91	-21.39
93/ 8/29	2449228.5	10.04325	-26.24870	-11.00542	5.09682	1.74263	0.58532	30.18245	5.41821	290.94	-21.38
93/ 9/ 2	2449232.5	10.05503	-26.24467	-11.00406	5.09613	1.74462	0.58615	30.18237	5.41829	290.96	-21.38
93/ 9/ 6	2449236.5	10.06680	-26.24064	-11.00271	5.09544	1.74660	0.58698	30.18230	5.41836	290.99	-21.38
93/ 9/10	2449240.5	10.07857	-26.23660	-11.00135	5.09474	1.74859	0.58782	30.18222	5.41844	291.01	-21.38
93/ 9/14	2449244.5	10.09034	-26.23256	-10.99999	5.09404	1.75057	0.58865	30.18214	5.41851	291.04	-21.37
93/ 9/18	2449248.5	10.10211	-26.22851	-10.99863	5.09334	1.75256	0.58948	30.18207	5.41859	291.06	-21.37
93/ 9/22	2449252.5	10.11387	-26.22446	-10.99727	5.09264	1.75455	0.59031	30.18199	5.41866	291.09	-21.37
93/ 9/26	2449256.5	10.12564	-26.22040	-10.99591	5.09194	1.75653	0.59114	30.18192	5.41874	291.12	-21.37
93/ 9/30	2449260.5	10.13740	-26.21634	-10.99454	5.09124	1.75852	0.59197	30.18184	5.41882	291.14	-21.36
93/10/ 4	2449264.5	10.14916	-26.21228	-10.99317	5.09054	1.76050	0.59280	30.18176	5.41889	291.17	-21.36
93/10/ 8	2449268.5	10.16092	-26.20821	-10.99180	5.08984	1.76249	0.59363	30.18169	5.41897	291.19	-21.36
93/10/12	2449272.5	10.17268	-26.20414	-10.99043	5.08913	1.76447	0.59447	30.18161	5.41904	291.22	-21.35
93/10/16	2449276.5	10.18443	-26.20006	-10.98905	5.08843	1.76646	0.59530	30.18153	5.41912	291.24	-21.35
93/10/20	2449280.5	10.19619	-26.19597	-10.98768	5.08772	1.76844	0.59613	30.18146	5.41919	291.27	-21.35
93/10/24	2449284.5	10.20794	-26.19189	-10.98630	5.08701	1.77043	0.59696	30.18138	5.41927	291.29	-21.35
93/10/28	2449288.5	10.21969	-26.18779	-10.98492	5.08631	1.77241	0.59779	30.18130	5.41934	291.32	-21.34
93/11/ 1	2449292.5	10.23144	-26.18370	-10.98354	5.08560	1.77440	0.59862	30.18123	5.41942	291.34	-21.34
93/11/ 5	2449296.5	10.24319	-26.17959	-10.98215	5.08489	1.77638	0.59946	30.18115	5.41950	291.37	-21.34

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93/11/ 9	2449300.5	10.25493	-26.17549	-10.98077	5.08417	1.77837	0.60029	30.18107	5.41957	291.39	-21.34
93/11/13	2449304.5	10.26668	-26.17138	-10.97938	5.08346	1.78035	0.60112	30.18100	5.41965	291.42	-21.33
93/11/17	2449308.5	10.27842	-26.16726	-10.97799	5.08275	1.78234	0.60195	30.18092	5.41972	291.44	-21.33
93/11/21	2449312.5	10.29016	-26.16314	-10.97660	5.08203	1.78432	0.60278	30.18084	5.41980	291.47	-21.33
93/11/25	2449316.5	10.30190	-26.15902	-10.97520	5.08132	1.78631	0.60361	30.18076	5.41987	291.50	-21.32
93/11/29	2449320.5	10.31364	-26.15489	-10.97381	5.08060	1.78829	0.60445	30.18069	5.41995	291.52	-21.32
93/12/ 3	2449324.5	10.32538	-26.15076	-10.97241	5.07988	1.79028	0.60528	30.18061	5.42002	291.55	-21.32
93/12/ 7	2449328.5	10.33711	-26.14662	-10.97101	5.07916	1.79226	0.60611	30.18053	5.42010	291.57	-21.32
93/12/11	2449332.5	10.34884	-26.14248	-10.96961	5.07844	1.79425	0.60694	30.18046	5.42017	291.60	-21.31
93/12/15	2449336.5	10.36057	-26.13833	-10.96821	5.07772	1.79623	0.60777	30.18038	5.42025	291.62	-21.31
93/12/19	2449340.5	10.37230	-26.13418	-10.96680	5.07700	1.79822	0.60861	30.18030	5.42032	291.65	-21.31
93/12/23	2449344.5	10.38403	-26.13002	-10.96540	5.07628	1.80020	0.60944	30.18022	5.42040	291.67	-21.30
93/12/27	2449348.5	10.39576	-26.12586	-10.96399	5.07555	1.80219	0.61027	30.18015	5.42047	291.70	-21.30
93/12/31	2449352.5	10.40748	-26.12169	-10.96258	5.07483	1.80417	0.61110	30.18007	5.42055	291.72	-21.30
94/ 1/ 4	2449356.5	10.41921	-26.11752	-10.96116	5.07410	1.80615	0.61193	30.17999	5.42062	291.75	-21.30
94/ 1/ 8	2449360.5	10.43093	-26.11335	-10.95975	5.07337	1.80814	0.61277	30.17992	5.42070	291.77	-21.29
94/ 1/12	2449364.5	10.44265	-26.10917	-10.95833	5.07265	1.81012	0.61360	30.17984	5.42077	291.80	-21.29
94/ 1/16	2449368.5	10.45436	-26.10498	-10.95691	5.07192	1.81211	0.61443	30.17976	5.42085	291.82	-21.29
94/ 1/20	2449372.5	10.46608	-26.10080	-10.95549	5.07119	1.81409	0.61526	30.17968	5.42092	291.85	-21.29
94/ 1/24	2449376.5	10.47780	-26.09660	-10.95407	5.07046	1.81608	0.61609	30.17961	5.42100	291.88	-21.28
94/ 1/28	2449380.5	10.48951	-26.09241	-10.95265	5.06972	1.81806	0.61693	30.17953	5.42107	291.90	-21.28
94/ 2/ 1	2449384.5	10.50122	-26.08820	-10.95122	5.06899	1.82005	0.61776	30.17945	5.42115	291.93	-21.28
94/ 2/ 5	2449388.5	10.51293	-26.08400	-10.94979	5.06825	1.82203	0.61859	30.17937	5.42122	291.95	-21.27
94/ 2/ 9	2449392.5	10.52464	-26.07978	-10.94836	5.06752	1.82402	0.61942	30.17929	5.42130	291.98	-21.27
94/ 2/13	2449396.5	10.53634	-26.07557	-10.94693	5.06678	1.82600	0.62026	30.17922	5.42137	292.00	-21.27
94/ 2/17	2449400.5	10.54805	-26.07135	-10.94550	5.06604	1.82799	0.62109	30.17914	5.42145	292.03	-21.27
94/ 2/21	2449404.5	10.55975	-26.06712	-10.94406	5.06530	1.82997	0.62192	30.17906	5.42152	292.05	-21.26
94/ 2/25	2449408.5	10.57145	-26.06289	-10.94262	5.06456	1.83195	0.62275	30.17898	5.42159	292.08	-21.26
94/ 3/ 1	2449412.5	10.58315	-26.05866	-10.94118	5.06382	1.83394	0.62358	30.17890	5.42167	292.10	-21.26
94/ 3/ 5	2449416.5	10.59485	-26.05442	-10.93974	5.06308	1.83592	0.62442	30.17883	5.42174	292.13	-21.25
94/ 3/ 9	2449420.5	10.60654	-26.05018	-10.93830	5.06234	1.83791	0.62525	30.17875	5.42182	292.15	-21.25
94/ 3/13	2449424.5	10.61824	-26.04593	-10.93685	5.06159	1.83989	0.62608	30.17867	5.42189	292.18	-21.25
94/ 3/17	2449428.5	10.62993	-26.04167	-10.93541	5.06085	1.84188	0.62691	30.17859	5.42197	292.20	-21.24
94/ 3/21	2449432.5	10.64162	-26.03742	-10.93396	5.06010	1.84386	0.62775	30.17851	5.42204	292.23	-21.24
94/ 3/25	2449436.5	10.65331	-26.03316	-10.93251	5.05935	1.84584	0.62858	30.17843	5.42211	292.26	-21.24
94/ 3/29	2449440.5	10.66500	-26.02889	-10.93105	5.05860	1.84783	0.62941	30.17835	5.42219	292.28	-21.24
94/ 4/ 2	2449444.5	10.67668	-26.02462	-10.92960	5.05785	1.84981	0.63024	30.17828	5.42226	292.31	-21.23
94/ 4/ 6	2449448.5	10.68836	-26.02034	-10.92814	5.05710	1.85180	0.63108	30.17820	5.42233	292.33	-21.23
94/ 4/10	2449452.5	10.70005	-26.01606	-10.92668	5.05635	1.85378	0.63191	30.17812	5.42241	292.36	-21.23
94/ 4/14	2449456.5	10.71173	-26.01178	-10.92522	5.05560	1.85576	0.63274	30.17804	5.42248	292.38	-21.22
94/ 4/18	2449460.5	10.72341	-26.00749	-10.92376	5.05484	1.85775	0.63357	30.17796	5.42255	292.41	-21.22
94/ 4/22	2449464.5	10.73508	-26.00319	-10.92229	5.05409	1.85973	0.63441	30.17788	5.42263	292.43	-21.22
94/ 4/26	2449468.5	10.74676	-25.99889	-10.92083	5.05333	1.86172	0.63524	30.17780	5.42270	292.46	-21.22
94/ 4/30	2449472.5	10.75843	-25.99459	-10.91936	5.05258	1.86370	0.63607	30.17772	5.42277	292.48	-21.21
94/ 5/ 4	2449476.5	10.77010	-25.99028	-10.91789	5.05182	1.86568	0.63690	30.17764	5.42285	292.51	-21.21

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94/ 5/ 8	2449480.5	10.78177	-25.98597	-10.91642	5.05106	1.86767	0.63774	30.17757	5.42292	292.53	-21.21
94/ 5/12	2449484.5	10.79344	-25.98165	-10.91494	5.05030	1.86965	0.63857	30.17749	5.42299	292.56	-21.20
94/ 5/16	2449488.5	10.80511	-25.97733	-10.91347	5.04953	1.87163	0.63940	30.17741	5.42307	292.58	-21.20
94/ 5/20	2449492.5	10.81677	-25.97301	-10.91199	5.04877	1.87362	0.64023	30.17733	5.42314	292.61	-21.20
94/ 5/24	2449496.5	10.82843	-25.96868	-10.91051	5.04801	1.87560	0.64107	30.17725	5.42321	292.64	-21.20
94/ 5/28	2449500.5	10.84009	-25.96434	-10.90903	5.04724	1.87758	0.64190	30.17717	5.42328	292.66	-21.19
94/ 6/ 1	2449504.5	10.85175	-25.96000	-10.90754	5.04648	1.87957	0.64273	30.17709	5.42336	292.69	-21.19
94/ 6/ 5	2449508.5	10.86341	-25.95566	-10.90606	5.04571	1.88155	0.64356	30.17701	5.42343	292.71	-21.19
94/ 6/ 9	2449512.5	10.87507	-25.95131	-10.90457	5.04494	1.88353	0.64440	30.17693	5.42350	292.74	-21.18
94/ 6/13	2449516.5	10.88672	-25.94695	-10.90308	5.04417	1.88551	0.64523	30.17685	5.42357	292.76	-21.18
94/ 6/17	2449520.5	10.89837	-25.94260	-10.90159	5.04340	1.88750	0.64606	30.17677	5.42364	292.79	-21.18
94/ 6/21	2449524.5	10.91002	-25.93823	-10.90009	5.04263	1.88948	0.64689	30.17669	5.42372	292.81	-21.17
94/ 6/25	2449528.5	10.92167	-25.93387	-10.89860	5.04185	1.89146	0.64773	30.17661	5.42379	292.84	-21.17
94/ 6/29	2449532.5	10.93332	-25.92949	-10.89710	5.04108	1.89345	0.64856	30.17653	5.42386	292.86	-21.17
94/ 7/ 3	2449536.5	10.94496	-25.92512	-10.89560	5.04031	1.89543	0.64939	30.17645	5.42393	292.89	-21.17
94/ 7/ 7	2449540.5	10.95660	-25.92074	-10.89410	5.03953	1.89741	0.65023	30.17637	5.42400	292.91	-21.16
94/ 7/11	2449544.5	10.96825	-25.91635	-10.89260	5.03875	1.89939	0.65106	30.17629	5.42407	292.94	-21.16
94/ 7/15	2449548.5	10.97989	-25.91196	-10.89109	5.03797	1.90138	0.65189	30.17621	5.42415	292.96	-21.16
94/ 7/19	2449552.5	10.99152	-25.90757	-10.88959	5.03719	1.90336	0.65272	30.17613	5.42422	292.99	-21.15
94/ 7/23	2449556.5	11.00316	-25.90317	-10.88808	5.03641	1.90534	0.65356	30.17605	5.42429	293.01	-21.15
94/ 7/27	2449560.5	11.01479	-25.89876	-10.88657	5.03563	1.90732	0.65439	30.17597	5.42436	293.04	-21.15
94/ 7/31	2449564.5	11.02643	-25.89435	-10.88505	5.03485	1.90930	0.65522	30.17588	5.42443	293.07	-21.14
94/ 8/ 4	2449568.5	11.03806	-25.88994	-10.88354	5.03406	1.91129	0.65605	30.17580	5.42450	293.09	-21.14
94/ 8/ 8	2449572.5	11.04968	-25.88552	-10.88202	5.03328	1.91327	0.65689	30.17572	5.42457	293.12	-21.14
94/ 8/12	2449576.5	11.06131	-25.88110	-10.88050	5.03249	1.91525	0.65772	30.17564	5.42464	293.14	-21.14
94/ 8/16	2449580.5	11.07294	-25.87667	-10.87898	5.03170	1.91723	0.65855	30.17556	5.42471	293.17	-21.13
94/ 8/20	2449584.5	11.08456	-25.87224	-10.87746	5.03092	1.91921	0.65938	30.17548	5.42478	293.19	-21.13
94/ 8/24	2449588.5	11.09618	-25.86781	-10.87594	5.03013	1.92119	0.66022	30.17540	5.42485	293.22	-21.13
94/ 8/28	2449592.5	11.10780	-25.86337	-10.87441	5.02933	1.92318	0.66105	30.17532	5.42492	293.24	-21.12
94/ 9/ 1	2449596.5	11.11942	-25.85892	-10.87288	5.02854	1.92516	0.66188	30.17524	5.42499	293.27	-21.12
94/ 9/ 5	2449600.5	11.13103	-25.85447	-10.87135	5.02775	1.92714	0.66271	30.17515	5.42506	293.29	-21.12
94/ 9/ 9	2449604.5	11.14265	-25.85002	-10.86982	5.02695	1.92912	0.66355	30.17507	5.42513	293.32	-21.11
94/ 9/13	2449608.5	11.15426	-25.84556	-10.86829	5.02616	1.93110	0.66438	30.17499	5.42520	293.34	-21.11
94/ 9/17	2449612.5	11.16587	-25.84109	-10.86675	5.02536	1.93308	0.66521	30.17491	5.42527	293.37	-21.11
94/ 9/21	2449616.5	11.17748	-25.83663	-10.86521	5.02456	1.93506	0.66604	30.17483	5.42534	293.39	-21.10
94/ 9/25	2449620.5	11.18909	-25.83215	-10.86367	5.02377	1.93704	0.66688	30.17474	5.42541	293.42	-21.10
94/ 9/29	2449624.5	11.20069	-25.82768	-10.86213	5.02297	1.93902	0.66771	30.17466	5.42548	293.44	-21.10
94/10/ 3	2449628.5	11.21229	-25.82319	-10.86059	5.02216	1.94100	0.66854	30.17458	5.42555	293.47	-21.10
94/10/ 7	2449632.5	11.22390	-25.81871	-10.85904	5.02136	1.94298	0.66937	30.17450	5.42562	293.50	-21.09
94/10/11	2449636.5	11.23549	-25.81422	-10.85750	5.02056	1.94496	0.67021	30.17442	5.42569	293.52	-21.09
94/10/15	2449640.5	11.24709	-25.80972	-10.85595	5.01975	1.94694	0.67104	30.17433	5.42575	293.55	-21.09
94/10/19	2449644.5	11.25869	-25.80522	-10.85440	5.01895	1.94892	0.67187	30.17425	5.42582	293.57	-21.08
94/10/23	2449648.5	11.27028	-25.80072	-10.85284	5.01814	1.95090	0.67270	30.17417	5.42589	293.60	-21.08
94/10/27	2449652.5	11.28187	-25.79621	-10.85129	5.01733	1.95288	0.67354	30.17409	5.42596	293.62	-21.08
94/10/31	2449656.5	11.29346	-25.79169	-10.84973	5.01652	1.95486	0.67437	30.17400	5.42603	293.65	-21.07

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94/11/ 4	2449660.5	11.30505	-25.78718	-10.84817	5.01571	1.95684	0.67520	30.17392	5.42609	293.67	-21.07
94/11/ 8	2449664.5	11.31664	-25.78265	-10.84661	5.01490	1.95882	0.67603	30.17384	5.42616	293.70	-21.07
94/11/12	2449668.5	11.32822	-25.77813	-10.84505	5.01409	1.96080	0.67687	30.17375	5.42623	293.72	-21.06
94/11/16	2449672.5	11.33980	-25.77359	-10.84348	5.01327	1.96278	0.67770	30.17367	5.42630	293.75	-21.06
94/11/20	2449676.5	11.35138	-25.76906	-10.84192	5.01246	1.96476	0.67853	30.17359	5.42636	293.77	-21.06
94/11/24	2449680.5	11.36296	-25.76452	-10.84035	5.01164	1.96674	0.67936	30.17350	5.42643	293.80	-21.06
94/11/28	2449684.5	11.37454	-25.75997	-10.83878	5.01083	1.96872	0.68020	30.17342	5.42650	293.82	-21.05
94/12/ 2	2449688.5	11.38612	-25.75542	-10.83721	5.01001	1.97070	0.68103	30.17334	5.42657	293.85	-21.05
94/12/ 6	2449692.5	11.39769	-25.75086	-10.83563	5.00919	1.97268	0.68186	30.17325	5.42663	293.87	-21.05
94/12/10	2449696.5	11.40926	-25.74630	-10.83405	5.00837	1.97465	0.68269	30.17317	5.42670	293.90	-21.04
94/12/14	2449700.5	11.42083	-25.74174	-10.83248	5.00754	1.97663	0.68352	30.17309	5.42676	293.93	-21.04
94/12/18	2449704.5	11.43240	-25.73717	-10.83090	5.00672	1.97861	0.68436	30.17300	5.42683	293.95	-21.04
94/12/22	2449708.5	11.44396	-25.73260	-10.82931	5.00590	1.98059	0.68519	30.17292	5.42690	293.98	-21.03
94/12/26	2449712.5	11.45553	-25.72802	-10.82773	5.00507	1.98257	0.68602	30.17283	5.42696	294.00	-21.03
94/12/30	2449716.5	11.46709	-25.72344	-10.82615	5.00424	1.98454	0.68685	30.17275	5.42703	294.03	-21.03
95/ 1/ 3	2449720.5	11.47865	-25.71885	-10.82456	5.00342	1.98652	0.68769	30.17266	5.42709	294.05	-21.02
95/ 1/ 7	2449724.5	11.49020	-25.71426	-10.82297	5.00259	1.98850	0.68852	30.17258	5.42716	294.08	-21.02
95/ 1/11	2449728.5	11.50176	-25.70966	-10.82138	5.00176	1.99048	0.68935	30.17250	5.42722	294.10	-21.02
95/ 1/15	2449732.5	11.51331	-25.70506	-10.81978	5.00092	1.99245	0.69018	30.17241	5.42729	294.13	-21.01
95/ 1/19	2449736.5	11.52487	-25.70046	-10.81819	5.00009	1.99443	0.69101	30.17233	5.42735	294.15	-21.01
95/ 1/23	2449740.5	11.53642	-25.69585	-10.81659	4.99926	1.99641	0.69185	30.17224	5.42742	294.18	-21.01
95/ 1/27	2449744.5	11.54796	-25.69123	-10.81499	4.99842	1.99839	0.69268	30.17216	5.42748	294.20	-21.00
95/ 1/31	2449748.5	11.55951	-25.68662	-10.81339	4.99759	2.00036	0.69351	30.17207	5.42755	294.23	-21.00
95/ 2/ 4	2449752.5	11.57106	-25.68199	-10.81179	4.99675	2.00234	0.69434	30.17199	5.42761	294.25	-21.00
95/ 2/ 8	2449756.5	11.58260	-25.67736	-10.81018	4.99591	2.00431	0.69517	30.17190	5.42768	294.28	-20.99
95/ 2/12	2449760.5	11.59414	-25.67273	-10.80857	4.99507	2.00629	0.69600	30.17182	5.42774	294.30	-20.99
95/ 2/16	2449764.5	11.60568	-25.66809	-10.80697	4.99423	2.00827	0.69684	30.17173	5.42780	294.33	-20.99
95/ 2/20	2449768.5	11.61721	-25.66345	-10.80535	4.99339	2.01024	0.69767	30.17164	5.42787	294.36	-20.99
95/ 2/24	2449772.5	11.62875	-25.65881	-10.80374	4.99254	2.01222	0.69850	30.17156	5.42793	294.38	-20.98
95/ 2/28	2449776.5	11.64028	-25.65416	-10.80213	4.99170	2.01419	0.69933	30.17147	5.42799	294.41	-20.98
95/ 3/ 4	2449780.5	11.65181	-25.64950	-10.80051	4.99085	2.01617	0.70016	30.17139	5.42806	294.43	-20.98
95/ 3/ 8	2449784.5	11.66334	-25.64484	-10.79889	4.99001	2.01814	0.70099	30.17130	5.42812	294.46	-20.97
95/ 3/12	2449788.5	11.67487	-25.64018	-10.79727	4.98916	2.02012	0.70183	30.17121	5.42818	294.48	-20.97
95/ 3/16	2449792.5	11.68639	-25.63551	-10.79565	4.98831	2.02209	0.70266	30.17113	5.42824	294.51	-20.97
95/ 3/20	2449796.5	11.69791	-25.63083	-10.79403	4.98746	2.02407	0.70349	30.17104	5.42831	294.53	-20.96
95/ 3/24	2449800.5	11.70944	-25.62615	-10.79240	4.98661	2.02604	0.70432	30.17096	5.42837	294.56	-20.96
95/ 3/28	2449804.5	11.72095	-25.62147	-10.79077	4.98575	2.02802	0.70515	30.17087	5.42843	294.58	-20.96
95/ 4/ 1	2449808.5	11.73247	-25.61678	-10.78914	4.98490	2.02999	0.70598	30.17078	5.42849	294.61	-20.95
95/ 4/ 5	2449812.5	11.74399	-25.61209	-10.78751	4.98405	2.03197	0.70682	30.17070	5.42855	294.63	-20.95
95/ 4/ 9	2449816.5	11.75550	-25.60740	-10.78588	4.98319	2.03394	0.70765	30.17061	5.42861	294.66	-20.95
95/ 4/13	2449820.5	11.76701	-25.60269	-10.78424	4.98233	2.03591	0.70848	30.17052	5.42867	294.68	-20.94
95/ 4/17	2449824.5	11.77852	-25.59799	-10.78260	4.98147	2.03789	0.70931	30.17043	5.42874	294.71	-20.94
95/ 4/21	2449828.5	11.79003	-25.59328	-10.78096	4.98061	2.03986	0.71014	30.17035	5.42880	294.73	-20.94
95/ 4/25	2449832.5	11.80153	-25.58856	-10.77932	4.97975	2.04183	0.71097	30.17026	5.42886	294.76	-20.93
95/ 4/29	2449836.5	11.81303	-25.58384	-10.77768	4.97889	2.04381	0.71180	30.17017	5.42892	294.78	-20.93

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95/ 5/ 3	2449840.5	11.82454	-25.57912	-10.77603	4.97802	2.04578	0.71263	30.17008	5.42898	294.81	-20.93
95/ 5/ 7	2449844.5	11.83604	-25.57439	-10.77439	4.97716	2.04775	0.71346	30.17000	5.42904	294.84	-20.92
95/ 5/11	2449848.5	11.84753	-25.56966	-10.77274	4.97629	2.04972	0.71430	30.16991	5.42910	294.86	-20.92
95/ 5/15	2449852.5	11.85903	-25.56492	-10.77108	4.97543	2.05170	0.71513	30.16982	5.42915	294.89	-20.92
95/ 5/19	2449856.5	11.87052	-25.56018	-10.76943	4.97456	2.05367	0.71596	30.16973	5.42921	294.91	-20.91
95/ 5/23	2449860.5	11.88201	-25.55543	-10.76778	4.97369	2.05564	0.71679	30.16964	5.42927	294.94	-20.91
95/ 5/27	2449864.5	11.89350	-25.55068	-10.76612	4.97282	2.05761	0.71762	30.16956	5.42933	294.96	-20.91
95/ 5/31	2449868.5	11.90499	-25.54593	-10.76446	4.97194	2.05958	0.71845	30.16947	5.42939	294.99	-20.90
95/ 6/ 4	2449872.5	11.91647	-25.54117	-10.76280	4.97107	2.06155	0.71928	30.16938	5.42945	295.01	-20.90
95/ 6/ 8	2449876.5	11.92796	-25.53640	-10.76114	4.97020	2.06352	0.72011	30.16929	5.42951	295.04	-20.90
95/ 6/12	2449880.5	11.93944	-25.53163	-10.75947	4.96932	2.06549	0.72094	30.16920	5.42956	295.06	-20.89
95/ 6/16	2449884.5	11.95092	-25.52686	-10.75781	4.96844	2.06747	0.72177	30.16911	5.42962	295.09	-20.89
95/ 6/20	2449888.5	11.96239	-25.52208	-10.75614	4.96757	2.06944	0.72260	30.16902	5.42968	295.11	-20.89
95/ 6/24	2449892.5	11.97387	-25.51730	-10.75447	4.96669	2.07141	0.72343	30.16893	5.42974	295.14	-20.88
95/ 6/28	2449896.5	11.98534	-25.51251	-10.75280	4.96581	2.07338	0.72426	30.16884	5.42979	295.16	-20.88
95/ 7/ 2	2449900.5	11.99681	-25.50772	-10.75112	4.96492	2.07534	0.72509	30.16875	5.42985	295.19	-20.88
95/ 7/ 6	2449904.5	12.00828	-25.50292	-10.74945	4.96404	2.07731	0.72592	30.16866	5.42991	295.21	-20.87
95/ 7/10	2449908.5	12.01975	-25.49812	-10.74777	4.96316	2.07928	0.72675	30.16857	5.42996	295.24	-20.87
95/ 7/14	2449912.5	12.03121	-25.49331	-10.74609	4.96227	2.08125	0.72758	30.16848	5.43002	295.26	-20.87
95/ 7/18	2449916.5	12.04267	-25.48850	-10.74441	4.96138	2.08322	0.72841	30.16839	5.43008	295.29	-20.86
95/ 7/22	2449920.5	12.05414	-25.48369	-10.74272	4.96049	2.08519	0.72924	30.16830	5.43013	295.31	-20.86
95/ 7/26	2449924.5	12.06559	-25.47887	-10.74104	4.95961	2.08716	0.73007	30.16821	5.43019	295.34	-20.86
95/ 7/30	2449928.5	12.07705	-25.47404	-10.73935	4.95872	2.08913	0.73090	30.16812	5.43024	295.37	-20.85
95/ 8/ 3	2449932.5	12.08850	-25.46922	-10.73766	4.95782	2.09109	0.73173	30.16803	5.43030	295.39	-20.85
95/ 8/ 7	2449936.5	12.09996	-25.46438	-10.73597	4.95693	2.09306	0.73256	30.16794	5.43035	295.42	-20.85
95/ 8/11	2449940.5	12.11141	-25.45955	-10.73428	4.95604	2.09503	0.73339	30.16785	5.43041	295.44	-20.84
95/ 8/15	2449944.5	12.12286	-25.45470	-10.73258	4.95514	2.09700	0.73422	30.16776	5.43046	295.47	-20.84
95/ 8/19	2449948.5	12.13430	-25.44986	-10.73088	4.95424	2.09896	0.73505	30.16767	5.43051	295.49	-20.84
95/ 8/23	2449952.5	12.14575	-25.44501	-10.72918	4.95335	2.10093	0.73588	30.16758	5.43057	295.52	-20.83
95/ 8/27	2449956.5	12.15719	-25.44015	-10.72748	4.95245	2.10290	0.73671	30.16749	5.43062	295.54	-20.83
95/ 8/31	2449960.5	12.16863	-25.43529	-10.72578	4.95155	2.10486	0.73754	30.16740	5.43067	295.57	-20.83
95/ 9/ 4	2449964.5	12.18007	-25.43042	-10.72407	4.95065	2.10683	0.73837	30.16730	5.43073	295.59	-20.82
95/ 9/ 8	2449968.5	12.19150	-25.42555	-10.72237	4.94974	2.10879	0.73920	30.16721	5.43078	295.62	-20.82
95/ 9/12	2449972.5	12.20294	-25.42068	-10.72066	4.94884	2.11076	0.74003	30.16712	5.43083	295.64	-20.82
95/ 9/16	2449976.5	12.21437	-25.41580	-10.71895	4.94793	2.11272	0.74086	30.16703	5.43088	295.67	-20.81
95/ 9/20	2449980.5	12.22580	-25.41092	-10.71724	4.94703	2.11469	0.74169	30.16694	5.43094	295.69	-20.81
95/ 9/24	2449984.5	12.23722	-25.40603	-10.71552	4.94612	2.11665	0.74252	30.16684	5.43099	295.72	-20.81
95/ 9/28	2449988.5	12.24865	-25.40114	-10.71381	4.94521	2.11862	0.74334	30.16675	5.43104	295.74	-20.80
95/10/ 2	2449992.5	12.26007	-25.39624	-10.71209	4.94430	2.12058	0.74417	30.16666	5.43109	295.77	-20.80
95/10/ 6	2449996.5	12.27149	-25.39134	-10.71037	4.94339	2.12254	0.74500	30.16657	5.43114	295.79	-20.80
95/10/10	2450000.5	12.28291	-25.38644	-10.70865	4.94247	2.12451	0.74583	30.16647	5.43119	295.82	-20.79
95/10/14	2450004.5	12.29433	-25.38153	-10.70692	4.94156	2.12647	0.74666	30.16638	5.43124	295.84	-20.79
95/10/18	2450008.5	12.30574	-25.37661	-10.70520	4.94065	2.12843	0.74749	30.16629	5.43129	295.87	-20.79
95/10/22	2450012.5	12.31716	-25.37169	-10.70347	4.93973	2.13040	0.74832	30.16620	5.43134	295.90	-20.78
95/10/26	2450016.5	12.32857	-25.36677	-10.70174	4.93881	2.13236	0.74914	30.16610	5.43139	295.92	-20.78

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95/10/30	2450020.5	12.33998	-25.36184	-10.70001	4.93789	2.13432	0.74997	30.16601	5.43144	295.95	-20.78
95/11/ 3	2450024.5	12.35138	-25.35691	-10.69827	4.93697	2.13628	0.75080	30.16592	5.43149	295.97	-20.77
95/11/ 7	2450028.5	12.36279	-25.35197	-10.69654	4.93605	2.13824	0.75163	30.16582	5.43154	296.00	-20.77
95/11/11	2450032.5	12.37419	-25.34703	-10.69480	4.93513	2.14021	0.75246	30.16573	5.43159	296.02	-20.76
95/11/15	2450036.5	12.38559	-25.34208	-10.69306	4.93420	2.14217	0.75328	30.16563	5.43164	296.05	-20.76
95/11/19	2450040.5	12.39699	-25.33713	-10.69132	4.93328	2.14413	0.75411	30.16554	5.43169	296.07	-20.76
95/11/23	2450044.5	12.40838	-25.33217	-10.68958	4.93235	2.14609	0.75494	30.16544	5.43173	296.10	-20.75
95/11/27	2450048.5	12.41978	-25.32721	-10.68783	4.93142	2.14805	0.75577	30.16535	5.43178	296.12	-20.75
95/12/ 1	2450052.5	12.43117	-25.32225	-10.68608	4.93050	2.15001	0.75660	30.16526	5.43183	296.15	-20.75
95/12/ 5	2450056.5	12.44256	-25.31728	-10.68434	4.92957	2.15197	0.75742	30.16516	5.43187	296.17	-20.74
95/12/ 9	2450060.5	12.45394	-25.31231	-10.68259	4.92863	2.15393	0.75825	30.16507	5.43192	296.20	-20.74
95/12/13	2450064.5	12.46533	-25.30733	-10.68083	4.92770	2.15589	0.75908	30.16497	5.43197	296.22	-20.74
95/12/17	2450068.5	12.47671	-25.30235	-10.67908	4.92677	2.15784	0.75990	30.16488	5.43201	296.25	-20.73
95/12/21	2450072.5	12.48809	-25.29736	-10.67732	4.92583	2.15980	0.76073	30.16478	5.43206	296.27	-20.73
95/12/25	2450076.5	12.49947	-25.29237	-10.67556	4.92489	2.16176	0.76156	30.16469	5.43211	296.30	-20.73
95/12/29	2450080.5	12.51085	-25.28737	-10.67380	4.92396	2.16372	0.76239	30.16459	5.43215	296.32	-20.72
96/ 1/ 2	2450084.5	12.52222	-25.28237	-10.67204	4.92302	2.16568	0.76321	30.16449	5.43220	296.35	-20.72
96/ 1/ 6	2450088.5	12.53359	-25.27736	-10.67028	4.92208	2.16763	0.76404	30.16440	5.43224	296.37	-20.72
96/ 1/10	2450092.5	12.54496	-25.27235	-10.66851	4.92114	2.16959	0.76487	30.16430	5.43229	296.40	-20.71
96/ 1/14	2450096.5	12.55633	-25.26734	-10.66674	4.92019	2.17155	0.76569	30.16421	5.43233	296.42	-20.71
96/ 1/18	2450100.5	12.56770	-25.26232	-10.66497	4.91925	2.17350	0.76652	30.16411	5.43237	296.45	-20.71
96/ 1/22	2450104.5	12.57906	-25.25730	-10.66320	4.91830	2.17546	0.76734	30.16401	5.43242	296.47	-20.70
96/ 1/26	2450108.5	12.59042	-25.25227	-10.66143	4.91736	2.17741	0.76817	30.16392	5.43246	296.50	-20.70
96/ 1/30	2450112.5	12.60178	-25.24724	-10.65965	4.91641	2.17937	0.76900	30.16382	5.43250	296.53	-20.69
96/ 2/ 3	2450116.5	12.61314	-25.24220	-10.65787	4.91546	2.18132	0.76982	30.16372	5.43255	296.55	-20.69
96/ 2/ 7	2450120.5	12.62449	-25.23716	-10.65610	4.91451	2.18328	0.77065	30.16363	5.43259	296.58	-20.69
96/ 2/11	2450124.5	12.63584	-25.23211	-10.65431	4.91356	2.18523	0.77147	30.16353	5.43263	296.60	-20.68
96/ 2/15	2450128.5	12.64719	-25.22706	-10.65253	4.91261	2.18719	0.77230	30.16343	5.43267	296.63	-20.68
96/ 2/19	2450132.5	12.65854	-25.22201	-10.65075	4.91165	2.18914	0.77313	30.16333	5.43271	296.65	-20.68
96/ 2/23	2450136.5	12.66989	-25.21695	-10.64896	4.91070	2.19109	0.77395	30.16324	5.43275	296.68	-20.67
96/ 2/27	2450140.5	12.68123	-25.21188	-10.64717	4.90974	2.19304	0.77478	30.16314	5.43280	296.70	-20.67
96/ 3/ 2	2450144.5	12.69257	-25.20682	-10.64538	4.90878	2.19500	0.77560	30.16304	5.43284	296.73	-20.67
96/ 3/ 6	2450148.5	12.70391	-25.20174	-10.64359	4.90782	2.19695	0.77643	30.16294	5.43288	296.75	-20.66
96/ 3/10	2450152.5	12.71525	-25.19666	-10.64179	4.90686	2.19890	0.77725	30.16284	5.43292	296.78	-20.66
96/ 3/14	2450156.5	12.72658	-25.19158	-10.63999	4.90590	2.20085	0.77808	30.16274	5.43296	296.80	-20.66
96/ 3/18	2450160.5	12.73791	-25.18650	-10.63820	4.90494	2.20280	0.77890	30.16265	5.43300	296.83	-20.65
96/ 3/22	2450164.5	12.74924	-25.18140	-10.63640	4.90397	2.20475	0.77973	30.16255	5.43303	296.85	-20.65
96/ 3/26	2450168.5	12.76057	-25.17631	-10.63459	4.90301	2.20670	0.78055	30.16245	5.43307	296.88	-20.65
96/ 3/30	2450172.5	12.77190	-25.17121	-10.63279	4.90204	2.20865	0.78138	30.16235	5.43311	296.90	-20.64
96/ 4/ 3	2450176.5	12.78322	-25.16610	-10.63098	4.90107	2.21060	0.78220	30.16225	5.43315	296.93	-20.64
96/ 4/ 7	2450180.5	12.79454	-25.16100	-10.62918	4.90010	2.21255	0.78302	30.16215	5.43319	296.95	-20.63
96/ 4/11	2450184.5	12.80586	-25.15588	-10.62737	4.89913	2.21450	0.78385	30.16205	5.43322	296.98	-20.63
96/ 4/15	2450188.5	12.81718	-25.15076	-10.62555	4.89816	2.21645	0.78467	30.16195	5.43326	297.00	-20.63
96/ 4/19	2450192.5	12.82849	-25.14564	-10.62374	4.89719	2.21840	0.78550	30.16185	5.43330	297.03	-20.62
96/ 4/23	2450196.5	12.83980	-25.14051	-10.62192	4.89621	2.22034	0.78632	30.16175	5.43334	297.05	-20.62

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96/ 4/27	2450200.5	12.85111	-25.13538	-10.62011	4.89524	2.22229	0.78714	30.16165	5.43337	297.08	-20.62
96/ 5/ 1	2450204.5	12.86242	-25.13025	-10.61829	4.89426	2.22424	0.78797	30.16155	5.43341	297.10	-20.61
96/ 5/ 5	2450208.5	12.87373	-25.12510	-10.61647	4.89328	2.22618	0.78879	30.16145	5.43344	297.13	-20.61
96/ 5/ 9	2450212.5	12.88503	-25.11996	-10.61464	4.89230	2.22813	0.78961	30.16135	5.43348	297.16	-20.61
96/ 5/13	2450216.5	12.89633	-25.11481	-10.61282	4.89132	2.23008	0.79044	30.16125	5.43351	297.18	-20.60
96/ 5/17	2450220.5	12.90763	-25.10966	-10.61099	4.89034	2.23202	0.79126	30.16115	5.43355	297.21	-20.60
96/ 5/21	2450224.5	12.91893	-25.10450	-10.60916	4.88936	2.23397	0.79208	30.16105	5.43358	297.23	-20.59
96/ 5/25	2450228.5	12.93022	-25.09933	-10.60733	4.88837	2.23591	0.79290	30.16095	5.43362	297.26	-20.59
96/ 5/29	2450232.5	12.94151	-25.09417	-10.60550	4.88739	2.23785	0.79373	30.16084	5.43365	297.28	-20.59
96/ 6/ 2	2450236.5	12.95280	-25.08899	-10.60366	4.88640	2.23980	0.79455	30.16074	5.43368	297.31	-20.58
96/ 6/ 6	2450240.5	12.96409	-25.08382	-10.60183	4.88541	2.24174	0.79537	30.16064	5.43372	297.33	-20.58
96/ 6/10	2450244.5	12.97537	-25.07864	-10.59999	4.88442	2.24368	0.79619	30.16054	5.43375	297.36	-20.58
96/ 6/14	2450248.5	12.98666	-25.07345	-10.59815	4.88343	2.24563	0.79702	30.16044	5.43378	297.38	-20.57
96/ 6/18	2450252.5	12.99794	-25.06826	-10.59631	4.88244	2.24757	0.79784	30.16034	5.43381	297.41	-20.57
96/ 6/22	2450256.5	13.00922	-25.06307	-10.59446	4.88145	2.24951	0.79866	30.16023	5.43384	297.43	-20.57
96/ 6/26	2450260.5	13.02049	-25.05787	-10.59262	4.88045	2.25145	0.79948	30.16013	5.43388	297.46	-20.56
96/ 6/30	2450264.5	13.03177	-25.05266	-10.59077	4.87945	2.25339	0.80030	30.16003	5.43391	297.48	-20.56
96/ 7/ 4	2450268.5	13.04304	-25.04746	-10.58892	4.87846	2.25533	0.80112	30.15993	5.43394	297.51	-20.55
96/ 7/ 8	2450272.5	13.05431	-25.04224	-10.58707	4.87746	2.25727	0.80194	30.15982	5.43397	297.53	-20.55
96/ 7/12	2450276.5	13.06557	-25.03703	-10.58521	4.87646	2.25921	0.80277	30.15972	5.43400	297.56	-20.55
96/ 7/16	2450280.5	13.07684	-25.03181	-10.58336	4.87546	2.26115	0.80359	30.15962	5.43403	297.58	-20.54
96/ 7/20	2450284.5	13.08810	-25.02658	-10.58150	4.87446	2.26309	0.80441	30.15951	5.43406	297.61	-20.54
96/ 7/24	2450288.5	13.09936	-25.02135	-10.57964	4.87345	2.26503	0.80523	30.15941	5.43408	297.63	-20.54
96/ 7/28	2450292.5	13.11062	-25.01611	-10.57778	4.87245	2.26696	0.80605	30.15930	5.43411	297.66	-20.53
96/ 8/ 1	2450296.5	13.12187	-25.01088	-10.57592	4.87144	2.26890	0.80687	30.15920	5.43414	297.68	-20.53
96/ 8/ 5	2450300.5	13.13312	-25.00563	-10.57405	4.87043	2.27084	0.80769	30.15910	5.43417	297.71	-20.52
96/ 8/ 9	2450304.5	13.14437	-25.00038	-10.57219	4.86942	2.27278	0.80851	30.15899	5.43420	297.73	-20.52
96/ 8/13	2450308.5	13.15562	-24.99513	-10.57032	4.86841	2.27471	0.80933	30.15889	5.43422	297.76	-20.52
96/ 8/17	2450312.5	13.16687	-24.98987	-10.56845	4.86740	2.27665	0.81015	30.15878	5.43425	297.78	-20.51
96/ 8/21	2450316.5	13.17811	-24.98461	-10.56657	4.86639	2.27858	0.81097	30.15868	5.43428	297.81	-20.51
96/ 8/25	2450320.5	13.18935	-24.97935	-10.56470	4.86538	2.28052	0.81179	30.15857	5.43430	297.83	-20.51
96/ 8/29	2450324.5	13.20059	-24.97407	-10.56282	4.86436	2.28245	0.81260	30.15847	5.43433	297.86	-20.50
96/ 9/ 2	2450328.5	13.21183	-24.96880	-10.56094	4.86335	2.28438	0.81342	30.15836	5.43435	297.88	-20.50
96/ 9/ 6	2450332.5	13.22306	-24.96352	-10.55906	4.86233	2.28632	0.81424	30.15826	5.43438	297.91	-20.49
96/ 9/10	2450336.5	13.23429	-24.95824	-10.55718	4.86131	2.28825	0.81506	30.15815	5.43440	297.94	-20.49
96/ 9/14	2450340.5	13.24552	-24.95295	-10.55530	4.86029	2.29018	0.81588	30.15805	5.43443	297.96	-20.49
96/ 9/18	2450344.5	13.25675	-24.94765	-10.55341	4.85927	2.29211	0.81670	30.15794	5.43445	297.99	-20.48
96/ 9/22	2450348.5	13.26797	-24.94236	-10.55153	4.85825	2.29404	0.81752	30.15783	5.43448	298.01	-20.48
96/ 9/26	2450352.5	13.27920	-24.93706	-10.54964	4.85722	2.29597	0.81833	30.15773	5.43450	298.04	-20.48
96/ 9/30	2450356.5	13.29042	-24.93175	-10.54774	4.85620	2.29790	0.81915	30.15762	5.43452	298.06	-20.47
96/10/ 4	2450360.5	13.30163	-24.92644	-10.54585	4.85517	2.29983	0.81997	30.15752	5.43454	298.09	-20.47
96/10/ 8	2450364.5	13.31285	-24.92112	-10.54396	4.85414	2.30176	0.82079	30.15741	5.43457	298.11	-20.46
96/10/12	2450368.5	13.32406	-24.91580	-10.54206	4.85311	2.30369	0.82160	30.15730	5.43459	298.14	-20.46
96/10/16	2450372.5	13.33527	-24.91048	-10.54016	4.85208	2.30562	0.82242	30.15719	5.43461	298.16	-20.46
96/10/20	2450376.5	13.34648	-24.90515	-10.53826	4.85105	2.30755	0.82324	30.15709	5.43463	298.19	-20.45

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96/10/24	2450380.5	13.35769	-24.89982	-10.53636	4.85002	2.30948	0.82405	30.15698	5.43465	298.21	-20.45
96/10/28	2450384.5	13.36889	-24.89448	-10.53445	4.84898	2.31140	0.82487	30.15687	5.43467	298.24	-20.45
96/11/ 1	2450388.5	13.38009	-24.88914	-10.53254	4.84795	2.31333	0.82569	30.15676	5.43469	298.26	-20.44
96/11/ 5	2450392.5	13.39129	-24.88379	-10.53064	4.84691	2.31525	0.82650	30.15666	5.43471	298.29	-20.44
96/11/ 9	2450396.5	13.40248	-24.87844	-10.52873	4.84588	2.31718	0.82732	30.15655	5.43473	298.31	-20.43
96/11/13	245C400.5	13.41368	-24.87309	-10.52681	4.84484	2.31910	0.82814	30.15644	5.43475	298.34	-20.43
96/11/17	2450404.5	13.42487	-24.86773	-10.52490	4.84380	2.32103	0.82895	30.15633	5.43477	298.36	-20.43
96/11/21	2450408.5	13.43606	-24.86236	-10.52298	4.84275	2.32295	0.82977	30.15622	5.43478	298.39	-20.42
96/11/25	2450412.5	13.44724	-24.85699	-10.52107	4.84171	2.32487	0.83058	30.15611	5.43480	298.41	-20.42
96/11/29	2450416.5	13.45843	-24.85162	-10.51915	4.84067	2.32680	0.83140	30.15601	5.43482	298.44	-20.42
96/12/ 3	2450420.5	13.46961	-24.84624	-10.51722	4.83962	2.32872	0.83221	30.15590	5.43484	298.46	-20.41
96/12/ 7	2450424.5	13.48079	-24.84086	-10.51530	4.83858	2.33064	0.83303	30.15579	5.43485	298.49	-20.41
96/12/11	2450428.5	13.49197	-24.83547	-10.51338	4.83753	2.33256	0.83384	30.15568	5.43487	298.51	-20.40
96/12/15	2450432.5	13.50314	-24.83008	-10.51145	4.83648	2.33448	0.83466	30.15557	5.43489	298.54	-20.40
96/12/19	2450436.5	13.51431	-24.82469	-10.50952	4.83543	2.33640	0.83547	30.15546	5.43490	298.56	-20.40
96/12/23	2450440.5	13.52548	-24.81929	-10.50759	4.83438	2.33832	0.83628	30.15535	5.43492	298.59	-20.39
96/12/27	2450444.5	13.53665	-24.81388	-10.50566	4.83332	2.34024	0.83710	30.15524	5.43493	298.61	-20.39
96/12/31	2450448.5	13.54781	-24.80848	-10.50372	4.83227	2.34216	0.83791	30.15513	5.43494	298.64	-20.38
97/ 1/ 4	2450452.5	13.55897	-24.80306	-10.50178	4.83121	2.34408	0.83872	30.15502	5.43496	298.66	-20.38
97/ 1/ 8	2450456.5	13.57013	-24.79764	-10.49985	4.83016	2.34599	0.83954	30.15491	5.43497	298.69	-20.38
97/ 1/12	2450460.5	13.58129	-24.79222	-10.49791	4.82910	2.34791	0.84035	30.15480	5.43498	298.71	-20.37
97/ 1/16	2450464.5	13.59245	-24.78680	-10.49596	4.82804	2.34982	0.84116	30.15469	5.43500	298.74	-20.37
97/ 1/20	2450468.5	13.60360	-24.78137	-10.49402	4.82698	2.35174	0.84198	30.15458	5.43501	298.76	-20.37
97/ 1/24	2450472.5	13.61475	-24.77593	-10.49207	4.82592	2.35366	0.84279	30.15446	5.43502	298.79	-20.36
97/ 1/28	2450476.5	13.62590	-24.77049	-10.49012	4.82485	2.35557	0.84360	30.15435	5.43503	298.81	-20.36
97/ 2/ 1	2450480.5	13.63704	-24.76505	-10.48817	4.82379	2.35748	0.84441	30.15424	5.43504	298.84	-20.35
97/ 2/ 5	2450484.5	13.64818	-24.75960	-10.48622	4.82273	2.35940	0.84522	30.15413	5.43506	298.86	-20.35
97/ 2/ 9	2450488.5	13.65932	-24.75415	-10.48427	4.82166	2.36131	0.84604	30.15402	5.43507	298.89	-20.35
97/ 2/13	2450492.5	13.67046	-24.74869	-10.48231	4.82059	2.36322	0.84685	30.15391	5.43508	298.91	-20.34
97/ 2/17	2450496.5	13.68160	-24.74323	-10.48036	4.81952	2.36513	0.84766	30.15379	5.43509	298.94	-20.34
97/ 2/21	2450500.5	13.69273	-24.73776	-10.47840	4.81845	2.36704	0.84847	30.15368	5.43510	298.97	-20.33
97/ 2/25	2450504.5	13.70386	-24.73229	-10.47644	4.81738	2.36895	0.84928	30.15357	5.43510	298.99	-20.33
97/ 3/ 1	2450508.5	13.71499	-24.72682	-10.47447	4.81631	2.37086	0.85009	30.15346	5.43511	299.02	-20.33
97/ 3/ 5	2450512.5	13.72611	-24.72134	-10.47251	4.81523	2.37277	0.85090	30.15334	5.43512	299.04	-20.32
97/ 3/ 9	2450516.5	13.73724	-24.71585	-10.47054	4.81416	2.37468	0.85171	30.15323	5.43513	299.07	-20.32
97/ 3/13	2450520.5	13.74836	-24.71036	-10.46857	4.81308	2.37659	0.85252	30.15312	5.43514	299.09	-20.31
97/ 3/17	2450524.5	13.75947	-24.70487	-10.46660	4.81200	2.37850	0.85333	30.15300	5.43514	299.12	-20.31
97/ 3/21	2450528.5	13.77059	-24.69937	-10.46463	4.81092	2.38040	0.85414	30.15289	5.43515	299.14	-20.31
97/ 3/25	2450532.5	13.78170	-24.69387	-10.46266	4.80984	2.38231	0.85495	30.15278	5.43516	299.17	-20.30
97/ 3/29	2450536.5	13.79281	-24.68837	-10.46068	4.80876	2.38421	0.85576	30.15266	5.43516	299.19	-20.30
97/ 4/ 2	2450540.5	13.80392	-24.68286	-10.45870	4.80768	2.38612	0.85657	30.15255	5.43517	299.22	-20.30
97/ 4/ 6	2450544.5	13.81503	-24.67734	-10.45672	4.80659	2.38802	0.85737	30.15243	5.43517	299.24	-20.29
97/ 4/10	2450548.5	13.82613	-24.67182	-10.45474	4.80551	2.38993	0.85818	30.15232	5.43518	299.27	-20.29
97/ 4/14	2450552.5	13.83723	-24.66630	-10.45276	4.80442	2.39183	0.85899	30.15220	5.43518	299.29	-20.28
97/ 4/18	2450556.5	13.84833	-24.66077	-10.45077	4.80334	2.39373	0.85980	30.15209	5.43518	299.32	-20.28

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97/ 4/22	2450560.5	13.85942	-24.65524	-10.44879	4.80225	2.39563	0.86061	30.15197	5.43519	299.34	-20.28
97/ 4/26	2450564.5	13.87051	-24.64970	-10.44680	4.80116	2.39753	0.86141	30.15186	5.43519	299.37	-20.27
97/ 4/30	2450568.5	13.88160	-24.64416	-10.44481	4.80006	2.39943	0.86222	30.15174	5.43519	299.39	-20.27
97/ 5/ 4	2450572.5	13.89269	-24.63862	-10.44281	4.79897	2.40133	0.86303	30.15163	5.43520	299.42	-20.26
97/ 5/ 8	2450576.5	13.90378	-24.63307	-10.44082	4.79788	2.40323	0.86383	30.15151	5.43520	299.44	-20.26
97/ 5/12	2450580.5	13.91486	-24.62751	-10.43882	4.79678	2.40513	0.86464	30.15140	5.43520	299.47	-20.26
97/ 5/16	2450584.5	13.92594	-24.62196	-10.43682	4.79569	2.40703	0.86545	30.15128	5.43520	299.49	-20.25
97/ 5/20	2450588.5	13.93702	-24.61639	-10.43482	4.79459	2.40893	0.86625	30.15117	5.43520	299.52	-20.25
97/ 5/24	2450592.5	13.94809	-24.61083	-10.43282	4.79349	2.41082	0.86706	30.15105	5.43520	299.54	-20.24
97/ 5/28	2450596.5	13.95917	-24.60525	-10.43082	4.79239	2.41272	0.86786	30.15093	5.43520	299.57	-20.24
97/ 6/ 1	2450600.5	13.97024	-24.59968	-10.42881	4.79129	2.41461	0.86867	30.15082	5.43520	299.59	-20.24
97/ 6/ 5	2450604.5	13.98130	-24.59410	-10.42680	4.79019	2.41651	0.86947	30.15070	5.43520	299.62	-20.23
97/ 6/ 9	2450608.5	13.99237	-24.58851	-10.42479	4.78908	2.41840	0.87028	30.15058	5.43520	299.64	-20.23
97/ 6/13	2450612.5	14.00343	-24.58292	-10.42278	4.78798	2.42029	0.87108	30.15047	5.43520	299.67	-20.22
97/ 6/17	2450616.5	14.01449	-24.57733	-10.42077	4.78687	2.42219	0.87189	30.15035	5.43519	299.69	-20.22
97/ 6/21	2450620.5	14.02555	-24.57173	-10.41875	4.78577	2.42408	0.87269	30.15023	5.43519	299.72	-20.22
97/ 6/25	2450624.5	14.03660	-24.56613	-10.41674	4.78466	2.42597	0.87349	30.15011	5.43519	299.74	-20.21
97/ 6/29	2450628.5	14.04765	-24.56052	-10.41472	4.78355	2.42786	0.87430	30.15000	5.43518	299.77	-20.21
97/ 7/ 3	2450632.5	14.05870	-24.55491	-10.41270	4.78244	2.42975	0.87510	30.14988	5.43518	299.79	-20.20
97/ 7/ 7	2450636.5	14.06975	-24.54930	-10.41067	4.78133	2.43164	0.87590	30.14976	5.43518	299.82	-20.20
97/ 7/11	2450640.5	14.08080	-24.54368	-10.40865	4.78021	2.43353	0.87670	30.14964	5.43517	299.84	-20.20
97/ 7/15	2450644.5	14.09184	-24.53805	-10.40662	4.77910	2.43542	0.87751	30.14952	5.43517	299.87	-20.19
97/ 7/19	2450648.5	14.10288	-24.53243	-10.40460	4.77798	2.43730	0.87831	30.14940	5.43516	299.89	-20.19
97/ 7/23	2450652.5	14.11391	-24.52679	-10.40257	4.77687	2.43919	0.87911	30.14929	5.43516	299.92	-20.18
97/ 7/27	2450656.5	14.12495	-24.52116	-10.40053	4.77575	2.44107	0.87991	30.14917	5.43515	299.94	-20.18
97/ 7/31	2450660.5	14.13598	-24.51551	-10.39850	4.77463	2.44296	0.88071	30.14905	5.43514	299.97	-20.18
97/ 8/ 4	2450664.5	14.14701	-24.50987	-10.39646	4.77351	2.44484	0.88152	30.14893	5.43514	299.99	-20.17
97/ 8/ 8	2450668.5	14.15803	-24.50422	-10.39443	4.77239	2.44673	0.88232	30.14881	5.43513	300.02	-20.17
97/ 8/12	2450672.5	14.16906	-24.49856	-10.39239	4.77126	2.44861	0.88312	30.14869	5.43512	300.04	-20.16
97/ 8/16	2450676.5	14.18008	-24.49290	-10.39035	4.77014	2.45049	0.88392	30.14857	5.43511	300.07	-20.16
97/ 8/20	2450680.5	14.19110	-24.48724	-10.38830	4.76902	2.45237	0.88472	30.14845	5.43511	300.09	-20.16
97/ 8/24	2450684.5	14.20211	-24.48157	-10.38626	4.76789	2.45425	0.88552	30.14833	5.43510	300.12	-20.15
97/ 8/28	2450688.5	14.21313	-24.47590	-10.38421	4.76676	2.45613	0.88632	30.14821	5.43509	300.14	-20.15
97/ 9/ 1	2450692.5	14.22414	-24.47023	-10.38216	4.76563	2.45801	0.88712	30.14809	5.43508	300.17	-20.14
97/ 9/ 5	2450696.5	14.23515	-24.46454	-10.38011	4.76450	2.45989	0.88791	30.14797	5.43507	300.19	-20.14
97/ 9/ 9	2450700.5	14.24615	-24.45886	-10.37806	4.76337	2.46177	0.88871	30.14785	5.43506	300.22	-20.14
97/ 9/13	2450704.5	14.25715	-24.45317	-10.37601	4.76224	2.46365	0.88951	30.14773	5.43505	300.24	-20.13
97/ 9/17	2450708.5	14.26815	-24.44748	-10.37395	4.76111	2.46552	0.89031	30.14761	5.43503	300.27	-20.13
97/ 9/21	2450712.5	14.27915	-24.44178	-10.37189	4.75997	2.46740	0.89111	30.14749	5.43502	300.29	-20.12
97/ 9/25	2450716.5	14.29015	-24.43608	-10.36983	4.75884	2.46927	0.89190	30.14736	5.43501	300.32	-20.12
97/ 9/29	2450720.5	14.30114	-24.43037	-10.36777	4.75770	2.47115	0.89270	30.14724	5.43500	300.34	-20.11
97/10/ 3	2450724.5	14.31213	-24.42466	-10.36571	4.75656	2.47302	0.89350	30.14712	5.43499	300.37	-20.11
97/10/ 7	2450728.5	14.32312	-24.41894	-10.36365	4.75542	2.47489	0.89430	30.14700	5.43497	300.39	-20.11
97/10/11	2450732.5	14.33410	-24.41322	-10.36158	4.75428	2.47677	0.89509	30.14688	5.43496	300.42	-20.10
97/10/15	2450736.5	14.34508	-24.40750	-10.35951	4.75314	2.47864	0.89589	30.14676	5.43494	300.44	-20.10

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97/10/19	2450740.5	14.35606	-24.40177	-10.35744	4.75200	2.48051	0.89668	30.14663	5.43493	300.47	-20.09
97/10/23	2450744.5	14.36704	-24.39604	-10.35537	4.75086	2.48238	0.89748	30.14651	5.43492	300.49	-20.09
97/10/27	2450748.5	14.37801	-24.39030	-10.35329	4.74971	2.48425	0.89827	30.14639	5.43490	300.52	-20.09
97/10/31	2450752.5	14.38898	-24.38456	-10.35122	4.74857	2.48612	0.89907	30.14627	5.43488	300.54	-20.08
97/11/ 4	2450756.5	14.39995	-24.37882	-10.34914	4.74742	2.48798	0.89986	30.14614	5.43487	300.57	-20.08
97/11/ 8	2450760.5	14.41092	-24.37307	-10.34706	4.74627	2.48985	0.90066	30.14602	5.43485	300.59	-20.07
97/11/12	2450764.5	14.42188	-24.36731	-10.34498	4.74512	2.49171	0.90145	30.14590	5.43484	300.62	-20.07
97/11/16	2450768.5	14.43284	-24.36155	-10.34289	4.74397	2.49358	0.90225	30.14577	5.43482	300.64	-20.07
97/11/20	2450772.5	14.44380	-24.35579	-10.34081	4.74282	2.49544	0.90304	30.14565	5.43480	300.67	-20.06
97/11/24	2450776.5	14.45476	-24.35002	-10.33872	4.74167	2.49731	0.90383	30.14553	5.43478	300.69	-20.06
97/11/28	2450780.5	14.46571	-24.34425	-10.33663	4.74051	2.49917	0.90463	30.14540	5.43476	300.72	-20.05
97/12/ 2	2450784.5	14.47666	-24.33848	-10.33454	4.73936	2.50103	0.90542	30.14528	5.43475	300.74	-20.05
97/12/ 6	2450788.5	14.48761	-24.33270	-10.33245	4.73820	2.50289	0.90621	30.14515	5.43473	300.77	-20.04
97/12/10	2450792.5	14.49855	-24.32691	-10.33035	4.73704	2.50475	0.90700	30.14503	5.43471	300.79	-20.04
97/12/14	2450796.5	14.50949	-24.32112	-10.32826	4.73589	2.50661	0.90779	30.14491	5.43469	300.82	-20.04
97/12/18	2450800.5	14.52043	-24.31533	-10.32616	4.73473	2.50847	0.90859	30.14478	5.43467	300.84	-20.03
97/12/22	2450804.5	14.53137	-24.30953	-10.32406	4.73357	2.51033	0.90938	30.14466	5.43465	300.87	-20.03
97/12/26	2450808.5	14.54230	-24.30373	-10.32196	4.73240	2.51219	0.91017	30.14453	5.43463	300.89	-20.02
97/12/30	2450812.5	14.55324	-24.29793	-10.31985	4.73124	2.51404	0.91096	30.14441	5.43460	300.92	-20.02
98/ 1/ 3	2450816.5	14.56416	-24.29212	-10.31775	4.73008	2.51590	0.91175	30.14428	5.43458	300.94	-20.02
98/ 1/ 7	2450820.5	14.57509	-24.28630	-10.31564	4.72891	2.51776	0.91254	30.14416	5.43456	300.97	-20.01
98/ 1/11	2450824.5	14.58601	-24.28048	-10.31353	4.72775	2.51961	0.91333	30.14403	5.43454	300.99	-20.01
98/ 1/15	2450828.5	14.59693	-24.27466	-10.31142	4.72658	2.52146	0.91412	30.14391	5.43451	301.02	-20.00
98/ 1/19	2450832.5	14.60785	-24.26883	-10.30931	4.72541	2.52332	0.91491	30.14378	5.43449	301.04	-20.00
98/ 1/23	2450836.5	14.61877	-24.26300	-10.30720	4.72424	2.52517	0.91570	30.14365	5.43447	301.07	-19.99
98/ 1/27	2450840.5	14.62968	-24.25717	-10.30508	4.72307	2.52702	0.91648	30.14353	5.43444	301.09	-19.99
98/ 1/31	2450844.5	14.64059	-24.25133	-10.30296	4.72190	2.52887	0.91727	30.14340	5.43442	301.12	-19.99
98/ 2/ 4	2450848.5	14.65150	-24.24548	-10.30084	4.72073	2.53072	0.91806	30.14328	5.43439	301.14	-19.98
98/ 2/ 8	2450852.5	14.66240	-24.23963	-10.29872	4.71955	2.53257	0.91885	30.14315	5.43437	301.17	-19.98
98/ 2/12	2450856.5	14.67330	-24.23378	-10.29660	4.71838	2.53441	0.91963	30.14302	5.43434	301.19	-19.97
98/ 2/16	2450860.5	14.68420	-24.22792	-10.29447	4.71720	2.53626	0.92042	30.14290	5.43432	301.22	-19.97
98/ 2/20	2450864.5	14.69510	-24.22206	-10.29234	4.71603	2.53811	0.92121	30.14277	5.43429	301.24	-19.97
98/ 2/24	2450868.5	14.70599	-24.21620	-10.29021	4.71485	2.53995	0.92199	30.14264	5.43426	301.27	-19.96
98/ 2/28	2450872.5	14.71688	-24.21033	-10.28808	4.71367	2.54179	0.92278	30.14251	5.43424	301.29	-19.96
98/ 3/ 4	2450876.5	14.72777	-24.20445	-10.28595	4.71249	2.54364	0.92356	30.14239	5.43421	301.32	-19.95
98/ 3/ 8	2450880.5	14.73865	-24.19857	-10.28382	4.71131	2.54548	0.92435	30.14226	5.43418	301.34	-19.95
98/ 3/12	2450884.5	14.74954	-24.19269	-10.28168	4.71013	2.54732	0.92513	30.14213	5.43415	301.37	-19.94
98/ 3/16	2450888.5	14.76042	-24.18680	-10.27954	4.70894	2.54916	0.92592	30.14200	5.43413	301.39	-19.94
98/ 3/20	2450892.5	14.77129	-24.18091	-10.27740	4.70776	2.55100	0.92670	30.14188	5.43410	301.42	-19.94
98/ 3/24	2450896.5	14.78217	-24.17502	-10.27526	4.70657	2.55284	0.92749	30.14175	5.43407	301.44	-19.93
98/ 3/28	2450900.5	14.79304	-24.16912	-10.27312	4.70539	2.55468	0.92827	30.14162	5.43404	301.47	-19.93
98/ 4/ 1	2450904.5	14.80391	-24.16321	-10.27097	4.70420	2.55652	0.92905	30.14149	5.43401	301.49	-19.92
98/ 4/ 5	2450908.5	14.81478	-24.15731	-10.26882	4.70301	2.55836	0.92984	30.14136	5.43398	301.52	-19.92
98/ 4/ 9	2450912.5	14.82564	-24.15139	-10.26667	4.70182	2.56019	0.93062	30.14123	5.43395	301.54	-19.91
98/ 4/13	2450916.5	14.83650	-24.14548	-10.26452	4.70063	2.56203	0.93140	30.14111	5.43392	301.57	-19.91

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98/ 4/17	2450920.5	14.84736	-24.13956	-10.26237	4.69944	2.56386	0.93218	30.14098	5.43388	301.59	-19.91
98/ 4/21	2450924.5	14.85821	-24.13363	-10.26022	4.69825	2.56569	0.93296	30.14085	5.43385	301.62	-19.90
98/ 4/25	2450928.5	14.86906	-24.12770	-10.25806	4.69705	2.56753	0.93375	30.14072	5.43382	301.64	-19.90
98/ 4/29	2450932.5	14.87991	-24.12177	-10.25590	4.69586	2.56936	0.93453	30.14059	5.43379	301.67	-19.89
98/ 5/ 3	2450936.5	14.89076	-24.11583	-10.25374	4.69466	2.57119	0.93531	30.14046	5.43375	301.69	-19.89
98/ 5/ 7	2450940.5	14.90161	-24.10989	-10.25158	4.69347	2.57302	0.93609	30.14033	5.43372	301.72	-19.88
98/ 5/11	2450944.5	14.91245	-24.10394	-10.24942	4.69227	2.57485	0.93687	30.14020	5.43369	301.74	-19.88
98/ 5/15	2450948.5	14.92329	-24.09799	-10.24725	4.69107	2.57668	0.93765	30.14007	5.43365	301.77	-19.88
98/ 5/19	2450952.5	14.93412	-24.09204	-10.24509	4.68987	2.57850	0.93843	30.13994	5.43362	301.79	-19.87
98/ 5/23	2450956.5	14.94495	-24.08608	-10.24292	4.68867	2.58033	0.93920	30.13981	5.43359	301.82	-19.87
98/ 5/27	2450960.5	14.95578	-24.08012	-10.24075	4.68747	2.58216	0.93998	30.13968	5.43355	301.84	-19.86
98/ 5/31	2450964.5	14.96661	-24.07415	-10.23857	4.68627	2.58398	0.94076	30.13955	5.43352	301.87	-19.86
98/ 6/ 4	2450968.5	14.97744	-24.06818	-10.23640	4.68506	2.58580	0.94154	30.13942	5.43348	301.89	-19.85
98/ 6/ 8	2450972.5	14.98826	-24.06220	-10.23422	4.68386	2.58763	0.94232	30.13929	5.43344	301.92	-19.85
98/ 6/12	2450976.5	14.99908	-24.05622	-10.23205	4.68265	2.58945	0.94309	30.13916	5.43341	301.94	-19.85
98/ 6/16	2450980.5	15.00989	-24.05024	-10.22987	4.68145	2.59127	0.94387	30.13903	5.43337	301.97	-19.84
98/ 6/20	2450984.5	15.02071	-24.04425	-10.22768	4.68024	2.59309	0.94465	30.13890	5.43333	301.99	-19.84
98/ 6/24	2450988.5	15.03152	-24.03826	-10.22550	4.67903	2.59491	0.94542	30.13876	5.43330	302.02	-19.83
98/ 6/28	2450992.5	15.04233	-24.03226	-10.22332	4.67782	2.59673	0.94620	30.13863	5.43326	302.04	-19.83
98/ 7/ 2	2450996.5	15.05313	-24.02626	-10.22113	4.67661	2.59855	0.94697	30.13850	5.43322	302.07	-19.82
98/ 7/ 6	2451000.5	15.06393	-24.02025	-10.21894	4.67540	2.60036	0.94775	30.13837	5.43318	302.09	-19.82
98/ 7/10	2451004.5	15.07473	-24.01424	-10.21675	4.67419	2.60218	0.94852	30.13824	5.43315	302.12	-19.82
98/ 7/14	2451008.5	15.08553	-24.00823	-10.21456	4.67297	2.60399	0.94930	30.13811	5.43311	302.14	-19.81
98/ 7/18	2451012.5	15.09632	-24.00221	-10.21236	4.67176	2.60581	0.95007	30.13798	5.43307	302.17	-19.81
98/ 7/22	2451016.5	15.10712	-23.99619	-10.21017	4.67055	2.60762	0.95085	30.13784	5.43303	302.19	-19.80
98/ 7/26	2451020.5	15.11790	-23.99016	-10.20797	4.66933	2.60943	0.95162	30.13771	5.43299	302.22	-19.80
98/ 7/30	2451024.5	15.12869	-23.98413	-10.20577	4.66811	2.61125	0.95239	30.13758	5.43295	302.24	-19.79
98/ 8/ 3	2451028.5	15.13947	-23.97810	-10.20357	4.66689	2.61306	0.95317	30.13745	5.43291	302.27	-19.79
98/ 8/ 7	2451032.5	15.15025	-23.97206	-10.20137	4.66567	2.61487	0.95394	30.13731	5.43287	302.29	-19.79
98/ 8/11	2451036.5	15.16103	-23.96602	-10.19916	4.66445	2.61667	0.95471	30.13718	5.43283	302.32	-19.78
98/ 8/15	2451040.5	15.17180	-23.95997	-10.19696	4.66323	2.61848	0.95548	30.13705	5.43278	302.34	-19.78
98/ 8/19	2451044.5	15.18258	-23.95392	-10.19475	4.66201	2.62029	0.95625	30.13692	5.43274	302.37	-19.77
98/ 8/23	2451048.5	15.19334	-23.94786	-10.19254	4.66079	2.62210	0.95702	30.13678	5.43270	302.39	-19.77
98/ 8/27	2451052.5	15.20411	-23.94180	-10.19033	4.65957	2.62390	0.95779	30.13665	5.43266	302.42	-19.76
98/ 8/31	2451056.5	15.21487	-23.93574	-10.18811	4.65834	2.62570	0.95856	30.13652	5.43262	302.44	-19.76
98/ 9/ 4	2451060.5	15.22563	-23.92967	-10.18590	4.65712	2.62751	0.95933	30.13638	5.43257	302.47	-19.75
98/ 9/ 8	2451064.5	15.23639	-23.92360	-10.18368	4.65589	2.62931	0.96010	30.13625	5.43253	302.49	-19.75
98/ 9/12	2451068.5	15.24714	-23.91752	-10.18146	4.65466	2.63111	0.96087	30.13612	5.43249	302.52	-19.75
98/ 9/16	2451072.5	15.25790	-23.91144	-10.17924	4.65343	2.63291	0.96164	30.13598	5.43244	302.54	-19.74
98/ 9/20	2451076.5	15.26865	-23.90536	-10.17702	4.65221	2.63471	0.96241	30.13585	5.43240	302.57	-19.74
98/ 9/24	2451080.5	15.27939	-23.89927	-10.17479	4.65098	2.63651	0.96318	30.13572	5.43235	302.59	-19.73
98/ 9/28	2451084.5	15.29013	-23.89318	-10.17257	4.64974	2.63831	0.96395	30.13558	5.43231	302.62	-19.73
98/10/ 2	2451088.5	15.30087	-23.88708	-10.17034	4.64851	2.64011	0.96471	30.13545	5.43227	302.64	-19.72
98/10/ 6	2451092.5	15.31161	-23.88098	-10.16811	4.64728	2.64190	0.96548	30.13531	5.43222	302.67	-19.72
98/10/10	2451096.5	15.32235	-23.87487	-10.16588	4.64605	2.64370	0.96625	30.13518	5.43217	302.69	-19.72

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
98/10/14	2451100.5	15.33308	-23.86876	-10.16365	4.64481	2.64549	0.96701	30.13504	5.43213	302.72	-19.71
98/10/18	2451104.5	15.34381	-23.86265	-10.16141	4.64358	2.64729	0.96778	30.13491	5.43208	302.74	-19.71
98/10/22	2451108.5	15.35453	-23.85653	-10.15918	4.64234	2.64908	0.96854	30.13478	5.43204	302.77	-19.70
98/10/26	2451112.5	15.36526	-23.85041	-10.15694	4.64110	2.65087	0.96931	30.13464	5.43199	302.79	-19.70
98/10/30	2451116.5	15.37598	-23.84429	-10.15470	4.63987	2.65266	0.97007	30.13451	5.43194	302.82	-19.69
98/11/ 3	2451120.5	15.38669	-23.83816	-10.15245	4.63863	2.65445	0.97084	30.13437	5.43190	302.84	-19.69
98/11/ 7	2451124.5	15.39741	-23.83202	-10.15021	4.63739	2.65624	0.97160	30.13424	5.43185	302.87	-19.68
98/11/11	2451128.5	15.40812	-23.82588	-10.14797	4.63615	2.65803	0.97237	30.13410	5.43180	302.89	-19.68
98/11/15	2451132.5	15.41883	-23.81974	-10.14572	4.63491	2.65981	0.97313	30.13397	5.43175	302.92	-19.68
98/11/19	2451136.5	15.42954	-23.81359	-10.14347	4.63367	2.66160	0.97389	30.13383	5.43171	302.94	-19.67
98/11/23	2451140.5	15.44024	-23.80744	-10.14122	4.63242	2.66338	0.97465	30.13370	5.43166	302.97	-19.67
98/11/27	2451144.5	15.45094	-23.80129	-10.13897	4.63118	2.66517	0.97542	30.13356	5.43161	302.99	-19.66
98/12/ 1	2451148.5	15.46164	-23.79513	-10.13671	4.62993	2.66695	0.97618	30.13342	5.43156	303.02	-19.66
98/12/ 5	2451152.5	15.47233	-23.78896	-10.13446	4.62869	2.66873	0.97694	30.13329	5.43151	303.04	-19.65
98/12/ 9	2451156.5	15.48302	-23.78280	-10.13220	4.62744	2.67051	0.97770	30.13315	5.43146	303.06	-19.65
98/12/13	2451160.5	15.49371	-23.77663	-10.12994	4.62620	2.67230	0.97846	30.13302	5.43141	303.09	-19.64
98/12/17	2451164.5	15.50440	-23.77045	-10.12768	4.62495	2.67407	0.97922	30.13288	5.43136	303.11	-19.64
98/12/21	2451168.5	15.51508	-23.76427	-10.12541	4.62370	2.67585	0.97998	30.13274	5.43131	303.14	-19.64
98/12/25	2451172.5	15.52576	-23.75809	-10.12315	4.62245	2.67763	0.98074	30.13261	5.43126	303.16	-19.63
98/12/29	2451176.5	15.53644	-23.75190	-10.12088	4.62120	2.67941	0.98150	30.13247	5.43121	303.19	-19.63
99/ 1/ 2	2451180.5	15.54711	-23.74571	-10.11861	4.61995	2.68118	0.98226	30.13234	5.43116	303.21	-19.62
99/ 1/ 6	2451184.5	15.55778	-23.73951	-10.11634	4.61870	2.68296	0.98302	30.13220	5.43111	303.24	-19.62
99/ 1/10	2451188.5	15.56845	-23.73331	-10.11407	4.61744	2.68473	0.98378	30.13206	5.43106	303.26	-19.61
99/ 1/14	2451192.5	15.57912	-23.72711	-10.11180	4.61619	2.68651	0.98453	30.13193	5.43101	303.29	-19.61
99/ 1/18	2451196.5	15.58978	-23.72090	-10.10952	4.61494	2.68828	0.98529	30.13179	5.43096	303.31	-19.60
99/ 1/22	2451200.5	15.60044	-23.71469	-10.10725	4.61368	2.69005	0.98605	30.13165	5.43090	303.34	-19.60
99/ 1/26	2451204.5	15.61110	-23.70847	-10.10497	4.61243	2.69182	0.98681	30.13152	5.43085	303.36	-19.59
99/ 1/30	2451208.5	15.62175	-23.70225	-10.10269	4.61117	2.69359	0.98756	30.13138	5.43080	303.39	-19.59
99/ 2/ 3	2451212.5	15.63240	-23.69602	-10.10040	4.60991	2.69536	0.98832	30.13124	5.43075	303.41	-19.59
99/ 2/ 7	2451216.5	15.64305	-23.68980	-10.09812	4.60865	2.69712	0.98907	30.13110	5.43069	303.44	-19.58
99/ 2/11	2451220.5	15.65370	-23.68356	-10.09584	4.60739	2.69889	0.98983	30.13097	5.43064	303.46	-19.58
99/ 2/15	2451224.5	15.66434	-23.67733	-10.09355	4.60614	2.70066	0.99058	30.13083	5.43059	303.49	-19.57
99/ 2/19	2451228.5	15.67498	-23.67108	-10.09126	4.60487	2.70242	0.99134	30.13069	5.43053	303.51	-19.57
99/ 2/23	2451232.5	15.68561	-23.66484	-10.08897	4.60361	2.70419	0.99209	30.13056	5.43048	303.54	-19.56
99/ 2/27	2451236.5	15.69625	-23.65859	-10.08667	4.60235	2.70595	0.99285	30.13042	5.43043	303.56	-19.56
99/ 3/ 3	2451240.5	15.70688	-23.65234	-10.08438	4.60109	2.70771	0.99360	30.13028	5.43037	303.59	-19.55
99/ 3/ 7	2451244.5	15.71751	-23.64608	-10.08208	4.59983	2.70947	0.99435	30.13014	5.43032	303.61	-19.55
99/ 3/11	2451248.5	15.72813	-23.63982	-10.07979	4.59856	2.71123	0.99511	30.13001	5.43026	303.64	-19.54
99/ 3/15	2451252.5	15.73875	-23.63355	-10.07749	4.59730	2.71299	0.99586	30.12987	5.43021	303.66	-19.54
99/ 3/19	2451256.5	15.74937	-23.62728	-10.07518	4.59603	2.71475	0.99661	30.12973	5.43016	303.69	-19.54
99/ 3/23	2451260.5	15.75999	-23.62101	-10.07288	4.59477	2.71651	0.99736	30.12959	5.43010	303.71	-19.53
99/ 3/27	2451264.5	15.77060	-23.61473	-10.07058	4.59350	2.71826	0.99811	30.12945	5.43005	303.74	-19.53
99/ 3/31	2451268.5	15.78121	-23.60845	-10.06827	4.59223	2.72002	0.99886	30.12932	5.42999	303.76	-19.52
99/ 4/ 4	2451272.5	15.79182	-23.60216	-10.06596	4.59096	2.72177	0.99961	30.12918	5.42994	303.79	-19.52
99/ 4/ 8	2451276.5	15.80242	-23.59588	-10.06365	4.58969	2.72353	1.00036	30.12904	5.42988	303.81	-19.51

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99/ 4/12	2451280.5	15.81303	-23.58958	-10.06134	4.58842	2.72528	1.00111	30.12890	5.42982	303.84	-19.51
99/ 4/16	2451284.5	15.82363	-23.58328	-10.05903	4.58715	2.72703	1.00186	30.12876	5.42977	303.86	-19.50
99/ 4/20	2451288.5	15.83422	-23.57698	-10.05671	4.58588	2.72878	1.00261	30.12862	5.42971	303.89	-19.50
99/ 4/24	2451292.5	15.84481	-23.57068	-10.05439	4.58461	2.73053	1.00336	30.12849	5.42966	303.91	-19.49
99/ 4/28	2451296.5	15.85540	-23.56437	-10.05207	4.58334	2.73228	1.00411	30.12835	5.42960	303.93	-19.49
99/ 5/ 2	2451300.5	15.86599	-23.55805	-10.04975	4.58206	2.73403	1.00486	30.12821	5.42954	303.96	-19.49
99/ 5/ 6	2451304.5	15.87657	-23.55173	-10.04743	4.58079	2.73577	1.00560	30.12807	5.42949	303.98	-19.48
99/ 5/10	2451308.5	15.88715	-23.54541	-10.04511	4.57951	2.73752	1.00635	30.12793	5.42943	304.01	-19.48
99/ 5/14	2451312.5	15.89773	-23.53908	-10.04278	4.57824	2.73927	1.00710	30.12779	5.42937	304.03	-19.47
99/ 5/18	2451316.5	15.90831	-23.53275	-10.04045	4.57696	2.74101	1.00784	30.12765	5.42932	304.06	-19.47
99/ 5/22	2451320.5	15.91888	-23.52642	-10.03813	4.57569	2.74275	1.00859	30.12751	5.42926	304.08	-19.46
99/ 5/26	2451324.5	15.92945	-23.52008	-10.03579	4.57441	2.74450	1.00933	30.12738	5.42920	304.11	-19.46
99/ 5/30	2451328.5	15.94002	-23.51374	-10.03346	4.57313	2.74624	1.01008	30.12724	5.42914	304.13	-19.45
99/ 6/ 3	2451332.5	15.95058	-23.50739	-10.03113	4.57185	2.74798	1.01082	30.12710	5.42909	304.16	-19.45
99/ 6/ 7	2451336.5	15.96114	-23.50104	-10.02879	4.57057	2.74972	1.01157	30.12696	5.42903	304.18	-19.44
99/ 6/11	2451340.5	15.97170	-23.49469	-10.02645	4.56929	2.75146	1.01231	30.12682	5.42897	304.21	-19.44
99/ 6/15	2451344.5	15.98225	-23.48833	-10.02411	4.56801	2.75319	1.01306	30.12668	5.42891	304.23	-19.43
99/ 6/19	2451348.5	15.99280	-23.48197	-10.02177	4.56673	2.75493	1.01380	30.12654	5.42886	304.26	-19.43
99/ 6/23	2451352.5	16.00335	-23.47560	-10.01943	4.56545	2.75667	1.01454	30.12640	5.42880	304.28	-19.43
99/ 6/27	2451356.5	16.01390	-23.46923	-10.01709	4.56417	2.75840	1.01529	30.12626	5.42874	304.31	-19.42
99/ 7/ 1	2451360.5	16.02444	-23.46286	-10.01474	4.56288	2.76014	1.01603	30.12612	5.42868	304.33	-19.42
99/ 7/ 5	2451364.5	16.03498	-23.45648	-10.01239	4.56160	2.76187	1.01677	30.12598	5.42862	304.36	-19.41
99/ 7/ 9	2451368.5	16.04551	-23.45010	-10.01004	4.56032	2.76360	1.01751	30.12584	5.42856	304.38	-19.41
99/ 7/13	2451372.5	16.05605	-23.44371	-10.00769	4.55903	2.76533	1.01825	30.12570	5.42851	304.41	-19.40
99/ 7/17	2451376.5	16.06658	-23.43732	-10.00534	4.55774	2.76706	1.01899	30.12557	5.42845	304.43	-19.40
99/ 7/21	2451380.5	16.07711	-23.43092	-10.00298	4.55646	2.76879	1.01973	30.12543	5.42839	304.46	-19.39
99/ 7/25	2451384.5	16.08763	-23.42453	-10.00063	4.55517	2.77052	1.02047	30.12529	5.42833	304.48	-19.39
99/ 7/29	2451388.5	16.09815	-23.41812	-9.99827	4.55388	2.77225	1.02121	30.12515	5.42827	304.51	-19.38
99/ 8/ 2	2451392.5	16.10867	-23.41172	-9.99591	4.55260	2.77398	1.02195	30.12501	5.42821	304.53	-19.38
99/ 8/ 6	2451396.5	16.11919	-23.40531	-9.99354	4.55131	2.77570	1.02269	30.12487	5.42815	304.56	-19.37
99/ 8/10	2451400.5	16.12970	-23.39889	-9.99118	4.55002	2.77743	1.02343	30.12473	5.42809	304.58	-19.37
99/ 8/14	2451404.5	16.14021	-23.39247	-9.98882	4.54873	2.77915	1.02417	30.12459	5.42803	304.60	-19.36
99/ 8/18	2451408.5	16.15072	-23.38605	-9.98645	4.54744	2.78088	1.02491	30.12445	5.42797	304.63	-19.36
99/ 8/22	2451412.5	16.16122	-23.37963	-9.98408	4.54615	2.78260	1.02564	30.12431	5.42791	304.65	-19.36
99/ 8/26	2451416.5	16.17172	-23.37320	-9.98171	4.54485	2.78432	1.02638	30.12417	5.42785	304.68	-19.35
99/ 8/30	2451420.5	16.18222	-23.36676	-9.97934	4.54356	2.78604	1.02712	30.12403	5.42779	304.70	-19.35
99/ 9/ 3	2451424.5	16.19272	-23.36032	-9.97696	4.54227	2.78776	1.02785	30.12389	5.42774	304.73	-19.34
99/ 9/ 7	2451428.5	16.20321	-23.35388	-9.97459	4.54098	2.78948	1.02859	30.12375	5.42768	304.75	-19.34
99/ 9/11	2451432.5	16.21370	-23.34743	-9.97221	4.53968	2.79120	1.02933	30.12361	5.42762	304.78	-19.33
99/ 9/15	2451436.5	16.22418	-23.34098	-9.96983	4.53839	2.79291	1.03006	30.12347	5.42756	304.80	-19.33
99/ 9/19	2451440.5	16.23467	-23.33453	-9.96745	4.53709	2.79463	1.03080	30.12333	5.42750	304.83	-19.32
99/ 9/23	2451444.5	16.24515	-23.32807	-9.96507	4.53580	2.79635	1.03153	30.12319	5.42744	304.85	-19.32
99/ 9/27	2451448.5	16.25562	-23.32161	-9.96269	4.53450	2.79806	1.03227	30.12305	5.42738	304.88	-19.31
99/10/ 1	2451452.5	16.26610	-23.31514	-9.96030	4.53320	2.79977	1.03300	30.12291	5.42732	304.90	-19.31
99/10/ 5	2451456.5	16.27657	-23.30867	-9.95791	4.53191	2.80149	1.03373	30.12277	5.42726	304.93	-19.30

1.8 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM NEPTUNE

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
99/10/ 9	2451460.5	16.28703	-23.30220	-9.95553	4.53061	2.80320	1.03447	30.12263	5.42720	304.95	-19.30
99/10/13	2451464.5	16.29750	-23.29572	-9.95313	4.52931	2.80491	1.03520	30.12248	5.42714	304.98	-19.29
99/10/17	2451468.5	16.30796	-23.28924	-9.95074	4.52801	2.80662	1.03593	30.12234	5.42708	305.00	-19.29
99/10/21	2451472.5	16.31842	-23.28276	-9.94835	4.52671	2.80833	1.03666	30.12220	5.42702	305.03	-19.28
99/10/25	2451476.5	16.32888	-23.27627	-9.94595	4.52541	2.81004	1.03740	30.12206	5.42696	305.05	-19.28
99/10/29	2451480.5	16.33933	-23.26977	-9.94356	4.52411	2.81174	1.03813	30.12192	5.42689	305.08	-19.28
99/11/ 2	2451484.5	16.34978	-23.26327	-9.94116	4.52281	2.81345	1.03886	30.12178	5.42683	305.10	-19.27
99/11/ 6	2451488.5	16.36023	-23.25677	-9.93876	4.52151	2.81515	1.03959	30.12164	5.42677	305.12	-19.27
99/11/10	2451492.5	16.37067	-23.25027	-9.93635	4.52021	2.81686	1.04032	30.12150	5.42671	305.15	-19.26
99/11/14	2451496.5	16.38111	-23.24376	-9.93395	4.51890	2.81856	1.04105	30.12136	5.42665	305.17	-19.26
99/11/18	2451500.5	16.39155	-23.23724	-9.93154	4.51760	2.82027	1.04178	30.12122	5.42659	305.20	-19.25
99/11/22	2451504.5	16.40198	-23.23073	-9.92914	4.51630	2.82197	1.04251	30.12108	5.42653	305.22	-19.25
99/11/26	2451508.5	16.41242	-23.22421	-9.92673	4.51499	2.82367	1.04324	30.12094	5.42647	305.25	-19.24
99/11/30	2451512.5	16.42285	-23.21768	-9.92432	4.51369	2.82537	1.04397	30.12080	5.42641	305.27	-19.24
99/12/ 4	2451516.5	16.43327	-23.21115	-9.92190	4.51238	2.82707	1.04469	30.12066	5.42635	305.30	-19.23
99/12/ 8	2451520.5	16.44369	-23.20462	-9.91949	4.51108	2.82877	1.04542	30.12052	5.42629	305.32	-19.23
99/12/12	2451524.5	16.45411	-23.19808	-9.91707	4.50977	2.83047	1.04615	30.12038	5.42623	305.35	-19.22
99/12/16	2451528.5	16.46453	-23.19154	-9.91465	4.50846	2.83216	1.04688	30.12024	5.42617	305.37	-19.22
99/12/20	2451532.5	16.47495	-23.18500	-9.91224	4.50716	2.83386	1.04760	30.12010	5.42611	305.40	-19.21
99/12/24	2451536.5	16.48536	-23.17845	-9.90981	4.50585	2.83555	1.04833	30.11996	5.42605	305.42	-19.21

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
64/12/31	2438760.5	-30.53427	4.61772	10.71340	-0.28967	-5.38921	-1.61608	32.68703	5.63375	171.40	19.13
65/ 1/ 4	2438764.5	-30.53494	4.60527	10.70966	-0.28792	-5.38953	-1.61674	32.68467	5.63416	171.42	19.13
65/ 1/ 8	2438768.5	-30.53560	4.59282	10.70593	-0.28616	-5.38986	-1.61739	32.68231	5.63457	171.45	19.12
65/ 1/12	2438772.5	-30.53626	4.58037	10.70219	-0.28441	-5.39018	-1.61804	32.67996	5.63498	171.47	19.12
65/ 1/16	2438776.5	-30.53691	4.56791	10.69845	-0.28265	-5.39051	-1.61869	32.67760	5.63539	171.49	19.11
65/ 1/20	2438780.5	-30.53756	4.55546	10.69471	-0.28089	-5.39083	-1.61935	32.67525	5.63580	171.52	19.11
65/ 1/24	2438784.5	-30.53821	4.54300	10.69097	-0.27914	-5.39115	-1.62000	32.67289	5.63621	171.54	19.10
65/ 1/28	2438788.5	-30.53885	4.53055	10.68723	-0.27738	-5.39147	-1.62065	32.67054	5.63661	171.56	19.09
65/ 2/ 1	2438792.5	-30.53949	4.51809	10.68348	-0.27563	-5.39179	-1.62130	32.66819	5.63702	171.58	19.09
65/ 2/ 5	2438796.5	-30.54013	4.50564	10.67974	-0.27387	-5.39211	-1.62195	32.66584	5.63742	171.61	19.08
65/ 2/ 9	2438800.5	-30.54076	4.49318	10.67599	-0.27212	-5.39243	-1.62260	32.66349	5.63783	171.63	19.08
65/ 2/13	2438804.5	-30.54138	4.48072	10.67224	-0.27036	-5.39274	-1.62325	32.66113	5.63824	171.65	19.07
65/ 2/17	2438808.5	-30.54201	4.46826	10.66849	-0.26861	-5.39306	-1.62390	32.65878	5.63864	171.68	19.07
65/ 2/21	2438812.5	-30.54263	4.45581	10.66474	-0.26685	-5.39338	-1.62455	32.65644	5.63905	171.70	19.06
65/ 2/25	2438816.5	-30.54324	4.44335	10.66098	-0.26510	-5.39369	-1.62520	32.65409	5.63946	171.72	19.06
65/ 3/ 1	2438820.5	-30.54385	4.43088	10.65723	-0.26334	-5.39401	-1.62585	32.65174	5.63987	171.75	19.05
65/ 3/ 5	2438824.5	-30.54446	4.41842	10.65347	-0.26159	-5.39433	-1.62650	32.64939	5.64028	171.77	19.04
65/ 3/ 9	2438828.5	-30.54506	4.40596	10.64971	-0.25983	-5.39465	-1.62715	32.64704	5.64069	171.79	19.04
65/ 3/13	2438832.5	-30.54566	4.39350	10.64595	-0.25808	-5.39497	-1.62780	32.64470	5.64110	171.82	19.03
65/ 3/17	2438836.5	-30.54625	4.38103	10.64219	-0.25632	-5.39529	-1.62845	32.64235	5.64151	171.84	19.03
65/ 3/21	2438840.5	-30.54684	4.36857	10.63843	-0.25456	-5.39561	-1.62911	32.64001	5.64193	171.86	19.02
65/ 3/25	2438844.5	-30.54743	4.35610	10.63466	-0.25280	-5.39593	-1.62976	32.63766	5.64234	171.88	19.02
65/ 3/29	2438848.5	-30.54801	4.34364	10.63090	-0.25104	-5.39625	-1.63041	32.63532	5.64276	171.91	19.01
65/ 4/ 2	2438852.5	-30.54859	4.33117	10.62713	-0.24928	-5.39656	-1.63107	32.63298	5.64317	171.93	19.01
65/ 4/ 6	2438856.5	-30.54916	4.31870	10.62336	-0.24752	-5.39688	-1.63172	32.63063	5.64359	171.95	19.00
65/ 4/10	2438860.5	-30.54973	4.30624	10.61959	-0.24575	-5.39720	-1.63237	32.62829	5.64400	171.98	18.99
65/ 4/14	2438864.5	-30.55030	4.29377	10.61582	-0.24399	-5.39751	-1.63302	32.62595	5.64442	172.00	18.99
65/ 4/18	2438868.5	-30.55086	4.28130	10.61205	-0.24222	-5.39783	-1.63368	32.62361	5.64483	172.02	18.98
65/ 4/22	2438872.5	-30.55142	4.26883	10.60827	-0.24046	-5.39815	-1.63433	32.62127	5.64525	172.05	18.98
65/ 4/26	2438876.5	-30.55197	4.25636	10.60449	-0.23869	-5.39846	-1.63498	32.61893	5.64566	172.07	18.97
65/ 4/30	2438880.5	-30.55252	4.24389	10.60072	-0.23692	-5.39878	-1.63564	32.61659	5.64608	172.09	18.97
65/ 5/ 4	2438884.5	-30.55306	4.23141	10.59694	-0.23515	-5.39909	-1.63629	32.61426	5.64650	172.12	18.96
65/ 5/ 8	2438888.5	-30.55361	4.21894	10.59316	-0.23338	-5.39941	-1.63694	32.61192	5.64691	172.14	18.95
65/ 5/12	2438892.5	-30.55414	4.20647	10.58937	-0.23161	-5.39972	-1.63760	32.60958	5.64733	172.16	18.95
65/ 5/16	2438896.5	-30.55468	4.19399	10.58559	-0.22983	-5.40004	-1.63825	32.60725	5.64775	172.18	18.94
65/ 5/20	2438900.5	-30.55520	4.18152	10.58180	-0.22806	-5.40035	-1.63890	32.60491	5.64817	172.21	18.94
65/ 5/24	2438904.5	-30.55573	4.16904	10.57802	-0.22629	-5.40066	-1.63956	32.60258	5.64859	172.23	18.93
65/ 5/28	2438908.5	-30.55625	4.15656	10.57423	-0.22451	-5.40098	-1.64021	32.60024	5.64900	172.25	18.93
65/ 6/ 1	2438912.5	-30.55677	4.14408	10.57044	-0.22273	-5.40129	-1.64087	32.59791	5.64942	172.28	18.92
65/ 6/ 5	2438916.5	-30.55728	4.13161	10.56665	-0.22095	-5.40160	-1.64152	32.59558	5.64984	172.30	18.92
65/ 6/ 9	2438920.5	-30.55779	4.11913	10.56286	-0.21917	-5.40192	-1.64218	32.59324	5.65027	172.32	18.91
65/ 6/13	2438924.5	-30.55829	4.10665	10.55906	-0.21739	-5.40223	-1.64283	32.59091	5.65069	172.35	18.90
65/ 6/17	2438928.5	-30.55879	4.09417	10.55526	-0.21560	-5.40254	-1.64349	32.58858	5.65111	172.37	18.90
65/ 6/21	2438932.5	-30.55929	4.08169	10.55147	-0.21381	-5.40285	-1.64414	32.58625	5.65153	172.39	18.89
65/ 6/25	2438936.5	-30.55978	4.06920	10.54767	-0.21202	-5.40316	-1.64480	32.58392	5.65194	172.42	18.89

1.9 1 A.U.=149,599,000 KM.

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65/ 6/29	2438940.5	-30.56027	4.05672	10.54387	-0.21023	-5.40347	-1.64545	32.58159	5.65236	172.44	18.88
65/ 7/ 3	2438944.5	-30.56075	4.04424	10.54007	-0.20843	-5.40377	-1.64610	32.57926	5.65277	172.46	18.88
65/ 7/ 7	2438948.5	-30.56123	4.03175	10.53626	-0.20664	-5.40407	-1.64675	32.57693	5.65318	172.48	18.87
65/ 7/11	2438952.5	-30.56171	4.01927	10.53246	-0.20485	-5.40437	-1.64741	32.57461	5.65359	172.51	18.86
65/ 7/15	2438956.5	-30.56218	4.00678	10.52865	-0.20305	-5.40467	-1.64806	32.57228	5.65400	172.53	18.86
65/ 7/19	2438960.5	-30.56264	3.99430	10.52484	-0.20126	-5.40497	-1.64871	32.56995	5.65441	172.55	18.85
65/ 7/23	2438964.5	-30.56311	3.98181	10.52103	-0.19946	-5.40526	-1.64936	32.56763	5.65482	172.58	18.85
65/ 7/27	2438968.5	-30.56357	3.96932	10.51722	-0.19767	-5.40555	-1.65001	32.56530	5.65523	172.60	18.84
65/ 7/31	2438972.5	-30.56402	3.95684	10.51341	-0.19587	-5.40585	-1.65066	32.56298	5.65564	172.62	18.84
65/ 8/ 4	2438976.5	-30.56447	3.94435	10.50960	-0.19407	-5.40614	-1.65130	32.56066	5.65604	172.65	18.83
65/ 8/ 8	2438980.5	-30.56492	3.93186	10.50578	-0.19228	-5.40643	-1.65195	32.55833	5.65645	172.67	18.82
65/ 8/12	2438984.5	-30.56536	3.91937	10.50196	-0.19049	-5.40672	-1.65260	32.55601	5.65685	172.69	18.82
65/ 8/16	2438988.5	-30.56580	3.90688	10.49814	-0.18869	-5.40700	-1.65325	32.55369	5.65725	172.72	18.81
65/ 8/20	2438992.5	-30.56623	3.89439	10.49432	-0.18690	-5.40729	-1.65390	32.55137	5.65766	172.74	18.81
65/ 8/24	2438996.5	-30.56666	3.88189	10.49050	-0.18511	-5.40758	-1.65454	32.54905	5.65806	172.76	18.80
65/ 8/28	2439000.5	-30.56709	3.86940	10.48668	-0.18331	-5.40786	-1.65519	32.54673	5.65847	172.79	18.80
65/ 9/ 1	2439004.5	-30.56751	3.85691	10.48286	-0.18152	-5.40815	-1.65584	32.54441	5.65887	172.81	18.79
65/ 9/ 5	2439008.5	-30.56792	3.84441	10.47903	-0.17973	-5.40844	-1.65649	32.54209	5.65928	172.83	18.78
65/ 9/ 9	2439012.5	-30.56834	3.83192	10.47520	-0.17794	-5.40873	-1.65714	32.53977	5.65969	172.85	18.78
65/ 9/13	2439016.5	-30.56875	3.81942	10.47137	-0.17614	-5.40901	-1.65778	32.53745	5.66010	172.88	18.77
65/ 9/17	2439020.5	-30.56915	3.80693	10.46754	-0.17435	-5.40930	-1.65843	32.53514	5.66050	172.90	18.77
65/ 9/21	2439024.5	-30.56955	3.79443	10.46371	-0.17255	-5.40958	-1.65908	32.53282	5.66091	172.92	18.76
65/ 9/25	2439028.5	-30.56995	3.78193	10.45988	-0.17076	-5.40987	-1.65973	32.53051	5.66132	172.95	18.76
65/ 9/29	2439032.5	-30.57034	3.76943	10.45604	-0.16896	-5.41015	-1.66038	32.52819	5.66173	172.97	18.75
65/10/ 3	2439036.5	-30.57073	3.75694	10.45220	-0.16717	-5.41043	-1.66103	32.52588	5.66213	172.99	18.74
65/10/ 7	2439040.5	-30.57111	3.74444	10.44837	-0.16537	-5.41072	-1.66167	32.52356	5.66254	173.02	18.74
65/10/11	2439044.5	-30.57149	3.73194	10.44453	-0.16358	-5.41100	-1.66232	32.52125	5.66295	173.04	18.73
65/10/15	2439048.5	-30.57187	3.71944	10.44069	-0.16178	-5.41129	-1.66297	32.51894	5.66336	173.06	18.73
65/10/19	2439052.5	-30.57224	3.70693	10.43684	-0.15999	-5.41157	-1.66362	32.51663	5.66377	173.09	18.72
65/10/23	2439056.5	-30.57261	3.69443	10.43300	-0.15820	-5.41185	-1.66427	32.51432	5.66418	173.11	18.72
65/10/27	2439060.5	-30.57297	3.68193	10.42915	-0.15640	-5.41214	-1.66492	32.51201	5.66460	173.13	18.71
65/10/31	2439064.5	-30.57333	3.66943	10.42531	-0.15461	-5.41242	-1.66557	32.50970	5.66501	173.16	18.70
65/11/ 4	2439068.5	-30.57369	3.65692	10.42146	-0.15281	-5.41271	-1.66622	32.50739	5.66543	173.18	18.70
65/11/ 8	2439072.5	-30.57404	3.64442	10.41761	-0.15102	-5.41300	-1.66687	32.50508	5.66584	173.20	18.69
65/11/12	2439076.5	-30.57438	3.63191	10.41376	-0.14922	-5.41329	-1.66752	32.50277	5.66626	173.23	18.69
65/11/16	2439080.5	-30.57473	3.61941	10.40990	-0.14742	-5.41357	-1.66817	32.50046	5.66668	173.25	18.68
65/11/20	2439084.5	-30.57507	3.60690	10.40605	-0.14562	-5.41386	-1.66882	32.49816	5.66711	173.27	18.68
65/11/24	2439088.5	-30.57540	3.59439	10.40219	-0.14382	-5.41415	-1.66948	32.49585	5.66753	173.30	18.67
65/11/28	2439092.5	-30.57573	3.58188	10.39834	-0.14202	-5.41445	-1.67013	32.49355	5.66796	173.32	18.66
65/12/ 2	2439096.5	-30.57606	3.56938	10.39448	-0.14022	-5.41474	-1.67079	32.49124	5.66839	173.34	18.66
65/12/ 6	2439100.5	-30.57638	3.55687	10.39062	-0.13841	-5.41503	-1.67144	32.48894	5.66882	173.36	18.65
65/12/10	2439104.5	-30.57670	3.54436	10.38675	-0.13660	-5.41533	-1.67210	32.48663	5.66925	173.39	18.65
65/12/14	2439108.5	-30.57701	3.53185	10.38289	-0.13479	-5.41562	-1.67276	32.48433	5.66968	173.41	18.64
65/12/18	2439112.5	-30.57732	3.51933	10.37903	-0.13297	-5.41591	-1.67341	32.48203	5.67011	173.43	18.63
65/12/22	2439116.5	-30.57762	3.50682	10.37516	-0.13116	-5.41621	-1.67407	32.47973	5.67054	173.46	18.63

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
65/12/26	2439120.5	-30.57792	3.49431	10.37129	-0.12934	-5.41650	-1.67473	32.47743	5.67097	173.48	18.62
65/12/30	2439124.5	-30.57822	3.48180	10.36742	-0.12751	-5.41679	-1.67538	32.47513	5.67140	173.50	18.62
66/ 1/ 3	2439128.5	-30.57851	3.46928	10.36355	-0.12569	-5.41708	-1.67604	32.47283	5.67183	173.53	18.61
66/ 1/ 7	2439132.5	-30.57880	3.45677	10.35968	-0.12386	-5.41736	-1.67669	32.47053	5.67226	173.55	18.61
66/ 1/11	2439136.5	-30.57909	3.44425	10.35580	-0.12203	-5.41765	-1.67735	32.46823	5.67268	173.57	18.60
66/ 1/15	2439140.5	-30.57937	3.43174	10.35193	-0.12020	-5.41794	-1.67800	32.46593	5.67311	173.60	18.59
66/ 1/19	2439144.5	-30.57964	3.41922	10.34805	-0.11837	-5.41822	-1.67866	32.46364	5.67354	173.62	18.59
66/ 1/23	2439148.5	-30.57991	3.40670	10.34417	-0.11653	-5.41850	-1.67931	32.46134	5.67396	173.64	18.58
66/ 1/27	2439152.5	-30.58018	3.39418	10.34029	-0.11470	-5.41879	-1.67997	32.45904	5.67439	173.67	18.58
66/ 1/31	2439156.5	-30.58044	3.38166	10.33641	-0.11286	-5.41907	-1.68062	32.45675	5.67481	173.69	18.57
66/ 2/ 4	2439160.5	-30.58070	3.36915	10.33253	-0.11102	-5.41934	-1.68127	32.45445	5.67524	173.71	18.56
66/ 2/ 8	2439164.5	-30.58096	3.35663	10.32864	-0.10918	-5.41962	-1.68193	32.45216	5.67566	173.74	18.56
66/ 2/12	2439168.5	-30.58121	3.34411	10.32476	-0.10734	-5.41990	-1.68258	32.44986	5.67608	173.76	18.55
66/ 2/16	2439172.5	-30.58145	3.33158	10.32087	-0.10549	-5.42017	-1.68323	32.44757	5.67650	173.78	18.55
66/ 2/20	2439176.5	-30.58169	3.31906	10.31698	-0.10365	-5.42044	-1.68388	32.44528	5.67692	173.81	18.54
66/ 2/24	2439180.5	-30.58193	3.30654	10.31309	-0.10180	-5.42071	-1.68453	32.44299	5.67734	173.83	18.53
66/ 2/28	2439184.5	-30.58216	3.29402	10.30919	-0.09995	-5.42098	-1.68518	32.44070	5.67776	173.85	18.53
66/ 3/ 4	2439188.5	-30.58239	3.28149	10.30530	-0.09810	-5.42125	-1.68584	32.43841	5.67817	173.88	18.52
66/ 3/ 8	2439192.5	-30.58262	3.26897	10.30141	-0.09625	-5.42152	-1.68649	32.43611	5.67859	173.90	18.52
66/ 3/12	2439196.5	-30.58284	3.25644	10.29751	-0.09440	-5.42178	-1.68714	32.43383	5.67900	173.92	18.51
66/ 3/16	2439200.5	-30.58305	3.24392	10.29361	-0.09254	-5.42204	-1.68778	32.43154	5.67941	173.95	18.51
66/ 3/20	2439204.5	-30.58326	3.23139	10.28971	-0.09069	-5.42230	-1.68843	32.42925	5.67982	173.97	18.50
66/ 3/24	2439208.5	-30.58347	3.21886	10.28581	-0.08883	-5.42256	-1.68908	32.42696	5.68023	173.99	18.49
66/ 3/28	2439212.5	-30.58367	3.20634	10.28191	-0.08697	-5.42281	-1.68972	32.42467	5.68063	174.02	18.49
66/ 4/ 1	2439216.5	-30.58387	3.19381	10.27800	-0.08512	-5.42306	-1.69037	32.42239	5.68104	174.04	18.48
66/ 4/ 5	2439220.5	-30.58407	3.18128	10.27410	-0.08326	-5.42331	-1.69101	32.42010	5.68144	174.06	18.48
66/ 4/ 9	2439224.5	-30.58426	3.16875	10.27019	-0.08141	-5.42356	-1.69165	32.41781	5.68184	174.08	18.47
66/ 4/13	2439228.5	-30.58444	3.15622	10.26628	-0.07955	-5.42380	-1.69229	32.41553	5.68224	174.11	18.46
66/ 4/17	2439232.5	-30.58463	3.14369	10.26237	-0.07770	-5.42405	-1.69294	32.41324	5.68264	174.13	18.46
66/ 4/21	2439236.5	-30.58480	3.13116	10.25846	-0.07585	-5.42429	-1.69358	32.41096	5.68303	174.15	18.45
66/ 4/25	2439240.5	-30.58498	3.11863	10.25455	-0.07400	-5.42453	-1.69422	32.40868	5.68343	174.18	18.45
66/ 4/29	2439244.5	-30.58515	3.10610	10.25063	-0.07214	-5.42477	-1.69486	32.40639	5.68383	174.20	18.44
66/ 5/ 3	2439248.5	-30.58531	3.09357	10.24671	-0.07029	-5.42501	-1.69550	32.40411	5.68422	174.22	18.43
66/ 5/ 7	2439252.5	-30.58547	3.08103	10.24280	-0.06844	-5.42525	-1.69614	32.40183	5.68462	174.25	18.43
66/ 5/11	2439256.5	-30.58563	3.06850	10.23888	-0.06660	-5.42549	-1.69678	32.39955	5.68501	174.27	18.42
66/ 5/15	2439260.5	-30.58578	3.05596	10.23496	-0.06475	-5.42572	-1.69742	32.39727	5.68541	174.29	18.42
66/ 5/19	2439264.5	-30.58593	3.04343	10.23103	-0.06290	-5.42596	-1.69806	32.39499	5.68581	174.32	18.41
66/ 5/23	2439268.5	-30.58607	3.03089	10.22711	-0.06106	-5.42620	-1.69870	32.39271	5.68621	174.34	18.40
66/ 5/27	2439272.5	-30.58621	3.01836	10.22319	-0.05921	-5.42644	-1.69934	32.39043	5.68661	174.36	18.40
66/ 5/31	2439276.5	-30.58634	3.00582	10.21926	-0.05736	-5.42668	-1.69998	32.38815	5.68701	174.39	18.39
66/ 6/ 4	2439280.5	-30.58647	2.99329	10.21533	-0.05551	-5.42692	-1.70063	32.38588	5.68741	174.41	18.39
66/ 6/ 8	2439284.5	-30.58660	2.98075	10.21140	-0.05366	-5.42716	-1.70127	32.38360	5.68782	174.43	18.38
66/ 6/12	2439288.5	-30.58672	2.96821	10.20747	-0.05181	-5.42740	-1.70191	32.38132	5.68822	174.46	18.37
66/ 6/16	2439292.5	-30.58684	2.95567	10.20354	-0.04996	-5.42764	-1.70255	32.37905	5.68862	174.48	18.37
66/ 6/20	2439296.5	-30.58695	2.94313	10.19960	-0.04811	-5.42787	-1.70319	32.37677	5.68902	174.50	18.36

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66/ 6/24	2439300.5	-30.58706	2.93059	10.19567	-0.04626	-5.42811	-1.70384	32.37450	5.68943	174.53	18.36
66/ 6/28	2439304.5	-30.58716	2.91805	10.19173	-0.04441	-5.42835	-1.70448	32.37223	5.68983	174.55	18.35
66/ 7/ 2	2439308.5	-30.58727	2.90551	10.18779	-0.04256	-5.42858	-1.70512	32.36995	5.69023	174.57	18.34
66/ 7/ 6	2439312.5	-30.58736	2.89297	10.18385	-0.04070	-5.42882	-1.70576	32.36768	5.69064	174.60	18.34
66/ 7/10	2439316.5	-30.58745	2.88043	10.17991	-0.03885	-5.42905	-1.70641	32.36541	5.69104	174.62	18.33
66/ 7/14	2439320.5	-30.58754	2.86789	10.17597	-0.03700	-5.42929	-1.70705	32.36314	5.69145	174.64	18.33
66/ 7/18	2439324.5	-30.58762	2.85534	10.17203	-0.03514	-5.42953	-1.70769	32.36087	5.69185	174.67	18.32
66/ 7/22	2439328.5	-30.58770	2.84280	10.16808	-0.03329	-5.42976	-1.70833	32.35860	5.69226	174.69	18.31
66/ 7/26	2439332.5	-30.58778	2.83026	10.16413	-0.03143	-5.43000	-1.70898	32.35633	5.69267	174.71	18.31
66/ 7/30	2439336.5	-30.58785	2.81771	10.16018	-0.02958	-5.43024	-1.70962	32.35406	5.69308	174.74	18.30
66/ 8/ 3	2439340.5	-30.58791	2.80517	10.15623	-0.02772	-5.43047	-1.71027	32.35179	5.69349	174.76	18.30
66/ 8/ 7	2439344.5	-30.58798	2.79262	10.15228	-0.02586	-5.43071	-1.71091	32.34953	5.69390	174.78	18.29
66/ 8/11	2439348.5	-30.58803	2.78008	10.14833	-0.02400	-5.43095	-1.71155	32.34726	5.69431	174.81	18.28
66/ 8/15	2439352.5	-30.58809	2.76753	10.14437	-0.02214	-5.43118	-1.71220	32.34499	5.69472	174.83	18.28
66/ 8/19	2439356.5	-30.58814	2.75498	10.14042	-0.02028	-5.43142	-1.71284	32.34273	5.69514	174.85	18.27
66/ 8/23	2439360.5	-30.58818	2.74243	10.13646	-0.01842	-5.43166	-1.71349	32.34046	5.69555	174.88	18.27
66/ 8/27	2439364.5	-30.58822	2.72989	10.13250	-0.01655	-5.43190	-1.71414	32.33820	5.69597	174.90	18.26
66/ 8/31	2439368.5	-30.58826	2.71734	10.12854	-0.01468	-5.43213	-1.71478	32.33594	5.69638	174.92	18.25
66/ 9/ 4	2439372.5	-30.58829	2.70479	10.12458	-0.01280	-5.43237	-1.71543	32.33367	5.69680	174.95	18.25
66/ 9/ 8	2439376.5	-30.58832	2.69224	10.12061	-0.01093	-5.43260	-1.71608	32.33141	5.69721	174.97	18.24
66/ 9/12	2439380.5	-30.58834	2.67969	10.11665	-0.00905	-5.43283	-1.71672	32.32915	5.69762	174.99	18.24
66/ 9/16	2439384.5	-30.58836	2.66714	10.11268	-0.00717	-5.43306	-1.71737	32.32689	5.69803	175.02	18.23
66/ 9/20	2439388.5	-30.58837	2.65458	10.10871	-0.00529	-5.43329	-1.71801	32.32463	5.69844	175.04	18.22
66/ 9/24	2439392.5	-30.58838	2.64203	10.10474	-0.00341	-5.43352	-1.71865	32.32237	5.69885	175.06	18.22
66/ 9/28	2439396.5	-30.58839	2.62948	10.10077	-0.00153	-5.43374	-1.71930	32.32011	5.69926	175.09	18.21
66/10/ 2	2439400.5	-30.58839	2.61693	10.09680	0.00035	-5.43396	-1.71994	32.31785	5.69966	175.11	18.21
66/10/ 6	2439404.5	-30.58839	2.60437	10.09283	0.00223	-5.43418	-1.72058	32.31559	5.70007	175.13	18.20
66/10/10	2439408.5	-30.58838	2.59182	10.08885	0.00412	-5.43440	-1.72122	32.31333	5.70047	175.16	18.19
66/10/14	2439412.5	-30.58837	2.57926	10.08487	0.00600	-5.43462	-1.72186	32.31107	5.70087	175.18	18.19
66/10/18	2439416.5	-30.58835	2.56671	10.08090	0.00789	-5.43484	-1.72250	32.30882	5.70128	175.20	18.18
66/10/22	2439420.5	-30.58833	2.55415	10.07692	0.00977	-5.43505	-1.72314	32.30656	5.70168	175.23	18.17
66/10/26	2439424.5	-30.58831	2.54160	10.07293	0.01166	-5.43527	-1.72378	32.30431	5.70208	175.25	18.17
66/10/30	2439428.5	-30.58828	2.52904	10.06895	0.01354	-5.43548	-1.72442	32.30205	5.70248	175.27	18.16
66/11/ 3	2439432.5	-30.58824	2.51648	10.06497	0.01543	-5.43569	-1.72506	32.29980	5.70288	175.30	18.16
66/11/ 7	2439436.5	-30.58821	2.50392	10.06098	0.01732	-5.43590	-1.72570	32.29754	5.70328	175.32	18.15
66/11/11	2439440.5	-30.58816	2.49137	10.05699	0.01920	-5.43611	-1.72634	32.29529	5.70368	175.34	18.14
66/11/15	2439444.5	-30.58812	2.47881	10.05300	0.02109	-5.43632	-1.72698	32.29304	5.70408	175.37	18.14
66/11/19	2439448.5	-30.58807	2.46625	10.04901	0.02297	-5.43653	-1.72761	32.29079	5.70448	175.39	18.13
66/11/23	2439452.5	-30.58801	2.45369	10.04502	0.02486	-5.43674	-1.72825	32.28854	5.70488	175.41	18.13
66/11/27	2439456.5	-30.58795	2.44113	10.04103	0.02675	-5.43695	-1.72889	32.28628	5.70528	175.44	18.12
66/12/ 1	2439460.5	-30.58789	2.42857	10.03703	0.02864	-5.43716	-1.72953	32.28403	5.70568	175.46	18.11
66/12/ 5	2439464.5	-30.58782	2.41601	10.03304	0.03054	-5.43736	-1.73017	32.28179	5.70608	175.48	18.11
66/12/ 9	2439468.5	-30.58775	2.40345	10.02904	0.03243	-5.43756	-1.73080	32.27954	5.70647	175.51	18.10
66/12/13	2439472.5	-30.58767	2.39088	10.02504	0.03432	-5.43777	-1.73144	32.27729	5.70687	175.53	18.09
66/12/17	2439476.5	-30.58759	2.37832	10.02104	0.03621	-5.43797	-1.73208	32.27504	5.70726	175.55	18.09

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66/12/21	2439480.5	-30.58750	2.36576	10.01704	0.03810	-5.43817	-1.73271	32.27279	5.70766	175.58	18.08
66/12/25	2439484.5	-30.58741	2.35320	10.01303	0.03999	-5.43836	-1.73335	32.27055	5.70806	175.60	18.08
66/12/29	2439488.5	-30.58732	2.34063	10.00903	0.04189	-5.43856	-1.73398	32.26830	5.70845	175.62	18.07
67/ 1/ 2	2439492.5	-30.58722	2.32807	10.00502	0.04378	-5.43876	-1.73462	32.26606	5.70885	175.65	18.06
67/ 1/ 6	2439496.5	-30.58712	2.31550	10.00101	0.04567	-5.43896	-1.73525	32.26381	5.70924	175.67	18.06
67/ 1/10	2439500.5	-30.58701	2.30294	9.99701	0.04756	-5.43915	-1.73589	32.26157	5.70964	175.69	18.05
67/ 1/14	2439504.5	-30.58690	2.29037	9.99299	0.04945	-5.43935	-1.73652	32.25932	5.71004	175.72	18.05
67/ 1/18	2439508.5	-30.58678	2.27781	9.98898	0.05134	-5.43955	-1.73716	32.25708	5.71043	175.74	18.04
67/ 1/22	2439512.5	-30.58666	2.26524	9.98497	0.05324	-5.43974	-1.73779	32.25484	5.71083	175.76	18.03
67/ 1/26	2439516.5	-30.58653	2.25267	9.98095	0.05513	-5.43994	-1.73843	32.25260	5.71123	175.79	18.03
67/ 1/30	2439520.5	-30.58640	2.24011	9.97694	0.05702	-5.44014	-1.73907	32.25036	5.71163	175.81	18.02
67/ 2/ 3	2439524.5	-30.58627	2.22754	9.97292	0.05892	-5.44033	-1.73970	32.24811	5.71203	175.83	18.01
67/ 2/ 7	2439528.5	-30.58613	2.21497	9.96890	0.06081	-5.44053	-1.74034	32.24587	5.71243	175.86	18.01
67/ 2/11	2439532.5	-30.58599	2.20240	9.96488	0.06271	-5.44073	-1.74098	32.24364	5.71283	175.88	18.00
67/ 2/15	2439536.5	-30.58584	2.18983	9.96085	0.06460	-5.44093	-1.74161	32.24140	5.71324	175.90	18.00
67/ 2/19	2439540.5	-30.58569	2.17726	9.95683	0.06651	-5.44112	-1.74225	32.23916	5.71364	175.93	17.99
67/ 2/23	2439544.5	-30.58553	2.16469	9.95280	0.06841	-5.44132	-1.74289	32.23692	5.71405	175.95	17.98
67/ 2/27	2439548.5	-30.58537	2.15212	9.94878	0.07031	-5.44152	-1.74353	32.23468	5.71445	175.98	17.98
67/ 3/ 3	2439552.5	-30.58521	2.13955	9.94475	0.07222	-5.44171	-1.74417	32.23245	5.71486	176.00	17.97
67/ 3/ 7	2439556.5	-30.58504	2.12698	9.94072	0.07413	-5.44191	-1.74480	32.23021	5.71526	176.02	17.96
67/ 3/11	2439560.5	-30.58487	2.11441	9.93669	0.07604	-5.44210	-1.74544	32.22798	5.71566	176.05	17.96
67/ 3/15	2439564.5	-30.58469	2.10183	9.93265	0.07795	-5.44229	-1.74608	32.22574	5.71607	176.07	17.95
67/ 3/19	2439568.5	-30.58451	2.08926	9.92862	0.07987	-5.44248	-1.74671	32.22351	5.71647	176.09	17.95
67/ 3/23	2439572.5	-30.58432	2.07669	9.92458	0.08178	-5.44267	-1.74735	32.22128	5.71687	176.12	17.94
67/ 3/27	2439576.5	-30.58413	2.06411	9.92055	0.08370	-5.44286	-1.74799	32.21904	5.71727	176.14	17.93
67/ 3/31	2439580.5	-30.58393	2.05154	9.91651	0.08562	-5.44304	-1.74862	32.21681	5.71767	176.16	17.93
67/ 4/ 4	2439584.5	-30.58373	2.03896	9.91247	0.08754	-5.44323	-1.74926	32.21458	5.71807	176.19	17.92
67/ 4/ 8	2439588.5	-30.58353	2.02639	9.90843	0.08946	-5.44341	-1.74989	32.21235	5.71846	176.21	17.91
67/ 4/12	2439592.5	-30.58332	2.01381	9.90438	0.09138	-5.44359	-1.75052	32.21012	5.71886	176.23	17.91
67/ 4/16	2439596.5	-30.58311	2.00124	9.90034	0.09330	-5.44377	-1.75116	32.20789	5.71926	176.26	17.90
67/ 4/20	2439600.5	-30.58289	1.98866	9.89629	0.09523	-5.44395	-1.75179	32.20566	5.71965	176.28	17.90
67/ 4/24	2439604.5	-30.58267	1.97609	9.89224	0.09715	-5.44412	-1.75242	32.20343	5.72004	176.30	17.89
67/ 4/28	2439608.5	-30.58244	1.96351	9.88819	0.09908	-5.44430	-1.75305	32.20120	5.72044	176.33	17.88
67/ 5/ 2	2439612.5	-30.58221	1.95093	9.88414	0.10100	-5.44447	-1.75369	32.19897	5.72083	176.35	17.88
67/ 5/ 6	2439616.5	-30.58197	1.93835	9.88009	0.10293	-5.44464	-1.75432	32.19675	5.72122	176.37	17.87
67/ 5/10	2439620.5	-30.58173	1.92577	9.87604	0.10486	-5.44481	-1.75495	32.19452	5.72161	176.40	17.86
67/ 5/14	2439624.5	-30.58149	1.91320	9.87198	0.10679	-5.44498	-1.75558	32.19229	5.72200	176.42	17.86
67/ 5/18	2439628.5	-30.58124	1.90062	9.86793	0.10872	-5.44515	-1.75621	32.19007	5.72239	176.44	17.85
67/ 5/22	2439632.5	-30.58099	1.88804	9.86387	0.11065	-5.44531	-1.75684	32.18784	5.72278	176.47	17.85
67/ 5/26	2439636.5	-30.58073	1.87546	9.85981	0.11259	-5.44548	-1.75747	32.18562	5.72316	176.49	17.84
67/ 5/30	2439640.5	-30.58047	1.86288	9.85575	0.11452	-5.44563	-1.75810	32.18340	5.72354	176.51	17.83
67/ 6/ 3	2439644.5	-30.58020	1.85030	9.85169	0.11646	-5.44579	-1.75872	32.18117	5.72392	176.54	17.83
67/ 6/ 7	2439648.5	-30.57993	1.83772	9.84762	0.11840	-5.44594	-1.75935	32.17895	5.72430	176.56	17.82
67/ 6/11	2439652.5	-30.57965	1.82513	9.84356	0.12033	-5.44610	-1.75997	32.17673	5.72468	176.58	17.81
67/ 6/15	2439656.5	-30.57937	1.81255	9.83949	0.12227	-5.44624	-1.76060	32.17451	5.72505	176.61	17.81

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67/ 6/19	2439660.5	-30.57909	1.79997	9.83542	0.12420	-5.44639	-1.76122	32.17229	5.72543	176.63	17.80
67/ 6/23	2439664.5	-30.57880	1.78739	9.83135	0.12613	-5.44654	-1.76184	32.17007	5.72580	176.65	17.79
67/ 6/27	2439668.5	-30.57851	1.77481	9.82728	0.12806	-5.44668	-1.76246	32.16785	5.72617	176.68	17.79
67/ 7/ 1	2439672.5	-30.57821	1.76222	9.82321	0.13000	-5.44682	-1.76309	32.16563	5.72654	176.70	17.78
67/ 7/ 5	2439676.5	-30.57790	1.74964	9.81914	0.13193	-5.44696	-1.76371	32.16341	5.72691	176.73	17.78
67/ 7/ 9	2439680.5	-30.57760	1.73706	9.81506	0.13385	-5.44710	-1.76433	32.16119	5.72727	176.75	17.77
67/ 7/13	2439684.5	-30.57729	1.72447	9.81098	0.13578	-5.44724	-1.76495	32.15897	5.72764	176.77	17.76
67/ 7/17	2439688.5	-30.57697	1.71189	9.80691	0.13771	-5.44738	-1.76557	32.15676	5.72801	176.80	17.76
67/ 7/21	2439692.5	-30.57665	1.69930	9.80283	0.13964	-5.44751	-1.76618	32.15454	5.72838	176.82	17.75
67/ 7/25	2439696.5	-30.57632	1.68672	9.79875	0.14156	-5.44765	-1.76680	32.15233	5.72874	176.84	17.74
67/ 7/29	2439700.5	-30.57600	1.67413	9.79466	0.14348	-5.44778	-1.76742	32.15011	5.72911	176.87	17.74
67/ 8/ 2	2439704.5	-30.57566	1.66155	9.79058	0.14540	-5.44792	-1.76804	32.14790	5.72948	176.89	17.73
67/ 8/ 6	2439708.5	-30.57532	1.64896	9.78649	0.14733	-5.44806	-1.76866	32.14568	5.72985	176.91	17.72
67/ 8/10	2439712.5	-30.57498	1.63638	9.78241	0.14925	-5.44819	-1.76928	32.14347	5.73022	176.94	17.72
67/ 8/14	2439716.5	-30.57463	1.62379	9.77832	0.15117	-5.44833	-1.76990	32.14126	5.73059	176.96	17.71
67/ 8/18	2439720.5	-30.57428	1.61120	9.77423	0.15309	-5.44847	-1.77053	32.13905	5.73097	176.98	17.71
67/ 8/22	2439724.5	-30.57393	1.59862	9.77014	0.15502	-5.44860	-1.77115	32.13684	5.73134	177.01	17.70
67/ 8/26	2439728.5	-30.57357	1.58603	9.76605	0.15694	-5.44874	-1.77177	32.13462	5.73172	177.03	17.69
67/ 8/30	2439732.5	-30.57320	1.57344	9.76195	0.15886	-5.44887	-1.77239	32.13242	5.73209	177.05	17.69
67/ 9/ 3	2439736.5	-30.57283	1.56085	9.75786	0.16079	-5.44901	-1.77301	32.13021	5.73246	177.08	17.68
67/ 9/ 7	2439740.5	-30.57246	1.54826	9.75376	0.16271	-5.44914	-1.77363	32.12800	5.73284	177.10	17.67
67/ 9/11	2439744.5	-30.57208	1.53568	9.74966	0.16464	-5.44928	-1.77425	32.12579	5.73321	177.12	17.67
67/ 9/15	2439748.5	-30.57170	1.52309	9.74556	0.16656	-5.44941	-1.77487	32.12358	5.73359	177.15	17.66
67/ 9/19	2439752.5	-30.57131	1.51050	9.74146	0.16848	-5.44955	-1.77550	32.12138	5.73396	177.17	17.65
67/ 9/23	2439756.5	-30.57092	1.49791	9.73736	0.17041	-5.44968	-1.77612	32.11917	5.73434	177.19	17.65
67/ 9/27	2439760.5	-30.57052	1.48532	9.73326	0.17233	-5.44982	-1.77674	32.11696	5.73472	177.22	17.64
67/10/ 1	2439764.5	-30.57012	1.47273	9.72915	0.17426	-5.44995	-1.77736	32.11476	5.73510	177.24	17.63
67/10/ 5	2439768.5	-30.56972	1.46014	9.72504	0.17618	-5.45009	-1.77798	32.11256	5.73548	177.27	17.63
67/10/ 9	2439772.5	-30.56931	1.44755	9.72094	0.17811	-5.45023	-1.77861	32.11035	5.73586	177.29	17.62
67/10/13	2439776.5	-30.56890	1.43496	9.71683	0.18004	-5.45036	-1.77923	32.10815	5.73625	177.31	17.62
67/10/17	2439780.5	-30.56848	1.42236	9.71272	0.18197	-5.45050	-1.77985	32.10595	5.73663	177.34	17.61
67/10/21	2439784.5	-30.56806	1.40977	9.70860	0.18390	-5.45063	-1.78048	32.10374	5.73701	177.36	17.60
67/10/25	2439788.5	-30.56763	1.39718	9.70449	0.18583	-5.45077	-1.78110	32.10154	5.73740	177.38	17.60
67/10/29	2439792.5	-30.56720	1.38459	9.70037	0.18776	-5.45091	-1.78173	32.09934	5.73779	177.41	17.59
67/11/ 2	2439796.5	-30.56676	1.37199	9.69626	0.18970	-5.45105	-1.78235	32.09714	5.73818	177.43	17.58
67/11/ 6	2439800.5	-30.56632	1.35940	9.69214	0.19163	-5.45118	-1.78298	32.09494	5.73857	177.45	17.58
67/11/10	2439804.5	-30.56588	1.34681	9.68802	0.19357	-5.45132	-1.78361	32.09275	5.73896	177.48	17.57
67/11/14	2439808.5	-30.56543	1.33421	9.68390	0.19552	-5.45146	-1.78423	32.09055	5.73935	177.50	17.56
67/11/18	2439812.5	-30.56497	1.32162	9.67978	0.19746	-5.45160	-1.78486	32.08835	5.73974	177.52	17.56
67/11/22	2439816.5	-30.56451	1.30903	9.67565	0.19941	-5.45173	-1.78549	32.08615	5.74013	177.55	17.55
67/11/26	2439820.5	-30.56405	1.29643	9.67153	0.20136	-5.45186	-1.78611	32.08396	5.74052	177.57	17.54
67/11/30	2439824.5	-30.56358	1.28384	9.66740	0.20332	-5.45199	-1.78673	32.08176	5.74090	177.59	17.54
67/12/ 4	2439828.5	-30.56311	1.27124	9.66327	0.20527	-5.45212	-1.78736	32.07957	5.74129	177.62	17.53
67/12/ 8	2439832.5	-30.56263	1.25865	9.65914	0.20723	-5.45225	-1.78798	32.07737	5.74167	177.64	17.52
67/12/12	2439836.5	-30.56215	1.24605	9.65501	0.20918	-5.45237	-1.78860	32.07518	5.74206	177.67	17.52

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67/12/16	2439840.5	-30.56167	1.23345	9.65088	0.21114	-5.45249	-1.78923	32.07298	5.74244	177.69	17.51
67/12/20	2439844.5	-30.56118	1.22086	9.64674	0.21310	-5.45261	-1.78985	32.07079	5.74282	177.71	17.51
67/12/24	2439848.5	-30.56068	1.20826	9.64261	0.21507	-5.45273	-1.79047	32.06860	5.74320	177.74	17.50
67/12/28	2439852.5	-30.56018	1.19566	9.63847	0.21703	-5.45285	-1.79109	32.06641	5.74358	177.76	17.49
68/ 1/ 1	2439856.5	-30.55968	1.18307	9.63433	0.21899	-5.45296	-1.79171	32.06422	5.74395	177.78	17.49
68/ 1/ 5	2439860.5	-30.55917	1.17047	9.63019	0.22095	-5.45308	-1.79233	32.06203	5.74433	177.81	17.48
68/ 1/ 9	2439864.5	-30.55866	1.15787	9.62605	0.22292	-5.45319	-1.79294	32.05984	5.74470	177.83	17.47
68/ 1/13	2439868.5	-30.55814	1.14527	9.62191	0.22488	-5.45329	-1.79356	32.05765	5.74507	177.85	17.47
68/ 1/17	2439872.5	-30.55762	1.13268	9.61776	0.22685	-5.45340	-1.79418	32.05546	5.74544	177.88	17.46
68/ 1/21	2439876.5	-30.55709	1.12008	9.61362	0.22881	-5.45351	-1.79479	32.05327	5.74581	177.90	17.45
68/ 1/25	2439880.5	-30.55656	1.10748	9.60947	0.23078	-5.45361	-1.79541	32.05108	5.74618	177.92	17.45
68/ 1/29	2439884.5	-30.55603	1.09488	9.60532	0.23274	-5.45371	-1.79602	32.04890	5.74655	177.95	17.44
68/ 2/ 2	2439888.5	-30.55549	1.08228	9.60117	0.23471	-5.45381	-1.79664	32.04671	5.74692	177.97	17.43
68/ 2/ 6	2439892.5	-30.55494	1.06968	9.59702	0.23668	-5.45391	-1.79725	32.04453	5.74729	177.99	17.43
68/ 2/10	2439896.5	-30.55439	1.05708	9.59287	0.23865	-5.45401	-1.79787	32.04234	5.74765	178.02	17.42
68/ 2/14	2439900.5	-30.55384	1.04448	9.58871	0.24062	-5.45411	-1.79848	32.04016	5.74802	178.04	17.41
68/ 2/18	2439904.5	-30.55328	1.03188	9.58456	0.24259	-5.45420	-1.79909	32.03797	5.74838	178.07	17.41
68/ 2/22	2439908.5	-30.55272	1.01928	9.58040	0.24456	-5.45429	-1.79970	32.03579	5.74874	178.09	17.40
68/ 2/26	2439912.5	-30.55215	1.00668	9.57624	0.24653	-5.45438	-1.80031	32.03361	5.74910	178.11	17.39
68/ 3/ 1	2439916.5	-30.55158	0.99408	9.57208	0.24850	-5.45446	-1.80092	32.03142	5.74946	178.14	17.39
68/ 3/ 5	2439920.5	-30.55100	0.98148	9.56792	0.25047	-5.45455	-1.80153	32.02924	5.74981	178.16	17.38
68/ 3/ 9	2439924.5	-30.55042	0.96888	9.56376	0.25243	-5.45463	-1.80214	32.02706	5.75017	178.18	17.37
68/ 3/13	2439928.5	-30.54984	0.95628	9.55960	0.25440	-5.45471	-1.80275	32.02488	5.75052	178.21	17.37
68/ 3/17	2439932.5	-30.54925	0.94368	9.55543	0.25637	-5.45479	-1.80336	32.02270	5.75088	178.23	17.36
68/ 3/21	2439936.5	-30.54865	0.93107	9.55126	0.25833	-5.45487	-1.80396	32.02052	5.75123	178.25	17.35
68/ 3/25	2439940.5	-30.54805	0.91847	9.54710	0.26030	-5.45495	-1.80457	32.01834	5.75158	178.28	17.35
68/ 3/29	2439944.5	-30.54745	0.90587	9.54293	0.26226	-5.45503	-1.80518	32.01616	5.75194	178.30	17.34
68/ 4/ 2	2439948.5	-30.54684	0.89327	9.53876	0.26423	-5.45511	-1.80578	32.01399	5.75229	178.32	17.33
68/ 4/ 6	2439952.5	-30.54623	0.88067	9.53458	0.26619	-5.45518	-1.80639	32.01181	5.75264	178.35	17.33
68/ 4/10	2439956.5	-30.54561	0.86806	9.53041	0.26815	-5.45526	-1.80700	32.00963	5.75300	178.37	17.32
68/ 4/14	2439960.5	-30.54499	0.85546	9.52623	0.27011	-5.45533	-1.80760	32.00746	5.75335	178.40	17.32
68/ 4/18	2439964.5	-30.54437	0.84286	9.52206	0.27207	-5.45541	-1.80821	32.00528	5.75371	178.42	17.31
68/ 4/22	2439968.5	-30.54373	0.83026	9.51788	0.27403	-5.45549	-1.80882	32.00311	5.75406	178.44	17.30
68/ 4/26	2439972.5	-30.54310	0.81765	9.51370	0.27600	-5.45556	-1.80942	32.00094	5.75442	178.47	17.30
68/ 4/30	2439976.5	-30.54246	0.80505	9.50952	0.27796	-5.45564	-1.81003	31.99876	5.75478	178.49	17.29
68/ 5/ 4	2439980.5	-30.54181	0.79244	9.50534	0.27992	-5.45572	-1.81064	31.99659	5.75514	178.51	17.28
68/ 5/ 8	2439984.5	-30.54117	0.77984	9.50115	0.28189	-5.45579	-1.81125	31.99442	5.75550	178.54	17.28
68/ 5/12	2439988.5	-30.54051	0.76724	9.49697	0.28385	-5.45587	-1.81186	31.99225	5.75586	178.56	17.27
68/ 5/16	2439992.5	-30.53985	0.75463	9.49278	0.28582	-5.45594	-1.81247	31.99008	5.75622	178.58	17.26
68/ 5/20	2439996.5	-30.53919	0.74203	9.48859	0.28779	-5.45602	-1.81307	31.98791	5.75658	178.61	17.26
68/ 5/24	2440000.5	-30.53852	0.72942	9.48441	0.28976	-5.45609	-1.81368	31.98574	5.75693	178.63	17.25
68/ 5/28	2440004.5	-30.53785	0.71682	9.48021	0.29173	-5.45616	-1.81429	31.98357	5.75729	178.66	17.24
68/ 6/ 1	2440008.5	-30.53718	0.70421	9.47602	0.29370	-5.45623	-1.81489	31.98140	5.75765	178.68	17.24
68/ 6/ 5	2440012.5	-30.53650	0.69161	9.47183	0.29567	-5.45630	-1.81550	31.97923	5.75801	178.70	17.23
68/ 6/ 9	2440016.5	-30.53581	0.67900	9.46763	0.29764	-5.45637	-1.81611	31.97707	5.75837	178.73	17.22

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68/ 6/13	2440020.5	-30.53512	0.66640	9.46344	0.29962	-5.45643	-1.81671	31.97490	5.75872	178.75	17.22
68/ 6/17	2440024.5	-30.53443	0.65379	9.45924	0.30159	-5.45650	-1.81732	31.97274	5.75908	178.77	17.21
68/ 6/21	2440028.5	-30.53373	0.64119	9.45504	0.30357	-5.45656	-1.81793	31.97057	5.75944	178.80	17.20
68/ 6/25	2440032.5	-30.53302	0.62858	9.45084	0.30554	-5.45663	-1.81853	31.96841	5.75979	178.82	17.20
68/ 6/29	2440036.5	-30.53232	0.61598	9.44664	0.30752	-5.45669	-1.81914	31.96624	5.76015	178.84	17.19
68/ 7/ 3	2440040.5	-30.53160	0.60337	9.44244	0.30949	-5.45675	-1.81974	31.96408	5.76050	178.87	17.18
68/ 7/ 7	2440044.5	-30.53089	0.59077	9.43823	0.31147	-5.45681	-1.82035	31.96192	5.76086	178.89	17.18
68/ 7/11	2440048.5	-30.53016	0.57816	9.43403	0.31345	-5.45687	-1.82095	31.95976	5.76121	178.92	17.17
68/ 7/15	2440052.5	-30.52944	0.56555	9.42982	0.31543	-5.45693	-1.82156	31.95759	5.76157	178.94	17.16
68/ 7/19	2440056.5	-30.52871	0.55295	9.42561	0.31741	-5.45699	-1.82216	31.95543	5.76192	178.96	17.16
68/ 7/23	2440060.5	-30.52797	0.54034	9.42140	0.31939	-5.45705	-1.82277	31.95327	5.76228	178.99	17.15
68/ 7/27	2440064.5	-30.52723	0.52773	9.41719	0.32137	-5.45710	-1.82337	31.95111	5.76263	179.01	17.14
68/ 7/31	2440068.5	-30.52649	0.51513	9.41297	0.32335	-5.45716	-1.82398	31.94896	5.76299	179.03	17.14
68/ 8/ 4	2440072.5	-30.52574	0.50252	9.40876	0.32534	-5.45721	-1.82458	31.94680	5.76334	179.06	17.13
68/ 8/ 8	2440076.5	-30.52498	0.48991	9.40454	0.32733	-5.45726	-1.82518	31.94464	5.76369	179.08	17.12
68/ 8/12	2440080.5	-30.52422	0.47730	9.40033	0.32932	-5.45731	-1.82579	31.94248	5.76404	179.10	17.11
68/ 8/16	2440084.5	-30.52346	0.46470	9.39611	0.33130	-5.45735	-1.82639	31.94033	5.76439	179.13	17.11
68/ 8/20	2440088.5	-30.52269	0.45209	9.39189	0.33329	-5.45740	-1.82699	31.93817	5.76473	179.15	17.10
68/ 8/24	2440092.5	-30.52192	0.43948	9.38767	0.33528	-5.45744	-1.82759	31.93602	5.76508	179.18	17.09
68/ 8/28	2440096.5	-30.52114	0.42687	9.38344	0.33727	-5.45748	-1.82819	31.93386	5.76542	179.20	17.09
68/ 9/ 1	2440100.5	-30.52036	0.41427	9.37922	0.33926	-5.45751	-1.82878	31.93171	5.76576	179.22	17.08
68/ 9/ 5	2440104.5	-30.51958	0.40166	9.37499	0.34124	-5.45755	-1.82938	31.92955	5.76610	179.25	17.07
68/ 9/ 9	2440108.5	-30.51879	0.38905	9.37077	0.34323	-5.45758	-1.82998	31.92740	5.76644	179.27	17.07
68/ 9/13	2440112.5	-30.51799	0.37644	9.36654	0.34521	-5.45761	-1.83057	31.92525	5.76678	179.29	17.06
68/ 9/17	2440116.5	-30.51719	0.36383	9.36231	0.34720	-5.45764	-1.83117	31.92310	5.76711	179.32	17.05
68/ 9/21	2440120.5	-30.51639	0.35123	9.35808	0.34918	-5.45767	-1.83176	31.92095	5.76745	179.34	17.05
68/ 9/25	2440124.5	-30.51558	0.33862	9.35385	0.35117	-5.45770	-1.83236	31.91880	5.76778	179.36	17.04
68/ 9/29	2440128.5	-30.51476	0.32601	9.34961	0.35315	-5.45773	-1.83295	31.91665	5.76812	179.39	17.03
68/10/ 3	2440132.5	-30.51395	0.31340	9.34538	0.35513	-5.45775	-1.83355	31.91450	5.76846	179.41	17.03
68/10/ 7	2440136.5	-30.51312	0.30079	9.34114	0.35711	-5.45778	-1.83414	31.91235	5.76879	179.44	17.02
68/10/11	2440140.5	-30.51230	0.28818	9.33690	0.35909	-5.45780	-1.83473	31.91020	5.76913	179.46	17.01
68/10/15	2440144.5	-30.51146	0.27558	9.33266	0.36107	-5.45783	-1.83533	31.90806	5.76946	179.48	17.01
68/10/19	2440148.5	-30.51063	0.26297	9.32842	0.36304	-5.45785	-1.83592	31.90591	5.76980	179.51	17.00
68/10/23	2440152.5	-30.50979	0.25036	9.32418	0.36502	-5.45788	-1.83652	31.90376	5.77014	179.53	16.99
68/10/27	2440156.5	-30.50894	0.23775	9.31994	0.36700	-5.45791	-1.83711	31.90162	5.77048	179.55	16.99
68/10/31	2440160.5	-30.50809	0.22514	9.31569	0.36898	-5.45793	-1.83771	31.89947	5.77082	179.58	16.98
68/11/ 4	2440164.5	-30.50724	0.21253	9.31145	0.37096	-5.45796	-1.83831	31.89733	5.77116	179.60	16.97
68/11/ 8	2440168.5	-30.50638	0.19992	9.30720	0.37294	-5.45798	-1.83890	31.89519	5.77150	179.62	16.97
68/11/12	2440172.5	-30.50551	0.18731	9.30295	0.37492	-5.45800	-1.83949	31.89304	5.77184	179.65	16.96
68/11/16	2440176.5	-30.50465	0.17471	9.29870	0.37691	-5.45803	-1.84009	31.89090	5.77218	179.67	16.95
68/11/20	2440180.5	-30.50377	0.16210	9.29445	0.37889	-5.45805	-1.84068	31.88876	5.77252	179.70	16.95
68/11/24	2440184.5	-30.50289	0.14949	9.29020	0.38087	-5.45807	-1.84128	31.88662	5.77286	179.72	16.94
68/11/28	2440188.5	-30.50201	0.13688	9.28594	0.38285	-5.45809	-1.84187	31.88448	5.77320	179.74	16.93
68/12/ 2	2440192.5	-30.50113	0.12427	9.28169	0.38483	-5.45811	-1.84247	31.88234	5.77354	179.77	16.93
68/12/ 6	2440196.5	-30.50023	0.11166	9.27743	0.38681	-5.45813	-1.84306	31.88020	5.77388	179.79	16.92

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68/12/10	2440200.5	-30.49934	0.09905	9.27317	0.38879	-5.45815	-1.84366	31.87807	5.77423	179.81	16.91
68/12/14	2440204.5	-30.49844	0.08644	9.26891	0.39078	-5.45818	-1.84425	31.87593	5.77457	179.84	16.90
68/12/18	2440208.5	-30.49753	0.07383	9.26465	0.39276	-5.45820	-1.84485	31.87379	5.77491	179.86	16.90
68/12/22	2440212.5	-30.49662	0.06122	9.26039	0.39474	-5.45822	-1.84544	31.87166	5.77526	179.88	16.89
68/12/26	2440216.5	-30.49571	0.04861	9.25612	0.39673	-5.45824	-1.84604	31.86952	5.77560	179.91	16.88
68/12/30	2440220.5	-30.49479	0.03600	9.25186	0.39871	-5.45826	-1.84663	31.86739	5.77595	179.93	16.88
69/ 1/ 3	2440224.5	-30.49387	0.02339	9.24759	0.40070	-5.45828	-1.84723	31.86525	5.77630	179.96	16.87
69/ 1/ 7	2440228.5	-30.49294	0.01078	9.24332	0.40269	-5.45830	-1.84782	31.86312	5.77665	179.98	16.86
69/ 1/11	2440232.5	-30.49201	-0.00183	9.23905	0.40468	-5.45832	-1.84842	31.86099	5.77699	180.00	16.86
69/ 1/15	2440236.5	-30.49107	-0.01443	9.23478	0.40667	-5.45834	-1.84902	31.85886	5.77734	180.03	16.85
69/ 1/19	2440240.5	-30.49013	-0.02704	9.23051	0.40866	-5.45836	-1.84962	31.85672	5.77770	180.05	16.84
69/ 1/23	2440244.5	-30.48918	-0.03965	9.22624	0.41066	-5.45838	-1.85021	31.85459	5.77805	180.07	16.84
69/ 1/27	2440248.5	-30.48823	-0.05226	9.22196	0.41266	-5.45840	-1.85081	31.85246	5.77840	180.10	16.83
69/ 1/31	2440252.5	-30.48727	-0.06487	9.21768	0.41466	-5.45842	-1.85141	31.85033	5.77875	180.12	16.82
69/ 2/ 4	2440256.5	-30.48631	-0.07748	9.21341	0.41667	-5.45843	-1.85200	31.84821	5.77910	180.15	16.82
69/ 2/ 8	2440260.5	-30.48535	-0.09009	9.20913	0.41867	-5.45844	-1.85260	31.84608	5.77945	180.17	16.81
69/ 2/12	2440264.5	-30.48438	-0.10270	9.20485	0.42068	-5.45845	-1.85319	31.84395	5.77979	180.19	16.80
69/ 2/16	2440268.5	-30.48341	-0.11531	9.20057	0.42269	-5.45846	-1.85379	31.84182	5.78014	180.22	16.79
69/ 2/20	2440272.5	-30.48243	-0.12792	9.19628	0.42470	-5.45847	-1.85438	31.83970	5.78048	180.24	16.79
69/ 2/24	2440276.5	-30.48144	-0.14053	9.19200	0.42671	-5.45847	-1.85497	31.83757	5.78082	180.26	16.78
69/ 2/28	2440280.5	-30.48046	-0.15314	9.18771	0.42872	-5.45847	-1.85556	31.83545	5.78116	180.29	16.77
69/ 3/ 4	2440284.5	-30.47946	-0.16575	9.18342	0.43074	-5.45847	-1.85615	31.83332	5.78150	180.31	16.77
69/ 3/ 8	2440288.5	-30.47847	-0.17836	9.17914	0.43275	-5.45847	-1.85674	31.83120	5.78184	180.34	16.76
69/ 3/12	2440292.5	-30.47746	-0.19097	9.17485	0.43477	-5.45846	-1.85733	31.82907	5.78217	180.36	16.75
69/ 3/16	2440296.5	-30.47646	-0.20358	9.17055	0.43678	-5.45846	-1.85792	31.82695	5.78251	180.38	16.75
69/ 3/20	2440300.5	-30.47544	-0.21619	9.16626	0.43880	-5.45845	-1.85851	31.82483	5.78284	180.41	16.74
69/ 3/24	2440304.5	-30.47443	-0.22880	9.16197	0.44082	-5.45843	-1.85909	31.82271	5.78317	180.43	16.73
69/ 3/28	2440308.5	-30.47341	-0.24141	9.15767	0.44283	-5.45842	-1.85968	31.82059	5.78350	180.45	16.73
69/ 4/ 1	2440312.5	-30.47238	-0.25402	9.15337	0.44485	-5.45840	-1.86026	31.81847	5.78382	180.48	16.72
69/ 4/ 5	2440316.5	-30.47135	-0.26663	9.14908	0.44687	-5.45838	-1.86085	31.81635	5.78415	180.50	16.71
69/ 4/ 9	2440320.5	-30.47032	-0.27924	9.14478	0.44888	-5.45836	-1.86143	31.81423	5.78447	180.53	16.70
69/ 4/13	2440324.5	-30.46928	-0.29185	9.14048	0.45090	-5.45834	-1.86201	31.81211	5.78479	180.55	16.70
69/ 4/17	2440328.5	-30.46823	-0.30446	9.13617	0.45291	-5.45831	-1.86260	31.80999	5.78512	180.57	16.69
69/ 4/21	2440332.5	-30.46719	-0.31707	9.13187	0.45493	-5.45829	-1.86318	31.80788	5.78544	180.60	16.68
69/ 4/25	2440336.5	-30.46613	-0.32968	9.12756	0.45694	-5.45826	-1.86376	31.80576	5.78576	180.62	16.68
69/ 4/29	2440340.5	-30.46508	-0.34229	9.12326	0.45896	-5.45823	-1.86434	31.80364	5.78608	180.64	16.67
69/ 5/ 3	2440344.5	-30.46401	-0.35490	9.11895	0.46098	-5.45819	-1.86492	31.80153	5.78639	180.67	16.66
69/ 5/ 7	2440348.5	-30.46294	-0.36751	9.11464	0.46300	-5.45816	-1.86550	31.79941	5.78670	180.69	16.66
69/ 5/11	2440352.5	-30.46187	-0.38012	9.11033	0.46501	-5.45812	-1.86608	31.79730	5.78702	180.71	16.65
69/ 5/15	2440356.5	-30.46080	-0.39273	9.10602	0.46703	-5.45808	-1.86665	31.79519	5.78732	180.74	16.64
69/ 5/19	2440360.5	-30.45972	-0.40534	9.10171	0.46904	-5.45804	-1.86723	31.79308	5.78763	180.76	16.64
69/ 5/23	2440364.5	-30.45863	-0.41795	9.09739	0.47105	-5.45799	-1.86780	31.79096	5.78794	180.79	16.63
69/ 5/27	2440368.5	-30.45754	-0.43056	9.09308	0.47306	-5.45795	-1.86838	31.78885	5.78825	180.81	16.62
69/ 5/31	2440372.5	-30.45644	-0.44316	9.08876	0.47507	-5.45790	-1.86895	31.78674	5.78855	180.83	16.61
69/ 6/ 4	2440376.5	-30.45534	-0.45577	9.08444	0.47707	-5.45785	-1.86953	31.78463	5.78886	180.86	16.61

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69/ 6/ 8	2440380.5	-30.45424	-0.46838	9.08012	0.47908	-5.45780	-1.87010	31.78252	5.78916	180.88	16.60
69/ 6/12	2440384.5	-30.45313	-0.48099	9.07580	0.48108	-5.45775	-1.87067	31.78041	5.78947	180.90	16.59
69/ 6/16	2440388.5	-30.45202	-0.49360	9.07148	0.48308	-5.45770	-1.87125	31.77831	5.78977	180.93	16.59
69/ 6/20	2440392.5	-30.45090	-0.50621	9.06716	0.48509	-5.45765	-1.87182	31.77620	5.79008	180.95	16.58
69/ 6/24	2440396.5	-30.44978	-0.51881	9.06283	0.48709	-5.45760	-1.87239	31.77409	5.79038	180.98	16.57
69/ 6/28	2440400.5	-30.44865	-0.53142	9.05850	0.48908	-5.45755	-1.87297	31.77199	5.79069	181.00	16.57
69/ 7/ 2	2440404.5	-30.44752	-0.54403	9.05418	0.49108	-5.45750	-1.87354	31.76988	5.79099	181.02	16.56
69/ 7/ 6	2440408.5	-30.44638	-0.55664	9.04985	0.49308	-5.45745	-1.87411	31.76778	5.79130	181.05	16.55
69/ 7/10	2440412.5	-30.44524	-0.56925	9.04552	0.49507	-5.45740	-1.87469	31.76567	5.79161	181.07	16.54
69/ 7/14	2440416.5	-30.44409	-0.58185	9.04119	0.49707	-5.45735	-1.87526	31.76357	5.79192	181.09	16.54
69/ 7/18	2440420.5	-30.44294	-0.59446	9.03685	0.49907	-5.45730	-1.87584	31.76147	5.79224	181.12	16.53
69/ 7/22	2440424.5	-30.44179	-0.60707	9.03252	0.50107	-5.45726	-1.87641	31.75936	5.79255	181.14	16.52
69/ 7/26	2440428.5	-30.44063	-0.61968	9.02818	0.50307	-5.45721	-1.87699	31.75726	5.79286	181.17	16.52
69/ 7/30	2440432.5	-30.43946	-0.63228	9.02385	0.50507	-5.45716	-1.87757	31.75516	5.79318	181.19	16.51
69/ 8/ 3	2440436.5	-30.43829	-0.64489	9.01951	0.50707	-5.45711	-1.87814	31.75306	5.79349	181.21	16.50
69/ 8/ 7	2440440.5	-30.43712	-0.65750	9.01517	0.50907	-5.45706	-1.87872	31.75096	5.79381	181.24	16.50
69/ 8/11	2440444.5	-30.43594	-0.67010	9.01083	0.51107	-5.45700	-1.87929	31.74887	5.79412	181.26	16.49
69/ 8/15	2440448.5	-30.43476	-0.68271	9.00649	0.51307	-5.45695	-1.87987	31.74677	5.79443	181.29	16.48
69/ 8/19	2440452.5	-30.43357	-0.69532	9.00214	0.51507	-5.45690	-1.88044	31.74467	5.79475	181.31	16.47
69/ 8/23	2440456.5	-30.43238	-0.70792	8.99780	0.51707	-5.45685	-1.88102	31.74258	5.79507	181.33	16.47
69/ 8/27	2440460.5	-30.43118	-0.72053	8.99345	0.51907	-5.45679	-1.88160	31.74048	5.79538	181.36	16.46
69/ 8/31	2440464.5	-30.42998	-0.73313	8.98910	0.52108	-5.45674	-1.88217	31.73839	5.79570	181.38	16.45
69/ 9/ 4	2440468.5	-30.42877	-0.74574	8.98476	0.52308	-5.45669	-1.88275	31.73629	5.79602	181.40	16.45
69/ 9/ 8	2440472.5	-30.42756	-0.75835	8.98041	0.52509	-5.45663	-1.88332	31.73420	5.79633	181.43	16.44
69/ 9/12	2440476.5	-30.42635	-0.77095	8.97605	0.52709	-5.45658	-1.88390	31.73211	5.79665	181.45	16.43
69/ 9/16	2440480.5	-30.42513	-0.78356	8.97170	0.52910	-5.45652	-1.88448	31.73001	5.79697	181.48	16.42
69/ 9/20	2440484.5	-30.42390	-0.79616	8.96735	0.53110	-5.45647	-1.88505	31.72792	5.79729	181.50	16.42
69/ 9/24	2440488.5	-30.42267	-0.80877	8.96299	0.53311	-5.45641	-1.88563	31.72583	5.79760	181.52	16.41
69/ 9/28	2440492.5	-30.42144	-0.82137	8.95863	0.53512	-5.45635	-1.88620	31.72374	5.79792	181.55	16.40
69/10/ 2	2440496.5	-30.42020	-0.83398	8.95428	0.53713	-5.45630	-1.88678	31.72165	5.79824	181.57	16.40
69/10/ 6	2440500.5	-30.41896	-0.84658	8.94992	0.53914	-5.45624	-1.88735	31.71956	5.79856	181.59	16.39
69/10/10	2440504.5	-30.41771	-0.85919	8.94556	0.54115	-5.45618	-1.88793	31.71747	5.79888	181.62	16.38
69/10/14	2440508.5	-30.41646	-0.87179	8.94119	0.54317	-5.45612	-1.88851	31.71539	5.79920	181.64	16.37
69/10/18	2440512.5	-30.41520	-0.88440	8.93683	0.54519	-5.45606	-1.88908	31.71330	5.79952	181.67	16.37
69/10/22	2440516.5	-30.41394	-0.89700	8.93247	0.54721	-5.45600	-1.88966	31.71122	5.79984	181.69	16.36
69/10/26	2440520.5	-30.41267	-0.90961	8.92810	0.54923	-5.45593	-1.89023	31.70913	5.80016	181.71	16.35
69/10/30	2440524.5	-30.41140	-0.92221	8.92373	0.55125	-5.45587	-1.89081	31.70705	5.80047	181.74	16.35
69/11/ 3	2440528.5	-30.41012	-0.93481	8.91936	0.55327	-5.45580	-1.89138	31.70496	5.80079	181.76	16.34
69/11/ 7	2440532.5	-30.40884	-0.94742	8.91499	0.55529	-5.45572	-1.89195	31.70288	5.80110	181.78	16.33
69/11/11	2440536.5	-30.40756	-0.96002	8.91062	0.55732	-5.45565	-1.89252	31.70080	5.80141	181.81	16.32
69/11/15	2440540.5	-30.40627	-0.97263	8.90625	0.55934	-5.45557	-1.89309	31.69871	5.80172	181.83	16.32
69/11/19	2440544.5	-30.40497	-0.98523	8.90188	0.56136	-5.45549	-1.89366	31.69663	5.80203	181.86	16.31
69/11/23	2440548.5	-30.40368	-0.99783	8.89750	0.56339	-5.45541	-1.89423	31.69455	5.80233	181.88	16.30
69/11/27	2440552.5	-30.40237	-1.01043	8.89312	0.56541	-5.45533	-1.89480	31.69247	5.80264	181.90	16.30
69/12/ 1	2440556.5	-30.40106	-1.02304	8.88875	0.56743	-5.45525	-1.89536	31.69039	5.80294	181.93	16.29

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

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69/12/ 5	2440560.5	-30.39975	-1.03564	8.88437	0.56945	-5.45516	-1.89593	31.68831	5.80324	181.95	16.28
69/12/ 9	2440564.5	-30.39843	-1.04824	8.87999	0.57147	-5.45507	-1.89650	31.68624	5.80354	181.97	16.27
69/12/13	2440568.5	-30.39711	-1.06084	8.87560	0.57350	-5.45499	-1.89706	31.68416	5.80385	182.00	16.27
69/12/17	2440572.5	-30.39578	-1.07345	8.87122	0.57552	-5.45490	-1.89763	31.68208	5.80415	182.02	16.26
69/12/21	2440576.5	-30.39445	-1.08605	8.86684	0.57754	-5.45480	-1.89819	31.68001	5.80444	182.05	16.25
69/12/25	2440580.5	-30.39311	-1.09865	8.86245	0.57955	-5.45471	-1.89876	31.67793	5.80474	182.07	16.25

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69/12/17	2440572.5	-30.39578	-1.07345	8.87122	0.57552	-5.45490	-1.89763	31.68208	5.80415	182.02	16.26
69/12/21	2440576.5	-30.39445	-1.08605	8.86684	0.57754	-5.45480	-1.89819	31.68001	5.80444	182.05	16.25
69/12/25	2440580.5	-30.39311	-1.09865	8.86245	0.57955	-5.45471	-1.89876	31.67793	5.80474	182.07	16.25
69/12/29	2440584.5	-30.39177	-1.11125	8.85806	0.58157	-5.45462	-1.89932	31.67586	5.80504	182.09	16.24
70/ 1/ 2	2440588.5	-30.39043	-1.12385	8.85367	0.58359	-5.45453	-1.89989	31.67378	5.80534	182.12	16.23
70/ 1/ 6	2440592.5	-30.38908	-1.13645	8.84929	0.58561	-5.45443	-1.90045	31.67171	5.80564	182.14	16.22
70/ 1/10	2440596.5	-30.38772	-1.14905	8.84489	0.58763	-5.45434	-1.90102	31.66964	5.80594	182.17	16.22
70/ 1/14	2440600.5	-30.38636	-1.16165	8.84050	0.58965	-5.45425	-1.90158	31.66757	5.80625	182.19	16.21
70/ 1/18	2440604.5	-30.38500	-1.17425	8.83611	0.59167	-5.45415	-1.90214	31.66550	5.80654	182.21	16.20
70/ 1/22	2440608.5	-30.38363	-1.18685	8.83171	0.59369	-5.45405	-1.90271	31.66343	5.80684	182.24	16.20
70/ 1/26	2440612.5	-30.38225	-1.19945	8.82732	0.59571	-5.45395	-1.90327	31.66136	5.80714	182.26	16.19
70/ 1/30	2440616.5	-30.38088	-1.21205	8.82292	0.59773	-5.45385	-1.90383	31.65929	5.80744	182.28	16.18
70/ 2/ 3	2440620.5	-30.37949	-1.22465	8.81852	0.59975	-5.45375	-1.90439	31.65722	5.80773	182.31	16.17
70/ 2/ 7	2440624.5	-30.37810	-1.23725	8.81412	0.60177	-5.45364	-1.90495	31.65515	5.80803	182.33	16.17
70/ 2/11	2440628.5	-30.37671	-1.24985	8.80972	0.60379	-5.45354	-1.90552	31.65309	5.80832	182.36	16.16
70/ 2/15	2440632.5	-30.37531	-1.26245	8.80532	0.60580	-5.45343	-1.90608	31.65102	5.80862	182.38	16.15
70/ 2/19	2440636.5	-30.37391	-1.27505	8.80091	0.60782	-5.45333	-1.90664	31.64895	5.80892	182.40	16.15
70/ 2/23	2440640.5	-30.37251	-1.28764	8.79651	0.60984	-5.45322	-1.90720	31.64689	5.80921	182.43	16.14
70/ 2/27	2440644.5	-30.37109	-1.30024	8.79210	0.61186	-5.45312	-1.90776	31.64483	5.80951	182.45	16.13
70/ 3/ 3	2440648.5	-30.36968	-1.31284	8.78769	0.61387	-5.45301	-1.90832	31.64276	5.80980	182.48	16.12
70/ 3/ 7	2440652.5	-30.36826	-1.32544	8.78328	0.61589	-5.45290	-1.90888	31.64070	5.81010	182.50	16.12
70/ 3/11	2440656.5	-30.36683	-1.33803	8.77887	0.61791	-5.45279	-1.90944	31.63864	5.81040	182.52	16.11
70/ 3/15	2440660.5	-30.36540	-1.35063	8.77446	0.61993	-5.45268	-1.91000	31.63658	5.81069	182.55	16.10
70/ 3/19	2440664.5	-30.36397	-1.36323	8.77005	0.62194	-5.45258	-1.91056	31.63452	5.81099	182.57	16.09
70/ 3/23	2440668.5	-30.36253	-1.37582	8.76563	0.62396	-5.45247	-1.91112	31.63246	5.81129	182.59	16.09
70/ 3/27	2440672.5	-30.36109	-1.38842	8.76122	0.62598	-5.45236	-1.91168	31.63040	5.81159	182.62	16.08
70/ 3/31	2440676.5	-30.35964	-1.40101	8.75680	0.62800	-5.45225	-1.91224	31.62834	5.81189	182.64	16.07
70/ 4/ 4	2440680.5	-30.35818	-1.41361	8.75238	0.63002	-5.45214	-1.91280	31.62628	5.81219	182.67	16.07
70/ 4/ 8	2440684.5	-30.35673	-1.42621	8.74796	0.63204	-5.45203	-1.91337	31.62423	5.81249	182.69	16.06
70/ 4/12	2440688.5	-30.35526	-1.43880	8.74354	0.63407	-5.45192	-1.91393	31.62217	5.81280	182.71	16.05
70/ 4/16	2440692.5	-30.35380	-1.45140	8.73912	0.63609	-5.45181	-1.91449	31.62012	5.81310	182.74	16.04
70/ 4/20	2440696.5	-30.35233	-1.46399	8.73470	0.63812	-5.45169	-1.91505	31.61806	5.81340	182.76	16.04
70/ 4/24	2440700.5	-30.35085	-1.47658	8.73027	0.64015	-5.45158	-1.91561	31.61601	5.81370	182.79	16.03
70/ 4/28	2440704.5	-30.34937	-1.48918	8.72585	0.64218	-5.45146	-1.91617	31.61396	5.81399	182.81	16.02
70/ 5/ 2	2440708.5	-30.34788	-1.50177	8.72142	0.64421	-5.45134	-1.91673	31.61190	5.81429	182.83	16.02
70/ 5/ 6	2440712.5	-30.34639	-1.51437	8.71699	0.64624	-5.45122	-1.91729	31.60985	5.81459	182.86	16.01
70/ 5/10	2440716.5	-30.34490	-1.52696	8.71256	0.64828	-5.45109	-1.91784	31.60780	5.81488	182.88	16.00
70/ 5/14	2440720.5	-30.34340	-1.53955	8.70813	0.65031	-5.45097	-1.91840	31.60575	5.81517	182.90	15.99
70/ 5/18	2440724.5	-30.34189	-1.55214	8.70370	0.65234	-5.45084	-1.91896	31.60370	5.81546	182.93	15.99
70/ 5/22	2440728.5	-30.34038	-1.56474	8.69926	0.65438	-5.45071	-1.91951	31.60165	5.81575	182.95	15.98
70/ 5/26	2440732.5	-30.33887	-1.57733	8.69483	0.65641	-5.45058	-1.92007	31.59960	5.81604	182.98	15.97
70/ 5/30	2440736.5	-30.33735	-1.58992	8.69039	0.65844	-5.45045	-1.92062	31.59755	5.81633	183.00	15.96
70/ 6/ 3	2440740.5	-30.33583	-1.60251	8.68595	0.66048	-5.45031	-1.92118	31.59551	5.81662	183.02	15.96
70/ 6/ 7	2440744.5	-30.33430	-1.61510	8.68151	0.66251	-5.45017	-1.92173	31.59346	5.81690	183.05	15.95
70/ 6/11	2440748.5	-30.33276	-1.62769	8.67707	0.66455	-5.45003	-1.92228	31.59142	5.81719	183.07	15.94

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70/ 6/15	2440752.5	-30.33123	-1.64028	8.67263	0.66658	-5.44989	-1.92283	31.58937	5.81747	183.10	15.93
70/ 6/19	2440756.5	-30.32968	-1.65287	8.66819	0.66861	-5.44975	-1.92338	31.58733	5.81775	183.12	15.93
70/ 6/23	2440760.5	-30.32814	-1.66546	8.66375	0.67064	-5.44961	-1.92393	31.58528	5.81803	183.14	15.92
70/ 6/27	2440764.5	-30.32659	-1.67805	8.65930	0.67268	-5.44946	-1.92448	31.58324	5.81831	183.17	15.91
70/ 7/ 1	2440768.5	-30.32503	-1.69064	8.65485	0.67471	-5.44931	-1.92503	31.58120	5.81859	183.19	15.91
70/ 7/ 5	2440772.5	-30.32347	-1.70323	8.65041	0.67674	-5.44917	-1.92558	31.57916	5.81887	183.21	15.90
70/ 7/ 9	2440776.5	-30.32190	-1.71582	8.64596	0.67877	-5.44902	-1.92613	31.57712	5.81915	183.24	15.89
70/ 7/13	2440780.5	-30.32033	-1.72841	8.64151	0.68081	-5.44886	-1.92668	31.57508	5.81943	183.26	15.88
70/ 7/17	2440784.5	-30.31876	-1.74099	8.63706	0.68284	-5.44871	-1.92723	31.57304	5.81970	183.29	15.88
70/ 7/21	2440788.5	-30.31718	-1.75358	8.63260	0.68487	-5.44855	-1.92778	31.57100	5.81997	183.31	15.87
70/ 7/25	2440792.5	-30.31559	-1.76617	8.62815	0.68690	-5.44839	-1.92832	31.56896	5.82024	183.33	15.86
70/ 7/29	2440796.5	-30.31400	-1.77875	8.62369	0.68893	-5.44823	-1.92887	31.56693	5.82051	183.36	15.85
70/ 8/ 2	2440800.5	-30.31241	-1.79134	8.61924	0.69096	-5.44807	-1.92941	31.56489	5.82078	183.38	15.85
70/ 8/ 6	2440804.5	-30.31081	-1.80393	8.61478	0.69299	-5.44790	-1.92995	31.56286	5.82105	183.41	15.84
70/ 8/10	2440808.5	-30.30921	-1.81651	8.61032	0.69501	-5.44774	-1.93050	31.56082	5.82131	183.43	15.83
70/ 8/14	2440812.5	-30.30760	-1.82910	8.60586	0.69703	-5.44757	-1.93104	31.55879	5.82158	183.45	15.82
70/ 8/18	2440816.5	-30.30599	-1.84168	8.60140	0.69906	-5.44740	-1.93158	31.55675	5.82184	183.48	15.82
70/ 8/22	2440820.5	-30.30437	-1.85427	8.59693	0.70108	-5.44723	-1.93212	31.55472	5.82211	183.50	15.81
70/ 8/26	2440824.5	-30.30275	-1.86685	8.59247	0.70309	-5.44706	-1.93266	31.55269	5.82238	183.53	15.80
70/ 8/30	2440828.5	-30.30112	-1.87943	8.58800	0.70511	-5.44690	-1.93321	31.55066	5.82264	183.55	15.80
70/ 9/ 3	2440832.5	-30.29949	-1.89202	8.58354	0.70713	-5.44673	-1.93375	31.54863	5.82291	183.57	15.79
70/ 9/ 7	2440836.5	-30.29785	-1.90460	8.57907	0.70914	-5.44656	-1.93429	31.54660	5.82317	183.60	15.78
70/ 9/11	2440840.5	-30.29621	-1.91718	8.57460	0.71115	-5.44639	-1.93483	31.54457	5.82344	183.62	15.77
70/ 9/15	2440844.5	-30.29457	-1.92976	8.57013	0.71317	-5.44622	-1.93537	31.54254	5.82371	183.64	15.77
70/ 9/19	2440848.5	-30.29292	-1.94235	8.56566	0.71518	-5.44605	-1.93592	31.54052	5.82398	183.67	15.76
70/ 9/23	2440852.5	-30.29126	-1.95493	8.56119	0.71719	-5.44588	-1.93646	31.53849	5.82425	183.69	15.75
70/ 9/27	2440856.5	-30.28961	-1.96751	8.55671	0.71920	-5.44571	-1.93701	31.53646	5.82452	183.72	15.74
70/10/ 1	2440860.5	-30.28794	-1.98009	8.55224	0.72121	-5.44555	-1.93755	31.53444	5.82480	183.74	15.74
70/10/ 5	2440864.5	-30.28627	-1.99267	8.54776	0.72322	-5.44538	-1.93810	31.53242	5.82507	183.76	15.73
70/10/ 9	2440868.5	-30.28460	-2.00525	8.54328	0.72523	-5.44522	-1.93864	31.53039	5.82535	183.79	15.72
70/10/13	2440872.5	-30.28292	-2.01783	8.53880	0.72725	-5.44505	-1.93919	31.52837	5.82563	183.81	15.71
70/10/17	2440876.5	-30.28124	-2.03040	8.53432	0.72926	-5.44488	-1.93973	31.52635	5.82590	183.84	15.71
70/10/21	2440880.5	-30.27955	-2.04298	8.52984	0.73128	-5.44472	-1.94028	31.52433	5.82618	183.86	15.70
70/10/25	2440884.5	-30.27786	-2.05556	8.52536	0.73329	-5.44455	-1.94082	31.52231	5.82646	183.88	15.69
70/10/29	2440888.5	-30.27616	-2.06814	8.52087	0.73531	-5.44438	-1.94137	31.52029	5.82674	183.91	15.68
70/11/ 2	2440892.5	-30.27446	-2.08072	8.51639	0.73732	-5.44421	-1.94191	31.51827	5.82702	183.93	15.68
70/11/ 6	2440896.5	-30.27276	-2.09329	8.51190	0.73934	-5.44404	-1.94246	31.51625	5.82730	183.96	15.67
70/11/10	2440900.5	-30.27105	-2.10587	8.50741	0.74135	-5.44388	-1.94300	31.51424	5.82758	183.98	15.66
70/11/14	2440904.5	-30.26933	-2.11845	8.50292	0.74337	-5.44371	-1.94355	31.51222	5.82786	184.00	15.65
70/11/18	2440908.5	-30.26761	-2.13102	8.49843	0.74539	-5.44354	-1.94410	31.51020	5.82814	184.03	15.65
70/11/22	2440912.5	-30.26589	-2.14360	8.49394	0.74741	-5.44337	-1.94464	31.50819	5.82842	184.05	15.64
70/11/26	2440916.5	-30.26416	-2.15617	8.48945	0.74943	-5.44320	-1.94519	31.50618	5.82871	184.08	15.63
70/11/30	2440920.5	-30.26243	-2.16875	8.48495	0.75145	-5.44303	-1.94573	31.50416	5.82899	184.10	15.62
70/12/ 4	2440924.5	-30.26069	-2.18132	8.48046	0.75347	-5.44286	-1.94628	31.50215	5.82928	184.12	15.62
70/12/ 8	2440928.5	-30.25894	-2.19389	8.47596	0.75550	-5.44269	-1.94682	31.50014	5.82956	184.15	15.61

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70/12/12	2440932.5	-30.25720	-2.20647	8.47146	0.75752	-5.44252	-1.94737	31.49813	5.82984	184.17	15.60
70/12/16	2440936.5	-30.25544	-2.21904	8.46696	0.75955	-5.44235	-1.94792	31.49612	5.83013	184.19	15.59
70/12/20	2440940.5	-30.25369	-2.23161	8.46246	0.76157	-5.44217	-1.94846	31.49411	5.83042	184.22	15.59
70/12/24	2440944.5	-30.25193	-2.24419	8.45796	0.76360	-5.44200	-1.94901	31.49210	5.83070	184.24	15.58
70/12/28	2440948.5	-30.25016	-2.25676	8.45346	0.76564	-5.44183	-1.94956	31.49009	5.83099	184.27	15.57
71/ 1/ 1	2440952.5	-30.24839	-2.26933	8.44895	0.76767	-5.44165	-1.95010	31.48809	5.83128	184.29	15.56
71/ 1/ 5	2440956.5	-30.24661	-2.28190	8.44445	0.76971	-5.44147	-1.95065	31.48608	5.83156	184.31	15.56
71/ 1/ 9	2440960.5	-30.24483	-2.29447	8.43994	0.77175	-5.44129	-1.95119	31.48408	5.83184	184.34	15.55
71/ 1/13	2440964.5	-30.24305	-2.30704	8.43543	0.77379	-5.44111	-1.95173	31.48207	5.83212	184.36	15.54
71/ 1/17	2440968.5	-30.24126	-2.31961	8.43092	0.77583	-5.44092	-1.95228	31.48007	5.83240	184.39	15.53
71/ 1/21	2440972.5	-30.23946	-2.33218	8.42641	0.77787	-5.44073	-1.95282	31.47806	5.83268	184.41	15.53
71/ 1/25	2440976.5	-30.23766	-2.34475	8.42190	0.77991	-5.44054	-1.95336	31.47606	5.83295	184.43	15.52
71/ 1/29	2440980.5	-30.23586	-2.35732	8.41739	0.78195	-5.44035	-1.95390	31.47406	5.83323	184.46	15.51
71/ 2/ 2	2440984.5	-30.23405	-2.36988	8.41287	0.78400	-5.44015	-1.95443	31.47206	5.83350	184.48	15.50
71/ 2/ 6	2440988.5	-30.23224	-2.38245	8.40836	0.78604	-5.43995	-1.95497	31.47006	5.83377	184.51	15.50
71/ 2/10	2440992.5	-30.23042	-2.39502	8.40384	0.78808	-5.43975	-1.95551	31.46806	5.83403	184.53	15.49
71/ 2/14	2440996.5	-30.22860	-2.40759	8.39932	0.79012	-5.43955	-1.95604	31.46606	5.83430	184.55	15.48
71/ 2/18	2441000.5	-30.22677	-2.42015	8.39480	0.79217	-5.43934	-1.95658	31.46406	5.83456	184.58	15.47
71/ 2/22	2441004.5	-30.22494	-2.43272	8.39028	0.79421	-5.43913	-1.95711	31.46207	5.83482	184.60	15.47
71/ 2/26	2441008.5	-30.22310	-2.44528	8.38576	0.79625	-5.43892	-1.95764	31.46007	5.83509	184.63	15.46
71/ 3/ 2	2441012.5	-30.22126	-2.45785	8.38124	0.79828	-5.43871	-1.95817	31.45807	5.83534	184.65	15.45
71/ 3/ 6	2441016.5	-30.21941	-2.47041	8.37671	0.80032	-5.43849	-1.95870	31.45608	5.83560	184.67	15.44
71/ 3/10	2441020.5	-30.21756	-2.48297	8.37219	0.80236	-5.43828	-1.95924	31.45409	5.83586	184.70	15.44
71/ 3/14	2441024.5	-30.21570	-2.49554	8.36766	0.80439	-5.43806	-1.95977	31.45209	5.83611	184.72	15.43
71/ 3/18	2441028.5	-30.21384	-2.50810	8.36313	0.80643	-5.43784	-1.96030	31.45010	5.83637	184.75	15.42
71/ 3/22	2441032.5	-30.21198	-2.52066	8.35860	0.80846	-5.43762	-1.96083	31.44811	5.83663	184.77	15.41
71/ 3/26	2441036.5	-30.21011	-2.53322	8.35407	0.81050	-5.43741	-1.96136	31.44612	5.83688	184.79	15.41
71/ 3/30	2441040.5	-30.20823	-2.54579	8.34954	0.81253	-5.43718	-1.96189	31.44413	5.83714	184.82	15.40
71/ 4/ 3	2441044.5	-30.20635	-2.55835	8.34501	0.81456	-5.43696	-1.96241	31.44214	5.83739	184.84	15.39
71/ 4/ 7	2441048.5	-30.20447	-2.57091	8.34047	0.81660	-5.43674	-1.96294	31.44015	5.83764	184.87	15.38
71/ 4/11	2441052.5	-30.20258	-2.58347	8.33594	0.81863	-5.43651	-1.96347	31.43816	5.83789	184.89	15.38
71/ 4/15	2441056.5	-30.20069	-2.59602	8.33140	0.82066	-5.43628	-1.96399	31.43617	5.83814	184.91	15.37
71/ 4/19	2441060.5	-30.19879	-2.60858	8.32686	0.82269	-5.43605	-1.96452	31.43419	5.83839	184.94	15.36
71/ 4/23	2441064.5	-30.19688	-2.62114	8.32232	0.82472	-5.43582	-1.96505	31.43220	5.83864	184.96	15.35
71/ 4/27	2441068.5	-30.19498	-2.63370	8.31778	0.82675	-5.43558	-1.96557	31.43022	5.83888	184.98	15.35
71/ 5/ 1	2441072.5	-30.19306	-2.64626	8.31324	0.82877	-5.43535	-1.96610	31.42823	5.83913	185.01	15.34
71/ 5/ 5	2441076.5	-30.19115	-2.65881	8.30870	0.83080	-5.43512	-1.96662	31.42625	5.83938	185.03	15.33
71/ 5/ 9	2441080.5	-30.18923	-2.67137	8.30416	0.83282	-5.43488	-1.96714	31.42427	5.83962	185.06	15.32
71/ 5/13	2441084.5	-30.18730	-2.68392	8.29961	0.83484	-5.43465	-1.96767	31.42229	5.83987	185.08	15.32
71/ 5/17	2441088.5	-30.18537	-2.69648	8.29507	0.83686	-5.43441	-1.96819	31.42031	5.84012	185.10	15.31
71/ 5/21	2441092.5	-30.18343	-2.70903	8.29052	0.83888	-5.43418	-1.96872	31.41833	5.84036	185.13	15.30
71/ 5/25	2441096.5	-30.18149	-2.72159	8.28597	0.84090	-5.43394	-1.96924	31.41635	5.84061	185.15	15.29
71/ 5/29	2441100.5	-30.17955	-2.73414	8.28142	0.84292	-5.43371	-1.96977	31.41437	5.84086	185.18	15.28
71/ 6/ 2	2441104.5	-30.17760	-2.74669	8.27687	0.84494	-5.43347	-1.97029	31.41239	5.84111	185.20	15.28
71/ 6/ 6	2441108.5	-30.17564	-2.75924	8.27232	0.84695	-5.43323	-1.97082	31.41041	5.84136	185.22	15.27

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71/ 6/10	2441112.5	-30.17369	-2.77179	8.26776	0.84897	-5.43300	-1.97134	31.40844	5.84161	185.25	15.26
71/ 6/14	2441116.5	-30.17172	-2.78435	8.26321	0.85099	-5.43277	-1.97187	31.40646	5.84187	185.27	15.25
71/ 6/18	2441120.5	-30.16975	-2.79690	8.25865	0.85300	-5.43253	-1.97239	31.40449	5.84212	185.30	15.25
71/ 6/22	2441124.5	-30.16778	-2.80945	8.25409	0.85502	-5.43230	-1.97292	31.40252	5.84238	185.32	15.24
71/ 6/26	2441128.5	-30.16580	-2.82199	8.24954	0.85704	-5.43207	-1.97345	31.40054	5.84263	185.34	15.23
71/ 6/30	2441132.5	-30.16382	-2.83454	8.24498	0.85907	-5.43183	-1.97398	31.39857	5.84289	185.37	15.22
71/ 7/ 4	2441136.5	-30.16183	-2.84709	8.24042	0.86109	-5.43160	-1.97450	31.39660	5.84315	185.39	15.22
71/ 7/ 8	2441140.5	-30.15984	-2.85964	8.23585	0.86311	-5.43136	-1.97503	31.39463	5.84340	185.42	15.21
71/ 7/12	2441144.5	-30.15785	-2.87219	8.23129	0.86514	-5.43112	-1.97556	31.39266	5.84366	185.44	15.20
71/ 7/16	2441148.5	-30.15584	-2.88473	8.22673	0.86716	-5.43088	-1.97608	31.39069	5.84391	185.46	15.19
71/ 7/20	2441152.5	-30.15384	-2.89728	8.22216	0.86918	-5.43064	-1.97661	31.38873	5.84417	185.49	15.19
71/ 7/24	2441156.5	-30.15183	-2.90982	8.21759	0.87121	-5.43040	-1.97713	31.38676	5.84442	185.51	15.18
71/ 7/28	2441160.5	-30.14981	-2.92237	8.21302	0.87323	-5.43015	-1.97766	31.38479	5.84468	185.54	15.17
71/ 8/ 1	2441164.5	-30.14779	-2.93491	8.20846	0.87526	-5.42991	-1.97818	31.38283	5.84493	185.56	15.16
71/ 8/ 5	2441168.5	-30.14577	-2.94746	8.20388	0.87728	-5.42966	-1.97871	31.38086	5.84518	185.58	15.15
71/ 8/ 9	2441172.5	-30.14374	-2.96000	8.19931	0.87931	-5.42942	-1.97923	31.37890	5.84544	185.61	15.15
71/ 8/13	2441176.5	-30.14171	-2.97254	8.19474	0.88134	-5.42917	-1.97975	31.37694	5.84569	185.63	15.14
71/ 8/17	2441180.5	-30.13967	-2.98509	8.19017	0.88336	-5.42892	-1.98028	31.37498	5.84594	185.66	15.13
71/ 8/21	2441184.5	-30.13763	-2.99763	8.18559	0.88539	-5.42867	-1.98080	31.37302	5.84619	185.68	15.12
71/ 8/25	2441188.5	-30.13558	-3.01017	8.18101	0.88741	-5.42842	-1.98132	31.37106	5.84644	185.70	15.12
71/ 8/29	2441192.5	-30.13353	-3.02271	8.17644	0.88944	-5.42816	-1.98184	31.36910	5.84669	185.73	15.11
71/ 9/ 2	2441196.5	-30.13147	-3.03525	8.17186	0.89146	-5.42791	-1.98237	31.36714	5.84694	185.75	15.10
71/ 9/ 6	2441200.5	-30.12941	-3.04779	8.16728	0.89349	-5.42765	-1.98289	31.36518	5.84719	185.78	15.09
71/ 9/10	2441204.5	-30.12734	-3.06033	8.16270	0.89552	-5.42740	-1.98341	31.36322	5.84744	185.80	15.09
71/ 9/14	2441208.5	-30.12527	-3.07286	8.15811	0.89754	-5.42714	-1.98393	31.36127	5.84769	185.82	15.08
71/ 9/18	2441212.5	-30.12319	-3.08540	8.15353	0.89957	-5.42688	-1.98445	31.35931	5.84794	185.85	15.07
71/ 9/22	2441216.5	-30.12111	-3.09794	8.14894	0.90160	-5.42663	-1.98497	31.35736	5.84818	185.87	15.06
71/ 9/26	2441220.5	-30.11903	-3.11047	8.14436	0.90363	-5.42636	-1.98549	31.35541	5.84843	185.90	15.05
71/ 9/30	2441224.5	-30.11694	-3.12301	8.13977	0.90565	-5.42610	-1.98601	31.35345	5.84868	185.92	15.05
71/10/ 4	2441228.5	-30.11484	-3.13554	8.13518	0.90768	-5.42583	-1.98653	31.35150	5.84892	185.94	15.04
71/10/ 8	2441232.5	-30.11274	-3.14808	8.13059	0.90971	-5.42557	-1.98705	31.34955	5.84916	185.97	15.03
71/10/12	2441236.5	-30.11064	-3.16061	8.12600	0.91174	-5.42530	-1.98757	31.34760	5.84940	185.99	15.02
71/10/16	2441240.5	-30.10853	-3.17315	8.12141	0.91376	-5.42502	-1.98808	31.34565	5.84964	186.02	15.02
71/10/20	2441244.5	-30.10642	-3.18568	8.11682	0.91579	-5.42475	-1.98860	31.34370	5.84988	186.04	15.01
71/10/24	2441248.5	-30.10430	-3.19821	8.11222	0.91781	-5.42448	-1.98911	31.34175	5.85012	186.06	15.00
71/10/28	2441252.5	-30.10218	-3.21074	8.10762	0.91983	-5.42420	-1.98963	31.33981	5.85036	186.09	14.99
71/11/ 1	2441256.5	-30.10005	-3.22327	8.10303	0.92185	-5.42393	-1.99014	31.33786	5.85059	186.11	14.99
71/11/ 5	2441260.5	-30.09792	-3.23580	8.09843	0.92387	-5.42365	-1.99065	31.33592	5.85083	186.14	14.98
71/11/ 9	2441264.5	-30.09578	-3.24833	8.09383	0.92589	-5.42337	-1.99117	31.33397	5.85107	186.16	14.97
71/11/13	2441268.5	-30.09364	-3.26086	8.08923	0.92791	-5.42309	-1.99168	31.33203	5.85130	186.18	14.96
71/11/17	2441272.5	-30.09149	-3.27339	8.08463	0.92992	-5.42281	-1.99220	31.33009	5.85154	186.21	14.95
71/11/21	2441276.5	-30.08934	-3.28591	8.08003	0.93194	-5.42253	-1.99271	31.32814	5.85177	186.23	14.95
71/11/25	2441280.5	-30.08719	-3.29844	8.07542	0.93395	-5.42226	-1.99322	31.32620	5.85201	186.26	14.94
71/11/29	2441284.5	-30.08503	-3.31097	8.07082	0.93596	-5.42198	-1.99374	31.32426	5.85225	186.28	14.93
71/12/ 3	2441288.5	-30.08286	-3.32349	8.06621	0.93797	-5.42170	-1.99425	31.32232	5.85249	186.30	14.92

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71/12/ 7	2441292.5	-30.08069	-3.33602	8.06160	0.93998	-5.42142	-1.99476	31.32039	5.85273	186.33	14.92
71/12/11	2441296.5	-30.07852	-3.34854	8.05699	0.94199	-5.42114	-1.99528	31.31845	5.85297	186.35	14.91
71/12/15	2441300.5	-30.07634	-3.36106	8.05238	0.94401	-5.42087	-1.99580	31.31651	5.85322	186.38	14.90
71/12/19	2441304.5	-30.07416	-3.37359	8.04777	0.94602	-5.42059	-1.99631	31.31458	5.85346	186.40	14.89
71/12/23	2441308.5	-30.07197	-3.38611	8.04316	0.94803	-5.42031	-1.99683	31.31264	5.85371	186.42	14.88
71/12/27	2441312.5	-30.06978	-3.39863	8.03855	0.95005	-5.42004	-1.99734	31.31071	5.85395	186.45	14.88
71/12/31	2441316.5	-30.06758	-3.41115	8.03393	0.95206	-5.41976	-1.99786	31.30878	5.85420	186.47	14.87
72/ 1/ 4	2441320.5	-30.06538	-3.42367	8.02931	0.95408	-5.41948	-1.99837	31.30684	5.85444	186.50	14.86
72/ 1/ 8	2441324.5	-30.06317	-3.43619	8.02470	0.95609	-5.41920	-1.99889	31.30491	5.85469	186.52	14.85
72/ 1/12	2441328.5	-30.06096	-3.44871	8.02008	0.95811	-5.41891	-1.99940	31.30298	5.85493	186.54	14.85
72/ 1/16	2441332.5	-30.05875	-3.46123	8.01546	0.96012	-5.41863	-1.99992	31.30105	5.85518	186.57	14.84
72/ 1/20	2441336.5	-30.05653	-3.47375	8.01084	0.96214	-5.41835	-2.00043	31.29913	5.85542	186.59	14.83
72/ 1/24	2441340.5	-30.05430	-3.48626	8.00622	0.96416	-5.41807	-2.00095	31.29720	5.85567	186.62	14.82
72/ 1/28	2441344.5	-30.05207	-3.49878	8.00159	0.96617	-5.41779	-2.00146	31.29527	5.85592	186.64	14.81
72/ 2/ 1	2441348.5	-30.04984	-3.51130	7.99697	0.96819	-5.41750	-2.00198	31.29334	5.85616	186.66	14.81
72/ 2/ 5	2441352.5	-30.04760	-3.52381	7.99234	0.97021	-5.41722	-2.00249	31.29142	5.85641	186.69	14.80
72/ 2/ 9	2441356.5	-30.04535	-3.53633	7.98772	0.97222	-5.41694	-2.00301	31.28950	5.85666	186.71	14.79
72/ 2/13	2441360.5	-30.04311	-3.54884	7.98309	0.97424	-5.41665	-2.00352	31.28757	5.85691	186.74	14.78
72/ 2/17	2441364.5	-30.04085	-3.56135	7.97846	0.97626	-5.41637	-2.00403	31.28565	5.85716	186.76	14.77
72/ 2/21	2441368.5	-30.03860	-3.57386	7.97383	0.97828	-5.41608	-2.00455	31.28373	5.85741	186.78	14.77
72/ 2/25	2441372.5	-30.03633	-3.58638	7.96920	0.98030	-5.41580	-2.00506	31.28181	5.85765	186.81	14.76
72/ 2/29	2441376.5	-30.03407	-3.59889	7.96457	0.98233	-5.41551	-2.00558	31.27989	5.85790	186.83	14.75
72/ 3/ 4	2441380.5	-30.03179	-3.61140	7.95993	0.98435	-5.41522	-2.00609	31.27797	5.85815	186.86	14.74
72/ 3/ 8	2441384.5	-30.02952	-3.62391	7.95530	0.98637	-5.41493	-2.00661	31.27605	5.85840	186.88	14.74
72/ 3/12	2441388.5	-30.02724	-3.63642	7.95066	0.98840	-5.41464	-2.00712	31.27413	5.85866	186.91	14.73
72/ 3/16	2441392.5	-30.02495	-3.64893	7.94602	0.99043	-5.41435	-2.00764	31.27222	5.85891	186.93	14.72
72/ 3/20	2441396.5	-30.02266	-3.66143	7.94138	0.99246	-5.41406	-2.00815	31.27030	5.85915	186.95	14.71
72/ 3/24	2441400.5	-30.02037	-3.67394	7.93675	0.99449	-5.41376	-2.00866	31.26839	5.85940	186.98	14.70
72/ 3/28	2441404.5	-30.01807	-3.68645	7.93210	0.99653	-5.41347	-2.00917	31.26648	5.85965	187.00	14.70
72/ 4/ 1	2441408.5	-30.01576	-3.69895	7.92746	0.99856	-5.41316	-2.00968	31.26456	5.85989	187.03	14.69
72/ 4/ 5	2441412.5	-30.01345	-3.71146	7.92282	1.00059	-5.41286	-2.01019	31.26265	5.86013	187.05	14.68
72/ 4/ 9	2441416.5	-30.01114	-3.72396	7.91817	1.00263	-5.41255	-2.01070	31.26074	5.86037	187.07	14.67
72/ 4/13	2441420.5	-30.00882	-3.73647	7.91353	1.00466	-5.41224	-2.01121	31.25883	5.86061	187.10	14.66
72/ 4/17	2441424.5	-30.00650	-3.74897	7.90888	1.00669	-5.41193	-2.01172	31.25692	5.86084	187.12	14.66
72/ 4/21	2441428.5	-30.00417	-3.76147	7.90423	1.00873	-5.41162	-2.01222	31.25501	5.86107	187.15	14.65
72/ 4/25	2441432.5	-30.00184	-3.77397	7.89958	1.01076	-5.41130	-2.01273	31.25310	5.86131	187.17	14.64
72/ 4/29	2441436.5	-29.99950	-3.78647	7.89493	1.01279	-5.41099	-2.01323	31.25120	5.86154	187.19	14.63
72/ 5/ 3	2441440.5	-29.99716	-3.79897	7.89028	1.01482	-5.41067	-2.01373	31.24929	5.86176	187.22	14.63
72/ 5/ 7	2441444.5	-29.99481	-3.81147	7.88563	1.01685	-5.41034	-2.01423	31.24739	5.86199	187.24	14.62
72/ 5/11	2441448.5	-29.99246	-3.82397	7.88098	1.01888	-5.41002	-2.01474	31.24548	5.86222	187.27	14.61
72/ 5/15	2441452.5	-29.99010	-3.83647	7.87632	1.02090	-5.40969	-2.01524	31.24358	5.86244	187.29	14.60
72/ 5/19	2441456.5	-29.98774	-3.84896	7.87167	1.02293	-5.40936	-2.01574	31.24168	5.86266	187.31	14.59
72/ 5/23	2441460.5	-29.98538	-3.86146	7.86701	1.02495	-5.40904	-2.01624	31.23977	5.86288	187.34	14.59
72/ 5/27	2441464.5	-29.98301	-3.87396	7.86235	1.02697	-5.40870	-2.01674	31.23787	5.86310	187.36	14.58
72/ 5/31	2441468.5	-29.98063	-3.88645	7.85769	1.02900	-5.40837	-2.01724	31.23597	5.86333	187.39	14.57

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72/ 6/ 4	2441472.5	-29.97825	-3.89895	7.85303	1.03102	-5.40804	-2.01774	31.23407	5.86355	187.41	14.56
72/ 6/ 8	2441476.5	-29.97587	-3.91144	7.84837	1.03303	-5.40771	-2.01823	31.23218	5.86377	187.43	14.55
72/ 6/12	2441480.5	-29.97348	-3.92393	7.84370	1.03505	-5.40738	-2.01873	31.23028	5.86399	187.46	14.55
72/ 6/16	2441484.5	-29.97109	-3.93642	7.83904	1.03707	-5.40704	-2.01923	31.22838	5.86421	187.48	14.54
72/ 6/20	2441488.5	-29.96869	-3.94891	7.83437	1.03909	-5.40670	-2.01973	31.22649	5.86442	187.51	14.53
72/ 6/24	2441492.5	-29.96628	-3.96140	7.82971	1.04111	-5.40636	-2.02023	31.22459	5.86464	187.53	14.52
72/ 6/28	2441496.5	-29.96388	-3.97389	7.82504	1.04312	-5.40602	-2.02072	31.22270	5.86485	187.55	14.51
72/ 7/ 2	2441500.5	-29.96146	-3.98638	7.82037	1.04513	-5.40568	-2.02122	31.22081	5.86507	187.58	14.51
72/ 7/ 6	2441504.5	-29.95905	-3.99887	7.81570	1.04714	-5.40534	-2.02171	31.21892	5.86528	187.60	14.50
72/ 7/10	2441508.5	-29.95663	-4.01136	7.81103	1.04915	-5.40500	-2.02221	31.21702	5.86550	187.63	14.49
72/ 7/14	2441512.5	-29.95420	-4.02384	7.80636	1.05116	-5.40465	-2.02270	31.21513	5.86571	187.65	14.48
72/ 7/18	2441516.5	-29.95177	-4.03633	7.80168	1.05317	-5.40431	-2.02320	31.21325	5.86592	187.67	14.47
72/ 7/22	2441520.5	-29.94933	-4.04881	7.79701	1.05517	-5.40397	-2.02369	31.21136	5.86614	187.70	14.47
72/ 7/26	2441524.5	-29.94689	-4.06130	7.79233	1.05717	-5.40362	-2.02419	31.20947	5.86635	187.72	14.46
72/ 7/30	2441528.5	-29.94445	-4.07378	7.78766	1.05917	-5.40328	-2.02468	31.20758	5.86657	187.75	14.45
72/ 8/ 3	2441532.5	-29.94200	-4.08626	7.78298	1.06117	-5.40294	-2.02518	31.20570	5.86678	187.77	14.44
72/ 8/ 7	2441536.5	-29.93955	-4.09874	7.77830	1.06317	-5.40259	-2.02567	31.20382	5.86700	187.80	14.43
72/ 8/11	2441540.5	-29.93709	-4.11122	7.77362	1.06517	-5.40225	-2.02617	31.20193	5.86722	187.82	14.43
72/ 8/15	2441544.5	-29.93463	-4.12370	7.76894	1.06716	-5.40191	-2.02667	31.20005	5.86744	187.84	14.42
72/ 8/19	2441548.5	-29.93216	-4.13618	7.76426	1.06916	-5.40157	-2.02716	31.19817	5.86766	187.87	14.41
72/ 8/23	2441552.5	-29.92969	-4.14866	7.75957	1.07115	-5.40123	-2.02766	31.19629	5.86788	187.89	14.40
72/ 8/27	2441556.5	-29.92721	-4.16114	7.75489	1.07314	-5.40089	-2.02816	31.19441	5.86811	187.92	14.39
72/ 8/31	2441560.5	-29.92473	-4.17361	7.75020	1.07514	-5.40055	-2.02866	31.19253	5.86834	187.94	14.39
72/ 9/ 4	2441564.5	-29.92224	-4.18609	7.74552	1.07714	-5.40022	-2.02916	31.19065	5.86856	187.96	14.38
72/ 9/ 8	2441568.5	-29.91975	-4.19856	7.74083	1.07913	-5.39988	-2.02966	31.18878	5.86880	187.99	14.37
72/ 9/12	2441572.5	-29.91726	-4.21104	7.73614	1.08113	-5.39954	-2.03016	31.18690	5.86903	188.01	14.36
72/ 9/16	2441576.5	-29.91476	-4.22351	7.73145	1.08313	-5.39921	-2.03066	31.18503	5.86926	188.04	14.35
72/ 9/20	2441580.5	-29.91225	-4.23598	7.72676	1.08513	-5.39887	-2.03116	31.18315	5.86949	188.06	14.35
72/ 9/24	2441584.5	-29.90974	-4.24846	7.72206	1.08713	-5.39853	-2.03166	31.18128	5.86972	188.08	14.34
72/ 9/28	2441588.5	-29.90723	-4.26093	7.71737	1.08914	-5.39819	-2.03216	31.17941	5.86996	188.11	14.33
72/10/ 2	2441592.5	-29.90471	-4.27340	7.71267	1.09114	-5.39785	-2.03266	31.17754	5.87019	188.13	14.32
72/10/ 6	2441596.5	-29.90219	-4.28587	7.70798	1.09314	-5.39751	-2.03317	31.17567	5.87042	188.16	14.31
72/10/10	2441600.5	-29.89966	-4.29834	7.70328	1.09514	-5.39717	-2.03367	31.17380	5.87066	188.18	14.31
72/10/14	2441604.5	-29.89713	-4.31080	7.69858	1.09715	-5.39683	-2.03417	31.17193	5.87089	188.20	14.30
72/10/18	2441608.5	-29.89459	-4.32327	7.69388	1.09915	-5.39649	-2.03467	31.17006	5.87112	188.23	14.29
72/10/22	2441612.5	-29.89205	-4.33574	7.68918	1.10116	-5.39615	-2.03517	31.16820	5.87136	188.25	14.28
72/10/26	2441616.5	-29.88950	-4.34820	7.68448	1.10316	-5.39581	-2.03567	31.16633	5.87159	188.28	14.27
72/10/30	2441620.5	-29.88695	-4.36067	7.67977	1.10517	-5.39546	-2.03617	31.16447	5.87183	188.30	14.27
72/11/ 3	2441624.5	-29.88440	-4.37313	7.67507	1.10718	-5.39512	-2.03667	31.16261	5.87206	188.33	14.26
72/11/ 7	2441628.5	-29.88184	-4.38560	7.67036	1.10918	-5.39477	-2.03716	31.16074	5.87230	188.35	14.25
72/11/11	2441632.5	-29.87927	-4.39806	7.66566	1.11119	-5.39442	-2.03766	31.15888	5.87253	188.37	14.24
72/11/15	2441636.5	-29.87670	-4.41052	7.66095	1.11320	-5.39408	-2.03816	31.15702	5.87277	188.40	14.23
72/11/19	2441640.5	-29.87413	-4.42298	7.65624	1.11521	-5.39373	-2.03866	31.15516	5.87300	188.42	14.23
72/11/23	2441644.5	-29.87155	-4.43544	7.65153	1.11722	-5.39338	-2.03916	31.15331	5.87324	188.45	14.22
72/11/27	2441648.5	-29.86897	-4.44790	7.64682	1.11923	-5.39303	-2.03966	31.15145	5.87347	188.47	14.21

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
72/12/ 1	2441652.5	-29.86638	-4.46036	7.64211	1.12124	-5.39268	-2.04016	31.14959	5.87371	188.49	14.20
72/12/ 5	2441656.5	-29.86379	-4.47282	7.63739	1.12326	-5.39233	-2.04066	31.14774	5.87394	188.52	14.19
72/12/ 9	2441660.5	-29.86119	-4.48527	7.63268	1.12527	-5.39198	-2.04115	31.14588	5.87418	188.54	14.19
72/12/13	2441664.5	-29.85859	-4.49773	7.62796	1.12729	-5.39162	-2.04165	31.14403	5.87441	188.57	14.18
72/12/17	2441668.5	-29.85598	-4.51018	7.62324	1.12930	-5.39126	-2.04214	31.14218	5.87464	188.59	14.17
72/12/21	2441672.5	-29.85337	-4.52264	7.61853	1.13132	-5.39090	-2.04264	31.14032	5.87486	188.61	14.16
72/12/25	2441676.5	-29.85075	-4.53509	7.61381	1.13333	-5.39053	-2.04313	31.13847	5.87509	188.64	14.15
72/12/29	2441680.5	-29.84813	-4.54754	7.60909	1.13535	-5.39017	-2.04362	31.13662	5.87531	188.66	14.15
73/ 1/ 2	2441684.5	-29.84551	-4.56000	7.60436	1.13736	-5.38980	-2.04412	31.13477	5.87554	188.69	14.14
73/ 1/ 6	2441688.5	-29.84288	-4.57245	7.59964	1.13938	-5.38943	-2.04461	31.13293	5.87576	188.71	14.13
73/ 1/10	2441692.5	-29.84024	-4.58490	7.59492	1.14139	-5.38906	-2.04510	31.13108	5.87598	188.74	14.12
73/ 1/14	2441696.5	-29.83760	-4.59735	7.59019	1.14340	-5.38868	-2.04559	31.12923	5.87620	188.76	14.11
73/ 1/18	2441700.5	-29.83496	-4.60980	7.58547	1.14541	-5.38831	-2.04608	31.12739	5.87642	188.78	14.10
73/ 1/22	2441704.5	-29.83231	-4.62224	7.58074	1.14742	-5.38794	-2.04657	31.12554	5.87664	188.81	14.10
73/ 1/26	2441708.5	-29.82966	-4.63469	7.57601	1.14943	-5.38756	-2.04706	31.12370	5.87685	188.83	14.09
73/ 1/30	2441712.5	-29.82700	-4.64714	7.57128	1.15143	-5.38718	-2.04754	31.12186	5.87707	188.86	14.08
73/ 2/ 3	2441716.5	-29.82434	-4.65958	7.56655	1.15344	-5.38680	-2.04803	31.12002	5.87729	188.88	14.07
73/ 2/ 7	2441720.5	-29.82167	-4.67202	7.56182	1.15544	-5.38642	-2.04852	31.11818	5.87750	188.90	14.06
73/ 2/11	2441724.5	-29.81900	-4.68447	7.55708	1.15744	-5.38604	-2.04901	31.11634	5.87772	188.93	14.06
73/ 2/15	2441728.5	-29.81632	-4.69691	7.55235	1.15944	-5.38567	-2.04949	31.11450	5.87794	188.95	14.05
73/ 2/19	2441732.5	-29.81364	-4.70935	7.54762	1.16144	-5.38529	-2.04998	31.11266	5.87815	188.98	14.04
73/ 2/23	2441736.5	-29.81096	-4.72179	7.54288	1.16344	-5.38491	-2.05047	31.11083	5.87837	189.00	14.03
73/ 2/27	2441740.5	-29.80827	-4.73423	7.53814	1.16544	-5.38453	-2.05096	31.10899	5.87859	189.02	14.02
73/ 3/ 3	2441744.5	-29.80557	-4.74667	7.53340	1.16745	-5.38415	-2.05145	31.10716	5.87881	189.05	14.01
73/ 3/ 7	2441748.5	-29.80287	-4.75911	7.52866	1.16945	-5.38377	-2.05193	31.10532	5.87903	189.07	14.01
73/ 3/11	2441752.5	-29.80017	-4.77154	7.52392	1.17145	-5.38339	-2.05242	31.10349	5.87925	189.10	14.00
73/ 3/15	2441756.5	-29.79746	-4.78398	7.51918	1.17345	-5.38300	-2.05291	31.10166	5.87947	189.12	13.99
73/ 3/19	2441760.5	-29.79475	-4.79642	7.51444	1.17545	-5.38262	-2.05340	31.09983	5.87969	189.15	13.98
73/ 3/23	2441764.5	-29.79203	-4.80885	7.50969	1.17745	-5.38224	-2.05388	31.09800	5.87990	189.17	13.97
73/ 3/27	2441768.5	-29.78931	-4.82128	7.50495	1.17944	-5.38185	-2.05437	31.09617	5.88012	189.19	13.97
73/ 3/31	2441772.5	-29.78658	-4.83372	7.50020	1.18144	-5.38146	-2.05486	31.09434	5.88034	189.22	13.96
73/ 4/ 4	2441776.5	-29.78385	-4.84615	7.49545	1.18344	-5.38108	-2.05534	31.09252	5.88056	189.24	13.95
73/ 4/ 8	2441780.5	-29.78111	-4.85858	7.49070	1.18543	-5.38069	-2.05583	31.09069	5.88078	189.27	13.94
73/ 4/12	2441784.5	-29.77837	-4.87101	7.48595	1.18743	-5.38031	-2.05632	31.08887	5.88100	189.29	13.93
73/ 4/16	2441788.5	-29.77563	-4.88344	7.48120	1.18943	-5.37992	-2.05680	31.08704	5.88122	189.31	13.93
73/ 4/20	2441792.5	-29.77288	-4.89587	7.47645	1.19142	-5.37953	-2.05729	31.08522	5.88144	189.34	13.92
73/ 4/24	2441796.5	-29.77012	-4.90829	7.47170	1.19342	-5.37915	-2.05778	31.08340	5.88166	189.36	13.91
73/ 4/28	2441800.5	-29.76736	-4.92072	7.46694	1.19541	-5.37876	-2.05826	31.08158	5.88188	189.39	13.90
73/ 5/ 2	2441804.5	-29.76460	-4.93314	7.46219	1.19741	-5.37837	-2.05875	31.07976	5.88210	189.41	13.89
73/ 5/ 6	2441808.5	-29.76183	-4.94557	7.45743	1.19940	-5.37798	-2.05924	31.07794	5.88232	189.43	13.88
73/ 5/10	2441812.5	-29.75906	-4.95799	7.45267	1.20139	-5.37760	-2.05972	31.07612	5.88255	189.46	13.88
73/ 5/14	2441816.5	-29.75628	-4.97042	7.44792	1.20339	-5.37721	-2.06021	31.07431	5.88277	189.48	13.87
73/ 5/18	2441820.5	-29.75350	-4.98284	7.44315	1.20538	-5.37682	-2.06070	31.07249	5.88300	189.51	13.86
73/ 5/22	2441824.5	-29.75071	-4.99526	7.43839	1.20738	-5.37643	-2.06119	31.07068	5.88322	189.53	13.85
73/ 5/26	2441828.5	-29.74792	-5.00768	7.43363	1.20938	-5.37605	-2.06168	31.06886	5.88345	189.56	13.84

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
73/ 5/30	2441832.5	-29.74512	-5.02010	7.42887	1.21138	-5.37566	-2.06217	31.06705	5.88368	189.58	13.83
73/ 6/ 3	2441836.5	-29.74232	-5.03252	7.42410	1.21338	-5.37527	-2.06265	31.06524	5.88391	189.60	13.83
73/ 6/ 7	2441840.5	-29.73951	-5.04493	7.41934	1.21538	-5.37488	-2.06314	31.06343	5.88413	189.63	13.82
73/ 6/11	2441844.5	-29.73670	-5.05735	7.41457	1.21739	-5.37448	-2.06363	31.06162	5.88436	189.65	13.81
73/ 6/15	2441848.5	-29.73389	-5.06977	7.40980	1.21939	-5.37409	-2.06411	31.05981	5.88458	189.68	13.80
73/ 6/19	2441852.5	-29.73107	-5.08218	7.40503	1.22139	-5.37369	-2.06460	31.05800	5.88480	189.70	13.79
73/ 6/23	2441856.5	-29.72825	-5.09459	7.40026	1.22340	-5.37329	-2.06508	31.05620	5.88502	189.72	13.79
73/ 6/27	2441860.5	-29.72542	-5.10701	7.39549	1.22540	-5.37289	-2.06557	31.05439	5.88524	189.75	13.78
73/ 7/ 1	2441864.5	-29.72258	-5.11942	7.39072	1.22740	-5.37248	-2.06605	31.05259	5.88546	189.77	13.77
73/ 7/ 5	2441868.5	-29.71975	-5.13183	7.38595	1.22940	-5.37208	-2.06653	31.05078	5.88568	189.80	13.76
73/ 7/ 9	2441872.5	-29.71690	-5.14424	7.38117	1.23140	-5.37167	-2.06702	31.04898	5.88590	189.82	13.75
73/ 7/13	2441876.5	-29.71406	-5.15665	7.37640	1.23341	-5.37126	-2.06750	31.04718	5.88611	189.85	13.74
73/ 7/17	2441880.5	-29.71121	-5.16906	7.37162	1.23541	-5.37086	-2.06798	31.04538	5.88633	189.87	13.74
73/ 7/21	2441884.5	-29.70835	-5.18146	7.36684	1.23740	-5.37044	-2.06846	31.04358	5.88654	189.89	13.73
73/ 7/25	2441888.5	-29.70549	-5.19387	7.36206	1.23940	-5.37003	-2.06894	31.04178	5.88675	189.92	13.72
73/ 7/29	2441892.5	-29.70262	-5.20628	7.35728	1.24140	-5.36962	-2.06942	31.03999	5.88697	189.94	13.71
73/ 8/ 2	2441896.5	-29.69975	-5.21868	7.35250	1.24339	-5.36920	-2.06990	31.03819	5.88718	189.97	13.70
73/ 8/ 6	2441900.5	-29.69688	-5.23108	7.34772	1.24539	-5.36879	-2.07038	31.03639	5.88739	189.99	13.69
73/ 8/10	2441904.5	-29.69400	-5.24349	7.34294	1.24738	-5.36837	-2.07086	31.03460	5.88760	190.01	13.69
73/ 8/14	2441908.5	-29.69111	-5.25589	7.33815	1.24937	-5.36796	-2.07134	31.03281	5.88781	190.04	13.68
73/ 8/18	2441912.5	-29.68823	-5.26829	7.33337	1.25136	-5.36754	-2.07182	31.03101	5.88802	190.06	13.67
73/ 8/22	2441916.5	-29.68533	-5.28069	7.32858	1.25336	-5.36712	-2.07230	31.02922	5.88824	190.09	13.66
73/ 8/26	2441920.5	-29.68244	-5.29308	7.32379	1.25535	-5.36671	-2.07277	31.02743	5.88845	190.11	13.65
73/ 8/30	2441924.5	-29.67953	-5.30548	7.31900	1.25734	-5.36629	-2.07325	31.02564	5.88866	190.14	13.64
73/ 9/ 3	2441928.5	-29.67663	-5.31788	7.31421	1.25933	-5.36587	-2.07373	31.02386	5.88887	190.16	13.64
73/ 9/ 7	2441932.5	-29.67371	-5.33027	7.30942	1.26132	-5.36545	-2.07421	31.02207	5.88908	190.18	13.63
73/ 9/11	2441936.5	-29.67080	-5.34267	7.30463	1.26330	-5.36502	-2.07469	31.02028	5.88929	190.21	13.62
73/ 9/15	2441940.5	-29.66788	-5.35506	7.29983	1.26529	-5.36460	-2.07516	31.01850	5.88950	190.23	13.61
73/ 9/19	2441944.5	-29.66495	-5.36746	7.29504	1.26727	-5.36417	-2.07564	31.01671	5.88970	190.26	13.60
73/ 9/23	2441948.5	-29.66202	-5.37985	7.29024	1.26926	-5.36375	-2.07612	31.01493	5.88991	190.28	13.59
73/ 9/27	2441952.5	-29.65909	-5.39224	7.28545	1.27124	-5.36333	-2.07659	31.01315	5.89012	190.30	13.59
73/10/ 1	2441956.5	-29.65615	-5.40463	7.28065	1.27322	-5.36290	-2.07707	31.01137	5.89033	190.33	13.58
73/10/ 5	2441960.5	-29.65321	-5.41702	7.27585	1.27519	-5.36248	-2.07754	31.00959	5.89054	190.35	13.57
73/10/ 9	2441964.5	-29.65026	-5.42940	7.27105	1.27717	-5.36205	-2.07802	31.00781	5.89075	190.38	13.56
73/10/13	2441968.5	-29.64730	-5.44179	7.26625	1.27915	-5.36163	-2.07850	31.00603	5.89096	190.40	13.55
73/10/17	2441972.5	-29.64435	-5.45418	7.26145	1.28112	-5.36121	-2.07898	31.00426	5.89118	190.43	13.54
73/10/21	2441976.5	-29.64138	-5.46656	7.25664	1.28309	-5.36078	-2.07945	31.00248	5.89139	190.45	13.54
73/10/25	2441980.5	-29.63842	-5.47895	7.25184	1.28506	-5.36036	-2.07993	31.00071	5.89160	190.47	13.53
73/10/29	2441984.5	-29.63545	-5.49133	7.24703	1.28704	-5.35994	-2.08041	30.99893	5.89182	190.50	13.52
73/11/ 2	2441988.5	-29.63247	-5.50371	7.24223	1.28901	-5.35952	-2.08089	30.99716	5.89204	190.52	13.51
73/11/ 6	2441992.5	-29.62949	-5.51609	7.23742	1.29098	-5.35910	-2.08137	30.99539	5.89226	190.55	13.50
73/11/10	2441996.5	-29.62651	-5.52847	7.23261	1.29295	-5.35869	-2.08185	30.99362	5.89248	190.57	13.49
73/11/14	2442000.5	-29.62352	-5.54085	7.22780	1.29492	-5.35827	-2.08233	30.99185	5.89271	190.59	13.49
73/11/18	2442004.5	-29.62052	-5.55323	7.22299	1.29689	-5.35786	-2.08282	30.99008	5.89294	190.62	13.48
73/11/22	2442008.5	-29.61753	-5.56561	7.21818	1.29887	-5.35745	-2.08330	30.98832	5.89317	190.64	13.47

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
73/11/26	2442012.5	-29.61452	-5.57798	7.21336	1.30084	-5.35703	-2.08378	30.98655	5.89340	190.67	13.46
73/11/30	2442016.5	-29.61152	-5.59036	7.20855	1.30282	-5.35662	-2.08427	30.98479	5.89363	190.69	13.45
73/12/ 4	2442020.5	-29.60850	-5.60273	7.20373	1.30480	-5.35620	-2.08475	30.98303	5.89386	190.72	13.44
73/12/ 8	2442024.5	-29.60549	-5.61510	7.19892	1.30678	-5.35579	-2.08523	30.98126	5.89409	190.74	13.44
73/12/12	2442028.5	-29.60247	-5.62748	7.19410	1.30876	-5.35537	-2.08572	30.97950	5.89433	190.76	13.43
73/12/16	2442032.5	-29.59944	-5.63985	7.18928	1.31074	-5.35496	-2.08620	30.97774	5.89456	190.79	13.42
73/12/20	2442036.5	-29.59641	-5.65222	7.18446	1.31272	-5.35454	-2.08668	30.97598	5.89479	190.81	13.41
73/12/24	2442040.5	-29.59337	-5.66459	7.17964	1.31470	-5.35413	-2.08717	30.97422	5.89503	190.84	13.40
73/12/28	2442044.5	-29.59034	-5.67696	7.17482	1.31669	-5.35371	-2.08765	30.97247	5.89527	190.86	13.39
74/ 1/ 1	2442048.5	-29.58729	-5.68932	7.16999	1.31867	-5.35329	-2.08813	30.97071	5.89550	190.88	13.39
74/ 1/ 5	2442052.5	-29.58424	-5.70169	7.16517	1.32066	-5.35287	-2.08862	30.96896	5.89574	190.91	13.38
74/ 1/ 9	2442056.5	-29.58119	-5.71406	7.16034	1.32265	-5.35246	-2.08910	30.96720	5.89597	190.93	13.37
74/ 1/13	2442060.5	-29.57813	-5.72642	7.15552	1.32463	-5.35204	-2.08958	30.96545	5.89621	190.96	13.36
74/ 1/17	2442064.5	-29.57507	-5.73878	7.15069	1.32662	-5.35162	-2.09007	30.96370	5.89645	190.98	13.35
74/ 1/21	2442068.5	-29.57200	-5.75115	7.14586	1.32861	-5.35120	-2.09055	30.96195	5.89669	191.01	13.34
74/ 1/25	2442072.5	-29.56893	-5.76351	7.14103	1.33060	-5.35077	-2.09103	30.96020	5.89692	191.03	13.34
74/ 1/29	2442076.5	-29.56585	-5.77587	7.13620	1.33259	-5.35035	-2.09151	30.95845	5.89716	191.05	13.33
74/ 2/ 2	2442080.5	-29.56277	-5.78823	7.13137	1.33459	-5.34993	-2.09199	30.95670	5.89740	191.08	13.32
74/ 2/ 6	2442084.5	-29.55969	-5.80059	7.12653	1.33658	-5.34950	-2.09248	30.95496	5.89763	191.10	13.31
74/ 2/10	2442088.5	-29.55660	-5.81295	7.12170	1.33857	-5.34908	-2.09296	30.95321	5.89787	191.13	13.30
74/ 2/14	2442092.5	-29.55350	-5.82530	7.11686	1.34057	-5.34865	-2.09344	30.95147	5.89811	191.15	13.29
74/ 2/18	2442096.5	-29.55040	-5.83766	7.11203	1.34257	-5.34822	-2.09392	30.94973	5.89834	191.17	13.28
74/ 2/22	2442100.5	-29.54730	-5.85001	7.10719	1.34457	-5.34779	-2.09440	30.94798	5.89858	191.20	13.28
74/ 2/26	2442104.5	-29.54419	-5.86237	7.10235	1.34657	-5.34736	-2.09488	30.94624	5.89881	191.22	13.27
74/ 3/ 2	2442108.5	-29.54108	-5.87472	7.09751	1.34857	-5.34692	-2.09536	30.94450	5.89904	191.25	13.26
74/ 3/ 6	2442112.5	-29.53796	-5.88707	7.09267	1.35057	-5.34648	-2.09583	30.94276	5.89927	191.27	13.25
74/ 3/10	2442116.5	-29.53484	-5.89942	7.08783	1.35257	-5.34604	-2.09631	30.94103	5.89950	191.30	13.24
74/ 3/14	2442120.5	-29.53171	-5.91177	7.08298	1.35457	-5.34559	-2.09679	30.93929	5.89972	191.32	13.23
74/ 3/18	2442124.5	-29.52858	-5.92412	7.07814	1.35657	-5.34515	-2.09726	30.93755	5.89995	191.34	13.23
74/ 3/22	2442128.5	-29.52544	-5.93647	7.07329	1.35856	-5.34470	-2.09773	30.93582	5.90017	191.37	13.22
74/ 3/26	2442132.5	-29.52230	-5.94882	7.06844	1.36056	-5.34425	-2.09821	30.93409	5.90039	191.39	13.21
74/ 3/30	2442136.5	-29.51916	-5.96116	7.06360	1.36255	-5.34380	-2.09868	30.93235	5.90061	191.42	13.20
74/ 4/ 3	2442140.5	-29.51601	-5.97351	7.05875	1.36455	-5.34334	-2.09915	30.93062	5.90082	191.44	13.19
74/ 4/ 7	2442144.5	-29.51285	-5.98585	7.05390	1.36654	-5.34289	-2.09962	30.92889	5.90104	191.47	13.18
74/ 4/11	2442148.5	-29.50969	-5.99819	7.04905	1.36853	-5.34243	-2.10009	30.92716	5.90126	191.49	13.17
74/ 4/15	2442152.5	-29.50653	-6.01053	7.04420	1.37052	-5.34198	-2.10056	30.92543	5.90147	191.51	13.17
74/ 4/19	2442156.5	-29.50336	-6.02287	7.03934	1.37251	-5.34152	-2.10103	30.92371	5.90169	191.54	13.16
74/ 4/23	2442160.5	-29.50019	-6.03521	7.03449	1.37449	-5.34106	-2.10150	30.92198	5.90190	191.56	13.15
74/ 4/27	2442164.5	-29.49701	-6.04755	7.02963	1.37647	-5.34060	-2.10196	30.92026	5.90211	191.59	13.14
74/ 5/ 1	2442168.5	-29.49383	-6.05989	7.02478	1.37846	-5.34014	-2.10243	30.91853	5.90233	191.61	13.13
74/ 5/ 5	2442172.5	-29.49064	-6.07222	7.01992	1.38044	-5.33968	-2.10290	30.91681	5.90254	191.63	13.12
74/ 5/ 9	2442176.5	-29.48745	-6.08456	7.01506	1.38242	-5.33922	-2.10337	30.91509	5.90276	191.66	13.12
74/ 5/13	2442180.5	-29.48425	-6.09689	7.01020	1.38439	-5.33877	-2.10384	30.91337	5.90298	191.68	13.11
74/ 5/17	2442184.5	-29.48105	-6.10923	7.00534	1.38637	-5.33831	-2.10431	30.91165	5.90319	191.71	13.10
74/ 5/21	2442188.5	-29.47785	-6.12156	7.00048	1.38835	-5.33785	-2.10478	30.90993	5.90341	191.73	13.09

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74/ 5/25	2442192.5	-29.47464	-6.13389	6.99561	1.39033	-5.33739	-2.10525	30.90821	5.90363	191.76	13.08
74/ 5/29	2442196.5	-29.47142	-6.14622	6.99075	1.39231	-5.33692	-2.10572	30.90650	5.90384	191.78	13.07
74/ 6/ 2	2442200.5	-29.46821	-6.15855	6.98589	1.39429	-5.33646	-2.10619	30.90478	5.90406	191.80	13.06
74/ 6/ 6	2442204.5	-29.46498	-6.17088	6.98102	1.39626	-5.33600	-2.10666	30.90307	5.90427	191.83	13.06
74/ 6/10	2442208.5	-29.46175	-6.18320	6.97615	1.39823	-5.33554	-2.10713	30.90135	5.90449	191.85	13.05
74/ 6/14	2442212.5	-29.45852	-6.19553	6.97128	1.40021	-5.33508	-2.10760	30.89964	5.90471	191.88	13.04
74/ 6/18	2442216.5	-29.45529	-6.20785	6.96641	1.40218	-5.33461	-2.10807	30.89793	5.90493	191.90	13.03
74/ 6/22	2442220.5	-29.45204	-6.22018	6.96154	1.40415	-5.33415	-2.10853	30.89622	5.90514	191.93	13.02
74/ 6/26	2442224.5	-29.44880	-6.23250	6.95667	1.40612	-5.33369	-2.10900	30.89451	5.90536	191.95	13.01
74/ 6/30	2442228.5	-29.44555	-6.24482	6.95180	1.40809	-5.33323	-2.10947	30.89281	5.90558	191.97	13.00
74/ 7/ 4	2442232.5	-29.44229	-6.25714	6.94693	1.41006	-5.33277	-2.10994	30.89110	5.90581	192.00	13.00
74/ 7/ 8	2442236.5	-29.43903	-6.26946	6.94205	1.41202	-5.33231	-2.11042	30.88940	5.90603	192.02	12.99
74/ 7/12	2442240.5	-29.43577	-6.28178	6.93717	1.41399	-5.33185	-2.11089	30.88769	5.90625	192.05	12.98
74/ 7/16	2442244.5	-29.43250	-6.29409	6.93230	1.41596	-5.33139	-2.11136	30.88599	5.90648	192.07	12.97
74/ 7/20	2442248.5	-29.42923	-6.30641	6.92742	1.41793	-5.33093	-2.11183	30.88429	5.90671	192.10	12.96
74/ 7/24	2442252.5	-29.42595	-6.31872	6.92254	1.41989	-5.33048	-2.11230	30.88259	5.90694	192.12	12.95
74/ 7/28	2442256.5	-29.42267	-6.33104	6.91766	1.42186	-5.33002	-2.11278	30.88089	5.90717	192.14	12.94
74/ 8/ 1	2442260.5	-29.41938	-6.34335	6.91278	1.42383	-5.32956	-2.11325	30.87919	5.90740	192.17	12.94
74/ 8/ 5	2442264.5	-29.41609	-6.35566	6.90790	1.42580	-5.32911	-2.11372	30.87749	5.90763	192.19	12.93
74/ 8/ 9	2442268.5	-29.41279	-6.36797	6.90301	1.42777	-5.32866	-2.11420	30.87580	5.90787	192.22	12.92
74/ 8/13	2442272.5	-29.40949	-6.38028	6.89813	1.42974	-5.32820	-2.11468	30.87410	5.90811	192.24	12.91
74/ 8/17	2442276.5	-29.40618	-6.39259	6.89324	1.43172	-5.32775	-2.11515	30.87241	5.90835	192.26	12.90
74/ 8/21	2442280.5	-29.40287	-6.40490	6.88835	1.43369	-5.32729	-2.11563	30.87072	5.90859	192.29	12.89
74/ 8/25	2442284.5	-29.39956	-6.41721	6.88347	1.43567	-5.32683	-2.11610	30.86903	5.90882	192.31	12.88
74/ 8/29	2442288.5	-29.39624	-6.42951	6.87858	1.43765	-5.32638	-2.11658	30.86734	5.90906	192.34	12.88
74/ 9/ 2	2442292.5	-29.39292	-6.44181	6.87369	1.43963	-5.32592	-2.11705	30.86565	5.90930	192.36	12.87
74/ 9/ 6	2442296.5	-29.38959	-6.45412	6.86880	1.44160	-5.32546	-2.11752	30.86396	5.90954	192.39	12.86
74/ 9/10	2442300.5	-29.38626	-6.46642	6.86390	1.44358	-5.32500	-2.11800	30.86227	5.90977	192.41	12.85
74/ 9/14	2442304.5	-29.38292	-6.47872	6.85901	1.44556	-5.32453	-2.11847	30.86059	5.91001	192.43	12.84
74/ 9/18	2442308.5	-29.37958	-6.49102	6.85412	1.44754	-5.32407	-2.11894	30.85890	5.91025	192.46	12.83
74/ 9/22	2442312.5	-29.37623	-6.50332	6.84922	1.44952	-5.32361	-2.11942	30.85722	5.91049	192.48	12.82
74/ 9/26	2442316.5	-29.37288	-6.51562	6.84432	1.45150	-5.32314	-2.11989	30.85554	5.91072	192.51	12.82
74/ 9/30	2442320.5	-29.36953	-6.52792	6.83943	1.45348	-5.32268	-2.12036	30.85386	5.91096	192.53	12.81
74/10/ 4	2442324.5	-29.36617	-6.54021	6.83453	1.45546	-5.32221	-2.12083	30.85218	5.91119	192.56	12.80
74/10/ 8	2442328.5	-29.36280	-6.55251	6.82963	1.45744	-5.32174	-2.12130	30.85050	5.91143	192.58	12.79
74/10/12	2442332.5	-29.35943	-6.56480	6.82472	1.45942	-5.32127	-2.12178	30.84882	5.91167	192.60	12.78
74/10/16	2442336.5	-29.35606	-6.57709	6.81982	1.46140	-5.32080	-2.12225	30.84714	5.91190	192.63	12.77
74/10/20	2442340.5	-29.35268	-6.58938	6.81492	1.46338	-5.32033	-2.12272	30.84547	5.91214	192.65	12.76
74/10/24	2442344.5	-29.34930	-6.60167	6.81002	1.46536	-5.31986	-2.12319	30.84379	5.91237	192.68	12.76
74/10/28	2442348.5	-29.34591	-6.61396	6.80511	1.46733	-5.31939	-2.12366	30.84212	5.91261	192.70	12.75
74/11/ 1	2442352.5	-29.34252	-6.62625	6.80020	1.46931	-5.31892	-2.12413	30.84045	5.91284	192.73	12.74
74/11/ 5	2442356.5	-29.33912	-6.63854	6.79530	1.47129	-5.31845	-2.12460	30.83878	5.91308	192.75	12.73
74/11/ 9	2442360.5	-29.33572	-6.65082	6.79039	1.47327	-5.31798	-2.12507	30.83711	5.91332	192.77	12.72
74/11/13	2442364.5	-29.33231	-6.66311	6.78548	1.47525	-5.31750	-2.12554	30.83544	5.91356	192.80	12.71
74/11/17	2442368.5	-29.32890	-6.67539	6.78057	1.47724	-5.31703	-2.12601	30.83377	5.91379	192.82	12.70

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74/11/21	2442372.5	-29.32549	-6.68768	6.77565	1.47922	-5.31655	-2.12648	30.83211	5.91403	192.85	12.69
74/11/25	2442376.5	-29.32207	-6.69996	6.77074	1.48120	-5.31607	-2.12695	30.83044	5.91426	192.87	12.69
74/11/29	2442380.5	-29.31864	-6.71224	6.76583	1.48317	-5.31559	-2.12742	30.82878	5.91449	192.90	12.68
74/12/ 3	2442384.5	-29.31522	-6.72452	6.76091	1.48515	-5.31511	-2.12788	30.82711	5.91473	192.92	12.67
74/12/ 7	2442388.5	-29.31178	-6.73680	6.75599	1.48713	-5.31463	-2.12835	30.82545	5.91496	192.94	12.66
74/12/11	2442392.5	-29.30834	-6.74907	6.75108	1.48910	-5.31415	-2.12882	30.82379	5.91519	192.97	12.65
74/12/15	2442396.5	-29.30490	-6.76135	6.74616	1.49108	-5.31367	-2.12929	30.82213	5.91543	192.99	12.64
74/12/19	2442400.5	-29.30146	-6.77362	6.74124	1.49305	-5.31319	-2.12975	30.82047	5.91566	193.02	12.63
74/12/23	2442404.5	-29.29800	-6.78590	6.73632	1.49503	-5.31271	-2.13022	30.81882	5.91589	193.04	12.63
74/12/27	2442408.5	-29.29455	-6.79817	6.73140	1.49700	-5.31223	-2.13069	30.81716	5.91613	193.06	12.62
74/12/31	2442412.5	-29.29109	-6.81044	6.72647	1.49897	-5.31174	-2.13116	30.81550	5.91636	193.09	12.61
75/ 1/ 4	2442416.5	-29.28762	-6.82271	6.72155	1.50094	-5.31126	-2.13162	30.81385	5.91660	193.11	12.60
75/ 1/ 8	2442420.5	-29.28415	-6.83498	6.71663	1.50291	-5.31078	-2.13209	30.81220	5.91684	193.14	12.59
75/ 1/12	2442424.5	-29.28068	-6.84725	6.71170	1.50488	-5.31030	-2.13256	30.81055	5.91707	193.16	12.58
75/ 1/16	2442428.5	-29.27720	-6.85952	6.70677	1.50685	-5.30982	-2.13303	30.80890	5.91731	193.19	12.57
75/ 1/20	2442432.5	-29.27372	-6.87178	6.70184	1.50882	-5.30934	-2.13350	30.80725	5.91755	193.21	12.56
75/ 1/24	2442436.5	-29.27023	-6.88405	6.69691	1.51079	-5.30886	-2.13397	30.80560	5.91780	193.23	12.56
75/ 1/28	2442440.5	-29.26674	-6.89631	6.69198	1.51276	-5.30839	-2.13444	30.80395	5.91804	193.26	12.55
75/ 2/ 1	2442444.5	-29.26324	-6.90857	6.68705	1.51473	-5.30791	-2.13491	30.80231	5.91829	193.28	12.54
75/ 2/ 5	2442448.5	-29.25974	-6.92084	6.68212	1.51670	-5.30744	-2.13538	30.80066	5.91854	193.31	12.53
75/ 2/ 9	2442452.5	-29.25623	-6.93310	6.67719	1.51868	-5.30696	-2.13585	30.79902	5.91879	193.33	12.52
75/ 2/13	2442456.5	-29.25272	-6.94536	6.67225	1.52066	-5.30648	-2.13632	30.79738	5.91904	193.36	12.51
75/ 2/17	2442460.5	-29.24920	-6.95762	6.66732	1.52263	-5.30600	-2.13679	30.79574	5.91929	193.38	12.50
75/ 2/21	2442464.5	-29.24568	-6.96987	6.66238	1.52461	-5.30553	-2.13726	30.79410	5.91954	193.40	12.49
75/ 2/25	2442468.5	-29.24216	-6.98213	6.65744	1.52659	-5.30505	-2.13773	30.79246	5.91979	193.43	12.49
75/ 3/ 1	2442472.5	-29.23863	-6.99438	6.65250	1.52856	-5.30457	-2.13820	30.79082	5.92004	193.45	12.48
75/ 3/ 5	2442476.5	-29.23510	-7.00664	6.64756	1.53054	-5.30409	-2.13867	30.78919	5.92029	193.48	12.47
75/ 3/ 9	2442480.5	-29.23156	-7.01889	6.64262	1.53252	-5.30361	-2.13915	30.78755	5.92054	193.50	12.46
75/ 3/13	2442484.5	-29.22802	-7.03114	6.63768	1.53450	-5.30313	-2.13962	30.78592	5.92079	193.53	12.45
75/ 3/17	2442488.5	-29.22447	-7.04339	6.63274	1.53648	-5.30265	-2.14009	30.78428	5.92105	193.55	12.44
75/ 3/21	2442492.5	-29.22092	-7.05564	6.62779	1.53847	-5.30216	-2.14056	30.78265	5.92130	193.57	12.43
75/ 3/25	2442496.5	-29.21736	-7.06789	6.62284	1.54045	-5.30168	-2.14103	30.78102	5.92155	193.60	12.42
75/ 3/29	2442500.5	-29.21380	-7.08014	6.61790	1.54243	-5.30120	-2.14150	30.77939	5.92181	193.62	12.42
75/ 4/ 2	2442504.5	-29.21023	-7.09238	6.61295	1.54442	-5.30071	-2.14197	30.77777	5.92206	193.65	12.41
75/ 4/ 6	2442508.5	-29.20666	-7.10463	6.60800	1.54640	-5.30023	-2.14244	30.77614	5.92232	193.67	12.40
75/ 4/10	2442512.5	-29.20309	-7.11687	6.60305	1.54839	-5.29974	-2.14291	30.77451	5.92257	193.70	12.39
75/ 4/14	2442516.5	-29.19951	-7.12912	6.59810	1.55037	-5.29926	-2.14338	30.77289	5.92282	193.72	12.38
75/ 4/18	2442520.5	-29.19593	-7.14136	6.59315	1.55236	-5.29877	-2.14385	30.77126	5.92308	193.74	12.37
75/ 4/22	2442524.5	-29.19234	-7.15360	6.58820	1.55435	-5.29828	-2.14432	30.76964	5.92334	193.77	12.36
75/ 4/26	2442528.5	-29.18875	-7.16584	6.58324	1.55634	-5.29780	-2.14479	30.76802	5.92359	193.79	12.35
75/ 4/30	2442532.5	-29.18515	-7.17808	6.57829	1.55833	-5.29731	-2.14526	30.76640	5.92385	193.82	12.35
75/ 5/ 4	2442536.5	-29.18155	-7.19031	6.57333	1.56032	-5.29682	-2.14572	30.76478	5.92410	193.84	12.34
75/ 5/ 8	2442540.5	-29.17794	-7.20255	6.56837	1.56231	-5.29633	-2.14619	30.76316	5.92436	193.87	12.33
75/ 5/12	2442544.5	-29.17433	-7.21478	6.56341	1.56431	-5.29583	-2.14666	30.76155	5.92461	193.89	12.32
75/ 5/16	2442548.5	-29.17071	-7.22702	6.55845	1.56630	-5.29533	-2.14713	30.75993	5.92486	193.91	12.31

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
75/ 5/20	2442552.5	-29.16709	-7.23925	6.55349	1.56830	-5.29483	-2.14759	30.75832	5.92511	193.94	12.30
75/ 5/24	2442556.5	-29.16346	-7.25148	6.54853	1.57029	-5.29433	-2.14806	30.75670	5.92536	193.96	12.29
75/ 5/28	2442560.5	-29.15983	-7.26371	6.54357	1.57229	-5.29383	-2.14852	30.75509	5.92561	193.99	12.28
75/ 6/ 1	2442564.5	-29.15620	-7.27594	6.53860	1.57428	-5.29332	-2.14898	30.75348	5.92585	194.01	12.28
75/ 6/ 5	2442568.5	-29.15256	-7.28817	6.53364	1.57627	-5.29281	-2.14945	30.75187	5.92610	194.04	12.27
75/ 6/ 9	2442572.5	-29.14892	-7.30040	6.52867	1.57826	-5.29230	-2.14991	30.75026	5.92634	194.06	12.26
75/ 6/13	2442576.5	-29.14527	-7.31262	6.52371	1.58025	-5.29179	-2.15037	30.74866	5.92658	194.08	12.25
75/ 6/17	2442580.5	-29.14162	-7.32485	6.51874	1.58224	-5.29128	-2.15083	30.74705	5.92682	194.11	12.24
75/ 6/21	2442584.5	-29.13796	-7.33707	6.51377	1.58423	-5.29077	-2.15129	30.74544	5.92706	194.13	12.23
75/ 6/25	2442588.5	-29.13430	-7.34929	6.50880	1.58622	-5.29025	-2.15175	30.74384	5.92730	194.16	12.22
75/ 6/29	2442592.5	-29.13063	-7.36151	6.50383	1.58820	-5.28974	-2.15221	30.74224	5.92754	194.18	12.21
75/ 7/ 3	2442596.5	-29.12696	-7.37373	6.49885	1.59018	-5.28922	-2.15267	30.74064	5.92778	194.21	12.20
75/ 7/ 7	2442600.5	-29.12328	-7.38595	6.49388	1.59217	-5.28871	-2.15313	30.73903	5.92802	194.23	12.20
75/ 7/11	2442604.5	-29.11960	-7.39817	6.48891	1.59415	-5.28819	-2.15359	30.73744	5.92825	194.26	12.19
75/ 7/15	2442608.5	-29.11592	-7.41038	6.48393	1.59612	-5.28767	-2.15404	30.73584	5.92849	194.28	12.18
75/ 7/19	2442612.5	-29.11223	-7.42260	6.47895	1.59810	-5.28716	-2.15450	30.73424	5.92873	194.30	12.17
75/ 7/23	2442616.5	-29.10853	-7.43481	6.47397	1.60008	-5.28664	-2.15496	30.73264	5.92897	194.33	12.16
75/ 7/27	2442620.5	-29.10483	-7.44702	6.46900	1.60206	-5.28613	-2.15543	30.73105	5.92922	194.35	12.15
75/ 7/31	2442624.5	-29.10113	-7.45923	6.46402	1.60403	-5.28562	-2.15589	30.72946	5.92946	194.38	12.14
75/ 8/ 4	2442628.5	-29.09742	-7.47144	6.45904	1.60601	-5.28510	-2.15635	30.72786	5.92970	194.40	12.13
75/ 8/ 8	2442632.5	-29.09371	-7.48365	6.45405	1.60799	-5.28458	-2.15681	30.72627	5.92995	194.43	12.13
75/ 8/12	2442636.5	-29.08999	-7.49586	6.44907	1.60996	-5.28407	-2.15727	30.72468	5.93019	194.45	12.12
75/ 8/16	2442640.5	-29.08627	-7.50807	6.44409	1.61194	-5.28355	-2.15773	30.72309	5.93043	194.47	12.11
75/ 8/20	2442644.5	-29.08255	-7.52027	6.43910	1.61391	-5.28303	-2.15819	30.72151	5.93068	194.50	12.10
75/ 8/24	2442648.5	-29.07881	-7.53248	6.43411	1.61588	-5.28252	-2.15865	30.71992	5.93092	194.52	12.09
75/ 8/28	2442652.5	-29.07508	-7.54468	6.42913	1.61785	-5.28200	-2.15911	30.71833	5.93117	194.55	12.08
75/ 9/ 1	2442656.5	-29.07134	-7.55688	6.42414	1.61982	-5.28149	-2.15957	30.71675	5.93141	194.57	12.07
75/ 9/ 5	2442660.5	-29.06760	-7.56908	6.41915	1.62179	-5.28097	-2.16003	30.71517	5.93166	194.60	12.06
75/ 9/ 9	2442664.5	-29.06385	-7.58128	6.41416	1.62376	-5.28046	-2.16049	30.71359	5.93191	194.62	12.05
75/ 9/13	2442668.5	-29.06009	-7.59348	6.40917	1.62573	-5.27994	-2.16095	30.71201	5.93216	194.64	12.05
75/ 9/17	2442672.5	-29.05633	-7.60568	6.40417	1.62770	-5.27943	-2.16141	30.71043	5.93241	194.67	12.04
75/ 9/21	2442676.5	-29.05257	-7.61787	6.39918	1.62967	-5.27892	-2.16188	30.70885	5.93267	194.69	12.03
75/ 9/25	2442680.5	-29.04881	-7.63007	6.39419	1.63164	-5.27841	-2.16234	30.70727	5.93292	194.72	12.02
75/ 9/29	2442684.5	-29.04503	-7.64226	6.38919	1.63361	-5.27790	-2.16280	30.70570	5.93318	194.74	12.01
75/10/ 3	2442688.5	-29.04126	-7.65445	6.38419	1.63558	-5.27739	-2.16327	30.70412	5.93344	194.77	12.00
75/10/ 7	2442692.5	-29.03748	-7.66664	6.37919	1.63755	-5.27688	-2.16373	30.70255	5.93370	194.79	11.99
75/10/11	2442696.5	-29.03369	-7.67883	6.37420	1.63952	-5.27638	-2.16420	30.70098	5.93396	194.81	11.98
75/10/15	2442700.5	-29.02990	-7.69102	6.36919	1.64149	-5.27587	-2.16467	30.69941	5.93423	194.84	11.97
75/10/19	2442704.5	-29.02611	-7.70321	6.36419	1.64346	-5.27537	-2.16514	30.69784	5.93450	194.86	11.97
75/10/23	2442708.5	-29.02231	-7.71540	6.35919	1.64544	-5.27487	-2.16560	30.69627	5.93477	194.89	11.96
75/10/27	2442712.5	-29.01850	-7.72758	6.35419	1.64742	-5.27437	-2.16607	30.69470	5.93505	194.91	11.95
75/10/31	2442716.5	-29.01470	-7.73977	6.34918	1.64940	-5.27386	-2.16654	30.69314	5.93532	194.94	11.94
75/11/ 4	2442720.5	-29.01088	-7.75195	6.34418	1.65138	-5.27336	-2.16701	30.69157	5.93560	194.96	11.93
75/11/ 8	2442724.5	-29.00707	-7.76413	6.33917	1.65337	-5.27286	-2.16748	30.69001	5.93587	194.98	11.92
75/11/12	2442728.5	-29.00324	-7.77631	6.33416	1.65535	-5.27235	-2.16795	30.68845	5.93615	195.01	11.91

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
75/11/16	2442732.5	-28.99942	-7.78849	6.32915	1.65734	-5.27185	-2.16842	30.68689	5.93643	195.03	11.90
75/11/20	2442736.5	-28.99559	-7.80067	6.32414	1.65933	-5.27134	-2.16889	30.68533	5.93670	195.06	11.89
75/11/24	2442740.5	-28.99175	-7.81285	6.31913	1.66132	-5.27083	-2.16935	30.68377	5.93698	195.08	11.88
75/11/28	2442744.5	-28.98791	-7.82502	6.31412	1.66331	-5.27032	-2.16982	30.68221	5.93726	195.11	11.88
75/12/ 2	2442748.5	-28.98407	-7.83720	6.30911	1.66531	-5.26981	-2.17029	30.68066	5.93754	195.13	11.87
75/12/ 6	2442752.5	-28.98022	-7.84937	6.30409	1.66730	-5.26930	-2.17076	30.67910	5.93781	195.16	11.86
75/12/10	2442756.5	-28.97636	-7.86154	6.29908	1.66930	-5.26879	-2.17122	30.67755	5.93809	195.18	11.85
75/12/14	2442760.5	-28.97250	-7.87372	6.29406	1.67129	-5.26828	-2.17169	30.67599	5.93837	195.20	11.84
75/12/18	2442764.5	-28.96864	-7.88589	6.28904	1.67329	-5.26776	-2.17215	30.67444	5.93864	195.23	11.83
75/12/22	2442768.5	-28.96477	-7.89805	6.28403	1.67529	-5.26725	-2.17262	30.67289	5.93892	195.25	11.82
75/12/26	2442772.5	-28.96090	-7.91022	6.27901	1.67729	-5.26673	-2.17308	30.67134	5.93920	195.28	11.81
75/12/30	2442776.5	-28.95702	-7.92239	6.27399	1.67929	-5.26621	-2.17355	30.66980	5.93947	195.30	11.80
76/ 1/ 3	2442780.5	-28.95314	-7.93455	6.26896	1.68129	-5.26570	-2.17401	30.66825	5.93975	195.33	11.80
76/ 1/ 7	2442784.5	-28.94926	-7.94672	6.26394	1.68329	-5.26518	-2.17448	30.66670	5.94002	195.35	11.79
76/ 1/11	2442788.5	-28.94536	-7.95888	6.25892	1.68529	-5.26466	-2.17494	30.66516	5.94030	195.37	11.78
76/ 1/15	2442792.5	-28.94147	-7.97104	6.25389	1.68729	-5.26413	-2.17540	30.66361	5.94058	195.40	11.77
76/ 1/19	2442796.5	-28.93757	-7.98320	6.24887	1.68930	-5.26361	-2.17587	30.66207	5.94085	195.42	11.76
76/ 1/23	2442800.5	-28.93366	-7.99536	6.24384	1.69130	-5.26309	-2.17633	30.66053	5.94113	195.45	11.75
76/ 1/27	2442804.5	-28.92975	-8.00752	6.23881	1.69331	-5.26256	-2.17679	30.65899	5.94140	195.47	11.74
76/ 1/31	2442808.5	-28.92584	-8.01968	6.23378	1.69532	-5.26203	-2.17725	30.65745	5.94168	195.50	11.73
76/ 2/ 4	2442812.5	-28.92192	-8.03183	6.22875	1.69733	-5.26150	-2.17771	30.65592	5.94195	195.52	11.72
76/ 2/ 8	2442816.5	-28.91800	-8.04399	6.22372	1.69933	-5.26097	-2.17817	30.65438	5.94222	195.54	11.71
76/ 2/12	2442820.5	-28.91407	-8.05614	6.21869	1.70134	-5.26043	-2.17863	30.65284	5.94249	195.57	11.71
76/ 2/16	2442824.5	-28.91014	-8.06829	6.21365	1.70335	-5.25989	-2.17909	30.65131	5.94275	195.59	11.70
76/ 2/20	2442828.5	-28.90620	-8.08044	6.20862	1.70535	-5.25936	-2.17955	30.64978	5.94302	195.62	11.69
76/ 2/24	2442832.5	-28.90226	-8.09259	6.20358	1.70736	-5.25882	-2.18000	30.64825	5.94328	195.64	11.68
76/ 2/28	2442836.5	-28.89831	-8.10474	6.19855	1.70936	-5.25828	-2.18046	30.64671	5.94355	195.67	11.67
76/ 3/ 3	2442840.5	-28.89436	-8.11689	6.19351	1.71136	-5.25774	-2.18091	30.64519	5.94381	195.69	11.66
76/ 3/ 7	2442844.5	-28.89040	-8.12903	6.18847	1.71336	-5.25719	-2.18137	30.64366	5.94408	195.72	11.65
76/ 3/11	2442848.5	-28.88644	-8.14118	6.18343	1.71536	-5.25665	-2.18183	30.64213	5.94434	195.74	11.64
76/ 3/15	2442852.5	-28.88248	-8.15332	6.17839	1.71736	-5.25611	-2.18228	30.64060	5.94461	195.76	11.63
76/ 3/19	2442856.5	-28.87851	-8.16546	6.17335	1.71936	-5.25556	-2.18273	30.63908	5.94487	195.79	11.62
76/ 3/23	2442860.5	-28.87453	-8.17760	6.16830	1.72136	-5.25502	-2.18319	30.63756	5.94513	195.81	11.61
76/ 3/27	2442864.5	-28.87056	-8.18974	6.16326	1.72336	-5.25447	-2.18364	30.63603	5.94540	195.84	11.61
76/ 3/31	2442868.5	-28.86657	-8.20188	6.15821	1.72535	-5.25393	-2.18410	30.63451	5.94566	195.86	11.60
76/ 4/ 4	2442872.5	-28.86258	-8.21402	6.15317	1.72735	-5.25338	-2.18455	30.63299	5.94593	195.89	11.59
76/ 4/ 8	2442876.5	-28.85859	-8.22615	6.14812	1.72934	-5.25284	-2.18501	30.63147	5.94620	195.91	11.58
76/ 4/12	2442880.5	-28.85459	-8.23829	6.14307	1.73134	-5.25230	-2.18547	30.62996	5.94647	195.93	11.57
76/ 4/16	2442884.5	-28.85059	-8.25042	6.13802	1.73333	-5.25176	-2.18592	30.62844	5.94674	195.96	11.56
76/ 4/20	2442888.5	-28.84658	-8.26255	6.13297	1.73533	-5.25122	-2.18638	30.62693	5.94701	195.98	11.55
76/ 4/24	2442892.5	-28.84257	-8.27468	6.12792	1.73733	-5.25067	-2.18684	30.62541	5.94728	196.01	11.54
76/ 4/28	2442896.5	-28.83856	-8.28681	6.12287	1.73933	-5.25013	-2.18729	30.62390	5.94755	196.03	11.53
76/ 5/ 2	2442900.5	-28.83454	-8.29894	6.11782	1.74133	-5.24959	-2.18775	30.62239	5.94783	196.06	11.52
76/ 5/ 6	2442904.5	-28.83051	-8.31107	6.11276	1.74333	-5.24904	-2.18821	30.62088	5.94810	196.08	11.52
76/ 5/10	2442908.5	-28.82648	-8.32319	6.10770	1.74533	-5.24850	-2.18866	30.61937	5.94837	196.11	11.51

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
76/ 5/14	2442912.5	-28.82245	-8.33532	6.10265	1.74733	-5.24795	-2.18912	30.61786	5.94864	196.13	11.50
76/ 5/18	2442916.5	-28.81841	-8.34744	6.09759	1.74933	-5.24740	-2.18957	30.61635	5.94892	196.15	11.49
76/ 5/22	2442920.5	-28.81437	-8.35956	6.09253	1.75133	-5.24686	-2.19003	30.61485	5.94919	196.18	11.48
76/ 5/26	2442924.5	-28.81032	-8.37168	6.08747	1.75333	-5.24631	-2.19049	30.61334	5.94947	196.20	11.47
76/ 5/30	2442928.5	-28.80626	-8.38380	6.08241	1.75533	-5.24577	-2.19094	30.61184	5.94975	196.23	11.46
76/ 6/ 3	2442932.5	-28.80221	-8.39592	6.07735	1.75733	-5.24522	-2.19140	30.61034	5.95002	196.25	11.45
76/ 6/ 7	2442936.5	-28.79815	-8.40804	6.07229	1.75934	-5.24467	-2.19186	30.60884	5.95030	196.28	11.44
76/ 6/11	2442940.5	-28.79408	-8.42015	6.06722	1.76134	-5.24413	-2.19231	30.60734	5.95058	196.30	11.43
76/ 6/15	2442944.5	-28.79001	-8.43227	6.06216	1.76334	-5.24358	-2.19277	30.60584	5.95086	196.32	11.42
76/ 6/19	2442948.5	-28.78593	-8.44438	6.05709	1.76535	-5.24303	-2.19322	30.60434	5.95114	196.35	11.42
76/ 6/23	2442952.5	-28.78185	-8.45649	6.05202	1.76735	-5.24248	-2.19368	30.60284	5.95142	196.37	11.41
76/ 6/27	2442956.5	-28.77777	-8.46860	6.04695	1.76936	-5.24193	-2.19414	30.60135	5.95170	196.40	11.40
76/ 7/ 1	2442960.5	-28.77368	-8.48071	6.04189	1.77136	-5.24139	-2.19459	30.59986	5.95198	196.42	11.39
76/ 7/ 5	2442964.5	-28.76958	-8.49282	6.03681	1.77337	-5.24084	-2.19505	30.59836	5.95227	196.45	11.38
76/ 7/ 9	2442968.5	-28.76548	-8.50492	6.03174	1.77538	-5.24029	-2.19551	30.59687	5.95255	196.47	11.37
76/ 7/13	2442972.5	-28.76138	-8.51703	6.02667	1.77739	-5.23974	-2.19597	30.59538	5.95284	196.50	11.36
76/ 7/17	2442976.5	-28.75727	-8.52913	6.02160	1.77941	-5.23919	-2.19642	30.59389	5.95312	196.52	11.35
76/ 7/21	2442980.5	-28.75316	-8.54124	6.01652	1.78142	-5.23864	-2.19688	30.59241	5.95341	196.54	11.34
76/ 7/25	2442984.5	-28.74904	-8.55334	6.01145	1.78344	-5.23808	-2.19734	30.59092	5.95369	196.57	11.33
76/ 7/29	2442988.5	-28.74492	-8.56544	6.00637	1.78546	-5.23753	-2.19779	30.58943	5.95397	196.59	11.32
76/ 8/ 2	2442992.5	-28.74079	-8.57754	6.00129	1.78747	-5.23697	-2.19825	30.58795	5.95426	196.62	11.31
76/ 8/ 6	2442996.5	-28.73666	-8.58964	5.99621	1.78949	-5.23641	-2.19870	30.58647	5.95454	196.64	11.31
76/ 8/10	2443000.5	-28.73252	-8.60173	5.99113	1.79151	-5.23584	-2.19915	30.58498	5.95482	196.67	11.30
76/ 8/14	2443004.5	-28.72838	-8.61383	5.98605	1.79353	-5.23528	-2.19960	30.58350	5.95510	196.69	11.29
76/ 8/18	2443008.5	-28.72423	-8.62592	5.98097	1.79555	-5.23472	-2.20005	30.58202	5.95537	196.72	11.28
76/ 8/22	2443012.5	-28.72008	-8.63801	5.97589	1.79756	-5.23415	-2.20051	30.58054	5.95565	196.74	11.27
76/ 8/26	2443016.5	-28.71593	-8.65010	5.97080	1.79958	-5.23358	-2.20096	30.57907	5.95593	196.76	11.26
76/ 8/30	2443020.5	-28.71177	-8.66219	5.96572	1.80160	-5.23301	-2.20141	30.57759	5.95620	196.79	11.25
76/ 9/ 3	2443024.5	-28.70761	-8.67428	5.96063	1.80361	-5.23244	-2.20185	30.57612	5.95648	196.81	11.24
76/ 9/ 7	2443028.5	-28.70344	-8.68637	5.95555	1.80563	-5.23187	-2.20230	30.57464	5.95675	196.84	11.23
76/ 9/11	2443032.5	-28.69926	-8.69846	5.95046	1.80764	-5.23130	-2.20275	30.57317	5.95702	196.86	11.22
76/ 9/15	2443036.5	-28.69508	-8.71054	5.94537	1.80966	-5.23072	-2.20320	30.57170	5.95730	196.89	11.21
76/ 9/19	2443040.5	-28.69090	-8.72262	5.94028	1.81167	-5.23015	-2.20365	30.57023	5.95757	196.91	11.20
76/ 9/23	2443044.5	-28.68671	-8.73471	5.93519	1.81368	-5.22957	-2.20410	30.56876	5.95784	196.93	11.20
76/ 9/27	2443048.5	-28.68252	-8.74679	5.93009	1.81569	-5.22900	-2.20454	30.56729	5.95812	196.96	11.19
76/10/ 1	2443052.5	-28.67832	-8.75887	5.92500	1.81770	-5.22843	-2.20499	30.56582	5.95839	196.98	11.18
76/10/ 5	2443056.5	-28.67412	-8.77094	5.91991	1.81971	-5.22785	-2.20544	30.56436	5.95867	197.01	11.17
76/10/ 9	2443060.5	-28.66992	-8.78302	5.91481	1.82173	-5.22728	-2.20589	30.56289	5.95895	197.03	11.16
76/10/13	2443064.5	-28.66571	-8.79509	5.90971	1.82374	-5.22670	-2.20634	30.56143	5.95923	197.06	11.15
76/10/17	2443068.5	-28.66149	-8.80717	5.90462	1.82575	-5.22613	-2.20679	30.55997	5.95950	197.08	11.14
76/10/21	2443072.5	-28.65727	-8.81924	5.89952	1.82776	-5.22555	-2.20724	30.55851	5.95978	197.11	11.13
76/10/25	2443076.5	-28.65305	-8.83131	5.89442	1.82978	-5.22498	-2.20768	30.55705	5.96006	197.13	11.12
76/10/29	2443080.5	-28.64882	-8.84338	5.88932	1.83179	-5.22440	-2.20813	30.55559	5.96034	197.15	11.11
76/11/ 2	2443084.5	-28.64458	-8.85545	5.88422	1.83380	-5.22382	-2.20858	30.55413	5.96061	197.18	11.10
76/11/ 6	2443088.5	-28.64034	-8.86752	5.87911	1.83581	-5.22324	-2.20903	30.55268	5.96089	197.20	11.09

1.9 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — PLUTO

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76/11/10	2443092.5	-28.63610	-8.87958	5.87401	1.83782	-5.22266	-2.20947	30.55122	5.96117	197.23	11.09
76/11/14	2443096.5	-28.63185	-8.89165	5.86890	1.83983	-5.22209	-2.20992	30.54977	5.96145	197.25	11.08
76/11/18	2443100.5	-28.62760	-8.90371	5.86380	1.84184	-5.22151	-2.21037	30.54832	5.96173	197.28	11.07
76/11/22	2443104.5	-28.62334	-8.91577	5.85869	1.84385	-5.22093	-2.21082	30.54687	5.96201	197.30	11.06
76/11/26	2443108.5	-28.61908	-8.92783	5.85358	1.84586	-5.22035	-2.21126	30.54542	5.96230	197.33	11.05
76/11/30	2443112.5	-28.61481	-8.93989	5.84847	1.84787	-5.21978	-2.21171	30.54397	5.96258	197.35	11.04
76/12/ 4	2443116.5	-28.61054	-8.95195	5.84337	1.84988	-5.21920	-2.21216	30.54252	5.96287	197.37	11.03
76/12/ 8	2443120.5	-28.60627	-8.96401	5.83825	1.85189	-5.21862	-2.21261	30.54107	5.96315	197.40	11.02
76/12/12	2443124.5	-28.60199	-8.97606	5.83314	1.85391	-5.21805	-2.21306	30.53963	5.96344	197.42	11.01
76/12/16	2443128.5	-28.59770	-8.98812	5.82803	1.85592	-5.21747	-2.21351	30.53818	5.96373	197.45	11.00
76/12/20	2443132.5	-28.59341	-9.00017	5.82291	1.85793	-5.21690	-2.21396	30.53674	5.96402	197.47	10.99
76/12/24	2443136.5	-28.58912	-9.01222	5.81780	1.85994	-5.21633	-2.21441	30.53530	5.96432	197.50	10.98
76/12/28	2443140.5	-28.58482	-9.02427	5.81268	1.86196	-5.21576	-2.21486	30.53386	5.96461	197.52	10.97
77/ 1/ 1	2443144.5	-28.58051	-9.03632	5.80757	1.86398	-5.21518	-2.21531	30.53242	5.96491	197.55	10.97
77/ 1/ 5	2443148.5	-28.57621	-9.04837	5.80245	1.86600	-5.21461	-2.21576	30.53098	5.96521	197.57	10.96
77/ 1/ 9	2443152.5	-28.57189	-9.06041	5.79733	1.86802	-5.21404	-2.21622	30.52955	5.96551	197.59	10.95
77/ 1/13	2443156.5	-28.56757	-9.07246	5.79221	1.87005	-5.21347	-2.21667	30.52811	5.96582	197.62	10.94
77/ 1/17	2443160.5	-28.56325	-9.08450	5.78709	1.87208	-5.21290	-2.21712	30.52667	5.96612	197.64	10.93
77/ 1/21	2443164.5	-28.55892	-9.09654	5.78196	1.87411	-5.21232	-2.21757	30.52524	5.96642	197.67	10.92
77/ 1/25	2443168.5	-28.55459	-9.10858	5.77684	1.87614	-5.21174	-2.21802	30.52381	5.96672	197.69	10.91
77/ 1/29	2443172.5	-28.55026	-9.12062	5.77172	1.87817	-5.21117	-2.21847	30.52238	5.96703	197.72	10.90
77/ 2/ 2	2443176.5	-28.54591	-9.13266	5.76659	1.88021	-5.21059	-2.21892	30.52095	5.96733	197.74	10.89
77/ 2/ 6	2443180.5	-28.54157	-9.14470	5.76146	1.88224	-5.21001	-2.21937	30.51952	5.96763	197.77	10.88
77/ 2/10	2443184.5	-28.53722	-9.15673	5.75634	1.88428	-5.20942	-2.21982	30.51809	5.96793	197.79	10.87
77/ 2/14	2443188.5	-28.53286	-9.16877	5.75121	1.88632	-5.20884	-2.22027	30.51667	5.96824	197.81	10.86
77/ 2/18	2443192.5	-28.52850	-9.18080	5.74608	1.88836	-5.20826	-2.22072	30.51524	5.96854	197.84	10.85
77/ 2/22	2443196.5	-28.52414	-9.19283	5.74095	1.89040	-5.20767	-2.22117	30.51382	5.96884	197.86	10.84
77/ 2/26	2443200.5	-28.51977	-9.20486	5.73582	1.89245	-5.20708	-2.22161	30.51239	5.96914	197.89	10.84
77/ 3/ 2	2443204.5	-28.51539	-9.21689	5.73068	1.89449	-5.20649	-2.22206	30.51097	5.96944	197.91	10.83
77/ 3/ 6	2443208.5	-28.51102	-9.22892	5.72555	1.89654	-5.20590	-2.22251	30.50955	5.96974	197.94	10.82
77/ 3/10	2443212.5	-28.50663	-9.24094	5.72041	1.89858	-5.20530	-2.22295	30.50813	5.97003	197.96	10.81
77/ 3/14	2443216.5	-28.50224	-9.25297	5.71528	1.90063	-5.20471	-2.22339	30.50672	5.97033	197.99	10.80
77/ 3/18	2443220.5	-28.49785	-9.26499	5.71014	1.90268	-5.20411	-2.22384	30.50530	5.97063	198.01	10.79
77/ 3/22	2443224.5	-28.49345	-9.27701	5.70500	1.90472	-5.20351	-2.22428	30.50388	5.97092	198.03	10.78
77/ 3/26	2443228.5	-28.48905	-9.28903	5.69986	1.90677	-5.20291	-2.22472	30.50247	5.97122	198.06	10.77
77/ 3/30	2443232.5	-28.48464	-9.30105	5.69472	1.90882	-5.20231	-2.22517	30.50105	5.97151	198.08	10.76
77/ 4/ 3	2443236.5	-28.48023	-9.31307	5.68958	1.91087	-5.20171	-2.22561	30.49964	5.97181	198.11	10.75
77/ 4/ 7	2443240.5	-28.47581	-9.32509	5.68444	1.91292	-5.20110	-2.22605	30.49823	5.97210	198.13	10.74
77/ 4/11	2443244.5	-28.47139	-9.33710	5.67930	1.91498	-5.20049	-2.22649	30.49682	5.97240	198.16	10.73
77/ 4/15	2443248.5	-28.46697	-9.34911	5.67415	1.91703	-5.19988	-2.22693	30.49541	5.97269	198.18	10.72
77/ 4/19	2443252.5	-28.46253	-9.36113	5.66901	1.91908	-5.19927	-2.22737	30.49400	5.97297	198.21	10.71
77/ 4/23	2443256.5	-28.45810	-9.37314	5.66386	1.92114	-5.19865	-2.22780	30.49260	5.97326	198.23	10.70
77/ 4/27	2443260.5	-28.45366	-9.38515	5.65872	1.92319	-5.19803	-2.22824	30.49119	5.97354	198.25	10.70
77/ 5/ 1	2443264.5	-28.44921	-9.39715	5.65357	1.92524	-5.19741	-2.22867	30.48979	5.97382	198.28	10.69
77/ 5/ 5	2443268.5	-28.44476	-9.40916	5.64842	1.92729	-5.19679	-2.22911	30.48838	5.97411	198.30	10.68

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77/ 5/ 9	2443272.5	-28.44031	-9.42116	5.64327	1.92934	-5.19616	-2.22954	30.48698	5.97438	198.33	10.67
77/ 5/13	2443276.5	-28.43585	-9.43317	5.63812	1.93138	-5.19554	-2.22997	30.48558	5.97466	198.35	10.66
77/ 5/17	2443280.5	-28.43138	-9.44517	5.63296	1.93343	-5.19491	-2.23040	30.48418	5.97494	198.38	10.65
77/ 5/21	2443284.5	-28.42692	-9.45717	5.62781	1.93547	-5.19428	-2.23083	30.48278	5.97522	198.40	10.64
77/ 5/25	2443288.5	-28.42244	-9.46917	5.62266	1.93752	-5.19365	-2.23127	30.48138	5.97549	198.43	10.63
77/ 5/29	2443292.5	-28.41796	-9.48117	5.61750	1.93956	-5.19302	-2.23170	30.47998	5.97577	198.45	10.62
77/ 6/ 2	2443296.5	-28.41348	-9.49316	5.61235	1.94160	-5.19239	-2.23213	30.47859	5.97604	198.47	10.61
77/ 6/ 6	2443300.5	-28.40899	-9.50516	5.60719	1.94364	-5.19175	-2.23256	30.47720	5.97632	198.50	10.60
77/ 6/10	2443304.5	-28.40450	-9.51715	5.60203	1.94568	-5.19112	-2.23299	30.47580	5.97659	198.52	10.59
77/ 6/14	2443308.5	-28.40000	-9.52914	5.59687	1.94771	-5.19049	-2.23342	30.47441	5.97687	198.55	10.58
77/ 6/18	2443312.5	-28.39550	-9.54113	5.59171	1.94975	-5.18986	-2.23385	30.47302	5.97714	198.57	10.57
77/ 6/22	2443316.5	-28.39099	-9.55312	5.58655	1.95178	-5.18923	-2.23428	30.47163	5.97742	198.60	10.56
77/ 6/26	2443320.5	-28.38648	-9.56511	5.58139	1.95382	-5.18860	-2.23471	30.47024	5.97770	198.62	10.55
77/ 6/30	2443324.5	-28.38197	-9.57709	5.57623	1.95586	-5.18797	-2.23514	30.46885	5.97798	198.65	10.55
77/ 7/ 4	2443328.5	-28.37745	-9.58908	5.57106	1.95789	-5.18734	-2.23557	30.46747	5.97826	198.67	10.54
77/ 7/ 8	2443332.5	-28.37292	-9.60106	5.56590	1.95993	-5.18671	-2.23600	30.46608	5.97854	198.70	10.53
77/ 7/12	2443336.5	-28.36839	-9.61304	5.56073	1.96197	-5.18608	-2.23644	30.46470	5.97882	198.72	10.52
77/ 7/16	2443340.5	-28.36386	-9.62502	5.55556	1.96401	-5.18544	-2.23687	30.46332	5.97911	198.74	10.51
77/ 7/20	2443344.5	-28.35932	-9.63700	5.55040	1.96604	-5.18481	-2.23730	30.46194	5.97939	198.77	10.50
77/ 7/24	2443348.5	-28.35477	-9.64898	5.54523	1.96808	-5.18418	-2.23773	30.46056	5.97967	198.79	10.49
77/ 7/28	2443352.5	-28.35022	-9.66095	5.54006	1.97012	-5.18355	-2.23816	30.45918	5.97995	198.82	10.48
77/ 8/ 1	2443356.5	-28.34567	-9.67293	5.53489	1.97215	-5.18291	-2.23859	30.45780	5.98024	198.84	10.47
77/ 8/ 5	2443360.5	-28.34111	-9.68490	5.52971	1.97419	-5.18228	-2.23902	30.45642	5.98052	198.87	10.46
77/ 8/ 9	2443364.5	-28.33655	-9.69687	5.52454	1.97623	-5.18165	-2.23945	30.45505	5.98081	198.89	10.45
77/ 8/13	2443368.5	-28.33198	-9.70884	5.51937	1.97827	-5.18101	-2.23989	30.45367	5.98110	198.92	10.44
77/ 8/17	2443372.5	-28.32741	-9.72081	5.51419	1.98030	-5.18038	-2.24032	30.45230	5.98139	198.94	10.43
77/ 8/21	2443376.5	-28.32283	-9.73278	5.50902	1.98234	-5.17975	-2.24075	30.45093	5.98168	198.96	10.42
77/ 8/25	2443380.5	-28.31825	-9.74474	5.50384	1.98438	-5.17912	-2.24118	30.44956	5.98197	198.99	10.41
77/ 8/29	2443384.5	-28.31366	-9.75671	5.49866	1.98642	-5.17848	-2.24161	30.44819	5.98226	199.01	10.40
77/ 9/ 2	2443388.5	-28.30907	-9.76867	5.49348	1.98846	-5.17785	-2.24205	30.44682	5.98255	199.04	10.39
77/ 9/ 6	2443392.5	-28.30447	-9.78063	5.48830	1.99051	-5.17722	-2.24248	30.44545	5.98284	199.06	10.39
77/ 9/10	2443396.5	-28.29987	-9.79259	5.48312	1.99255	-5.17659	-2.24291	30.44408	5.98314	199.09	10.38
77/ 9/14	2443400.5	-28.29527	-9.80455	5.47794	1.99459	-5.17596	-2.24335	30.44272	5.98344	199.11	10.37
77/ 9/18	2443404.5	-28.29066	-9.81650	5.47275	1.99664	-5.17532	-2.24378	30.44136	5.98373	199.14	10.36
77/ 9/22	2443408.5	-28.28604	-9.82846	5.46757	1.99869	-5.17469	-2.24421	30.43999	5.98404	199.16	10.35
77/ 9/26	2443412.5	-28.28142	-9.84041	5.46239	2.00074	-5.17406	-2.24465	30.43863	5.98434	199.19	10.34
77/ 9/30	2443416.5	-28.27680	-9.85237	5.45720	2.00279	-5.17343	-2.24508	30.43727	5.98464	199.21	10.33
77/10/ 4	2443420.5	-28.27217	-9.86432	5.45201	2.00485	-5.17279	-2.24551	30.43591	5.98494	199.23	10.32
77/10/ 8	2443424.5	-28.26754	-9.87627	5.44682	2.00690	-5.17215	-2.24595	30.43455	5.98524	199.26	10.31
77/10/12	2443428.5	-28.26290	-9.88821	5.44164	2.00896	-5.17152	-2.24638	30.43320	5.98554	199.28	10.30
77/10/16	2443432.5	-28.25825	-9.90016	5.43645	2.01102	-5.17087	-2.24681	30.43184	5.98584	199.31	10.29
77/10/20	2443436.5	-28.25361	-9.91210	5.43125	2.01308	-5.17023	-2.24724	30.43049	5.98614	199.33	10.28
77/10/24	2443440.5	-28.24895	-9.92405	5.42606	2.01515	-5.16959	-2.24767	30.42913	5.98644	199.36	10.27
77/10/28	2443444.5	-28.24429	-9.93599	5.42087	2.01721	-5.16894	-2.24810	30.42778	5.98674	199.38	10.26
77/11/ 1	2443448.5	-28.23963	-9.94793	5.41568	2.01927	-5.16829	-2.24853	30.42643	5.98703	199.41	10.25

1.9 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
77/11/ 5	2443452.5	-28.23497	-9.95987	5.41048	2.02134	-5.16764	-2.24895	30.42508	5.98733	199.43	10.24
77/11/ 9	2443456.5	-28.23029	-9.97181	5.40528	2.02340	-5.16699	-2.24938	30.42373	5.98762	199.45	10.23
77/11/13	2443460.5	-28.22562	-9.98374	5.40009	2.02546	-5.16634	-2.24981	30.42238	5.98792	199.48	10.22
77/11/17	2443464.5	-28.22093	-9.99568	5.39489	2.02753	-5.16568	-2.25023	30.42104	5.98821	199.50	10.21
77/11/21	2443468.5	-28.21625	-10.00761	5.38969	2.02959	-5.16502	-2.25066	30.41969	5.98850	199.53	10.21
77/11/25	2443472.5	-28.21156	-10.01954	5.38449	2.03166	-5.16437	-2.25108	30.41835	5.98880	199.55	10.20
77/11/29	2443476.5	-28.20686	-10.03147	5.37929	2.03372	-5.16371	-2.25150	30.41701	5.98909	199.58	10.19
77/12/ 3	2443480.5	-28.20216	-10.04340	5.37409	2.03579	-5.16304	-2.25193	30.41566	5.98938	199.60	10.18
77/12/ 7	2443484.5	-28.19746	-10.05533	5.36889	2.03785	-5.16238	-2.25235	30.41432	5.98967	199.63	10.17
77/12/11	2443488.5	-28.19275	-10.06725	5.36368	2.03991	-5.16172	-2.25277	30.41298	5.98996	199.65	10.16
77/12/15	2443492.5	-28.18803	-10.07918	5.35848	2.04198	-5.16106	-2.25319	30.41164	5.99025	199.68	10.15
77/12/19	2443496.5	-28.18331	-10.09110	5.35327	2.04404	-5.16039	-2.25362	30.41031	5.99054	199.70	10.14
77/12/23	2443500.5	-28.17859	-10.10302	5.34806	2.04611	-5.15973	-2.25404	30.40897	5.99083	199.72	10.13
77/12/27	2443504.5	-28.17386	-10.11494	5.34286	2.04818	-5.15906	-2.25446	30.40763	5.99112	199.75	10.12
77/12/31	2443508.5	-28.16912	-10.12685	5.33765	2.05024	-5.15839	-2.25488	30.40630	5.99141	199.77	10.11
78/ 1/ 4	2443512.5	-28.16438	-10.13877	5.33244	2.05231	-5.15772	-2.25530	30.40497	5.99170	199.80	10.10
78/ 1/ 8	2443516.5	-28.15964	-10.15069	5.32723	2.05438	-5.15705	-2.25572	30.40364	5.99199	199.82	10.09
78/ 1/12	2443520.5	-28.15489	-10.16260	5.32202	2.05645	-5.15638	-2.25614	30.40231	5.99227	199.85	10.08
78/ 1/16	2443524.5	-28.15014	-10.17451	5.31680	2.05851	-5.15570	-2.25656	30.40098	5.99256	199.87	10.07
78/ 1/20	2443528.5	-28.14538	-10.18642	5.31159	2.06058	-5.15503	-2.25697	30.39965	5.99285	199.90	10.06
78/ 1/24	2443532.5	-28.14062	-10.19833	5.30638	2.06265	-5.15435	-2.25739	30.39832	5.99313	199.92	10.05
78/ 1/28	2443536.5	-28.13585	-10.21023	5.30116	2.06471	-5.15367	-2.25781	30.39699	5.99342	199.95	10.04
78/ 2/ 1	2443540.5	-28.13108	-10.22214	5.29594	2.06678	-5.15299	-2.25822	30.39567	5.99370	199.97	10.03
78/ 2/ 5	2443544.5	-28.12630	-10.23404	5.29073	2.06884	-5.15231	-2.25864	30.39435	5.99399	199.99	10.02
78/ 2/ 9	2443548.5	-28.12152	-10.24594	5.28551	2.07090	-5.15163	-2.25905	30.39302	5.99427	200.02	10.01
78/ 2/13	2443552.5	-28.11673	-10.25785	5.28029	2.07297	-5.15095	-2.25947	30.39170	5.99456	200.04	10.01
78/ 2/17	2443556.5	-28.11194	-10.26974	5.27507	2.07503	-5.15027	-2.25988	30.39038	5.99484	200.07	10.00
78/ 2/21	2443560.5	-28.10715	-10.28164	5.26985	2.07710	-5.14959	-2.26030	30.38906	5.99513	200.09	9.99
78/ 2/25	2443564.5	-28.10234	-10.29354	5.26463	2.07916	-5.14891	-2.26072	30.38774	5.99541	200.12	9.98
78/ 3/ 1	2443568.5	-28.09754	-10.30543	5.25940	2.08122	-5.14823	-2.26113	30.38643	5.99570	200.14	9.97
78/ 3/ 5	2443572.5	-28.09273	-10.31732	5.25418	2.08329	-5.14754	-2.26155	30.38511	5.99599	200.17	9.96
78/ 3/ 9	2443576.5	-28.08791	-10.32921	5.24895	2.08535	-5.14686	-2.26196	30.38380	5.99628	200.19	9.95
78/ 3/13	2443580.5	-28.08309	-10.34110	5.24373	2.08742	-5.14618	-2.26238	30.38248	5.99657	200.22	9.94
78/ 3/17	2443584.5	-28.07827	-10.35299	5.23850	2.08948	-5.14550	-2.26279	30.38117	5.99686	200.24	9.93
78/ 3/21	2443588.5	-28.07344	-10.36488	5.23327	2.09155	-5.14482	-2.26321	30.37986	5.99716	200.26	9.92
78/ 3/25	2443592.5	-28.06861	-10.37676	5.22804	2.09362	-5.14414	-2.26363	30.37855	5.99745	200.29	9.91
78/ 3/29	2443596.5	-28.06377	-10.38865	5.22281	2.09570	-5.14345	-2.26404	30.37724	5.99775	200.31	9.90
78/ 4/ 2	2443600.5	-28.05892	-10.40053	5.21758	2.09777	-5.14277	-2.26446	30.37593	5.99804	200.34	9.89
78/ 4/ 6	2443604.5	-28.05407	-10.41241	5.21235	2.09985	-5.14208	-2.26487	30.37463	5.99834	200.36	9.88
78/ 4/10	2443608.5	-28.04922	-10.42429	5.20712	2.10192	-5.14139	-2.26529	30.37332	5.99863	200.39	9.87
78/ 4/14	2443612.5	-28.04436	-10.43616	5.20188	2.10400	-5.14070	-2.26570	30.37202	5.99892	200.41	9.86
78/ 4/18	2443616.5	-28.03950	-10.44804	5.19665	2.10608	-5.14001	-2.26612	30.37071	5.99922	200.44	9.85
78/ 4/22	2443620.5	-28.03463	-10.45991	5.19141	2.10816	-5.13932	-2.26653	30.36941	5.99951	200.46	9.84
78/ 4/26	2443624.5	-28.02976	-10.47178	5.18618	2.11024	-5.13863	-2.26694	30.36811	5.99980	200.49	9.83
78/ 4/30	2443628.5	-28.02488	-10.48365	5.18094	2.11232	-5.13793	-2.26735	30.36681	6.00009	200.51	9.82

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
78/ 5/ 4	2443632.5	-28.02000	-10.49552	5.17570	2.11440	-5.13723	-2.26776	30.36551	6.00038	200.53	9.81
78/ 5/ 8	2443636.5	-28.01511	-10.50739	5.17046	2.11648	-5.13653	-2.26817	30.36421	6.00068	200.56	9.80
78/ 5/12	2443640.5	-28.01022	-10.51925	5.16522	2.11857	-5.13583	-2.26858	30.36292	6.00097	200.58	9.79
78/ 5/16	2443644.5	-28.00532	-10.53112	5.15998	2.12065	-5.13513	-2.26899	30.36162	6.00126	200.61	9.78
78/ 5/20	2443648.5	-28.00042	-10.54298	5.15474	2.12273	-5.13443	-2.26940	30.36033	6.00154	200.63	9.78
78/ 5/24	2443652.5	-27.99552	-10.55484	5.14949	2.12482	-5.13372	-2.26981	30.35903	6.00183	200.66	9.77
78/ 5/28	2443656.5	-27.99060	-10.56670	5.14425	2.12690	-5.13301	-2.27022	30.35774	6.00212	200.68	9.76
78/ 6/ 1	2443660.5	-27.98569	-10.57856	5.13901	2.12899	-5.13230	-2.27062	30.35645	6.00241	200.71	9.75
78/ 6/ 5	2443664.5	-27.98077	-10.59041	5.13376	2.13107	-5.13159	-2.27103	30.35516	6.00269	200.73	9.74
78/ 6/ 9	2443668.5	-27.97584	-10.60227	5.12851	2.13316	-5.13088	-2.27144	30.35387	6.00298	200.76	9.73
78/ 6/13	2443672.5	-27.97091	-10.61412	5.12326	2.13525	-5.13017	-2.27184	30.35258	6.00326	200.78	9.72
78/ 6/17	2443676.5	-27.96598	-10.62597	5.11802	2.13733	-5.12946	-2.27225	30.35130	6.00355	200.80	9.71
78/ 6/21	2443680.5	-27.96104	-10.63782	5.11277	2.13942	-5.12874	-2.27265	30.35001	6.00384	200.83	9.70
78/ 6/25	2443684.5	-27.95609	-10.64967	5.10752	2.14151	-5.12802	-2.27306	30.34873	6.00412	200.85	9.69
78/ 6/29	2443688.5	-27.95114	-10.66151	5.10226	2.14361	-5.12729	-2.27346	30.34744	6.00440	200.88	9.68
78/ 7/ 3	2443692.5	-27.94619	-10.67336	5.09701	2.14570	-5.12657	-2.27386	30.34616	6.00468	200.90	9.67
78/ 7/ 7	2443696.5	-27.94123	-10.68520	5.09176	2.14779	-5.12584	-2.27426	30.34488	6.00495	200.93	9.66
78/ 7/11	2443700.5	-27.93626	-10.69704	5.08650	2.14987	-5.12511	-2.27466	30.34360	6.00523	200.95	9.65
78/ 7/15	2443704.5	-27.93130	-10.70888	5.08125	2.15196	-5.12438	-2.27506	30.34232	6.00550	200.98	9.64
78/ 7/19	2443708.5	-27.92632	-10.72072	5.07599	2.15405	-5.12364	-2.27545	30.34104	6.00577	201.00	9.63
78/ 7/23	2443712.5	-27.92134	-10.73255	5.07073	2.15613	-5.12291	-2.27585	30.33977	6.00604	201.03	9.62
78/ 7/27	2443716.5	-27.91636	-10.74439	5.06548	2.15822	-5.12217	-2.27624	30.33849	6.00631	201.05	9.61
78/ 7/31	2443720.5	-27.91137	-10.75622	5.06022	2.16030	-5.12143	-2.27664	30.33722	6.00658	201.08	9.60
78/ 8/ 4	2443724.5	-27.90638	-10.76805	5.05496	2.16238	-5.12069	-2.27703	30.33594	6.00685	201.10	9.59
78/ 8/ 8	2443728.5	-27.90138	-10.77988	5.04970	2.16446	-5.11994	-2.27743	30.33467	6.00711	201.12	9.58
78/ 8/12	2443732.5	-27.89638	-10.79170	5.04444	2.16654	-5.11920	-2.27782	30.33340	6.00738	201.15	9.57
78/ 8/16	2443736.5	-27.89137	-10.80353	5.03917	2.16862	-5.11846	-2.27821	30.33213	6.00764	201.17	9.56
78/ 8/20	2443740.5	-27.88636	-10.81535	5.03391	2.17069	-5.11771	-2.27861	30.33086	6.00791	201.20	9.55
78/ 8/24	2443744.5	-27.88134	-10.82718	5.02864	2.17277	-5.11697	-2.27900	30.32959	6.00817	201.22	9.54
78/ 8/28	2443748.5	-27.87632	-10.83900	5.02338	2.17484	-5.11622	-2.27939	30.32833	6.00844	201.25	9.53
78/ 9/ 1	2443752.5	-27.87129	-10.85081	5.01811	2.17691	-5.11548	-2.27978	30.32706	6.00870	201.27	9.52
78/ 9/ 5	2443756.5	-27.86626	-10.86263	5.01285	2.17898	-5.11474	-2.28018	30.32580	6.00897	201.30	9.51
78/ 9/ 9	2443760.5	-27.86122	-10.87445	5.00758	2.18105	-5.11399	-2.28057	30.32453	6.00924	201.32	9.50
78/ 9/13	2443764.5	-27.85618	-10.88626	5.00231	2.18312	-5.11325	-2.28096	30.32327	6.00951	201.35	9.50
78/ 9/17	2443768.5	-27.85114	-10.89807	4.99704	2.18520	-5.11251	-2.28136	30.32201	6.00978	201.37	9.49
78/ 9/21	2443772.5	-27.84609	-10.90988	4.99177	2.18727	-5.11176	-2.28175	30.32075	6.01005	201.39	9.48
78/ 9/25	2443776.5	-27.84103	-10.92169	4.98650	2.18934	-5.11102	-2.28215	30.31949	6.01032	201.42	9.47
78/ 9/29	2443780.5	-27.83597	-10.93350	4.98122	2.19142	-5.11027	-2.28254	30.31823	6.01059	201.44	9.46
78/10/ 3	2443784.5	-27.83091	-10.94530	4.97595	2.19349	-5.10952	-2.28293	30.31698	6.01086	201.47	9.45
78/10/ 7	2443788.5	-27.82584	-10.95710	4.97068	2.19556	-5.10878	-2.28332	30.31572	6.01113	201.49	9.44
78/10/11	2443792.5	-27.82076	-10.96891	4.96540	2.19763	-5.10803	-2.28372	30.31447	6.01140	201.52	9.43
78/10/15	2443796.5	-27.81568	-10.98070	4.96012	2.19971	-5.10728	-2.28411	30.31321	6.01167	201.54	9.42
78/10/19	2443800.5	-27.81060	-10.99250	4.95485	2.20178	-5.10654	-2.28450	30.31196	6.01195	201.57	9.41
78/10/23	2443804.5	-27.80551	-11.00430	4.94957	2.20385	-5.10579	-2.28490	30.31071	6.01222	201.59	9.40
78/10/27	2443808.5	-27.80042	-11.01609	4.94429	2.20592	-5.10505	-2.28529	30.30946	6.01250	201.62	9.39

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

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78/10/31	2443812.5	-27.79532	-11.02789	4.93901	2.20800	-5.10430	-2.28568	30.30821	6.01278	201.64	9.38
78/11/ 4	2443816.5	-27.79021	-11.03968	4.93373	2.21007	-5.10355	-2.28608	30.30697	6.01305	201.67	9.37
78/11/ 8	2443820.5	-27.78511	-11.05147	4.92845	2.21215	-5.10281	-2.28647	30.30572	6.01333	201.69	9.36
78/11/12	2443824.5	-27.77999	-11.06325	4.92317	2.21422	-5.10206	-2.28686	30.30447	6.01361	201.71	9.35
78/11/16	2443828.5	-27.77488	-11.07504	4.91788	2.21630	-5.10131	-2.28726	30.30323	6.01389	201.74	9.34
78/11/20	2443832.5	-27.76975	-11.08682	4.91260	2.21838	-5.10056	-2.28765	30.30199	6.01418	201.76	9.33
78/11/24	2443836.5	-27.76463	-11.09861	4.90731	2.22046	-5.09982	-2.28804	30.30075	6.01446	201.79	9.32
78/11/28	2443840.5	-27.75949	-11.11039	4.90203	2.22254	-5.09907	-2.28844	30.29951	6.01474	201.81	9.31
78/12/ 2	2443844.5	-27.75436	-11.12217	4.89674	2.22462	-5.09832	-2.28883	30.29827	6.01503	201.84	9.30
78/12/ 6	2443848.5	-27.74922	-11.13394	4.89145	2.22671	-5.09758	-2.28923	30.29703	6.01532	201.86	9.29
78/12/10	2443852.5	-27.74407	-11.14572	4.88616	2.22879	-5.09683	-2.28962	30.29579	6.01561	201.89	9.28
78/12/14	2443856.5	-27.73892	-11.15749	4.88087	2.23088	-5.09608	-2.29002	30.29456	6.01590	201.91	9.27
78/12/18	2443860.5	-27.73376	-11.16926	4.87558	2.23298	-5.09533	-2.29041	30.29332	6.01619	201.94	9.26
78/12/22	2443864.5	-27.72860	-11.18103	4.87029	2.23507	-5.09458	-2.29080	30.29209	6.01648	201.96	9.25
78/12/26	2443868.5	-27.72344	-11.19280	4.86500	2.23717	-5.09382	-2.29120	30.29085	6.01677	201.99	9.24
78/12/30	2443872.5	-27.71826	-11.20457	4.85970	2.23927	-5.09306	-2.29159	30.28962	6.01706	202.01	9.23
79/ 1/ 3	2443876.5	-27.71309	-11.21633	4.85441	2.24137	-5.09230	-2.29198	30.28839	6.01735	202.03	9.22
79/ 1/ 7	2443880.5	-27.70791	-11.22810	4.84911	2.24347	-5.09154	-2.29236	30.28716	6.01763	202.06	9.21
79/ 1/11	2443884.5	-27.70272	-11.23986	4.84382	2.24557	-5.09078	-2.29275	30.28593	6.01792	202.08	9.20
79/ 1/15	2443888.5	-27.69753	-11.25162	4.83852	2.24768	-5.09001	-2.29314	30.28471	6.01820	202.11	9.19
79/ 1/19	2443892.5	-27.69234	-11.26338	4.83322	2.24978	-5.08924	-2.29353	30.28348	6.01848	202.13	9.18
79/ 1/23	2443896.5	-27.68714	-11.27513	4.82792	2.25188	-5.08847	-2.29391	30.28226	6.01876	202.16	9.17
79/ 1/27	2443900.5	-27.68193	-11.28689	4.82262	2.25399	-5.08769	-2.29429	30.28103	6.01904	202.18	9.16
79/ 1/31	2443904.5	-27.67672	-11.29864	4.81732	2.25609	-5.08691	-2.29468	30.27981	6.01932	202.21	9.15
79/ 2/ 4	2443908.5	-27.67151	-11.31039	4.81202	2.25820	-5.08613	-2.29506	30.27859	6.01959	202.23	9.14
79/ 2/ 8	2443912.5	-27.66629	-11.32214	4.80672	2.26030	-5.08535	-2.29544	30.27737	6.01987	202.26	9.13
79/ 2/12	2443916.5	-27.66107	-11.33389	4.80142	2.26241	-5.08457	-2.29582	30.27615	6.02014	202.28	9.12
79/ 2/16	2443920.5	-27.65584	-11.34563	4.79611	2.26451	-5.08378	-2.29620	30.27493	6.02041	202.31	9.12
79/ 2/20	2443924.5	-27.65060	-11.35738	4.79081	2.26662	-5.08299	-2.29658	30.27371	6.02068	202.33	9.11
79/ 2/24	2443928.5	-27.64536	-11.36912	4.78550	2.26872	-5.08220	-2.29696	30.27250	6.02095	202.35	9.10
79/ 2/28	2443932.5	-27.64012	-11.38086	4.78019	2.27082	-5.08141	-2.29733	30.27128	6.02122	202.38	9.09
79/ 3/ 4	2443936.5	-27.63487	-11.39259	4.77489	2.27293	-5.08062	-2.29771	30.27007	6.02149	202.40	9.08
79/ 3/ 8	2443940.5	-27.62962	-11.40433	4.76958	2.27503	-5.07983	-2.29809	30.26885	6.02176	202.43	9.07
79/ 3/12	2443944.5	-27.62436	-11.41607	4.76427	2.27714	-5.07903	-2.29846	30.26764	6.02203	202.45	9.06
79/ 3/16	2443948.5	-27.61910	-11.42780	4.75896	2.27924	-5.07823	-2.29884	30.26643	6.02229	202.48	9.05
79/ 3/20	2443952.5	-27.61383	-11.43953	4.75365	2.28135	-5.07743	-2.29921	30.26522	6.02256	202.50	9.04
79/ 3/24	2443956.5	-27.60856	-11.45126	4.74833	2.28345	-5.07662	-2.29958	30.26401	6.02282	202.53	9.03
79/ 3/28	2443960.5	-27.60328	-11.46298	4.74302	2.28555	-5.07582	-2.29995	30.26280	6.02308	202.55	9.02
79/ 4/ 1	2443964.5	-27.59800	-11.47471	4.73771	2.28766	-5.07501	-2.30032	30.26160	6.02333	202.58	9.01
79/ 4/ 5	2443968.5	-27.59271	-11.48643	4.73239	2.28976	-5.07420	-2.30069	30.26039	6.02359	202.60	9.00
79/ 4/ 9	2443972.5	-27.58742	-11.49815	4.72708	2.29185	-5.07338	-2.30106	30.25919	6.02384	202.63	8.99
79/ 4/13	2443976.5	-27.58212	-11.50987	4.72176	2.29395	-5.07257	-2.30143	30.25798	6.02410	202.65	8.98
79/ 4/17	2443980.5	-27.57682	-11.52159	4.71644	2.29605	-5.07176	-2.30179	30.25678	6.02435	202.68	8.97
79/ 4/21	2443984.5	-27.57151	-11.53331	4.71113	2.29814	-5.07094	-2.30216	30.25558	6.02460	202.70	8.96
79/ 4/25	2443988.5	-27.56620	-11.54502	4.70581	2.30024	-5.07012	-2.30253	30.25438	6.02485	202.72	8.95

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
79/ 4/29	2443992.5	-27.56088	-11.55673	4.70049	2.30233	-5.06930	-2.30289	30.25318	6.02510	202.75	8.94
79/ 5/ 3	2443996.5	-27.55556	-11.56844	4.69517	2.30442	-5.06849	-2.30326	30.25198	6.02536	202.77	8.93
79/ 5/ 7	2444000.5	-27.55024	-11.58015	4.68985	2.30651	-5.06767	-2.30362	30.25079	6.02561	202.80	8.92
79/ 5/11	2444004.5	-27.54491	-11.59186	4.68452	2.30860	-5.06685	-2.30399	30.24959	6.02586	202.82	8.91
79/ 5/15	2444008.5	-27.53957	-11.60356	4.67920	2.31069	-5.06603	-2.30435	30.24840	6.02611	202.85	8.90
79/ 5/19	2444012.5	-27.53423	-11.61526	4.67388	2.31278	-5.06521	-2.30472	30.24720	6.02636	202.87	8.89
79/ 5/23	2444016.5	-27.52889	-11.62696	4.66855	2.31486	-5.06439	-2.30509	30.24601	6.02661	202.90	8.88
79/ 5/27	2444020.5	-27.52354	-11.63866	4.66323	2.31695	-5.06357	-2.30545	30.24482	6.02687	202.92	8.87
79/ 5/31	2444024.5	-27.51818	-11.65036	4.65790	2.31904	-5.06275	-2.30582	30.24363	6.02712	202.95	8.86
79/ 6/ 4	2444028.5	-27.51282	-11.66205	4.65257	2.32112	-5.06193	-2.30619	30.24244	6.02738	202.97	8.85
79/ 6/ 8	2444032.5	-27.50746	-11.67375	4.64724	2.32321	-5.06111	-2.30655	30.24125	6.02764	203.00	8.84
79/ 6/12	2444036.5	-27.50209	-11.68544	4.64192	2.32531	-5.06029	-2.30692	30.24007	6.02789	203.02	8.83
79/ 6/16	2444040.5	-27.49671	-11.69713	4.63659	2.32740	-5.05947	-2.30728	30.23888	6.02815	203.04	8.82
79/ 6/20	2444044.5	-27.49133	-11.70882	4.63126	2.32949	-5.05865	-2.30765	30.23770	6.02841	203.07	8.81
79/ 6/24	2444048.5	-27.48595	-11.72050	4.62592	2.33158	-5.05783	-2.30802	30.23651	6.02867	203.09	8.80
79/ 6/28	2444052.5	-27.48056	-11.73218	4.62059	2.33367	-5.05700	-2.30838	30.23533	6.02892	203.12	8.79
79/ 7/ 2	2444056.5	-27.47517	-11.74387	4.61526	2.33577	-5.05617	-2.30874	30.23415	6.02918	203.14	8.78
79/ 7/ 6	2444060.5	-27.46977	-11.75555	4.60992	2.33786	-5.05535	-2.30911	30.23297	6.02944	203.17	8.77
79/ 7/10	2444064.5	-27.46436	-11.76722	4.60459	2.33995	-5.05452	-2.30947	30.23179	6.02969	203.19	8.76
79/ 7/14	2444068.5	-27.45896	-11.77890	4.59925	2.34205	-5.05369	-2.30983	30.23061	6.02995	203.22	8.75
79/ 7/18	2444072.5	-27.45354	-11.79057	4.59392	2.34414	-5.05286	-2.31020	30.22943	6.03021	203.24	8.74
79/ 7/22	2444076.5	-27.44813	-11.80225	4.58858	2.34624	-5.05203	-2.31056	30.22826	6.03047	203.27	8.73
79/ 7/26	2444080.5	-27.44270	-11.81392	4.58324	2.34833	-5.05120	-2.31092	30.22708	6.03072	203.29	8.72
79/ 7/30	2444084.5	-27.43728	-11.82558	4.57790	2.35043	-5.05036	-2.31128	30.22591	6.03098	203.32	8.71
79/ 8/ 3	2444088.5	-27.43184	-11.83725	4.57256	2.35252	-5.04953	-2.31165	30.22474	6.03124	203.34	8.70
79/ 8/ 7	2444092.5	-27.42641	-11.84891	4.56722	2.35462	-5.04869	-2.31201	30.22357	6.03149	203.37	8.69
79/ 8/11	2444096.5	-27.42096	-11.86058	4.56188	2.35672	-5.04785	-2.31237	30.22240	6.03175	203.39	8.68
79/ 8/15	2444100.5	-27.41552	-11.87224	4.55654	2.35881	-5.04702	-2.31273	30.22123	6.03200	203.41	8.67
79/ 8/19	2444104.5	-27.41007	-11.88390	4.55119	2.36091	-5.04618	-2.31309	30.22006	6.03226	203.44	8.66
79/ 8/23	2444108.5	-27.40461	-11.89555	4.54585	2.36301	-5.04534	-2.31345	30.21889	6.03252	203.46	8.65
79/ 8/27	2444112.5	-27.39915	-11.90721	4.54051	2.36511	-5.04450	-2.31381	30.21773	6.03278	203.49	8.64
79/ 8/31	2444116.5	-27.39368	-11.91886	4.53516	2.36721	-5.04365	-2.31417	30.21656	6.03303	203.51	8.63
79/ 9/ 4	2444120.5	-27.38821	-11.93051	4.52981	2.36931	-5.04281	-2.31452	30.21540	6.03329	203.54	8.62
79/ 9/ 8	2444124.5	-27.38273	-11.94216	4.52447	2.37142	-5.04196	-2.31488	30.21424	6.03355	203.56	8.61
79/ 9/12	2444128.5	-27.37725	-11.95381	4.51912	2.37352	-5.04111	-2.31524	30.21307	6.03380	203.59	8.60
79/ 9/16	2444132.5	-27.37177	-11.96545	4.51377	2.37562	-5.04026	-2.31559	30.21191	6.03405	203.61	8.59
79/ 9/20	2444136.5	-27.36628	-11.97709	4.50842	2.37773	-5.03940	-2.31595	30.21076	6.03430	203.64	8.58
79/ 9/24	2444140.5	-27.36078	-11.98873	4.50307	2.37983	-5.03855	-2.31630	30.20960	6.03455	203.66	8.57
79/ 9/28	2444144.5	-27.35528	-12.00037	4.49772	2.38193	-5.03769	-2.31665	30.20844	6.03480	203.69	8.56
79/10/ 2	2444148.5	-27.34978	-12.01201	4.49236	2.38404	-5.03683	-2.31700	30.20728	6.03504	203.71	8.55
79/10/ 6	2444152.5	-27.34427	-12.02365	4.48701	2.38614	-5.03596	-2.31735	30.20613	6.03529	203.74	8.54
79/10/10	2444156.5	-27.33875	-12.03528	4.48166	2.38824	-5.03510	-2.31770	30.20498	6.03553	203.76	8.53
79/10/14	2444160.5	-27.33323	-12.04691	4.47630	2.39034	-5.03423	-2.31805	30.20382	6.03577	203.79	8.52
79/10/18	2444164.5	-27.32771	-12.05854	4.47095	2.39243	-5.03336	-2.31840	30.20267	6.03601	203.81	8.51
79/10/22	2444168.5	-27.32218	-12.07017	4.46559	2.39453	-5.03249	-2.31875	30.20152	6.03625	203.83	8.50

1.9 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
79/10/26	2444172.5	-27.31664	-12.08179	4.46023	2.39663	-5.03162	-2.31909	30.20037	6.03649	203.86	8.49
79/10/30	2444176.5	-27.31110	-12.09341	4.45488	2.39872	-5.03075	-2.31944	30.19922	6.03673	203.88	8.48
79/11/ 3	2444180.5	-27.30556	-12.10503	4.44952	2.40082	-5.02988	-2.31979	30.19807	6.03697	203.91	8.47
79/11/ 7	2444184.5	-27.30001	-12.11665	4.44416	2.40291	-5.02900	-2.32013	30.19693	6.03721	203.93	8.46
79/11/11	2444188.5	-27.29446	-12.12827	4.43880	2.40500	-5.02813	-2.32048	30.19578	6.03744	203.96	8.45
79/11/15	2444192.5	-27.28890	-12.13988	4.43344	2.40709	-5.02726	-2.32082	30.19464	6.03768	203.98	8.44
79/11/19	2444196.5	-27.28334	-12.15150	4.42807	2.40918	-5.02638	-2.32117	30.19350	6.03792	204.01	8.43
79/11/23	2444200.5	-27.27777	-12.16311	4.42271	2.41127	-5.02551	-2.32151	30.19235	6.03816	204.03	8.42
79/11/27	2444204.5	-27.27220	-12.17472	4.41735	2.41336	-5.02463	-2.32186	30.19121	6.03840	204.06	8.41
79/12/ 1	2444208.5	-27.26662	-12.18632	4.41198	2.41545	-5.02376	-2.32221	30.19007	6.03864	204.08	8.40
79/12/ 5	2444212.5	-27.26104	-12.19793	4.40662	2.41755	-5.02288	-2.32255	30.18894	6.03889	204.11	8.39
79/12/ 9	2444216.5	-27.25545	-12.20953	4.40125	2.41964	-5.02201	-2.32290	30.18780	6.03913	204.13	8.38
79/12/13	2444220.5	-27.24986	-12.22113	4.39589	2.42173	-5.02113	-2.32324	30.18666	6.03937	204.16	8.37
79/12/17	2444224.5	-27.24426	-12.23273	4.39052	2.42382	-5.02025	-2.32358	30.18553	6.03961	204.18	8.36
79/12/21	2444228.5	-27.23866	-12.24433	4.38515	2.42591	-5.01937	-2.32393	30.18439	6.03985	204.20	8.35
79/12/25	2444232.5	-27.23305	-12.25592	4.37978	2.42800	-5.01849	-2.32427	30.18326	6.04009	204.23	8.34
79/12/29	2444236.5	-27.22744	-12.26751	4.37441	2.43010	-5.01760	-2.32461	30.18213	6.04033	204.25	8.33
80/ 1/ 2	2444240.5	-27.22182	-12.27911	4.36904	2.43219	-5.01672	-2.32496	30.18100	6.04057	204.28	8.32
80/ 1/ 6	2444244.5	-27.21620	-12.29069	4.36367	2.43428	-5.01584	-2.32530	30.17987	6.04081	204.30	8.31
80/ 1/10	2444248.5	-27.21058	-12.30228	4.35830	2.43637	-5.01496	-2.32564	30.17874	6.04105	204.33	8.30
80/ 1/14	2444252.5	-27.20494	-12.31386	4.35292	2.43846	-5.01407	-2.32598	30.17761	6.04129	204.35	8.29
80/ 1/18	2444256.5	-27.19931	-12.32545	4.34755	2.44055	-5.01319	-2.32632	30.17648	6.04153	204.38	8.28
80/ 1/22	2444260.5	-27.19367	-12.33703	4.34218	2.44264	-5.01230	-2.32667	30.17536	6.04178	204.40	8.27
80/ 1/26	2444264.5	-27.18802	-12.34861	4.33680	2.44474	-5.01142	-2.32701	30.17424	6.04202	204.43	8.26
80/ 1/30	2444268.5	-27.18237	-12.36018	4.33142	2.44683	-5.01053	-2.32735	30.17311	6.04227	204.45	8.25
80/ 2/ 3	2444272.5	-27.17672	-12.37176	4.32605	2.44892	-5.00965	-2.32769	30.17199	6.04251	204.48	8.24
80/ 2/ 7	2444276.5	-27.17106	-12.38333	4.32067	2.45102	-5.00876	-2.32803	30.17087	6.04276	204.50	8.23
80/ 2/11	2444280.5	-27.16539	-12.39490	4.31529	2.45311	-5.00787	-2.32837	30.16975	6.04300	204.53	8.22
80/ 2/15	2444284.5	-27.15972	-12.40647	4.30991	2.45521	-5.00699	-2.32872	30.16863	6.04325	204.55	8.21
80/ 2/19	2444288.5	-27.15405	-12.41803	4.30453	2.45731	-5.00610	-2.32906	30.16751	6.04350	204.58	8.20
80/ 2/23	2444292.5	-27.14837	-12.42960	4.29915	2.45941	-5.00521	-2.32940	30.16640	6.04375	204.60	8.19
80/ 2/27	2444296.5	-27.14269	-12.44116	4.29377	2.46151	-5.00432	-2.32974	30.16528	6.04400	204.62	8.18
80/ 3/ 2	2444300.5	-27.13700	-12.45272	4.28839	2.46362	-5.00343	-2.33008	30.16417	6.04425	204.65	8.17
80/ 3/ 6	2444304.5	-27.13130	-12.46428	4.28300	2.46573	-5.00253	-2.33042	30.16305	6.04450	204.67	8.16
80/ 3/10	2444308.5	-27.12560	-12.47583	4.27762	2.46784	-5.00163	-2.33076	30.16194	6.04475	204.70	8.15
80/ 3/14	2444312.5	-27.11990	-12.48738	4.27223	2.46995	-5.00073	-2.33109	30.16083	6.04499	204.72	8.14
80/ 3/18	2444316.5	-27.11419	-12.49894	4.26685	2.47206	-4.99983	-2.33143	30.15972	6.04524	204.75	8.13
80/ 3/22	2444320.5	-27.10848	-12.51049	4.26146	2.47417	-4.99892	-2.33176	30.15861	6.04548	204.77	8.12
80/ 3/26	2444324.5	-27.10276	-12.52203	4.25607	2.47628	-4.99801	-2.33210	30.15751	6.04572	204.80	8.11
80/ 3/30	2444328.5	-27.09704	-12.53358	4.25069	2.47839	-4.99710	-2.33243	30.15640	6.04596	204.82	8.10
80/ 4/ 3	2444332.5	-27.09131	-12.54512	4.24530	2.48050	-4.99619	-2.33276	30.15529	6.04620	204.85	8.09
80/ 4/ 7	2444336.5	-27.08558	-12.55666	4.23991	2.48261	-4.99527	-2.33309	30.15419	6.04644	204.87	8.08
80/ 4/11	2444340.5	-27.07984	-12.56820	4.23452	2.48472	-4.99436	-2.33342	30.15308	6.04668	204.90	8.07
80/ 4/15	2444344.5	-27.07410	-12.57974	4.22913	2.48684	-4.99344	-2.33375	30.15198	6.04691	204.92	8.06
80/ 4/19	2444348.5	-27.06835	-12.59127	4.22374	2.48895	-4.99251	-2.33408	30.15088	6.04714	204.95	8.05

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
80/ 4/23	2444352.5	-27.06260	-12.60281	4.21834	2.49106	-4.99159	-2.33440	30.14978	6.04737	204.97	8.04
80/ 4/27	2444356.5	-27.05684	-12.61434	4.21295	2.49317	-4.99066	-2.33473	30.14868	6.04760	205.00	8.03
80/ 5/ 1	2444360.5	-27.05108	-12.62586	4.20756	2.49528	-4.98973	-2.33505	30.14758	6.04783	205.02	8.02
80/ 5/ 5	2444364.5	-27.04531	-12.63739	4.20216	2.49739	-4.98879	-2.33538	30.14649	6.04805	205.05	8.01
80/ 5/ 9	2444368.5	-27.03954	-12.64891	4.19677	2.49949	-4.98786	-2.33570	30.14539	6.04828	205.07	8.00
80/ 5/13	2444372.5	-27.03376	-12.66044	4.19137	2.50160	-4.98692	-2.33602	30.14429	6.04850	205.09	7.99
80/ 5/17	2444376.5	-27.02798	-12.67196	4.18597	2.50370	-4.98599	-2.33634	30.14320	6.04873	205.12	7.98
80/ 5/21	2444380.5	-27.02219	-12.68347	4.18057	2.50581	-4.98505	-2.33666	30.14211	6.04895	205.14	7.97
80/ 5/25	2444384.5	-27.01640	-12.69499	4.17518	2.50792	-4.98410	-2.33699	30.14102	6.04917	205.17	7.96
80/ 5/29	2444388.5	-27.01061	-12.70650	4.16978	2.51002	-4.98316	-2.33730	30.13993	6.04939	205.19	7.95
80/ 6/ 2	2444392.5	-27.00481	-12.71801	4.16438	2.51213	-4.98221	-2.33762	30.13884	6.04960	205.22	7.94
80/ 6/ 6	2444396.5	-26.99900	-12.72952	4.15898	2.51423	-4.98126	-2.33794	30.13775	6.04982	205.24	7.93
80/ 6/10	2444400.5	-26.99319	-12.74103	4.15358	2.51634	-4.98031	-2.33825	30.13666	6.05003	205.27	7.92
80/ 6/14	2444404.5	-26.98737	-12.75253	4.14817	2.51844	-4.97936	-2.33857	30.13557	6.05024	205.29	7.91
80/ 6/18	2444408.5	-26.98155	-12.76403	4.14277	2.52053	-4.97840	-2.33888	30.13449	6.05045	205.32	7.90
80/ 6/22	2444412.5	-26.97573	-12.77553	4.13737	2.52263	-4.97744	-2.33919	30.13340	6.05065	205.34	7.89
80/ 6/26	2444416.5	-26.96990	-12.78703	4.13196	2.52472	-4.97648	-2.33951	30.13232	6.05086	205.37	7.88
80/ 6/30	2444420.5	-26.96406	-12.79853	4.12656	2.52682	-4.97552	-2.33982	30.13124	6.05106	205.39	7.87
80/ 7/ 4	2444424.5	-26.95822	-12.81002	4.12115	2.52891	-4.97456	-2.34013	30.13016	6.05127	205.42	7.86
80/ 7/ 8	2444428.5	-26.95238	-12.82151	4.11574	2.53100	-4.97360	-2.34044	30.12908	6.05147	205.44	7.85
80/ 7/12	2444432.5	-26.94653	-12.83300	4.11034	2.53308	-4.97264	-2.34075	30.12800	6.05167	205.47	7.84
80/ 7/16	2444436.5	-26.94067	-12.84449	4.10493	2.53517	-4.97167	-2.34106	30.12692	6.05188	205.49	7.83
80/ 7/20	2444440.5	-26.93482	-12.85597	4.09952	2.53725	-4.97071	-2.34137	30.12584	6.05208	205.52	7.82
80/ 7/24	2444444.5	-26.92895	-12.86745	4.09411	2.53933	-4.96975	-2.34168	30.12477	6.05228	205.54	7.81
80/ 7/28	2444448.5	-26.92308	-12.87893	4.08870	2.54142	-4.96878	-2.34199	30.12369	6.05248	205.56	7.80
80/ 8/ 1	2444452.5	-26.91721	-12.89041	4.08329	2.54349	-4.96782	-2.34230	30.12262	6.05268	205.59	7.79
80/ 8/ 5	2444456.5	-26.91133	-12.90189	4.07788	2.54557	-4.96686	-2.34261	30.12154	6.05289	205.61	7.78
80/ 8/ 9	2444460.5	-26.90545	-12.91336	4.07247	2.54765	-4.96590	-2.34292	30.12047	6.05309	205.64	7.77
80/ 8/13	2444464.5	-26.89956	-12.92483	4.06705	2.54973	-4.96493	-2.34324	30.11940	6.05330	205.66	7.76
80/ 8/17	2444468.5	-26.89367	-12.93630	4.06164	2.55181	-4.96397	-2.34355	30.11833	6.05351	205.69	7.75
80/ 8/21	2444472.5	-26.88777	-12.94776	4.05623	2.55389	-4.96301	-2.34386	30.11727	6.05372	205.71	7.74
80/ 8/25	2444476.5	-26.88187	-12.95923	4.05081	2.55597	-4.96205	-2.34417	30.11620	6.05393	205.74	7.73
80/ 8/29	2444480.5	-26.87596	-12.97069	4.04540	2.55805	-4.96109	-2.34448	30.11513	6.05414	205.76	7.72
80/ 9/ 2	2444484.5	-26.87005	-12.98215	4.03998	2.56013	-4.96012	-2.34479	30.11407	6.05435	205.79	7.71
80/ 9/ 6	2444488.5	-26.86413	-12.99361	4.03456	2.56221	-4.95916	-2.34510	30.11301	6.05456	205.81	7.70
80/ 9/10	2444492.5	-26.85821	-13.00506	4.02914	2.56429	-4.95819	-2.34542	30.11194	6.05477	205.84	7.69
80/ 9/14	2444496.5	-26.85228	-13.01652	4.02373	2.56637	-4.95723	-2.34573	30.11088	6.05498	205.86	7.68
80/ 9/18	2444500.5	-26.84635	-13.02797	4.01831	2.56845	-4.95626	-2.34604	30.10982	6.05519	205.89	7.67
80/ 9/22	2444504.5	-26.84042	-13.03942	4.01289	2.57053	-4.95530	-2.34635	30.10876	6.05540	205.91	7.66
80/ 9/26	2444508.5	-26.83448	-13.05086	4.00746	2.57261	-4.95433	-2.34666	30.10770	6.05562	205.94	7.65
80/ 9/30	2444512.5	-26.82853	-13.06231	4.00204	2.57469	-4.95336	-2.34697	30.10665	6.05583	205.96	7.64
80/10/ 4	2444516.5	-26.82258	-13.07375	3.99662	2.57677	-4.95239	-2.34728	30.10559	6.05604	205.99	7.63
80/10/ 8	2444520.5	-26.81662	-13.08519	3.99120	2.57886	-4.95142	-2.34758	30.10454	6.05626	206.01	7.62
80/10/12	2444524.5	-26.81066	-13.09663	3.98577	2.58094	-4.95046	-2.34789	30.10348	6.05647	206.03	7.61
80/10/16	2444528.5	-26.80470	-13.10806	3.98035	2.58303	-4.94948	-2.34820	30.10243	6.05669	206.06	7.60

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

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80/10/20	2444532.5	-26.79873	-13.11950	3.97492	2.58511	-4.94851	-2.34851	30.10138	6.05690	206.08	7.59
80/10/24	2444536.5	-26.79276	-13.13093	3.96950	2.58720	-4.94754	-2.34882	30.10033	6.05712	206.11	7.58
80/10/28	2444540.5	-26.78678	-13.14235	3.96407	2.58928	-4.94657	-2.34913	30.09928	6.05733	206.13	7.57
80/11/ 1	2444544.5	-26.78079	-13.15378	3.95865	2.59137	-4.94559	-2.34944	30.09823	6.05755	206.16	7.56
80/11/ 5	2444548.5	-26.77480	-13.16521	3.95322	2.59346	-4.94462	-2.34974	30.09719	6.05777	206.18	7.55
80/11/ 9	2444552.5	-26.76881	-13.17663	3.94779	2.59554	-4.94364	-2.35005	30.09614	6.05799	206.21	7.54
80/11/13	2444556.5	-26.76281	-13.18805	3.94236	2.59764	-4.94267	-2.35036	30.09510	6.05821	206.23	7.53
80/11/17	2444560.5	-26.75681	-13.19946	3.93693	2.59973	-4.94169	-2.35067	30.09405	6.05843	206.26	7.52
80/11/21	2444564.5	-26.75080	-13.21088	3.93150	2.60183	-4.94071	-2.35097	30.09301	6.05864	206.28	7.51
80/11/25	2444568.5	-26.74479	-13.22229	3.92607	2.60392	-4.93972	-2.35128	30.09197	6.05886	206.31	7.50
80/11/29	2444572.5	-26.73877	-13.23370	3.92063	2.60602	-4.93874	-2.35158	30.09093	6.05907	206.33	7.49
80/12/ 3	2444576.5	-26.73275	-13.24511	3.91520	2.60812	-4.93775	-2.35188	30.08989	6.05929	206.36	7.48
80/12/ 7	2444580.5	-26.72672	-13.25652	3.90977	2.61021	-4.93675	-2.35218	30.08885	6.05950	206.38	7.47
80/12/11	2444584.5	-26.72069	-13.26792	3.90433	2.61231	-4.93576	-2.35248	30.08781	6.05971	206.41	7.46
80/12/15	2444588.5	-26.71465	-13.27932	3.89890	2.61441	-4.93476	-2.35278	30.08678	6.05991	206.43	7.45
80/12/19	2444592.5	-26.70861	-13.29072	3.89346	2.61650	-4.93376	-2.35308	30.08574	6.06012	206.46	7.44
80/12/23	2444596.5	-26.70256	-13.30212	3.88803	2.61860	-4.93276	-2.35337	30.08471	6.06032	206.48	7.43
80/12/27	2444600.5	-26.69651	-13.31351	3.88259	2.62069	-4.93176	-2.35367	30.08368	6.06053	206.51	7.42
80/12/31	2444604.5	-26.69045	-13.32490	3.87715	2.62278	-4.93075	-2.35396	30.08264	6.06073	206.53	7.41
81/ 1/ 4	2444608.5	-26.68439	-13.33629	3.87171	2.62488	-4.92974	-2.35426	30.08161	6.06093	206.55	7.39
81/ 1/ 8	2444612.5	-26.67832	-13.34768	3.86627	2.62697	-4.92873	-2.35455	30.08058	6.06113	206.58	7.38
81/ 1/12	2444616.5	-26.67225	-13.35907	3.86083	2.62906	-4.92772	-2.35484	30.07956	6.06132	206.60	7.37
81/ 1/16	2444620.5	-26.66618	-13.37045	3.85539	2.63115	-4.92671	-2.35513	30.07853	6.06152	206.63	7.36
81/ 1/20	2444624.5	-26.66009	-13.38183	3.84995	2.63324	-4.92569	-2.35542	30.07750	6.06171	206.65	7.35
81/ 1/24	2444628.5	-26.65401	-13.39321	3.84451	2.63532	-4.92468	-2.35571	30.07648	6.06191	206.68	7.34
81/ 1/28	2444632.5	-26.64792	-13.40458	3.83907	2.63741	-4.92366	-2.35600	30.07545	6.06210	206.70	7.33
81/ 2/ 1	2444636.5	-26.64182	-13.41596	3.83363	2.63949	-4.92264	-2.35629	30.07443	6.06230	206.73	7.32
81/ 2/ 5	2444640.5	-26.63572	-13.42733	3.82818	2.64158	-4.92162	-2.35658	30.07341	6.06249	206.75	7.31
81/ 2/ 9	2444644.5	-26.62962	-13.43870	3.82274	2.64367	-4.92060	-2.35687	30.07239	6.06268	206.78	7.30
81/ 2/13	2444648.5	-26.62351	-13.45006	3.81729	2.64575	-4.91958	-2.35716	30.07137	6.06288	206.80	7.29
81/ 2/17	2444652.5	-26.61739	-13.46143	3.81185	2.64784	-4.91856	-2.35745	30.07035	6.06307	206.83	7.28
81/ 2/21	2444656.5	-26.61127	-13.47279	3.80640	2.64992	-4.91754	-2.35773	30.06933	6.06326	206.85	7.27
81/ 2/25	2444660.5	-26.60515	-13.48415	3.80095	2.65201	-4.91651	-2.35802	30.06831	6.06345	206.88	7.26
81/ 3/ 1	2444664.5	-26.59902	-13.49550	3.79551	2.65409	-4.91548	-2.35830	30.06730	6.06364	206.90	7.25
81/ 3/ 5	2444668.5	-26.59289	-13.50686	3.79006	2.65617	-4.91445	-2.35859	30.06628	6.06383	206.93	7.24
81/ 3/ 9	2444672.5	-26.58675	-13.51821	3.78461	2.65825	-4.91342	-2.35887	30.06527	6.06401	206.95	7.23
81/ 3/13	2444676.5	-26.58061	-13.52956	3.77916	2.66033	-4.91239	-2.35915	30.06426	6.06420	206.98	7.22
81/ 3/17	2444680.5	-26.57446	-13.54091	3.77371	2.66241	-4.91136	-2.35944	30.06325	6.06439	207.00	7.21
81/ 3/21	2444684.5	-26.56830	-13.55225	3.76826	2.66449	-4.91032	-2.35972	30.06224	6.06457	207.03	7.20
81/ 3/25	2444688.5	-26.56215	-13.56359	3.76280	2.66656	-4.90929	-2.36000	30.06123	6.06476	207.05	7.19
81/ 3/29	2444692.5	-26.55598	-13.57493	3.75735	2.66864	-4.90825	-2.36028	30.06022	6.06494	207.08	7.18
81/ 4/ 2	2444696.5	-26.54982	-13.58627	3.75190	2.67072	-4.90722	-2.36057	30.05921	6.06513	207.10	7.17
81/ 4/ 6	2444700.5	-26.54364	-13.59761	3.74645	2.67279	-4.90618	-2.36085	30.05821	6.06531	207.12	7.16
81/ 4/10	2444704.5	-26.53747	-13.60894	3.74099	2.67486	-4.90515	-2.36113	30.05720	6.06550	207.15	7.15
81/ 4/14	2444708.5	-26.53129	-13.62027	3.73554	2.67694	-4.90411	-2.36141	30.05620	6.06568	207.17	7.14

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81/ 4/18	2444712.5	-26.52510	-13.63160	3.73008	2.67901	-4.90307	-2.36169	30.05520	6.06587	207.20	7.13
81/ 4/22	2444716.5	-26.51891	-13.64292	3.72462	2.68108	-4.90203	-2.36197	30.05420	6.06606	207.22	7.12
81/ 4/26	2444720.5	-26.51271	-13.65425	3.71917	2.68316	-4.90099	-2.36225	30.05319	6.06624	207.25	7.11
81/ 4/30	2444724.5	-26.50651	-13.66557	3.71371	2.68523	-4.89996	-2.36253	30.05220	6.06643	207.27	7.10
81/ 5/ 4	2444728.5	-26.50030	-13.67689	3.70825	2.68730	-4.89892	-2.36281	30.05120	6.06662	207.30	7.09
81/ 5/ 8	2444732.5	-26.49409	-13.68820	3.70279	2.68938	-4.89788	-2.36310	30.05020	6.06681	207.32	7.08
81/ 5/12	2444736.5	-26.48788	-13.69952	3.69733	2.69146	-4.89684	-2.36338	30.04921	6.06700	207.35	7.07
81/ 5/16	2444740.5	-26.48166	-13.71083	3.69187	2.69354	-4.89580	-2.36366	30.04821	6.06719	207.37	7.06
81/ 5/20	2444744.5	-26.47543	-13.72214	3.68641	2.69562	-4.89475	-2.36394	30.04722	6.06738	207.40	7.05
81/ 5/24	2444748.5	-26.46920	-13.73344	3.68095	2.69770	-4.89371	-2.36421	30.04622	6.06757	207.42	7.04
81/ 5/28	2444752.5	-26.46297	-13.74475	3.67549	2.69978	-4.89266	-2.36449	30.04523	6.06776	207.45	7.03
81/ 6/ 1	2444756.5	-26.45673	-13.75605	3.67003	2.70186	-4.89161	-2.36477	30.04424	6.06795	207.47	7.02
81/ 6/ 5	2444760.5	-26.45049	-13.76735	3.66456	2.70394	-4.89055	-2.36505	30.04325	6.06813	207.50	7.01
81/ 6/ 9	2444764.5	-26.44424	-13.77865	3.65910	2.70602	-4.88950	-2.36532	30.04227	6.06832	207.52	7.00
81/ 6/13	2444768.5	-26.43798	-13.78994	3.65363	2.70810	-4.88844	-2.36559	30.04128	6.06850	207.55	6.99
81/ 6/17	2444772.5	-26.43172	-13.80123	3.64817	2.71018	-4.88738	-2.36587	30.04029	6.06868	207.57	6.98
81/ 6/21	2444776.5	-26.42546	-13.81252	3.64270	2.71226	-4.88632	-2.36614	30.03931	6.06887	207.60	6.97
81/ 6/25	2444780.5	-26.41919	-13.82381	3.63724	2.71434	-4.88526	-2.36641	30.03832	6.06905	207.62	6.95
81/ 6/29	2444784.5	-26.41292	-13.83509	3.63177	2.71642	-4.88420	-2.36668	30.03734	6.06923	207.65	6.94
81/ 7/ 3	2444788.5	-26.40664	-13.84638	3.62630	2.71850	-4.88313	-2.36695	30.03636	6.06940	207.67	6.93
81/ 7/ 7	2444792.5	-26.40036	-13.85766	3.62083	2.72058	-4.88206	-2.36722	30.03538	6.06958	207.70	6.92
81/ 7/11	2444796.5	-26.39407	-13.86893	3.61536	2.72265	-4.88099	-2.36749	30.03440	6.06975	207.72	6.91
81/ 7/15	2444800.5	-26.38778	-13.88021	3.60990	2.72473	-4.87992	-2.36776	30.03342	6.06993	207.74	6.90
81/ 7/19	2444804.5	-26.38148	-13.89148	3.60442	2.72681	-4.87884	-2.36803	30.03244	6.07010	207.77	6.89
81/ 7/23	2444808.5	-26.37518	-13.90275	3.59895	2.72888	-4.87777	-2.36829	30.03147	6.07027	207.79	6.88
81/ 7/27	2444812.5	-26.36887	-13.91402	3.59348	2.73095	-4.87669	-2.36856	30.03049	6.07044	207.82	6.87
81/ 7/31	2444816.5	-26.36256	-13.92528	3.58801	2.73303	-4.87562	-2.36882	30.02952	6.07062	207.84	6.86
81/ 8/ 4	2444820.5	-26.35625	-13.93654	3.58254	2.73510	-4.87454	-2.36909	30.02855	6.07079	207.87	6.85
81/ 8/ 8	2444824.5	-26.34993	-13.94780	3.57706	2.73717	-4.87345	-2.36935	30.02757	6.07096	207.89	6.84
81/ 8/12	2444828.5	-26.34360	-13.95906	3.57159	2.73925	-4.87237	-2.36962	30.02660	6.07112	207.92	6.83
81/ 8/16	2444832.5	-26.33727	-13.97032	3.56612	2.74132	-4.87128	-2.36988	30.02563	6.07129	207.94	6.82
81/ 8/20	2444836.5	-26.33093	-13.98157	3.56064	2.74339	-4.87020	-2.37014	30.02466	6.07145	207.97	6.81
81/ 8/24	2444840.5	-26.32459	-13.99282	3.55517	2.74546	-4.86910	-2.37040	30.02370	6.07162	207.99	6.80
81/ 8/28	2444844.5	-26.31825	-14.00406	3.54969	2.74753	-4.86801	-2.37066	30.02273	6.07178	208.02	6.79
81/ 9/ 1	2444848.5	-26.31190	-14.01531	3.54421	2.74959	-4.86692	-2.37092	30.02176	6.07193	208.04	6.78
81/ 9/ 5	2444852.5	-26.30554	-14.02655	3.53873	2.75166	-4.86582	-2.37117	30.02080	6.07209	208.07	6.77
81/ 9/ 9	2444856.5	-26.29919	-14.03779	3.53326	2.75372	-4.86472	-2.37143	30.01984	6.07225	208.09	6.76
81/ 9/13	2444860.5	-26.29282	-14.04903	3.52778	2.75578	-4.86363	-2.37169	30.01888	6.07240	208.12	6.75
81/ 9/17	2444864.5	-26.28645	-14.06026	3.52230	2.75784	-4.86253	-2.37194	30.01791	6.07256	208.14	6.74
81/ 9/21	2444868.5	-26.28008	-14.07149	3.51682	2.75989	-4.86143	-2.37220	30.01695	6.07271	208.17	6.73
81/ 9/25	2444872.5	-26.27370	-14.08272	3.51134	2.76195	-4.86033	-2.37245	30.01600	6.07286	208.19	6.72
81/ 9/29	2444876.5	-26.26732	-14.09395	3.50586	2.76400	-4.85923	-2.37271	30.01504	6.07302	208.22	6.71
81/10/ 3	2444880.5	-26.26093	-14.10518	3.50038	2.76605	-4.85813	-2.37296	30.01408	6.07317	208.24	6.70
81/10/ 7	2444884.5	-26.25454	-14.11640	3.49489	2.76810	-4.85703	-2.37322	30.01313	6.07332	208.27	6.69
81/10/11	2444888.5	-26.24814	-14.12762	3.48941	2.77015	-4.85593	-2.37347	30.01217	6.07348	208.29	6.68

1.9 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
80/10/20	2444532.5	-26.79873	-13.11950	3.97492	2.58511	-4.94851	-2.34851	30.10138	6.05690	206.08	7.59
80/10/24	2444536.5	-26.79276	-13.13093	3.96950	2.58720	-4.94754	-2.34882	30.10033	6.05712	206.11	7.58
80/10/28	2444540.5	-26.78678	-13.14235	3.96407	2.58928	-4.94657	-2.34913	30.09928	6.05733	206.13	7.57
80/11/ 1	2444544.5	-26.78079	-13.15378	3.95865	2.59137	-4.94559	-2.34944	30.09823	6.05755	206.16	7.56
80/11/ 5	2444548.5	-26.77480	-13.16521	3.95322	2.59346	-4.94462	-2.34974	30.09719	6.05777	206.18	7.55
80/11/ 9	2444552.5	-26.76881	-13.17663	3.94779	2.59554	-4.94364	-2.35005	30.09614	6.05799	206.21	7.54
80/11/13	2444556.5	-26.76281	-13.18805	3.94236	2.59764	-4.94267	-2.35036	30.09510	6.05821	206.23	7.53
80/11/17	2444560.5	-26.75681	-13.19946	3.93693	2.59973	-4.94169	-2.35067	30.09405	6.05843	206.26	7.52
80/11/21	2444564.5	-26.75080	-13.21088	3.93150	2.60183	-4.94071	-2.35097	30.09301	6.05864	206.28	7.51
80/11/25	2444568.5	-26.74479	-13.22229	3.92607	2.60392	-4.93972	-2.35128	30.09197	6.05886	206.31	7.50
80/11/29	2444572.5	-26.73877	-13.23370	3.92063	2.60602	-4.93874	-2.35158	30.09093	6.05907	206.33	7.49
80/12/ 3	2444576.5	-26.73275	-13.24511	3.91520	2.60812	-4.93775	-2.35188	30.08989	6.05929	206.36	7.48
80/12/ 7	2444580.5	-26.72672	-13.25652	3.90977	2.61021	-4.93675	-2.35218	30.08885	6.05950	206.38	7.47
80/12/11	2444584.5	-26.72069	-13.26792	3.90433	2.61231	-4.93576	-2.35248	30.08781	6.05971	206.41	7.46
80/12/15	2444588.5	-26.71465	-13.27932	3.89890	2.61441	-4.93476	-2.35278	30.08678	6.05991	206.43	7.45
80/12/19	2444592.5	-26.70861	-13.29072	3.89346	2.61650	-4.93376	-2.35308	30.08574	6.06012	206.46	7.44
80/12/23	2444596.5	-26.70256	-13.30212	3.88803	2.61860	-4.93276	-2.35337	30.08471	6.06032	206.48	7.43
80/12/27	2444600.5	-26.69651	-13.31351	3.88259	2.62069	-4.93176	-2.35367	30.08368	6.06053	206.51	7.42
80/12/31	2444604.5	-26.69045	-13.32490	3.87715	2.62278	-4.93075	-2.35396	30.08264	6.06073	206.53	7.41
81/ 1/ 4	2444608.5	-26.68439	-13.33629	3.87171	2.62488	-4.92974	-2.35426	30.08161	6.06093	206.55	7.39
81/ 1/ 8	2444612.5	-26.67832	-13.34768	3.86627	2.62697	-4.92873	-2.35455	30.08058	6.06113	206.58	7.38
81/ 1/12	2444616.5	-26.67225	-13.35907	3.86083	2.62906	-4.92772	-2.35484	30.07956	6.06132	206.60	7.37
81/ 1/16	2444620.5	-26.66618	-13.37045	3.85539	2.63115	-4.92671	-2.35513	30.07853	6.06152	206.63	7.36
81/ 1/20	2444624.5	-26.66009	-13.38183	3.84995	2.63324	-4.92569	-2.35542	30.07750	6.06171	206.65	7.35
81/ 1/24	2444628.5	-26.65401	-13.39321	3.84451	2.63532	-4.92468	-2.35571	30.07648	6.06191	206.68	7.34
81/ 1/28	2444632.5	-26.64792	-13.40458	3.83907	2.63741	-4.92366	-2.35600	30.07545	6.06210	206.70	7.33
81/ 2/ 1	2444636.5	-26.64182	-13.41596	3.83363	2.63949	-4.92264	-2.35629	30.07443	6.06230	206.73	7.32
81/ 2/ 5	2444640.5	-26.63572	-13.42733	3.82818	2.64158	-4.92162	-2.35658	30.07341	6.06249	206.75	7.31
81/ 2/ 9	2444644.5	-26.62962	-13.43870	3.82274	2.64367	-4.92060	-2.35687	30.07239	6.06268	206.78	7.30
81/ 2/13	2444648.5	-26.62351	-13.45006	3.81729	2.64575	-4.91958	-2.35716	30.07137	6.06288	206.80	7.29
81/ 2/17	2444652.5	-26.61739	-13.46143	3.81185	2.64784	-4.91856	-2.35745	30.07035	6.06307	206.83	7.28
81/ 2/21	2444656.5	-26.61127	-13.47279	3.80640	2.64992	-4.91754	-2.35773	30.06933	6.06326	206.85	7.27
81/ 2/25	2444660.5	-26.60515	-13.48415	3.80095	2.65201	-4.91651	-2.35802	30.06831	6.06345	206.88	7.26
81/ 3/ 1	2444664.5	-26.59902	-13.49550	3.79551	2.65409	-4.91548	-2.35830	30.06730	6.06364	206.90	7.25
81/ 3/ 5	2444668.5	-26.59289	-13.50686	3.79006	2.65617	-4.91445	-2.35859	30.06628	6.06383	206.93	7.24
81/ 3/ 9	2444672.5	-26.58675	-13.51821	3.78461	2.65825	-4.91342	-2.35887	30.06527	6.06401	206.95	7.23
81/ 3/13	2444676.5	-26.58061	-13.52956	3.77916	2.66033	-4.91239	-2.35915	30.06426	6.06420	206.98	7.22
81/ 3/17	2444680.5	-26.57446	-13.54091	3.77371	2.66241	-4.91136	-2.35944	30.06325	6.06439	207.00	7.21
81/ 3/21	2444684.5	-26.56830	-13.55225	3.76826	2.66449	-4.91032	-2.35972	30.06224	6.06457	207.03	7.20
81/ 3/25	2444688.5	-26.56215	-13.56359	3.76280	2.66656	-4.90929	-2.36000	30.06123	6.06476	207.05	7.19
81/ 3/29	2444692.5	-26.55598	-13.57493	3.75735	2.66864	-4.90825	-2.36028	30.06022	6.06494	207.08	7.18
81/ 4/ 2	2444696.5	-26.54982	-13.58627	3.75190	2.67072	-4.90722	-2.36057	30.05921	6.06513	207.10	7.17
81/ 4/ 6	2444700.5	-26.54364	-13.59761	3.74645	2.67279	-4.90618	-2.36085	30.05821	6.06531	207.12	7.16
81/ 4/10	2444704.5	-26.53747	-13.60894	3.74099	2.67486	-4.90515	-2.36113	30.05720	6.06550	207.15	7.15
81/ 4/14	2444708.5	-26.53129	-13.62027	3.73554	2.67694	-4.90411	-2.36141	30.05620	6.06568	207.17	7.14

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
81/ 4/18	2444712.5	-26.52510	-13.63160	3.73008	2.67901	-4.90307	-2.36169	30.05520	6.06587	207.20	7.13
81/ 4/22	2444716.5	-26.51891	-13.64292	3.72462	2.68108	-4.90203	-2.36197	30.05420	6.06606	207.22	7.12
81/ 4/26	2444720.5	-26.51271	-13.65425	3.71917	2.68316	-4.90099	-2.36225	30.05319	6.06624	207.25	7.11
81/ 4/30	2444724.5	-26.50651	-13.66557	3.71371	2.68523	-4.89996	-2.36253	30.05220	6.06643	207.27	7.10
81/ 5/ 4	2444728.5	-26.50030	-13.67689	3.70825	2.68730	-4.89892	-2.36281	30.05120	6.06662	207.30	7.09
81/ 5/ 8	2444732.5	-26.49409	-13.68820	3.70279	2.68938	-4.89788	-2.36310	30.05020	6.06681	207.32	7.08
81/ 5/12	2444736.5	-26.48788	-13.69952	3.69733	2.69146	-4.89684	-2.36338	30.04921	6.06700	207.35	7.07
81/ 5/16	2444740.5	-26.48166	-13.71083	3.69187	2.69354	-4.89580	-2.36366	30.04821	6.06719	207.37	7.06
81/ 5/20	2444744.5	-26.47543	-13.72214	3.68641	2.69562	-4.89475	-2.36394	30.04722	6.06738	207.40	7.05
81/ 5/24	2444748.5	-26.46920	-13.73344	3.68095	2.69770	-4.89371	-2.36421	30.04622	6.06757	207.42	7.04
81/ 5/28	2444752.5	-26.46297	-13.74475	3.67549	2.69978	-4.89266	-2.36449	30.04523	6.06776	207.45	7.03
81/ 6/ 1	2444756.5	-26.45673	-13.75605	3.67003	2.70186	-4.89161	-2.36477	30.04424	6.06795	207.47	7.02
81/ 6/ 5	2444760.5	-26.45049	-13.76735	3.66456	2.70394	-4.89055	-2.36505	30.04325	6.06813	207.50	7.01
81/ 6/ 9	2444764.5	-26.44424	-13.77865	3.65910	2.70602	-4.88950	-2.36532	30.04227	6.06832	207.52	7.00
81/ 6/13	2444768.5	-26.43798	-13.78994	3.65363	2.70810	-4.88844	-2.36559	30.04128	6.06850	207.55	6.99
81/ 6/17	2444772.5	-26.43172	-13.80123	3.64817	2.71018	-4.88738	-2.36587	30.04029	6.06868	207.57	6.98
81/ 6/21	2444776.5	-26.42546	-13.81252	3.64270	2.71226	-4.88632	-2.36614	30.03931	6.06887	207.60	6.97
81/ 6/25	2444780.5	-26.41919	-13.82381	3.63724	2.71434	-4.88526	-2.36641	30.03832	6.06905	207.62	6.95
81/ 6/29	2444784.5	-26.41292	-13.83509	3.63177	2.71642	-4.88420	-2.36668	30.03734	6.06923	207.65	6.94
81/ 7/ 3	2444788.5	-26.40664	-13.84638	3.62630	2.71850	-4.88313	-2.36695	30.03636	6.06940	207.67	6.93
81/ 7/ 7	2444792.5	-26.40036	-13.85766	3.62083	2.72058	-4.88206	-2.36722	30.03538	6.06958	207.70	6.92
81/ 7/11	2444796.5	-26.39407	-13.86893	3.61536	2.72265	-4.88099	-2.36749	30.03440	6.06975	207.72	6.91
81/ 7/15	2444800.5	-26.38778	-13.88021	3.60990	2.72473	-4.87992	-2.36776	30.03342	6.06993	207.74	6.90
81/ 7/19	2444804.5	-26.38148	-13.89148	3.60442	2.72681	-4.87884	-2.36803	30.03244	6.07010	207.77	6.89
81/ 7/23	2444808.5	-26.37518	-13.90275	3.59895	2.72888	-4.87777	-2.36829	30.03147	6.07027	207.79	6.88
81/ 7/27	2444812.5	-26.36887	-13.91402	3.59348	2.73095	-4.87669	-2.36856	30.03049	6.07044	207.82	6.87
81/ 7/31	2444816.5	-26.36256	-13.92528	3.58801	2.73303	-4.87562	-2.36882	30.02952	6.07062	207.84	6.86
81/ 8/ 4	2444820.5	-26.35625	-13.93654	3.58254	2.73510	-4.87454	-2.36909	30.02855	6.07079	207.87	6.85
81/ 8/ 8	2444824.5	-26.34993	-13.94780	3.57706	2.73717	-4.87345	-2.36935	30.02757	6.07096	207.89	6.84
81/ 8/12	2444828.5	-26.34360	-13.95906	3.57159	2.73925	-4.87237	-2.36962	30.02660	6.07112	207.92	6.83
81/ 8/16	2444832.5	-26.33727	-13.97032	3.56612	2.74132	-4.87128	-2.36988	30.02563	6.07129	207.94	6.82
81/ 8/20	2444836.5	-26.33093	-13.98157	3.56064	2.74339	-4.87020	-2.37014	30.02466	6.07145	207.97	6.81
81/ 8/24	2444840.5	-26.32459	-13.99282	3.55517	2.74546	-4.86910	-2.37040	30.02370	6.07162	207.99	6.80
81/ 8/28	2444844.5	-26.31825	-14.00406	3.54969	2.74753	-4.86801	-2.37066	30.02273	6.07178	208.02	6.79
81/ 9/ 1	2444848.5	-26.31190	-14.01531	3.54421	2.74959	-4.86692	-2.37092	30.02176	6.07193	208.04	6.78
81/ 9/ 5	2444852.5	-26.30554	-14.02655	3.53873	2.75166	-4.86582	-2.37117	30.02080	6.07209	208.07	6.77
81/ 9/ 9	2444856.5	-26.29919	-14.03779	3.53326	2.75372	-4.86472	-2.37143	30.01984	6.07225	208.09	6.76
81/ 9/13	2444860.5	-26.29282	-14.04903	3.52778	2.75578	-4.86363	-2.37169	30.01888	6.07240	208.12	6.75
81/ 9/17	2444864.5	-26.28645	-14.06026	3.52230	2.75784	-4.86253	-2.37194	30.01791	6.07256	208.14	6.74
81/ 9/21	2444868.5	-26.28008	-14.07149	3.51682	2.75989	-4.86143	-2.37220	30.01695	6.07271	208.17	6.73
81/ 9/25	2444872.5	-26.27370	-14.08272	3.51134	2.76195	-4.86033	-2.37245	30.01600	6.07286	208.19	6.72
81/ 9/29	2444876.5	-26.26732	-14.09395	3.50586	2.76400	-4.85923	-2.37271	30.01504	6.07302	208.22	6.71
81/10/ 3	2444880.5	-26.26093	-14.10518	3.50038	2.76605	-4.85813	-2.37296	30.01408	6.07317	208.24	6.70
81/10/ 7	2444884.5	-26.25454	-14.11640	3.49489	2.76810	-4.85703	-2.37322	30.01313	6.07332	208.27	6.69
81/10/11	2444888.5	-26.24814	-14.12762	3.48941	2.77015	-4.85593	-2.37347	30.01217	6.07348	208.29	6.68

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
81/10/15	2444892.5	-26.24174	-14.13883	3.48393	2.77219	-4.85483	-2.37373	30.01122	6.07363	208.32	6.67
81/10/19	2444896.5	-26.23533	-14.15005	3.47844	2.77424	-4.85373	-2.37398	30.01027	6.07378	208.34	6.66
81/10/23	2444900.5	-26.22892	-14.16126	3.47296	2.77628	-4.85263	-2.37424	30.00932	6.07394	208.37	6.65
81/10/27	2444904.5	-26.22251	-14.17247	3.46747	2.77833	-4.85153	-2.37450	30.00837	6.07410	208.39	6.64
81/10/31	2444908.5	-26.21608	-14.18368	3.46199	2.78037	-4.85043	-2.37475	30.00742	6.07426	208.41	6.63
81/11/ 4	2444912.5	-26.20966	-14.19488	3.45650	2.78242	-4.84933	-2.37501	30.00647	6.07442	208.44	6.61
81/11/ 8	2444916.5	-26.20323	-14.20608	3.45101	2.78447	-4.84824	-2.37527	30.00552	6.07458	208.46	6.60
81/11/12	2444920.5	-26.19679	-14.21728	3.44553	2.78652	-4.84714	-2.37552	30.00458	6.07474	208.49	6.59
81/11/16	2444924.5	-26.19035	-14.22848	3.44004	2.78856	-4.84604	-2.37578	30.00363	6.07491	208.51	6.58
81/11/20	2444928.5	-26.18391	-14.23967	3.43455	2.79061	-4.84493	-2.37603	30.00269	6.07507	208.54	6.57
81/11/24	2444932.5	-26.17746	-14.25086	3.42906	2.79266	-4.84383	-2.37629	30.00175	6.07523	208.56	6.56
81/11/28	2444936.5	-26.17101	-14.26205	3.42357	2.79471	-4.84273	-2.37654	30.00081	6.07539	208.59	6.55
81/12/ 2	2444940.5	-26.16455	-14.27324	3.41808	2.79676	-4.84163	-2.37680	29.99987	6.07556	208.61	6.54
81/12/ 6	2444944.5	-26.15808	-14.28442	3.41259	2.79880	-4.84053	-2.37705	29.99893	6.07572	208.64	6.53
81/12/10	2444948.5	-26.15162	-14.29560	3.40710	2.80085	-4.83942	-2.37731	29.99799	6.07588	208.66	6.52
81/12/14	2444952.5	-26.14514	-14.30678	3.40160	2.80290	-4.83832	-2.37756	29.99706	6.07605	208.69	6.51
81/12/18	2444956.5	-26.13867	-14.31796	3.39611	2.80495	-4.83721	-2.37781	29.99612	6.07622	208.71	6.50
81/12/22	2444960.5	-26.13218	-14.32913	3.39062	2.80700	-4.83611	-2.37807	29.99519	6.07638	208.74	6.49
81/12/26	2444964.5	-26.12570	-14.34030	3.38512	2.80905	-4.83500	-2.37832	29.99425	6.07655	208.76	6.48
81/12/30	2444968.5	-26.11920	-14.35147	3.37963	2.81110	-4.83390	-2.37857	29.99332	6.07671	208.79	6.47
82/ 1/ 3	2444972.5	-26.11271	-14.36264	3.37413	2.81316	-4.83279	-2.37883	29.99239	6.07688	208.81	6.46
82/ 1/ 7	2444976.5	-26.10621	-14.37380	3.36864	2.81521	-4.83168	-2.37908	29.99146	6.07705	208.84	6.45
82/ 1/11	2444980.5	-26.09970	-14.38496	3.36314	2.81726	-4.83057	-2.37933	29.99053	6.07722	208.86	6.44
82/ 1/15	2444984.5	-26.09319	-14.39612	3.35764	2.81932	-4.82946	-2.37958	29.98961	6.07739	208.89	6.43
82/ 1/19	2444988.5	-26.08667	-14.40727	3.35215	2.82137	-4.82834	-2.37983	29.98868	6.07755	208.91	6.42
82/ 1/23	2444992.5	-26.08015	-14.41843	3.34665	2.82343	-4.82723	-2.38008	29.98776	6.07772	208.94	6.41
82/ 1/27	2444996.5	-26.07363	-14.42958	3.34115	2.82549	-4.82612	-2.38034	29.98683	6.07789	208.96	6.40
82/ 1/31	2445000.5	-26.06710	-14.44072	3.33565	2.82755	-4.82500	-2.38058	29.98591	6.07806	208.99	6.39
82/ 2/ 4	2445004.5	-26.06057	-14.45187	3.33015	2.82962	-4.82388	-2.38083	29.98499	6.07823	209.01	6.38
82/ 2/ 8	2445008.5	-26.05403	-14.46301	3.32465	2.83168	-4.82276	-2.38108	29.98407	6.07840	209.04	6.37
82/ 2/12	2445012.5	-26.04748	-14.47415	3.31915	2.83375	-4.82163	-2.38133	29.98315	6.07856	209.06	6.36
82/ 2/16	2445016.5	-26.04093	-14.48529	3.31365	2.83581	-4.82050	-2.38157	29.98223	6.07873	209.09	6.35
82/ 2/20	2445020.5	-26.03438	-14.49643	3.30815	2.83787	-4.81937	-2.38181	29.98131	6.07889	209.11	6.33
82/ 2/24	2445024.5	-26.02782	-14.50756	3.30264	2.83994	-4.81823	-2.38206	29.98040	6.07905	209.13	6.32
82/ 2/28	2445028.5	-26.02126	-14.51869	3.29714	2.84200	-4.81709	-2.38230	29.97948	6.07920	209.16	6.31
82/ 3/ 4	2445032.5	-26.01469	-14.52981	3.29164	2.84406	-4.81595	-2.38253	29.97857	6.07936	209.18	6.30
82/ 3/ 8	2445036.5	-26.00812	-14.54094	3.28613	2.84613	-4.81481	-2.38277	29.97765	6.07951	209.21	6.29
82/ 3/12	2445040.5	-26.00154	-14.55206	3.28063	2.84819	-4.81366	-2.38301	29.97674	6.07966	209.23	6.28
82/ 3/16	2445044.5	-25.99496	-14.56318	3.27512	2.85025	-4.81251	-2.38325	29.97583	6.07981	209.26	6.27
82/ 3/20	2445048.5	-25.98837	-14.57430	3.26962	2.85230	-4.81136	-2.38348	29.97492	6.07995	209.28	6.26
82/ 3/24	2445052.5	-25.98178	-14.58541	3.26411	2.85436	-4.81021	-2.38371	29.97401	6.08010	209.31	6.25
82/ 3/28	2445056.5	-25.97518	-14.59652	3.25860	2.85642	-4.80905	-2.38395	29.97310	6.08024	209.33	6.24
82/ 4/ 1	2445060.5	-25.96858	-14.60763	3.25309	2.85847	-4.80789	-2.38418	29.97220	6.08038	209.36	6.23
82/ 4/ 5	2445064.5	-25.96198	-14.61873	3.24759	2.86052	-4.80673	-2.38441	29.97129	6.08052	209.38	6.22
82/ 4/ 9	2445068.5	-25.95536	-14.62984	3.24208	2.86257	-4.80557	-2.38464	29.97039	6.08065	209.41	6.21

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
82/ 4/13	2445072.5	-25.94875	-14.64094	3.23657	2.86462	-4.80441	-2.38487	29.96949	6.08079	209.43	6.20
82/ 4/17	2445076.5	-25.94213	-14.65204	3.23106	2.86666	-4.80325	-2.38510	29.96858	6.08092	209.46	6.19
82/ 4/21	2445080.5	-25.93550	-14.66313	3.22555	2.86871	-4.80208	-2.38532	29.96768	6.08106	209.48	6.18
82/ 4/25	2445084.5	-25.92887	-14.67422	3.22004	2.87076	-4.80092	-2.38555	29.96678	6.08119	209.51	6.17
82/ 4/29	2445088.5	-25.92224	-14.68531	3.21453	2.87280	-4.79975	-2.38578	29.96588	6.08133	209.53	6.16
82/ 5/ 3	2445092.5	-25.91560	-14.69640	3.20901	2.87484	-4.79858	-2.38601	29.96498	6.08146	209.56	6.15
82/ 5/ 7	2445096.5	-25.90896	-14.70748	3.20350	2.87689	-4.79741	-2.38623	29.96409	6.08159	209.58	6.14
82/ 5/11	2445100.5	-25.90231	-14.71857	3.19799	2.87893	-4.79624	-2.38646	29.96319	6.08172	209.61	6.13
82/ 5/15	2445104.5	-25.89566	-14.72964	3.19248	2.88096	-4.79506	-2.38668	29.96230	6.08184	209.63	6.12
82/ 5/19	2445108.5	-25.88900	-14.74072	3.18696	2.88300	-4.79388	-2.38690	29.96140	6.08197	209.66	6.11
82/ 5/23	2445112.5	-25.88234	-14.75179	3.18145	2.88503	-4.79271	-2.38713	29.96051	6.08209	209.68	6.10
82/ 5/27	2445116.5	-25.87567	-14.76286	3.17593	2.88707	-4.79153	-2.38735	29.95962	6.08221	209.71	6.09
82/ 5/31	2445120.5	-25.86900	-14.77393	3.17042	2.88910	-4.79035	-2.38757	29.95873	6.08234	209.73	6.07
82/ 6/ 4	2445124.5	-25.86232	-14.78500	3.16490	2.89113	-4.78917	-2.38779	29.95784	6.08246	209.76	6.06
82/ 6/ 8	2445128.5	-25.85564	-14.79606	3.15938	2.89315	-4.78799	-2.38801	29.95695	6.08258	209.78	6.05
82/ 6/12	2445132.5	-25.84895	-14.80712	3.15387	2.89518	-4.78681	-2.38823	29.95607	6.08270	209.81	6.04
82/ 6/16	2445136.5	-25.84226	-14.81818	3.14835	2.89720	-4.78563	-2.38845	29.95518	6.08282	209.83	6.03
82/ 6/20	2445140.5	-25.83557	-14.82923	3.14283	2.89922	-4.78445	-2.38868	29.95430	6.08294	209.86	6.02
82/ 6/24	2445144.5	-25.82887	-14.84028	3.13731	2.90124	-4.78327	-2.38890	29.95341	6.08306	209.88	6.01
82/ 6/28	2445148.5	-25.82216	-14.85133	3.13179	2.90326	-4.78208	-2.38912	29.95253	6.08319	209.90	6.00
82/ 7/ 2	2445152.5	-25.81545	-14.86238	3.12628	2.90528	-4.78090	-2.38934	29.95165	6.08331	209.93	5.99
82/ 7/ 6	2445156.5	-25.80874	-14.87342	3.12076	2.90730	-4.77972	-2.38956	29.95077	6.08343	209.95	5.98
82/ 7/10	2445160.5	-25.80202	-14.88446	3.11523	2.90932	-4.77854	-2.38978	29.94989	6.08355	209.98	5.97
82/ 7/14	2445164.5	-25.79530	-14.89550	3.10971	2.91133	-4.77736	-2.39000	29.94901	6.08368	210.00	5.96
82/ 7/18	2445168.5	-25.78857	-14.90653	3.10419	2.91335	-4.77618	-2.39022	29.94814	6.08381	210.03	5.95
82/ 7/22	2445172.5	-25.78184	-14.91757	3.09867	2.91537	-4.77500	-2.39045	29.94726	6.08393	210.05	5.94
82/ 7/26	2445176.5	-25.77510	-14.92860	3.09315	2.91739	-4.77382	-2.39067	29.94639	6.08406	210.08	5.93
82/ 7/30	2445180.5	-25.76836	-14.93962	3.08762	2.91941	-4.77264	-2.39089	29.94552	6.08419	210.10	5.92
82/ 8/ 3	2445184.5	-25.76161	-14.95065	3.08210	2.92143	-4.77146	-2.39111	29.94464	6.08432	210.13	5.91
82/ 8/ 7	2445188.5	-25.75486	-14.96167	3.07658	2.92345	-4.77028	-2.39133	29.94377	6.08445	210.15	5.90
82/ 8/11	2445192.5	-25.74810	-14.97269	3.07105	2.92547	-4.76909	-2.39155	29.94290	6.08458	210.18	5.89
82/ 8/15	2445196.5	-25.74134	-14.98370	3.06553	2.92749	-4.76791	-2.39177	29.94204	6.08471	210.20	5.88
82/ 8/19	2445200.5	-25.73458	-14.99472	3.06000	2.92951	-4.76672	-2.39199	29.94117	6.08484	210.23	5.87
82/ 8/23	2445204.5	-25.72781	-15.00573	3.05447	2.93153	-4.76553	-2.39221	29.94030	6.08496	210.25	5.86
82/ 8/27	2445208.5	-25.72103	-15.01674	3.04895	2.93355	-4.76434	-2.39243	29.93944	6.08509	210.28	5.84
82/ 8/31	2445212.5	-25.71425	-15.02774	3.04342	2.93557	-4.76315	-2.39264	29.93857	6.08522	210.30	5.83
82/ 9/ 4	2445216.5	-25.70747	-15.03874	3.03789	2.93759	-4.76195	-2.39286	29.93771	6.08535	210.33	5.82
82/ 9/ 8	2445220.5	-25.70068	-15.04974	3.03236	2.93961	-4.76076	-2.39308	29.93685	6.08547	210.35	5.81
82/ 9/12	2445224.5	-25.69389	-15.06074	3.02684	2.94163	-4.75957	-2.39329	29.93599	6.08560	210.38	5.80
82/ 9/16	2445228.5	-25.68709	-15.07173	3.02131	2.94365	-4.75837	-2.39351	29.93513	6.08572	210.40	5.79
82/ 9/20	2445232.5	-25.68029	-15.08273	3.01578	2.94567	-4.75717	-2.39372	29.93427	6.08585	210.43	5.78
82/ 9/24	2445236.5	-25.67348	-15.09371	3.01025	2.94769	-4.75597	-2.39394	29.93341	6.08597	210.45	5.77
82/ 9/28	2445240.5	-25.66667	-15.10470	3.00472	2.94971	-4.75477	-2.39415	29.93256	6.08609	210.48	5.76
82/10/ 2	2445244.5	-25.65985	-15.11568	2.99919	2.95172	-4.75357	-2.39436	29.93170	6.08622	210.50	5.75
82/10/ 6	2445248.5	-25.65303	-15.12666	2.99365	2.95374	-4.75236	-2.39457	29.93085	6.08634	210.53	5.74

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
82/10/10	2445252.5	-25.64620	-15.13764	2.98812	2.95576	-4.75116	-2.39479	29.93000	6.08646	210.55	5.73
82/10/14	2445256.5	-25.63937	-15.14861	2.98259	2.95777	-4.74995	-2.39500	29.92914	6.08658	210.58	5.72
82/10/18	2445260.5	-25.63254	-15.15959	2.97706	2.95979	-4.74875	-2.39521	29.92829	6.08671	210.60	5.71
82/10/22	2445264.5	-25.62570	-15.17056	2.97152	2.96181	-4.74754	-2.39542	29.92745	6.08683	210.63	5.70
82/10/26	2445268.5	-25.61885	-15.18152	2.96599	2.96383	-4.74633	-2.39563	29.92660	6.08695	210.65	5.69
82/10/30	2445272.5	-25.61200	-15.19249	2.96045	2.96584	-4.74511	-2.39584	29.92575	6.08707	210.68	5.68
82/11/ 3	2445276.5	-25.60515	-15.20345	2.95492	2.96786	-4.74390	-2.39604	29.92490	6.08718	210.70	5.67
82/11/ 7	2445280.5	-25.59829	-15.21440	2.94938	2.96988	-4.74268	-2.39625	29.92406	6.08730	210.73	5.66
82/11/11	2445284.5	-25.59143	-15.22536	2.94385	2.97189	-4.74146	-2.39645	29.92322	6.08741	210.75	5.65
82/11/15	2445288.5	-25.58456	-15.23631	2.93831	2.97390	-4.74024	-2.39666	29.92237	6.08752	210.77	5.64
82/11/19	2445292.5	-25.57769	-15.24726	2.93277	2.97591	-4.73901	-2.39686	29.92153	6.08763	210.80	5.62
82/11/23	2445296.5	-25.57081	-15.25821	2.92724	2.97792	-4.73779	-2.39706	29.92069	6.08774	210.82	5.61
82/11/27	2445300.5	-25.56393	-15.26915	2.92170	2.97993	-4.73656	-2.39727	29.91985	6.08785	210.85	5.60
82/12/ 1	2445304.5	-25.55704	-15.28009	2.91616	2.98194	-4.73533	-2.39747	29.91902	6.08795	210.87	5.59
82/12/ 5	2445308.5	-25.55015	-15.29103	2.91062	2.98394	-4.73411	-2.39767	29.91818	6.08806	210.90	5.58
82/12/ 9	2445312.5	-25.54325	-15.30196	2.90508	2.98595	-4.73288	-2.39787	29.91734	6.08817	210.92	5.57
82/12/13	2445316.5	-25.53635	-15.31290	2.89954	2.98795	-4.73165	-2.39807	29.91651	6.08827	210.95	5.56
82/12/17	2445320.5	-25.52945	-15.32383	2.89400	2.98995	-4.73042	-2.39827	29.91567	6.08837	210.97	5.55
82/12/21	2445324.5	-25.52254	-15.33475	2.88846	2.99194	-4.72918	-2.39847	29.91484	6.08848	211.00	5.54
82/12/25	2445328.5	-25.51562	-15.34568	2.88292	2.99394	-4.72795	-2.39866	29.91401	6.08858	211.02	5.53
82/12/29	2445332.5	-25.50871	-15.35660	2.87738	2.99594	-4.72672	-2.39886	29.91318	6.08868	211.05	5.52
83/ 1/ 2	2445336.5	-25.50178	-15.36752	2.87184	2.99793	-4.72549	-2.39906	29.91235	6.08879	211.07	5.51
83/ 1/ 6	2445340.5	-25.49485	-15.37843	2.86629	2.99992	-4.72426	-2.39926	29.91153	6.08889	211.10	5.50
83/ 1/10	2445344.5	-25.48792	-15.38934	2.86075	3.00192	-4.72303	-2.39946	29.91070	6.08900	211.12	5.49
83/ 1/14	2445348.5	-25.48098	-15.40025	2.85521	3.00391	-4.72180	-2.39966	29.90987	6.08911	211.15	5.48
83/ 1/18	2445352.5	-25.47404	-15.41116	2.84966	3.00590	-4.72057	-2.39986	29.90905	6.08921	211.17	5.47
83/ 1/22	2445356.5	-25.46710	-15.42206	2.84412	3.00790	-4.71933	-2.40006	29.90823	6.08932	211.20	5.46
83/ 1/26	2445360.5	-25.46014	-15.43297	2.83858	3.00989	-4.71810	-2.40026	29.90740	6.08943	211.22	5.45
83/ 1/30	2445364.5	-25.45319	-15.44386	2.83303	3.01189	-4.71686	-2.40045	29.90658	6.08953	211.25	5.44
83/ 2/ 3	2445368.5	-25.44623	-15.45476	2.82748	3.01388	-4.71563	-2.40065	29.90576	6.08964	211.27	5.43
83/ 2/ 7	2445372.5	-25.43926	-15.46565	2.82194	3.01587	-4.71439	-2.40085	29.90495	6.08975	211.30	5.41
83/ 2/11	2445376.5	-25.43229	-15.47654	2.81639	3.01787	-4.71315	-2.40104	29.90413	6.08985	211.32	5.40
83/ 2/15	2445380.5	-25.42532	-15.48743	2.81084	3.01986	-4.71191	-2.40124	29.90331	6.08996	211.35	5.39
83/ 2/19	2445384.5	-25.41834	-15.49831	2.80530	3.02185	-4.71067	-2.40143	29.90250	6.09007	211.37	5.38
83/ 2/23	2445388.5	-25.41136	-15.50919	2.79975	3.02384	-4.70943	-2.40163	29.90168	6.09017	211.40	5.37
83/ 2/27	2445392.5	-25.40437	-15.52007	2.79420	3.02583	-4.70819	-2.40182	29.90087	6.09028	211.42	5.36
83/ 3/ 3	2445396.5	-25.39738	-15.53095	2.78865	3.02782	-4.70695	-2.40202	29.90006	6.09038	211.45	5.35
83/ 3/ 7	2445400.5	-25.39038	-15.54182	2.78310	3.02981	-4.70571	-2.40221	29.89925	6.09049	211.47	5.34
83/ 3/11	2445404.5	-25.38338	-15.55269	2.77755	3.03180	-4.70446	-2.40241	29.89844	6.09060	211.50	5.33
83/ 3/15	2445408.5	-25.37637	-15.56355	2.77200	3.03379	-4.70322	-2.40260	29.89763	6.09070	211.52	5.32
83/ 3/19	2445412.5	-25.36936	-15.57442	2.76645	3.03578	-4.70197	-2.40279	29.89683	6.09081	211.55	5.31
83/ 3/23	2445416.5	-25.36235	-15.58528	2.76090	3.03778	-4.70073	-2.40299	29.89602	6.09092	211.57	5.30
83/ 3/27	2445420.5	-25.35533	-15.59614	2.75535	3.03977	-4.69948	-2.40318	29.89522	6.09102	211.60	5.29
83/ 3/31	2445424.5	-25.34830	-15.60699	2.74980	3.04176	-4.69823	-2.40337	29.89441	6.09113	211.62	5.28
83/ 4/ 4	2445428.5	-25.34127	-15.61785	2.74424	3.04375	-4.69699	-2.40356	29.89361	6.09124	211.65	5.27

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
83/ 4/ 8	2445432.5	-25.33424	-15.62869	2.73869	3.04574	-4.69574	-2.40375	29.89281	6.09135	211.67	5.26
83/ 4/12	2445436.5	-25.32720	-15.63954	2.73314	3.04773	-4.69449	-2.40395	29.89201	6.09146	211.70	5.25
83/ 4/16	2445440.5	-25.32016	-15.65038	2.72758	3.04973	-4.69323	-2.40414	29.89121	6.09157	211.72	5.24
83/ 4/20	2445444.5	-25.31311	-15.66123	2.72203	3.05173	-4.69198	-2.40433	29.89041	6.09167	211.75	5.22
83/ 4/24	2445448.5	-25.30606	-15.67206	2.71648	3.05372	-4.69072	-2.40452	29.88962	6.09178	211.77	5.21
83/ 4/28	2445452.5	-25.29900	-15.68290	2.71092	3.05572	-4.68946	-2.40470	29.88882	6.09188	211.79	5.20
83/ 5/ 2	2445456.5	-25.29194	-15.69373	2.70537	3.05772	-4.68819	-2.40489	29.88803	6.09198	211.82	5.19
83/ 5/ 6	2445460.5	-25.28487	-15.70456	2.69981	3.05971	-4.68693	-2.40507	29.88724	6.09208	211.84	5.18
83/ 5/10	2445464.5	-25.27780	-15.71539	2.69425	3.06171	-4.68566	-2.40526	29.88644	6.09218	211.87	5.17
83/ 5/14	2445468.5	-25.27073	-15.72621	2.68870	3.06370	-4.68438	-2.40544	29.88565	6.09228	211.89	5.16
83/ 5/18	2445472.5	-25.26365	-15.73703	2.68314	3.06569	-4.68311	-2.40562	29.88486	6.09237	211.92	5.15
83/ 5/22	2445476.5	-25.25656	-15.74785	2.67758	3.06768	-4.68183	-2.40580	29.88408	6.09246	211.94	5.14
83/ 5/26	2445480.5	-25.24947	-15.75866	2.67202	3.06967	-4.68055	-2.40598	29.88329	6.09255	211.97	5.13
83/ 5/30	2445484.5	-25.24238	-15.76947	2.66646	3.07166	-4.67927	-2.40616	29.88250	6.09264	211.99	5.12
83/ 6/ 3	2445488.5	-25.23528	-15.78028	2.66091	3.07365	-4.67799	-2.40633	29.88172	6.09273	212.02	5.11
83/ 6/ 7	2445492.5	-25.22818	-15.79109	2.65535	3.07563	-4.67670	-2.40651	29.88093	6.09281	212.04	5.10
83/ 6/11	2445496.5	-25.22107	-15.80189	2.64979	3.07761	-4.67542	-2.40668	29.88015	6.09289	212.07	5.09
83/ 6/15	2445500.5	-25.21396	-15.81269	2.64423	3.07959	-4.67413	-2.40686	29.87937	6.09297	212.09	5.08
83/ 6/19	2445504.5	-25.20684	-15.82348	2.63867	3.08157	-4.67284	-2.40703	29.87859	6.09305	212.12	5.07
83/ 6/23	2445508.5	-25.19972	-15.83428	2.63311	3.08355	-4.67155	-2.40720	29.87781	6.09313	212.14	5.06
83/ 6/27	2445512.5	-25.19259	-15.84507	2.62754	3.08552	-4.67025	-2.40738	29.87703	6.09321	212.17	5.05
83/ 7/ 1	2445516.5	-25.18546	-15.85586	2.62198	3.08749	-4.66896	-2.40755	29.87625	6.09328	212.19	5.03
83/ 7/ 5	2445520.5	-25.17833	-15.86664	2.61642	3.08947	-4.66767	-2.40772	29.87548	6.09336	212.22	5.02
83/ 7/ 9	2445524.5	-25.17119	-15.87742	2.61086	3.09144	-4.66637	-2.40789	29.87470	6.09343	212.24	5.01
83/ 7/13	2445528.5	-25.16404	-15.88820	2.60530	3.09341	-4.66508	-2.40806	29.87393	6.09351	212.27	5.00
83/ 7/17	2445532.5	-25.15690	-15.89898	2.59973	3.09537	-4.66378	-2.40823	29.87316	6.09358	212.29	4.99
83/ 7/21	2445536.5	-25.14974	-15.90975	2.59417	3.09734	-4.66248	-2.40840	29.87239	6.09365	212.32	4.98
83/ 7/25	2445540.5	-25.14259	-15.92052	2.58860	3.09930	-4.66118	-2.40857	29.87161	6.09372	212.34	4.97
83/ 7/29	2445544.5	-25.13542	-15.93129	2.58304	3.10127	-4.65987	-2.40874	29.87085	6.09379	212.37	4.96
83/ 8/ 2	2445548.5	-25.12826	-15.94205	2.57748	3.10322	-4.65857	-2.40891	29.87008	6.09386	212.39	4.95
83/ 8/ 6	2445552.5	-25.12108	-15.95281	2.57191	3.10518	-4.65726	-2.40907	29.86931	6.09392	212.42	4.94
83/ 8/10	2445556.5	-25.11391	-15.96357	2.56634	3.10714	-4.65596	-2.40924	29.86855	6.09399	212.44	4.93
83/ 8/14	2445560.5	-25.10673	-15.97432	2.56078	3.10909	-4.65465	-2.40941	29.86778	6.09405	212.47	4.92
83/ 8/18	2445564.5	-25.09954	-15.98507	2.55521	3.11104	-4.65335	-2.40957	29.86702	6.09412	212.49	4.91
83/ 8/22	2445568.5	-25.09235	-15.99582	2.54965	3.11299	-4.65204	-2.40974	29.86626	6.09418	212.52	4.90
83/ 8/26	2445572.5	-25.08516	-16.00657	2.54408	3.11493	-4.65074	-2.40990	29.86550	6.09424	212.54	4.89
83/ 8/30	2445576.5	-25.07796	-16.01731	2.53851	3.11688	-4.64943	-2.41007	29.86474	6.09431	212.57	4.88
83/ 9/ 3	2445580.5	-25.07076	-16.02805	2.53294	3.11882	-4.64813	-2.41023	29.86398	6.09437	212.59	4.87
83/ 9/ 7	2445584.5	-25.06355	-16.03879	2.52737	3.12076	-4.64682	-2.41040	29.86322	6.09444	212.62	4.85
83/ 9/11	2445588.5	-25.05634	-16.04952	2.52181	3.12270	-4.64552	-2.41057	29.86246	6.09450	212.64	4.84
83/ 9/15	2445592.5	-25.04912	-16.06025	2.51624	3.12464	-4.64422	-2.41073	29.86171	6.09457	212.67	4.83
83/ 9/19	2445596.5	-25.04190	-16.07098	2.51067	3.12658	-4.64291	-2.41090	29.86096	6.09463	212.69	4.82
83/ 9/23	2445600.5	-25.03468	-16.08170	2.50510	3.12851	-4.64161	-2.41107	29.86020	6.09470	212.72	4.81
83/ 9/27	2445604.5	-25.02745	-16.09242	2.49953	3.13045	-4.64031	-2.41123	29.85945	6.09477	212.74	4.80
83/10/ 1	2445608.5	-25.02022	-16.10314	2.49396	3.13239	-4.63901	-2.41140	29.85870	6.09485	212.77	4.79

1.9 1 A.U.=149,599,000 KM.

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83/10/ 5	2445612.5	-25.01298	-16.11386	2.48839	3.13433	-4.63771	-2.41157	29.85795	6.09492	212.79	4.78
83/10/ 9	2445616.5	-25.00573	-16.12457	2.48281	3.13626	-4.63642	-2.41174	29.85721	6.09500	212.82	4.77
83/10/13	2445620.5	-24.99849	-16.13528	2.47724	3.13820	-4.63512	-2.41191	29.85646	6.09508	212.84	4.76
83/10/17	2445624.5	-24.99123	-16.14599	2.47167	3.14015	-4.63382	-2.41208	29.85572	6.09515	212.87	4.75
83/10/21	2445628.5	-24.98398	-16.15669	2.46610	3.14209	-4.63251	-2.41225	29.85497	6.09523	212.89	4.74
83/10/25	2445632.5	-24.97672	-16.16739	2.46053	3.14403	-4.63121	-2.41241	29.85423	6.09531	212.91	4.73
83/10/29	2445636.5	-24.96945	-16.17809	2.45495	3.14597	-4.62991	-2.41258	29.85349	6.09538	212.94	4.72
83/11/ 2	2445640.5	-24.96218	-16.18878	2.44938	3.14791	-4.62861	-2.41275	29.85275	6.09546	212.96	4.71
83/11/ 6	2445644.5	-24.95491	-16.19947	2.44380	3.14985	-4.62730	-2.41291	29.85201	6.09554	212.99	4.70
83/11/10	2445648.5	-24.94763	-16.21016	2.43823	3.15179	-4.62600	-2.41308	29.85127	6.09562	213.01	4.69
83/11/14	2445652.5	-24.94034	-16.22085	2.43266	3.15373	-4.62469	-2.41325	29.85053	6.09570	213.04	4.67
83/11/18	2445656.5	-24.93306	-16.23153	2.42708	3.15567	-4.62338	-2.41341	29.84980	6.09578	213.06	4.66
83/11/22	2445660.5	-24.92576	-16.24221	2.42150	3.15762	-4.62208	-2.41358	29.84907	6.09586	213.09	4.65
83/11/26	2445664.5	-24.91847	-16.25288	2.41593	3.15956	-4.62077	-2.41374	29.84833	6.09594	213.11	4.64
83/11/30	2445668.5	-24.91117	-16.26356	2.41035	3.16150	-4.61946	-2.41391	29.84760	6.09602	213.14	4.63
83/12/ 4	2445672.5	-24.90386	-16.27423	2.40478	3.16345	-4.61814	-2.41407	29.84687	6.09609	213.16	4.62
83/12/ 8	2445676.5	-24.89655	-16.28490	2.39920	3.16539	-4.61683	-2.41423	29.84614	6.09617	213.19	4.61
83/12/12	2445680.5	-24.88923	-16.29556	2.39362	3.16733	-4.61552	-2.41439	29.84541	6.09625	213.21	4.60
83/12/16	2445684.5	-24.88191	-16.30622	2.38804	3.16927	-4.61420	-2.41455	29.84469	6.09633	213.24	4.59
83/12/20	2445688.5	-24.87459	-16.31688	2.38246	3.17122	-4.61288	-2.41472	29.84396	6.09641	213.26	4.58
83/12/24	2445692.5	-24.86726	-16.32753	2.37689	3.17316	-4.61157	-2.41488	29.84324	6.09648	213.29	4.57
83/12/28	2445696.5	-24.85993	-16.33819	2.37131	3.17510	-4.61025	-2.41504	29.84251	6.09656	213.31	4.56
84/ 1/ 1	2445700.5	-24.85259	-16.34883	2.36573	3.17705	-4.60893	-2.41520	29.84179	6.09664	213.34	4.55
84/ 1/ 5	2445704.5	-24.84525	-16.35948	2.36015	3.17899	-4.60760	-2.41536	29.84107	6.09672	213.36	4.54
84/ 1/ 9	2445708.5	-24.83790	-16.37012	2.35457	3.18094	-4.60628	-2.41551	29.84035	6.09679	213.39	4.53
84/ 1/13	2445712.5	-24.83055	-16.38076	2.34899	3.18289	-4.60495	-2.41567	29.83963	6.09687	213.41	4.52
84/ 1/17	2445716.5	-24.82320	-16.39140	2.34341	3.18483	-4.60362	-2.41583	29.83891	6.09694	213.44	4.50
84/ 1/21	2445720.5	-24.81584	-16.40203	2.33783	3.18677	-4.60228	-2.41598	29.83820	6.09701	213.46	4.49
84/ 1/25	2445724.5	-24.80847	-16.41266	2.33224	3.18872	-4.60095	-2.41613	29.83748	6.09707	213.49	4.48
84/ 1/29	2445728.5	-24.80111	-16.42329	2.32666	3.19066	-4.59961	-2.41628	29.83677	6.09714	213.51	4.47
84/ 2/ 2	2445732.5	-24.79373	-16.43392	2.32108	3.19260	-4.59827	-2.41643	29.83605	6.09720	213.54	4.46
84/ 2/ 6	2445736.5	-24.78635	-16.44454	2.31550	3.19454	-4.59692	-2.41658	29.83534	6.09726	213.56	4.45
84/ 2/10	2445740.5	-24.77897	-16.45516	2.30991	3.19647	-4.59558	-2.41673	29.83463	6.09732	213.59	4.44
84/ 2/14	2445744.5	-24.77159	-16.46577	2.30433	3.19841	-4.59423	-2.41688	29.83392	6.09738	213.61	4.43
84/ 2/18	2445748.5	-24.76419	-16.47638	2.29875	3.20034	-4.59288	-2.41702	29.83322	6.09744	213.64	4.42
84/ 2/22	2445752.5	-24.75680	-16.48699	2.29316	3.20227	-4.59153	-2.41717	29.83251	6.09749	213.66	4.41
84/ 2/26	2445756.5	-24.74940	-16.49760	2.28758	3.20420	-4.59018	-2.41731	29.83180	6.09755	213.69	4.40
84/ 3/ 1	2445760.5	-24.74199	-16.50820	2.28199	3.20613	-4.58883	-2.41746	29.83110	6.09760	213.71	4.39
84/ 3/ 5	2445764.5	-24.73459	-16.51880	2.27641	3.20805	-4.58748	-2.41760	29.83040	6.09765	213.74	4.38
84/ 3/ 9	2445768.5	-24.72717	-16.52940	2.27082	3.20997	-4.58612	-2.41775	29.82969	6.09770	213.76	4.37
84/ 3/13	2445772.5	-24.71975	-16.53999	2.26524	3.21189	-4.58477	-2.41789	29.82899	6.09775	213.79	4.36
84/ 3/17	2445776.5	-24.71233	-16.55058	2.25965	3.21381	-4.58341	-2.41803	29.82829	6.09780	213.81	4.34
84/ 3/21	2445780.5	-24.70491	-16.56117	2.25407	3.21573	-4.58206	-2.41817	29.82759	6.09785	213.84	4.33
84/ 3/25	2445784.5	-24.69747	-16.57175	2.24848	3.21764	-4.58071	-2.41832	29.82690	6.09790	213.86	4.32
84/ 3/29	2445788.5	-24.69004	-16.58233	2.24289	3.21956	-4.57935	-2.41846	29.82620	6.09795	213.89	4.31

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84/ 4/ 2	2445792.5	-24.68260	-16.59291	2.23731	3.22147	-4.57799	-2.41860	29.82551	6.09800	213.91	4.30
84/ 4/ 6	2445796.5	-24.67515	-16.60348	2.23172	3.22339	-4.57664	-2.41875	29.82481	6.09805	213.94	4.29
84/ 4/10	2445800.5	-24.66771	-16.61405	2.22613	3.22530	-4.57528	-2.41889	29.82412	6.09809	213.96	4.28
84/ 4/14	2445804.5	-24.66025	-16.62462	2.22054	3.22721	-4.57392	-2.41903	29.82343	6.09814	213.99	4.27
84/ 4/18	2445808.5	-24.65280	-16.63519	2.21495	3.22912	-4.57256	-2.41917	29.82274	6.09819	214.01	4.26
84/ 4/22	2445812.5	-24.64533	-16.64575	2.20937	3.23103	-4.57120	-2.41931	29.82205	6.09823	214.04	4.25
84/ 4/26	2445816.5	-24.63787	-16.65631	2.20378	3.23294	-4.56983	-2.41945	29.82136	6.09828	214.06	4.24
84/ 4/30	2445820.5	-24.63040	-16.66686	2.19819	3.23484	-4.56847	-2.41959	29.82068	6.09832	214.09	4.23
84/ 5/ 4	2445824.5	-24.62292	-16.67741	2.19260	3.23675	-4.56711	-2.41973	29.81999	6.09837	214.11	4.22
84/ 5/ 8	2445828.5	-24.61544	-16.68796	2.18701	3.23865	-4.56575	-2.41986	29.81931	6.09841	214.14	4.21
84/ 5/12	2445832.5	-24.60796	-16.69851	2.18142	3.24055	-4.56438	-2.42000	29.81862	6.09846	214.16	4.20
84/ 5/16	2445836.5	-24.60047	-16.70905	2.17583	3.24245	-4.56302	-2.42014	29.81794	6.09850	214.19	4.18
84/ 5/20	2445840.5	-24.59298	-16.71959	2.17023	3.24435	-4.56166	-2.42028	29.81726	6.09855	214.21	4.17
84/ 5/24	2445844.5	-24.58548	-16.73013	2.16464	3.24625	-4.56029	-2.42042	29.81658	6.09859	214.23	4.16
84/ 5/28	2445848.5	-24.57798	-16.74066	2.15905	3.24815	-4.55893	-2.42056	29.81591	6.09864	214.26	4.15
84/ 6/ 1	2445852.5	-24.57047	-16.75119	2.15346	3.25005	-4.55756	-2.42069	29.81523	6.09868	214.28	4.14
84/ 6/ 5	2445856.5	-24.56296	-16.76172	2.14787	3.25194	-4.55620	-2.42083	29.81455	6.09873	214.31	4.13
84/ 6/ 9	2445860.5	-24.55545	-16.77224	2.14227	3.25384	-4.55483	-2.42097	29.81388	6.09877	214.33	4.12
84/ 6/13	2445864.5	-24.54793	-16.78277	2.13668	3.25574	-4.55347	-2.42111	29.81321	6.09882	214.36	4.11
84/ 6/17	2445868.5	-24.54040	-16.79328	2.13109	3.25763	-4.55210	-2.42124	29.81254	6.09887	214.38	4.10
84/ 6/21	2445872.5	-24.53288	-16.80380	2.12549	3.25953	-4.55074	-2.42138	29.81186	6.09892	214.41	4.09
84/ 6/25	2445876.5	-24.52534	-16.81431	2.11990	3.26143	-4.54937	-2.42152	29.81120	6.09897	214.43	4.08
84/ 6/29	2445880.5	-24.51781	-16.82482	2.11431	3.26332	-4.54800	-2.42166	29.81053	6.09902	214.46	4.07
84/ 7/ 3	2445884.5	-24.51026	-16.83532	2.10871	3.26522	-4.54664	-2.42180	29.80986	6.09907	214.48	4.06
84/ 7/ 7	2445888.5	-24.50272	-16.84582	2.10312	3.26712	-4.54526	-2.42193	29.80920	6.09912	214.51	4.05
84/ 7/11	2445892.5	-24.49517	-16.85632	2.09752	3.26902	-4.54389	-2.42207	29.80853	6.09917	214.53	4.04
84/ 7/15	2445896.5	-24.48762	-16.86682	2.09193	3.27092	-4.54252	-2.42220	29.80787	6.09922	214.56	4.02
84/ 7/19	2445900.5	-24.48006	-16.87731	2.08633	3.27282	-4.54114	-2.42233	29.80721	6.09926	214.58	4.01
84/ 7/23	2445904.5	-24.47249	-16.88780	2.08073	3.27471	-4.53976	-2.42247	29.80655	6.09931	214.61	4.00
84/ 7/27	2445908.5	-24.46493	-16.89829	2.07514	3.27661	-4.53838	-2.42260	29.80589	6.09935	214.63	3.99
84/ 7/31	2445912.5	-24.45735	-16.90877	2.06954	3.27850	-4.53700	-2.42273	29.80523	6.09939	214.66	3.98
84/ 8/ 4	2445916.5	-24.44978	-16.91925	2.06394	3.28040	-4.53562	-2.42286	29.80457	6.09943	214.68	3.97
84/ 8/ 8	2445920.5	-24.44220	-16.92973	2.05835	3.28229	-4.53423	-2.42299	29.80392	6.09947	214.71	3.96
84/ 8/12	2445924.5	-24.43461	-16.94020	2.05275	3.28418	-4.53284	-2.42312	29.80326	6.09951	214.73	3.95
84/ 8/16	2445928.5	-24.42702	-16.95067	2.04715	3.28607	-4.53145	-2.42325	29.80261	6.09955	214.76	3.94
84/ 8/20	2445932.5	-24.41943	-16.96114	2.04155	3.28796	-4.53007	-2.42337	29.80196	6.09958	214.78	3.93
84/ 8/24	2445936.5	-24.41183	-16.97160	2.03595	3.28985	-4.52867	-2.42350	29.80131	6.09962	214.81	3.92
84/ 8/28	2445940.5	-24.40423	-16.98206	2.03035	3.29173	-4.52728	-2.42362	29.80066	6.09965	214.83	3.91
84/ 9/ 1	2445944.5	-24.39662	-16.99252	2.02475	3.29361	-4.52589	-2.42375	29.80001	6.09968	214.86	3.90
84/ 9/ 5	2445948.5	-24.38901	-17.00297	2.01916	3.29549	-4.52449	-2.42387	29.79936	6.09971	214.88	3.89
84/ 9/ 9	2445952.5	-24.38140	-17.01342	2.01356	3.29737	-4.52310	-2.42400	29.79872	6.09974	214.91	3.87
84/ 9/13	2445956.5	-24.37378	-17.02387	2.00796	3.29925	-4.52170	-2.42412	29.79807	6.09977	214.93	3.86
84/ 9/17	2445960.5	-24.36615	-17.03431	2.00236	3.30112	-4.52031	-2.42425	29.79743	6.09980	214.96	3.85
84/ 9/21	2445964.5	-24.35853	-17.04475	1.99675	3.30300	-4.51891	-2.42437	29.79679	6.09983	214.98	3.84
84/ 9/25	2445968.5	-24.35089	-17.05519	1.99115	3.30487	-4.51752	-2.42450	29.79614	6.09986	215.01	3.83

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84/ 9/29	2445972.5	-24.34326	-17.06563	1.98555	3.30675	-4.51612	-2.42462	29.79551	6.09989	215.03	3.82
84/10/ 3	2445976.5	-24.33561	-17.07606	1.97995	3.30862	-4.51472	-2.42474	29.79487	6.09992	215.06	3.81
84/10/ 7	2445980.5	-24.32797	-17.08649	1.97435	3.31049	-4.51332	-2.42486	29.79423	6.09995	215.08	3.80
84/10/11	2445984.5	-24.32032	-17.09691	1.96875	3.31236	-4.51191	-2.42498	29.79359	6.09997	215.11	3.79
84/10/15	2445988.5	-24.31266	-17.10733	1.96315	3.31423	-4.51051	-2.42510	29.79296	6.09999	215.13	3.78
84/10/19	2445992.5	-24.30501	-17.11775	1.95754	3.31609	-4.50911	-2.42522	29.79233	6.10002	215.16	3.77
84/10/23	2445996.5	-24.29734	-17.12817	1.95194	3.31795	-4.50770	-2.42534	29.79169	6.10004	215.18	3.76
84/10/27	2446000.5	-24.28968	-17.13858	1.94634	3.31981	-4.50630	-2.42546	29.79106	6.10006	215.21	3.75
84/10/31	2446004.5	-24.28200	-17.14899	1.94073	3.32167	-4.50490	-2.42558	29.79043	6.10008	215.23	3.74
84/11/ 4	2446008.5	-24.27433	-17.15939	1.93513	3.32353	-4.50349	-2.42570	29.78981	6.10010	215.26	3.72
84/11/ 8	2446012.5	-24.26665	-17.16980	1.92953	3.32538	-4.50209	-2.42582	29.78918	6.10013	215.28	3.71
84/11/12	2446016.5	-24.25896	-17.18019	1.92392	3.32723	-4.50068	-2.42594	29.78855	6.10015	215.31	3.70
84/11/16	2446020.5	-24.25128	-17.19059	1.91832	3.32908	-4.49928	-2.42605	29.78793	6.10017	215.33	3.69
84/11/20	2446024.5	-24.24358	-17.20098	1.91271	3.33093	-4.49788	-2.42617	29.78731	6.10019	215.36	3.68
84/11/24	2446028.5	-24.23589	-17.21137	1.90711	3.33278	-4.49647	-2.42629	29.78668	6.10021	215.38	3.67
84/11/28	2446032.5	-24.22818	-17.22176	1.90150	3.33463	-4.49507	-2.42641	29.78606	6.10024	215.41	3.66
84/12/ 2	2446036.5	-24.22048	-17.23214	1.89590	3.33647	-4.49367	-2.42653	29.78544	6.10026	215.43	3.65
84/12/ 6	2446040.5	-24.21277	-17.24252	1.89029	3.33832	-4.49227	-2.42665	29.78483	6.10029	215.46	3.64
84/12/10	2446044.5	-24.20505	-17.25290	1.88468	3.34016	-4.49088	-2.42677	29.78421	6.10032	215.48	3.63
84/12/14	2446048.5	-24.19734	-17.26327	1.87908	3.34201	-4.48948	-2.42689	29.78359	6.10035	215.51	3.62
84/12/18	2446052.5	-24.18961	-17.27364	1.87347	3.34386	-4.48808	-2.42702	29.78298	6.10038	215.53	3.61
84/12/22	2446056.5	-24.18189	-17.28401	1.86786	3.34571	-4.48668	-2.42714	29.78237	6.10042	215.56	3.60
84/12/26	2446060.5	-24.17415	-17.29437	1.86226	3.34755	-4.48529	-2.42726	29.78176	6.10045	215.58	3.59
84/12/30	2446064.5	-24.16642	-17.30473	1.85665	3.34940	-4.48389	-2.42738	29.78115	6.10049	215.61	3.57
85/ 1/ 3	2446068.5	-24.15868	-17.31509	1.85104	3.35125	-4.48249	-2.42750	29.78054	6.10052	215.63	3.56
85/ 1/ 7	2446072.5	-24.15093	-17.32544	1.84543	3.35310	-4.48109	-2.42762	29.77993	6.10056	215.65	3.55
85/ 1/11	2446076.5	-24.14319	-17.33579	1.83983	3.35495	-4.47969	-2.42774	29.77932	6.10059	215.68	3.54
85/ 1/15	2446080.5	-24.13543	-17.34614	1.83422	3.35680	-4.47829	-2.42786	29.77872	6.10063	215.70	3.53
85/ 1/19	2446084.5	-24.12768	-17.35648	1.82861	3.35865	-4.47689	-2.42798	29.77811	6.10067	215.73	3.52
85/ 1/23	2446088.5	-24.11992	-17.36682	1.82300	3.36050	-4.47548	-2.42810	29.77751	6.10070	215.75	3.51
85/ 1/27	2446092.5	-24.11215	-17.37716	1.81739	3.36235	-4.47408	-2.42822	29.77691	6.10074	215.78	3.50
85/ 1/31	2446096.5	-24.10438	-17.38749	1.81178	3.36420	-4.47268	-2.42834	29.77631	6.10078	215.80	3.49
85/ 2/ 4	2446100.5	-24.09661	-17.39783	1.80617	3.36605	-4.47127	-2.42845	29.77571	6.10082	215.83	3.48
85/ 2/ 8	2446104.5	-24.08883	-17.40815	1.80056	3.36790	-4.46986	-2.42857	29.77511	6.10085	215.85	3.47
85/ 2/12	2446108.5	-24.08105	-17.41848	1.79495	3.36976	-4.46846	-2.42869	29.77452	6.10089	215.88	3.46
85/ 2/16	2446112.5	-24.07326	-17.42880	1.78934	3.37161	-4.46705	-2.42880	29.77392	6.10093	215.90	3.45
85/ 2/20	2446116.5	-24.06547	-17.43912	1.78373	3.37346	-4.46564	-2.42892	29.77333	6.10096	215.93	3.43
85/ 2/24	2446120.5	-24.05767	-17.44943	1.77812	3.37531	-4.46422	-2.42903	29.77274	6.10100	215.95	3.42
85/ 2/28	2446124.5	-24.04987	-17.45974	1.77250	3.37716	-4.46281	-2.42915	29.77215	6.10103	215.98	3.41
85/ 3/ 4	2446128.5	-24.04207	-17.47005	1.76689	3.37901	-4.46140	-2.42926	29.77156	6.10107	216.00	3.40
85/ 3/ 8	2446132.5	-24.03426	-17.48036	1.76128	3.38086	-4.45998	-2.42937	29.77097	6.10111	216.03	3.39
85/ 3/12	2446136.5	-24.02645	-17.49066	1.75567	3.38271	-4.45857	-2.42949	29.77038	6.10114	216.05	3.38
85/ 3/16	2446140.5	-24.01863	-17.50096	1.75005	3.38456	-4.45715	-2.42960	29.76980	6.10118	216.08	3.37
85/ 3/20	2446144.5	-24.01081	-17.51125	1.74444	3.38641	-4.45573	-2.42971	29.76921	6.10121	216.10	3.36
85/ 3/24	2446148.5	-24.00298	-17.52154	1.73883	3.38827	-4.45430	-2.42982	29.76863	6.10125	216.13	3.35

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85/ 3/28	2446152.5	-23.99515	-17.53183	1.73322	3.39012	-4.45288	-2.42993	29.76805	6.10128	216.15	3.34
85/ 4/ 1	2446156.5	-23.98732	-17.54212	1.72760	3.39197	-4.45145	-2.43004	29.76747	6.10131	216.18	3.33
85/ 4/ 5	2446160.5	-23.97948	-17.55240	1.72199	3.39382	-4.45002	-2.43014	29.76689	6.10133	216.20	3.32
85/ 4/ 9	2446164.5	-23.97164	-17.56268	1.71637	3.39567	-4.44858	-2.43025	29.76631	6.10136	216.23	3.31
85/ 4/13	2446168.5	-23.96379	-17.57295	1.71076	3.39751	-4.44715	-2.43035	29.76573	6.10138	216.25	3.29
85/ 4/17	2446172.5	-23.95594	-17.58323	1.70514	3.39936	-4.44571	-2.43046	29.76516	6.10140	216.28	3.28
85/ 4/21	2446176.5	-23.94809	-17.59349	1.69953	3.40120	-4.44427	-2.43056	29.76458	6.10142	216.30	3.27
85/ 4/25	2446180.5	-23.94023	-17.60376	1.69391	3.40304	-4.44283	-2.43066	29.76401	6.10143	216.33	3.26
85/ 4/29	2446184.5	-23.93236	-17.61402	1.68830	3.40488	-4.44138	-2.43076	29.76344	6.10145	216.35	3.25
85/ 5/ 3	2446188.5	-23.92450	-17.62428	1.68268	3.40671	-4.43994	-2.43086	29.76287	6.10146	216.38	3.24
85/ 5/ 7	2446192.5	-23.91662	-17.63454	1.67707	3.40855	-4.43849	-2.43096	29.76230	6.10147	216.40	3.23
85/ 5/11	2446196.5	-23.90875	-17.64479	1.67145	3.41038	-4.43704	-2.43105	29.76173	6.10148	216.43	3.22
85/ 5/15	2446200.5	-23.90087	-17.65504	1.66584	3.41221	-4.43559	-2.43115	29.76116	6.10149	216.45	3.21
85/ 5/19	2446204.5	-23.89298	-17.66528	1.66022	3.41403	-4.43414	-2.43125	29.76060	6.10149	216.48	3.20
85/ 5/23	2446208.5	-23.88509	-17.67552	1.65460	3.41585	-4.43269	-2.43134	29.76003	6.10150	216.50	3.19
85/ 5/27	2446212.5	-23.87720	-17.68576	1.64898	3.41767	-4.43124	-2.43144	29.75947	6.10150	216.53	3.18
85/ 5/31	2446216.5	-23.86930	-17.69600	1.64337	3.41949	-4.42979	-2.43154	29.75891	6.10150	216.55	3.17
85/ 6/ 4	2446220.5	-23.86140	-17.70623	1.63775	3.42130	-4.42834	-2.43163	29.75835	6.10151	216.58	3.15
85/ 6/ 8	2446224.5	-23.85349	-17.71646	1.63213	3.42312	-4.42689	-2.43173	29.75779	6.10151	216.60	3.14
85/ 6/12	2446228.5	-23.84558	-17.72668	1.62651	3.42493	-4.42544	-2.43182	29.75723	6.10151	216.63	3.13
85/ 6/16	2446232.5	-23.83767	-17.73691	1.62090	3.42674	-4.42399	-2.43192	29.75667	6.10152	216.65	3.12
85/ 6/20	2446236.5	-23.82975	-17.74712	1.61528	3.42855	-4.42254	-2.43202	29.75612	6.10152	216.68	3.11
85/ 6/24	2446240.5	-23.82183	-17.75734	1.60966	3.43036	-4.42109	-2.43211	29.75556	6.10153	216.70	3.10
85/ 6/28	2446244.5	-23.81390	-17.76755	1.60404	3.43217	-4.41964	-2.43221	29.75501	6.10153	216.73	3.09
85/ 7/ 2	2446248.5	-23.80597	-17.77776	1.59842	3.43398	-4.41819	-2.43230	29.75446	6.10153	216.75	3.08
85/ 7/ 6	2446252.5	-23.79804	-17.78796	1.59280	3.43578	-4.41673	-2.43240	29.75391	6.10153	216.78	3.07
85/ 7/10	2446256.5	-23.79010	-17.79817	1.58718	3.43758	-4.41528	-2.43249	29.75336	6.10153	216.80	3.06
85/ 7/14	2446260.5	-23.78215	-17.80837	1.58156	3.43938	-4.41383	-2.43258	29.75282	6.10153	216.83	3.05
85/ 7/18	2446264.5	-23.77421	-17.81856	1.57594	3.44118	-4.41238	-2.43268	29.75227	6.10153	216.85	3.04
85/ 7/22	2446268.5	-23.76625	-17.82875	1.57032	3.44297	-4.41093	-2.43277	29.75172	6.10153	216.88	3.03
85/ 7/26	2446272.5	-23.75830	-17.83894	1.56470	3.44477	-4.40948	-2.43287	29.75118	6.10154	216.90	3.01
85/ 7/30	2446276.5	-23.75034	-17.84913	1.55908	3.44656	-4.40803	-2.43296	29.75064	6.10154	216.93	3.00
85/ 8/ 3	2446280.5	-23.74237	-17.85931	1.55346	3.44835	-4.40658	-2.43306	29.75010	6.10154	216.95	2.99
85/ 8/ 7	2446284.5	-23.73440	-17.86949	1.54784	3.45014	-4.40513	-2.43315	29.74956	6.10154	216.98	2.98
85/ 8/11	2446288.5	-23.72643	-17.87966	1.54222	3.45193	-4.40368	-2.43325	29.74902	6.10155	217.00	2.97
85/ 8/15	2446292.5	-23.71846	-17.88983	1.53660	3.45372	-4.40223	-2.43334	29.74848	6.10155	217.03	2.96
85/ 8/19	2446296.5	-23.71047	-17.90000	1.53098	3.45551	-4.40078	-2.43344	29.74795	6.10156	217.05	2.95
85/ 8/23	2446300.5	-23.70249	-17.91016	1.52536	3.45730	-4.39933	-2.43353	29.74742	6.10157	217.08	2.94
85/ 8/27	2446304.5	-23.69450	-17.92033	1.51973	3.45908	-4.39789	-2.43363	29.74688	6.10158	217.10	2.93
85/ 8/31	2446308.5	-23.68651	-17.93048	1.51411	3.46087	-4.39645	-2.43373	29.74635	6.10159	217.13	2.92
85/ 9/ 4	2446312.5	-23.67851	-17.94064	1.50849	3.46266	-4.39500	-2.43383	29.74582	6.10160	217.15	2.91
85/ 9/ 8	2446316.5	-23.67051	-17.95079	1.50287	3.46445	-4.39356	-2.43393	29.74529	6.10162	217.18	2.90
85/ 9/12	2446320.5	-23.66250	-17.96094	1.49724	3.46624	-4.39212	-2.43402	29.74477	6.10164	217.20	2.89
85/ 9/16	2446324.5	-23.65449	-17.97108	1.49162	3.46803	-4.39067	-2.43412	29.74424	6.10165	217.23	2.87
85/ 9/20	2446328.5	-23.64648	-17.98123	1.48600	3.46982	-4.38922	-2.43422	29.74372	6.10167	217.25	2.86

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85/ 9/24	2446332.5	-23.63846	-17.99136	1.48037	3.47161	-4.38778	-2.43431	29.74319	6.10169	217.27	2.85
85/ 9/28	2446336.5	-23.63044	-18.00150	1.47475	3.47341	-4.38633	-2.43441	29.74267	6.10170	217.30	2.84
85/10/ 2	2446340.5	-23.62241	-18.01163	1.46913	3.47520	-4.38488	-2.43450	29.74215	6.10172	217.32	2.83
85/10/ 6	2446344.5	-23.61438	-18.02176	1.46350	3.47699	-4.38343	-2.43460	29.74163	6.10174	217.35	2.82
85/10/10	2446348.5	-23.60635	-18.03188	1.45788	3.47878	-4.38198	-2.43469	29.74111	6.10175	217.37	2.81
85/10/14	2446352.5	-23.59831	-18.04200	1.45225	3.48057	-4.38052	-2.43479	29.74060	6.10177	217.40	2.80
85/10/18	2446356.5	-23.59027	-18.05212	1.44663	3.48236	-4.37907	-2.43488	29.74008	6.10178	217.42	2.79
85/10/22	2446360.5	-23.58222	-18.06224	1.44100	3.48415	-4.37762	-2.43497	29.73957	6.10180	217.45	2.78
85/10/26	2446364.5	-23.57417	-18.07235	1.43538	3.48594	-4.37616	-2.43507	29.73906	6.10181	217.47	2.77
85/10/30	2446368.5	-23.56611	-18.08246	1.42975	3.48773	-4.37470	-2.43516	29.73855	6.10183	217.50	2.76
85/11/ 3	2446372.5	-23.55805	-18.09256	1.42413	3.48952	-4.37325	-2.43525	29.73804	6.10184	217.52	2.74
85/11/ 7	2446376.5	-23.54999	-18.10266	1.41850	3.49131	-4.37179	-2.43534	29.73753	6.10185	217.55	2.73
85/11/11	2446380.5	-23.54192	-18.11276	1.41287	3.49309	-4.37033	-2.43543	29.73702	6.10186	217.57	2.72
85/11/15	2446384.5	-23.53385	-18.12286	1.40725	3.49488	-4.36886	-2.43552	29.73652	6.10188	217.60	2.71
85/11/19	2446388.5	-23.52578	-18.13295	1.40162	3.49666	-4.36740	-2.43561	29.73601	6.10189	217.62	2.70
85/11/23	2446392.5	-23.51770	-18.14303	1.39599	3.49844	-4.36594	-2.43569	29.73551	6.10190	217.65	2.69
85/11/27	2446396.5	-23.50961	-18.15312	1.39037	3.50023	-4.36448	-2.43578	29.73501	6.10191	217.67	2.68
85/12/ 1	2446400.5	-23.50152	-18.16320	1.38474	3.50201	-4.36302	-2.43587	29.73451	6.10192	217.70	2.67
85/12/ 5	2446404.5	-23.49343	-18.17328	1.37911	3.50379	-4.36155	-2.43596	29.73401	6.10193	217.72	2.66
85/12/ 9	2446408.5	-23.48534	-18.18335	1.37349	3.50557	-4.36009	-2.43605	29.73351	6.10195	217.75	2.65
85/12/13	2446412.5	-23.47723	-18.19342	1.36786	3.50736	-4.35862	-2.43613	29.73302	6.10196	217.77	2.64
85/12/17	2446416.5	-23.46913	-18.20349	1.36223	3.50914	-4.35715	-2.43622	29.73252	6.10197	217.80	2.63
85/12/21	2446420.5	-23.46102	-18.21355	1.35660	3.51092	-4.35568	-2.43630	29.73203	6.10197	217.82	2.62
85/12/25	2446424.5	-23.45291	-18.22361	1.35097	3.51269	-4.35421	-2.43639	29.73153	6.10198	217.85	2.60
85/12/29	2446428.5	-23.44479	-18.23367	1.34534	3.51447	-4.35274	-2.43647	29.73104	6.10198	217.87	2.59
86/ 1/ 2	2446432.5	-23.43667	-18.24373	1.33972	3.51624	-4.35126	-2.43655	29.73055	6.10199	217.90	2.58
86/ 1/ 6	2446436.5	-23.42854	-18.25378	1.33409	3.51802	-4.34979	-2.43663	29.73007	6.10199	217.92	2.57
86/ 1/10	2446440.5	-23.42042	-18.26382	1.32846	3.51979	-4.34832	-2.43672	29.72958	6.10199	217.95	2.56
86/ 1/14	2446444.5	-23.41228	-18.27387	1.32283	3.52156	-4.34684	-2.43680	29.72909	6.10200	217.97	2.55
86/ 1/18	2446448.5	-23.40414	-18.28391	1.31720	3.52332	-4.34537	-2.43688	29.72861	6.10200	218.00	2.54
86/ 1/22	2446452.5	-23.39600	-18.29394	1.31157	3.52509	-4.34389	-2.43696	29.72813	6.10200	218.02	2.53
86/ 1/26	2446456.5	-23.38786	-18.30398	1.30594	3.52685	-4.34241	-2.43704	29.72765	6.10200	218.05	2.52
86/ 1/30	2446460.5	-23.37971	-18.31401	1.30031	3.52861	-4.34094	-2.43712	29.72717	6.10200	218.07	2.51
86/ 2/ 3	2446464.5	-23.37155	-18.32403	1.29468	3.53037	-4.33946	-2.43720	29.72669	6.10200	218.10	2.50
86/ 2/ 7	2446468.5	-23.36340	-18.33406	1.28905	3.53213	-4.33799	-2.43728	29.72621	6.10200	218.12	2.49
86/ 2/11	2446472.5	-23.35523	-18.34408	1.28342	3.53389	-4.33651	-2.43736	29.72573	6.10200	218.15	2.47
86/ 2/15	2446476.5	-23.34707	-18.35409	1.27779	3.53565	-4.33503	-2.43744	29.72526	6.10200	218.17	2.46
86/ 2/19	2446480.5	-23.33890	-18.36411	1.27216	3.53740	-4.33356	-2.43752	29.72479	6.10200	218.20	2.45
86/ 2/23	2446484.5	-23.33072	-18.37412	1.26652	3.53915	-4.33209	-2.43760	29.72432	6.10201	218.22	2.44
86/ 2/27	2446488.5	-23.32255	-18.38412	1.26089	3.54091	-4.33062	-2.43768	29.72385	6.10201	218.25	2.43
86/ 3/ 3	2446492.5	-23.31436	-18.39413	1.25526	3.54266	-4.32915	-2.43777	29.72338	6.10202	218.27	2.42
86/ 3/ 7	2446496.5	-23.30618	-18.40412	1.24963	3.54442	-4.32767	-2.43785	29.72291	6.10203	218.30	2.41
86/ 3/11	2446500.5	-23.29799	-18.41412	1.24400	3.54618	-4.32620	-2.43793	29.72244	6.10204	218.32	2.40
86/ 3/15	2446504.5	-23.28979	-18.42411	1.23837	3.54793	-4.32473	-2.43801	29.72198	6.10205	218.35	2.39
86/ 3/19	2446508.5	-23.28160	-18.43410	1.23273	3.54969	-4.32325	-2.43809	29.72151	6.10206	218.37	2.38

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86/ 3/23	2446512.5	-23.27339	-18.44409	1.22710	3.55144	-4.32178	-2.43817	29.72105	6.10206	218.40	2.37
86/ 3/27	2446516.5	-23.26519	-18.45407	1.22147	3.55320	-4.32030	-2.43825	29.72059	6.10207	218.42	2.36
86/ 3/31	2446520.5	-23.25698	-18.46405	1.21584	3.55495	-4.31883	-2.43833	29.72013	6.10208	218.45	2.34
86/ 4/ 4	2446524.5	-23.24876	-18.47403	1.21020	3.55670	-4.31735	-2.43841	29.71967	6.10209	218.47	2.33
86/ 4/ 8	2446528.5	-23.24054	-18.48400	1.20457	3.55846	-4.31587	-2.43849	29.71922	6.10210	218.50	2.32
86/ 4/12	2446532.5	-23.23232	-18.49397	1.19894	3.56021	-4.31440	-2.43857	29.71876	6.10211	218.52	2.31
86/ 4/16	2446536.5	-23.22409	-18.50393	1.19330	3.56196	-4.31292	-2.43865	29.71831	6.10212	218.55	2.30
86/ 4/20	2446540.5	-23.21586	-18.51389	1.18767	3.56371	-4.31144	-2.43873	29.71786	6.10213	218.57	2.29
86/ 4/24	2446544.5	-23.20763	-18.52385	1.18203	3.56546	-4.30996	-2.43880	29.71741	6.10214	218.60	2.28
86/ 4/28	2446548.5	-23.19939	-18.53381	1.17640	3.56722	-4.30848	-2.43888	29.71696	6.10215	218.62	2.27
86/ 5/ 2	2446552.5	-23.19115	-18.54376	1.17077	3.56897	-4.30700	-2.43896	29.71651	6.10216	218.65	2.26
86/ 5/ 6	2446556.5	-23.18290	-18.55371	1.16513	3.57072	-4.30552	-2.43904	29.71606	6.10217	218.67	2.25
86/ 5/10	2446560.5	-23.17465	-18.56365	1.15950	3.57247	-4.30404	-2.43911	29.71562	6.10218	218.70	2.24
86/ 5/14	2446564.5	-23.16639	-18.57359	1.15386	3.57422	-4.30256	-2.43919	29.71517	6.10219	218.72	2.23
86/ 5/18	2446568.5	-23.15813	-18.58353	1.14823	3.57597	-4.30108	-2.43927	29.71473	6.10220	218.75	2.21
86/ 5/22	2446572.5	-23.14987	-18.59347	1.14259	3.57772	-4.29959	-2.43934	29.71429	6.10221	218.77	2.20
86/ 5/26	2446576.5	-23.14160	-18.60340	1.13696	3.57947	-4.29811	-2.43942	29.71385	6.10222	218.80	2.19
86/ 5/30	2446580.5	-23.13333	-18.61332	1.13132	3.58122	-4.29663	-2.43949	29.71341	6.10223	218.82	2.18
86/ 6/ 3	2446584.5	-23.12506	-18.62325	1.12568	3.58297	-4.29514	-2.43957	29.71297	6.10224	218.85	2.17
86/ 6/ 7	2446588.5	-23.11678	-18.63317	1.12005	3.58472	-4.29365	-2.43964	29.71254	6.10226	218.87	2.16
86/ 6/11	2446592.5	-23.10849	-18.64309	1.11441	3.58647	-4.29216	-2.43972	29.71210	6.10226	218.90	2.15
86/ 6/15	2446596.5	-23.10021	-18.65300	1.10878	3.58822	-4.29067	-2.43979	29.71167	6.10227	218.92	2.14
86/ 6/19	2446600.5	-23.09192	-18.66291	1.10314	3.58997	-4.28917	-2.43986	29.71124	6.10228	218.95	2.13
86/ 6/23	2446604.5	-23.08362	-18.67282	1.09750	3.59172	-4.28767	-2.43993	29.71081	6.10228	218.97	2.12
86/ 6/27	2446608.5	-23.07532	-18.68272	1.09187	3.59346	-4.28618	-2.44000	29.71038	6.10228	219.00	2.11
86/ 7/ 1	2446612.5	-23.06702	-18.69262	1.08623	3.59521	-4.28468	-2.44007	29.70995	6.10228	219.02	2.10
86/ 7/ 5	2446616.5	-23.05871	-18.70252	1.08059	3.59695	-4.28317	-2.44013	29.70953	6.10228	219.04	2.08
86/ 7/ 9	2446620.5	-23.05040	-18.71241	1.07496	3.59869	-4.28167	-2.44020	29.70910	6.10228	219.07	2.07
86/ 7/13	2446624.5	-23.04208	-18.72230	1.06932	3.60043	-4.28017	-2.44026	29.70868	6.10228	219.09	2.06
86/ 7/17	2446628.5	-23.03376	-18.73219	1.06368	3.60216	-4.27866	-2.44033	29.70826	6.10227	219.12	2.05
86/ 7/21	2446632.5	-23.02544	-18.74207	1.05804	3.60390	-4.27716	-2.44039	29.70784	6.10227	219.14	2.04
86/ 7/25	2446636.5	-23.01711	-18.75195	1.05240	3.60563	-4.27565	-2.44046	29.70742	6.10226	219.17	2.03
86/ 7/29	2446640.5	-23.00878	-18.76182	1.04677	3.60735	-4.27414	-2.44052	29.70700	6.10225	219.19	2.02
86/ 8/ 2	2446644.5	-23.00044	-18.77170	1.04113	3.60908	-4.27264	-2.44059	29.70658	6.10224	219.22	2.01
86/ 8/ 6	2446648.5	-22.99210	-18.78157	1.03549	3.61080	-4.27113	-2.44065	29.70617	6.10223	219.24	2.00
86/ 8/10	2446652.5	-22.98376	-18.79143	1.02985	3.61253	-4.26962	-2.44071	29.70575	6.10222	219.27	1.99
86/ 8/14	2446656.5	-22.97541	-18.80129	1.02421	3.61424	-4.26811	-2.44078	29.70534	6.10221	219.29	1.98
86/ 8/18	2446660.5	-22.96706	-18.81115	1.01857	3.61596	-4.26661	-2.44084	29.70493	6.10220	219.32	1.97
86/ 8/22	2446664.5	-22.95871	-18.82101	1.01294	3.61768	-4.26510	-2.44090	29.70452	6.10219	219.34	1.95
86/ 8/26	2446668.5	-22.95035	-18.83086	1.00730	3.61939	-4.26360	-2.44097	29.70411	6.10218	219.37	1.94
86/ 8/30	2446672.5	-22.94198	-18.84071	1.00166	3.62111	-4.26209	-2.44103	29.70370	6.10217	219.39	1.93
86/ 9/ 3	2446676.5	-22.93362	-18.85055	0.99602	3.62282	-4.26059	-2.44110	29.70330	6.10216	219.42	1.92
86/ 9/ 7	2446680.5	-22.92524	-18.86039	0.99038	3.62453	-4.25908	-2.44116	29.70290	6.10216	219.44	1.91
86/ 9/11	2446684.5	-22.91687	-18.87023	0.98474	3.62624	-4.25758	-2.44122	29.70249	6.10215	219.47	1.90
86/ 9/15	2446688.5	-22.90849	-18.88006	0.97910	3.62795	-4.25607	-2.44129	29.70209	6.10214	219.49	1.89

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86/ 9/19	2446692.5	-22.90011	-18.88989	0.97346	3.62966	-4.25457	-2.44135	29.70169	6.10213	219.52	1.88
86/ 9/23	2446696.5	-22.89172	-18.89972	0.96782	3.63137	-4.25306	-2.44141	29.70129	6.10212	219.54	1.87
86/ 9/27	2446700.5	-22.88333	-18.90954	0.96218	3.63307	-4.25156	-2.44148	29.70090	6.10211	219.57	1.86
86/10/ 1	2446704.5	-22.87493	-18.91936	0.95654	3.63477	-4.25006	-2.44154	29.70050	6.10210	219.59	1.85
86/10/ 5	2446708.5	-22.86653	-18.92918	0.95090	3.63647	-4.24855	-2.44161	29.70011	6.10210	219.62	1.83
86/10/ 9	2446712.5	-22.85813	-18.93899	0.94526	3.63817	-4.24705	-2.44167	29.69972	6.10209	219.64	1.82
86/10/13	2446716.5	-22.84973	-18.94880	0.93962	3.63987	-4.24555	-2.44173	29.69933	6.10209	219.67	1.81
86/10/17	2446720.5	-22.84131	-18.95861	0.93398	3.64157	-4.24405	-2.44180	29.69894	6.10208	219.69	1.80
86/10/21	2446724.5	-22.83290	-18.96841	0.92834	3.64327	-4.24256	-2.44186	29.69855	6.10208	219.72	1.79
86/10/25	2446728.5	-22.82448	-18.97821	0.92269	3.64496	-4.24106	-2.44193	29.69816	6.10208	219.74	1.78
86/10/29	2446732.5	-22.81606	-18.98801	0.91705	3.64666	-4.23956	-2.44200	29.69778	6.10208	219.77	1.77
86/11/ 2	2446736.5	-22.80763	-18.99780	0.91141	3.64835	-4.23807	-2.44206	29.69739	6.10208	219.79	1.76
86/11/ 6	2446740.5	-22.79920	-19.00759	0.90577	3.65005	-4.23658	-2.44213	29.69701	6.10208	219.82	1.75
86/11/10	2446744.5	-22.79077	-19.01737	0.90013	3.65175	-4.23508	-2.44220	29.69663	6.10209	219.84	1.74
86/11/14	2446748.5	-22.78233	-19.02716	0.89449	3.65344	-4.23359	-2.44227	29.69625	6.10210	219.87	1.73
86/11/18	2446752.5	-22.77389	-19.03694	0.88884	3.65514	-4.23210	-2.44233	29.69587	6.10211	219.89	1.72
86/11/22	2446756.5	-22.76544	-19.04671	0.88320	3.65684	-4.23062	-2.44240	29.69550	6.10213	219.92	1.70
86/11/26	2446760.5	-22.75699	-19.05648	0.87756	3.65854	-4.22913	-2.44247	29.69512	6.10214	219.94	1.69
86/11/30	2446764.5	-22.74854	-19.06625	0.87192	3.66025	-4.22764	-2.44254	29.69475	6.10216	219.97	1.68
86/12/ 4	2446768.5	-22.74008	-19.07602	0.86627	3.66195	-4.22615	-2.44261	29.69438	6.10218	219.99	1.67
86/12/ 8	2446772.5	-22.73162	-19.08578	0.86063	3.66366	-4.22466	-2.44268	29.69401	6.10220	220.02	1.66
86/12/12	2446776.5	-22.72315	-19.09553	0.85499	3.66536	-4.22316	-2.44275	29.69364	6.10221	220.04	1.65
86/12/16	2446780.5	-22.71468	-19.10529	0.84934	3.66707	-4.22167	-2.44282	29.69327	6.10223	220.07	1.64
86/12/20	2446784.5	-22.70621	-19.11504	0.84370	3.66878	-4.22018	-2.44288	29.69290	6.10225	220.09	1.63
86/12/24	2446788.5	-22.69773	-19.12479	0.83806	3.67048	-4.21868	-2.44295	29.69254	6.10227	220.12	1.62
86/12/28	2446792.5	-22.68925	-19.13453	0.83241	3.67219	-4.21719	-2.44302	29.69218	6.10229	220.14	1.61

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86/12/16	2446780.5	-22.71468	-19.10529	0.84934	3.66707	-4.22167	-2.44282	29.69327	6.10223	220.07	1.64
86/12/20	2446784.5	-22.70621	-19.11504	0.84370	3.66878	-4.22018	-2.44288	29.69290	6.10225	220.09	1.63
86/12/24	2446788.5	-22.69773	-19.12479	0.83806	3.67048	-4.21868	-2.44295	29.69254	6.10227	220.12	1.62
86/12/28	2446792.5	-22.68925	-19.13453	0.83241	3.67219	-4.21719	-2.44302	29.69218	6.10229	220.14	1.61
87/ 1/ 1	2446796.5	-22.68077	-19.14427	0.82677	3.67390	-4.21569	-2.44308	29.69181	6.10231	220.17	1.60
87/ 1/ 5	2446800.5	-22.67228	-19.15401	0.82113	3.67561	-4.21419	-2.44315	29.69145	6.10233	220.19	1.58
87/ 1/ 9	2446804.5	-22.66378	-19.16374	0.81548	3.67732	-4.21269	-2.44321	29.69110	6.10235	220.22	1.57
87/ 1/13	2446808.5	-22.65529	-19.17347	0.80984	3.67903	-4.21119	-2.44327	29.69074	6.10237	220.24	1.56
87/ 1/17	2446812.5	-22.64678	-19.18320	0.80419	3.68074	-4.20969	-2.44334	29.69038	6.10239	220.27	1.55
87/ 1/21	2446816.5	-22.63828	-19.19292	0.79855	3.68245	-4.20819	-2.44340	29.69003	6.10241	220.29	1.54
87/ 1/25	2446820.5	-22.62977	-19.20264	0.79290	3.68415	-4.20668	-2.44346	29.68967	6.10243	220.32	1.53
87/ 1/29	2446824.5	-22.62126	-19.21236	0.78726	3.68586	-4.20518	-2.44352	29.68932	6.10245	220.34	1.52
87/ 2/ 2	2446828.5	-22.61274	-19.22207	0.78161	3.68757	-4.20367	-2.44358	29.68897	6.10247	220.37	1.51
87/ 2/ 6	2446832.5	-22.60422	-19.23178	0.77597	3.68928	-4.20216	-2.44364	29.68862	6.10248	220.39	1.50
87/ 2/10	2446836.5	-22.59569	-19.24149	0.77032	3.69098	-4.20065	-2.44370	29.68828	6.10250	220.42	1.49
87/ 2/14	2446840.5	-22.58717	-19.25119	0.76468	3.69269	-4.19915	-2.44376	29.68793	6.10252	220.44	1.48
87/ 2/18	2446844.5	-22.57863	-19.26089	0.75903	3.69440	-4.19764	-2.44382	29.68758	6.10254	220.47	1.47
87/ 2/22	2446848.5	-22.57010	-19.27059	0.75339	3.69610	-4.19612	-2.44388	29.68724	6.10255	220.49	1.45
87/ 2/26	2446852.5	-22.56156	-19.28028	0.74774	3.69781	-4.19461	-2.44393	29.68690	6.10257	220.52	1.44
87/ 3/ 2	2446856.5	-22.55301	-19.28997	0.74209	3.69952	-4.19309	-2.44399	29.68656	6.10258	220.54	1.43
87/ 3/ 6	2446860.5	-22.54446	-19.29965	0.73645	3.70122	-4.19157	-2.44404	29.68622	6.10260	220.57	1.42
87/ 3/10	2446864.5	-22.53591	-19.30933	0.73080	3.70293	-4.19005	-2.44410	29.68588	6.10261	220.59	1.41
87/ 3/14	2446868.5	-22.52735	-19.31901	0.72516	3.70463	-4.18853	-2.44415	29.68555	6.10262	220.62	1.40
87/ 3/18	2446872.5	-22.51879	-19.32869	0.71951	3.70633	-4.18701	-2.44420	29.68521	6.10262	220.64	1.39
87/ 3/22	2446876.5	-22.51023	-19.33836	0.71386	3.70803	-4.18548	-2.44425	29.68488	6.10263	220.67	1.38
87/ 3/26	2446880.5	-22.50166	-19.34802	0.70822	3.70972	-4.18396	-2.44430	29.68455	6.10263	220.69	1.37
87/ 3/30	2446884.5	-22.49309	-19.35769	0.70257	3.71142	-4.18243	-2.44435	29.68422	6.10264	220.72	1.36
87/ 4/ 3	2446888.5	-22.48451	-19.36735	0.69692	3.71311	-4.18090	-2.44440	29.68389	6.10264	220.74	1.35
87/ 4/ 7	2446892.5	-22.47593	-19.37701	0.69128	3.71480	-4.17938	-2.44445	29.68356	6.10264	220.77	1.33
87/ 4/11	2446896.5	-22.46735	-19.38666	0.68563	3.71648	-4.17785	-2.44450	29.68323	6.10264	220.79	1.32
87/ 4/15	2446900.5	-22.45876	-19.39631	0.67998	3.71817	-4.17632	-2.44455	29.68291	6.10264	220.82	1.31
87/ 4/19	2446904.5	-22.45017	-19.40595	0.67433	3.71985	-4.17479	-2.44460	29.68259	6.10264	220.84	1.30
87/ 4/23	2446908.5	-22.44157	-19.41560	0.66869	3.72154	-4.17327	-2.44464	29.68226	6.10264	220.87	1.29
87/ 4/27	2446912.5	-22.43298	-19.42524	0.66304	3.72322	-4.17174	-2.44469	29.68194	6.10264	220.89	1.28
87/ 5/ 1	2446916.5	-22.42437	-19.43487	0.65739	3.72489	-4.17021	-2.44474	29.68163	6.10264	220.91	1.27
87/ 5/ 5	2446920.5	-22.41576	-19.44450	0.65174	3.72657	-4.16869	-2.44479	29.68131	6.10264	220.94	1.26
87/ 5/ 9	2446924.5	-22.40715	-19.45413	0.64609	3.72824	-4.16716	-2.44484	29.68099	6.10265	220.96	1.25
87/ 5/13	2446928.5	-22.39854	-19.46376	0.64045	3.72992	-4.16564	-2.44489	29.68068	6.10265	220.99	1.24
87/ 5/17	2446932.5	-22.38992	-19.47338	0.63480	3.73160	-4.16412	-2.44494	29.68036	6.10265	221.01	1.23
87/ 5/21	2446936.5	-22.38130	-19.48300	0.62915	3.73327	-4.16259	-2.44499	29.68005	6.10266	221.04	1.21
87/ 5/25	2446940.5	-22.37267	-19.49261	0.62350	3.73495	-4.16107	-2.44504	29.67974	6.10267	221.06	1.20
87/ 5/29	2446944.5	-22.36404	-19.50222	0.61785	3.73662	-4.15955	-2.44509	29.67943	6.10267	221.09	1.19
87/ 6/ 2	2446948.5	-22.35541	-19.51183	0.61220	3.73829	-4.15802	-2.44514	29.67913	6.10268	221.11	1.18
87/ 6/ 6	2446952.5	-22.34677	-19.52144	0.60656	3.73997	-4.15650	-2.44519	29.67882	6.10269	221.14	1.17
87/ 6/10	2446956.5	-22.33813	-19.53104	0.60091	3.74164	-4.15497	-2.44524	29.67852	6.10269	221.16	1.16

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

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87/ 6/14	2446960.5	-22.32948	-19.54063	0.59526	3.74331	-4.15345	-2.44529	29.67821	6.10270	221.19	1.15
87/ 6/18	2446964.5	-22.32083	-19.55023	0.58961	3.74498	-4.15193	-2.44534	29.67791	6.10271	221.21	1.14
87/ 6/22	2446968.5	-22.31218	-19.55982	0.58396	3.74665	-4.15040	-2.44538	29.67761	6.10272	221.24	1.13
87/ 6/26	2446972.5	-22.30352	-19.56940	0.57831	3.74832	-4.14888	-2.44543	29.67731	6.10273	221.26	1.12
87/ 6/30	2446976.5	-22.29486	-19.57899	0.57266	3.74999	-4.14736	-2.44548	29.67702	6.10274	221.29	1.11
87/ 7/ 4	2446980.5	-22.28619	-19.58856	0.56701	3.75166	-4.14583	-2.44553	29.67672	6.10275	221.31	1.09
87/ 7/ 8	2446984.5	-22.27753	-19.59814	0.56136	3.75333	-4.14431	-2.44558	29.67643	6.10276	221.34	1.08
87/ 7/12	2446988.5	-22.26885	-19.60771	0.55571	3.75500	-4.14279	-2.44563	29.67614	6.10277	221.36	1.07
87/ 7/16	2446992.5	-22.26018	-19.61728	0.55006	3.75667	-4.14127	-2.44568	29.67584	6.10279	221.39	1.06
87/ 7/20	2446996.5	-22.25150	-19.62685	0.54441	3.75834	-4.13974	-2.44573	29.67555	6.10280	221.41	1.05
87/ 7/24	2447000.5	-22.24281	-19.63641	0.53876	3.76000	-4.13822	-2.44578	29.67527	6.10281	221.44	1.04
87/ 7/28	2447004.5	-22.23412	-19.64597	0.53311	3.76167	-4.13670	-2.44583	29.67498	6.10283	221.46	1.03
87/ 8/ 1	2447008.5	-22.22543	-19.65552	0.52746	3.76334	-4.13518	-2.44588	29.67470	6.10285	221.49	1.02
87/ 8/ 5	2447012.5	-22.21673	-19.66507	0.52181	3.76501	-4.13366	-2.44593	29.67441	6.10287	221.51	1.01
87/ 8/ 9	2447016.5	-22.20804	-19.67462	0.51616	3.76668	-4.13214	-2.44598	29.67413	6.10289	221.54	1.00
87/ 8/13	2447020.5	-22.19933	-19.68417	0.51051	3.76835	-4.13062	-2.44603	29.67385	6.10291	221.56	0.99
87/ 8/17	2447024.5	-22.19062	-19.69371	0.50486	3.77002	-4.12909	-2.44608	29.67357	6.10293	221.59	0.97
87/ 8/21	2447028.5	-22.18191	-19.70324	0.49921	3.77169	-4.12757	-2.44612	29.67329	6.10295	221.61	0.96
87/ 8/25	2447032.5	-22.17320	-19.71278	0.49356	3.77337	-4.12604	-2.44617	29.67302	6.10297	221.64	0.95
87/ 8/29	2447036.5	-22.16448	-19.72231	0.48791	3.77504	-4.12451	-2.44622	29.67274	6.10299	221.66	0.94
87/ 9/ 2	2447040.5	-22.15576	-19.73183	0.48225	3.77671	-4.12299	-2.44626	29.67247	6.10301	221.69	0.93
87/ 9/ 6	2447044.5	-22.14703	-19.74136	0.47660	3.77839	-4.12145	-2.44631	29.67220	6.10303	221.71	0.92
87/ 9/10	2447048.5	-22.13830	-19.75088	0.47095	3.78006	-4.11992	-2.44635	29.67192	6.10305	221.74	0.91
87/ 9/14	2447052.5	-22.12956	-19.76039	0.46530	3.78173	-4.11839	-2.44640	29.67166	6.10307	221.76	0.90
87/ 9/18	2447056.5	-22.12083	-19.76990	0.45965	3.78340	-4.11686	-2.44644	29.67139	6.10309	221.79	0.89
87/ 9/22	2447060.5	-22.11208	-19.77941	0.45400	3.78507	-4.11532	-2.44648	29.67112	6.10310	221.81	0.88
87/ 9/26	2447064.5	-22.10334	-19.78892	0.44834	3.78673	-4.11378	-2.44653	29.67086	6.10312	221.84	0.87
87/ 9/30	2447068.5	-22.09459	-19.79842	0.44269	3.78840	-4.11225	-2.44657	29.67059	6.10313	221.86	0.85
87/10/ 4	2447072.5	-22.08583	-19.80792	0.43704	3.79006	-4.11071	-2.44661	29.67033	6.10315	221.89	0.84
87/10/ 8	2447076.5	-22.07708	-19.81741	0.43139	3.79173	-4.10917	-2.44665	29.67007	6.10316	221.91	0.83
87/10/12	2447080.5	-22.06831	-19.82690	0.42574	3.79339	-4.10763	-2.44669	29.66981	6.10317	221.94	0.82
87/10/16	2447084.5	-22.05955	-19.83639	0.42008	3.79505	-4.10609	-2.44673	29.66956	6.10319	221.96	0.81
87/10/20	2447088.5	-22.05078	-19.84588	0.41443	3.79671	-4.10455	-2.44677	29.66930	6.10320	221.99	0.80
87/10/24	2447092.5	-22.04201	-19.85536	0.40878	3.79836	-4.10301	-2.44681	29.66905	6.10321	222.01	0.79
87/10/28	2447096.5	-22.03323	-19.86483	0.40313	3.80002	-4.10148	-2.44685	29.66879	6.10322	222.04	0.78
87/11/ 1	2447100.5	-22.02445	-19.87431	0.39747	3.80167	-4.09994	-2.44689	29.66854	6.10323	222.06	0.77
87/11/ 5	2447104.5	-22.01566	-19.88378	0.39182	3.80333	-4.09840	-2.44693	29.66829	6.10325	222.09	0.76
87/11/ 9	2447108.5	-22.00688	-19.89324	0.38617	3.80498	-4.09686	-2.44697	29.66804	6.10327	222.11	0.75
87/11/13	2447112.5	-21.99808	-19.90271	0.38052	3.80664	-4.09533	-2.44701	29.66780	6.10328	222.14	0.73
87/11/17	2447116.5	-21.98929	-19.91216	0.37486	3.80829	-4.09379	-2.44705	29.66755	6.10330	222.16	0.72
87/11/21	2447120.5	-21.98049	-19.92162	0.36921	3.80995	-4.09225	-2.44708	29.66731	6.10331	222.19	0.71
87/11/25	2447124.5	-21.97169	-19.93107	0.36356	3.81160	-4.09071	-2.44712	29.66706	6.10333	222.21	0.70
87/11/29	2447128.5	-21.96288	-19.94052	0.35790	3.81325	-4.08917	-2.44716	29.66682	6.10334	222.24	0.69
87/12/ 3	2447132.5	-21.95407	-19.94997	0.35225	3.81490	-4.08763	-2.44720	29.66658	6.10336	222.26	0.68
87/12/ 7	2447136.5	-21.94525	-19.95941	0.34660	3.81655	-4.08609	-2.44724	29.66635	6.10337	222.29	0.67

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87/12/11	2447140.5	-21.93643	-19.96884	0.34094	3.81820	-4.08455	-2.44727	29.66611	6.10339	222.31	0.66
87/12/15	2447144.5	-21.92761	-19.97828	0.33529	3.81985	-4.08301	-2.44731	29.66587	6.10341	222.34	0.65
87/12/19	2447148.5	-21.91878	-19.98771	0.32963	3.82149	-4.08147	-2.44735	29.66564	6.10342	222.36	0.64
87/12/23	2447152.5	-21.90995	-19.99714	0.32398	3.82314	-4.07994	-2.44739	29.66541	6.10344	222.39	0.63
87/12/27	2447156.5	-21.90112	-20.00656	0.31833	3.82478	-4.07840	-2.44743	29.66518	6.10346	222.41	0.61
87/12/31	2447160.5	-21.89228	-20.01598	0.31267	3.82643	-4.07686	-2.44746	29.66495	6.10348	222.44	0.60
88/ 1/ 4	2447164.5	-21.88344	-20.02540	0.30702	3.82807	-4.07533	-2.44750	29.66472	6.10350	222.46	0.59
88/ 1/ 8	2447168.5	-21.87459	-20.03481	0.30136	3.82972	-4.07379	-2.44754	29.66450	6.10352	222.49	0.58
88/ 1/12	2447172.5	-21.86575	-20.04422	0.29571	3.83136	-4.07226	-2.44758	29.66427	6.10354	222.51	0.57
88/ 1/16	2447176.5	-21.85689	-20.05363	0.29006	3.83300	-4.07072	-2.44762	29.66405	6.10357	222.54	0.56
88/ 1/20	2447180.5	-21.84804	-20.06303	0.28440	3.83465	-4.06919	-2.44766	29.66383	6.10359	222.56	0.55
88/ 1/24	2447184.5	-21.83917	-20.07243	0.27875	3.83629	-4.06766	-2.44770	29.66361	6.10362	222.59	0.54
88/ 1/28	2447188.5	-21.83031	-20.08182	0.27309	3.83794	-4.06613	-2.44774	29.66339	6.10365	222.61	0.53
88/ 2/ 1	2447192.5	-21.82144	-20.09121	0.26744	3.83958	-4.06460	-2.44778	29.66317	6.10368	222.64	0.52
88/ 2/ 5	2447196.5	-21.81257	-20.10060	0.26178	3.84123	-4.06307	-2.44782	29.66296	6.10372	222.66	0.51
88/ 2/ 9	2447200.5	-21.80369	-20.10999	0.25613	3.84288	-4.06154	-2.44786	29.66274	6.10376	222.69	0.49
88/ 2/13	2447204.5	-21.79481	-20.11937	0.25047	3.84454	-4.06000	-2.44790	29.66253	6.10379	222.71	0.48
88/ 2/17	2447208.5	-21.78593	-20.12874	0.24482	3.84619	-4.05847	-2.44794	29.66232	6.10383	222.74	0.47
88/ 2/21	2447212.5	-21.77704	-20.13812	0.23916	3.84784	-4.05694	-2.44798	29.66211	6.10387	222.76	0.46
88/ 2/25	2447216.5	-21.76815	-20.14749	0.23351	3.84950	-4.05540	-2.44802	29.66190	6.10391	222.79	0.45
88/ 2/29	2447220.5	-21.75926	-20.15686	0.22785	3.85115	-4.05387	-2.44805	29.66169	6.10395	222.81	0.44
88/ 3/ 4	2447224.5	-21.75036	-20.16622	0.22220	3.85281	-4.05233	-2.44809	29.66149	6.10399	222.84	0.43
88/ 3/ 8	2447228.5	-21.74146	-20.17558	0.21654	3.85447	-4.05079	-2.44813	29.66128	6.10403	222.86	0.42
88/ 3/12	2447232.5	-21.73255	-20.18494	0.21088	3.85612	-4.04925	-2.44816	29.66108	6.10407	222.89	0.41
88/ 3/16	2447236.5	-21.72364	-20.19429	0.20523	3.85778	-4.04771	-2.44820	29.66088	6.10411	222.91	0.40
88/ 3/20	2447240.5	-21.71473	-20.20364	0.19957	3.85944	-4.04617	-2.44823	29.66068	6.10415	222.94	0.39
88/ 3/24	2447244.5	-21.70581	-20.21298	0.19392	3.86110	-4.04462	-2.44827	29.66049	6.10418	222.96	0.37
88/ 3/28	2447248.5	-21.69689	-20.22232	0.18826	3.86276	-4.04308	-2.44830	29.66029	6.10422	222.99	0.36
88/ 4/ 1	2447252.5	-21.68796	-20.23166	0.18261	3.86441	-4.04153	-2.44833	29.66009	6.10426	223.01	0.35
88/ 4/ 5	2447256.5	-21.67903	-20.24100	0.17695	3.86607	-4.03998	-2.44837	29.65990	6.10430	223.04	0.34
88/ 4/ 9	2447260.5	-21.67010	-20.25033	0.17129	3.86773	-4.03843	-2.44840	29.65971	6.10434	223.06	0.33
88/ 4/13	2447264.5	-21.66116	-20.25966	0.16564	3.86939	-4.03688	-2.44843	29.65952	6.10437	223.09	0.32
88/ 4/17	2447268.5	-21.65222	-20.26898	0.15998	3.87104	-4.03533	-2.44846	29.65933	6.10441	223.11	0.31
88/ 4/21	2447272.5	-21.64328	-20.27830	0.15432	3.87270	-4.03378	-2.44849	29.65914	6.10444	223.14	0.30
88/ 4/25	2447276.5	-21.63433	-20.28762	0.14867	3.87435	-4.03222	-2.44851	29.65896	6.10448	223.16	0.29
88/ 4/29	2447280.5	-21.62537	-20.29693	0.14301	3.87601	-4.03067	-2.44854	29.65877	6.10452	223.19	0.28
88/ 5/ 3	2447284.5	-21.61642	-20.30624	0.13735	3.87767	-4.02911	-2.44857	29.65859	6.10455	223.21	0.27
88/ 5/ 7	2447288.5	-21.60746	-20.31555	0.13170	3.87932	-4.02756	-2.44860	29.65841	6.10459	223.23	0.25
88/ 5/11	2447292.5	-21.59849	-20.32485	0.12604	3.88098	-4.02599	-2.44862	29.65823	6.10462	223.26	0.24
88/ 5/15	2447296.5	-21.58953	-20.33415	0.12038	3.88263	-4.02443	-2.44865	29.65805	6.10465	223.28	0.23
88/ 5/19	2447300.5	-21.58056	-20.34344	0.11473	3.88429	-4.02287	-2.44867	29.65787	6.10468	223.31	0.22
88/ 5/23	2447304.5	-21.57158	-20.35274	0.10907	3.88594	-4.02130	-2.44869	29.65769	6.10471	223.33	0.21
88/ 5/27	2447308.5	-21.56260	-20.36202	0.10341	3.88759	-4.01973	-2.44872	29.65752	6.10474	223.36	0.20
88/ 5/31	2447312.5	-21.55362	-20.37131	0.09776	3.88924	-4.01816	-2.44874	29.65735	6.10476	223.38	0.19
88/ 6/ 4	2447316.5	-21.54463	-20.38059	0.09210	3.89089	-4.01659	-2.44876	29.65718	6.10479	223.41	0.18

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88/ 6/ 8	2447320.5	-21.53564	-20.38987	0.08644	3.89253	-4.01502	-2.44878	29.65701	6.10481	223.43	0.17
88/ 6/12	2447324.5	-21.52665	-20.39914	0.08079	3.89417	-4.01344	-2.44879	29.65684	6.10483	223.46	0.16
88/ 6/16	2447328.5	-21.51765	-20.40841	0.07513	3.89582	-4.01187	-2.44881	29.65667	6.10485	223.48	0.15
88/ 6/20	2447332.5	-21.50865	-20.41768	0.06947	3.89745	-4.01030	-2.44883	29.65650	6.10487	223.51	0.13
88/ 6/24	2447336.5	-21.49964	-20.42694	0.06381	3.89909	-4.00872	-2.44885	29.65634	6.10488	223.53	0.12
88/ 6/28	2447340.5	-21.49063	-20.43620	0.05816	3.90073	-4.00715	-2.44886	29.65618	6.10490	223.56	0.11
88/ 7/ 2	2447344.5	-21.48162	-20.44545	0.05250	3.90236	-4.00557	-2.44888	29.65602	6.10492	223.58	0.10
88/ 7/ 6	2447348.5	-21.47260	-20.45471	0.04684	3.90399	-4.00400	-2.44890	29.65586	6.10493	223.61	0.09
88/ 7/10	2447352.5	-21.46358	-20.46395	0.04118	3.90562	-4.00242	-2.44891	29.65570	6.10495	223.63	0.08
88/ 7/14	2447356.5	-21.45456	-20.47320	0.03553	3.90724	-4.00085	-2.44893	29.65554	6.10496	223.66	0.07
88/ 7/18	2447360.5	-21.44553	-20.48244	0.02987	3.90887	-3.99928	-2.44895	29.65538	6.10498	223.68	0.06
88/ 7/22	2447364.5	-21.43650	-20.49168	0.02421	3.91049	-3.99771	-2.44897	29.65523	6.10500	223.71	0.05
88/ 7/26	2447368.5	-21.42746	-20.50091	0.01855	3.91211	-3.99614	-2.44899	29.65508	6.10502	223.73	0.04
88/ 7/30	2447372.5	-21.41842	-20.51014	0.01290	3.91373	-3.99457	-2.44900	29.65493	6.10504	223.76	0.02
88/ 8/ 3	2447376.5	-21.40938	-20.51937	0.00724	3.91536	-3.99300	-2.44902	29.65478	6.10506	223.78	0.01
88/ 8/ 7	2447380.5	-21.40033	-20.52859	0.00158	3.91698	-3.99143	-2.44904	29.65463	6.10509	223.81	0.00
88/ 8/11	2447384.5	-21.39128	-20.53781	-0.00408	3.91860	-3.98986	-2.44906	29.65448	6.10511	223.83	-0.01
88/ 8/15	2447388.5	-21.38222	-20.54702	-0.00973	3.92023	-3.98829	-2.44908	29.65434	6.10513	223.86	-0.02
88/ 8/19	2447392.5	-21.37317	-20.55624	-0.01539	3.92185	-3.98673	-2.44910	29.65420	6.10516	223.88	-0.03
88/ 8/23	2447396.5	-21.36410	-20.56544	-0.02105	3.92347	-3.98516	-2.44912	29.65405	6.10518	223.91	-0.04
88/ 8/27	2447400.5	-21.35504	-20.57465	-0.02671	3.92509	-3.98359	-2.44913	29.65391	6.10521	223.93	-0.05
88/ 8/31	2447404.5	-21.34597	-20.58385	-0.03237	3.92671	-3.98202	-2.44915	29.65377	6.10524	223.96	-0.06
88/ 9/ 4	2447408.5	-21.33690	-20.59305	-0.03802	3.92833	-3.98046	-2.44917	29.65364	6.10526	223.98	-0.07
88/ 9/ 8	2447412.5	-21.32782	-20.60224	-0.04368	3.92995	-3.97889	-2.44919	29.65350	6.10529	224.01	-0.08
88/ 9/12	2447416.5	-21.31874	-20.61143	-0.04934	3.93156	-3.97733	-2.44921	29.65337	6.10532	224.03	-0.10
88/ 9/16	2447420.5	-21.30965	-20.62062	-0.05500	3.93318	-3.97576	-2.44923	29.65323	6.10535	224.06	-0.11
88/ 9/20	2447424.5	-21.30057	-20.62980	-0.06066	3.93480	-3.97420	-2.44925	29.65310	6.10539	224.08	-0.12
88/ 9/24	2447428.5	-21.29147	-20.63898	-0.06631	3.93642	-3.97263	-2.44927	29.65297	6.10542	224.11	-0.13
88/ 9/28	2447432.5	-21.28238	-20.64815	-0.07197	3.93804	-3.97107	-2.44929	29.65284	6.10546	224.13	-0.14
88/10/ 2	2447436.5	-21.27328	-20.65733	-0.07763	3.93966	-3.96951	-2.44931	29.65272	6.10549	224.16	-0.15
88/10/ 6	2447440.5	-21.26417	-20.66650	-0.08329	3.94128	-3.96795	-2.44933	29.65259	6.10553	224.18	-0.16
88/10/10	2447444.5	-21.25507	-20.67566	-0.08895	3.94290	-3.96638	-2.44935	29.65247	6.10557	224.21	-0.17
88/10/14	2447448.5	-21.24596	-20.68482	-0.09461	3.94452	-3.96482	-2.44937	29.65234	6.10561	224.23	-0.18
88/10/18	2447452.5	-21.23684	-20.69398	-0.10026	3.94615	-3.96326	-2.44939	29.65222	6.10566	224.26	-0.19
88/10/22	2447456.5	-21.22772	-20.70313	-0.10592	3.94777	-3.96170	-2.44941	29.65210	6.10570	224.28	-0.20
88/10/26	2447460.5	-21.21860	-20.71228	-0.11158	3.94940	-3.96014	-2.44943	29.65199	6.10575	224.31	-0.22
88/10/30	2447464.5	-21.20948	-20.72143	-0.11724	3.95103	-3.95858	-2.44945	29.65187	6.10580	224.33	-0.23
88/11/ 3	2447468.5	-21.20035	-20.73057	-0.12290	3.95266	-3.95702	-2.44947	29.65175	6.10585	224.36	-0.24
88/11/ 7	2447472.5	-21.19121	-20.73971	-0.12856	3.95429	-3.95545	-2.44949	29.65164	6.10590	224.38	-0.25
88/11/11	2447476.5	-21.18208	-20.74885	-0.13422	3.95592	-3.95389	-2.44951	29.65153	6.10595	224.41	-0.26
88/11/15	2447480.5	-21.17294	-20.75798	-0.13988	3.95756	-3.95232	-2.44953	29.65142	6.10600	224.43	-0.27
88/11/19	2447484.5	-21.16379	-20.76711	-0.14553	3.95919	-3.95075	-2.44954	29.65131	6.10605	224.46	-0.28
88/11/23	2447488.5	-21.15464	-20.77624	-0.15119	3.96082	-3.94918	-2.44956	29.65120	6.10610	224.48	-0.29
88/11/27	2447492.5	-21.14549	-20.78536	-0.15685	3.96246	-3.94761	-2.44957	29.65110	6.10615	224.51	-0.30
88/12/ 1	2447496.5	-21.13634	-20.79447	-0.16251	3.96409	-3.94603	-2.44959	29.65099	6.10620	224.53	-0.31

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88/12/ 5	2447500.5	-21.12718	-20.80359	-0.16817	3.96573	-3.94446	-2.44960	29.65089	6.10625	224.56	-0.32
88/12/ 9	2447504.5	-21.11801	-20.81270	-0.17383	3.96736	-3.94288	-2.44961	29.65079	6.10630	224.58	-0.34
88/12/13	2447508.5	-21.10885	-20.82181	-0.17949	3.96899	-3.94130	-2.44962	29.65069	6.10634	224.61	-0.35
88/12/17	2447512.5	-21.09967	-20.83091	-0.18515	3.97063	-3.93972	-2.44964	29.65059	6.10639	224.63	-0.36
88/12/21	2447516.5	-21.09050	-20.84001	-0.19081	3.97226	-3.93814	-2.44965	29.65049	6.10644	224.66	-0.37
88/12/25	2447520.5	-21.08132	-20.84911	-0.19647	3.97389	-3.93656	-2.44966	29.65039	6.10648	224.68	-0.38
88/12/29	2447524.5	-21.07214	-20.85820	-0.20212	3.97552	-3.93498	-2.44966	29.65030	6.10653	224.71	-0.39
89/ 1/ 2	2447528.5	-21.06295	-20.86729	-0.20778	3.97715	-3.93339	-2.44967	29.65021	6.10657	224.73	-0.40
89/ 1/ 6	2447532.5	-21.05376	-20.87637	-0.21344	3.97878	-3.93181	-2.44968	29.65012	6.10661	224.76	-0.41
89/ 1/10	2447536.5	-21.04457	-20.88545	-0.21910	3.98041	-3.93022	-2.44969	29.65003	6.10666	224.78	-0.42
89/ 1/14	2447540.5	-21.03537	-20.89453	-0.22476	3.98203	-3.92864	-2.44969	29.64994	6.10670	224.81	-0.43
89/ 1/18	2447544.5	-21.02617	-20.90360	-0.23042	3.98366	-3.92705	-2.44970	29.64985	6.10674	224.83	-0.45
89/ 1/22	2447548.5	-21.01697	-20.91267	-0.23608	3.98529	-3.92547	-2.44971	29.64977	6.10679	224.86	-0.46
89/ 1/26	2447552.5	-21.00776	-20.92174	-0.24174	3.98692	-3.92388	-2.44971	29.64968	6.10684	224.88	-0.47
89/ 1/30	2447556.5	-20.99855	-20.93080	-0.24740	3.98855	-3.92229	-2.44972	29.64960	6.10688	224.91	-0.48
89/ 2/ 3	2447560.5	-20.98933	-20.93986	-0.25306	3.99017	-3.92070	-2.44972	29.64952	6.10692	224.93	-0.49
89/ 2/ 7	2447564.5	-20.98011	-20.94892	-0.25872	3.99180	-3.91910	-2.44973	29.64944	6.10696	224.96	-0.50
89/ 2/11	2447568.5	-20.97089	-20.95797	-0.26438	3.99343	-3.91751	-2.44973	29.64936	6.10700	224.98	-0.51
89/ 2/15	2447572.5	-20.96166	-20.96702	-0.27004	3.99505	-3.91591	-2.44973	29.64928	6.10704	225.01	-0.52
89/ 2/19	2447576.5	-20.95243	-20.97606	-0.27569	3.99667	-3.91432	-2.44973	29.64921	6.10708	225.03	-0.53
89/ 2/23	2447580.5	-20.94319	-20.98511	-0.28135	3.99829	-3.91272	-2.44973	29.64913	6.10712	225.06	-0.54
89/ 2/27	2447584.5	-20.93395	-20.99414	-0.28701	3.99992	-3.91113	-2.44973	29.64906	6.10716	225.08	-0.55
89/ 3/ 3	2447588.5	-20.92471	-21.00318	-0.29267	4.00153	-3.90953	-2.44973	29.64899	6.10720	225.11	-0.57
89/ 3/ 7	2447592.5	-20.91547	-21.01221	-0.29833	4.00315	-3.90793	-2.44973	29.64892	6.10724	225.13	-0.58
89/ 3/11	2447596.5	-20.90622	-21.02123	-0.30399	4.00477	-3.90633	-2.44973	29.64885	6.10728	225.16	-0.59
89/ 3/15	2447600.5	-20.89696	-21.03025	-0.30965	4.00639	-3.90474	-2.44973	29.64879	6.10731	225.18	-0.60
89/ 3/19	2447604.5	-20.88770	-21.03927	-0.31531	4.00800	-3.90314	-2.44973	29.64872	6.10735	225.21	-0.61
89/ 3/23	2447608.5	-20.87844	-21.04829	-0.32097	4.00962	-3.90154	-2.44973	29.64866	6.10739	225.23	-0.62
89/ 3/27	2447612.5	-20.86918	-21.05730	-0.32663	4.01123	-3.89995	-2.44973	29.64859	6.10743	225.26	-0.63
89/ 3/31	2447616.5	-20.85991	-21.06631	-0.33229	4.01284	-3.89835	-2.44973	29.64853	6.10747	225.28	-0.64
89/ 4/ 4	2447620.5	-20.85064	-21.07531	-0.33795	4.01445	-3.89675	-2.44973	29.64848	6.10751	225.31	-0.65
89/ 4/ 8	2447624.5	-20.84136	-21.08431	-0.34361	4.01606	-3.89516	-2.44973	29.64842	6.10755	225.33	-0.66
89/ 4/12	2447628.5	-20.83208	-21.09331	-0.34927	4.01768	-3.89356	-2.44973	29.64836	6.10759	225.36	-0.67
89/ 4/16	2447632.5	-20.82280	-21.10230	-0.35493	4.01929	-3.89197	-2.44973	29.64831	6.10764	225.38	-0.69
89/ 4/20	2447636.5	-20.81351	-21.11129	-0.36058	4.02090	-3.89037	-2.44973	29.64825	6.10769	225.41	-0.70
89/ 4/24	2447640.5	-20.80422	-21.12028	-0.36624	4.02252	-3.88878	-2.44973	29.64820	6.10774	225.43	-0.71
89/ 4/28	2447644.5	-20.79493	-21.12926	-0.37190	4.02414	-3.88718	-2.44973	29.64815	6.10779	225.46	-0.72
89/ 5/ 2	2447648.5	-20.78563	-21.13824	-0.37756	4.02576	-3.88559	-2.44973	29.64810	6.10784	225.48	-0.73
89/ 5/ 6	2447652.5	-20.77633	-21.14721	-0.38322	4.02737	-3.88399	-2.44972	29.64805	6.10788	225.51	-0.74
89/ 5/10	2447656.5	-20.76702	-21.15618	-0.38888	4.02899	-3.88239	-2.44972	29.64801	6.10793	225.53	-0.75
89/ 5/14	2447660.5	-20.75771	-21.16515	-0.39454	4.03061	-3.88079	-2.44972	29.64796	6.10798	225.56	-0.76
89/ 5/18	2447664.5	-20.74840	-21.17411	-0.40020	4.03223	-3.87919	-2.44972	29.64792	6.10803	225.58	-0.77
89/ 5/22	2447668.5	-20.73908	-21.18307	-0.40586	4.03385	-3.87759	-2.44971	29.64788	6.10808	225.61	-0.78
89/ 5/26	2447672.5	-20.72976	-21.19203	-0.41152	4.03546	-3.87598	-2.44971	29.64784	6.10813	225.63	-0.80
89/ 5/30	2447676.5	-20.72044	-21.20098	-0.41718	4.03708	-3.87438	-2.44970	29.64780	6.10818	225.66	-0.81

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89/ 6/ 3	2447680.5	-20.71111	-21.20993	-0.42284	4.03870	-3.87278	-2.44970	29.64776	6.10823	225.68	-0.82
89/ 6/ 7	2447684.5	-20.70177	-21.21887	-0.42850	4.04032	-3.87117	-2.44969	29.64773	6.10828	225.71	-0.83
89/ 6/11	2447688.5	-20.69244	-21.22782	-0.43415	4.04194	-3.86956	-2.44969	29.64769	6.10833	225.73	-0.84
89/ 6/15	2447692.5	-20.68310	-21.23675	-0.43981	4.04356	-3.86795	-2.44968	29.64766	6.10838	225.76	-0.85
89/ 6/19	2447696.5	-20.67376	-21.24569	-0.44547	4.04518	-3.86634	-2.44967	29.64763	6.10843	225.78	-0.86
89/ 6/23	2447700.5	-20.66441	-21.25462	-0.45113	4.04679	-3.86473	-2.44966	29.64760	6.10848	225.81	-0.87
89/ 6/27	2447704.5	-20.65506	-21.26354	-0.45679	4.04841	-3.86312	-2.44965	29.64757	6.10853	225.83	-0.88
89/ 7/ 1	2447708.5	-20.64570	-21.27247	-0.46245	4.05003	-3.86151	-2.44964	29.64754	6.10858	225.86	-0.89
89/ 7/ 5	2447712.5	-20.63635	-21.28138	-0.46811	4.05164	-3.85990	-2.44963	29.64752	6.10863	225.88	-0.90
89/ 7/ 9	2447716.5	-20.62698	-21.29030	-0.47377	4.05326	-3.85828	-2.44962	29.64749	6.10868	225.91	-0.92
89/ 7/13	2447720.5	-20.61762	-21.29921	-0.47943	4.05488	-3.85667	-2.44961	29.64747	6.10873	225.93	-0.93
89/ 7/17	2447724.5	-20.60825	-21.30812	-0.48509	4.05650	-3.85505	-2.44960	29.64745	6.10878	225.96	-0.94
89/ 7/21	2447728.5	-20.59888	-21.31702	-0.49075	4.05812	-3.85343	-2.44959	29.64743	6.10883	225.98	-0.95
89/ 7/25	2447732.5	-20.58950	-21.32592	-0.49640	4.05974	-3.85181	-2.44958	29.64741	6.10887	226.01	-0.96
89/ 7/29	2447736.5	-20.58012	-21.33482	-0.50206	4.06135	-3.85019	-2.44956	29.64739	6.10892	226.03	-0.97
89/ 8/ 2	2447740.5	-20.57073	-21.34371	-0.50772	4.06297	-3.84857	-2.44955	29.64738	6.10897	226.06	-0.98
89/ 8/ 6	2447744.5	-20.56135	-21.35260	-0.51338	4.06459	-3.84694	-2.44953	29.64736	6.10901	226.08	-0.99
89/ 8/10	2447748.5	-20.55195	-21.36149	-0.51904	4.06620	-3.84531	-2.44951	29.64735	6.10905	226.11	-1.00
89/ 8/14	2447752.5	-20.54256	-21.37037	-0.52470	4.06781	-3.84368	-2.44950	29.64734	6.10909	226.13	-1.01
89/ 8/18	2447756.5	-20.53316	-21.37925	-0.53036	4.06942	-3.84205	-2.44948	29.64733	6.10913	226.16	-1.03
89/ 8/22	2447760.5	-20.52376	-21.38812	-0.53602	4.07103	-3.84042	-2.44946	29.64732	6.10917	226.18	-1.04
89/ 8/26	2447764.5	-20.51435	-21.39699	-0.54168	4.07264	-3.83878	-2.44944	29.64731	6.10921	226.21	-1.05
89/ 8/30	2447768.5	-20.50494	-21.40586	-0.54733	4.07425	-3.83715	-2.44941	29.64731	6.10924	226.23	-1.06
89/ 9/ 3	2447772.5	-20.49553	-21.41472	-0.55299	4.07585	-3.83552	-2.44939	29.64730	6.10928	226.26	-1.07
89/ 9/ 7	2447776.5	-20.48611	-21.42358	-0.55865	4.07745	-3.83388	-2.44937	29.64730	6.10931	226.28	-1.08
89/ 9/11	2447780.5	-20.47669	-21.43243	-0.56431	4.07905	-3.83225	-2.44935	29.64730	6.10934	226.31	-1.09
89/ 9/15	2447784.5	-20.46726	-21.44128	-0.56997	4.08065	-3.83061	-2.44933	29.64730	6.10938	226.33	-1.10
89/ 9/19	2447788.5	-20.45783	-21.45013	-0.57563	4.08225	-3.82898	-2.44930	29.64730	6.10941	226.36	-1.11
89/ 9/23	2447792.5	-20.44840	-21.45898	-0.58128	4.08384	-3.82734	-2.44928	29.64730	6.10944	226.38	-1.12
89/ 9/27	2447796.5	-20.43896	-21.46782	-0.58694	4.08543	-3.82571	-2.44926	29.64731	6.10947	226.41	-1.13
89/10/ 1	2447800.5	-20.42952	-21.47665	-0.59260	4.08702	-3.82407	-2.44924	29.64731	6.10951	226.43	-1.15
89/10/ 5	2447804.5	-20.42008	-21.48548	-0.59826	4.08862	-3.82244	-2.44921	29.64732	6.10954	226.46	-1.16
89/10/ 9	2447808.5	-20.41063	-21.49431	-0.60392	4.09021	-3.82081	-2.44919	29.64733	6.10958	226.48	-1.17
89/10/13	2447812.5	-20.40118	-21.50314	-0.60958	4.09180	-3.81918	-2.44917	29.64734	6.10961	226.51	-1.18
89/10/17	2447816.5	-20.39173	-21.51196	-0.61523	4.09339	-3.81755	-2.44915	29.64735	6.10965	226.53	-1.19
89/10/21	2447820.5	-20.38227	-21.52078	-0.62089	4.09498	-3.81592	-2.44913	29.64736	6.10969	226.56	-1.20
89/10/25	2447824.5	-20.37281	-21.52959	-0.62655	4.09657	-3.81429	-2.44911	29.64738	6.10973	226.58	-1.21
89/10/29	2447828.5	-20.36334	-21.53840	-0.63221	4.09816	-3.81265	-2.44908	29.64739	6.10977	226.61	-1.22
89/11/ 2	2447832.5	-20.35387	-21.54721	-0.63786	4.09975	-3.81102	-2.44906	29.64741	6.10981	226.63	-1.23
89/11/ 6	2447836.5	-20.34440	-21.55601	-0.64352	4.10134	-3.80939	-2.44904	29.64743	6.10985	226.66	-1.24
89/11/10	2447840.5	-20.33492	-21.56481	-0.64918	4.10293	-3.80776	-2.44901	29.64745	6.10989	226.68	-1.25
89/11/14	2447844.5	-20.32544	-21.57360	-0.65484	4.10452	-3.80613	-2.44899	29.64747	6.10993	226.71	-1.27
89/11/18	2447848.5	-20.31596	-21.58239	-0.66050	4.10611	-3.80450	-2.44897	29.64750	6.10998	226.73	-1.28
89/11/22	2447852.5	-20.30647	-21.59118	-0.66615	4.10770	-3.80287	-2.44895	29.64752	6.11002	226.76	-1.29
89/11/26	2447856.5	-20.29698	-21.59996	-0.67181	4.10929	-3.80124	-2.44892	29.64755	6.11007	226.78	-1.30

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
89/11/30	2447860.5	-20.28748	-21.60874	-0.67747	4.11088	-3.79961	-2.44890	29.64758	6.11011	226.81	-1.31
89/12/ 4	2447864.5	-20.27799	-21.61752	-0.68312	4.11247	-3.79798	-2.44888	29.64760	6.11016	226.83	-1.32
89/12/ 8	2447868.5	-20.26848	-21.62629	-0.68878	4.11406	-3.79635	-2.44885	29.64763	6.11021	226.86	-1.33
89/12/12	2447872.5	-20.25898	-21.63506	-0.69444	4.11565	-3.79472	-2.44883	29.64767	6.11026	226.88	-1.34
89/12/16	2447876.5	-20.24947	-21.64382	-0.70010	4.11724	-3.79309	-2.44881	29.64770	6.11031	226.91	-1.35
89/12/20	2447880.5	-20.23995	-21.65258	-0.70575	4.11883	-3.79146	-2.44879	29.64774	6.11036	226.93	-1.36
89/12/24	2447884.5	-20.23044	-21.66134	-0.71141	4.12042	-3.78984	-2.44876	29.64777	6.11042	226.96	-1.37
89/12/28	2447888.5	-20.22092	-21.67009	-0.71707	4.12202	-3.78821	-2.44874	29.64781	6.11047	226.98	-1.39
90/ 1/ 1	2447892.5	-20.21139	-21.67884	-0.72273	4.12361	-3.78658	-2.44872	29.64785	6.11053	227.01	-1.40
90/ 1/ 5	2447896.5	-20.20186	-21.68759	-0.72838	4.12521	-3.78495	-2.44870	29.64789	6.11059	227.03	-1.41
90/ 1/ 9	2447900.5	-20.19233	-21.69633	-0.73404	4.12681	-3.78332	-2.44867	29.64793	6.11066	227.06	-1.42
90/ 1/13	2447904.5	-20.18280	-21.70507	-0.73970	4.12841	-3.78169	-2.44865	29.64798	6.11072	227.08	-1.43
90/ 1/17	2447908.5	-20.17326	-21.71380	-0.74535	4.13002	-3.78006	-2.44862	29.64802	6.11078	227.11	-1.44
90/ 1/21	2447912.5	-20.16371	-21.72253	-0.75101	4.13162	-3.77843	-2.44860	29.64807	6.11085	227.13	-1.45
90/ 1/25	2447916.5	-20.15417	-21.73126	-0.75667	4.13323	-3.77679	-2.44857	29.64812	6.11091	227.16	-1.46
90/ 1/29	2447920.5	-20.14462	-21.73998	-0.76232	4.13484	-3.77515	-2.44854	29.64816	6.11097	227.18	-1.47
90/ 2/ 2	2447924.5	-20.13506	-21.74870	-0.76798	4.13645	-3.77351	-2.44852	29.64822	6.11104	227.21	-1.48
90/ 2/ 6	2447928.5	-20.12551	-21.75742	-0.77364	4.13805	-3.77186	-2.44849	29.64827	6.11110	227.23	-1.50
90/ 2/10	2447932.5	-20.11594	-21.76613	-0.77929	4.13966	-3.77022	-2.44845	29.64832	6.11116	227.26	-1.51
90/ 2/14	2447936.5	-20.10638	-21.77484	-0.78495	4.14127	-3.76857	-2.44842	29.64838	6.11122	227.28	-1.52
90/ 2/18	2447940.5	-20.09681	-21.78354	-0.79060	4.14288	-3.76692	-2.44839	29.64843	6.11128	227.31	-1.53
90/ 2/22	2447944.5	-20.08724	-21.79224	-0.79626	4.14449	-3.76527	-2.44835	29.64849	6.11134	227.33	-1.54
90/ 2/26	2447948.5	-20.07766	-21.80094	-0.80192	4.14609	-3.76362	-2.44832	29.64855	6.11140	227.36	-1.55
90/ 3/ 2	2447952.5	-20.06808	-21.80963	-0.80757	4.14770	-3.76196	-2.44828	29.64861	6.11145	227.38	-1.56
90/ 3/ 6	2447956.5	-20.05850	-21.81832	-0.81323	4.14931	-3.76030	-2.44824	29.64867	6.11151	227.41	-1.57
90/ 3/10	2447960.5	-20.04891	-21.82701	-0.81888	4.15091	-3.75864	-2.44821	29.64874	6.11156	227.43	-1.58
90/ 3/14	2447964.5	-20.03932	-21.83569	-0.82454	4.15252	-3.75698	-2.44817	29.64880	6.11161	227.46	-1.59
90/ 3/18	2447968.5	-20.02972	-21.84437	-0.83020	4.15412	-3.75531	-2.44813	29.64887	6.11166	227.48	-1.60
90/ 3/22	2447972.5	-20.02013	-21.85304	-0.83585	4.15572	-3.75365	-2.44808	29.64894	6.11171	227.51	-1.62
90/ 3/26	2447976.5	-20.01052	-21.86171	-0.84151	4.15732	-3.75198	-2.44804	29.64900	6.11176	227.53	-1.63
90/ 3/30	2447980.5	-20.00092	-21.87037	-0.84716	4.15892	-3.75032	-2.44800	29.64908	6.11181	227.56	-1.64
90/ 4/ 3	2447984.5	-19.99131	-21.87904	-0.85282	4.16052	-3.74865	-2.44796	29.64915	6.11186	227.58	-1.65
90/ 4/ 7	2447988.5	-19.98169	-21.88769	-0.85847	4.16212	-3.74698	-2.44791	29.64922	6.11191	227.61	-1.66
90/ 4/11	2447992.5	-19.97208	-21.89635	-0.86413	4.16372	-3.74531	-2.44787	29.64929	6.11195	227.63	-1.67
90/ 4/15	2447996.5	-19.96246	-21.90500	-0.86978	4.16532	-3.74363	-2.44782	29.64937	6.11200	227.66	-1.68
90/ 4/19	2448000.5	-19.95283	-21.91365	-0.87544	4.16692	-3.74196	-2.44778	29.64945	6.11204	227.68	-1.69
90/ 4/23	2448004.5	-19.94320	-21.92229	-0.88109	4.16851	-3.74028	-2.44773	29.64953	6.11208	227.71	-1.70
90/ 4/27	2448008.5	-19.93357	-21.93093	-0.88675	4.17011	-3.73860	-2.44768	29.64961	6.11212	227.73	-1.71
90/ 5/ 1	2448012.5	-19.92394	-21.93956	-0.89240	4.17170	-3.73692	-2.44763	29.64969	6.11216	227.76	-1.72
90/ 5/ 5	2448016.5	-19.91430	-21.94819	-0.89806	4.17329	-3.73524	-2.44758	29.64977	6.11220	227.78	-1.74
90/ 5/ 9	2448020.5	-19.90465	-21.95682	-0.90371	4.17487	-3.73355	-2.44753	29.64985	6.11223	227.81	-1.75
90/ 5/13	2448024.5	-19.89501	-21.96544	-0.90936	4.17646	-3.73187	-2.44747	29.64994	6.11226	227.83	-1.76
90/ 5/17	2448028.5	-19.88536	-21.97406	-0.91502	4.17804	-3.73018	-2.44742	29.65003	6.11230	227.86	-1.77
90/ 5/21	2448032.5	-19.87570	-21.98268	-0.92067	4.17962	-3.72850	-2.44737	29.65012	6.11233	227.88	-1.78
90/ 5/25	2448036.5	-19.86605	-21.99129	-0.92633	4.18120	-3.72681	-2.44731	29.65021	6.11236	227.91	-1.79

1.9 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
90/ 5/29	2448040.5	-19.85638	-21.99990	-0.93198	4.18278	-3.72513	-2.44726	29.65030	6.11239	227.93	-1.80
90/ 6/ 2	2448044.5	-19.84672	-22.00850	-0.93763	4.18436	-3.72344	-2.44721	29.65039	6.11242	227.96	-1.81
90/ 6/ 6	2448048.5	-19.83705	-22.01710	-0.94329	4.18593	-3.72176	-2.44715	29.65048	6.11245	227.98	-1.82
90/ 6/10	2448052.5	-19.82738	-22.02570	-0.94894	4.18751	-3.72007	-2.44710	29.65058	6.11248	228.01	-1.83
90/ 6/14	2448056.5	-19.81770	-22.03429	-0.95459	4.18908	-3.71839	-2.44704	29.65068	6.11251	228.03	-1.84
90/ 6/18	2448060.5	-19.80802	-22.04288	-0.96025	4.19065	-3.71671	-2.44699	29.65077	6.11254	228.06	-1.86
90/ 6/22	2448064.5	-19.79834	-22.05146	-0.96590	4.19222	-3.71502	-2.44694	29.65087	6.11257	228.08	-1.87
90/ 6/26	2448068.5	-19.78866	-22.06004	-0.97155	4.19378	-3.71334	-2.44688	29.65097	6.11261	228.11	-1.88
90/ 6/30	2448072.5	-19.77896	-22.06862	-0.97720	4.19535	-3.71166	-2.44683	29.65108	6.11264	228.13	-1.89
90/ 7/ 4	2448076.5	-19.76927	-22.07719	-0.98286	4.19692	-3.70998	-2.44678	29.65118	6.11268	228.16	-1.90
90/ 7/ 8	2448080.5	-19.75957	-22.08576	-0.98851	4.19849	-3.70830	-2.44673	29.65128	6.11272	228.18	-1.91
90/ 7/12	2448084.5	-19.74987	-22.09433	-0.99416	4.20007	-3.70662	-2.44667	29.65139	6.11276	228.21	-1.92
90/ 7/16	2448088.5	-19.74017	-22.10289	-0.99981	4.20164	-3.70494	-2.44662	29.65150	6.11279	228.23	-1.93
90/ 7/20	2448092.5	-19.73046	-22.11144	-1.00547	4.20321	-3.70325	-2.44657	29.65161	6.11283	228.26	-1.94
90/ 7/24	2448096.5	-19.72075	-22.12000	-1.01112	4.20478	-3.70157	-2.44651	29.65172	6.11287	228.28	-1.95
90/ 7/28	2448100.5	-19.71103	-22.12855	-1.01677	4.20635	-3.69988	-2.44646	29.65183	6.11291	228.31	-1.97
90/ 8/ 1	2448104.5	-19.70131	-22.13709	-1.02242	4.20792	-3.69820	-2.44640	29.65195	6.11295	228.33	-1.98
90/ 8/ 5	2448108.5	-19.69159	-22.14563	-1.02807	4.20949	-3.69652	-2.44635	29.65206	6.11299	228.36	-1.99
90/ 8/ 9	2448112.5	-19.68186	-22.15417	-1.03372	4.21106	-3.69483	-2.44629	29.65218	6.11303	228.38	-2.00
90/ 8/13	2448116.5	-19.67213	-22.16270	-1.03938	4.21263	-3.69314	-2.44624	29.65229	6.11307	228.41	-2.01
90/ 8/17	2448120.5	-19.66240	-22.17123	-1.04503	4.21420	-3.69146	-2.44618	29.65241	6.11311	228.43	-2.02
90/ 8/21	2448124.5	-19.65266	-22.17976	-1.05068	4.21577	-3.68977	-2.44612	29.65253	6.11316	228.46	-2.03
90/ 8/25	2448128.5	-19.64292	-22.18828	-1.05633	4.21734	-3.68808	-2.44607	29.65266	6.11320	228.48	-2.04
90/ 8/29	2448132.5	-19.63318	-22.19680	-1.06198	4.21891	-3.68640	-2.44601	29.65278	6.11324	228.51	-2.05
90/ 9/ 2	2448136.5	-19.62343	-22.20531	-1.06763	4.22048	-3.68471	-2.44595	29.65290	6.11328	228.53	-2.06
90/ 9/ 6	2448140.5	-19.61368	-22.21382	-1.07328	4.22205	-3.68302	-2.44589	29.65303	6.11333	228.56	-2.07
90/ 9/10	2448144.5	-19.60392	-22.22233	-1.07893	4.22363	-3.68133	-2.44583	29.65316	6.11337	228.58	-2.09
90/ 9/14	2448148.5	-19.59416	-22.23083	-1.08458	4.22520	-3.67963	-2.44578	29.65329	6.11341	228.61	-2.10
90/ 9/18	2448152.5	-19.58440	-22.23933	-1.09023	4.22677	-3.67794	-2.44572	29.65342	6.11346	228.63	-2.11
90/ 9/22	2448156.5	-19.57463	-22.24783	-1.09588	4.22834	-3.67625	-2.44566	29.65355	6.11350	228.66	-2.12
90/ 9/26	2448160.5	-19.56486	-22.25632	-1.10153	4.22991	-3.67456	-2.44560	29.65368	6.11355	228.68	-2.13
90/ 9/30	2448164.5	-19.55509	-22.26481	-1.10718	4.23148	-3.67287	-2.44554	29.65382	6.11359	228.71	-2.14
90/10/ 4	2448168.5	-19.54531	-22.27329	-1.11283	4.23306	-3.67117	-2.44548	29.65395	6.11364	228.73	-2.15
90/10/ 8	2448172.5	-19.53553	-22.28177	-1.11848	4.23463	-3.66947	-2.44541	29.65409	6.11369	228.76	-2.16
90/10/12	2448176.5	-19.52575	-22.29024	-1.12413	4.23621	-3.66777	-2.44535	29.65423	6.11373	228.78	-2.17
90/10/16	2448180.5	-19.51596	-22.29871	-1.12978	4.23778	-3.66607	-2.44529	29.65437	6.11378	228.81	-2.18
90/10/20	2448184.5	-19.50617	-22.30718	-1.13543	4.23935	-3.66437	-2.44522	29.65451	6.11382	228.83	-2.19
90/10/24	2448188.5	-19.49637	-22.31564	-1.14108	4.24093	-3.66266	-2.44515	29.65465	6.11386	228.86	-2.21
90/10/28	2448192.5	-19.48657	-22.32410	-1.14672	4.24250	-3.66095	-2.44509	29.65480	6.11390	228.88	-2.22
90/11/ 1	2448196.5	-19.47677	-22.33256	-1.15237	4.24407	-3.65924	-2.44502	29.65494	6.11394	228.91	-2.23
90/11/ 5	2448200.5	-19.46696	-22.34101	-1.15802	4.24564	-3.65753	-2.44495	29.65509	6.11398	228.93	-2.24
90/11/ 9	2448204.5	-19.45715	-22.34946	-1.16367	4.24720	-3.65582	-2.44488	29.65524	6.11402	228.96	-2.25
90/11/13	2448208.5	-19.44734	-22.35790	-1.16932	4.24877	-3.65411	-2.44481	29.65539	6.11405	228.98	-2.26
90/11/17	2448212.5	-19.43752	-22.36634	-1.17497	4.25034	-3.65239	-2.44473	29.65554	6.11409	229.01	-2.27
90/11/21	2448216.5	-19.42770	-22.37478	-1.18061	4.25190	-3.65068	-2.44466	29.65569	6.11412	229.03	-2.28

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
90/11/25	2448220.5	-19.41788	-22.38321	-1.18626	4.25346	-3.64896	-2.44459	29.65585	6.11415	229.06	-2.29
90/11/29	2448224.5	-19.40805	-22.39164	-1.19191	4.25502	-3.64725	-2.44451	29.65600	6.11419	229.08	-2.30
90/12/ 3	2448228.5	-19.39822	-22.40006	-1.19756	4.25658	-3.64553	-2.44444	29.65616	6.11422	229.11	-2.31
90/12/ 7	2448232.5	-19.38838	-22.40848	-1.20320	4.25814	-3.64381	-2.44437	29.65631	6.11425	229.13	-2.33
90/12/11	2448236.5	-19.37854	-22.41690	-1.20885	4.25970	-3.64209	-2.44429	29.65647	6.11428	229.16	-2.34
90/12/15	2448240.5	-19.36870	-22.42531	-1.21450	4.26125	-3.64038	-2.44422	29.65663	6.11431	229.18	-2.35
90/12/19	2448244.5	-19.35885	-22.43372	-1.22014	4.26280	-3.63866	-2.44414	29.65680	6.11434	229.21	-2.36
90/12/23	2448248.5	-19.34900	-22.44212	-1.22579	4.26436	-3.63695	-2.44407	29.65696	6.11438	229.23	-2.37
90/12/27	2448252.5	-19.33915	-22.45052	-1.23143	4.26591	-3.63523	-2.44399	29.65712	6.11441	229.26	-2.38
90/12/31	2448256.5	-19.32929	-22.45892	-1.23708	4.26747	-3.63351	-2.44392	29.65729	6.11444	229.28	-2.39
91/ 1/ 4	2448260.5	-19.31943	-22.46731	-1.24273	4.26902	-3.63179	-2.44384	29.65746	6.11448	229.31	-2.40
91/ 1/ 8	2448264.5	-19.30957	-22.47570	-1.24837	4.27058	-3.63007	-2.44377	29.65763	6.11451	229.33	-2.41
91/ 1/12	2448268.5	-19.29970	-22.48408	-1.25402	4.27213	-3.62835	-2.44369	29.65780	6.11455	229.36	-2.42
91/ 1/16	2448272.5	-19.28983	-22.49246	-1.25966	4.27369	-3.62663	-2.44361	29.65797	6.11458	229.38	-2.43
91/ 1/20	2448276.5	-19.27996	-22.50084	-1.26531	4.27524	-3.62491	-2.44353	29.65814	6.11461	229.41	-2.45
91/ 1/24	2448280.5	-19.27008	-22.50921	-1.27095	4.27679	-3.62319	-2.44345	29.65832	6.11465	229.43	-2.46
91/ 1/28	2448284.5	-19.26020	-22.51758	-1.27660	4.27834	-3.62147	-2.44337	29.65849	6.11468	229.46	-2.47
91/ 2/ 1	2448288.5	-19.25031	-22.52594	-1.28224	4.27989	-3.61974	-2.44330	29.65867	6.11471	229.48	-2.48
91/ 2/ 5	2448292.5	-19.24042	-22.53430	-1.28789	4.28144	-3.61802	-2.44322	29.65885	6.11474	229.51	-2.49
91/ 2/ 9	2448296.5	-19.23053	-22.54266	-1.29353	4.28299	-3.61630	-2.44314	29.65903	6.11478	229.53	-2.50
91/ 2/13	2448300.5	-19.22063	-22.55101	-1.29917	4.28454	-3.61457	-2.44306	29.65921	6.11481	229.56	-2.51
91/ 2/17	2448304.5	-19.21073	-22.55936	-1.30482	4.28609	-3.61285	-2.44298	29.65939	6.11485	229.58	-2.52
91/ 2/21	2448308.5	-19.20083	-22.56770	-1.31046	4.28764	-3.61113	-2.44290	29.65957	6.11488	229.61	-2.53
91/ 2/25	2448312.5	-19.19092	-22.57604	-1.31611	4.28919	-3.60940	-2.44281	29.65976	6.11492	229.63	-2.54
91/ 3/ 1	2448316.5	-19.18101	-22.58438	-1.32175	4.29073	-3.60768	-2.44273	29.65995	6.11496	229.66	-2.55
91/ 3/ 5	2448320.5	-19.17110	-22.59271	-1.32739	4.29228	-3.60595	-2.44265	29.66013	6.11499	229.68	-2.57
91/ 3/ 9	2448324.5	-19.16118	-22.60104	-1.33303	4.29383	-3.60423	-2.44257	29.66032	6.11503	229.71	-2.58
91/ 3/13	2448328.5	-19.15126	-22.60936	-1.33868	4.29538	-3.60250	-2.44249	29.66051	6.11507	229.73	-2.59
91/ 3/17	2448332.5	-19.14133	-22.61768	-1.34432	4.29693	-3.60078	-2.44241	29.66071	6.11511	229.76	-2.60
91/ 3/21	2448336.5	-19.13141	-22.62600	-1.34996	4.29848	-3.59905	-2.44233	29.66090	6.11515	229.78	-2.61
91/ 3/25	2448340.5	-19.12147	-22.63431	-1.35560	4.30003	-3.59733	-2.44224	29.66110	6.11520	229.81	-2.62
91/ 3/29	2448344.5	-19.11154	-22.64262	-1.36125	4.30159	-3.59560	-2.44216	29.66129	6.11524	229.83	-2.63
91/ 4/ 2	2448348.5	-19.10160	-22.65093	-1.36689	4.30315	-3.59387	-2.44208	29.66149	6.11529	229.86	-2.64
91/ 4/ 6	2448352.5	-19.09166	-22.65923	-1.37253	4.30470	-3.59214	-2.44199	29.66169	6.11533	229.88	-2.65
91/ 4/10	2448356.5	-19.08171	-22.66752	-1.37817	4.30626	-3.59040	-2.44191	29.66189	6.11537	229.91	-2.66
91/ 4/14	2448360.5	-19.07176	-22.67582	-1.38381	4.30782	-3.58867	-2.44182	29.66209	6.11542	229.93	-2.67
91/ 4/18	2448364.5	-19.06181	-22.68410	-1.38945	4.30937	-3.58693	-2.44173	29.66229	6.11546	229.96	-2.68
91/ 4/22	2448368.5	-19.05185	-22.69239	-1.39509	4.31093	-3.58519	-2.44164	29.66250	6.11550	229.98	-2.70
91/ 4/26	2448372.5	-19.04189	-22.70067	-1.40073	4.31249	-3.58345	-2.44155	29.66270	6.11554	230.01	-2.71
91/ 4/30	2448376.5	-19.03192	-22.70895	-1.40637	4.31404	-3.58170	-2.44146	29.66291	6.11558	230.03	-2.72
91/ 5/ 4	2448380.5	-19.02196	-22.71722	-1.41201	4.31560	-3.57995	-2.44137	29.66312	6.11562	230.06	-2.73
91/ 5/ 8	2448384.5	-19.01198	-22.72549	-1.41765	4.31715	-3.57820	-2.44128	29.66333	6.11565	230.08	-2.74
91/ 5/12	2448388.5	-19.00201	-22.73375	-1.42329	4.31871	-3.57645	-2.44118	29.66354	6.11569	230.11	-2.75
91/ 5/16	2448392.5	-18.99203	-22.74201	-1.42893	4.32026	-3.57470	-2.44109	29.66375	6.11572	230.13	-2.76
91/ 5/20	2448396.5	-18.98205	-22.75027	-1.43457	4.32181	-3.57294	-2.44099	29.66396	6.11575	230.16	-2.77

1.9 1 A.U.=149,599,000 KM.

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DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
91/ 5/24	2448400.5	-18.97206	-22.75852	-1.44021	4.32337	-3.57119	-2.44089	29.66418	6.11578	230.18	-2.78
91/ 5/28	2448404.5	-18.96207	-22.76677	-1.44585	4.32491	-3.56943	-2.44079	29.66439	6.11581	230.21	-2.79
91/ 6/ 1	2448408.5	-18.95208	-22.77501	-1.45149	4.32646	-3.56767	-2.44069	29.66461	6.11584	230.23	-2.80
91/ 6/ 5	2448412.5	-18.94208	-22.78325	-1.45713	4.32801	-3.56591	-2.44059	29.66483	6.11587	230.26	-2.82
91/ 6/ 9	2448416.5	-18.93208	-22.79149	-1.46277	4.32955	-3.56414	-2.44049	29.66505	6.11589	230.28	-2.83
91/ 6/13	2448420.5	-18.92208	-22.79972	-1.46840	4.33110	-3.56238	-2.44039	29.66527	6.11592	230.31	-2.84
91/ 6/17	2448424.5	-18.91207	-22.80795	-1.47404	4.33264	-3.56062	-2.44029	29.66550	6.11594	230.33	-2.85
91/ 6/21	2448428.5	-18.90206	-22.81617	-1.47968	4.33418	-3.55885	-2.44018	29.66572	6.11597	230.36	-2.86
91/ 6/25	2448432.5	-18.89205	-22.82439	-1.48532	4.33572	-3.55708	-2.44008	29.66594	6.11599	230.38	-2.87
91/ 6/29	2448436.5	-18.88203	-22.83260	-1.49095	4.33726	-3.55531	-2.43998	29.66617	6.11601	230.41	-2.88
91/ 7/ 3	2448440.5	-18.87201	-22.84082	-1.49659	4.33880	-3.55354	-2.43987	29.66640	6.11603	230.44	-2.89
91/ 7/ 7	2448444.5	-18.86198	-22.84902	-1.50223	4.34034	-3.55176	-2.43976	29.66663	6.11605	230.46	-2.90
91/ 7/11	2448448.5	-18.85195	-22.85723	-1.50786	4.34188	-3.54999	-2.43965	29.66686	6.11606	230.49	-2.91
91/ 7/15	2448452.5	-18.84192	-22.86543	-1.51350	4.34341	-3.54821	-2.43955	29.66709	6.11607	230.51	-2.92
91/ 7/19	2448456.5	-18.83188	-22.87362	-1.51913	4.34494	-3.54643	-2.43944	29.66732	6.11609	230.54	-2.94
91/ 7/23	2448460.5	-18.82184	-22.88181	-1.52477	4.34646	-3.54465	-2.43933	29.66756	6.11610	230.56	-2.95
91/ 7/27	2448464.5	-18.81180	-22.89000	-1.53040	4.34799	-3.54287	-2.43921	29.66779	6.11610	230.59	-2.96
91/ 7/31	2448468.5	-18.80175	-22.89818	-1.53604	4.34951	-3.54109	-2.43910	29.66803	6.11611	230.61	-2.97
91/ 8/ 4	2448472.5	-18.79171	-22.90636	-1.54167	4.35103	-3.53931	-2.43899	29.66827	6.11612	230.64	-2.98
91/ 8/ 8	2448476.5	-18.78165	-22.91453	-1.54731	4.35255	-3.53753	-2.43888	29.66851	6.11612	230.66	-2.99
91/ 8/12	2448480.5	-18.77159	-22.92270	-1.55294	4.35407	-3.53575	-2.43877	29.66875	6.11613	230.69	-3.00
91/ 8/16	2448484.5	-18.76153	-22.93087	-1.55858	4.35558	-3.53397	-2.43865	29.66899	6.11613	230.71	-3.01
91/ 8/20	2448488.5	-18.75147	-22.93903	-1.56421	4.35710	-3.53219	-2.43854	29.66924	6.11614	230.74	-3.02
91/ 8/24	2448492.5	-18.74140	-22.94719	-1.56984	4.35861	-3.53041	-2.43843	29.66948	6.11614	230.76	-3.03
91/ 8/28	2448496.5	-18.73133	-22.95534	-1.57548	4.36011	-3.52863	-2.43832	29.66973	6.11614	230.79	-3.04
91/ 9/ 1	2448500.5	-18.72126	-22.96349	-1.58111	4.36162	-3.52686	-2.43820	29.66998	6.11615	230.81	-3.05
91/ 9/ 5	2448504.5	-18.71118	-22.97164	-1.58674	4.36313	-3.52508	-2.43809	29.67022	6.11615	230.84	-3.07
91/ 9/ 9	2448508.5	-18.70110	-22.97978	-1.59237	4.36463	-3.52330	-2.43798	29.67047	6.11616	230.86	-3.08
91/ 9/13	2448512.5	-18.69101	-22.98792	-1.59800	4.36614	-3.52153	-2.43787	29.67073	6.11617	230.89	-3.09
91/ 9/17	2448516.5	-18.68093	-22.99605	-1.60364	4.36764	-3.51976	-2.43776	29.67098	6.11618	230.91	-3.10
91/ 9/21	2448520.5	-18.67083	-23.00418	-1.60927	4.36915	-3.51798	-2.43765	29.67123	6.11619	230.94	-3.11
91/ 9/25	2448524.5	-18.66074	-23.01231	-1.61490	4.37066	-3.51621	-2.43754	29.67149	6.11620	230.96	-3.12
91/ 9/29	2448528.5	-18.65064	-23.02043	-1.62053	4.37216	-3.51443	-2.43742	29.67175	6.11622	230.99	-3.13
91/10/ 3	2448532.5	-18.64054	-23.02854	-1.62616	4.37367	-3.51266	-2.43731	29.67200	6.11623	231.01	-3.14
91/10/ 7	2448536.5	-18.63043	-23.03666	-1.63179	4.37518	-3.51088	-2.43720	29.67226	6.11624	231.04	-3.15
91/10/11	2448540.5	-18.62032	-23.04476	-1.63742	4.37668	-3.50911	-2.43709	29.67253	6.11626	231.06	-3.16
91/10/15	2448544.5	-18.61021	-23.05287	-1.64305	4.37819	-3.50733	-2.43698	29.67279	6.11627	231.09	-3.17
91/10/19	2448548.5	-18.60009	-23.06097	-1.64868	4.37970	-3.50556	-2.43686	29.67305	6.11629	231.11	-3.19
91/10/23	2448552.5	-18.58997	-23.06907	-1.65431	4.38120	-3.50378	-2.43675	29.67332	6.11630	231.14	-3.20
91/10/27	2448556.5	-18.57985	-23.07716	-1.65994	4.38271	-3.50200	-2.43664	29.67358	6.11632	231.16	-3.21
91/10/31	2448560.5	-18.56972	-23.08525	-1.66557	4.38421	-3.50023	-2.43652	29.67385	6.11634	231.19	-3.22
91/11/ 4	2448564.5	-18.55959	-23.09333	-1.67120	4.38572	-3.49845	-2.43641	29.67412	6.11636	231.21	-3.23
91/11/ 8	2448568.5	-18.54946	-23.10141	-1.67683	4.38723	-3.49667	-2.43629	29.67439	6.11637	231.24	-3.24
91/11/12	2448572.5	-18.53932	-23.10949	-1.68245	4.38874	-3.49490	-2.43618	29.67466	6.11639	231.26	-3.25
91/11/16	2448576.5	-18.52918	-23.11756	-1.68808	4.39024	-3.49312	-2.43607	29.67494	6.11641	231.29	-3.26

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91/11/20	2448580.5	-18.51904	-23.12563	-1.69371	4.39175	-3.49134	-2.43595	29.67521	6.11644	231.31	-3.27
91/11/24	2448584.5	-18.50889	-23.13369	-1.69934	4.39326	-3.48956	-2.43583	29.67549	6.11646	231.34	-3.28
91/11/28	2448588.5	-18.49874	-23.14175	-1.70496	4.39477	-3.48778	-2.43572	29.67576	6.11648	231.36	-3.29
91/12/ 2	2448592.5	-18.48859	-23.14980	-1.71059	4.39628	-3.48600	-2.43560	29.67604	6.11650	231.39	-3.30
91/12/ 6	2448596.5	-18.47843	-23.15786	-1.71622	4.39779	-3.48422	-2.43549	29.67632	6.11653	231.41	-3.32
91/12/10	2448600.5	-18.46827	-23.16590	-1.72184	4.39930	-3.48244	-2.43537	29.67660	6.11655	231.44	-3.33
91/12/14	2448604.5	-18.45810	-23.17395	-1.72747	4.40081	-3.48065	-2.43525	29.67688	6.11658	231.46	-3.34
91/12/18	2448608.5	-18.44793	-23.18198	-1.73310	4.40233	-3.47887	-2.43513	29.67717	6.11661	231.49	-3.35
91/12/22	2448612.5	-18.43776	-23.19002	-1.73872	4.40384	-3.47708	-2.43501	29.67745	6.11663	231.51	-3.36
91/12/26	2448616.5	-18.42759	-23.19805	-1.74435	4.40536	-3.47529	-2.43489	29.67774	6.11666	231.54	-3.37
91/12/30	2448620.5	-18.41741	-23.20608	-1.74997	4.40688	-3.47350	-2.43477	29.67803	6.11668	231.56	-3.38
92/ 1/ 3	2448624.5	-18.40723	-23.21410	-1.75560	4.40839	-3.47170	-2.43464	29.67832	6.11671	231.59	-3.39
92/ 1/ 7	2448628.5	-18.39704	-23.22212	-1.76122	4.40991	-3.46990	-2.43452	29.67861	6.11673	231.61	-3.40
92/ 1/11	2448632.5	-18.38685	-23.23013	-1.76684	4.41142	-3.46810	-2.43439	29.67890	6.11675	231.64	-3.41
92/ 1/15	2448636.5	-18.37666	-23.23814	-1.77247	4.41293	-3.46630	-2.43426	29.67919	6.11677	231.66	-3.42
92/ 1/19	2448640.5	-18.36646	-23.24615	-1.77809	4.41444	-3.46450	-2.43414	29.67948	6.11679	231.69	-3.43
92/ 1/23	2448644.5	-18.35626	-23.25415	-1.78371	4.41596	-3.46269	-2.43401	29.67978	6.11680	231.71	-3.45
92/ 1/27	2448648.5	-18.34606	-23.26215	-1.78934	4.41746	-3.46088	-2.43387	29.68008	6.11682	231.74	-3.46
92/ 1/31	2448652.5	-18.33585	-23.27014	-1.79496	4.41897	-3.45907	-2.43374	29.68038	6.11683	231.76	-3.47
92/ 2/ 4	2448656.5	-18.32564	-23.27813	-1.80058	4.42048	-3.45726	-2.43361	29.68067	6.11684	231.79	-3.48
92/ 2/ 8	2448660.5	-18.31543	-23.28611	-1.80620	4.42198	-3.45545	-2.43348	29.68097	6.11685	231.81	-3.49
92/ 2/12	2448664.5	-18.30521	-23.29409	-1.81183	4.42349	-3.45363	-2.43334	29.68128	6.11686	231.84	-3.50
92/ 2/16	2448668.5	-18.29499	-23.30207	-1.81745	4.42499	-3.45181	-2.43320	29.68158	6.11686	231.86	-3.51
92/ 2/20	2448672.5	-18.28476	-23.31004	-1.82307	4.42649	-3.45000	-2.43307	29.68188	6.11687	231.89	-3.52
92/ 2/24	2448676.5	-18.27454	-23.31801	-1.82869	4.42798	-3.44818	-2.43293	29.68219	6.11687	231.91	-3.53
92/ 2/28	2448680.5	-18.26431	-23.32597	-1.83431	4.42948	-3.44636	-2.43279	29.68250	6.11688	231.94	-3.54
92/ 3/ 3	2448684.5	-18.25407	-23.33393	-1.83993	4.43097	-3.44454	-2.43265	29.68280	6.11688	231.96	-3.55
92/ 3/ 7	2448688.5	-18.24383	-23.34189	-1.84555	4.43247	-3.44272	-2.43252	29.68311	6.11688	231.99	-3.56
92/ 3/11	2448692.5	-18.23359	-23.34984	-1.85117	4.43396	-3.44090	-2.43238	29.68342	6.11689	232.01	-3.58
92/ 3/15	2448696.5	-18.22335	-23.35779	-1.85679	4.43545	-3.43908	-2.43224	29.68374	6.11689	232.04	-3.59
92/ 3/19	2448700.5	-18.21310	-23.36573	-1.86241	4.43695	-3.43726	-2.43210	29.68405	6.11689	232.06	-3.60
92/ 3/23	2448704.5	-18.20285	-23.37367	-1.86802	4.43844	-3.43543	-2.43196	29.68436	6.11689	232.09	-3.61
92/ 3/27	2448708.5	-18.19259	-23.38160	-1.87364	4.43993	-3.43361	-2.43182	29.68468	6.11689	232.11	-3.62
92/ 3/31	2448712.5	-18.18233	-23.38953	-1.87926	4.44141	-3.43178	-2.43167	29.68500	6.11689	232.14	-3.63
92/ 4/ 4	2448716.5	-18.17207	-23.39746	-1.88488	4.44290	-3.42995	-2.43153	29.68532	6.11688	232.16	-3.64
92/ 4/ 8	2448720.5	-18.16180	-23.40538	-1.89049	4.44438	-3.42812	-2.43139	29.68563	6.11688	232.19	-3.65
92/ 4/12	2448724.5	-18.15154	-23.41330	-1.89611	4.44586	-3.42629	-2.43124	29.68596	6.11687	232.21	-3.66
92/ 4/16	2448728.5	-18.14126	-23.42121	-1.90173	4.44734	-3.42447	-2.43110	29.68628	6.11687	232.24	-3.67
92/ 4/20	2448732.5	-18.13099	-23.42912	-1.90734	4.44882	-3.42264	-2.43095	29.68660	6.11686	232.26	-3.68
92/ 4/24	2448736.5	-18.12071	-23.43702	-1.91296	4.45030	-3.42081	-2.43081	29.68693	6.11685	232.29	-3.69
92/ 4/28	2448740.5	-18.11043	-23.44493	-1.91857	4.45178	-3.41898	-2.43066	29.68725	6.11685	232.32	-3.71
92/ 5/ 2	2448744.5	-18.10014	-23.45282	-1.92419	4.45325	-3.41714	-2.43051	29.68758	6.11684	232.34	-3.72
92/ 5/ 6	2448748.5	-18.08985	-23.46071	-1.92980	4.45472	-3.41531	-2.43037	29.68791	6.11683	232.37	-3.73
92/ 5/10	2448752.5	-18.07956	-23.46860	-1.93542	4.45620	-3.41348	-2.43022	29.68824	6.11682	232.39	-3.74
92/ 5/14	2448756.5	-18.06926	-23.47649	-1.94103	4.45767	-3.41165	-2.43007	29.68857	6.11682	232.42	-3.75

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
92/ 5/18	2448760.5	-18.05896	-23.48436	-1.94665	4.45914	-3.40982	-2.42993	29.68890	6.11681	232.44	-3.76
92/ 5/22	2448764.5	-18.04866	-23.49224	-1.95226	4.46061	-3.40799	-2.42978	29.68923	6.11680	232.47	-3.77
92/ 5/26	2448768.5	-18.03835	-23.50011	-1.95787	4.46208	-3.40616	-2.42963	29.68957	6.11680	232.49	-3.78
92/ 5/30	2448772.5	-18.02804	-23.50798	-1.96349	4.46355	-3.40433	-2.42949	29.68991	6.11679	232.52	-3.79
92/ 6/ 3	2448776.5	-18.01773	-23.51584	-1.96910	4.46502	-3.40251	-2.42934	29.69024	6.11679	232.54	-3.80
92/ 6/ 7	2448780.5	-18.00741	-23.52370	-1.97471	4.46649	-3.40068	-2.42920	29.69058	6.11679	232.57	-3.81
92/ 6/11	2448784.5	-17.99709	-23.53155	-1.98032	4.46796	-3.39885	-2.42905	29.69092	6.11679	232.59	-3.82
92/ 6/15	2448788.5	-17.98677	-23.53940	-1.98593	4.46943	-3.39701	-2.42890	29.69126	6.11679	232.62	-3.84
92/ 6/19	2448792.5	-17.97644	-23.54725	-1.99154	4.47090	-3.39518	-2.42875	29.69161	6.11679	232.64	-3.85
92/ 6/23	2448796.5	-17.96611	-23.55509	-1.99716	4.47238	-3.39335	-2.42860	29.69195	6.11679	232.67	-3.86
92/ 6/27	2448800.5	-17.95578	-23.56293	-2.00277	4.47385	-3.39151	-2.42845	29.69230	6.11678	232.69	-3.87
92/ 7/ 1	2448804.5	-17.94544	-23.57076	-2.00838	4.47532	-3.38967	-2.42830	29.69264	6.11678	232.72	-3.88
92/ 7/ 5	2448808.5	-17.93510	-23.57859	-2.01399	4.47679	-3.38783	-2.42815	29.69299	6.11678	232.74	-3.89
92/ 7/ 9	2448812.5	-17.92476	-23.58641	-2.01959	4.47826	-3.38599	-2.42800	29.69334	6.11677	232.77	-3.90
92/ 7/13	2448816.5	-17.91441	-23.59423	-2.02520	4.47973	-3.38415	-2.42784	29.69369	6.11677	232.79	-3.91
92/ 7/17	2448820.5	-17.90406	-23.60205	-2.03081	4.48120	-3.38230	-2.42769	29.69404	6.11677	232.82	-3.92
92/ 7/21	2448824.5	-17.89370	-23.60986	-2.03642	4.48267	-3.38046	-2.42753	29.69439	6.11676	232.84	-3.93
92/ 7/25	2448828.5	-17.88335	-23.61767	-2.04203	4.48414	-3.37861	-2.42738	29.69475	6.11675	232.87	-3.94
92/ 7/29	2448832.5	-17.87299	-23.62547	-2.04764	4.48561	-3.37676	-2.42722	29.69510	6.11675	232.89	-3.95
92/ 8/ 2	2448836.5	-17.86262	-23.63327	-2.05324	4.48707	-3.37491	-2.42706	29.69546	6.11674	232.92	-3.96
92/ 8/ 6	2448840.5	-17.85225	-23.64106	-2.05885	4.48854	-3.37306	-2.42690	29.69582	6.11673	232.94	-3.98
92/ 8/10	2448844.5	-17.84188	-23.64885	-2.06446	4.49000	-3.37121	-2.42674	29.69618	6.11672	232.97	-3.99
92/ 8/14	2448848.5	-17.83151	-23.65664	-2.07006	4.49146	-3.36936	-2.42658	29.69654	6.11671	232.99	-4.00
92/ 8/18	2448852.5	-17.82113	-23.66442	-2.07567	4.49292	-3.36750	-2.42642	29.69690	6.11669	233.02	-4.01
92/ 8/22	2448856.5	-17.81075	-23.67220	-2.08127	4.49438	-3.36565	-2.42626	29.69726	6.11668	233.04	-4.02
92/ 8/26	2448860.5	-17.80036	-23.67997	-2.08688	4.49584	-3.36379	-2.42610	29.69763	6.11667	233.07	-4.03
92/ 8/30	2448864.5	-17.78998	-23.68774	-2.09248	4.49730	-3.36194	-2.42594	29.69799	6.11665	233.09	-4.04
92/ 9/ 3	2448868.5	-17.77959	-23.69550	-2.09809	4.49875	-3.36008	-2.42578	29.69836	6.11664	233.12	-4.05
92/ 9/ 7	2448872.5	-17.76919	-23.70326	-2.10369	4.50021	-3.35822	-2.42561	29.69873	6.11663	233.14	-4.06
92/ 9/11	2448876.5	-17.75879	-23.71102	-2.10929	4.50167	-3.35636	-2.42545	29.69910	6.11661	233.17	-4.07
92/ 9/15	2448880.5	-17.74839	-23.71877	-2.11490	4.50312	-3.35449	-2.42528	29.69947	6.11659	233.19	-4.08
92/ 9/19	2448884.5	-17.73799	-23.72652	-2.12050	4.50457	-3.35263	-2.42512	29.69984	6.11658	233.22	-4.09
92/ 9/23	2448888.5	-17.72758	-23.73426	-2.12610	4.50602	-3.35076	-2.42495	29.70021	6.11655	233.24	-4.11
92/ 9/27	2448892.5	-17.71717	-23.74200	-2.13170	4.50747	-3.34889	-2.42478	29.70059	6.11653	233.27	-4.12
92/10/ 1	2448896.5	-17.70675	-23.74974	-2.13730	4.50892	-3.34703	-2.42461	29.70096	6.11651	233.29	-4.13
92/10/ 5	2448900.5	-17.69633	-23.75747	-2.14291	4.51036	-3.34516	-2.42444	29.70134	6.11648	233.32	-4.14
92/10/ 9	2448904.5	-17.68591	-23.76519	-2.14851	4.51181	-3.34329	-2.42427	29.70172	6.11646	233.34	-4.15
92/10/13	2448908.5	-17.67549	-23.77291	-2.15411	4.51325	-3.34142	-2.42410	29.70210	6.11643	233.37	-4.16
92/10/17	2448912.5	-17.66506	-23.78063	-2.15971	4.51468	-3.33954	-2.42393	29.70248	6.11640	233.39	-4.17
92/10/21	2448916.5	-17.65463	-23.78834	-2.16531	4.51612	-3.33767	-2.42376	29.70286	6.11637	233.42	-4.18
92/10/25	2448920.5	-17.64419	-23.79605	-2.17091	4.51755	-3.33580	-2.42358	29.70324	6.11634	233.44	-4.19
92/10/29	2448924.5	-17.63376	-23.80376	-2.17650	4.51899	-3.33393	-2.42341	29.70362	6.11631	233.47	-4.20
92/11/ 2	2448928.5	-17.62332	-23.81146	-2.18210	4.52042	-3.33206	-2.42324	29.70401	6.11628	233.49	-4.21
92/11/ 6	2448932.5	-17.61287	-23.81915	-2.18770	4.52184	-3.33019	-2.42307	29.70440	6.11625	233.52	-4.22
92/11/10	2448936.5	-17.60242	-23.82684	-2.19330	4.52327	-3.32832	-2.42289	29.70478	6.11622	233.54	-4.23

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92/11/14	2448940.5	-17.59197	-23.83453	-2.19889	4.52469	-3.32645	-2.42272	29.70517	6.11618	233.57	-4.25
92/11/18	2448944.5	-17.58152	-23.84221	-2.20449	4.52612	-3.32458	-2.42255	29.70556	6.11615	233.59	-4.26
92/11/22	2448948.5	-17.57106	-23.84989	-2.21009	4.52754	-3.32272	-2.42238	29.70596	6.11612	233.62	-4.27
92/11/26	2448952.5	-17.56060	-23.85756	-2.21568	4.52896	-3.32085	-2.42221	29.70635	6.11610	233.64	-4.28
92/11/30	2448956.5	-17.55013	-23.86523	-2.22128	4.53039	-3.31898	-2.42204	29.70674	6.11607	233.67	-4.29
92/12/ 4	2448960.5	-17.53967	-23.87290	-2.22687	4.53181	-3.31712	-2.42186	29.70714	6.11605	233.69	-4.30
92/12/ 8	2448964.5	-17.52920	-23.88056	-2.23247	4.53324	-3.31525	-2.42169	29.70754	6.11602	233.72	-4.31
92/12/12	2448968.5	-17.51872	-23.88822	-2.23806	4.53466	-3.31339	-2.42152	29.70793	6.11600	233.75	-4.32
92/12/16	2448972.5	-17.50824	-23.89587	-2.24366	4.53609	-3.31152	-2.42135	29.70833	6.11598	233.77	-4.33
92/12/20	2448976.5	-17.49776	-23.90352	-2.24925	4.53751	-3.30965	-2.42117	29.70873	6.11595	233.80	-4.34
92/12/24	2448980.5	-17.48728	-23.91116	-2.25484	4.53894	-3.30778	-2.42100	29.70914	6.11593	233.82	-4.35
92/12/28	2448984.5	-17.47679	-23.91880	-2.26044	4.54036	-3.30591	-2.42083	29.70954	6.11591	233.85	-4.36
93/ 1/ 1	2448988.5	-17.46630	-23.92643	-2.26603	4.54178	-3.30405	-2.42065	29.70994	6.11589	233.87	-4.37
93/ 1/ 5	2448992.5	-17.45581	-23.93407	-2.27162	4.54321	-3.30218	-2.42048	29.71035	6.11587	233.90	-4.39
93/ 1/ 9	2448996.5	-17.44531	-23.94169	-2.27721	4.54463	-3.30031	-2.42030	29.71076	6.11584	233.92	-4.40
93/ 1/13	2449000.5	-17.43481	-23.94931	-2.28280	4.54605	-3.29844	-2.42013	29.71117	6.11582	233.95	-4.41
93/ 1/17	2449004.5	-17.42430	-23.95693	-2.28839	4.54748	-3.29657	-2.41995	29.71158	6.11581	233.97	-4.42
93/ 1/21	2449008.5	-17.41380	-23.96455	-2.29398	4.54890	-3.29470	-2.41978	29.71199	6.11579	234.00	-4.43
93/ 1/25	2449012.5	-17.40329	-23.97215	-2.29957	4.55033	-3.29282	-2.41960	29.71240	6.11577	234.02	-4.44
93/ 1/29	2449016.5	-17.39277	-23.97976	-2.30516	4.55175	-3.29095	-2.41942	29.71281	6.11575	234.05	-4.45
93/ 2/ 2	2449020.5	-17.38226	-23.98736	-2.31075	4.55317	-3.28908	-2.41924	29.71323	6.11573	234.07	-4.46
93/ 2/ 6	2449024.5	-17.37174	-23.99496	-2.31634	4.55460	-3.28720	-2.41907	29.71364	6.11571	234.10	-4.47
93/ 2/10	2449028.5	-17.36121	-24.00255	-2.32193	4.55602	-3.28533	-2.41889	29.71406	6.11570	234.12	-4.48
93/ 2/14	2449032.5	-17.35069	-24.01014	-2.32752	4.55745	-3.28345	-2.41871	29.71448	6.11568	234.15	-4.49
93/ 2/18	2449036.5	-17.34016	-24.01772	-2.33311	4.55887	-3.28158	-2.41853	29.71490	6.11566	234.17	-4.50
93/ 2/22	2449040.5	-17.32962	-24.02530	-2.33869	4.56030	-3.27970	-2.41835	29.71532	6.11565	234.20	-4.51
93/ 2/26	2449044.5	-17.31909	-24.03287	-2.34428	4.56173	-3.27782	-2.41817	29.71574	6.11564	234.22	-4.52
93/ 3/ 2	2449048.5	-17.30855	-24.04044	-2.34987	4.56316	-3.27594	-2.41799	29.71616	6.11562	234.25	-4.54
93/ 3/ 6	2449052.5	-17.29800	-24.04801	-2.35545	4.56459	-3.27406	-2.41781	29.71659	6.11561	234.27	-4.55
93/ 3/10	2449056.5	-17.28746	-24.05557	-2.36104	4.56602	-3.27217	-2.41762	29.71702	6.11560	234.30	-4.56
93/ 3/14	2449060.5	-17.27691	-24.06313	-2.36662	4.56745	-3.27028	-2.41743	29.71744	6.11558	234.32	-4.57
93/ 3/18	2449064.5	-17.26635	-24.07068	-2.37221	4.56888	-3.26839	-2.41725	29.71787	6.11556	234.35	-4.58
93/ 3/22	2449068.5	-17.25580	-24.07823	-2.37779	4.57031	-3.26649	-2.41706	29.71830	6.11554	234.37	-4.59
93/ 3/26	2449072.5	-17.24524	-24.08577	-2.38337	4.57173	-3.26459	-2.41687	29.71873	6.11552	234.40	-4.60
93/ 3/30	2449076.5	-17.23467	-24.09331	-2.38896	4.57316	-3.26269	-2.41668	29.71916	6.11549	234.42	-4.61
93/ 4/ 3	2449080.5	-17.22411	-24.10085	-2.39454	4.57458	-3.26079	-2.41648	29.71960	6.11547	234.45	-4.62
93/ 4/ 7	2449084.5	-17.21354	-24.10838	-2.40012	4.57600	-3.25888	-2.41629	29.72003	6.11544	234.47	-4.63
93/ 4/11	2449088.5	-17.20296	-24.11590	-2.40570	4.57742	-3.25698	-2.41610	29.72047	6.11541	234.50	-4.64
93/ 4/15	2449092.5	-17.19239	-24.12343	-2.41128	4.57884	-3.25507	-2.41590	29.72090	6.11538	234.52	-4.65
93/ 4/19	2449096.5	-17.18181	-24.13094	-2.41687	4.58026	-3.25316	-2.41570	29.72134	6.11534	234.55	-4.66
93/ 4/23	2449100.5	-17.17122	-24.13846	-2.42245	4.58167	-3.25125	-2.41550	29.72178	6.11531	234.57	-4.68
93/ 4/27	2449104.5	-17.16064	-24.14596	-2.42803	4.58308	-3.24933	-2.41530	29.72222	6.11527	234.60	-4.69
93/ 5/ 1	2449108.5	-17.15005	-24.15347	-2.43361	4.58449	-3.24742	-2.41510	29.72266	6.11523	234.62	-4.70
93/ 5/ 5	2449112.5	-17.13946	-24.16097	-2.43918	4.58590	-3.24550	-2.41490	29.72311	6.11519	234.65	-4.71
93/ 5/ 9	2449116.5	-17.12886	-24.16846	-2.44476	4.58730	-3.24358	-2.41470	29.72355	6.11514	234.67	-4.72

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HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
93/ 5/13	2449120.5	-17.11826	-24.17596	-2.45034	4.58871	-3.24166	-2.41450	29.72399	6.11510	234.70	-4.73
93/ 5/17	2449124.5	-17.10766	-24.18344	-2.45592	4.59011	-3.23975	-2.41430	29.72444	6.11505	234.72	-4.74
93/ 5/21	2449128.5	-17.09705	-24.19092	-2.46150	4.59150	-3.23783	-2.41409	29.72489	6.11501	234.75	-4.75
93/ 5/25	2449132.5	-17.08645	-24.19840	-2.46707	4.59290	-3.23591	-2.41389	29.72534	6.11496	234.77	-4.76
93/ 5/29	2449136.5	-17.07583	-24.20588	-2.47265	4.59430	-3.23399	-2.41369	29.72579	6.11491	234.80	-4.77
93/ 6/ 2	2449140.5	-17.06522	-24.21334	-2.47823	4.59569	-3.23207	-2.41348	29.72624	6.11486	234.82	-4.78
93/ 6/ 6	2449144.5	-17.05460	-24.22081	-2.48380	4.59709	-3.23014	-2.41327	29.72669	6.11481	234.85	-4.79
93/ 6/10	2449148.5	-17.04398	-24.22827	-2.48938	4.59848	-3.22822	-2.41307	29.72714	6.11476	234.87	-4.80
93/ 6/14	2449152.5	-17.03335	-24.23572	-2.49495	4.59986	-3.22629	-2.41286	29.72760	6.11470	234.90	-4.81
93/ 6/18	2449156.5	-17.02272	-24.24318	-2.50052	4.60125	-3.22436	-2.41265	29.72806	6.11465	234.92	-4.83
93/ 6/22	2449160.5	-17.01209	-24.25062	-2.50610	4.60263	-3.22244	-2.41244	29.72851	6.11459	234.95	-4.84
93/ 6/26	2449164.5	-17.00146	-24.25806	-2.51167	4.60401	-3.22051	-2.41224	29.72897	6.11453	234.97	-4.85
93/ 6/30	2449168.5	-16.99082	-24.26550	-2.51724	4.60539	-3.21858	-2.41203	29.72943	6.11447	235.00	-4.86
93/ 7/ 4	2449172.5	-16.98018	-24.27293	-2.52281	4.60677	-3.21666	-2.41182	29.72989	6.11441	235.03	-4.87
93/ 7/ 8	2449176.5	-16.96954	-24.28036	-2.52839	4.60814	-3.21473	-2.41161	29.73035	6.11435	235.05	-4.88
93/ 7/12	2449180.5	-16.95889	-24.28779	-2.53396	4.60951	-3.21280	-2.41140	29.73082	6.11429	235.08	-4.89
93/ 7/16	2449184.5	-16.94824	-24.29521	-2.53953	4.61088	-3.21088	-2.41119	29.73128	6.11423	235.10	-4.90
93/ 7/20	2449188.5	-16.93759	-24.30262	-2.54510	4.61225	-3.20895	-2.41098	29.73175	6.11417	235.13	-4.91
93/ 7/24	2449192.5	-16.92693	-24.31003	-2.55067	4.61362	-3.20703	-2.41077	29.73221	6.11411	235.15	-4.92
93/ 7/28	2449196.5	-16.91627	-24.31744	-2.55624	4.61498	-3.20510	-2.41056	29.73268	6.11404	235.18	-4.93
93/ 8/ 1	2449200.5	-16.90561	-24.32484	-2.56180	4.61635	-3.20318	-2.41035	29.73315	6.11398	235.20	-4.94
93/ 8/ 5	2449204.5	-16.89494	-24.33224	-2.56737	4.61771	-3.20125	-2.41014	29.73362	6.11392	235.23	-4.95
93/ 8/ 9	2449208.5	-16.88427	-24.33963	-2.57294	4.61907	-3.19933	-2.40993	29.73409	6.11386	235.25	-4.96
93/ 8/13	2449212.5	-16.87360	-24.34702	-2.57851	4.62043	-3.19741	-2.40972	29.73457	6.11380	235.28	-4.97
93/ 8/17	2449216.5	-16.86292	-24.35441	-2.58407	4.62179	-3.19549	-2.40951	29.73504	6.11375	235.30	-4.99
93/ 8/21	2449220.5	-16.85224	-24.36179	-2.58964	4.62315	-3.19357	-2.40931	29.73552	6.11369	235.33	-5.00
93/ 8/25	2449224.5	-16.84156	-24.36916	-2.59521	4.62452	-3.19165	-2.40910	29.73599	6.11364	235.35	-5.01
93/ 8/29	2449228.5	-16.83088	-24.37653	-2.60077	4.62588	-3.18973	-2.40889	29.73647	6.11359	235.38	-5.02
93/ 9/ 2	2449232.5	-16.82019	-24.38390	-2.60634	4.62725	-3.18781	-2.40868	29.73695	6.11353	235.40	-5.03
93/ 9/ 6	2449236.5	-16.80950	-24.39126	-2.61190	4.62861	-3.18589	-2.40847	29.73743	6.11348	235.43	-5.04
93/ 9/10	2449240.5	-16.79880	-24.39862	-2.61746	4.62997	-3.18396	-2.40826	29.73791	6.11343	235.45	-5.05
93/ 9/14	2449244.5	-16.78811	-24.40597	-2.62303	4.63134	-3.18204	-2.40805	29.73840	6.11337	235.48	-5.06
93/ 9/18	2449248.5	-16.77740	-24.41332	-2.62859	4.63270	-3.18012	-2.40784	29.73888	6.11332	235.50	-5.07
93/ 9/22	2449252.5	-16.76670	-24.42067	-2.63415	4.63406	-3.17819	-2.40762	29.73937	6.11327	235.53	-5.08
93/ 9/26	2449256.5	-16.75599	-24.42801	-2.63971	4.63542	-3.17626	-2.40741	29.73985	6.11322	235.55	-5.09
93/ 9/30	2449260.5	-16.74528	-24.43534	-2.64528	4.63678	-3.17434	-2.40720	29.74034	6.11316	235.58	-5.10
93/10/ 4	2449264.5	-16.73457	-24.44267	-2.65084	4.63814	-3.17241	-2.40698	29.74083	6.11311	235.60	-5.11
93/10/ 8	2449268.5	-16.72385	-24.45000	-2.65640	4.63951	-3.17048	-2.40677	29.74132	6.11306	235.63	-5.12
93/10/12	2449272.5	-16.71313	-24.45732	-2.66196	4.64087	-3.16855	-2.40655	29.74181	6.11301	235.65	-5.13
93/10/16	2449276.5	-16.70241	-24.46464	-2.66752	4.64223	-3.16662	-2.40634	29.74231	6.11295	235.68	-5.15
93/10/20	2449280.5	-16.69168	-24.47195	-2.67307	4.64358	-3.16468	-2.40612	29.74280	6.11290	235.70	-5.16
93/10/24	2449284.5	-16.68096	-24.47926	-2.67863	4.64494	-3.16275	-2.40590	29.74330	6.11284	235.73	-5.17
93/10/28	2449288.5	-16.67022	-24.48657	-2.68419	4.64630	-3.16082	-2.40569	29.74379	6.11279	235.75	-5.18
93/11/ 1	2449292.5	-16.65949	-24.49387	-2.68975	4.64766	-3.15888	-2.40547	29.74429	6.11273	235.78	-5.19
93/11/ 5	2449296.5	-16.64875	-24.50116	-2.69530	4.64901	-3.15695	-2.40525	29.74479	6.11268	235.80	-5.20

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
93/11/ 9	2449300.5	-16.63801	-24.50845	-2.70086	4.65037	-3.15501	-2.40503	29.74529	6.11262	235.83	-5.21
93/11/13	2449304.5	-16.62726	-24.51574	-2.70642	4.65172	-3.15307	-2.40481	29.74579	6.11257	235.85	-5.22
93/11/17	2449308.5	-16.61652	-24.52302	-2.71197	4.65308	-3.15113	-2.40459	29.74629	6.11251	235.88	-5.23
93/11/21	2449312.5	-16.60576	-24.53030	-2.71753	4.65443	-3.14919	-2.40437	29.74680	6.11246	235.90	-5.24
93/11/25	2449316.5	-16.59501	-24.53757	-2.72308	4.65579	-3.14725	-2.40415	29.74730	6.11240	235.93	-5.25
93/11/29	2449320.5	-16.58425	-24.54484	-2.72863	4.65714	-3.14531	-2.40392	29.74781	6.11235	235.95	-5.26
93/12/ 3	2449324.5	-16.57349	-24.55210	-2.73419	4.65850	-3.14336	-2.40370	29.74831	6.11229	235.98	-5.27
93/12/ 7	2449328.5	-16.56273	-24.55936	-2.73974	4.65985	-3.14141	-2.40347	29.74882	6.11223	236.00	-5.28
93/12/11	2449332.5	-16.55196	-24.56662	-2.74529	4.66120	-3.13946	-2.40325	29.74933	6.11216	236.03	-5.29
93/12/15	2449336.5	-16.54119	-24.57387	-2.75084	4.66254	-3.13751	-2.40302	29.74984	6.11210	236.05	-5.31
93/12/19	2449340.5	-16.53042	-24.58111	-2.75640	4.66389	-3.13556	-2.40279	29.75036	6.11204	236.08	-5.32
93/12/23	2449344.5	-16.51964	-24.58836	-2.76195	4.66523	-3.13360	-2.40256	29.75087	6.11197	236.10	-5.33
93/12/27	2449348.5	-16.50887	-24.59559	-2.76750	4.66658	-3.13165	-2.40233	29.75138	6.11190	236.13	-5.34
93/12/31	2449352.5	-16.49808	-24.60282	-2.77305	4.66792	-3.12969	-2.40210	29.75190	6.11183	236.16	-5.35
94/ 1/ 4	2449356.5	-16.48730	-24.61005	-2.77859	4.66925	-3.12774	-2.40187	29.75242	6.11176	236.18	-5.36
94/ 1/ 8	2449360.5	-16.47651	-24.61728	-2.78414	4.67059	-3.12578	-2.40163	29.75293	6.11169	236.21	-5.37
94/ 1/12	2449364.5	-16.46572	-24.62449	-2.78969	4.67192	-3.12382	-2.40140	29.75345	6.11161	236.23	-5.38
94/ 1/16	2449368.5	-16.45492	-24.63171	-2.79524	4.67325	-3.12186	-2.40117	29.75397	6.11154	236.26	-5.39
94/ 1/20	2449372.5	-16.44413	-24.63892	-2.80079	4.67458	-3.11990	-2.40093	29.75450	6.11147	236.28	-5.40
94/ 1/24	2449376.5	-16.43333	-24.64612	-2.80633	4.67591	-3.11795	-2.40070	29.75502	6.11139	236.31	-5.41
94/ 1/28	2449380.5	-16.42252	-24.65332	-2.81188	4.67724	-3.11599	-2.40046	29.75554	6.11131	236.33	-5.42
94/ 2/ 1	2449384.5	-16.41171	-24.66052	-2.81742	4.67856	-3.11403	-2.40023	29.75607	6.11124	236.36	-5.43
94/ 2/ 5	2449388.5	-16.40090	-24.66771	-2.82297	4.67988	-3.11207	-2.40000	29.75659	6.11116	236.38	-5.44
94/ 2/ 9	2449392.5	-16.39009	-24.67490	-2.82851	4.68121	-3.11012	-2.39976	29.75712	6.11109	236.41	-5.45
94/ 2/13	2449396.5	-16.37928	-24.68208	-2.83406	4.68253	-3.10816	-2.39953	29.75765	6.11101	236.43	-5.47
94/ 2/17	2449400.5	-16.36846	-24.68926	-2.83960	4.68385	-3.10620	-2.39929	29.75818	6.11094	236.46	-5.48
94/ 2/21	2449404.5	-16.35764	-24.69643	-2.84514	4.68517	-3.10425	-2.39906	29.75871	6.11087	236.48	-5.49
94/ 2/25	2449408.5	-16.34681	-24.70360	-2.85068	4.68650	-3.10229	-2.39882	29.75924	6.11079	236.51	-5.50
94/ 3/ 1	2449412.5	-16.33598	-24.71077	-2.85622	4.68782	-3.10033	-2.39859	29.75978	6.11072	236.53	-5.51
94/ 3/ 5	2449416.5	-16.32515	-24.71793	-2.86177	4.68913	-3.09837	-2.39835	29.76031	6.11064	236.56	-5.52
94/ 3/ 9	2449420.5	-16.31432	-24.72508	-2.86731	4.69045	-3.09641	-2.39811	29.76085	6.11057	236.58	-5.53
94/ 3/13	2449424.5	-16.30348	-24.73223	-2.87285	4.69177	-3.09445	-2.39787	29.76139	6.11049	236.61	-5.54
94/ 3/17	2449428.5	-16.29264	-24.73938	-2.87838	4.69309	-3.09248	-2.39764	29.76192	6.11041	236.63	-5.55
94/ 3/21	2449432.5	-16.28180	-24.74652	-2.88392	4.69440	-3.09052	-2.39740	29.76246	6.11034	236.66	-5.56
94/ 3/25	2449436.5	-16.27095	-24.75366	-2.88946	4.69571	-3.08856	-2.39716	29.76300	6.11026	236.68	-5.57
94/ 3/29	2449440.5	-16.26010	-24.76079	-2.89500	4.69703	-3.08660	-2.39692	29.76355	6.11019	236.71	-5.58
94/ 4/ 2	2449444.5	-16.24925	-24.76792	-2.90054	4.69834	-3.08463	-2.39668	29.76409	6.11011	236.73	-5.59
94/ 4/ 6	2449448.5	-16.23839	-24.77505	-2.90607	4.69965	-3.08267	-2.39644	29.76463	6.11003	236.76	-5.60
94/ 4/10	2449452.5	-16.22753	-24.78216	-2.91161	4.70096	-3.08071	-2.39620	29.76518	6.10996	236.78	-5.61
94/ 4/14	2449456.5	-16.21667	-24.78928	-2.91714	4.70228	-3.07874	-2.39596	29.76573	6.10988	236.81	-5.62
94/ 4/18	2449460.5	-16.20581	-24.79639	-2.92268	4.70358	-3.07678	-2.39572	29.76628	6.10980	236.83	-5.63
94/ 4/22	2449464.5	-16.19494	-24.80349	-2.92821	4.70489	-3.07481	-2.39547	29.76682	6.10973	236.86	-5.65
94/ 4/26	2449468.5	-16.18407	-24.81060	-2.93375	4.70620	-3.07284	-2.39523	29.76737	6.10965	236.88	-5.66
94/ 4/30	2449472.5	-16.17319	-24.81769	-2.93928	4.70751	-3.07088	-2.39499	29.76793	6.10958	236.91	-5.67
94/ 5/ 4	2449476.5	-16.16232	-24.82478	-2.94481	4.70882	-3.06891	-2.39475	29.76848	6.10950	236.93	-5.68

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94/ 5/ 8	2449480.5	-16.15144	-24.83187	-2.95034	4.71013	-3.06694	-2.39450	29.76903	6.10943	236.96	-5.69
94/ 5/12	2449484.5	-16.14056	-24.83895	-2.95588	4.71144	-3.06498	-2.39426	29.76959	6.10936	236.98	-5.70
94/ 5/16	2449488.5	-16.12967	-24.84603	-2.96141	4.71275	-3.06301	-2.39402	29.77015	6.10928	237.01	-5.71
94/ 5/20	2449492.5	-16.11878	-24.85311	-2.96694	4.71406	-3.06103	-2.39377	29.77070	6.10921	237.03	-5.72
94/ 5/24	2449496.5	-16.10789	-24.86018	-2.97247	4.71537	-3.05906	-2.39353	29.77126	6.10913	237.06	-5.73
94/ 5/28	2449500.5	-16.09699	-24.86724	-2.97800	4.71668	-3.05708	-2.39328	29.77182	6.10906	237.08	-5.74
94/ 6/ 1	2449504.5	-16.08610	-24.87430	-2.98352	4.71799	-3.05510	-2.39303	29.77238	6.10898	237.11	-5.75
94/ 6/ 5	2449508.5	-16.07520	-24.88136	-2.98905	4.71930	-3.05312	-2.39278	29.77295	6.10890	237.13	-5.76
94/ 6/ 9	2449512.5	-16.06429	-24.88841	-2.99458	4.72060	-3.05114	-2.39253	29.77351	6.10882	237.16	-5.77
94/ 6/13	2449516.5	-16.05339	-24.89545	-3.00011	4.72190	-3.04915	-2.39227	29.77407	6.10874	237.18	-5.78
94/ 6/17	2449520.5	-16.04247	-24.90250	-3.00563	4.72321	-3.04717	-2.39202	29.77464	6.10865	237.21	-5.79
94/ 6/21	2449524.5	-16.03156	-24.90953	-3.01116	4.72451	-3.04518	-2.39177	29.77521	6.10857	237.24	-5.80
94/ 6/25	2449528.5	-16.02065	-24.91657	-3.01668	4.72581	-3.04319	-2.39151	29.77577	6.10848	237.26	-5.81
94/ 6/29	2449532.5	-16.00973	-24.92359	-3.02221	4.72710	-3.04119	-2.39125	29.77634	6.10839	237.29	-5.83
94/ 7/ 3	2449536.5	-15.99881	-24.93062	-3.02773	4.72840	-3.03920	-2.39100	29.77691	6.10830	237.31	-5.84
94/ 7/ 7	2449540.5	-15.98788	-24.93764	-3.03326	4.72969	-3.03721	-2.39074	29.77749	6.10821	237.34	-5.85
94/ 7/11	2449544.5	-15.97695	-24.94465	-3.03878	4.73098	-3.03521	-2.39048	29.77806	6.10811	237.36	-5.86
94/ 7/15	2449548.5	-15.96602	-24.95166	-3.04430	4.73226	-3.03321	-2.39022	29.77863	6.10801	237.39	-5.87
94/ 7/19	2449552.5	-15.95509	-24.95866	-3.04982	4.73355	-3.03121	-2.38996	29.77921	6.10792	237.41	-5.88
94/ 7/23	2449556.5	-15.94415	-24.96566	-3.05534	4.73483	-3.02922	-2.38970	29.77978	6.10781	237.44	-5.89
94/ 7/27	2449560.5	-15.93321	-24.97266	-3.06086	4.73611	-3.02722	-2.38944	29.78036	6.10771	237.46	-5.90
94/ 7/31	2449564.5	-15.92227	-24.97965	-3.06638	4.73738	-3.02522	-2.38917	29.78094	6.10761	237.49	-5.91
94/ 8/ 4	2449568.5	-15.91132	-24.98664	-3.07190	4.73866	-3.02322	-2.38891	29.78152	6.10751	237.51	-5.92
94/ 8/ 8	2449572.5	-15.90037	-24.99362	-3.07742	4.73993	-3.02122	-2.38865	29.78210	6.10741	237.54	-5.93
94/ 8/12	2449576.5	-15.88942	-25.00060	-3.08294	4.74121	-3.01922	-2.38839	29.78268	6.10730	237.56	-5.94
94/ 8/16	2449580.5	-15.87847	-25.00757	-3.08846	4.74248	-3.01722	-2.38813	29.78326	6.10720	237.59	-5.95
94/ 8/20	2449584.5	-15.86751	-25.01454	-3.09397	4.74375	-3.01522	-2.38786	29.78385	6.10709	237.61	-5.96
94/ 8/24	2449588.5	-15.85655	-25.02150	-3.09949	4.74501	-3.01321	-2.38760	29.78443	6.10698	237.64	-5.97
94/ 8/28	2449592.5	-15.84559	-25.02846	-3.10500	4.74628	-3.01121	-2.38733	29.78502	6.10687	237.66	-5.98
94/ 9/ 1	2449596.5	-15.83462	-25.03541	-3.11052	4.74754	-3.00921	-2.38706	29.78561	6.10676	237.69	-5.99
94/ 9/ 5	2449600.5	-15.82365	-25.04236	-3.11603	4.74880	-3.00720	-2.38680	29.78620	6.10665	237.71	-6.00
94/ 9/ 9	2449604.5	-15.81268	-25.04931	-3.12155	4.75005	-3.00520	-2.38653	29.78679	6.10653	237.74	-6.02
94/ 9/13	2449608.5	-15.80171	-25.05625	-3.12706	4.75131	-3.00320	-2.38626	29.78738	6.10642	237.76	-6.03
94/ 9/17	2449612.5	-15.79073	-25.06318	-3.13257	4.75256	-3.00119	-2.38600	29.78797	6.10630	237.79	-6.04
94/ 9/21	2449616.5	-15.77975	-25.07012	-3.13808	4.75381	-2.99919	-2.38573	29.78857	6.10619	237.81	-6.05
94/ 9/25	2449620.5	-15.76876	-25.07704	-3.14359	4.75505	-2.99719	-2.38546	29.78916	6.10607	237.84	-6.06
94/ 9/29	2449624.5	-15.75778	-25.08396	-3.14911	4.75630	-2.99519	-2.38520	29.78976	6.10595	237.86	-6.07
94/10/ 3	2449628.5	-15.74679	-25.09088	-3.15462	4.75754	-2.99319	-2.38493	29.79035	6.10584	237.89	-6.08
94/10/ 7	2449632.5	-15.73579	-25.09779	-3.16012	4.75878	-2.99119	-2.38466	29.79095	6.10572	237.91	-6.09
94/10/11	2449636.5	-15.72480	-25.10470	-3.16563	4.76002	-2.98919	-2.38439	29.79155	6.10560	237.94	-6.10
94/10/15	2449640.5	-15.71380	-25.11160	-3.17114	4.76126	-2.98719	-2.38413	29.79215	6.10549	237.96	-6.11
94/10/19	2449644.5	-15.70280	-25.11850	-3.17665	4.76250	-2.98519	-2.38386	29.79275	6.10537	237.99	-6.12
94/10/23	2449648.5	-15.69180	-25.12540	-3.18216	4.76374	-2.98320	-2.38360	29.79336	6.10526	238.01	-6.13
94/10/27	2449652.5	-15.68079	-25.13229	-3.18766	4.76497	-2.98121	-2.38333	29.79396	6.10515	238.04	-6.14
94/10/31	2449656.5	-15.66978	-25.13917	-3.19317	4.76621	-2.97922	-2.38307	29.79457	6.10504	238.06	-6.15

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
94/11/ 4	2449660.5	-15.65877	-25.14605	-3.19867	4.76745	-2.97722	-2.38280	29.79517	6.10493	238.09	-6.16
94/11/ 8	2449664.5	-15.64775	-25.15293	-3.20418	4.76869	-2.97523	-2.38254	29.79578	6.10482	238.11	-6.17
94/11/12	2449668.5	-15.63674	-25.15980	-3.20968	4.76993	-2.97324	-2.38227	29.79639	6.10472	238.14	-6.18
94/11/16	2449672.5	-15.62572	-25.16666	-3.21518	4.77117	-2.97125	-2.38201	29.79700	6.10461	238.16	-6.19
94/11/20	2449676.5	-15.61469	-25.17353	-3.22069	4.77240	-2.96926	-2.38174	29.79761	6.10451	238.19	-6.20
94/11/24	2449680.5	-15.60367	-25.18038	-3.22619	4.77364	-2.96726	-2.38148	29.79823	6.10441	238.21	-6.22
94/11/28	2449684.5	-15.59264	-25.18724	-3.23169	4.77488	-2.96527	-2.38121	29.79884	6.10430	238.24	-6.23
94/12/ 2	2449688.5	-15.58160	-25.19408	-3.23719	4.77612	-2.96327	-2.38094	29.79946	6.10420	238.26	-6.24
94/12/ 6	2449692.5	-15.57057	-25.20093	-3.24269	4.77736	-2.96128	-2.38068	29.80007	6.10410	238.29	-6.25
94/12/10	2449696.5	-15.55953	-25.20777	-3.24819	4.77860	-2.95928	-2.38041	29.80069	6.10399	238.31	-6.26
94/12/14	2449700.5	-15.54849	-25.21460	-3.25369	4.77984	-2.95729	-2.38014	29.80131	6.10389	238.34	-6.27
94/12/18	2449704.5	-15.53745	-25.22143	-3.25919	4.78108	-2.95529	-2.37987	29.80193	6.10379	238.37	-6.28
94/12/22	2449708.5	-15.52640	-25.22825	-3.26468	4.78232	-2.95329	-2.37960	29.80255	6.10369	238.39	-6.29
94/12/26	2449712.5	-15.51535	-25.23507	-3.27018	4.78356	-2.95129	-2.37933	29.80317	6.10359	238.42	-6.30
94/12/30	2449716.5	-15.50430	-25.24189	-3.27568	4.78480	-2.94929	-2.37906	29.80380	6.10349	238.44	-6.31
95/ 1/ 3	2449720.5	-15.49324	-25.24870	-3.28117	4.78604	-2.94729	-2.37879	29.80442	6.10338	238.47	-6.32
95/ 1/ 7	2449724.5	-15.48218	-25.25551	-3.28667	4.78727	-2.94529	-2.37851	29.80505	6.10328	238.49	-6.33
95/ 1/11	2449728.5	-15.47112	-25.26231	-3.29216	4.78851	-2.94329	-2.37824	29.80568	6.10318	238.52	-6.34
95/ 1/15	2449732.5	-15.46006	-25.26911	-3.29766	4.78975	-2.94128	-2.37797	29.80630	6.10308	238.54	-6.35
95/ 1/19	2449736.5	-15.44899	-25.27590	-3.30315	4.79098	-2.93928	-2.37769	29.80693	6.10297	238.57	-6.36
95/ 1/23	2449740.5	-15.43792	-25.28269	-3.30864	4.79222	-2.93727	-2.37742	29.80756	6.10287	238.59	-6.37
95/ 1/27	2449744.5	-15.42685	-25.28947	-3.31413	4.79346	-2.93526	-2.37714	29.80820	6.10277	238.62	-6.38
95/ 1/31	2449748.5	-15.41578	-25.29625	-3.31963	4.79469	-2.93325	-2.37687	29.80883	6.10267	238.64	-6.39
95/ 2/ 4	2449752.5	-15.40470	-25.30302	-3.32512	4.79593	-2.93124	-2.37659	29.80946	6.10257	238.67	-6.40
95/ 2/ 8	2449756.5	-15.39362	-25.30979	-3.33061	4.79717	-2.92923	-2.37631	29.81010	6.10246	238.69	-6.41
95/ 2/12	2449760.5	-15.38253	-25.31656	-3.33610	4.79840	-2.92721	-2.37603	29.81074	6.10236	238.72	-6.43
95/ 2/16	2449764.5	-15.37145	-25.32332	-3.34158	4.79964	-2.92519	-2.37575	29.81137	6.10225	238.74	-6.44
95/ 2/20	2449768.5	-15.36036	-25.33007	-3.34707	4.80087	-2.92317	-2.37547	29.81201	6.10214	238.77	-6.45
95/ 2/24	2449772.5	-15.34927	-25.33682	-3.35256	4.80210	-2.92115	-2.37518	29.81265	6.10203	238.79	-6.46
95/ 2/28	2449776.5	-15.33817	-25.34357	-3.35805	4.80333	-2.91912	-2.37490	29.81329	6.10192	238.82	-6.47
95/ 3/ 4	2449780.5	-15.32707	-25.35031	-3.36353	4.80456	-2.91709	-2.37461	29.81394	6.10180	238.84	-6.48
95/ 3/ 8	2449784.5	-15.31597	-25.35705	-3.36902	4.80578	-2.91507	-2.37432	29.81458	6.10168	238.87	-6.49
95/ 3/12	2449788.5	-15.30487	-25.36378	-3.37450	4.80700	-2.91303	-2.37403	29.81522	6.10156	238.89	-6.50
95/ 3/16	2449792.5	-15.29376	-25.37051	-3.37999	4.80822	-2.91100	-2.37374	29.81587	6.10144	238.92	-6.51
95/ 3/20	2449796.5	-15.28265	-25.37723	-3.38547	4.80944	-2.90897	-2.37345	29.81652	6.10132	238.94	-6.52
95/ 3/24	2449800.5	-15.27154	-25.38395	-3.39095	4.81065	-2.90694	-2.37316	29.81716	6.10119	238.97	-6.53
95/ 3/28	2449804.5	-15.26043	-25.39066	-3.39644	4.81186	-2.90490	-2.37287	29.81781	6.10106	238.99	-6.54
95/ 4/ 1	2449808.5	-15.24931	-25.39737	-3.40192	4.81307	-2.90287	-2.37258	29.81846	6.10093	239.02	-6.55
95/ 4/ 5	2449812.5	-15.23819	-25.40407	-3.40740	4.81428	-2.90083	-2.37228	29.81912	6.10080	239.04	-6.56
95/ 4/ 9	2449816.5	-15.22706	-25.41077	-3.41288	4.81548	-2.89880	-2.37199	29.81977	6.10067	239.07	-6.57
95/ 4/13	2449820.5	-15.21594	-25.41747	-3.41836	4.81668	-2.89676	-2.37170	29.82042	6.10054	239.09	-6.58
95/ 4/17	2449824.5	-15.20481	-25.42416	-3.42384	4.81788	-2.89472	-2.37140	29.82108	6.10040	239.12	-6.59
95/ 4/21	2449828.5	-15.19368	-25.43084	-3.42931	4.81907	-2.89269	-2.37111	29.82173	6.10027	239.14	-6.60
95/ 4/25	2449832.5	-15.18254	-25.43752	-3.43479	4.82027	-2.89066	-2.37082	29.82239	6.10013	239.17	-6.61
95/ 4/29	2449836.5	-15.17141	-25.44420	-3.44027	4.82146	-2.88862	-2.37052	29.82305	6.10000	239.19	-6.62

1.9 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — PLUTO

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95/ 5/ 3	2449840.5	-15.16027	-25.45087	-3.44574	4.82265	-2.88659	-2.37023	29.82371	6.09986	239.22	-6.63
95/ 5/ 7	2449844.5	-15.14912	-25.45753	-3.45122	4.82384	-2.88455	-2.36993	29.82437	6.09973	239.24	-6.65
95/ 5/11	2449848.5	-15.13798	-25.46420	-3.45669	4.82503	-2.88251	-2.36964	29.82503	6.09959	239.27	-6.66
95/ 5/15	2449852.5	-15.12683	-25.47085	-3.46217	4.82622	-2.88048	-2.36934	29.82569	6.09945	239.29	-6.67
95/ 5/19	2449856.5	-15.11568	-25.47750	-3.46764	4.82741	-2.87844	-2.36904	29.82636	6.09931	239.32	-6.68
95/ 5/23	2449860.5	-15.10453	-25.48415	-3.47311	4.82859	-2.87640	-2.36875	29.82702	6.09917	239.34	-6.69
95/ 5/27	2449864.5	-15.09337	-25.49079	-3.47859	4.82977	-2.87437	-2.36845	29.82769	6.09903	239.37	-6.70
95/ 5/31	2449868.5	-15.08221	-25.49743	-3.48406	4.83095	-2.87233	-2.36815	29.82836	6.09889	239.39	-6.71
95/ 6/ 4	2449872.5	-15.07105	-25.50407	-3.48953	4.83213	-2.87029	-2.36786	29.82902	6.09875	239.42	-6.72
95/ 6/ 8	2449876.5	-15.05989	-25.51069	-3.49500	4.83330	-2.86826	-2.36756	29.82969	6.09861	239.45	-6.73
95/ 6/12	2449880.5	-15.04872	-25.51732	-3.50047	4.83448	-2.86622	-2.36726	29.83036	6.09847	239.47	-6.74
95/ 6/16	2449884.5	-15.03755	-25.52394	-3.50593	4.83565	-2.86418	-2.36696	29.83104	6.09833	239.50	-6.75
95/ 6/20	2449888.5	-15.02638	-25.53055	-3.51140	4.83682	-2.86215	-2.36667	29.83171	6.09818	239.52	-6.76
95/ 6/24	2449892.5	-15.01520	-25.53716	-3.51687	4.83799	-2.86011	-2.36637	29.83238	6.09804	239.55	-6.77
95/ 6/28	2449896.5	-15.00402	-25.54377	-3.52234	4.83916	-2.85808	-2.36607	29.83306	6.09790	239.57	-6.78
95/ 7/ 2	2449900.5	-14.99284	-25.55037	-3.52780	4.84033	-2.85604	-2.36577	29.83374	6.09776	239.60	-6.79
95/ 7/ 6	2449904.5	-14.98166	-25.55696	-3.53327	4.84150	-2.85400	-2.36547	29.83442	6.09761	239.62	-6.80
95/ 7/10	2449908.5	-14.97047	-25.56355	-3.53873	4.84266	-2.85197	-2.36517	29.83509	6.09747	239.65	-6.81
95/ 7/14	2449912.5	-14.95928	-25.57014	-3.54419	4.84383	-2.84994	-2.36488	29.83577	6.09733	239.67	-6.82
95/ 7/18	2449916.5	-14.94809	-25.57672	-3.54966	4.84499	-2.84790	-2.36458	29.83646	6.09719	239.70	-6.83
95/ 7/22	2449920.5	-14.93690	-25.58330	-3.55512	4.84616	-2.84587	-2.36428	29.83714	6.09705	239.72	-6.84
95/ 7/26	2449924.5	-14.92570	-25.58987	-3.56058	4.84733	-2.84384	-2.36398	29.83782	6.09692	239.75	-6.85
95/ 7/30	2449928.5	-14.91450	-25.59644	-3.56604	4.84849	-2.84181	-2.36368	29.83851	6.09678	239.77	-6.86
95/ 8/ 3	2449932.5	-14.90330	-25.60300	-3.57150	4.84966	-2.83977	-2.36339	29.83919	6.09665	239.80	-6.87
95/ 8/ 7	2449936.5	-14.89209	-25.60956	-3.57696	4.85083	-2.83773	-2.36309	29.83988	6.09651	239.82	-6.88
95/ 8/11	2449940.5	-14.88089	-25.61611	-3.58242	4.85199	-2.83569	-2.36278	29.84057	6.09637	239.85	-6.90
95/ 8/15	2449944.5	-14.86968	-25.62266	-3.58788	4.85316	-2.83365	-2.36248	29.84126	6.09623	239.87	-6.91
95/ 8/19	2449948.5	-14.85846	-25.62920	-3.59334	4.85432	-2.83161	-2.36218	29.84195	6.09609	239.90	-6.92
95/ 8/23	2449952.5	-14.84725	-25.63574	-3.59879	4.85548	-2.82957	-2.36188	29.84264	6.09595	239.92	-6.93
95/ 8/27	2449956.5	-14.83603	-25.64228	-3.60425	4.85664	-2.82753	-2.36157	29.84334	6.09581	239.95	-6.94
95/ 8/31	2449960.5	-14.82481	-25.64881	-3.60970	4.85780	-2.82548	-2.36127	29.84403	6.09567	239.97	-6.95
95/ 9/ 4	2449964.5	-14.81359	-25.65533	-3.61516	4.85896	-2.82343	-2.36096	29.84473	6.09552	240.00	-6.96
95/ 9/ 8	2449968.5	-14.80236	-25.66185	-3.62061	4.86012	-2.82139	-2.36065	29.84542	6.09538	240.02	-6.97
95/ 9/12	2449972.5	-14.79113	-25.66837	-3.62607	4.86127	-2.81934	-2.36035	29.84612	6.09523	240.05	-6.98
95/ 9/16	2449976.5	-14.77990	-25.67488	-3.63152	4.86243	-2.81729	-2.36004	29.84682	6.09509	240.07	-6.99
95/ 9/20	2449980.5	-14.76866	-25.68138	-3.63697	4.86358	-2.81524	-2.35973	29.84752	6.09494	240.10	-7.00
95/ 9/24	2449984.5	-14.75743	-25.68789	-3.64242	4.86473	-2.81319	-2.35942	29.84822	6.09479	240.12	-7.01
95/ 9/28	2449988.5	-14.74619	-25.69438	-3.64787	4.86587	-2.81114	-2.35911	29.84892	6.09464	240.15	-7.02
95/10/ 2	2449992.5	-14.73494	-25.70087	-3.65332	4.86702	-2.80908	-2.35880	29.84963	6.09448	240.17	-7.03
95/10/ 6	2449996.5	-14.72370	-25.70736	-3.65877	4.86816	-2.80703	-2.35849	29.85033	6.09433	240.20	-7.04
95/10/10	2450000.5	-14.71245	-25.71384	-3.66422	4.86930	-2.80498	-2.35817	29.85104	6.09417	240.22	-7.05
95/10/14	2450004.5	-14.70120	-25.72032	-3.66967	4.87044	-2.80293	-2.35786	29.85174	6.09402	240.25	-7.06
95/10/18	2450008.5	-14.68995	-25.72679	-3.67511	4.87158	-2.80088	-2.35755	29.85245	6.09387	240.27	-7.07
95/10/22	2450012.5	-14.67869	-25.73326	-3.68056	4.87271	-2.79882	-2.35724	29.85316	6.09371	240.30	-7.08
95/10/26	2450016.5	-14.66744	-25.73973	-3.68600	4.87385	-2.79677	-2.35693	29.85387	6.09356	240.32	-7.09

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95/10/30	2450020.5	-14.65617	-25.74618	-3.69145	4.87498	-2.79472	-2.35661	29.85458	6.09340	240.35	-7.10
95/11/ 3	2450024.5	-14.64491	-25.75264	-3.69689	4.87612	-2.79266	-2.35630	29.85530	6.09324	240.37	-7.11
95/11/ 7	2450028.5	-14.63364	-25.75909	-3.70233	4.87725	-2.79060	-2.35598	29.85601	6.09308	240.40	-7.12
95/11/11	2450032.5	-14.62238	-25.76553	-3.70778	4.87837	-2.78855	-2.35567	29.85673	6.09292	240.42	-7.13
95/11/15	2450036.5	-14.61111	-25.77197	-3.71322	4.87950	-2.78649	-2.35535	29.85744	6.09276	240.45	-7.14
95/11/19	2450040.5	-14.59983	-25.77841	-3.71866	4.88062	-2.78443	-2.35504	29.85816	6.09260	240.47	-7.15
95/11/23	2450044.5	-14.58855	-25.78484	-3.72410	4.88174	-2.78238	-2.35472	29.85888	6.09243	240.50	-7.16
95/11/27	2450048.5	-14.57728	-25.79126	-3.72954	4.88286	-2.78032	-2.35440	29.85960	6.09227	240.52	-7.18
95/12/ 1	2450052.5	-14.56599	-25.79768	-3.73498	4.88398	-2.77826	-2.35408	29.86032	6.09210	240.55	-7.19
95/12/ 5	2450056.5	-14.55471	-25.80410	-3.74042	4.88509	-2.77621	-2.35377	29.86104	6.09193	240.57	-7.20
95/12/ 9	2450060.5	-14.54342	-25.81051	-3.74585	4.88621	-2.77415	-2.35345	29.86176	6.09177	240.60	-7.21
95/12/13	2450064.5	-14.53213	-25.81692	-3.75129	4.88732	-2.77209	-2.35313	29.86249	6.09160	240.63	-7.22
95/12/17	2450068.5	-14.52084	-25.82332	-3.75673	4.88842	-2.77004	-2.35281	29.86321	6.09143	240.65	-7.23
95/12/21	2450072.5	-14.50955	-25.82971	-3.76216	4.88953	-2.76798	-2.35249	29.86394	6.09126	240.68	-7.24
95/12/25	2450076.5	-14.49825	-25.83611	-3.76759	4.89064	-2.76593	-2.35218	29.86467	6.09110	240.70	-7.25
95/12/29	2450080.5	-14.48695	-25.84249	-3.77303	4.89174	-2.76388	-2.35186	29.86540	6.09093	240.73	-7.26
96/ 1/ 2	2450084.5	-14.47565	-25.84888	-3.77846	4.89284	-2.76183	-2.35154	29.86613	6.09076	240.75	-7.27
96/ 1/ 6	2450088.5	-14.46434	-25.85525	-3.78389	4.89394	-2.75978	-2.35122	29.86686	6.09059	240.78	-7.28
96/ 1/10	2450092.5	-14.45304	-25.86163	-3.78932	4.89505	-2.75773	-2.35091	29.86759	6.09043	240.80	-7.29
96/ 1/14	2450096.5	-14.44173	-25.86800	-3.79476	4.89615	-2.75568	-2.35059	29.86833	6.09027	240.83	-7.30
96/ 1/18	2450100.5	-14.43042	-25.87436	-3.80019	4.89725	-2.75364	-2.35028	29.86906	6.09010	240.85	-7.31
96/ 1/22	2450104.5	-14.41910	-25.88072	-3.80561	4.89835	-2.75159	-2.34996	29.86980	6.08994	240.88	-7.32
96/ 1/26	2450108.5	-14.40778	-25.88707	-3.81104	4.89946	-2.74954	-2.34964	29.87053	6.08979	240.90	-7.33
96/ 1/30	2450112.5	-14.39646	-25.89342	-3.81647	4.90056	-2.74749	-2.34933	29.87127	6.08963	240.93	-7.34
96/ 2/ 3	2450116.5	-14.38514	-25.89977	-3.82190	4.90166	-2.74545	-2.34901	29.87201	6.08947	240.95	-7.35
96/ 2/ 7	2450120.5	-14.37382	-25.90611	-3.82732	4.90276	-2.74340	-2.34869	29.87275	6.08931	240.98	-7.36
96/ 2/11	2450124.5	-14.36249	-25.91244	-3.83275	4.90387	-2.74135	-2.34837	29.87350	6.08915	241.00	-7.37
96/ 2/15	2450128.5	-14.35116	-25.91877	-3.83817	4.90497	-2.73930	-2.34805	29.87424	6.08899	241.03	-7.38
96/ 2/19	2450132.5	-14.33983	-25.92510	-3.84360	4.90607	-2.73725	-2.34773	29.87498	6.08883	241.05	-7.39
96/ 2/23	2450136.5	-14.32849	-25.93142	-3.84902	4.90717	-2.73519	-2.34741	29.87573	6.08867	241.08	-7.40
96/ 2/27	2450140.5	-14.31715	-25.93774	-3.85444	4.90827	-2.73314	-2.34709	29.87648	6.08852	241.10	-7.41
96/ 3/ 2	2450144.5	-14.30581	-25.94405	-3.85987	4.90937	-2.73109	-2.34677	29.87722	6.08836	241.13	-7.42
96/ 3/ 6	2450148.5	-14.29447	-25.95036	-3.86529	4.91047	-2.72904	-2.34645	29.87797	6.08820	241.15	-7.43
96/ 3/10	2450152.5	-14.28313	-25.95666	-3.87071	4.91157	-2.72698	-2.34613	29.87872	6.08804	241.18	-7.44
96/ 3/14	2450156.5	-14.27178	-25.96296	-3.87613	4.91266	-2.72493	-2.34581	29.87947	6.08788	241.20	-7.45
96/ 3/18	2450160.5	-14.26043	-25.96925	-3.88155	4.91376	-2.72287	-2.34548	29.88023	6.08772	241.23	-7.46
96/ 3/22	2450164.5	-14.24907	-25.97554	-3.88696	4.91486	-2.72081	-2.34516	29.88098	6.08756	241.25	-7.47
96/ 3/26	2450168.5	-14.23772	-25.98182	-3.89238	4.91595	-2.71875	-2.34483	29.88174	6.08740	241.28	-7.48
96/ 3/30	2450172.5	-14.22636	-25.98810	-3.89780	4.91705	-2.71669	-2.34451	29.88249	6.08724	241.30	-7.49
96/ 4/ 3	2450176.5	-14.21500	-25.99437	-3.90321	4.91814	-2.71463	-2.34418	29.88325	6.08708	241.33	-7.51
96/ 4/ 7	2450180.5	-14.20364	-26.00064	-3.90863	4.91923	-2.71257	-2.34386	29.88401	6.08692	241.35	-7.52
96/ 4/11	2450184.5	-14.19227	-26.00690	-3.91404	4.92033	-2.71051	-2.34353	29.88477	6.08676	241.38	-7.53
96/ 4/15	2450188.5	-14.18090	-26.01316	-3.91946	4.92142	-2.70845	-2.34320	29.88553	6.08660	241.40	-7.54
96/ 4/19	2450192.5	-14.16953	-26.01942	-3.92487	4.92251	-2.70639	-2.34287	29.88629	6.08644	241.43	-7.55
96/ 4/23	2450196.5	-14.15816	-26.02567	-3.93028	4.92361	-2.70432	-2.34254	29.88705	6.08628	241.45	-7.56

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
96/ 4/27	2450200.5	-14.14678	-26.03191	-3.93569	4.92470	-2.70225	-2.34221	29.88782	6.08611	241.48	-7.57
96/ 5/ 1	2450204.5	-14.13541	-26.03815	-3.94110	4.92579	-2.70017	-2.34188	29.88858	6.08595	241.50	-7.58
96/ 5/ 5	2450208.5	-14.12402	-26.04439	-3.94651	4.92687	-2.69810	-2.34155	29.88935	6.08578	241.53	-7.59
96/ 5/ 9	2450212.5	-14.11264	-26.05062	-3.95192	4.92796	-2.69602	-2.34121	29.89012	6.08561	241.55	-7.60
96/ 5/13	2450216.5	-14.10126	-26.05685	-3.95733	4.92904	-2.69395	-2.34087	29.89089	6.08543	241.58	-7.61
96/ 5/17	2450220.5	-14.08987	-26.06307	-3.96274	4.93012	-2.69187	-2.34054	29.89166	6.08526	241.60	-7.62
96/ 5/21	2450224.5	-14.07848	-26.06928	-3.96814	4.93120	-2.68979	-2.34020	29.89243	6.08508	241.63	-7.63
96/ 5/25	2450228.5	-14.06708	-26.07549	-3.97355	4.93227	-2.68771	-2.33986	29.89320	6.08490	241.65	-7.64
96/ 5/29	2450232.5	-14.05569	-26.08170	-3.97896	4.93334	-2.68562	-2.33952	29.89397	6.08472	241.68	-7.65
96/ 6/ 2	2450236.5	-14.04429	-26.08790	-3.98436	4.93441	-2.68354	-2.33918	29.89475	6.08453	241.70	-7.66
96/ 6/ 6	2450240.5	-14.03289	-26.09410	-3.98976	4.93547	-2.68146	-2.33884	29.89552	6.08435	241.73	-7.67
96/ 6/10	2450244.5	-14.02149	-26.10029	-3.99517	4.93654	-2.67937	-2.33850	29.89630	6.08416	241.75	-7.68
96/ 6/14	2450248.5	-14.01008	-26.10648	-4.00057	4.93759	-2.67729	-2.33816	29.89708	6.08397	241.78	-7.69
96/ 6/18	2450252.5	-13.99867	-26.11266	-4.00597	4.93865	-2.67520	-2.33781	29.89786	6.08378	241.80	-7.70
96/ 6/22	2450256.5	-13.98726	-26.11884	-4.01137	4.93970	-2.67312	-2.33747	29.89864	6.08358	241.83	-7.71
96/ 6/26	2450260.5	-13.97585	-26.12501	-4.01677	4.94075	-2.67103	-2.33713	29.89942	6.08339	241.85	-7.72
96/ 6/30	2450264.5	-13.96443	-26.13118	-4.02217	4.94180	-2.66895	-2.33678	29.90020	6.08319	241.88	-7.73
96/ 7/ 4	2450268.5	-13.95302	-26.13734	-4.02757	4.94284	-2.66687	-2.33644	29.90098	6.08299	241.91	-7.74
96/ 7/ 8	2450272.5	-13.94160	-26.14350	-4.03296	4.94388	-2.66479	-2.33610	29.90177	6.08280	241.93	-7.75
96/ 7/12	2450276.5	-13.93017	-26.14966	-4.03836	4.94492	-2.66270	-2.33576	29.90255	6.08260	241.96	-7.76
96/ 7/16	2450280.5	-13.91875	-26.15581	-4.04376	4.94596	-2.66062	-2.33542	29.90334	6.08240	241.98	-7.77
96/ 7/20	2450284.5	-13.90732	-26.16195	-4.04915	4.94700	-2.65854	-2.33507	29.90413	6.08221	242.01	-7.78
96/ 7/24	2450288.5	-13.89589	-26.16809	-4.05454	4.94804	-2.65646	-2.33473	29.90492	6.08201	242.03	-7.79
96/ 7/28	2450292.5	-13.88446	-26.17422	-4.05994	4.94907	-2.65438	-2.33439	29.90571	6.08181	242.06	-7.80
96/ 8/ 1	2450296.5	-13.87303	-26.18035	-4.06533	4.95010	-2.65230	-2.33404	29.90650	6.08161	242.08	-7.81
96/ 8/ 5	2450300.5	-13.86159	-26.18648	-4.07072	4.95113	-2.65022	-2.33370	29.90729	6.08140	242.11	-7.82
96/ 8/ 9	2450304.5	-13.85015	-26.19260	-4.07611	4.95215	-2.64814	-2.33335	29.90808	6.08120	242.13	-7.83
96/ 8/13	2450308.5	-13.83871	-26.19871	-4.08150	4.95318	-2.64606	-2.33301	29.90888	6.08100	242.16	-7.84
96/ 8/17	2450312.5	-13.82727	-26.20482	-4.08689	4.95420	-2.64398	-2.33267	29.90968	6.08080	242.18	-7.85
96/ 8/21	2450316.5	-13.81582	-26.21093	-4.09228	4.95522	-2.64191	-2.33232	29.91047	6.08059	242.21	-7.86
96/ 8/25	2450320.5	-13.80437	-26.21703	-4.09767	4.95624	-2.63983	-2.33198	29.91127	6.08039	242.23	-7.87
96/ 8/29	2450324.5	-13.79292	-26.22313	-4.10305	4.95726	-2.63776	-2.33164	29.91207	6.08019	242.26	-7.88
96/ 9/ 2	2450328.5	-13.78147	-26.22922	-4.10844	4.95827	-2.63568	-2.33129	29.91287	6.07998	242.28	-7.89
96/ 9/ 6	2450332.5	-13.77001	-26.23530	-4.11383	4.95928	-2.63361	-2.33095	29.91367	6.07978	242.31	-7.90
96/ 9/10	2450336.5	-13.75855	-26.24139	-4.11921	4.96030	-2.63154	-2.33061	29.91448	6.07958	242.33	-7.91
96/ 9/14	2450340.5	-13.74709	-26.24746	-4.12459	4.96131	-2.62947	-2.33027	29.91528	6.07938	242.36	-7.92
96/ 9/18	2450344.5	-13.73563	-26.25354	-4.12998	4.96232	-2.62740	-2.32992	29.91609	6.07918	242.38	-7.94
96/ 9/22	2450348.5	-13.72416	-26.25960	-4.13536	4.96333	-2.62533	-2.32958	29.91689	6.07898	242.41	-7.95
96/ 9/26	2450352.5	-13.71270	-26.26567	-4.14074	4.96434	-2.62326	-2.32924	29.91770	6.07878	242.43	-7.96
96/ 9/30	2450356.5	-13.70123	-26.27172	-4.14612	4.96535	-2.62120	-2.32890	29.91851	6.07858	242.46	-7.97
96/10/ 4	2450360.5	-13.68976	-26.27778	-4.15150	4.96636	-2.61914	-2.32856	29.91932	6.07839	242.48	-7.98
96/10/ 8	2450364.5	-13.67828	-26.28382	-4.15688	4.96737	-2.61707	-2.32822	29.92013	6.07819	242.51	-7.99
96/10/12	2450368.5	-13.66680	-26.28987	-4.16226	4.96838	-2.61501	-2.32788	29.92095	6.07800	242.53	-8.00
96/10/16	2450372.5	-13.65533	-26.29591	-4.16764	4.96939	-2.61295	-2.32754	29.92176	6.07781	242.56	-8.01
96/10/20	2450376.5	-13.64384	-26.30194	-4.17301	4.97041	-2.61088	-2.32720	29.92258	6.07762	242.58	-8.02

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
96/10/24	2450380.5	-13.63236	-26.30797	-4.17839	4.97142	-2.60881	-2.32686	29.92339	6.07743	242.61	-8.03
96/10/28	2450384.5	-13.62087	-26.31399	-4.18376	4.97243	-2.60675	-2.32651	29.92421	6.07724	242.63	-8.04
96/11/ 1	2450388.5	-13.60939	-26.32001	-4.18914	4.97344	-2.60468	-2.32617	29.92503	6.07705	242.66	-8.05
96/11/ 5	2450392.5	-13.59790	-26.32603	-4.19451	4.97445	-2.60261	-2.32583	29.92585	6.07686	242.68	-8.06
96/11/ 9	2450396.5	-13.58640	-26.33204	-4.19988	4.97546	-2.60054	-2.32548	29.92667	6.07667	242.71	-8.07
96/11/13	2450400.5	-13.57491	-26.33804	-4.20526	4.97647	-2.59847	-2.32514	29.92749	6.07648	242.73	-8.08
96/11/17	2450404.5	-13.56341	-26.34404	-4.21063	4.97748	-2.59640	-2.32479	29.92832	6.07629	242.76	-8.09
96/11/21	2450408.5	-13.55191	-26.35004	-4.21600	4.97849	-2.59433	-2.32445	29.92914	6.07610	242.78	-8.10
96/11/25	2450412.5	-13.54041	-26.35603	-4.22137	4.97950	-2.59226	-2.32410	29.92997	6.07591	242.81	-8.11
96/11/29	2450416.5	-13.52890	-26.36202	-4.22673	4.98050	-2.59019	-2.32375	29.93079	6.07571	242.83	-8.12
96/12/ 3	2450420.5	-13.51740	-26.36800	-4.23210	4.98151	-2.58811	-2.32340	29.93162	6.07552	242.86	-8.13
96/12/ 7	2450424.5	-13.50589	-26.37398	-4.23747	4.98251	-2.58604	-2.32305	29.93245	6.07533	242.88	-8.14
96/12/11	2450428.5	-13.49437	-26.37995	-4.24284	4.98351	-2.58396	-2.32271	29.93328	6.07513	242.91	-8.15
96/12/15	2450432.5	-13.48286	-26.38591	-4.24820	4.98451	-2.58188	-2.32236	29.93411	6.07493	242.93	-8.16
96/12/19	2450436.5	-13.47134	-26.39188	-4.25357	4.98551	-2.57981	-2.32200	29.93495	6.07474	242.96	-8.17
96/12/23	2450440.5	-13.45983	-26.39783	-4.25893	4.98651	-2.57773	-2.32165	29.93578	6.07454	242.98	-8.18
96/12/27	2450444.5	-13.44830	-26.40379	-4.26429	4.98750	-2.57566	-2.32130	29.93662	6.07434	243.01	-8.19
96/12/31	2450448.5	-13.43678	-26.40973	-4.26966	4.98850	-2.57358	-2.32095	29.93745	6.07415	243.03	-8.20
97/ 1/ 4	2450452.5	-13.42526	-26.41568	-4.27502	4.98950	-2.57150	-2.32060	29.93829	6.07395	243.06	-8.21
97/ 1/ 8	2450456.5	-13.41373	-26.42162	-4.28038	4.99049	-2.56942	-2.32025	29.93913	6.07375	243.08	-8.22
97/ 1/12	2450460.5	-13.40220	-26.42755	-4.28574	4.99148	-2.56734	-2.31989	29.93997	6.07356	243.11	-8.23
97/ 1/16	2450464.5	-13.39067	-26.43348	-4.29110	4.99248	-2.56526	-2.31954	29.94081	6.07336	243.13	-8.24
97/ 1/20	2450468.5	-13.37913	-26.43940	-4.29645	4.99347	-2.56318	-2.31918	29.94165	6.07315	243.16	-8.25
97/ 1/24	2450472.5	-13.36759	-26.44532	-4.30181	4.99445	-2.56109	-2.31883	29.94250	6.07295	243.18	-8.26
97/ 1/28	2450476.5	-13.35606	-26.45123	-4.30717	4.99544	-2.55901	-2.31847	29.94334	6.07274	243.21	-8.27
97/ 2/ 1	2450480.5	-13.34451	-26.45714	-4.31252	4.99642	-2.55692	-2.31811	29.94419	6.07254	243.23	-8.28
97/ 2/ 5	2450484.5	-13.33297	-26.46305	-4.31788	4.99740	-2.55484	-2.31775	29.94503	6.07233	243.26	-8.29
97/ 2/ 9	2450488.5	-13.32142	-26.46895	-4.32323	4.99838	-2.55275	-2.31739	29.94588	6.07212	243.28	-8.30
97/ 2/13	2450492.5	-13.30988	-26.47484	-4.32859	4.99935	-2.55066	-2.31704	29.94673	6.07191	243.31	-8.31
97/ 2/17	2450496.5	-13.29833	-26.48073	-4.33394	5.00033	-2.54858	-2.31668	29.94758	6.07170	243.33	-8.32
97/ 2/21	2450500.5	-13.28677	-26.48662	-4.33929	5.00130	-2.54649	-2.31632	29.94843	6.07148	243.36	-8.33
97/ 2/25	2450504.5	-13.27522	-26.49250	-4.34464	5.00227	-2.54441	-2.31596	29.94929	6.07127	243.38	-8.34
97/ 3/ 1	2450508.5	-13.26366	-26.49837	-4.34999	5.00323	-2.54232	-2.31559	29.95014	6.07106	243.41	-8.35
97/ 3/ 5	2450512.5	-13.25210	-26.50425	-4.35534	5.00420	-2.54024	-2.31523	29.95100	6.07084	243.43	-8.36
97/ 3/ 9	2450516.5	-13.24054	-26.51011	-4.36069	5.00516	-2.53815	-2.31487	29.95185	6.07062	243.46	-8.37
97/ 3/13	2450520.5	-13.22898	-26.51597	-4.36603	5.00612	-2.53607	-2.31451	29.95271	6.07040	243.49	-8.38
97/ 3/17	2450524.5	-13.21741	-26.52183	-4.37138	5.00707	-2.53399	-2.31415	29.95357	6.07019	243.51	-8.39
97/ 3/21	2450528.5	-13.20584	-26.52768	-4.37673	5.00803	-2.53190	-2.31379	29.95443	6.06997	243.54	-8.40
97/ 3/25	2450532.5	-13.19427	-26.53353	-4.38207	5.00898	-2.52982	-2.31343	29.95529	6.06975	243.56	-8.41
97/ 3/29	2450536.5	-13.18270	-26.53937	-4.38742	5.00994	-2.52775	-2.31307	29.95615	6.06954	243.59	-8.42
97/ 4/ 2	2450540.5	-13.17112	-26.54521	-4.39276	5.01089	-2.52567	-2.31272	29.95702	6.06932	243.61	-8.43
97/ 4/ 6	2450544.5	-13.15955	-26.55104	-4.39810	5.01185	-2.52359	-2.31236	29.95788	6.06911	243.64	-8.44
97/ 4/10	2450548.5	-13.14797	-26.55687	-4.40344	5.01280	-2.52151	-2.31200	29.95875	6.06890	243.66	-8.45
97/ 4/14	2450552.5	-13.13638	-26.56269	-4.40878	5.01375	-2.51943	-2.31164	29.95961	6.06869	243.69	-8.46
97/ 4/18	2450556.5	-13.12480	-26.56851	-4.41412	5.01471	-2.51735	-2.31128	29.96048	6.06847	243.71	-8.47

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
97/ 4/22	2450560.5	-13.11321	-26.57432	-4.41946	5.01566	-2.51528	-2.31092	29.96135	6.06826	243.74	-8.48
97/ 4/26	2450564.5	-13.10163	-26.58013	-4.42480	5.01660	-2.51320	-2.31056	29.96222	6.06804	243.76	-8.49
97/ 4/30	2450568.5	-13.09004	-26.58593	-4.43014	5.01755	-2.51112	-2.31019	29.96309	6.06783	243.79	-8.50
97/ 5/ 4	2450572.5	-13.07844	-26.59173	-4.43547	5.01850	-2.50904	-2.30983	29.96397	6.06761	243.81	-8.51
97/ 5/ 8	2450576.5	-13.06685	-26.59752	-4.44081	5.01945	-2.50696	-2.30947	29.96484	6.06740	243.84	-8.52
97/ 5/12	2450580.5	-13.05525	-26.60331	-4.44614	5.02039	-2.50488	-2.30911	29.96571	6.06719	243.86	-8.53
97/ 5/16	2450584.5	-13.04365	-26.60910	-4.45148	5.02133	-2.50280	-2.30875	29.96659	6.06697	243.89	-8.54
97/ 5/20	2450588.5	-13.03205	-26.61488	-4.45681	5.02228	-2.50072	-2.30839	29.96747	6.06676	243.91	-8.55
97/ 5/24	2450592.5	-13.02045	-26.62065	-4.46214	5.02322	-2.49864	-2.30802	29.96835	6.06654	243.94	-8.56
97/ 5/28	2450596.5	-13.00884	-26.62642	-4.46748	5.02416	-2.49657	-2.30766	29.96923	6.06633	243.96	-8.57
97/ 6/ 1	2450600.5	-12.99723	-26.63219	-4.47281	5.02510	-2.49449	-2.30730	29.97011	6.06611	243.99	-8.58
97/ 6/ 5	2450604.5	-12.98562	-26.63795	-4.47814	5.02604	-2.49241	-2.30693	29.97099	6.06590	244.01	-8.59
97/ 6/ 9	2450608.5	-12.97401	-26.64370	-4.48347	5.02698	-2.49033	-2.30657	29.97188	6.06568	244.04	-8.60
97/ 6/13	2450612.5	-12.96240	-26.64945	-4.48879	5.02791	-2.48825	-2.30621	29.97276	6.06547	244.06	-8.61
97/ 6/17	2450616.5	-12.95078	-26.65520	-4.49412	5.02885	-2.48617	-2.30584	29.97365	6.06525	244.09	-8.62
97/ 6/21	2450620.5	-12.93916	-26.66094	-4.49945	5.02979	-2.48409	-2.30548	29.97453	6.06504	244.11	-8.63
97/ 6/25	2450624.5	-12.92754	-26.66668	-4.50477	5.03072	-2.48201	-2.30511	29.97542	6.06482	244.14	-8.64
97/ 6/29	2450628.5	-12.91592	-26.67241	-4.51010	5.03166	-2.47993	-2.30475	29.97631	6.06461	244.16	-8.65
97/ 7/ 3	2450632.5	-12.90429	-26.67813	-4.51542	5.03259	-2.47785	-2.30438	29.97720	6.06440	244.19	-8.66
97/ 7/ 7	2450636.5	-12.89267	-26.68386	-4.52075	5.03353	-2.47577	-2.30402	29.97810	6.06418	244.21	-8.67
97/ 7/11	2450640.5	-12.88104	-26.68957	-4.52607	5.03446	-2.47368	-2.30365	29.97899	6.06397	244.24	-8.68
97/ 7/15	2450644.5	-12.86941	-26.69529	-4.53139	5.03539	-2.47159	-2.30328	29.97988	6.06375	244.26	-8.69
97/ 7/19	2450648.5	-12.85777	-26.70099	-4.53671	5.03632	-2.46951	-2.30291	29.98078	6.06353	244.29	-8.70
97/ 7/23	2450652.5	-12.84614	-26.70670	-4.54203	5.03725	-2.46742	-2.30254	29.98168	6.06331	244.31	-8.71
97/ 7/27	2450656.5	-12.83450	-26.71239	-4.54735	5.03818	-2.46533	-2.30217	29.98257	6.06309	244.34	-8.72
97/ 7/31	2450660.5	-12.82286	-26.71809	-4.55267	5.03910	-2.46324	-2.30180	29.98347	6.06286	244.36	-8.73
97/ 8/ 4	2450664.5	-12.81122	-26.72377	-4.55798	5.04002	-2.46115	-2.30143	29.98437	6.06264	244.39	-8.74
97/ 8/ 8	2450668.5	-12.79957	-26.72946	-4.56330	5.04094	-2.45905	-2.30105	29.98527	6.06241	244.41	-8.75
97/ 8/12	2450672.5	-12.78793	-26.73514	-4.56861	5.04185	-2.45696	-2.30068	29.98618	6.06218	244.44	-8.76
97/ 8/16	2450676.5	-12.77628	-26.74081	-4.57393	5.04277	-2.45487	-2.30030	29.98708	6.06195	244.46	-8.77
97/ 8/20	2450680.5	-12.76463	-26.74648	-4.57924	5.04368	-2.45278	-2.29993	29.98799	6.06172	244.49	-8.78
97/ 8/24	2450684.5	-12.75297	-26.75214	-4.58456	5.04458	-2.45068	-2.29955	29.98889	6.06149	244.51	-8.79
97/ 8/28	2450688.5	-12.74132	-26.75780	-4.58987	5.04549	-2.44859	-2.29918	29.98980	6.06125	244.54	-8.80
97/ 9/ 1	2450692.5	-12.72966	-26.76346	-4.59518	5.04639	-2.44650	-2.29880	29.99071	6.06101	244.56	-8.81
97/ 9/ 5	2450696.5	-12.71800	-26.76911	-4.60049	5.04729	-2.44441	-2.29843	29.99162	6.06078	244.59	-8.82
97/ 9/ 9	2450700.5	-12.70634	-26.77475	-4.60580	5.04818	-2.44232	-2.29805	29.99253	6.06054	244.61	-8.83
97/ 9/13	2450704.5	-12.69468	-26.78039	-4.61111	5.04907	-2.44023	-2.29768	29.99344	6.06030	244.64	-8.84
97/ 9/17	2450708.5	-12.68301	-26.78602	-4.61641	5.04997	-2.43814	-2.29730	29.99435	6.06006	244.66	-8.85
97/ 9/21	2450712.5	-12.67135	-26.79165	-4.62172	5.05086	-2.43605	-2.29693	29.99527	6.05982	244.69	-8.86
97/ 9/25	2450716.5	-12.65968	-26.79728	-4.62703	5.05174	-2.43397	-2.29655	29.99618	6.05958	244.71	-8.87
97/ 9/29	2450720.5	-12.64800	-26.80290	-4.63233	5.05263	-2.43188	-2.29618	29.99710	6.05934	244.74	-8.88
97/10/ 3	2450724.5	-12.63633	-26.80852	-4.63764	5.05352	-2.42980	-2.29581	29.99802	6.05910	244.76	-8.89
97/10/ 7	2450728.5	-12.62466	-26.81413	-4.64294	5.05440	-2.42771	-2.29543	29.99894	6.05886	244.79	-8.90
97/10/11	2450732.5	-12.61298	-26.81973	-4.64824	5.05529	-2.42563	-2.29506	29.99986	6.05862	244.81	-8.91
97/10/15	2450736.5	-12.60130	-26.82533	-4.65354	5.05617	-2.42354	-2.29468	30.00078	6.05838	244.84	-8.92

1.9 1 A.U.=149,599,000 KM.

HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM — PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
97/10/19	2450740.5	-12.58962	-26.83093	-4.65884	5.05704	-2.42146	-2.29431	30.00170	6.05814	244.86	-8.93
97/10/23	2450744.5	-12.57793	-26.83652	-4.66414	5.05792	-2.41938	-2.29393	30.00263	6.05789	244.89	-8.94
97/10/27	2450748.5	-12.56625	-26.84211	-4.66944	5.05879	-2.41730	-2.29356	30.00355	6.05765	244.91	-8.95
97/10/31	2450752.5	-12.55456	-26.84769	-4.67474	5.05967	-2.41522	-2.29318	30.00448	6.05741	244.94	-8.96
97/11/ 4	2450756.5	-12.54287	-26.85327	-4.68004	5.06054	-2.41314	-2.29281	30.00541	6.05717	244.96	-8.97
97/11/ 8	2450760.5	-12.53118	-26.85884	-4.68533	5.06141	-2.41107	-2.29243	30.00633	6.05692	244.99	-8.98
97/11/12	2450764.5	-12.51948	-26.86441	-4.69063	5.06227	-2.40899	-2.29206	30.00726	6.05668	245.01	-8.99
97/11/16	2450768.5	-12.50779	-26.86997	-4.69592	5.06314	-2.40692	-2.29169	30.00820	6.05644	245.04	-9.00
97/11/20	2450772.5	-12.49609	-26.87553	-4.70122	5.06401	-2.40485	-2.29131	30.00913	6.05620	245.06	-9.01
97/11/24	2450776.5	-12.48439	-26.88108	-4.70651	5.06487	-2.40278	-2.29094	30.01006	6.05596	245.09	-9.02
97/11/28	2450780.5	-12.47269	-26.88663	-4.71180	5.06574	-2.40071	-2.29057	30.01100	6.05572	245.11	-9.03
97/12/ 2	2450784.5	-12.46099	-26.89217	-4.71709	5.06660	-2.39864	-2.29020	30.01193	6.05549	245.14	-9.04
97/12/ 6	2450788.5	-12.44928	-26.89771	-4.72238	5.06746	-2.39657	-2.28983	30.01287	6.05525	245.16	-9.05
97/12/10	2450792.5	-12.43757	-26.90325	-4.72767	5.06833	-2.39451	-2.28946	30.01381	6.05502	245.19	-9.06
97/12/14	2450796.5	-12.42586	-26.90878	-4.73296	5.06919	-2.39245	-2.28909	30.01475	6.05478	245.21	-9.07
97/12/18	2450800.5	-12.41415	-26.91430	-4.73825	5.07006	-2.39039	-2.28872	30.01569	6.05456	245.24	-9.08
97/12/22	2450804.5	-12.40244	-26.91982	-4.74354	5.07092	-2.38833	-2.28835	30.01663	6.05433	245.26	-9.09
97/12/26	2450808.5	-12.39072	-26.92534	-4.74882	5.07179	-2.38627	-2.28798	30.01758	6.05410	245.29	-9.10
97/12/30	2450812.5	-12.37900	-26.93085	-4.75411	5.07266	-2.38420	-2.28761	30.01852	6.05388	245.31	-9.11
98/ 1/ 3	2450816.5	-12.36728	-26.93635	-4.75939	5.07353	-2.38214	-2.28724	30.01947	6.05366	245.34	-9.12
98/ 1/ 7	2450820.5	-12.35556	-26.94185	-4.76468	5.07440	-2.38008	-2.28687	30.02042	6.05343	245.36	-9.13
98/ 1/11	2450824.5	-12.34384	-26.94735	-4.76996	5.07527	-2.37802	-2.28650	30.02137	6.05321	245.39	-9.14
98/ 1/15	2450828.5	-12.33211	-26.95284	-4.77524	5.07614	-2.37595	-2.28613	30.02232	6.05299	245.41	-9.15
98/ 1/19	2450832.5	-12.32038	-26.95833	-4.78052	5.07701	-2.37389	-2.28575	30.02327	6.05277	245.44	-9.16
98/ 1/23	2450836.5	-12.30866	-26.96381	-4.78580	5.07787	-2.37182	-2.28538	30.02422	6.05255	245.46	-9.17
98/ 1/27	2450840.5	-12.29692	-26.96929	-4.79108	5.07874	-2.36976	-2.28501	30.02517	6.05233	245.49	-9.18
98/ 1/31	2450844.5	-12.28519	-26.97476	-4.79636	5.07961	-2.36769	-2.28463	30.02613	6.05210	245.51	-9.19
98/ 2/ 4	2450848.5	-12.27345	-26.98023	-4.80164	5.08048	-2.36562	-2.28426	30.02709	6.05188	245.54	-9.20
98/ 2/ 8	2450852.5	-12.26172	-26.98569	-4.80691	5.08135	-2.36356	-2.28388	30.02804	6.05166	245.56	-9.21
98/ 2/12	2450856.5	-12.24998	-26.99115	-4.81219	5.08221	-2.36149	-2.28351	30.02900	6.05144	245.59	-9.22
98/ 2/16	2450860.5	-12.23823	-26.99660	-4.81746	5.08308	-2.35942	-2.28313	30.02996	6.05122	245.61	-9.23
98/ 2/20	2450864.5	-12.22649	-27.00205	-4.82274	5.08394	-2.35734	-2.28275	30.03092	6.05099	245.64	-9.24
98/ 2/24	2450868.5	-12.21474	-27.00749	-4.82801	5.08481	-2.35527	-2.28237	30.03189	6.05077	245.66	-9.25
98/ 2/28	2450872.5	-12.20300	-27.01293	-4.83328	5.08567	-2.35320	-2.28199	30.03285	6.05054	245.69	-9.26
98/ 3/ 4	2450876.5	-12.19125	-27.01836	-4.83856	5.08653	-2.35113	-2.28161	30.03381	6.05032	245.71	-9.27
98/ 3/ 8	2450880.5	-12.17950	-27.02379	-4.84383	5.08739	-2.34905	-2.28123	30.03478	6.05009	245.74	-9.28
98/ 3/12	2450884.5	-12.16774	-27.02922	-4.84910	5.08824	-2.34698	-2.28085	30.03575	6.04986	245.76	-9.29
98/ 3/16	2450888.5	-12.15599	-27.03464	-4.85436	5.08910	-2.34491	-2.28047	30.03672	6.04964	245.79	-9.30
98/ 3/20	2450892.5	-12.14423	-27.04005	-4.85963	5.08996	-2.34283	-2.28009	30.03769	6.04941	245.81	-9.31
98/ 3/24	2450896.5	-12.13247	-27.04546	-4.86490	5.09082	-2.34075	-2.27971	30.03866	6.04918	245.84	-9.32
98/ 3/28	2450900.5	-12.12071	-27.05087	-4.87016	5.09167	-2.33868	-2.27933	30.03963	6.04895	245.86	-9.33
98/ 4/ 1	2450904.5	-12.10894	-27.05627	-4.87543	5.09252	-2.33660	-2.27894	30.04060	6.04872	245.89	-9.34
98/ 4/ 5	2450908.5	-12.09718	-27.06166	-4.88069	5.09337	-2.33451	-2.27856	30.04158	6.04849	245.91	-9.35
98/ 4/ 9	2450912.5	-12.08541	-27.06705	-4.88596	5.09422	-2.33243	-2.27817	30.04255	6.04826	245.94	-9.36
98/ 4/13	2450916.5	-12.07364	-27.07244	-4.89122	5.09507	-2.33035	-2.27778	30.04353	6.04802	245.96	-9.37

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
98/ 4/17	2450920.5	-12.06187	-27.07782	-4.89648	5.09591	-2.32826	-2.27740	30.04451	6.04778	245.99	-9.38
98/ 4/21	2450924.5	-12.05010	-27.08320	-4.90174	5.09675	-2.32618	-2.27701	30.04549	6.04754	246.01	-9.39
98/ 4/25	2450928.5	-12.03832	-27.08857	-4.90700	5.09759	-2.32410	-2.27662	30.04647	6.04730	246.04	-9.40
98/ 4/29	2450932.5	-12.02654	-27.09393	-4.91226	5.09842	-2.32201	-2.27623	30.04745	6.04706	246.06	-9.41
98/ 5/ 3	2450936.5	-12.01476	-27.09930	-4.91752	5.09926	-2.31993	-2.27584	30.04843	6.04681	246.09	-9.42
98/ 5/ 7	2450940.5	-12.00298	-27.10465	-4.92278	5.10008	-2.31784	-2.27545	30.04942	6.04657	246.11	-9.43
98/ 5/11	2450944.5	-11.99120	-27.11000	-4.92803	5.10091	-2.31576	-2.27506	30.05040	6.04632	246.14	-9.44
98/ 5/15	2450948.5	-11.97941	-27.11535	-4.93329	5.10173	-2.31368	-2.27467	30.05139	6.04607	246.16	-9.45
98/ 5/19	2450952.5	-11.96763	-27.12069	-4.93854	5.10256	-2.31160	-2.27428	30.05238	6.04582	246.19	-9.46
98/ 5/23	2450956.5	-11.95584	-27.12603	-4.94380	5.10337	-2.30951	-2.27389	30.05337	6.04557	246.21	-9.47
98/ 5/27	2450960.5	-11.94405	-27.13137	-4.94905	5.10419	-2.30743	-2.27350	30.05436	6.04531	246.24	-9.48
98/ 5/31	2450964.5	-11.93226	-27.13669	-4.95430	5.10500	-2.30536	-2.27312	30.05535	6.04506	246.26	-9.49
98/ 6/ 4	2450968.5	-11.92046	-27.14202	-4.95955	5.10581	-2.30328	-2.27273	30.05634	6.04481	246.29	-9.50
98/ 6/ 8	2450972.5	-11.90867	-27.14734	-4.96480	5.10662	-2.30121	-2.27234	30.05733	6.04456	246.31	-9.51
98/ 6/12	2450976.5	-11.89687	-27.15265	-4.97005	5.10743	-2.29913	-2.27195	30.05833	6.04431	246.34	-9.52
98/ 6/16	2450980.5	-11.88507	-27.15796	-4.97530	5.10824	-2.29706	-2.27157	30.05933	6.04406	246.36	-9.53
98/ 6/20	2450984.5	-11.87327	-27.16326	-4.98055	5.10905	-2.29499	-2.27118	30.06032	6.04381	246.39	-9.54
98/ 6/24	2450988.5	-11.86146	-27.16856	-4.98579	5.10986	-2.29292	-2.27079	30.06132	6.04356	246.41	-9.55
98/ 6/28	2450992.5	-11.84966	-27.17386	-4.99104	5.11066	-2.29085	-2.27041	30.06232	6.04331	246.44	-9.56
98/ 7/ 2	2450996.5	-11.83785	-27.17915	-4.99628	5.11147	-2.28878	-2.27002	30.06332	6.04306	246.46	-9.57
98/ 7/ 6	2451000.5	-11.82604	-27.18443	-5.00153	5.11227	-2.28671	-2.26963	30.06433	6.04281	246.49	-9.58
98/ 7/10	2451004.5	-11.81423	-27.18971	-5.00677	5.11307	-2.28464	-2.26924	30.06533	6.04256	246.51	-9.59
98/ 7/14	2451008.5	-11.80241	-27.19499	-5.01201	5.11387	-2.28258	-2.26886	30.06634	6.04232	246.54	-9.60
98/ 7/18	2451012.5	-11.79060	-27.20026	-5.01725	5.11467	-2.28051	-2.26847	30.06734	6.04207	246.56	-9.61
98/ 7/22	2451016.5	-11.77878	-27.20552	-5.02249	5.11547	-2.27845	-2.26808	30.06835	6.04182	246.59	-9.62
98/ 7/26	2451020.5	-11.76696	-27.21079	-5.02773	5.11627	-2.27638	-2.26770	30.06936	6.04157	246.61	-9.63
98/ 7/30	2451024.5	-11.75514	-27.21604	-5.03297	5.11707	-2.27432	-2.26731	30.07037	6.04132	246.64	-9.64
98/ 8/ 3	2451028.5	-11.74332	-27.22129	-5.03821	5.11786	-2.27226	-2.26693	30.07138	6.04108	246.66	-9.64
98/ 8/ 7	2451032.5	-11.73150	-27.22654	-5.04344	5.11866	-2.27020	-2.26654	30.07239	6.04083	246.69	-9.65
98/ 8/11	2451036.5	-11.71967	-27.23178	-5.04868	5.11945	-2.26813	-2.26615	30.07341	6.04059	246.71	-9.66
98/ 8/15	2451040.5	-11.70784	-27.23702	-5.05391	5.12025	-2.26607	-2.26577	30.07442	6.04034	246.74	-9.67
98/ 8/19	2451044.5	-11.69601	-27.24225	-5.05915	5.12104	-2.26402	-2.26538	30.07544	6.04010	246.76	-9.68
98/ 8/23	2451048.5	-11.68418	-27.24748	-5.06438	5.12183	-2.26196	-2.26500	30.07646	6.03985	246.79	-9.69
98/ 8/27	2451052.5	-11.67235	-27.25270	-5.06961	5.12262	-2.25990	-2.26461	30.07748	6.03961	246.81	-9.70
98/ 8/31	2451056.5	-11.66051	-27.25792	-5.07484	5.12342	-2.25784	-2.26423	30.07850	6.03937	246.84	-9.71
98/ 9/ 4	2451060.5	-11.64868	-27.26314	-5.08007	5.12421	-2.25579	-2.26384	30.07952	6.03913	246.86	-9.72
98/ 9/ 8	2451064.5	-11.63684	-27.26835	-5.08530	5.12500	-2.25374	-2.26346	30.08054	6.03889	246.89	-9.73
98/ 9/12	2451068.5	-11.62500	-27.27355	-5.09053	5.12580	-2.25168	-2.26308	30.08157	6.03865	246.91	-9.74
98/ 9/16	2451072.5	-11.61316	-27.27875	-5.09576	5.12659	-2.24963	-2.26269	30.08259	6.03842	246.94	-9.75
98/ 9/20	2451076.5	-11.60131	-27.28394	-5.10099	5.12739	-2.24757	-2.26230	30.08362	6.03818	246.96	-9.76
98/ 9/24	2451080.5	-11.58947	-27.28913	-5.10621	5.12818	-2.24551	-2.26192	30.08465	6.03795	246.99	-9.77
98/ 9/28	2451084.5	-11.57762	-27.29432	-5.11144	5.12897	-2.24345	-2.26153	30.08568	6.03771	247.01	-9.78
98/10/ 2	2451088.5	-11.56577	-27.29950	-5.11666	5.12977	-2.24140	-2.26114	30.08671	6.03748	247.04	-9.79
98/10/ 6	2451092.5	-11.55392	-27.30467	-5.12188	5.13056	-2.23934	-2.26076	30.08774	6.03724	247.06	-9.80
98/10/10	2451096.5	-11.54206	-27.30985	-5.12711	5.13135	-2.23728	-2.26037	30.08877	6.03700	247.09	-9.81

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
98/10/14	2451100.5	-11.53021	-27.31501	-5.13233	5.13214	-2.23522	-2.25998	30.08980	6.03676	247.11	-9.82
98/10/18	2451104.5	-11.51835	-27.32017	-5.13755	5.13292	-2.23315	-2.25959	30.09084	6.03652	247.14	-9.83
98/10/22	2451108.5	-11.50649	-27.32533	-5.14277	5.13371	-2.23109	-2.25920	30.09188	6.03628	247.16	-9.84
98/10/26	2451112.5	-11.49463	-27.33048	-5.14799	5.13449	-2.22903	-2.25881	30.09291	6.03604	247.19	-9.85
98/10/30	2451116.5	-11.48277	-27.33563	-5.15321	5.13528	-2.22697	-2.25841	30.09395	6.03580	247.21	-9.86
98/11/ 3	2451120.5	-11.47090	-27.34077	-5.15842	5.13606	-2.22491	-2.25802	30.09499	6.03556	247.24	-9.87
98/11/ 7	2451124.5	-11.45904	-27.34591	-5.16364	5.13684	-2.22285	-2.25763	30.09604	6.03532	247.26	-9.88
98/11/11	2451128.5	-11.44717	-27.35104	-5.16885	5.13761	-2.22079	-2.25724	30.09708	6.03507	247.29	-9.89
98/11/15	2451132.5	-11.43530	-27.35617	-5.17407	5.13839	-2.21872	-2.25684	30.09812	6.03483	247.31	-9.90
98/11/19	2451136.5	-11.42343	-27.36129	-5.17928	5.13916	-2.21666	-2.25645	30.09917	6.03458	247.34	-9.91
98/11/23	2451140.5	-11.41156	-27.36641	-5.18449	5.13993	-2.21460	-2.25606	30.10022	6.03433	247.36	-9.92
98/11/27	2451144.5	-11.39968	-27.37152	-5.18970	5.14070	-2.21255	-2.25567	30.10126	6.03409	247.39	-9.93
98/12/ 1	2451148.5	-11.38780	-27.37663	-5.19491	5.14147	-2.21049	-2.25527	30.10231	6.03384	247.41	-9.94
98/12/ 5	2451152.5	-11.37593	-27.38174	-5.20012	5.14224	-2.20843	-2.25488	30.10336	6.03360	247.44	-9.95
98/12/ 9	2451156.5	-11.36405	-27.38684	-5.20533	5.14301	-2.20638	-2.25449	30.10442	6.03335	247.46	-9.96
98/12/13	2451160.5	-11.35216	-27.39193	-5.21054	5.14378	-2.20432	-2.25410	30.10547	6.03311	247.49	-9.97
98/12/17	2451164.5	-11.34028	-27.39702	-5.21575	5.14454	-2.20227	-2.25371	30.10652	6.03287	247.51	-9.98
98/12/21	2451168.5	-11.32839	-27.40211	-5.22095	5.14531	-2.20021	-2.25331	30.10758	6.03262	247.54	-9.99
98/12/25	2451172.5	-11.31651	-27.40719	-5.22616	5.14607	-2.19815	-2.25292	30.10864	6.03238	247.56	-10.00
98/12/29	2451176.5	-11.30462	-27.41226	-5.23136	5.14683	-2.19610	-2.25253	30.10969	6.03213	247.59	-10.01
99/ 1/ 2	2451180.5	-11.29273	-27.41733	-5.23657	5.14759	-2.19404	-2.25213	30.11075	6.03189	247.61	-10.02
99/ 1/ 6	2451184.5	-11.28083	-27.42240	-5.24177	5.14835	-2.19199	-2.25174	30.11181	6.03164	247.64	-10.02
99/ 1/10	2451188.5	-11.26894	-27.42746	-5.24697	5.14911	-2.18994	-2.25135	30.11288	6.03139	247.66	-10.03
99/ 1/14	2451192.5	-11.25704	-27.43252	-5.25217	5.14987	-2.18788	-2.25095	30.11394	6.03115	247.69	-10.04
99/ 1/18	2451196.5	-11.24514	-27.43757	-5.25737	5.15062	-2.18583	-2.25056	30.11501	6.03090	247.71	-10.05
99/ 1/22	2451200.5	-11.23325	-27.44262	-5.26257	5.15137	-2.18378	-2.25017	30.11607	6.03066	247.74	-10.06
99/ 1/26	2451204.5	-11.22134	-27.44766	-5.26777	5.15213	-2.18173	-2.24977	30.11714	6.03041	247.76	-10.07
99/ 1/30	2451208.5	-11.20944	-27.45270	-5.27296	5.15288	-2.17969	-2.24938	30.11821	6.03016	247.79	-10.08
99/ 2/ 3	2451212.5	-11.19754	-27.45773	-5.27816	5.15363	-2.17764	-2.24899	30.11928	6.02992	247.81	-10.09
99/ 2/ 7	2451216.5	-11.18563	-27.46276	-5.28336	5.15438	-2.17559	-2.24859	30.12035	6.02967	247.84	-10.10
99/ 2/11	2451220.5	-11.17372	-27.46778	-5.28855	5.15513	-2.17355	-2.24820	30.12142	6.02943	247.86	-10.11
99/ 2/15	2451224.5	-11.16181	-27.47280	-5.29374	5.15587	-2.17151	-2.24781	30.12249	6.02919	247.89	-10.12
99/ 2/19	2451228.5	-11.14990	-27.47782	-5.29893	5.15662	-2.16946	-2.24742	30.12357	6.02895	247.91	-10.13
99/ 2/23	2451232.5	-11.13798	-27.48283	-5.30413	5.15737	-2.16742	-2.24703	30.12464	6.02871	247.94	-10.14
99/ 2/27	2451236.5	-11.12607	-27.48783	-5.30932	5.15812	-2.16539	-2.24664	30.12572	6.02847	247.96	-10.15
99/ 3/ 3	2451240.5	-11.11415	-27.49283	-5.31451	5.15886	-2.16335	-2.24625	30.12680	6.02823	247.99	-10.16
99/ 3/ 7	2451244.5	-11.10223	-27.49783	-5.31970	5.15961	-2.16131	-2.24586	30.12788	6.02800	248.01	-10.17
99/ 3/11	2451248.5	-11.09031	-27.50282	-5.32488	5.16037	-2.15928	-2.24547	30.12896	6.02777	248.04	-10.18
99/ 3/15	2451252.5	-11.07839	-27.50780	-5.33007	5.16112	-2.15724	-2.24508	30.13005	6.02754	248.06	-10.19
99/ 3/19	2451256.5	-11.06647	-27.51278	-5.33526	5.16187	-2.15520	-2.24469	30.13113	6.02731	248.09	-10.20
99/ 3/23	2451260.5	-11.05454	-27.51776	-5.34044	5.16262	-2.15316	-2.24429	30.13221	6.02708	248.11	-10.21
99/ 3/27	2451264.5	-11.04261	-27.52273	-5.34563	5.16338	-2.15112	-2.24390	30.13330	6.02685	248.14	-10.22
99/ 3/31	2451268.5	-11.03068	-27.52770	-5.35081	5.16413	-2.14908	-2.24351	30.13439	6.02662	248.16	-10.23
99/ 4/ 4	2451272.5	-11.01875	-27.53266	-5.35599	5.16488	-2.14704	-2.24312	30.13548	6.02639	248.19	-10.24
99/ 4/ 8	2451276.5	-11.00682	-27.53762	-5.36117	5.16563	-2.14500	-2.24272	30.13657	6.02616	248.21	-10.25

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
99/ 4/12	2451280.5	-10.99489	-27.54257	-5.36635	5.16638	-2.14296	-2.24233	30.13766	6.02593	248.24	-10.26
99/ 4/16	2451284.5	-10.98295	-27.54752	-5.37153	5.16714	-2.14092	-2.24193	30.13875	6.02570	248.26	-10.27
99/ 4/20	2451288.5	-10.97101	-27.55246	-5.37671	5.16789	-2.13888	-2.24154	30.13985	6.02548	248.29	-10.28
99/ 4/24	2451292.5	-10.95907	-27.55740	-5.38189	5.16864	-2.13684	-2.24114	30.14094	6.02525	248.31	-10.29
99/ 4/28	2451296.5	-10.94713	-27.56234	-5.38707	5.16939	-2.13479	-2.24075	30.14204	6.02502	248.34	-10.30
99/ 5/ 2	2451300.5	-10.93519	-27.56727	-5.39224	5.17014	-2.13275	-2.24035	30.14314	6.02479	248.36	-10.30
99/ 5/ 6	2451304.5	-10.92324	-27.57219	-5.39742	5.17088	-2.13070	-2.23995	30.14424	6.02456	248.39	-10.31
99/ 5/10	2451308.5	-10.91130	-27.57711	-5.40259	5.17163	-2.12866	-2.23956	30.14534	6.02433	248.41	-10.32
99/ 5/14	2451312.5	-10.89935	-27.58203	-5.40777	5.17237	-2.12661	-2.23916	30.14644	6.02410	248.44	-10.33
99/ 5/18	2451316.5	-10.88740	-27.58694	-5.41294	5.17312	-2.12457	-2.23876	30.14755	6.02387	248.46	-10.34
99/ 5/22	2451320.5	-10.87545	-27.59184	-5.41811	5.17386	-2.12252	-2.23836	30.14865	6.02364	248.49	-10.35
99/ 5/26	2451324.5	-10.86349	-27.59674	-5.42328	5.17460	-2.12047	-2.23796	30.14976	6.02340	248.51	-10.36
99/ 5/30	2451328.5	-10.85154	-27.60164	-5.42845	5.17534	-2.11843	-2.23756	30.15086	6.02317	248.54	-10.37
99/ 6/ 3	2451332.5	-10.83958	-27.60653	-5.43362	5.17609	-2.11638	-2.23716	30.15197	6.02294	248.56	-10.38
99/ 6/ 7	2451336.5	-10.82762	-27.61142	-5.43879	5.17683	-2.11433	-2.23676	30.15308	6.02271	248.59	-10.39
99/ 6/11	2451340.5	-10.81566	-27.61630	-5.44395	5.17757	-2.11228	-2.23636	30.15419	6.02248	248.61	-10.40
99/ 6/15	2451344.5	-10.80370	-27.62118	-5.44912	5.17831	-2.11023	-2.23596	30.15530	6.02225	248.64	-10.41
99/ 6/19	2451348.5	-10.79174	-27.62605	-5.45428	5.17904	-2.10818	-2.23556	30.15642	6.02201	248.66	-10.42
99/ 6/23	2451352.5	-10.77977	-27.63092	-5.45945	5.17978	-2.10613	-2.23515	30.15753	6.02177	248.69	-10.43
99/ 6/27	2451356.5	-10.76781	-27.63578	-5.46461	5.18051	-2.10407	-2.23475	30.15865	6.02153	248.71	-10.44
99/ 7/ 1	2451360.5	-10.75584	-27.64064	-5.46977	5.18124	-2.10202	-2.23434	30.15977	6.02129	248.74	-10.45
99/ 7/ 5	2451364.5	-10.74387	-27.64549	-5.47493	5.18196	-2.09997	-2.23394	30.16088	6.02105	248.76	-10.46
99/ 7/ 9	2451368.5	-10.73189	-27.65034	-5.48010	5.18269	-2.09791	-2.23353	30.16200	6.02081	248.79	-10.47
99/ 7/13	2451372.5	-10.71992	-27.65519	-5.48525	5.18341	-2.09586	-2.23312	30.16312	6.02056	248.81	-10.48
99/ 7/17	2451376.5	-10.70795	-27.66003	-5.49041	5.18413	-2.09381	-2.23272	30.16425	6.02032	248.84	-10.49
99/ 7/21	2451380.5	-10.69597	-27.66486	-5.49557	5.18484	-2.09175	-2.23231	30.16537	6.02007	248.86	-10.50
99/ 7/25	2451384.5	-10.68399	-27.66969	-5.50073	5.18556	-2.08970	-2.23190	30.16650	6.01982	248.89	-10.51
99/ 7/29	2451388.5	-10.67201	-27.67452	-5.50588	5.18627	-2.08765	-2.23150	30.16762	6.01957	248.91	-10.52
99/ 8/ 2	2451392.5	-10.66003	-27.67934	-5.51104	5.18698	-2.08560	-2.23109	30.16875	6.01932	248.94	-10.53
99/ 8/ 6	2451396.5	-10.64804	-27.68415	-5.51619	5.18768	-2.08355	-2.23068	30.16988	6.01907	248.96	-10.54
99/ 8/10	2451400.5	-10.63606	-27.68896	-5.52134	5.18839	-2.08150	-2.23028	30.17101	6.01882	248.99	-10.54
99/ 8/14	2451404.5	-10.62407	-27.69377	-5.52650	5.18909	-2.07946	-2.22987	30.17214	6.01856	249.01	-10.55
99/ 8/18	2451408.5	-10.61208	-27.69857	-5.53165	5.18979	-2.07742	-2.22947	30.17327	6.01831	249.04	-10.56
99/ 8/22	2451412.5	-10.60009	-27.70337	-5.53680	5.19049	-2.07538	-2.22906	30.17440	6.01806	249.06	-10.57
99/ 8/26	2451416.5	-10.58810	-27.70816	-5.54195	5.19119	-2.07334	-2.22866	30.17554	6.01781	249.09	-10.58
99/ 8/30	2451420.5	-10.57611	-27.71295	-5.54709	5.19188	-2.07130	-2.22826	30.17668	6.01756	249.11	-10.59
99/ 9/ 3	2451424.5	-10.56411	-27.71773	-5.55224	5.19258	-2.06926	-2.22785	30.17781	6.01732	249.14	-10.60
99/ 9/ 7	2451428.5	-10.55212	-27.72251	-5.55739	5.19328	-2.06723	-2.22745	30.17895	6.01707	249.16	-10.61
99/ 9/11	2451432.5	-10.54012	-27.72728	-5.56253	5.19398	-2.06519	-2.22705	30.18009	6.01682	249.19	-10.62
99/ 9/15	2451436.5	-10.52812	-27.73205	-5.56768	5.19467	-2.06316	-2.22665	30.18123	6.01658	249.21	-10.63
99/ 9/19	2451440.5	-10.51612	-27.73681	-5.57282	5.19537	-2.06113	-2.22624	30.18238	6.01633	249.24	-10.64
99/ 9/23	2451444.5	-10.50411	-27.74157	-5.57796	5.19606	-2.05910	-2.22584	30.18352	6.01609	249.26	-10.65
99/ 9/27	2451448.5	-10.49211	-27.74633	-5.58310	5.19675	-2.05707	-2.22544	30.18467	6.01584	249.29	-10.66
99/10/ 1	2451452.5	-10.48010	-27.75108	-5.58825	5.19745	-2.05504	-2.22504	30.18581	6.01560	249.31	-10.67
99/10/ 5	2451456.5	-10.46809	-27.75582	-5.59339	5.19814	-2.05301	-2.22464	30.18696	6.01536	249.34	-10.68

1.9 1 A.U.=149,599,000 KM. HELIOCENTRIC EQUATORIAL COORDINATE SYSTEM PLUTO

DATE	JUL. DATE	X(AU)	Y(AU)	Z(AU)	XD(KM/SEC)	YD(KM/SEC)	ZD(KM/SEC)	R(AU)	V(KM/SEC)	RA	DEC
99/10/ 9	2451460.5	-10.45609	-27.76056	-5.59852	5.19883	-2.05099	-2.22424	30.18811	6.01512	249.36	-10.69
99/10/13	2451464.5	-10.44407	-27.76530	-5.60366	5.19952	-2.04896	-2.22384	30.18926	6.01488	249.39	-10.70
99/10/17	2451468.5	-10.43206	-27.77003	-5.60880	5.20021	-2.04694	-2.22344	30.19041	6.01464	249.41	-10.71
99/10/21	2451472.5	-10.42005	-27.77476	-5.61393	5.20090	-2.04492	-2.22304	30.19157	6.01440	249.44	-10.72
99/10/25	2451476.5	-10.40803	-27.77948	-5.61907	5.20160	-2.04290	-2.22264	30.19272	6.01416	249.46	-10.73
99/10/29	2451480.5	-10.39601	-27.78420	-5.62420	5.20229	-2.04088	-2.22224	30.19388	6.01393	249.49	-10.74
99/11/ 2	2451484.5	-10.38400	-27.78891	-5.62934	5.20298	-2.03886	-2.22184	30.19504	6.01369	249.51	-10.74
99/11/ 6	2451488.5	-10.37197	-27.79362	-5.63447	5.20367	-2.03684	-2.22144	30.19620	6.01346	249.54	-10.75
99/11/10	2451492.5	-10.35995	-27.79832	-5.63960	5.20436	-2.03483	-2.22104	30.19736	6.01323	249.56	-10.76
99/11/14	2451496.5	-10.34793	-27.80302	-5.64473	5.20505	-2.03281	-2.22065	30.19852	6.01300	249.59	-10.77
99/11/18	2451500.5	-10.33590	-27.80771	-5.64986	5.20575	-2.03080	-2.22025	30.19968	6.01278	249.61	-10.78
99/11/22	2451504.5	-10.32388	-27.81240	-5.65499	5.20645	-2.02879	-2.21985	30.20084	6.01255	249.64	-10.79
99/11/26	2451508.5	-10.31185	-27.81709	-5.66012	5.20714	-2.02678	-2.21945	30.20201	6.01233	249.66	-10.80
99/11/30	2451512.5	-10.29982	-27.82177	-5.66524	5.20784	-2.02476	-2.21906	30.20318	6.01211	249.69	-10.81
99/12/ 4	2451516.5	-10.28779	-27.82644	-5.67037	5.20854	-2.02275	-2.21866	30.20434	6.01190	249.71	-10.82
99/12/ 8	2451520.5	-10.27575	-27.83111	-5.67550	5.20925	-2.02073	-2.21826	30.20551	6.01168	249.73	-10.83
99/12/12	2451524.5	-10.26372	-27.83578	-5.68062	5.20995	-2.01872	-2.21786	30.20668	6.01146	249.76	-10.84
99/12/16	2451528.5	-10.25168	-27.84044	-5.68574	5.21065	-2.01670	-2.21746	30.20786	6.01125	249.78	-10.85
99/12/20	2451532.5	-10.23964	-27.84509	-5.69087	5.21135	-2.01468	-2.21706	30.20903	6.01103	249.81	-10.86
99/12/24	2451536.5	-10.22760	-27.84975	-5.69599	5.21205	-2.01266	-2.21666	30.21021	6.01081	249.83	-10.87