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MAGSAT DATA PROCESSING: A REPORT FOR INVESTIGATORS

R. Langel, J. Berbert, T. Jennings, and R. Horner

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National Aeronautics and
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Goddard Space Flight Center
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ABSTRACT

This report describes the Magsat data processing before submission to the National Space Science Data Center (NSSDC) for distribution to the data users. The in-flight attitude and vector magnetometer data bias recovery techniques and results are described. The attitude bias recoveries are based on comparisons with a magnetic field model and are thought to be accurate to 20 arcsec. The vector magnetometer bias recoveries are based on comparisons with the scalar magnetometer data and are thought to be accurate to 3 nT or better. The Magsat position accuracy goals of 60m radially and 300m horizontally were achieved for all but the last 3 weeks of Magsat lifetime. This claim is supported by ephemeris overlap statistics and by comparisons with ephemerides computed with an independent orbit program using data from an independent tracking network. Magsat time determination accuracy is estimated at 1 ms. Several errors in prelaunch assumptions regarding data time tags, which escaped detection in prelaunch data tests, and were discovered and corrected postlaunch are described. Data formats and products, especially the Investigator-B tapes, which contain auxialliary parameters in addition to the basic magnetometer and ephemeris data, are described.

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MAGSAT DATA PROCESSING: A REPORT FOR INVESTIGATORS

INTRODUCTION

This report summarizes some of the more important characteristics of the Magsat data. It is intended to facilitate intelligent use of the data and should be regarded as a basic *handbook* for all data users.

DATA ACQUISITION AND DECOMMUTATION

The basic data is acquired on board the spacecraft by the cesium vapor magnetometer, the fluxgate (vector) magnetometer, the associated attitude determination instrumentation and all of the necessary spacecraft instrumentation which supports these measurements. These data are acquired through the National Aeronautics and Space Administration (NASA) Space Tracking and Data Network (STDN) and transmitted to the Goddard Space Flight Center (GSFC) where the Information Processing Division (IPD) sorts the measurements and sends them to the appropriate people.

In addition, the satellite is tracked by the Defense Mapping Agency (DMA) Doppler network. This data is processed and definitive orbits determined by personnel at the Johns Hopkins Applied Physics Laboratory (APL) who then furnish the completed ephemeris tapes to GSFC.

Attitude data is analyzed by the Mission Support Computing and Analysis Division (MSCAD) at GSFC and then sent, via IPD, to the Project in the form of quaternions. The magnetometer and ephemeris data are sent directly to the Data Manager working with the Project Scientist.

ATTITUDE DATA

Attitude data are of two varieties. The first, called intermediate attitude, is derived from the horizon scanner and sun sensor. Its accuracy, after processing, is on the order of 10-20 arcmin. The second, called fine attitude, is derived from two star cameras, the precision sun sensor, the attitude transfer system (ATS), and a pitch gyro (Figure 1). The sun sensor is attached to the end

of the boom near the vector magnetometer. The star cameras are attached to the optical bench on the spacecraft side of the boom. The ATS optically connects the optical bench and a set of mirrors attached to the vector magnetometer. The mission accuracy goal for the vector measurement was 20 arcsec.

Prior to launch the relative locations of all pertinent instruments were measured to a few arcsec. As will be seen, some shifting took place during and after launch. We will not here describe the details of fine attitude determination. These are available in the form of a specifications document (Magsat Fine Aspect Baseline System Overview and Analysis, CSC document SD-7816067, December 1978).

In the derivation of the magnetometer attitude the solutions may derive from any of five combinations of instrumentation. These are identified to the user in character "d" of the Attitude Processing Flag as follows:

Character "d"	Instrument Combinations
0	Both star cameras and sun sensor
1	Star camera 1 and star camera 2
2	Star camera 1 and sun sensor
3	Star camera 2 and sun sensor
4,5,6	Limited data and model of motion
7	Not computed

The motion model requires measurements from any *one* of the above instruments plus the pitch gyro.

Character "b" of the Attitude Processing Flag gives an indication of the accuracy of the resulting solution. Flag values of 0, 1, 2 or 3 indicate that the attitude data residuals to the solution are less than or equal to 20 arcsec. Flag values higher than 3 indicate that the solution

residuals exceeded 20 arcsec. This could be caused, for example, by an erroneous star identification. The flag will always be 7 when a motion model solution is obtained and in that case it has no meaning.

When the attitude data available switches from one combination to another, a discontinuity will occur in the attitude solution. This is illustrated in Figure 2, furnished by Dr. J. Cain of the United States Geological Survey (USGS). The discontinuity occurs because of imprecise alignments between the three instruments. The magnitude of the discontinuity depends upon the amount of misalignment (which is partially a function of the location of stars and sun in the instrument fields of view) and the location of the spacecraft in orbit.

It should be noted that in spite of these jumps, it appears that the relative rms accuracy is well within 20 arcsec.

An experiment was run to investigate if there is any advantage to smoothing the attitude quaternions. A low pass filter was designed consistent with the known response time of the attitude control system, i.e., consistent with the possible actual movements of the spacecraft. The highest frequency of movement possible is about 0.01 Hz and the filter cutoff was designed to be 0.04 Hz. This filter successfully smoothed the quaternions, and consequently the data, but the filtered data was deceptive in that smoothed features caused by attitude jumps now exhibited similar characteristics to crustal anomalies. It was decided to leave the data unsmoothed.

In using the data, the motion model results are reasonably accurate for short spans of time ($\leq$ 0.5 minutes, say) but become increasingly in error the longer it is used. This can result in large ($>$ 20 nT) jumps in component values when the data switches from motion model to one of the other types of solution.

In order to maximize accuracy and minimize the data jumps due to misalignment of the attitude instrumentation, an in-flight realignment was computed every seven days. This is a *relative*

alignment. It is done relative to star camera two, as follows:

1. Obtain attitude solution from both star cameras.
2. Transfer to sun sensor (via ATS).
3. Derive relative sun sensor alignment.
4. Obtain solution from corrected sun sensor and star camera two.
5. Derive relative star camera one alignment.
6. Iterate until consistency of 2 arcsec is obtained.

This alignment procedure is performed on a limited set of data and the resulting alignment adjustments are used in the routine processing. Note that this gives internal consistency to the solutions but does not give absolute alignment.

Using this method immediately after launch it was found that alignment adjustments of 11 arcsec to star camera one and 220 arcsec to the sun sensor were necessary to obtain a consistent solution. The problem is that from the attitude system data alone there is no way of knowing if it was actually star camera one and the sun sensor which moved. Fortunately the magnetic field measurements themselves provide an independent check. Alignment adjustments are made in the pitch, roll, yaw system relative to the spacecraft. But the spacecraft is moving, and rotating, relative to the main field of the Earth. Thus a bias in the attitude solution, which is fixed relative to the spacecraft, will cause non-constant field changes in the Earth-fixed system. For example, an attitude bias in "roll" will result in a sawtooth wave in the Earth-fixed Y (east) component. We have translated this into the appropriate mathematics in our field modeling software. Specifically, if $\vec{B}_m$ is a model of the Earth's main field as measured by Magsat, then

$$\vec{B}_m = \vec{B}_m \left(r, \theta, \phi, \{g_n^m, h_n^m\} , \{\epsilon\}\right) \quad (1)$$

where r, θ, ϕ, are the standard spherical coordinates; g_n^m and h_n^m are the parameters in a spherical harmonic analysis, and the ϵ are transformation angles from the magnetometer coordinates to spacecraft coordinates. The $\{g_n^m , h_n^m\}$ and $\{\epsilon\}$ can be solved for in a least-squares sense. We estimate that the solution for the $\{\epsilon\}$ is accurate to about 20 arcsec.

Using this technique we determined that the apparent 220 arcsec shift in the sun sensor was incorrect, that adjusting the sun sensor alignment in that manner introduced nonphysical biases in the magnetic field measurements. Rather, either the star cameras moved or the ATS roll calibration changed (we cannot distinguish between these). The attitude solutions were readjusted to be consistent with these findings prior to production processing.

As the flight progressed, additional relative adjustments to the instrument alignment, following the six-fold procedure previously outlined, were made every seven days. These resulted in additional cumulative adjustments of about 200 arcsec to the sun sensor relative to star camera two and about 35 arcsec to star camera one relative to star camera two.

It is apparent that the attitude instrumentation was undergoing small, but nevertheless significant, changes in either physical alignment or in electronic calibration. In order to maintain the final measurement accuracy, we have selected a series of magnetically quiet days and solved (1). The resulting adjustments necessary to the pitch, roll and yaw attitude solutions are plotted in Figure 3. Rather than changing the attitude solution, a correction was applied directly to the processed Magsat field data in the form of a suitable rotation in spacecraft coordinates. Application of these results to the data has been as follows:

1. No adjustment was made for data from November 2 through December 1.
2. Adjustments according to the following equations have been made to data between December 2 and March 26 (plotted as Lines -1 in Fig 3):

$$\text{Bias} = A + B \cdot \Delta T \qquad (2)$$

where: ΔT = days since November 6, 1979.

Axis	A (arcsec)	B (arcsec/day)
Roll	18.1	-0.3262
Pitch	-8.8	0.0351
Yaw	-12.3	0.8382

3. For data after March 26 the adjustment coefficients are (Lines -2, Fig 3):

Axis	A (arcsec)	B (arcsec/day)
Roll	48.8	-0.6720
Pitch	10.1	-0.1533
Yaw	90.0	0.0000

Adjustments are also possible for the intermediate attitude data. For the initial data (November 2, 1979 through March 15, 1979) no adjustments were made. For the remainder of the data corrections of 838.8, -164.4 and -799.2 arcsec were made to roll, pitch and yaw, respectively. The intermediate attitude data in the period May 19 to June 11 is of special interest because no fine attitude data is available. Therefore, *after* the CHRONINT tapes (see later section in report) were completed, an attempt was made to go back and readjust the data for this time period. The following adjustments were determined and applied, using equation (2):

Axis	A (arcsec)	B (arcsec/day)
Roll	800	-10.7
Pitch	1700	-54.8
Yaw	0	0

These are relative to May 15, 1980. The tapes on which the adjustments were made are described in a later section.

SCALAR DATA, CALIBRATION OF FLUXGATE MAGNETOMETER

Because of the partial failure of the cesium vapor magnetometer, continuous data from that instrument is not available. Sufficient data exists, however, to utilize the cesium vapor magnetometer to calibrate the fluxgate magnetometer. An initial report (Lancaster et al., 1980) is available describing the method of calibration and summarizing calibration results for the first 2 months of operation. Investigators wishing to utilize the scalar field are advised to derive it from the vector data. Note that for the Magsat data tapes, the chronicle tapes include the scalar measurements

from the cesium vapor magnetometer, but on the investigator tapes the scalar field is derived from the fluxgate data.

There are a total of 36 calibration parameters which characterize the vector instrument. Their meaning is as follows: each axis of the fluxgate instrument consists of a fluxgate sensor with range ±2000nT. This range is extended to ±64,000 nT by a field offset current generator and coil system surrounding the sensor. The current generator operates in seven "steps" and any combination thereof. The sensor steps and the approximate fields generated are:

Step	Course Count	Field (approximate nT)
1	1	1000
2	2	2000
3	4	4000
4	8	8000
5	16	16000
6	32	32000
7	+64	-64000

The calibration parameters Wij give the actual values of each step where i = 1, 2, 3 is the axis and i = 1, . . . , 7 is the step. The parameters W_{i8} and W_{i9} take into account non-linearities and cross-talk between axes. These are relatively stable with time and are not plotted. Because the full ±64,000 field is not experienced on each axis, not all of the W_{ij} are determinable with high accuracy. For the "C" or "Z" axis all are well determined, for the "A" or "X" axis W_{16} and W_{17} always occur together so only the combination $W_{17} - W_{16}$ is well determined. For the "B" or "Y" axis W_{25}, W_{26}, W_{27} always occur together so only the combination $W_{27} - W_{26} - W_{25}$ is well determined. In general, the "C" axis parameters are the most well determined and the "B" axis parameters the least well determined. Two parameters are determined for each fluxgate sensor: b_i and a_i, where b_i is the bias and a_i is the sensitivity. Also, included in the solution are a determination of changes in the angle between the axes, denoted as A_{12}, A_{21} and A_{32}.

Application of calibration results to the fluxgate magnetometer is being done with some care for the fine attitude data, whereas it was done rather hastily for the intermediate attitude data. For the intermediate attitude data the resulting component errors are much less than the attitude errors so that it matters little which calibration is utilized. However, the resulting scalar values, as computed from the vector components can be in error by 1 - 3 nT and differences in scalar value of that magnitude can be expected between the intermediate and fine attitude data.

Each calibration is derived from data from a single day selected to obtain the best available distribution of vector directions and magnitude relative to the magnetometer. After December 3, 1979, the scalar magnetometer was operated in two modes: either both sensors on (denoted condition "C", or "C" days) or sensor A only on (denoted condition "A", or "A" days). Plots of the calibration parameters showed a distinct offset in solutions from A days compared to C days. This could be caused by (1) interaction between the magnetometers so that changing the state of the scalar instrument changes the vector reading or (2) a change in the accuracy of the scalar instrument alone. Case (1) should be detectable by examining the vector data at those times when the scalar instrument changes state. Instrument interference should appear as a distinct jump in the vector data. Examination of the data revealed no such effects. Case (2) is probable. With sensor B off there are some directions of field for which scalar measurements are no longer available, thus reducing the observability of some of the calibration parameters. At the same time, the overall error distribution for the scalar instrument changes because it is a weighted sum of the error in the two instruments when both are operating, but is strictly the error in the A sensor when it is on alone.

We have chosen to use only calibrations derived from "C" days for the fine attitude data, until late in the mission (late in March) after which only "A" days are available. Each calibration is identified by the date of the data used in its observation. For data between November 2, 1979 and February 21, 1980, a series of 20 calibrations were utilized. Commencing on February 22, a different procedure was used. Each calibration parameter from "C" days between December 11 and

March 23, was fit with a cubic polynomial. The resulting smoothed parameters were then used as the calibration. These smoothed parameters were updated at 2 day intervals. "C" calibrations prior to December 11, 1979 were not included in this smoothing since the calibration parameters had not yet "settled" into near-linear trends.

Noticing that "A" data calibration parameters were generally offset from the same parameters in "C" data calibrations, and assuming a higher confidence in "C" data when compared to "A" data, the "A" calibrations were not included in the curve fits mentioned previously. However, since no "C" data was obtainable after March 23, 1980, "A" calibrations were taken into consideration to extract calibration solutions after March 22, 1980. In order to include the "A" calibrations, an adjustment was made to these calibrations which minimized the offset difference between the "A" calibrations and the "C" calibrations during times when both were available. The adjustment was made with two sets of quadratic polynomial curves fit to the time-varying parameters of the calibration solutions between December 4, 1979 and February 6, 1980. One set of curves was fit using the "A" calibrations only, and the other set of curves was fit using the "C" calibrations only. The reason for choosing calibrations between these dates was that the parameters showed smooth trend-line behavior and the separation between "A" calibrations and "C" calibrations was distinct. Points were chosen at four day intervals along these curves (seventeen points total), and the average of the difference between the parameters from the "C" calibration curves and the parameters from the "A" calibration curves were then determined for each time-varying parameter. This set of constants was then used to adjust all "A" calibrations. A listing of these constants can be found in Table 1. After making the adjustment to the "A" calibrations, linear fits to the time-varying parameters of all calibrations were made for calibrations between December 11, 1979 and May 7, 1980, with the "C" calibrations weighted twice as heavily as the "A" calibrations. New calibrations were then extracted from the linear fits for every second day between March 23, 1980 and the end of the mission, June 11, 1980. Table 2 lists the differences between the parameters extracted from the two calibration solution curves, as plotted on the following graphs, (Figs.

4-27) on the date in which the quadratic polynomial curve fit was no longer used to create new calibration solutions, March 22, 1980 @ 1200 hrs. It is noted here that these differences are well within the noise or scatter level of the parameter in question.

After the calibrated fine attitude data were produced, each day's data were sampled and a comparison made between the scalar field calculated from the calibrated component data and the field measured by the cesium vapor magnetometer. For each day the mean difference and rms difference were calculated. These results are summarized in Table 3. The mean values are very low (0.0 to 0.6 nT) until December 3. Commencing with that date all days are "A" days except the actual days used to derive calibrations. The mean values thereafter are generally in the range 0.6 to 2.0 nT except on calibration days. Our *assumption* is that the scalar values computed from the vector instrument with the "C" calibrations are the more correct values and that the increase in the mean differences for the "A" days is due primarily to increased error in the scalar not the vector magnetometer data. The scatter of the data relative to the calibration is measured by the rms difference which is usually in the range 0.8 to 2.0 nT.

Figures 4 to 27 show the variation of the calibration parameters with time. The plots show some regular long-term trends upon which are superimposed shorter period variations. The long term trends are certainly variations in the calibration parameters. The short period variations may reflect changing parameter observability between solutions (i.e., noise or inaccuracy) or short term calibration changes due to changing spacecraft conditions. We cannot be certain which, but believe that such variations do *not* reflect actual magnetometer changes. Note that the smoothed parabola used in application of the calibration parameters to the data between Feb 22, 1980, and March 22, 1980 and the straight line used between March 23, 1980 and end of mission, are both shown on the plots.

For the Nov 2 through Feb 21 period it is instructive to plot the difference in each component for calibrations which are adjacent in time. This is shown in Figures 28 to 50. The plots are field difference versus modified coarse count, which equals coarse count plus 64. Only modified coarse

counts corresponding to actually observable fields are included. Table 4 gives the maximum magnitude of the differences. These differences are due to two factors: (1) actual changes in the calibration parameters, and (2) inaccuracies in the calibration solutions. In order to properly evaluate Table 4 and Figures 28 to 50 it is useful to know how frequently the different coarse values can occur. Figure 51 shows frequency distributions compiled from a combination of all calibration data sets. It is clear that, for the "A" or "X" axis, values of 31, 32, 96 and 97 occur only rarely. The numbers in parenthesis in Table 4 exclude these coarse values. The "Z" or "C" axis shows small differences, usually less than ± 1nT. Furthermore the plots are systematic and appear to follow the trend of the changing calibration parameters. These parameters would seem to be very well determined, probably to better than ± 0.5nT. The "X" or "A" axis shows larger differences, although still generally within ±3nT, and often within ±1.5nT. The plots are less systematic but still reflect mainly the trend of changing calibration parameters. These parameters are moderately well determined, probably to better than ± 1.0nT, in many cases to better than ± 0.5nT. The "Y" or "B" axis is less satisfactory. Prior to mid-February, it is generally within ±3nT, with some exceptions. The plots do not clearly show changes in calibration trends. The greatest inaccuracies are thus in this axis. We would estimate the "Y" parameters to be usually accurate to ± 2.5nT, often to ± 2.0nT. The instrument as a whole is probably good to about ± 3nT.

Hindsight indicates that our accuracy would have been improved by smoothing the calibration solutions for the entire lifetime. This was not done with the November through January data in order to not delay delivery of these data. As already indicated, we have modified our procedures for data commencing with February 22, 1980, and now utilize smoothed solutions. It should be noted that the differences in Figures 28 to 50 reflect the size of the data jump which occurs at the time calibrations were changed. The actual jump will, of course, depend upon the strength of each component at the time.

As mentioned, less care was taken with the calibration of the intermediate data. For the record, Table 5 shows which calibrations were used for that data.

ACCURACY OF SATELLITE POSITION

Introduction

Magsat was launched into a 350 by 550 km near polar orbit, low enough for reasonable sensitivity to small scale crustal magnetic variations, yet high enough to provide a lifetime of over seven months. The actual Magsat lifetime in terms of apogee and perigee heights is plotted in Figure 52. The orbital plane precessed at a sun synchronous rate so as to remain nearly normal to the Earth-sun direction.

The position accuracy goal for Magsat was 60 m radially and 300 m horizontally, in order to suppress the magnetic field error due to position error below 1 nT [Langel, 1976].

Simulations conducted prior to the Magsat launch led to the conclusion that a network of at least 10 dedicated and well distri ·ted NASA S-band tracking stations would be required to achieve the project orbital accuracy goals [Argentiero and Loveless, 1976]. Since the NASA S-band network was scheduled to be reduced from 10 to 5 stations during the Magsat era and, furthermore, could not guarantee support on every pass, due to commitments to other missions, the project requested support from the Defense Mapping Agency (DMA) TRANET network of Doppler tracking stations. The request was granted and support was guaranteed from as m..ny of the DMA stations (nominally 12 - 14) as would be needed to achieve the goals. The Johns Hopkins Applied Physics Laboratory (APL), where the TRANET stations were originally developed, was funded by NASA to compute the definitive orbits and to provide position vectors once per minute throughout the mission in the Goddard standard EPHEM format on magnetic tapes.

Ephemeris Overlap Statistics

The APL generated Magsat ephemeris consists of a chain of separately computed overlapping short orbital arcs linked together at some point during the overlap period. Each orbital arc was long enough to contain a sufficient number of well distributed tracking station passes to adequately define the orbit, but short enough to prevent position errors due to uncertainties in the force model (mainly drag) from growing beyond the allowable limits.

During the first few days of Magsat, API computed orbital arcs of about 30 hours duration with overlaps starting near 0^h UTC and lasting about 6 hours. Later the arcs were shortened to about 16 hours with overlaps of about 8 hours. Overlap statistics for each overlap interval are compiled in Table 6 as an indication of the self consistency of the API ephemeris. Columns 1, 2, and 3 are respectively the epoch (year, day, hour) of the overlap period, the duration (hours) of the first arc of the pair forming the overlap, and the duration (hours) of the overlap interval. The next four columns are the RMS values (meters) of the differences between the arcs during the overlap interval in the radial component (H), the along track component (I), the cross track component (C), and the total distance (D). Similarly, the next four columns are the mean (meters) and standard deviation (meters) of the same four parameters. The next three colums are the maximum absolute values (meters) of H, I, C during the overlap interval. These occur at different times within the interval. The next column is the minimum total distance (meters) or closest approach of the two arcs in the overlap interval. The next to last column is the minimum value (meters) of a parameter M defined by:

$$M = 2|H| + \sqrt{I^2 + C^2} \text{ (for latitudes between } \pm 45^\circ)$$

such that the absolute value of the radial difference is weighted twice as much as the horizontal difference. The minimum of parameter M was chosen for the ephemeris transfer point from the first to the second orbital arc in the overlap interval, since the magnetic field change due to the position jump between orbits at this transfer point is usually less than at the point of closest approach of the two orbits. The last column is the minute vector transfer time corresponding to the value of M in the previous column. The asterisks indicate those times which occur on the following day.

To summarize these statistics, the RMS values of H, I, and C from Table 6 are plotted in Figures 53-1, 2, 3 for the duration of the mission. Here it may be seen that these measures fall within the project goals of 60 m radially and 300 m horizontally until the last two to three weeks of the mission when the overlap differences increased due to the rapidly increasing drag effects as

the orbit decayed. These measures are optimistic indicators of the ephemeris accuracy, however, in that they are a measure only of the self consistency of the adjacent orbital arcs. It is still possible that all of the arcs contain systematic biases in the same direction so that differencing the arcs nearly eliminates the biases from these measures.

Comparison with Independent Ephemeris

As an independent check on the APL Magsat ephemeris accuracy the NASA S-band network provided dense tracking support for several days twice per month during the mission. The Operations Support Computing Division at Goddard used these data with the Goddard Trajectory Determination System (GTDS) to compute independent 18 hour arcs with 6 hour overlaps [Lyubomirsky and Smith, 1981]. These GTDS arcs were then compared with the APL arcs for the same interval by differencing the X, Y, Z inertial position vectors on the GTDS EPHEM tapes from those on the APL EPHEM tapes and computing the previously defined H, L, C, D measures from these differences. Figures 54 through 57 are plots abstracted from Lyubomirsky and Smith [1981] of the absolute values of the maximum APL-GTDS H, L, C, D differences for each 18 hour GTDS arc.

In Figure 54, the absolute values of the maximum radial differences are nearly always within the 60 m project goal. If only those GTDS arcs with 9 or more passes (filled circles) are considered, then they are always within 60 m.

In Figure 55, the absolute values of the maximum cross track differences are plotted in the negative sense when the APL orbit is east of the GTDS orbit at the ascending node and positive otherwise, for reasons which should be clear below. These differences exhibit a strong systematic trend with a discontinuity on January 1, 1980. The systematic part of these differences was found to be caused by a different convention adopted in the APL and GTDS programs for defining the inertial coordinate system in which the orbital arcs are computed. Both the DMA Doppler network and the NASA S-band network use UTC time for data time tags. APL chose the option in their program of also computing the Greenwich Hour Angle (GHA) in UTC time rather than in UTI time in

order to avoid the additional effort of applying the UTC-UTI corrections, which are published by the U.S. Naval Observatory. The GHA defines the rotation about the Z-axis of the Greenwich meridian relative to the inertial X-axis, thereby, in effect, defining the inertial system used in the orbital arc determinations.

In the GTDS program UTI time is used to compute GHA and hence define the inertial system. Thus, the UTC inertial system used by APL is rotated slightly about the Z-axis with respect to the UTI inertial system used in GTDS. The rotation angle between the two systems changed slowly throughout the year, corresponding to the slow change in the UTC-UTI values, and made a sudden jump on January 1, 1980, corresponding to the leap second in the UTC time on that date. For short arcs, such as were used for Magsat, the cross track displacement of the orbit due to the change in the UTC coordinate system relative to the UTI system during the time span of the arc is only about one meter. Thus, the UTC inertial coordinate system can be used for the orbit computations. If one is consistent and again uses UTC time when computing satellite position (latitude, longitude, height) in the Earth-fixed or rotating coordinate system, which is the system used by the Magsat investigators, the results will be the same as if the UTC-UTI corrections had been applied. A scale was added normal to the systematic trend line in Figure 55 to indicate the amount of scatter which would have been observed if the APL and GTDS Magsat positions had been compared in the Earth-fixed system rather than in two slightly different inertial systems. Practically all of the scatter would have been contained within the two dashed lines at ±50m.

Table 7 from Lyubomirsky and Smith [1981] shows how the H, C, L, D measures are decreased for an arc on January 6, 1980 when the same UTC defined inertial systems are used. The C-value is primarily affected, but the L-value is also decreased due to its east-west component. The same decrease in the H, C, L, D measures for that date would be observed if positions had been compared in the Earth-fixed system, regardless of which inertial systems were used.

In Figure 56, the L-values are within the project goal of 300m for all the best GTDS arcs (filled circles), in spite of the larger values due to the different inertial systems used in the comparisons.

In Figure 57, the D-values occasionally exceed the project goal of 300 m for horizontal error, but probably would not exceed 300 m if the radial (H) values were removed, and if the cross track (C) differences were computed in the Earth-fixed system or in the same inertial system.

In summary, the comparisons of the APL Magsat ephemeris obtained using TRANET Doppler data with the independent Magsat ephemeris ares computed at Goddard using the GTDS program and S-band data indicate that the project position accuracy goals were met.

ACCURACY OF TIME DETERMINATION

Ability to assign the correct time to a data point is just as important as assigning the correct position. We believe the accuracy of the time for the MAGSAT data is about ± 1 ms. The key to achieving the accuracy is the existence of a very stable clock (oscillator) onboard the spacecraft. The MAGSAT clock was stable to one part in 10^{11}/hr. (Mobley et al., 1980). To assign UTC to the data the following procedure is used Periodic real time passes (several per day) are scheduled during which the spacecraft clock readings are transmitted via telemetry to the ground stations and, after correcting for transmission times, compared with the ground station clocks, which are synchronized with UTC. This provides a one-for-one assignment of UTC to spacecraft clock for the period of the real time data. Data from such real-time passes was collected for each day (approximately 6 passes per day) plus one pass each from the preceeding and following days. A least squares linear fit was then made to each day's data to determine the functional relationship between UTC and the spacecraft clock.

As an internal check the linear fit coefficients were collected and comparisons made of the UTC computed from adjacent fits for the same clock reading. Table 8 summarizes these results. The table gives the start and end clock readings for each fit and the coefficient values for the fit. The column labeled overlap is the difference between the applicable start time of the later fit and the end time of the earlier fit. If positive, the data for the two fits is non-overlapping and this column gives the length of the gap; if negative, the data for the two fits overlaps by the indicated

amount. The columns labeled COMP Clock and COMP Time give the selected clock value at which the comparison calculation was made and the UTC computed from the later fit. Of most importance is the column labeled "DELTA T" which shows the disagreement between the two fits. We note the following:

1. The procedure had to be "reset" when passing from 1979 to 1980 because of the leap second.
2. "Glitches" occur at fit 167 and 188 when the spacecraft lost power and the clock was reset.
3. Most of the differences are less than 0.5 ms. In only 7 instances are the differences greater than 1 ms and in five of these there was a substantial gap between the fits.

While not a proof of absolute time accuracy, this indicates that the internal consistency of the times associated with the data is generally better than 1 ms. The accuracy is achieved through the accuracy of the ground station atomic clocks, which are synchronized with UTC to about ± 10 microseconds by means of LORAN-C and periodic checks with portable atomic clocks, and by the accuracy of calculating transmission times from the satellite to the receiving station. We estimate an overall accuracy of about 1-2 ms.

DATA AVAILABILITY, FORMATS, AND QUIRKS

Data Availability on Chronicle Tapes

The inputs to the Magsat Data Processing System (MDPS) at Goddard are the scalar and vector magnetometer data, the intermediate and fine attitude data, and the orbit data. The flow of these data to and through the MDPS is outlined in the Magsat Data Management Plan [Langel and Berbert, 1979].

The detailed processing in the MDPS and outputs from the MDPS are described in the Magsat Data Processing System Specifications by Berman et al. (1980). The basic data base produced is on tapes designated chronicle tapes. There are three types of chronicle tapes, all of which contain orbit data, scalar magnetometer (SMAG) data, and vector magnetometer (VMAG) data. The

CHRONSC tapes contain VMAG data in raw coarse and fine count form and are given in the instrument coordinate system as recorded on the satellite; the CHRONINT tapes contain VMAG data converted to gammas and transformed to the North, East, Vertical (NEV) coordinate system using intermediate quality (normally 20 arc min) attitude data; and the CHRONFIN tapes contain the same VMAG data as the CHRONINT tapes, but transformed to the NEV coordinate system using the fine (nominally 20 arc sec) attitude data, whenever available, and the intermediate attitude data, suitably flagged, if fine attitude data are not available.

Figure 58 gives line plots of the availability of VMAG data processed with intermediate attitude data on the CHRONINT tapes. Similar plots for the CHRONFIN (and Investigator-B) tapes are shown in Figure 59). Each output tape normally contains 8 days of Magsat data, except for the first and last tapes which have less.

The CHRONSC and CHRONINT tapes were made available earlier than the CHRONFIN tapes, since the intermediate attitude data were available long before the fine attitude data. Table 9 gives the data time span contained in each CHRONSC and CHRONINT tape, the dates these tapes were released from the MDPS for delivery to the National Space Science Data Center (NSSDC), and the dates these tapes were released by the NSSDC after shipment to the investigators. Table 10 gives similar information for the CHRONFIN tapes.

Investigator-B (INV-B) Tapes

The basic data set for MAGSAT is contained on chronicle tapes. These tapes include all measured data and, in separate records, ephemeris information. Because the data rates are 8 samples/second for the cesium vapor magnetometer and 16 samples/second for the vector magnetometer, chronicle tapes contain only eight days of data each. Many investigations do not require such a high rate of sampling and, also, it is often desirable to merge ephemeris data with the magnetic field data. In addition, some investigations are expedited by the inclusion of auxiliary information. The Investigator-B tape is designed to meet some of these needs. On it, the data is organized by

orbit or pass number and is decimated to approximately one point every 5 seconds. For convenience, the start of a pass is defined as the point at which the satellite changes from south-going to north-going, i.e. the southernmost point. Pass numbers are assigned consecutively beginning with the first available data on November 2.

Chronicle and Investigator-B Test and Production Tapes

Prior to sending the production tapes described in Tables 9 and 10, several test tapes were sent. The first CHRONSC and CHRONINT test tapes were sent on about December 19, 1979. They contained 6 hours of data from November 4, 1979 and used simulated attitude data. The second CHRONSC and CHRONINT test tapes were sent on about March 14, 1980. These contained 2 days of data from November 2 and 3, 1979 with real attitude data. The first test tapes contained some known problems which were then corrected in the second test tapes, as described in the notes dated December 19, 1979 with the first test tapes and in the memo to the Magsat Data Users dated March 14, 1980 with the second test tapes.

The first three production CHRONSC and CHRONINT tapes were sent in May 1980, accompanied by a memo to the Magsat Data Users dated May 7, 1980. This memo stated that the only significant change in the production processing compared to the second test tapes was to subtract the duration of one telemetry minor frame (491.54 ms) from all the magnetometer data time tags in the production tapes. This memo also included brief descriptions of the XYZ, SC, ABC, and NEV coordinate systems, the magnetometer data time tags and time offset between VMAG readings A, B, and C and between VMAG and SMAG, the dipole coordinate system, geomagnetic local time, and dip latitude.

The first CHRONFIN test tape contained 3 days of data (November 4, 5, and 6, 1979) and was sent to the users about September 11, 1980. The second CHRONFIN test tape contained 8 days of data (November 3 - 10, 1979) and was sent on about November 25, 1980. The first four CHRONFIN production tapes, including data for all of November 1979, were shipped out in

February 1981. A memo to the Magsat Investigators dated February 25, 1981 accompanied this first CHRONFIN production shipment. This memo documented some processing changes which occurred during the processing of the November 1979 data. It was intended that, whenever fine attitude data were not available, intermediate attitude data, suitably flagged, should be used. Since this procedure was not implemented until after 5 days of data were processed (November 4, 10, 17, 18, and 20, 1979), these 5 days do not contain intermediate attitude data. Several editing procedures and criteria were also changed during this period, as described in the memo. The memo also identified 6 data dates and times when time backups, each affecting one data record, had occurred on the CHRONINT tapes. These 6 backups were on 11/16/79, 2 on 1/11/80, 2/15/80, 5/01/80, and 5/23/80. A computer program was included for deletion of these backups if desired.

The INV-B data processing and output tapes are described by Coons [1980] and in notes prepared by Dr. Langel titled "Magsat Investigator-B Tapes," dated March 25, 1981. The first INV-B test tape contained 2 days of data (November 4 and 5, 1979) and was sent about October 22, 1980. The second INV-B test tape contained 8 days of data (November 4, 17, 18, and 20-24, 1979) and was sent about December 16, 1980. A third INV-B test tape contained 50 days of data (November 2, 1979 through December 21, 1979) and was sent on about April 2, 1981. This latest INV-B test tape was accompanied by Dr. Langel's March 25, 1981 notes and by a memo to the Magsat Investigators from the Data Manager dated April 2, 1981, which outlined 12 types of errors known to be still included in this tape. Another type of error in this tape, discovered after the memo was written, involves the SMAG data time tags. These time tags are incorrect immediately following every gap or overlap in the SMAG data.

The first production INV-B tape was sent out in late June, 1981. It contained data from November 2, 1979 through January 18, 1980. There were some remaining problems in the program generating these tapes, but the tape is, nevertheless, suitable for analysis purposes. Users should be aware of the following *for this tape only*:

1. The tape contains not only fine attitude data but also intermediate attitude data which is identifiable by an attitude flag of 9999.
2. On the first record of some orbits (about one out of fifteen) an isolated spurious point exists.

The final production INV-B tapes were sent to NSSDC early in September 1981. They contain data from January 19, 1980 through March 26, 1980 and from March 27, 1980 through May 19, 1980. Users should note that these tapes contain *no* intermediate attitude data and also that a slight format change occurred between these and the first production tape (described in the next section on output data formats).

INV-B tapes with data only from relatively quiet magnetic periods are also available. These data are selected from periods where Kp $< 2+$. Figure 60 shows the time periods of the available data and Table 11 lists them.

Although the fine attitude data ceased on May 19, data were obtained from the vector magnetometer through June 11. June 10 and 11 posed special problems because the data is sparse and because the spacecraft clock was repeatedly being reset. A significant amount of data from June 10 was recovered and made available to the NSSDC, but none from June 11. Scalar values from May 20 through June 10 may be obtained from the vector magnetometer.

Output Data Formats

The following pages describe output data tape formats for the chronicle tapes (CHRONSC, CHRONINT, and CHRONFIN), define the fine attitude data processing flags, describe the formats for the condensed orbit (CORB) and condensed orbit/attitude (COA) output tapes, and describe the Magsat "Investigator-B" tapes. The descriptions of the chronicle tape formats, attitude flags, and CORB and COA tape formats are taken from Berman et al. (1980), which was distributed at the December 1980 Principal Investigator Meeting at Goddard and also mailed to all the investigators. The descriptions of the INV-B tapes are taken from Dr. Langel's March 25, 1981 notes, which accompanied the latest INV-B test tape, as mentioned above.

The time system used is called Modified Julian Day (MJD). Our convention is that the day begins and ends at midnight. For reference:

Date	Modified Julian Day
Nov. 1, 1979	44178
Dec. 1, 1979	44208
Jan. 1, 1980	44239
Feb. 1, 1980	44270
Mar. 1, 1980	44299
Apr. 1, 1980	44330
May 1, 1980	44360
June 1, 1980	44391

Chronicle Tape Format

Chronicle tapes are generated on the IBM 360/91 at GSFC. The DCB for this 9-track, 6250-bpi tape is RECFM = VBS, LRECL = 4126, BLKSIZE = 28886, DEN = 4. Up to nine types of records are merged in time order on this tape: one orbit and one scalar data record, three vector component records (in units of counts, spacecraft coordinates), three vector component records (in units of gammas, NEV coordinates), and one corresponding record for attitude quality.

An orbit data record precedes a group of scalar, vector, and attitude quality data records which lie within the orbit time interval (128 minutes). Scalar and vector data records are also time ordered. A scalar data record is followed by a set of vector component data records if each is available within the time span of the orbit record. A chronicle tape may contain vector component records in either or both coordinate systems. Vector component records in NEV coordinates generated from fine attitude data will be immediately followed by an attitude quality record which will describe the accuracy of the attitude data used in transforming the vector component data to topocentric coordinates.

The orbit data record format is as follows:

Displacement (bytes)	Parameter	Type
0	Data type = 0, indicating satellite position data	L*1
1	Data type of next record (on investigator copy only)	L*1
2	Spare	
4	MJD of first observation	I*4
8	Milliseconds of day for first observation (ms)	I*4
12	Time increment between observations (ms)	I*4
16	Reference time of coordinate system (epoch) for GHA (MJD at $0^h0^m0^s$ UTC)	R*4
20	Greenwich hour angle at epoch (radians)	R*4
24	X inertial coordinate (km, 128 values)	R*4
536	Y inertial coordinate (km, 128 values)	R*4
1048	Z inertial coordinate (km, 128 values)	R*4
1560	Invariant latitude (degrees, 128 values)	R*4
2072	Geomagnetic time (hours, 128 values)	R*4
2584	Dip latitude (degrees, 128 values)	R*4

The CHRONICLE scalar data record format is as follows:

Displacement (bytes)	Parameter	Type
0	Data type = 1, indicating scalar observations	L*1
1	Data type of next record (on investigator copy only)	L*1
2	Spacecraft status (five-digit integer - abcde)	I*2
	a = 1, calibration on	
	b = 1, electronic flip on	
	c = 1, x-coil on	
	d = 1, y-coil on	
	e = 1, z-coil on	

Displacement (bytes)	Parameter	Type
4	MJD of first observation	I*4
8	Milliseconds of day of first observation (ms)	I*4
12	Time increment between observations (ms)	R*4
16	[1]Time offset (ms - correction to measurement time)	R*4
20	Spare	I*4
24	Scalar observations (gammas - 512 values)	R*4
2072	Spare	I*4

The vector data (sensor platform coordinates) CHRONICLE record format is as follows:

Displacement (bytes)	Parameter	Type
0	Data type = 2, 3, 4, indicating vector a, b, or c observations, respectively	L*1
1	Data type of next record (on investigator copy only)	L*1
2	Spacecraft status (five-digit integer - abcde)	I*2
	a = 1, calibration on	
	b = 1, electronic flip on	
	c = 1, x-coil on	
	d = 1, y-coil on	
	e = 1, z-coil on	
4	MJD of first observation	I*4
8	Milliseconds of day of first observation (ms)	I*4
12	Time increment between observations (ms)	R*4
16	[1]Time offset (ms - correction to measurement time)	R*4
20	Spares	I*4
24	Fine counts (1024 values, pad = 9999)	I*2

Displacement (bytes)	Parameter	Type
2072	Coarse counts (1024 values, pad = 255)	L*1
3096	Spare	

The vector data (NEV coordinates) CHRONICLE record format is as follows:

Displacement (bytes)	Parameter	Type
0	Data type: = 5, 6, 7, indicating vector x, y, or z (i.e., NEV) observations, respectively, generated from intermediate attitude data; = 8, 9, 10, for data generated from fine attitude data	L*1
1	Data type of next record	L*1
2	Spacecraft status (see above)	I*2
4	MJD of first observation	I*4
8	Milliseconds of day of first observation (ms)	I*4
12	Time increment between observations (ms)	R*4
16	[1]Time offset (ms - correction to measurement time)	R*4
20	Spare	
24	Vector component observations (gammas; 1024 values, pad = 99999.0)	R*4
4120	Spare	I*2

The attitude quality CHRONICLE record format is as follows:

Displacement (bytes)	Parameter	Type
0	Data type = 16, indicating attitude quality data	L*1
1	Data type of next record (on investigator copy only)	L*1
2	Spare	I*2
4	MJD of first observation	I*4
8	Milliseconds of day of first observation (ms)	I*4

Displacement (bytes)	Parameter	Type
12	Time increment between observations (ms)	R*4
16	[2]Time offset (ms - correction to measurement time)	R*4
20	Spare	I*4
24	Attitude processing flags, 256 values, synchronized with every fourth vector observation starting with first observation of vector record; see next page for flag definition. For an explanation of characters "b" and "d" see the text of "Attitude Data" section	I*2

[1]The "time offset" for scalar and vector records represents the amount of time subtracted from the scalar magnetometer time-tags so as to adjust these to be identical to the nearly simultaneous vector magnetometer time-tags. Adding the value of the time offset to the scalar magnetometer time-tags would reproduce the time-tags as they appear after the "relative time" corrections. The observation times for the scalar magnetometer actually occur 0.8 ms after those for the vector magnetometer. The time offset values for the scalar magnetometer of 0, +1, or +2 ms represent the 0.8 ms true offset. In addition, for both scalar and vector, the time offset represents fluctuations due to round-off to the nearest millisecond in the IPD-provided times and to other factors.

[2]For the attitude quality records, the time offset represents the amount subtracted from attitude processing flag time-tags in order to make vector and attitude quality record time (byte 8) identical.

Fine Attitude Data

Processing Flag Definition

A five-digit processing flag, abcde, is defined as follows:

Character	Description
a	Smoothing character (level of smoothing of final attitude):
	= 0, no smoothing
	= 1, linear smoothing
	= 2, nonlinear smoothing
b	Residual character:
	= 0, all residuals within boundaries
	= 1, QUEST[1] residual and SC1 acceptable, SC2 bad
	= 2, QUEST residual acceptable, SC1 bad, SC2 acceptable
	= 3, QUEST residual acceptable, SC1 and SC2 bad
	= 4, QUEST residual bad, SC1 and SC2 acceptable
	= 5, QUEST residual bad, SC1 acceptable, SC2 bad
	= 6, QUEST residual and SC1 bad, SC2 acceptable
	= 7, QUEST residual, SC1 and SC2 bad
c	Gyro and ATS character:
	= 0, observed gyro point, observed ATS point
	= 1, observed gyro point, interpolated ATS point
	= 2, observed gyro point, default ATS value
	= 3, interpolated gyro data, observed ATS point
	= 4, interpolated gyro data, interpolated ATS point
	= 5, interpolated gyro data, default ATS value
	= 6, gyro data point invalid, observed ATS point
	= 7, gyro data point invalid, interpolated ATS point
	= 8, gyro data point invalid, default ATS value

Character	Description
d	Attitude computation character (method of final attitude computation):
	= 0, with QUEST, using three vectors
	= 1, with QUEST, using SC1 and SC2
	= 2, with QUEST, using SC1 and FSS
	= 3, with QUEST, using SC2 and FSS
	= 4, using SC1 and gyro
	= 5, using SC2 and gyro
	= 6, using FSS and gyro
	= 7, not computed
e	Pattern matching character:
	= 0, SC1 and SC2 valid, identified
	= 1, SC1 valid, identified; SC2 valid, not identified
	= 2, SC1 valid, identified; SC2 not valid
	= 3, SC1 valid, not identified; SC2 valid, identified
	= 4, SC1 valid, not identified; SC2 valid, not identified
	= 5, SC1 valid, not identified; SC2 not valid
	= 6, SC1 not valid; SC2 valid, identified
	= 7, SC1 not valid; SC2 valid, not identified
	= 8, SC1 not valid, SC2 not valid

[1] QUEST refers to the attitude determination least-squares program

Comments on the Attitude Output Processing Flag

Character	Comment
a	Self-explanatory
b	Values 0, 1, 2, and 3 indicate that the attitude solution residual is less than or equal to 20″. Values 4, 5, 6, and 7 indicate that the attitude solution residual is greater than 20″. Comments on SC1 and SC2 (page 27) have no meaning. This flag will always be 7 when a motion model solution is obtained. In that case it has no meaning.
c	Definition of terms Observed – A measurement was obtained and the measured value was used in the computations. Interpolated – Either a measurement was obtained and the measured value was deemed unacceptable or no measurement was obtained. Consequently a linear interpolated value was supplied and used in the computations. Default – Same as Interpolated except a predetermined default value was supplied and used in the computations. Invalid – The data was deemed invalid if • The telemetry was bad • the measured value deviated substantially from the mean of the surrounding data.
d	QUEST is the name of the subroutine in which the attitude was computed based on information from at least two of the three sensors (SC1, SC2, FSS). An alternate solution method determined attitudes by propagating previous attitudes based on information about the motion of the spacecraft (motion model). A QUEST solution was preferable to the motion model. Information for the motion model consisted of a combination of SC1, SC2 or FSS data plus gyro data with the following priority: FSS + gyro highest SC1 + gyro SC2 + gyro lowest No attitude was computed if either • no data from SC1, SC2 and FSS existed • or no attitude from the previous half minor frame was available.

Condensed Orbit and Condensed Orbit/Attitude Tape Format

This second defines the record formats for the condensed orbit and condensed orbit/attitude tapes. The condensed orbit tape is a 9-track, 6250-bpi tape with the following attributes: RECFM = FB, LRECL = 3906, BLKSIZE = 15480, DEN = 4. It is made up of orbit records only. The condensed orbit/attitude tape is a 9-track, 6250-bpi tape with the following attributes: RECFM = VBS, LRECL = 3388, BLKSIZE = 16944, DEN = 4.

Record formats are as follows:

ORBIT RECORD:

·cement ytes)	Parameter	Type	Units
0	Zero fill	I*4	
4	Modified Julian Day of first data value	I*4	MJD
8	Milliseconds of day of first data value	I*4	Milliseconds
12	Time increment between observations	R*4	Milliseconds
16	Reference time of coordinate system (epoch) for GHA	R*4	MJD at $o^h o^m o^s$ UTC
20	Greenwich hour angle (GHA) at epoch	R*4	Radians
24	Position vector X (128 values)	R*4	km
536	Position vector Y (128 values)	R*4	km
1048	Position vector Z (128 values)	R*4	km
1560	Invariant latitude (128 values)	R*4	Degrees
2072	Geomagnetic time (128 values)	R*4	Hours
2584	Dip latitude (128 values)	R*4	Degrees

Attitude Record:

Displacement (bytes)	Parameter	Type	Units
0	Attitude quality indicator = 1, intermediate = 2, fine = 3, quicklook	I*4	--
4	Modified Julian Day of first observation	I*4	MJD
8	Milliseconds of day of first observation	I*4	Milliseconds
12	Time increment between observations	R*4	Milliseconds
16	Date data was processed and number of times reprocessed	I*4	YYDDDHHNN
20	Number of sets of quaternions in the data record	I*4	
[1] 24	First component of quaternion that transforms from sensor platform (A_v, B_v, C_v) coordinates to celestial true-of-date geocentric coordinates (CC) at start time (240 values)	R*4	--
[1] 984	Second component of the quaternion defined above (240 values)	R*4	--
[1] 1944	Third component of the quaternion defined above (240 values)	R*4	--
2904	Attitude quality flags (240 values; see page 27)	I*2	--

[1] In order to maintain fourth quaternion precision for fine attitude data (byte 0 = 2), all four components of a quaternion set are packed in 12-byte fields. The 12-byte field is defined by concatenating those bytes designated for the three components for a given quaternion set, (e.g., the first set is packed in bytes 24, 984, and 1944; the second set in bytes 28, 988, and 1948).

Investigator-B Tape Formats

The data from each pass (orbit) is presented in two types of records, header records and data records. Each pass has one header record with that information required only once per pass. Data records will each contain 30 data points, at approximately 5-second intervals, or about 2.5 minutes of data.

The actual data spacing on the INV-B tape is determined by selecting every 40th scalar point and every 80th vector point from the corresponding chronicle tapes. With this format a single INV-B tape is capable of containing about 80 days of data.

Header Record

Each header record will contain the following information. (The actual format is included in the following pages):

1. A flag (ITYPEX) designating that this is a header record.
2. A flag (NTYPEX) indicating the type of the succeeding record.
3. The modified Julian day for the start of the pass. This is the day on which the actual pass begins, i.e. when the satellite turns northward. This is true even if the data at that time is missing. One implication is that the milliseconds of day in item 6 may be for the next day.
4. The pass number.
5. An estimate of the external field due to the ring-current and other magnetospheric currents and the associated induced field (ASCX and DSCX). This is derived from the *scalar value* of the vector data as follows:
   a) Derive ΔB = B measured-B computed for all data within $\pm 45^\circ$ of the equator. B computed is taken from the spherical harmonic analysis whose coefficients are included on the tape.
   b) Assume that for each half orbit ΔB is the perturbation due to a potential function of the form

$$V = [(r/a)\, E + (a/r)^2\, I]\, \cos\theta \qquad (1)$$

where a = 6371.2 km (mean earth radius)

r = radial distance to data point

$\theta = 90^\circ - \lambda$

λ = the DIP latitude

then $\Delta\vec{B} = -\nabla V$

and $\Delta B = |\vec{B}\text{ computed} + \Delta\vec{B}| - |\vec{B}\text{ computed}|$

From these equations E and I are found by a non-linear least square procedure. The term in (1) in "E" represents the external field while the term in "I" represents the induced field. "E" and "I" are computed each half-orbit and should be associated with the time and position of the ascending and descending nodes.

6. A series of parameters at the ascending and descending nodes (equator crossings):
   - the milliseconds of day
   - the local time
   - the longitude
   - the magnetic Kp index
   - the equatorial disturbance coefficients as supplied by Dr. M. Sugiura at GSFC (i.e. Dst and DS).

7. The parameters of the spherical harmonic model used in the relevant calculations for this particular data. The models used will always be referred to a spherical (as opposed to geodetic) coordinate system and will always be Schmidt normalized. The parameters included are:
   a) a comment field describing the model
   b) the degree/order of the constant terms
   c) the degree/order of the first derivation terms
   d) a flag indicating the presence or absence of external terms
   e) the epoch of the model

f) the mean earth radius used in the model derivation

g) the model coefficients

The parameters are consistent with the program FDG designed to compute the field values at any location. FDG is available from the National Space Science Data Center at GSFC.

Data Records

In addition to the data itself, each data record contains a flag (ITYPEB) indicating that this is a data record, a flag (NTYPEB) indicating the type of the next successive record, the modified Julian day and milliseconds of day of the first data point, the pass number and the time interval between data points.

The actual measured data is merged with auxilliary information so that each data point includes:

a) the geocentric position in latitude, longitude and radius

b) the associated magnetic local time, invariant latitude and dip latitude

c) the measured data

d) the average of the data for the ±40 data points around the actual measured point

e) the standard deviations of those averages (production tape #1) or the slope and standard errors of a linear fit to these 80 points (tapes #2 and #3)

f) the predicted field from the spherical harmonic analysis included in the header record

Note: To conserve computation time the values on the tape are interpolated as follows: three values of the measured field spaced ten seconds apart are calculated. For times between these three, a cubic interpolation is used. The values interpolated are within 10nT of the actual model.

g) the attitude quality flag

Description of INV-B Header Record Variables

Variable	Location	Type	Description
ITYPEX	0	I*4	A flag which will be equal to 1 to designate this as a header record.
NTYPEX	4	I*4	A flag which will be equal to 1 if the succeeding record is a header record and equal to 2 if the next record is a data record.
MJDX	8	I*4	The modified Julian day at the start of the pass.
IPASSX	12	I*4	Pass (orbit) number. Pass numbers will be assigned consecutively beginning from the first partial orbit which will be labeled 1. The designation of the start of a pass is the point at which the satellite changes from south-going to north-going.
ASCX(2)	16	R*4	E, I at ascending node. (See page 33)
DSCX(2)	24	R*4	E, I at descending node. (See page 33)
MSECX(2)	32	I*4	Milliseconds of day at 1 – Ascending Node 2 – Descending Node
ALTMX(2)	40	R*4	Local Mean Sun time (in hours) at 1 – Ascending Node 2 – Descending Node
ALONX(2)	48	R*4	Longitude at 1 – Ascending Node 2 – Descending Node
IKP(2)	56	I*4	Magnetic Activity Index at 1 – Ascending Node 2 – Descending Node
GSM(2, 3)	64	R*4	Spare – not computed
DST(2, 6)	88	R*4	Disturbance Storm Time coefficients. DST (1, J) is at Ascending Node DST (2, J) is at Descending Node

Description of INV-B Header Record Variables (Cont'd.)

Variable	Location	Type	Description
			$D(T) = A_o(T) + \sum_{n=1}^{2} A_n(T) \sin(nt + a_n(T))$ Coefficients are A_o, J = 1 — T: Universal time A_1, J = 2 — t: local time a_1, J = 3 — A_o, A_n in nT A_2, J = 4 — a_n in degrees a_2, J = 5 Computed values of D (T) are stored in DST (I, 6). NOTE: A_o corresponds to Dst, D(T) is the total equatorial disturbance in the H-component at (T, t)
COMM(30)	136	R*4	Comments relating to the field model.
NMAX	256	I*4	Maximum value of subscripts in GH (see below)
NMAXT	260	I*4	Maximum value of subscripts in GHT (see below)
MODEXT	264	I*4	If MODEXT = 1 use exterior field.
TZERO	268	R*4	Time at which coefficients of field model are valid.
ABAR	272	R*4	Mean earth radius for field model calculation.
GH(17, 17)	276	R*4	Field model coefficients for $n \geq m$. Units are nT $g_n^m = GH(n, m)$ $h_n^m = GH(m-1, n)$
GHT(14, 14)	1432	R*4	Time derivatives of GH (nT/YR)
F(3)	2216	R*4	Exterior field model coefficients

Description of INV-B Data Record Variables

Variable	Location	Type	Description
ITYPFB	0	I*4	A flag which will be equal to 2 to designate this as a data record.
NTYPFB	4	I*4	A flag which will be equal to 1 if the succeeding record is a header record and will be equal to 2 if the next record is a data record.
MJDB	8	I*4	The modified Julian day of the first point in this data record.
MSECB	12	I*4	The milliseconds of day for the first point in the data record.
IPASSB	16	I*4	The current pass number
TINTB	20	I*4	The time interval between points in this data record. (msec)
DATA(30, 25)	24	R*4	Data values for 25 variables at 30 points in time [D(J, I), in the following table J is the data point number.]

Description of INV-B Data Values in Data Record

I	Variable	Description
I = 1	LAT	The latitude of the spacecraft at this data point.
I = 2	LONG	The longitude of the spacecraft at this data point.
I = 3	RAD	The radius (in kilometers) of the spacecraft orbit at this data point.
I = 4	MLT	Magnetic Local Time
I = 5	INVLAT	Invariant latitude
I = 6	DIPLAT	Dip latitude
I = 7	BS	Magnitude of measured magnetic field from scalar data in gammas.
I = 8	BV	Magnitude of measured magnetic field from vector data in gammas.
I = 9	X	X component of measured magnetic field (in NEV coordinates) in gammas.
I = 10	Y	Y component of measured magnetic field (in NEV coordinates) in gammas.
I = 11	Z	Z component of measured magnetic field (in NEV coordinates) in gammas.
I = 12	BVA	The average of the magnitude of measured magnetic field in gammas for the 80 CHRONICLE input points corresponding to this data point.
I = 13	XA	The average in gammas of the (X, Y, or Z) component of the measured magnetic field (in NEV coordinates) for the 80 CHRONICLE input points corresponding to this data point.
I = 14	YA	
I = 15	ZA	
I = 16	BVSD*	The standard deviation of the magnitude of the measured vector magnetic field in gammas for the 80 CHRONICLE input points corresponding to this data point.
I = 17	XSD*	The standard deviation in gammas of the (X, Y, or Z) component of the measured magnetic field (in NEV coordinates) for the 80 CHRONICLE input points corresponding to this data point.
I = 18	YSD*	
I = 19	ZSD*	

Description of INV-B Data Values in Data Record (Cont'd.)

I	Variable	Description
I = 20	BMD	Magnitude of magnetic field predicted from model in gammas.
I = 21	XMD	X component of magnetic field (in NEV coordinates) predicted by model in gammas.
I = 22	YMD	Y component of magnetic field (in NEV coordinates) predicted by model in gammas.
I = 23	ZMD	Z component of magnetic field (in NEV coordinates) predicted by model in gammas.
I = 24	QUAL	Attitude Quality Word
I = 25	SPARE	

*Standard deviations were computed only for the tape with data from Nov 2 through Jan 18. On the other two tapes this "word" contains a packed combination of the slope and standard deviation of a least squares line fit to the 80 points used in the average. The word should be interpreted as follows:

- The fractional part is the slope (in gammas/millisecond), multiplied by ten and
- The integral part is the standard error of the linear fit (in gammas), multiplied by ten.

Data Quirks

Several surprises or quirks were found in the data after launch. Some of these quirks might have been detected prior to launch if it had been possible to provide a dynamic rather than a static prelaunch test data tape. The most significant quirks are listed below:

1. VMAG One Cycle Time Offset

   The VMAG fine counter readings were found to be read out into the telemetry frame one cycle later than had been assumed in the APL telemetry document [Peterson, 1978]. This caused all the VMAG data time tags to be in error by 120 bit durations or by 61.44 ms. When corrected, this means that it is not the first but the second VMAG fine counter reading in a telemetry minor frame (TMF) which is synchronized with the first VMAG coarse counter reading in that frame. Likewise, it is not the second but the third VMAG fine counter reading in a TMF which is synchronized with the second reading of SMAG-1 and the first readings of sun sensors A and B, etc.

   The VMAG data time tag corrections given in early versions of the MDPS Specifications Document such as that distributed at the August 1979 Principal Investigator meeting, are consequently in error by 61.44 ms. The correct values are given in the latest version of the MDPS Specifications Document [Berman et al., 1980], which was distributed at the December 1980 Investigator meeting.

   This problem is discussed in more detail in memos by the Magsat Data Manager dated January 7, 1980, January 25, 1980, and May 7, 1980.

   Incidentally, the idea of designing the spacecraft so that the synchronized VMAG, SMAG, and attitude observations would also be simultaneous, which is very convenient in the data processing, was first suggested by the Magsat Data Manager in the conceptual design stage, and was skillfully impiemented by the APL telemetry engineer.

2. VMAG Coarse Bits Glich

The VMAG coarse counter is updated for each axis for every fine counter reading, but is read out only for every fourth fine counter reading. To help provide a coarse reading for each fine reading the least significant bit of the coarse counter is read out for every fine counter reading including the readings simultaneous with the coarse counter readings. It was assumed that the higher data rate redundant least significant bit readout would always agree with the least significant bit of the coarse counter readout when these readings were simultaneous. With the real data these bits do not always agree, since they are not exactly simultaneous. The software was modified to accommodate this possibility, as described in the memo by the Magsat Data Manager dated January 25, 1980.

3. Telemetry One Minor Frame Time Offset

The Magsat telemetry data processing by the IPD, prior to processing by the MDPS, associated time tags from telemetry minor frames n + 1 with minor frames n. This was discovered prior to production processing and corrected by subtracting the duration of one telemetry minor frame (491.54 ms) from all the data time tags. However, this error was included in the first two CHRONSC/CHRONINT test tapes. This error and its correction were documented in memos to the Magsat Data Users from the Data Manager on March 14, 1980 and May 7, 1980.

INVESTIGATOR-B PASS SUMMARIES

To aid data users we have tabulated some key parameters from the Investigator tape on a pass-by-pass basis. This tabulation is found in Appendix 1 and includes the date and start and stop times for each pass. Other parameters are tabulated for the times of the ascending and descending nodes. These include Kp, the equatorial disturbance (D) in the horizontal component from five observatories (from Sugiura), the longitude and ΔB at the equator crossing and the "F" and "I" parameters of the external field correction.

DATA PRODUCTS

In addition to the data tapes described in the previous sections, the Project has made various data sets available to the scientific community. These are available by inquiry at the following addresses:

For Domestic Orders: National Space Science Data Center (NSSDC)
Code 601
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
Telephone: 301-344-6695

For Foreign Orders: World Data Center A for Rockets and Satellite (WDC-A-R&S)
Code 601
NASA/Goddard Space Flight Center
Greenbelt, MD 20771 USA
TELEX: 89675 NASCOM GBLT

Available Products Include:

I. Magnetic Data from the magnetic field experiment on board the POGO satellite--This includes (a) the entire data set, (b) the data used in the GSFC derived magnetic anomaly maps (in three subsets: ±50° latitude, northern polar and southern polar regions), (c) a table of the average anomaly values and calculated equivalent source values, (d) the various anomaly maps themselves (color versions of Figures 61, 62, 63, and 64), and (e) the data selected for use at GSFC for deriving spherical harmonic models of the Earth's main magnetic field.

II. Special MAGSAT data sets. Because of ongoing analyses these data sets are continually changing and, at least at present, are to be regarded as extremely preliminary. They include: (a) A magnetically very quiet data set slated for use in spherical harmonic analyses. This data has had a correction applied for external fields. (b) Averages, in roughly 2°X2° blocks, of anomaly data.

This data is selected for moderately quiet magnetic conditions and is corrected for supposed external fields. [These corrections are illustrated in the description of plots in III. b.]

III. Plots of MAGSAT Data:

a. Full orbit plots from ascending node to ascending node. An example of fine attitude data is given in Figure 65. At the top of the plot is the plot type "MAGSAT Latitude Plot" followed by the date of the data plotted. The second line indicates the field model used in reducing the data, in this case MG680982, together with a descriptive comment about the model. The third line indicates that the scalar data plotted is derived from the component data. Four plots are included. They are the residuals in B, X, Y and Z from the indicated model where X, Y and Z are north, east and down in a geocentric system. These are plotted versus latitude as the abscissa with labels indicating the universal time (hours, minutes and seconds), the longitude and the altitude (relative to a spherical Earth of radius 6371.2 km). In regions where fine data are not available but intermediate data are, the intermediate data are plotted but the plotting symbol becomes an "X" rather than a "dot."

b. Plots of data during crossing of the polar regions ("pole plots") are available for either (or both) the northern and southern hemispheres. These come in sets of five, as illustrated in Figures 66 through 70. The five correspond to the residuals in total field (Delta-B), North component (Delta-X), East component (Delta-Y), vertical (down) component (Delta-Z), and a vector plot of the horizontal (Delta-X and Delta-Y) residuals. The plots are in a geographic (geocentric) latitude vs longitude polar format. The satellite track is shown as a solid line with the components (residuals) plotted relative to that line, i.e. the satellite track is the zero line of the plot. Scale lines are spaced along the plot and are labeled with the scale (in nT), the altitude (km) and the U.T. (hours and fraction). For the first four plots the direction of the scale line indicates the positive plotting axis. The top of the plot is captioned so as to indicate which component is plotted, the date, the

U.T. at the plot mid-point (i.e. nearest point to the pole), the hemisphere (north or south) and, for the scalar magnitude, whether or not the source was the vector or scalar magnetometer. At the bottom of each plot a line is printed identifying the source tape (in this case it is a CHRONFIN tape covering the 11/4 to 11/7/79 time period). A subsidiary coordinate system is given on the plot. This is the dipole latitude - magnetic local time (MLT) system. Circles of latitude are given by "dots" (more widely spaced for the "odd" five degree circles). The MLT is indicated on the 65° latitude circle.

These plots illustrate some data features that investigators should be aware of. The delta-B and delta-Z plots have a positive offset. This is because the field model utilized, MGST (4/81), did not contain external field terms. From the standpoint of scalar data, this is a quiet pass. The features on the delta-B and delta-Z plots are crustal anomalies. Yet the delta-X and delta-Y components show clear evidence of field-aligned and ionospheric currents.

c. Plots of low-latitude (±50°) scalar data used at GSFC in the derivation of anomaly maps. An example is given in Figure 7i. The three panels are read from left to right. In all panels the abscissa is geographic latitude. In the left panel the hash marks are a plot of the satellite altitude, referenced to the leftmost scale. The dots are a plot of ΔB, the scalar residual from the appropriate spherical harmonic model. The solid line is the estimated field from a model ring current. The model ring current is derived to best-fit the individual pass. At the bottom of the first panel are labels. In the first row is given the date, universal time, and local time. In the bottom row is given an internally assigned half-orbit number, the number of points plotted, whether the orbit is descending or ascending (i.e., southbound or northbound), the longitude at the equatorial crossing, and the plot frame number. In the second panel the dots are the difference between the raw ΔB and the ΔB calculated from the ring current correction. Three straight lines are least-squares fit to the data: one from -50° to 0° latitude, one from -25° to 25° latitude and one from 0° to

50° latitude. In the third panel the straight lines have been removed from the data of the second panel and the result is our best approximation of the crustal anomaly field. Under the latitude labels of the second panel are labels of longitude at the first data point, the equator crossing and the last data point. These plots are sorted and ordered by the longitude of their equatorial crossing.

IV. Magnetic Field Models These are spherical harmonic analyses of the Earth's main field. The initial Magsat model (Langel et al., 1980; Table 12) was designated MGST (6/80). It contains terms up to degree and order thirteen, was derived with data from November 5-6, 1979 only, and contains no time terms. The model GSFC (9/80) (Table 13) was derived from observatory, repeat, marine and POGO data from 1960 to 1978, as well as Magsat data from November 5-6, 1979. It contains constant and first (time) derivative terms up to degree and order thirteen, second derivative terms to degree and order six and third derivative terms to degree and order four. The model is preliminary and unpublished but may prove useful. We think it describes the field well from 1960 to 1980. At the Magsat Investigators meeting of December 4-5, 1980, a model designated MGST (12/80) was distributed. This model is to be used with extreme caution. We have since determined that the data selected included effects from substantial ionospheric currents at high latitude – particularly in the south. Initially, for internal purposes, we have utilized a hybrid model designated MG680982 (Table 14). This uses the constant terms from MGST (6/80) together with the first derivatives from GSFC (9/80). More recently we have utilized a model designated MGST (4/81), (Table 15) derived from fifteen days of selected MAGSAT data. This is the model utilized on the INV-B tape. Because effort is still being given to optimizing the modeling data set, all such models are preliminary.

V. MAGSAT Anomaly Maps. Because the isolation and verification of individual anomalies continues to be a research topic, any map derived for sometime after the present must be regarded as preliminary. Figures 72, 73 and 74 show the current versions of these maps.

VI. Software A variety of software has been advertised in the Magsat Information Bulletin. Some of this has now been revised, additional documentation is now available, and some new software has become available. Accordingly, a new, single, software tape has been generated. Its contents are as follows:

A. Programs which Operate on Magsat Data Tapes

1. Subroutine RDCHRN: Reads a chronicle tape on IBM 360

   Documentation: Internal to the Program

2. Subroutine TIB: Reads and prints Investigator-B tape on IBM 360

   Documentation: Internal to the Program

3. Programs to Interpret Orbit Records (IBM 360):

   FLDORB: The basic program

   INTORB: Interpolation routine called by FLDORB

   STIROB: Stirling Interpolation, called by FLDORB and by INTORB

   SATPOS: Computer altitude, longitude and altitude (geocentric), called by FLDORB and by INTORB

   FDG: Computes geomagnetic field. Special version for use with FLDORB

   Documentation: (1) Magsat Orbit Retrieval Subroutines Source Listings

   (2) Magsat Data Processing System Specifications

4. Programs to Convert Time (IBM 360):

   CVTJUL: Converts modified Julian date (MJD) to year and fraction of year

   CONDAT: (1) Converts month, day, year to MJD

   (2) Converts year, day of year to MJD

   (3) Converts MJD to month, day, year and to year and day of year

   ADDTIM: Increments or decrements a given time

   Documentation: Same as 3.

B. Programs to Interpret and Analyze Data

1. FIT Program: Program for Derivation of Geomagnetic Spherical Harmonic Analysis. Operates on IBM 360.

   Documentation: Fit Program Description and Users Guide by R. H. Estes.

2. FDG Program: Program for computing the Earth's main magnetic field from Spherical Harmonic Coefficients. Operates on IBM 360. Includes subroutines MAGF and EXTFLP.

   Documentation: Geomagnetic Field Model Evaluation Software.

3. Programs for Derivation of Equivalent Source Representation of Crustal Anomalies (IBM 360).

   Documentation: The Equivalent Source Magnetic Anomaly Program (ESMAP) User's Guide.

4. Progra for Computing Crustal Anomaly Fields from an Equivalent Source Representation (IBM 360).

   Documentation: Delta-B Computation Package (DBCOMP) Program Description and User's Guide.

5. Purdue University Programs for Analysis of Gravity and Magnetic Anomaly Data (CDC and IBM).

   Band Pass Filtering

   Differentiation

   Continuation

   Strike Filtering

   Internal Correspondence Analysis

   Cluster Analysis

   3-D Spherical Earth Modeling.

   Documentation:

   (1) Magnetic and Gravity Anomaly Correlation and its Application to Satellite Data, Bowman et al., 1979

(2) Spherical Earth Gravity and Magnetic Anomaly Modeling by Gauss-Legendre Quadrature Integration, von Frese et al., 1980a

(3) Spherical Earth Analysis and Modeling of Lithospheric Gravity and Magnetic Anomalies, von Frese et al., 1980b

6. Program to Estimate Depth to the Magnetic Basement, ADEPT (IBM 360)

   Documentation: Preliminary Documentation of Program "FFTFIL," Tom Hildenbrand, USGS

7. University of Miami (Christopher Harrison) Programs for Magsat Analysis. (Univac, Fortran)

Program Descriptions:

a. Program TAPERD (TAPE READ)

   translates NASA supplied EBCDIC tape and stores on disk.

b. Program FILEUP (FILE BREAK DOWN)

   sorts data into specified subfiles based on geographical boundaries supplied by user. Calculates and stores spherical coordinates and direction of main field for each data point resulting in substantial saving of computing in the inversion routine.

c. Program INVERT (FIELD INVERSION)

   calculates the matrix relating field measurement to equivalent source magnetization. Solves the matrix equation using the Crout variant of the Gauss-Jorden reduction. Provision is made for using either dipoles or spherical prisms as the equivalent sources merely by switching a subroutine. INVERT outputs the magnetization matrix as a separate file.

d. Program MAGPLT (MAGNETIZATION PLOT)

   us NCHAR contouring routine to plot the output of INVERT.

e. Program FLDPLT

   uses the output of INVERT and expands the equivalent source array to a grid of field values at specified altitude. Contours, plots, and stores resultant field.

f. Program FLDFIT

determines how well the calculated field matches the observed field. Produces a series of satellite track plots comparing calculated to observed.

g. Program TRCPLT

calculates, plots, and stores a magnetic profile at given altitude and orientation using the output from INVERT.

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TABLF 1: Adjustment to "A" Data Calibrations

Parameter	Adjustment
W11	-0.052 nT
W12	0.149 nT
W13	0.179 nT
W14	0.409 nT
W15	-0.284 nT
W17 – W16	-1.027 nT
W21	-0.530 nT
W22	0.267 nT
W23	-0.509 nT
W24	0.373 nT
W27 – W26 – W25	-2.422 nT
W31	0.031 nT
W32	-0.113 nT
W33	-0.107 nT
W34	-0.192 nT
W35	-0.784 nT
W36	-1.113 nT
W37	-1.737 nT
B1	-0.222 nT
B2	0.303 nT
B3	-0.172 nT
A12	0.984 arc sec
A21	1.063 arc sec
A32	0.803 arc sec

TABLE 2: Differences Between Fits on March 22, 1980 @ 1200 Hrs

Parameter	Difference (linear – polynomial)
W11	-0.177 nT
W12	-0.107 nT
W13	0.174 nT
W14	-0.125 nT
W15	-0.285 nT
W17 – W16	-0.076 nT
W21	-0.405 nT
W22	-0.027 nT
W23	0.837 nT
W24	1.041 nT
W27 – W26 – W25	-0.355 nT
W31	0.084 nT
W32	0.024 nT
W33	0.178 nT
W34	0.172 nT
W35	0.258 nT
W36	0.679 nT
W37	0.449 nT
B1	0.204 nT
B2	0.197 nT
B3	-0.229 nT
A12	-0.935 arc sec
A21	-0.771 arc sec
A32	0.055 arc sec

TABLE 3-1: Comparison of Scalar and Vector Data (Gammas)

Date of Data	Date of Calibration	Comparison of scalar fields between two magnetometers MEAN DIFF.	RMS DIFF.	Date of Data	Date of Calibration	Comparison of scalar fields between two magnetometers MEAN DIFF.	RMS DIFF.	Date of Data	Date of Calibration	Comparison of scalar fields between two magnetometers MEAN DIFF.	RMS DIFF.
Nov 2	Nov 2	0.53 C	0.98	Dec 1	Nov 30	0.26 C	0.96	Jan 1	Jan 5	0.81 A	1.10
3	Nov 3	0.03 C	1.16	2	Dec 1	0.13 C	1.06	2	Jan 5	0.99 A	1.30
4	Nov 5	-0.20 C	1.10	3	Dec 1	0.76 A	0.87	3	Jan 5	1.10 A	1.50
5	Nov 5	0.14 C	1.00	4	Dec 1	0.70 A	0.86	4	Jan 5	0.98 A,C	1.33
6	Nov 6	0.07 C	0.89	5	Dec 1	0.87 A	1.06	5	Jan 5	0.12 C,A	1.13
7	Nov 6	0.08 C	0.93	6	Dec 11	0.86 A	0.99	6	Jan 5	1.01 A	1.17
8	Nov 10	-0.15 C	1.12	7	Dec 11	0.82 A	1.00	7	Jan 5	1.07 A	1.39
9	Nov 10	-0.03 C	1.03	8	Dec 11	0.69 A	0.88	8	Jan 5	0.93 A	1.06
10	Nov 10	0.02 C	0.94	9	Dec 11	0.65 A	1.00	9	Jan 5	1.06 A	1.20
11	Nov 10	0.26 C	0.95	10	Dec 1[illegible]	0.39 A	1.03	10	Jan 5	1.10 A	1.59
12	Nov 14	-0.60 C	1.00	11	Dec 1[illegible]	0.42 A,C	1.06	11	Jan 17	0.85 A	1.03
13	Nov 14	0.02 C	1.00	12	Dec 11	0.16 C,A	0.98	12	Jan 17	0.70 A	0.85
14	Nov 14	0.05 C	1.00	13	Dec 11	0.83 A	0.89	13	Jan 17	0.92 A	1.06
15	Nov 14	0.09 C	1.00	14	Dec 11	0.67 A	0.90	14	Jan 17	0.79 A	0.99
16	Nov 14	0.26 C,B	1.03	15	Dec 11	0.78 A	0.89	15	Jan 17	0.99 A	1.14
17	Nov 18	0.00 B	0.73	16	Dec 18	0.63 A	0.82	16	Jan 17	0.88 A	1.03
18	Nov 18	0.08 B	0.66	17	Dec 18	0.64 A	0.84	17	Jan 17	0.16 A,C	1.22
19	Nov 18	0.26 B,C	0.79	18	Dec 18	0.08 A,C	1.08	18	Jan 17	1.20 C,A	1.34
20	Nov 22	0.02 C	0.91	19	Dec 18	0.80 C,A	1.20	19	Jan 17	1.08 A	1.25
21	Nov 22	-0.36 C	1.00	20	Dec 18	0.99 A	1.20	20	Jan 22	1.22 A	1.3[illegible]
22	Nov 22	0.07 C	0.93	21	Dec 18	0.80 A	1.10	21	Jan 22	1.20 A	1.[illegible]
23	Nov 22	-0.05 C	0.96	22	Dec 18	0.86 A	1.10	22	Jan 22	0.09 A,C,A	1.[illegible]
24	Nov 26	-0.01 C	1.01	23	Dec 18	0.85 A	1.15	23	Jan 22	1.07 A	1.23
25	Nov 26	0.05 C	1.05	24	Dec 18	0.82 A	0.98	24	Jan 22	0.97 A	1.21
26	Nov 26	0.01 C	1.00	25	Dec 18	0.67 A	0.99	25	Jan 22	1.08 A	1.29
27	Nov 26	-0.08 C	1.06	26	Dec 18	0.66 A	0.88	26	Jan 27	1.11 A	1.35
28	Nov 30	0.08 C	1.03	27	Dec 18	0.72 A	0.95	27	Jan 27	0.28 A,C,A	1.17
29	Nov 30	-0.[illegible]2 C	1.14	28	Jan 5	0.55 A	0.97	28	Jan 27	1.04 A	1.33
30	Nov 30	0.05 C	1.18	29	Jan 5	0.55 A	0.97	29	Jan 22	1.21 A	1.40
				30	Jan 5	0.78 A	1.15	30	Feb 6	1.16 A	1.46
				31	Jan 5	0.81 A	1.10	31	Feb 6	1.14 A	1.42

TABLE 3-2: Comparison of Scalar and Vector Data (Gammas) (Con't.)

Date of Data	Date of Calibration	Comparison of scalar fields between two magnetometers		Date of Data	Date of Calibration	Comparison of scalar fields between two magnetometers		Date of Data	Date of Calibration	Comparison of scalar fields between two magnetometers	
		MEAN DIFF.	RMS DIFF.			MEAN DIFF.	RMS DIFF.			MEAN DIFF.	RMS DIFF.
Feb 1	Feb 6	1.24	1.49	Mar 1	FIT TO	1.31	1.47	Apr 1		0.79	1.00
2	Feb 6	1.07	1.34	2	CALIBS	1.18	1.51	2		0.82	1.11
3	Feb 6	1.12	1.32	3	FROM	1.42	1.60	3		0.53	1.10
4	Feb 6	1.04	1.25	4	"C"	0.32	1.31	4		0.61	0.99
5	Feb 6	1.17	1.28	5	DAYS	0.83	1.32	5		0.61	1.00
6	Feb 6	0.34	1.32	6	↓	0.94	1.27	6		0.60	1.06
7	Feb 6	1.03	1.32	7		1.05	1.39	7		0.70	1.05
8	Feb 6	1.12	1.27	8		1.08	1.33	8		0.83	1.14
9	Feb 11	1.08	1.18	9		1.06	1.33	9		0.86	1.18
10	Feb 11	1.10	1.31	10		1.10	1.42	10		0.81	1.11
11	Feb 11	0.11	1.32	11		0.00	1.50	11		0.87	1.11
12	Feb 11	1.05	1.28	12		1.01	1.40	12		0.70	1.10
13	Feb 11	1.12	1.17	13		1.11	1.40	13		0.65	1.23
14	Feb 16	1.00	1.22	14		1.00	1.29	14		0.80	1.27
15	Feb 16	1.15	1.42	15		1.10	1.37	15		0.90	1.33
16	Feb 16	0.04	1.23	16		1.07	1.35	16		0.99	1.35
17	Feb 16	1.04	1.35	17		1.13	1.30	17		1.70	1.80
18	Feb 16	1.14	1.37	18		0.04	1.39	18		1.68	1.82
19	Feb 16	1.21	1.42	19		0.93	1.33	19		1.77	1.87
20	Feb 16	1.18	1.35	20		1.12	1.30	20		1.59	1.74
21	Feb 16	1.33	1.54	21		1.09	1.33	21		1.53	1.78
22	FIT TO	1.21	1.39	22	↓	1.10	1.24	22		1.78	1.86
23	CALIBS	1.10	1.32	23	FIT TO	0.88	1.07	23		1.65	1.80
24	FROM	1.08	1.32	24	CALIBS	0.71	1.20	24		1.75	1.88
25	"C"	1.10	1.30	25	FROM AD-	0.14	1.42	25		1.16	1.48
26	DAYS	0.39	1.28	26	JUSTED	0.77	1.00	26		1.88	1.85
27	↓	1.08	1.39	27	"A" DAYS	0.91	1.07	27		1.73	1.77
28		1.21	1.53	28	AND	1.03	1.31	28		1.62	1.73
29	↓	1.20	1.47	29	AVAIL-	0.92	1.21	29		1.99	1.87
				30	ABLE "C"	0.92	1.07	30		2.01	1.96
				31	DAYS	0.84	1.06				

TABLE 3-3: Comparison of Scalar and Vector Data (Gammas) (Con't.)

Date of Data	Date of Calibration	Comparison of scalar fields between two magnetometers	
		MEAN DIFF.	RMS DIFF.
May 1		2.04	1.94
2		1.78	1.85
3		2.21	2.03
4		2.10	2.06
5		1.64	1.79
6		1.91	1.97
7		No scalar	
8			
9			
10			
11			
12		0.63	2.05
13		1.90	1.92
14		1.72	1.87
15		1.10	1.42
16		1.01	1.42
17		1.17	1.27
18		No scalar	
19		No scalar	
	NO FINE ATTITUDE		

TABLE 4: Maximum Magnitude in Component Differences for Adjacent Calibrations

Calibrations	Component Difference					
	X		Y		Z	
	Max	Min	Max	Min	Max	Min
11/2 vs. 11/3, 1979	0.98	-0.77	1.17	-1.89	2.17	-2.50
11/3 vs. 11/5, 1979	1.92	-1.55	1.62	-1.53	0.40	-0.75
11/5 vs. 11/6, 1979	2.53	-2.13	3.19	0.81	0.32	-0.81
11/6 vs. 11/10, 1979	0.99 (0.73)	-1.24 (-1.21)	-0.31	-1.87	1.25	-0.81
11/10 vs. 11/14, 1979	0.44	0.31	1.32	-0.59	0.69	-0.43
11/14 vs. 11/18, 1979	2.59 (1.10)	-2.18 (-0.70)	1.28	-0.43	-0.18	-2.01
11/18 vs. 11/22, 1979	2.44 (-0.03)	-3.66 (-1.17)	1.42	-1.51	1.87	-0.08
11/22 vs. 11/26, 1979	0.01	-0.58	5.00	0.21	0.29	-0.23
11/26 vs. 11/30, 1979	3.57 (0.48)	-3.94 (-.85)	1.00	-2.07	0.88	-0.21
11/30 vs. 12/1, 1979	2.10 (0.85)	-2.29 (-1.03)	2.86	-1.31	0.68	-0.79
12/1 vs. 12/11, 1979	0.88	-0.70	2.60	-1.00	0.33	-0.43
12/11 vs. 12/18, 1979	0.67	-0.79	1.40	-3.00	0.66	-0.43
12/18, 1979 vs. 1/5, 1980	1.06 (-0.12)	-2.89 (-1.72)	6.76	-0.60	0.86	-1.04
1/5 vs. 1/17, 1980	0.93 (0.49)	-0.60 (-0.14)	1.28	-4.47	0.50	-0.31
1/17 vs. 1/22, 1980	1.15	-0.96	1.21	-1.17	0.18	-0.25
1/22 vs. 2/6, 1980	0.43	-2.06	0.76	-2.48	0.59	-0.88
2/6 vs. 2/11, 1980	0.69	-0.15	2.73	-2.43	0.68	-0.51
2/11 vs. 2/16, 1980	6.06 (1.31)	-7.83 (-3.08)	2.64	-2.40	0.83	-0.75
2/16 vs. 2/26, 1980	6.80 (2.66)	-4.45 (-0.32)	0.28	-4.16	0.92	-0.36
2/26 vs. 3/4, 1980	0.58 (0.16)	-2.09 (-1.65)	7.14	-2.25	0.29	-1.11
3/4 vs. 3/11, 1980	3.67 (0.99)	-3.09 (-0.42)	5.36	-2.29	-0.09	-0.79
3/11 vs. 3/18, 1980	0.25	-2.44	1.79	-6.80	1.05	-0.85
3/18 vs. 3/25, 1980	5.15 (4.58)	-2.56 (-1.98)	3.45	-5.11	0.38	-0.78

TABLE 5: Fluxgate Calibration Summary: Intermediate Attitude Data

Dates	Data From Which Calibration Derives
11/2–7, 1979	Nov. 2, 1979
11/8–12, 1979	Nov. 5, 1979
12/18/79–3/30/80*	Nov. 21, 1979*
3/31/80–4/27/80	Jan. 21, 1980
4/28/80–end of mission	Mar. 3, 1981
*With the exception of	
Jan. 25–28, 1980	Jan. 26, 1980

TABLE 6-1: APL Ephem Overlap Statistics

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Nov	3	79	307	0.5	28.0	4.5	49	97	28	112	-2/49	-17/95	0/28	108/28	68	[illegible]	41	66	101	33
	4		308	0.0	29.3	5.8	45	151	45	164	9/44	-95/118	2/45	146/75	70	[illegible]	64	35	50	192
	5		309	1.0	31.9	6.8	22	81	12	84	-2/22	58/56	-1/12	73/42	29	1[illegible]	17	17	18	301
	6		310	0.4	28.0	4.6	66	161	21	175	-2/66	-95/129	0/21	158/75	92	280	30	62	68	34
	7		311	0.0	29.0	5.5	27	69	24	78	1/27	-40/56	1/24	71/33	42	145	35	23	27	0
				12.8	18.2	5.3	25	60	16	67	-3/25	-29/53	0/16	61/27	39	115	23	25	33	890
	8		312	0.9	16.6	4.6	14	67	27	73	5/13	-41/52	0/27	65/34	25	135	38	22	27	145
				12.3	17.0	5.6	14	29	26	41	-1/14	- 6/28	3/26	39/12	25	58	37	12	26	887
				21.0	17.9	9.2	18	40	32	54	-1/18	-10/39	0/32	52/16	31	75	45	18	40	1279
	9		313	3.6	15.5	8.9	20	55	15	61	1[illegible]	-36/42	0/15	55/26	30	102	22	14	17	684
				13.3	14.7	4.9	35	71	22	82	5/3[illegible]	- 5/71	-1/22	78/25	53	144	31	42	53	1057
	10		314	6.0	22.5	5.8	20	56	8	60	3/20	-25/50	0/8	54/26	33	103	11	13	15	650
				15.1	17.1	7.8	25	69	16	75	0/25	-46/51	0/16	67/34	39	126	22	24	26	935
				22.2	14.2	7.1	11	56	10	58	3/11	-15/54	-1/10	47/34	23	129	14	6	7	1435
	11		315	5.9	14.7	7.1	18	47	5	50	-2/18	-14/45	0/5	45/23	29	93	7	6	7	755
				18.1	17.6	5.5	23	50	3	55	4/22	19/46	0/3	51/20	34	93	5	27	35	1131
	12		316	0.2	15.4	9.3	19	48	5	52	-2/19	6/48	0/5	47/23	33	103	7	18	18	23
				6.5	15.1	8.8	21	58	7	62	-1/21	21/55	0/7	56/28	34	142	10	10	10	814
				15.6	14.4	5.3	21	45	5	50	-1/21	- 16/43	0/5	47/18	31	82	8	27	40	1146
				23.9	14.8	6.4	29	64	27	76	2/29	- 25/59	0/27	71/25	49	130	39	20	28	1795*
	13		317	16.0	22.9	7.9	21	50	8	55	0/21	20/46	0/8	50/22	37	97	11	21	26	1253
				20.4	15.5	11.0	6	18	6	20	0/6	- 1/18	0/6	17/9	10	50	8	2	3	1526*
	14		318	5.1	14.8	6.0	25	72	8	77	-4/25	13/71	0/8	69/35	48	160	12	26	33	422
				16.0	15.3	4.4	31	62	13	70	1/31	1/62	0/13	68/16	45	96	18	42	76	981
	15		319	0.1	14.5	6.3	24	56	12	62	-1/24	-26/50	0/12	58/23	36	102	17	30	35	10

TABLE 6-2: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Nov	15	79		7.9	13.7	5.8	26	56	19	65	0/26	-9/55	1/19	61/21	42	103	27	26	27	803
				16.1	16.5	8.3	31	67	4	74	1/31	-22/63	0/4	70/23	45	125	5	38	58	1042
	16		320	1.0	15.9	6.9	21	48	19	56	2/21	-1/48	-1/19	52/20	36	103	27	25	28	446
				8.5	15.1	7.6	22	47	8	52	-2/22	-4/47	0/8	49/20	33	94	11	20	23	538
				15.5	15.1	8.2	21	56	17	63	-2/21	-3/56	0/17	57/26	32	121	26	22	28	1017
				23.9	17.0	8.6	23	53	21	61	-1/23	-19/49	2/21	58/21	38	118	31	24	32	1935*
	17		321	6.8	14.2	7.3	22	57	3	61	-2/22	3/57	0/31	56/26	37	124	4	23	31	498
				14.9	14.4	6.3	34	68	10	76	0/34	9/67	0/10	74/18	49	111	15	47	83	928
				23.9	15.4	6.5	25	57	19	65	-2/25	-26/50	0/19	60/23	36	108	28	26	36	1444*
	18		322	8.4	18.2	9.8	15	34	9	38	-1/15	10/32	1/9	36/14	24	77	12	9	10	1074
				15.4	15.7	8.6	27	71	20	79	1/27	46/55	1/20	71/34	40	128	29	25	26	1255
	19		323	0.8	17.1	7.7	12	25	19	34	0/12	9/24	0/19	33/8	18	52	27	9	10	487
				8.2	15.1	7.7	16	62	9	64	-3/15	29/55	0/9	53/36	30	151	13	20	26	759
				15.9	15.2	7.5	23	56	9	61	-2/23	22/52	0/9	55/26	35	122	13	17	21	1314
	20		324	0.2	16.5	8.2	37	76	27	89	-1/37	-2/76	1/27	85/24	57	146	39	31	37	24
				8.0	12.2	4.3	34	72	25	83	-2/33	-20/69	2/25	78/28	54	141	36	35	48	492
				16.0	16.5	7.6	20	45	23	54	0/20	15/42	1/23	52/17	30	97	33	24	41	1378
				22.2	16.2	10.0	20	52	16	58	1/20	-2/52	-1/16	53/24	35	113	24	18	19	1896*
	21		325	4.5	13.6	7.2	15	39	9	43	0/15	1/39	0/9	39/18	27	80	12	13	31	554
				12.6	15.9	7.8	19	48	6	52	-1/18	18/45	0/6	46/25	32	123	9	10	11	1152
				20.4	16.0	8.2	16	33	15	39	1/15	-3/33	0/15	38/10	24	76	21	19	22	1666*
	22		326	3.9	14.8	7.3	22	51	7	56	3/22	-8/50	-1/7	52/20	34	103	10	25	35	604
				12.0	16.6	8.5	24	53	12	60	0/24	21/49	-1/12	56/22	35	99	17	30	42	1028
				20.0	16.6	8.6	18	42	2	45	0/18	2/40	0/2	41/18	27	79	3	18	22	1304
	23		327	3.9	16.2	8.2	21	47	9	52	1/21	-14/45	1/9	49/18	31	94	13	23	31	666

TABLE 6-3: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Nov	23	79		12.9	16.3	7.2	26	52	4	58	-1/26	18/49	0/4	55/20	37	96	6	31	43	1177
				20.8	15.0	7.3	10	31	7	33	1/10	-3/31	0/7	29/16	18	72	10	8	11	1461*
	24		328	4.2	14.7	7.2	17	39	15	45	1/17	17/35	1/15	41/17	27	89	22	1	3	674
				12.2	15.4	7.3	10	42	22	48	0/10	-37/20	2/22	45/17	17	72	32	11	23	810
				20.0	16.0	8.2	18	42	13	47	1/18	15/39	-1/13	44/19	28	82	19	18	25	1417
	25		329	4.2	16.5	8.3	40	83	4	92	0/40	-9/82	0/4	88/27	62	151	6	43	55	266
				13.3	16.3	7.2	26	54	11	61	-1/26	21/50	-1/11	57/22	38	102	15	31	43	1196
				20.4	15.0	7.8	22	51	23	61	-2/22	-23/46	1/23	57/21	33	108	33	13	17	1240
	26		330	4.6	14.5	6.2	17	42	19	50	-2/17	-19/38	0/19	46/18	27	91	28	23	28	279
				12.7	15.9	7.8	22	55	18	62	0/22	21/45	0/18	56/25	36	112	26	19	23	779
				20.3	15.0	7.3	7	24	11	27	1/7	4/24	-1/11	24/12	13	52	16	4	7	1576*
	27		331	4.0	15.5	7.8	12	35	3	37	0/12	-22/27	0/3	32/18	20	68	5	4	5	420
				15.0	16.5	5.4	23	57	14	63	3/23	-30/48	1/14	58/24	36	121	20	24	29	1171
	28		332	0.1	17.5	8.3	32	81	20	89	2/32	-48/65	-1/20	80/39	47	149	28	30	32	290
				7.9	16.4	8.5	25	63	20	71	0/25	-19/60	0/20	65/27	41	118	29	21	27	672
				16.0	16.4	8.3	15	33	8	37	1/15	11/31	0/8	35/12	22	61	11	20	24	1275
	29		333	1.1	16.3	7.3	19	53	4	57	2/19	-35/40	0/4	49/28	29	115	6	8	9	447
				8.6	15.1	8.3	11	28	13	33	-1/11	10/26	0/13	30/13	17	62	19	4	7	860
				16.4	15.2	7.3	12	54	14	58	-2/12	33/44	-1/14	49/30	22	124	21	7	10	1230
				19.9	15.4	11.8	22	75	6	78	1/22	58/48	0/6	67/40	34	137	8	1	2	1326
	30		334	4.3	16.4	7.9	17	49	8	52	18/17	-20/44	0/8	46/24	27	117	11	8	10	686
				11.9	16.0	8.3	22	52	13	58	2/22	-9/52	0/13	54/22	34	124	18	18	19	1156
				20.0	16.4	8.3	10	29	3	31	0/10	19/26	0/3	27/15	15	57	5	5	6	1200
Dec	1	79	335	4.2	16.0	7.7	11	42	2	43	-2/11	-29/30	0/2	37/22	18	103	2	6	7	475
				12.7	15.8	7.3	11	29	11	33	-2/11	10/27	-1/11	30/13	19	55	15	8	8	1062

TABLE 6-4: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Dec	1	79		20.3	15.0	7.4	6	15	14	21	0/6	-10/16	1/14	20/7	9	28	19	9	19	1242
	2		336	4.0	15.0	7.3	13	52	9	55	0/13	-37/37	-1/9	48/26	24	99	13	5	5	656
				12.0	16.5	8.5	3	17	17	24	1/3	0/16	0/17	22/10	7	48	25	1	1	929
				16.1	15.1	10.8	15	57	13	60	1/15	-6/56	0/13	49/34	26	156	18	6	7	1223
				19.9	13.6	9.8	15	31	13	37	0/15	4/31	0/13	36/1	22	55	19	20	32	1500*
	3		337	1.9	16.2	10.3	26	55	5	61	2/26	3/55	0/1	57/20	40	125	7	23	25	156
				16.0	16.4	2.2	35	70	17	80	8/34	13/69	1/16	76/24	52	126	24	44	66	1091
	4		338	1.1	16.4	7.3	22	60	34	72	2/22	-38/46	-2/33	67/27	34	130	48	28	45	456
				8.1	15.4	8.3	15	42	14	47	-2/15	21/37	0/14	42/21	23	88	21	6	8	867
				16.4	15.7	7.3	13	38	15	43	1/13	24/30	1/15	39/19	22	77	22	6	9	1147
	5		339	0.4	15.3	7.3	19	57	14	61	3/19	-30/48	-1/14	55/28	33	105	20	6	8	317
				7.9	16.0	8.5	22	60	6	64	-3/21	-5/60	0/6	55/32	37	145	8	11	12	923
				16.1	16.5	8.4	16	39	6	42	1/16	6/38	0/6	38/19	28	80	9	9	9	1434
				23.9	16.2	8.5	13	36	9	40	1/13	-17/32	-1/9	36/18	22	70	13	6	8	1731*
	6		340	8.0	16.6	8.4	14	28	8	32	1/14	2/27	1/8	31/7	21	50	11	19	23	983
				16.1	16.1	8.0	17	48	4	51	0/17	16/45	0/4	44/25	29	98	6	4	4	1253
	7		341	0.7	16.3	7.7	15	33	10	37	1/15	-8/32	0/10	36/11	22	57	14	20	30	444
				8.1	15.1	7.8	15	33	6	37	0/15	-12/31	0/6	35/12	23	61	9	19	27	721
				16.1	15.3	7.4	17	38	2	42	1/17	13/36	0/2	38/18	28	78	4	14	16	1134
				19.9	16.3	12.3	12	39	4	41	1/12	10/38	0/4	36/20	21	77	5	4	5	1401
	8		342	0.1	16.4	12.0	29	67	17	76	0/29	-20/64	-1/17	71/26	46	136	25	29	31	9
				7.9	16.4	8.5	24	60	24	69	-1/24	-6/60	2/24	64/26	37	135	35	22	32	578
				16.0	16.4	8.2	16	51	2	53	2/16	24/45	0/2	46/27	28	98	3	5	5	1075
	9		343	1.0	16.3	7.3	19	52	23	60	2/19	-29/43	-2/22	55/23	30	97	32	14	23	355
				8.0	15.0	8.0	20	47	23	56	-1/20	7/46	1/23	53/17	33	108	33	18	20	958

TABLE 6-5: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Dec	9	79	343	16.4	15.7	7.3	5	12	13	18	1/5	0/12	0/13	17/6	8	35	18	4	10	1166
				19.9	16.0	12.5	14	55	5	57	2/14	-11/54	0/5	47/32	26	156	8	7	8	1396
	10		344	4.2	12.5	4.9	41	93	22	104	-3/41	-34/87	3/22	99/33	68	174	32	51	60	497
				12.4	16.3	8.2	17	45	11	49	1/17	20/40	-1/11	45/		87	16	14	16	828
				20.1	11.1	3.3	11			28	-1/11	10/21	1/12	2		42	17	14	15	1289
	11		345	4.6	15.8	7.2	13	59	16	62	-2/12	-33/49	2/16	54/31	22	129	23	6	9	468
				12.5	15.9	8.0	16	42	7	46	0/16	28/32	0/7	41/	24	77	10	11	11	778
				20.2	15.1	7.4	9	23	5	25	1/9	- 2/23	0/5	23/11	15	53	7	8	9	1215
	12		346	3.9	15.0	7.1	13	29	5	32	1/13	- 2/28	0/5	30/12	20	54	7	15	21	334
				12.0	16.6	8.5	16	33	11	39	1/16	4/33	0/11	37/11	24	65	16	17	24	1223
				19.9	16.6	8.6	16	42	12	47	-1/16	17/38	0/12	42/19	27	84	17	9	11	1488*
	13		347	3.9	16.1	8.2	30	61	4	68	2/30	4/61	0/4	66/17	43	105	6	40	63	249
				12.0	16.6	8.4	18	41	11	46	-2/18	13/38	-1/11	41/19	35	117	16	13	22	1182
				20.3	15.9	7.9	18	41	9	46	0/18	4/41	0/9	42/18	32	87	13	10	11	1669*
	14		348	4.2	16.0	7.9	12	33	12	37	-1/12	4/32	0/12	33/15	22	98	17	13	15	675
				12.2	16.3	8.3	3	10	11	15	0/3	0/10	1/11	15/4	5	21	16	1	2	822
				19.9	16.0	8.2	27	60	28	71	2/27	27/53	-2/28	67/24	39	116	39	27	41	1219
	15		349	4.1	16.4	8.3	23	53	8	59	2/23	-12/52	0/8	54/22	35	110	11	25	29	680
				13.2	16.3	7.1	15	30	9	35	-1/15	7/29	-1/9	33/11	22	59	13	17	22	1191
				20.0	14.9	8.1	18	38	6	42	0/18	7/37	0/6	41/12	27	66	8	23	34	1685*
	16		350	4.4	15.6	7.3	11	38	18	44	-1/11	- 1/38	0/18	40/18	21	81	25	10	22	589
				12.5	15.6	7.4	4	10	4	11	0/4	0/10	0/4	10/4	7	20	6	2	3	1085
				20.2	15.9	8.2	24	51	4	56	0/24	26/47	0/4	53/19	34	94	5	30	42	1223
	17		351	4.4	16.3	8.3	7	26	4	28	-2/7	- 8/25	0/4	24/13	13	52	5	5	5	407
				12.0	16.1	8.5	6	21	11	24	0/6	13/16	-1/11	22/9	10	40	15	5	6	819

TABLE 6-6: APL Ephem Overlap Statistics (Con't)

Overlap		Epoch			Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Dec	17	79	351	20.0	16.4	8.4	10	26	4	28	0/10	6/25	0/4	26/12	16	60	6	8	9	1276
	18		352	4.3	16.5	8.2	5	25	10	28	1/5	-17/18	0/10	25/11	10	45	14	1	3	303
				12.6	15.8	7.5	10	35	19	41	-1/10	10/34	0/19	36/19	20	91	27	12	22	1125
				20.2	15.1	7.4	17	47	18	54	0/17	17/44	1/18	49/22	30	95	26	9	10	1643*
	19		353	4.0	14.9	7.3	12	32	17	38	-2/12	14/29	-2/17	35/15	20	82	25	4	4	607
				12.0	16.6	8.5	17	43	2	46	-1/17	24/35	0/2	41/21	26	81	3	14	15	911
				20.0	16.1	8.2	14	32	10	37	-1/14	12/30	0/10	34/14	22	75	15	13	14	1664*
	20		354	3.9	16.1	8.3	15	30	11	35	0/15	- 5/30	0/11	34/9	23	54	16	21	26	247
				12.9	16.5	7.5	4	10	8	13	0/4	- 1/10	0/8	12/4	6	20	11	5	9	874
				20.4	15.0	7.4	20	50	10	55	1/20	- 6/50	1/10	49/23	32	109	15	14	14	1661*
	21		355	5.4	15.6	6.5	5	17	4	18	-1/4	- 1/17	0/4	16/9	8	34	5	3	4	619
				12.2	15.1	8.3	13	27	14	33	-1/13	8/26	1/14	32/9	20	56	20	11	14	1193
				19.1	15.9	8.2	15	31	27	44	1/15	8/30	-2/27	42/13	23	66	38	21	39	1212
	22		356	4.1	16.4	8.2	11	33	11	36	-1/10	-16/29	1/11	36/16	21	67	16	5	6	707
				12.2	16.3	8.2	11	38	19	44	1/11	-31/22	-1/19	49/18	17	73	27	5	6	1093
				20.7	15.9	7.8	21	51	24	69	-1/21	26/43	-2/24	56/22	32	100	35	28	38	1258
	23		357	4.1	15.6	8.1	9	19	19	28	0/9	0/19	-1/19	27/8	14	37	26	12	27	329
				12.3	15.8	7.6	9	20	9	23	-1/9	3/20	0/9	23/6	14	42	12	11	17	1197
				20.1	16.0	8.1	25	64	4	69	-3/25	39/51	0/4	61/33	36	132	6	5	7	1673*
	24		358	4.3	16.4	8.1	15	45	6	48	-3/14	8/44	0/6	40/25	26	138	8	15	18	376
				11.9	16.0	8.4	19	54	51	77	1/19	-34/42	-2/51	72/26	31	124	74	14	32	1096
				20.1	16.4	8.0	21	50	51	75	1/21	16/48	2/51	71/23	34	96	73	27	56	1466*
	25		359	4.3	15.7	7.6	14	32	9	36	0/14	11/30	0/9	33/14	22	67	12	13	16	275
				12.7	15.8	7.4	20	45	6	49	-1/20	-18/41	0/6	45/20	30	87	9	20	25	884
				20.2	15.9	8.3	29	60	8	67	-2/29	13/58	1/8	65/16	43	96	11	41	72	1452*

TABLE 6-7: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch			Over-lap	RMS (M)				M 6 (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D	Y	H	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Dec	28	79	360		8.4	17.6	7.9	19	48	6	52	-1 19	22 42	0 6	47 21	81	108	9	18	19	696
					12.6	16.6	8.5	14	38	12	42	-1 14	16 34	0 12	39 16	28	84	17	9	9	1210
					19.9	16.5	8.5	11	28	3	26	-1 11	7 22	0 3	24 9	17	45	4	15	19	1283
	27		361		5.8	16.2	6.3	3	7	30	31	0 3	3 6	0 30	28 12	5	14	43	4	5	668
					11.9	14.3	8.2	10	24	15	39	1 10	-13 21	0 15	28 10	16	49	21	12	19	1171
					20.0	15.9	7.8	7	18	14	24	0 7	8 16	0 14	23 8	12	37	20	8	17	1683*
	28		362		4.0	16.0	7.8	9	25	9	28	-2 9	8 24	0 9	25 12	14	57	12	2	4	690
					12.1	14.8	6.7	17	56	18	61	-4 16	16 53	1 18	52 32	30	166	26	17	33	845
					20.0	15.9	8.0	8	34	7	36	0 8	2 27	0 7	32 16	15	66	10	6	7	1566*
	29		363		4.0	16.2	8.1	16	43	7	46	2 15	- 6 42	0 7	41 21	25	87	19	4	5	246
					13.9	16.2	7.3	9	82	9	83	5 7	-43 67	-1 9	60 58	19	295	13	3	5	915
					29.5	14.9	7.5	3	13	5	14	0 3	-11 7	0 5	13 6	5	25	7	1	1	1436
	30		364		4.2	14.4	6.7	4	25	6	26	-2 4	10 23	0 6	29 16	9	74	9	2	3	516
					12.2	15.4	7.4	14	49	12	53	1 14	-36 33	1 12	47 24	25	94	17	8	10	849
					20.0	16.0	8.1	7	24	7	26	-1 6	9 22	1 7	23 12	11	53	10	6	11	1257
	31		365		4.2	16.4	8.3	10	26	13	30	-1 10	8 24	0 13	28 11	16	57	19	6	7	732
					12.2	16.3	8.0	8	42	8	44	-1 8	-12 40	0 8	34 27	17	118	11	5	8	936
					—	15.9	—	NO OVERLAP DUE TO 1 SEC (LEAP SEC) ADJUSTMENT IN UTC AT 0^{h} ON JAN 1												—	
Jan	1	80	1		8.5	15.0	6.9	6	18	9	21	1 6	9 18	0 9	20 8	12	38	14	6	11	630
					15.9	15.3	7.8	9	32	32	46	0 9	6 31	1 32	43 16	16	73	46	5	11	1008
	2		2		0.5	16.6	8.1	8	47	5	48	2 7	-32 34	0 5	43 29	17	89	7	3	6	78
					7.9	16.9	8.5	8	24	4	25	-2 8	- 7 23	0 4	22 12	12	57	5	5	6	611
					16.2	16.4	8.3	4	16	5	17	-1 4	0 16	0 5	15 8	9	44	7	3	5	1229
	3		3		0.0	16.1	8.2	8	34	10	36	1 8	24 24	-1 10	32 17	12	72	14	7	11	274
					8.7	16.4	7.6	4	15	12	19	1 4	- 1 15	0 12	18 7	8	42	17	2	6	727

TABLE 6-8: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Jan	4	80	4	0.0	15.3	20.0	12	141	9	142	-2/12	121/72	0/9	122/71	21	281	12	12	12	51
				8.1	20.0	11.9	6	61	5	62	-2/6	43/44	0/5	47/41	12	156	7	3	3	766
				15.9	15.1	7.4	4	16	28	32	1/4	- 7/14	2/28	30/11	7	38	40	5	7	1207
				23.9	16.5	8.4	16	35	38	54	1/16	- 2/35	-3/38	52/14	29	68	54	8	12	1909*
	5		5	8.1	16.6	8.4	16	36	10	41	3/16	- 2/36	1/9	37/16	24	80	14	12	13	945
				16.8	15.8	7.3	3	36	19	40	-3/1	- 7/35	2/18	38/14	6	64	27	6	12	1253
	6		6	0.8	15.7	7.7	7	18	12	23	0/7	4/18	0/12	21/9	12	42	17	5	10	94
				8.1	15.7	8.2	6	15	17	23	0/6	8/13	0/17	22/7	9	29	24	3	5	689
				16.1	17.5	7.1	7	23	36	44	1/7	13/20	4/36	41/16	12	56	53	9	20	1400
	7		7	0.1	16.4	8.4	39	85	36	100	4/39	-32/79	-3/36	95/32	62	183	51	22	24	473
				8.6	16.3	7.8	23	47	15	55	0/23	6/47	0/15	53/13	35	84	21	29	48	533
				16.0	15.6	8.3	8	26	5	27	0/8	3/26	0/5	23/15	14	62	7	2	2	1357
	8		8	0.9	16.2	7.3	12	33	27	44	0/12	-21/25	-3/27	41/15	18	66	39	9	19	157
				7.3	15.0	7.9	12	32	23	41	2/12	2/32	1/23	38/14	22	87	33	10	13	915
				16.2	15.7	7.3	7	19	21	29	-1/7	5/18	0/21	28/9	12	39	29	5	10	1000
	9		9	0.2	16.2	8.0	28	62	27	73	2/28	-27/56	-1/27	69/24	42	127	39	22	24	482
				7.9	16.3	8.7	16	33	10	38	0/16	- 5/33	1/10	36/12	23	63	15	19	27	488
				16.1	16.5	8.2	12	25	22	35	0/12	1/25	2/22	35/7	19	47	31	11	18	1461*
	10		10	1.1	16.0	7.0	14	29	49	59	2/14	- 1/29	-6/49	57/14	22	52	70	23	35	440
				8.0	14.9	7.9	13	27	21	37	1/13	3/27	0/21	36/7	21	49	30	15	18	1006
				16.1	15.6	6.8	10	39	40	57	-2/10	5/39	1/40	53/19	18	84	56	6	9	1091
	11		11	0.3	16.5	8.0	30	78	17	85	2/30	-49/61	0/17	76/40	44	153	25	14	17	488
				8.0	15.9	8.2	6	24	7	26	-1/6	8/22	1/7	21/14	11	76	10	6	10	829
				16.0	16.3	8.2	6	15	9	18	1/6	3/14	1/9	17/6	10	28	13	3	5	1427
	12		12	1.2	16.1	6.9	12	31	24	41	0/12	-18/25	-3/24	38/14	18	59	34	18	35	183

TABLE 6-9: API. Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Start	Overlap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Jan	12	80	12	8.1	15.0	7.9	12	29	23	39	0/12	- 4/28	1/23	37/12	21	56	33	6	13	515
				16.1	15.7	7.6	3	38	29	48	-3/2	3/38	1/29	45/18	6	86	41	5	10	1237
	13		13	0.4	16.3	7.8	15	40	8	44	2/14	-12/39	0/8	39/20	26	99	11	12	14	397
				7.9	16.0	8.5	11	33	5	36	-3/11	- 1/33	0/5	31/17	17	78	7	7	8	518
				16.1	15.1	5.9	14	43	14	47	-3/14	- 4/43	0/14	42/22	30	121	20	7	10	1221
	14		14	1.3	16.4	7.1	20	59	17	64	5/19	12/58	0/17	55/28	33	151	24	17	22	206
				8.2	15.0	8.0	6	33	9	35	0/6	-20/26	0/9	32/14	17	59	13	13	17	938
				16.2	15.6	7.6	4	27	17	32	-2/3	- 6/26	0/17	30/11	7	53	24	2	4	1247
	15		15	0.0	16.0	8.0	15	111	10	112	6/13	-48/99	0/10	89/68	30	242	15	16	20	163
				8.0	16.2	8.0	9	37	13	41	-3/8	2/37	-1/13	36/19	16	106	19	11	18	699
				16.1	14.9	6.8	18	86	19	90	-7/16	24/83	2/19	76/48	32	216	27	11	18	1089
	16		16	0	16.1	8.2	5	28	21	36	0/5	23/16	-1/21	33/13	9	65	30	5	11	325
				8.7	16.3	7.7	15	91	11	92	1/15	-84/35	0/11	86/34	23	165	16	18	18	566
				16.3	15.3	7.6	5	22	12	25	0/5	13/18	0/12	24/9	10	41	17	10	14	1006
	17		17	0.0	15.6	7.9	8	34	6	35	2/8	-12/31	0/6	31/16	17	79	8	6	7	451
				8.1	16.6	8.5	15	40	9	43	-2/14	- 2/40	-1/9	38/20	27	116	13	8	9	717
				16.2	15.5	8.1	11	30	17	36	-1/11	10/28	1/17	33/14	17	67	24	14	24	1316
				23.9	16.1	8.3	11	27	9	31	2/11	1/27	-1/9	28/12	19	63	12	4	5	1902*
	18		18	8.8	16.5	7.6	21	49	10	54	-1/21	- 1/48	0/10	50/22	35	96	14	9	19	984
				16.4	15.3	7.6	7	22	6	24	-1/7	3/22	0/6	21/12	13	58	9	6	8	1273
	19		19	0.8	15.9	7.6	5	16	6	18	1/5	0/16	0/6	16/7	9	34	9	4	5	124
				8.2	15.0	7.5	17	39	6	43	1/17	-18/34	0/6	39/18	28	84	8	18	20	907
				16.0	15.1	7.4	13	47	9	50	-3/13	13/45	0/9	43/26	23	110	13	6	8	986
	20		20	0.0	16.5	8.4	22	54	26	64	1/22	-32/44	-2/26	59/26	34	111	37	18	21	474
				8.5	16.5	8.1	28	61	2	67	2/28	16/59	0/2	62/25	43	132	3	5	7	527

TABLE 6-10: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Jan	20	80	20	16.1	15.7	7.9	10	24	11	28	-1/10	1/24	0/11	27/9	15	45	16	14	23	1375
	21		21	0.8	16.2	7.6	21	44	17	52	-1/21	4/44	0/17	49/17	32	86	24	26	37	495
				8.2	15.6	8.1	13	33	10	37	-2/13	19/27	-1/10	34/15	29	70	14	5	6	951
				16.0	15.1	7.4	26	57	21	66	-2/26	-17/54	1/21	62/22	39	108	30	30	45	1089
	22		22	0.0	16.5	8.4	22	51	25	61	1/22	-26/44	-2/25	57/22	35	104	36	8	12	473
				8.5	16.4	8.2	15	36	9	42	0/18	3/36	0/9	40/9	27	60	13	26	38	529
				15.9	15.6	8.2	31	73	17	81	1/31	-32/65	0/17	75/32	47	137	24	34	45	1138
	23		23	0.9	16.6	7.6	25	58	25	68	-2/25	-15/56	0/25	64/24	40	126	35	34	37	80
				8.3	15.6	7.8	20	49	19	56	-3/19	-4/48	-2/19	51/24	42	115	28	10	11	955
				16.0	14.9	7.2	8	25	9	28	-1/8	16/20	-1/9	25/12	14	50	13	5	8	1224
	24		24	0.1	16.5	8.4	37	80	16	90	2/37	-34/73	-1/16	83/33	58	156	22	30	34	11
				9.0	16.2	7.4	15	39	7	42	0/15	-6/39	1/7	39/17	26	72	9	10	15	762
				16.5	15.2	7.6	16	36	12	41	-1/16	-5/36	0/12	39/13	24	64	17	16	30	1043
	25		25	0.9	15.6	7.3	16	35	23	45	0/16	1/35	-2/22	42/14	29	68	32	19	33	80
				8.2	15.6	8.3	19	48	25	58	-3/19	10/47	-2/25	54/20	34	127	36	21	27	497
				16.1	15.3	7.3	20	52	7	56	-1/20	23/47	0/7	51/24	31	116	10	12	13	1315
	26		26	0.2	16.3	8.2	34	77	38	91	1/34	-28/70	-1/38	86/28	55	157	55	16	18	18
				8.6	16.2	7.8	30	70	16	76	2/30	33/62	0/16	71/31	45	155	23	10	12	534
				16.0	15.6	8.2	9	47	21	52	-1/9	33/33	1/21	47/23	14	99	30	3	3	1179
	27		27	1.1	15.9	6.8	15	32	39	53	2/15	-2/32	-3/39	52/13	25	63	56	10	18	441
				7.9	14.9	7.8	21	42	30	55	0/21	0/42	0/30	55/7	32	66	42	38	48	494
				15.9	15.6	7.6	19	47	9	51	-1/18	21/42	0/9	46/24	31	93	13	10	11	1311
	28		28	0.2	16.6	8.3	26	57	18	65	1/26	-23/52	1/18	61/23	39	109	27	28	30	16
				8.7	16.2	7.8	25	53	12	59	0/25	-16/51	0/12	56/20	38	102	17	31	40	760
				15.9	15.6	8.3	6	25	15	29	0/6	8/23	1/15	27/11	11	44	21	4	7	1678

TABLE 6-11: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap		RMS (M)			M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Jan	29	80	29	1.0	16.1	7.0	16	43	42	63	3/16	-19/39	-4/42	66/20	24	96	61	8	17	435
				7.9	15.0	7.9	15	38	25	48	-1/15	4/37	0/25	45/16	26	87	36	16	30	489
				15.9	15.6	7.6	8	20	41	47	0/8	- 2/20	-1/41	44/15	14	56	59	9	19	998
	30		30	0.3	16.6	8.2	36	93	23	102	3/36	-52/69	0/23	91/46	53	172	33	31	36	475
				0.3	9.8	9.7	14	54	27	62	0/14	-34/42	-1/27	57/24	24	103	38	8	38	525
				7.9	16.2	8.7	18	48	17	54	-1/18	3/48	1/17	49/22	30	110	24	17	28	902
				17.0	16.5	7.3	29	64	19	73	0/29	-24/69	1/19	69/25	44	122	27	39	45	1136
	31		31	1.0	15.3	7.3	18	44	27	55	3/18	- 9/43	-2/27	52/18	24	106	39	17	31	446
				8.3	15.0	7.7	24	50	23	60	-1/24	1/50	-1/23	57/17	40	99	32	24	36	956
				16.2	15.3	7.4	14	35	16	41	-1/14	2/35	1/15	38/16	22	72	23	4	5	993
Feb	1		32	0.3	16.1	7.9	36	77	21	87	1/36	-25/73	0/21	83/28	55	155	30	31	33	482
				7.9	16.2	6.9	21	60	13	64	-1/21	-14/58	1/13	58/29	36	118	18	9	11	676
				16.1	16.5	8.3	21	43	7	48	1/21	-13/41	0/7	46/13	30	73	9	29	46	1229
	2		33	1.0	15.9	6.8	26	70	47	88	3/26	-43/55	-3/47	82/32	42	148	67	15	25	351
				8.0	15.0	8.1	16	40	16	46	0/16	- 3/40	0/16	42/18	28	76	23	10	13	721
				16.0	15.6	7.6	6	31	38	49	0/6	-22/21	-2/38	46/18	12	88	54	6	8	1160
				12.3	16.4	11.3	30	110	20	116	-1/30	70/84	0/20	103/53	51	207	28	17	18	1324
	3		34	0.4	23.9	10.2	21	66	17	72	2/21	19/63	0/17	63/34	36	152	25	12	15	664
				7.9	16.1	8.6	28	69	21	77	1/28	-38/57	2/21	70/33	41	132	30	25	33	863
				16.1	16.3	8.0	21	42	9	48	2/21	3/41	0/9	46/11	31	73	13	29	44	999
	4		35	1.1	15.9	6.9	24	57	34	70	2/24	-28/49	-2/34	66/23	37	121	48	16	19	442
				8.0	15.0	8.0	22	46	25	57	0/22	0/46	0/25	55/15	35	82	36	21	28	497
				16.0	15.6	7.6	14	30	16	37	-1/14	5/30	-1/16	35/11	22	60	23	15	21	999
	5		36	0.3	16.4	8.3	46	102	21	113	2/45	-42/93	1/21	105/43	71	217	31	32	34	481
				7.9	16.3	8.5	18	43	17	50	0/18	- 6/43	1/17	47/18	29	86	24	19	26	674

TABLE 6-12: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M-o (M)				Max (M)				Min (M)		Number [illegible] (TM)
M	D	Y	D/Y	H	(H)	(H)	H	I	C	D	H	L	C	D	H	L	C	D	H	M	Matches
Feb	5	86	36	16.0	16.5	8.3	16	34	11	39	1/16	-1/34	1/11	28/10	25	72	15	23	32		1419
	6		37	1.9	15.9	6.9	24	56	19	61	3/24	-18/53	0/19	56/24	43	141	15	17	19		440
				8.0	15.0	8.0	20	40	21	50	0/20	-4/40	1/21	48/12	29	63	30	24	27		750
				16.0	15.6	8.4	11	30	11	42	2/11	-20/33	0/11	36/20	18	95	15	5	7		1269
	7		38	0.3	16.4	8.0	41	108	16	117	3/41	-70/83	1/16	103/56	61	219	24	27	39		479
				7.9	16.2	8.7	24	89	30	97	1/24	-63/63	1/30	87/42	41	172	43	6	8		569
				16.1	16.5	8.2	21	41	5	47	1/21	-7/41	0/5	45/13	31	73	8	27	45		1291
	8		39	1.2	15.8	6.7	28	59	40	76	4/27	-13/57	-2/40	74/20	44	113	57	38	42		113
				8.0	14.8	8.0	28	62	34	76	2/28	-20/58	1/34	73/22	44	133	49	9	11		495
				16.6	15.6	7.6	14	38	8	41	-1/14	-21/31	0/8	57/19	23	76	12	8	9		1405
	9		40	1.9	15.5	7.5	59	116	23	129	6/59	-53/103	-2/23	120/46	76	206	34	60	86		396
				10.5	14.1	5	24	55	24	65	0/24	-21/51	0/24	61/20	37	121	33	21	23		629
				19.4	[illegible]	[illegible]	27	65	19	73	3/27	-18/63	0/19	67/30	49	152	28	22	24		1270
	10		41	2.7	[illegible]	[illegible]	20	45	16	51	1/20	-4/44	0/16	-8/18	31	102	23	22	33		239
				10.2	[illegible]	7.2	21	54	35	68	2/21	-13/52	0/35	61/24	36	130	50	18	33		688
				18.3	14.7	6.8	24	54	27	65	1/24	-3/54	2/27	60/17	39	100	38	26	41		1311
	11		42	1.9	16.0	8.2	26	53	18	62	2/26	-13/52	0/18	59/18	38	104	26	30	42		575
				11.6	16.4	6.7	32	63	4	71	2/32	-1/63	0/4	69/16	48	100	5	43	78		724
				19.4	14.7	7.0	12	25	12	30	0/12	-4/25	1/12	20/7	19	44	17	16	21		1178
	12		43	2.7	15.1	7.8	26	62	29	73	-1/26	-31/54	0/29	68/26	40	133	41	28	38		165
				10.2	15.2	7.7	26	64	34	77	1/26	-8/64	0/34	73/26	45	155	49	31	35		686
				18.1	14.7	6.8	21	45	12	51	1/21	-1/45	-1/12	49/15	34	89	17	10	13		1086
	13		44	1.9	16.0	8.2	27	54	12	61	2/27	-6/53	2/12	59/17	39	101	17	33	46		572
				12.0	16.3	6.8	34	68	2	76	4/34	-4/68	0/2	74/20	53	113	4	42	66		721
				19.3	14.8	7.0	26	58	10	64	1/26	-7/57	1/10	61/20	40	118	15	32	48		1504*

TABLE 6-13: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Feb	14	80	45	2.6	15.1	7.8	14	31	3	34	0/14	- 8/30	0/3	32/13	22	61	5	3	6	170
				10.1	14.8	7.0	21	47	22	56	2/21	3/47	0/22	54/16	32	95	31	30	34	679
				18.1	16.4	8.4	21	54	2	58	0/21	12/53	0/2	53/26	35	108	3	18	19	1400
	15		46	2.3	16.0	7.7	29	61	17	70	0/29	- 6/61	1/17	67/21	46	111	24	32	38	157
				10.5	15.9	7.7	27	58	14	66	1/27	7/58	0/14	62/22	40	119	20	27	29	629
				19.2	15.7	6.9	9	28	12	31	1/9	- 1/28	0/12	28/14	16	62	16	2	4	1369
	16		47	3.0	14.1	6.8	21	52	42	71	3/21	-14/50	-3/42	67/23	34	113	60	24	52	424
				10.6	15.2	6.9	12	27	21	36	1/11	-12/25	2/21	34/11	19	52	30	11	24	920
				18.0	15.8	8.5	15	54	17	59	-1/15	-35/41	1/17	53/26	26	102	25	6	8	1579*
	17		48	2.3	16.0	7.7	35	90	32	102	2/35	-38/81	1/32	91/45	58	181	46	20	27	153
				11.5	15.8	6.7	42	87	27	[illegible]	6/42	- 6/86	1/27	95/30	67	158	39	46	56	718
	18		49	0.9	14.6	1.2	26	68	29	78	7/25	-38/56	-5/28	75/21	39	105	40	49	54	56
				2.5	9.4	7.7	14	29	13	34	0/14	- 2/28	0/13	33/8	21	52	19	22	30	356
				10.0	15.2	7.7	12	25	10	30	0/12	- 7/24	0/10	29/7	16	45	15	15	21	626
				17.9	16.4	8.5	23	49	9	55	2/23	-11/48	0/9	53/18	36	106	13	18	20	1544*
	19		50	2.2	16.0	7.7	34	75	17	84	2/34	- 5/75	1/17	78/31	55	149	25	32	35	159
				10.4	15.8	7.7	30	61	3	68	9/30	16/59	0/3	65/19	43	103	4	40	44	860
				18.0	15.7	7.9	13	36	8	39	0/13	-14/33	0/8	34/18	22	86	11	9	7	1466*
	20		51	2.4	15.9	7.5	19	42	8	47	1/19	- 4/42	0/8	44/16	31	84	11	25	35	671
				14.1	16.1	4.3	24	58	12	64	-5/24	- 3/58	0/12	69/22	37	108	17	31	44	901
				22.4	16.2	7.9	33	82	25	92	-3/33	-12/81	1/25	85/34	57	190	36	44	47	1445*
	21		52	2.1	15.9	12.0	17	66	13	70	0/17	33/57	1/13	59/37	34	169	19	20	30	340
				11.2	15.6	6.7	23	47	17	55	3/23	- 7/47	0/17	52/17	36	90	24	28	38	704
				19.1	14.8	6.8	18	47	13	52	1/18	-27/39	0/13	48/20	28	91	19	20	25	1222
	22		53	2.3	15.5	8.2	14	29	11	34	0/14	- 5/28	0/11	33/9	20	52	16	18	29	619

TABLE 6-14: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D.Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Feb	22	80	53	11.0	16.1	7.5	20	54	22	62	2/20	23/49	1/22	56/26	33	127	32	19	27	760
				18.0	15.1	8.0	17	61	20	66	4/16	-22/57	0/20	60/28	28	127	29	18	28	1127
	23		54	2.1	16.2	8.2	19	47	13	52	-1/19	-14/45	0/13	48/20	30	111	19	16	20	193
				10.2	15.7	7.7	25	63	11	68	2/25	18/60	0/11	62/29	38	137	17	22	24	709
				18.5	15.6	7.5	5	27	14	31	-1/5	- 5/26	0/14	27/15	9	70	20	7	9	1243
	24		55	2.2	15.9	8.2	17	49	14	54	2/17	- 5/49	-1/14	48/25	30	117	21	10	16	198
				10.3	16.1	7.9	15	34	11	38	2/14	8/33	0/11	36/14	25	91	15	12	13	657
				17.9	15.8	8.3	13	35	7	38	1/13	-20/29	0/7	36/16	22	72	10	14	16	1534*
	25		56	1.9	15.7	7.7	20	41	12	47	1/20	- 9/40	0/12	45/14	30	76	18	27	30	559
				10.1	15.8	7.7	15	30	16	37	0/15	9/29	0/16	36/9	21	54	23	21	32	608
				20.3	15.2	5.0	13	47	31	58	5/12	6/47	1/31	54/22	26	131	45	19	25	1465*
	26		57	2.1	14.0	8.2	14	30	15	37	-1/14	9/29	-1/15	35/12	21	67	22	19	28	565
				10.8	16.1	7.5	18	52	8	55	1/18	22/47	0/8	49/25	31	125	12	11	12	748
				19.5	15.7	7.0	15	39	19	46	0/15	-20/34	0/19	43/17	23	86	27	19	27	1258
	27		58	2.8	14.2	6.8	19	39	29	52	0/19	- 3/39	-2/29	50/14	29	69	41	26	52	560
				10.0	15.1	7.9	18	57	13	61	-3/18	26/51	0/13	54/28	30	132	19	14	15	969
				18.2	15.2	6.8	12	38	34	53	2/12	-12/37	3/34	50/18	25	121	49	12	24	1232
	28		59	2.0	15.9	8.2	20	50	13	55	-1/20	- 3/50	0/13	51/22	34	115	19	21	26	318
				10.7	16.3	7.7	21	51	11	56	-1/21	- 4/51	0/11	52/22	36	109	15	25	29	781
				19.3	15.2	6.5	28	77	4	82	5/27	-41/65	0/4	73/37	48	169	6	21	25	1439
	29		60	2.7	14.0	6.7	34	74	5	82	-2/34	25/70	0/5	78/25	50	134	7	44	63	507
				10.2	15.4	7.8	27	61	28	72	-2/27	-26/55	9/28	67/25	42	122	39	28	34	733
				18.1	16.3	8.4	14	41	12	45	-1/14	-16/38	0/12	40/21	24	99	17	6	9	1198
Mar	1		61	1.9	15.6	7.7	31	66	18	75	0/31	22/63	0/18	72/23	46	116	25	41	66	310
				9.9	16.3	8.1	42	92	11	102	5/41	-27/88	-1/11	94/39	68	180	15	43	57	956

TABLE 6-15: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Overlap	RMS (M)				M/o (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Mar	1	80	61	18.2	16.3	8.1	9	78	37	86	-5/7	32/71	1/37	81/30	19	135	53	15	21	1227
	2		62	0.9	16.2	9.0	46	115	19	126	-3/46	63/96	0/19	113/55	69	227	28	38	42	487
				10.6	17.1	7.3	31	70	34	83	1/30	-33/62	-1/34	78/30	50	143	48	26	43	814
				14.6	15.8	11.9	6	15	15	22	0/6	- 2/15	0/15	21/7	10	41	22	8	14	1541*
				19.9	19.8	14.5	10	114	5	114	-4/9	76/85	0/5	83/78	18	298	8	7	8	1557*
	3		63	0.2	18.6	14.3	41	179	17	185	5/41	-130/123	0/17	160/92	63	392	25	23	26	879
				6.6	16.3	9.9	20	41	22	51	1/20	8/41	-1/22	49/13	30	87	32	18	26	433
				11.3	9.9	5.4	25	49	21	59	2/24	- 7/49	-1/21	57/15	37	84	31	31	66	923
				14.1	14.8	12.0	20	43	14	50	0/20	- 5/43	1/14	48/12	31	86	21	20	50	1360
	4		64	2.4	19.9	7.5	25	53	15	61	1/25	-13/51	1/15	59/15	39	88	22	38	55	441
				10.5	16.1	7.6	13	32	3	35	0/13	-11/31	0/3	32/14	22	62	4	12	14	813
				18.0	13.8	7.9	29	84	6	89	5/29	-46/70	0/6	79/41	46	194	9	3	5	1446*
	5		65	2.3	14.8	6.8	30	65	13	73	1/30	9/65	-1/13	68/26	49	140	19	15	18	149
				11.1	15.6	6.8	15	38	5	41	1/15	-23/30	-1/5	37/18	23	82	7	11	12	1025
				19.0	14.3	6.6	26	55	3	61	4/25	2/55	0/3	56/25	42	121	4	19	20	1486*
	6		66	2.2	15.4	8.3	15	33	10	37	-1/14	11/30	0/10	35/12	21	71	15	15	15	572
				10.3	16.3	8.1	16	33	21	43	1/16	2/33	1/21	42/7	23	54	30	31	40	922
				19.5	15.8	6.6	13	28	17	35	2/13	-10/26	-1/17	33/11	20	55	24	15	19	1433
	7		67	2.1	14.0	7.4	15	35	5	38	-1/15	-11/33	0/5	36/13	24	66	8	18	24	374
				11.0	15.6	6.6	10	23	14	29	0/10	6/22	0/14	27/9	17	56	20	10	10	1046
				18.2	14.2	7.1	15	34	11	38	0/15	- 8/33	1/11	36/13	24	76	16	19	21	1113
	8		68	2.0	15.9	8.2	8	23	5	25	0/8	- 6/22	0/5	22/11	14	44	7	4	5	326
				10.1	16.3	8.3	31	71	30	83	4/31	-32/64	-2/30	78/29	45	153	43	21	23	1056
				19.3	15.8	6.3	15	35	18	42	2/15	-13/32	1/18	40/13	26	74	25	3	4	1523*
	9		69	2.7	14.0	6.5	13	28	10	32	0/13	- 8/27	0/10	31/9	19	50	14	18	22	364

TABLE 6-16: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				3-σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Mar	9	80	69	10.8	14.8	6.7	22	51	18	59	3/21	-26/44	2/18	54/23	35	101	25	20	27	912
				18.1	15.7	8.4	22	77	5	80	-3/22	17/75	0/5	70/39	37	147	6	2	4	1421
	10		70	2.3	16.5	8.1	21	46	16	53	2/21	- 7/45	-1/16	50/17	32	92	23	26	30	164
				9.8	15.8	8.2	30	68	4	74	2/30	-34/59	0/4	69/28	44	122	6	36	48	854
				18.9	16.3	7.0	14	31	7	35	1/14	-14/28	0/7	33/12	20	60	10	16	23	1231
	11		71	2.5	14.8	7.4	21	43	19	52	1/21	- 5/43	1/19	51/10	31	75	27	33	46	: 0
				10.5	16.0	7.8	15	39	5	42	2/15	-18/35	0/5	37/20	25	77	7	7	8	906
				18.2	15.8	8.1	18	46	6	49	1/18	-26/36	0/6	44/23	25	84	9	17	18	1086
	12		72	2.1	16.2	8.3	21	48	9	53	2/21	10/47	-1/9	49/20	33	106	12	12	12	146
				11.2	15.8	6.8	21	45	9	51	2/21	-19/41	-1/9	48/17	30	88	13	26	36	1026
				18.9	14.7	7.2	21	48	10	53	2/21	-21/43	1/9	50/19	32	88	14	27	34	1318
	13		73	2.3	14.8	7.5	9	27	7	30	1/8	-11/25	0/7	26/15	15	79	10	10	11	438
				10.3	16.3	8.2	4	17	7	18	0/4	-10/13	-1/7	17/74	7	31	9	5	10	906
				17.9	15.8	8.1	8	41	10	43	2/8	-21/35	0/10	35/25	15	107	14	9	14	1347
	14		74	2.0	15.0	6.8	18	53	4	56	0/18	-33/42	0/4	49/28	28	102	5	4	5	297
				11.0	16.1	7.2	3	15	13	20	1/3	0/15	2/13	19/7	6	37	19	2	5	802
				18.3	14.7	7.3	2	20	16	26	-2/1	- 1/20	1/16	24/9	4	39	22	1	3	1329
	15		75	2.0	15.2	7.4	12	24	10	28	0/12	- 7/23	-1/10	27/8	17	45	15	13	20	148
				10.1	16.2	8.3	11	31	10	34	2/11	- 8/30	-1/9	31/15	17	73	14	4	6	962
				19.3	16.3	7.0	1	14	10	18	0/1	-13/5	1/10	17/49	2	23	15	3	4	1534*
	16		76	2.6	14.1	6.8	27	74	17	80	-5/26	-27/69	1/17	71/37	43	151	25	9	12	280
				10.7	14.8	6.7	16	40	19	47	3/16	-10/39	1/18	43/18	28	116	27	21	27	1001
				17.8	15.7	8.4	15	34	11	39	0/15	- 2/34	-1/11	37/13	24	69	16	19	30	1284
	17		77	2.3	14.6	6.9	8	17	13	23	0/8	1/17	-1/13	25/4	12	29	19	14	22	527
				11.4	15.7	6.7	16	38	15	44	2/16	-22/32	-2/15	41/16	23	71	22	18	27	1037

TABLE 6-17: API Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Mar (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Mar	17	80	77	16.8	14.7	7.2	11	26	8	30	0/11	- 9/25	-1/8	27/11	17	54	11	7	14	1232
	18		78	2.4	14.8	7.4	26	57	13	64	1/26	-22/53	1/13	60/23	39	107	19	32	43	3[illegible]
				10.5	16.0	7.9	15	34	2	37	0/15	-14/31	0/2	34/14	22	70	3	7	8	0999
				18.0	15.7	8.1	12	38	5	41	2/12	26/28	0/5	35/20	19	75	7	6	7	1360
	19		79	2.0	14.9	6.9	8	21	11	25	1/8	- 3/21	-1/11	23/10	14	51	15	6	10	479
				11.0	15.7	6.8	18	57	21	63	5/18	- 1/57	1/21	57/27	35	148	30	21	31	808
				18.6	14.7	7.3	13	34	8	38	0/13	-15/31	0/8	34/17	21	69	11	12	12	1221
	20		80	2.1	15.7	8.1	22	44	11	51	-1/21	-11/43	-1/11	48/15	32	81	16	28	40	341
				10.1	16.3	8.2	16	39	8	43	2/16	-15/36	-1/8	40/17	28	89	12	17	21	1072
				19.4	16.2	7.0	12	28	4	31	1/12	-13/25	1/4	28/12	19	57	6	8	9	1173
	21		81	2.7	14.1	6.8	33	72	3	80	-5/33	- 3/72	0/3	74/29	50	142	4	34	42	104
				10.3	15.1	7.6	9	34	5	35	1/9	-5/33	0/5	28/22	22	110	8	5	5	785
				18.1	16.2	8.4	15	102	6	103	5/15	21/100	0/6	78/68	38	314	8	8	10	1240
	22		82	2.3	15.9	7.7	11	38	5	40	-1/11	- 6/37	0/5	34/22	22	104	7	3	3	408
				13.0	15.8	5.2	10	35	10	38	4/9	- 4/35	-1/10	33/17	17	83	15	6	8	956
				18.9	13.1	7.2	5	18	11	22	-1/5	- 3/18	0/11	20/8	9	37	15	6	11	1841
	23		83	3.1	14.2	6.1	33	66	34	82	-1/33	11/66	0/34	80/15	49	134	48	57	66	900
				9.9	15.4	8.6	18	58	10	61	-2/18	-42/59	1/10	53/30	31	142	14	5	6	733
				18.0	16.2	8.3	18	45	17	51	1/18	-22/39	0/17	47/20	28	85	25	17	17	1368
	24		84	2.0	16.2	8.3	20	44	17	51	2/20	-15/41	1/17	49/15	32	91	25	15	26	572
				11.1	15.8	6.8	30	74	14	82	6/30	-26/70	0/14	75/33	50	172	21	27	28	1030
				18.4	14.7	7.4	14	35	6	39	-1/14	-18/31	0/6	34/17	21	74	9	6	7	1136
	25		85	2.1	15.9	8.0	39	91	5	99	-2/39	-47/78	0/5	90/42	88	175	7	37	41	342
				10.1	16.3	8.3	20	55	12	60	1/29	-36/42	-1/12	54/27	42	112	18	9	10	713
				19.4	15.7	6.5	24	57	4	61	-4/24	-12/55	0/4	57/24	43	126	5	26	27	1184

TABLE 6-18: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Mar	26	80	86	2.7	14.1	6.8	20	41	7	46	-2/20	- 3/41	-1/7	44/15	33	97	10	19	22	200
				10.2	14.7	7.8	21	67	20	73	5/21	- 9/66	0/20	65/33	34	129	28	9	12	690
				18.0	16.2	8.5	27	85	6	89	-2/27	- 8/85	0/6	79/42	58	231	9	15	16	1224
	27		87	2.4	16.5	8.1	13	29	6	32	0/13	- 8/28	0/6	30/11	19	60	8	14	17	224
				11.3	18.0	6.7	13	32	5	35	2/13	- 8/32	-1/5	33/13	23	73	7	15	18	1049
				19.1	14.7	6.9	20	57	4	61	1/20	-35/45	0/4	53/30	32	110	6	6	7	1338
	28		88	2.3	15.5	8.2	36	73	23	84	-4/36	2/72	-2/23	82/20	54	145	33	53	67	587
				10.4	15.1	7.0	29	59	12	66	2/29	-12/57	0/12	64/17	42	99	17	42	65	1007
				18.0	15.6	8.2	17	40	13	45	0/17	-17/36	1/13	42/17	25	73	18	22	30	1372
	29		89	1.9	15.6	7.7	45	98	47	118	-3/45	-25/95	0/48	113/33	68	205	68	37	43	117
				10.5	15.8	7.2	19	57	34	69	-2/19	16/55	-2/34	64/27	34	107	49	7	14	939
				18.5	14.7	6.7	29	74	4	80	-3/29	37/65	0/4	72/35	46	177	6	13	13	1455*
	30		90	2.0	15.6	8.2	35	70	6	78	-4/34	11/69	0/6	75/23	54	127	8	42	63	153
				11.6	16.2	6.7	12	29	13	33	1/12	-15/24	-1/13	31/12	21	57	18	7	10	1064
				19.3	12.5	4.8	32	77	23	87	-6/31	- 8/77	-1/23	78/39	54	189	33	29	31	1167
	31		91	2.6	14.0	6.7	21	47	4	52	-4/20	- 7/47	0/4	47/22	31	102	6	15	16	489
				10.1	14.7	7.3	28	62	23	72	1/28	-14/61	1/23	68/25	46	137	33	23	28	1014
				17.9	16.3	8.5	18	45	7	49	-1/18	-22/39	0/7	44/21	28	87	10	15	15	1290
Apr	1		92	2.3	15.9	7.5	12	26	8	30	-1/12	- 7/25	0/8	29/8	18	49	12	17	24	210
				11.3	15.6	6.5	16	41	12	46	1/16	-25/33	-1/12	41/19	27	83	17	9	11	1037
				18.9	14.1	6.5	31	76	10	83	-5/31	-18/74	1/10	74/36	49	156	15	17	20	1148
	2		93	2.2	15.5	8.0	29	66	5	72	-4/29	19/63	0/5	67/28	48	168	6	11	11	581
				11.8	16.3	6.7	25	63	8	68	1/25	-38/51	-1/8	60/32	36	115	11	25	28	715
				19.4	14.1	6.3	27	66	4	71	-5/26	-12/65	0/4	62/34	45	158	5	19	20	1507*
	3		94	2.7	13.9	6.3	41	88	13	98	-7/40	-25/85	1/13	91/38	63	178	19	29	30	199

TABLE 6-19: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	minutes
Apr	3	80	94	10.2	14.7	7.3	22	49	17	56	0/22	-10/48	1/16	52/19	34	90	24	21	31	615
				18.1	14.7	7.1	16	38	6	42	-3/15	- 5/37	0/6	38/17	25	76	8	1	2	1117
	4		95	2.4	15.8	7.4	12	29	4	31	0/12	- 3/29	0/4	29/13	21	56	6	9	10	578
				11.4	15.3	6.3	10	23	13	28	0/10	-11/20	0/13	26/10	16	50	18	9	12	685
				19.0	14.1	6.5	32	84	37	98	0/32	-41/74	-2/37	90/37	53	161	54	2	41	1330
	5		96	2.3	15.4	8.1	24	58	13	64	-4/23	25/52	-1/13	58/28	40	115	19	13	13	498
				11.0	16.2	7.6	18	58	20	64	3/18	-17/55	-1/20	58/28	30	127	29	11	12	1090
				17.9	15.1	8.2	39	105	49	122	-4/39	-57/88	3/49	111/50	65	205	70	8	11	1253
	6		97	2.2	15.6	7.4	43	107	27	118	-6/43	0/107	1/27	108/48	68	224	39	43	54	527
				10.9	15.4	6.7	6	42	15	45	3/5	13/39	0/15	41/17	14	95	22	15	27	670
				18.4	14.2	6.6	16	61	20	66	-5/15	-28/54	2/20	59/29	32	133	28	9	12	1323
	7		98	1.9	15.6	8.2	11	24	7	28	-1/11	- 3/24	0/7	26/9	17	50	10	9	11	135
				11.5	16.2	6.6	7	15	4	17	1/7	- 6/14	0/4	16/7	10	31	6	5	5	1054
				19.1	14.1	6.5	23	85	5	88	-7/23	26/80	0/5	74/48	40	217	8	9	11	1162
	8		99	2.4	15.4	8.2	23	48	22	58	-2/23	12/46	-2/22	56/14	36	88	32	33	43	405
				9.9	14.7	7.2	21	55	11	60	-1/21	-36/42	-1/11	53/29	31	102	16	17	19	912
				18.0	16.2	8.2	26	76	15	82	-5/25	-30/70	1/15	73/37	41	172	22	9	11	1195
	9		100	1.9	15.4	7.4	13	59	18	63	-2/13	18/57	1/18	59/24	27	115	26	14	16	261
				11.0	15.7	6.6	10	49	5	50	5/9	11/47	0/5	44/23	21	114	8	7	12	890
				18.5	14.1	6.6	30	92	8	97	-9/28	10/91	1/8	83/50	54	260	12	15	16	1147
	10		101	2.0	15.6	8.1	19	52	3	56	-1/19	-26/45	0/3	49/27	32	107	5	3	3	425
				10.0	16.2	8.2	5	19	17	26	0/5	0/19	-1/17	24/10	10	47	24	2	4	896
				19.2	15.7	6.5	25	57	9	63	-4/24	0/57	-1/9	57/26	39	131	12	25	31	1487*
	11		102	2.5	14.6	6.7	24	58	9	64	-5/23	20/55	-1/9	56/30	37	132	13	9	11	507
				9.9	16.2	8.5	34	113	16	119	-5/34	2/118	-1/16	101/63	71	327	24	18	18	654

TABLE 6-20: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch			Orbit Span	Over-lap	RMS (M)				M σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D	Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Apr	11		102		18.0	16.2	8.2	10	51	19	55	1/10	10/50	1/19	51/20	21	113	27	22	22	1175
	12		103		2.0	15.4	7.5	7	38	3	39	0/7	-16/34	0/8	35/18	15	77	11	4	8	513
					11.1	15.7	6.6	11	46	12	49	0/11	- 3/46	0/12	42/26	22	99	16	4	4	770
					14.9	14.1	10.3	6	25	9	27	0/6	6/25	0/9	24/13	13	70	12	6	8	1153
					18.3	15.2	11.7	33	140	3	144	5/32	43/133	0/3	123/74	62	364	4	15	16	1656*
	13		104		2.6	15.8	7.5	6	27	8	29	1/6	3/27	0/8	26/13	12	52	11	3	6	491
					9.9	15.6	8.3	7	42	24	49	1/7	3/42	-1/24	44/22	16	117	34	6	12	714
					19.2	15.7	6.4	32	105	18	111	-10/30	13/104	1/18	96/55	54	273	26	25	27	1267
	14		105		3.1	14.0	6.1	24	49	16	57	0/23	7/49	0/16	55/14	37	88	23	35	49	409
					9.9	15.3	8.5	26	63	3	73	-4/26	-25/64	0/3	65/34	43	194	4	14	15	649
					18.0	16.2	8.1	17	50	7	53	-4/16	2/50	0/7	47/25	26	108	11	9	10	1434
	15		106		3.0	15.6	6.6	7	24	17	30	-1/7	5/23	-1/17	28/11	13	55	24	5	10	266
					11.0	14.7	6.6	21	44	7	49	-3/21	10/43	0/7	46/16	32	102	11	22	29	1011
					18.2	14.1	6.9	23	63	3	67	-5/22	1/63	0/3	59/32	36	128	4	11	13	1153
	16		107		1.9	15.6	7.9	8	17	12	22	0/8	6/16	0/12	21/6	11	33	17	7	14	116
					9.9	16.2	8.3	17	46	4	49	-3/17	6/45	0/4	43/24	29	130	6	12	18	1936
					19.1	15.7	6.5	4	10	10	15	-1/4	3/10	-1/10	15/4	8	29	15	3	4	1495*
	17		108		2.4	11.2	4.5	34	67	52	91	-7/33	0/67	-3/51	89/19	54	133	73	52	88	183
					11.9	14.7	5.2	24	52	20	60	-2/24	-19/48	-1/20	57/21	34	96	28	31	47	1018
					16.2	14.1	9.8	30	88	15	94	-4/29	6/88	1/15	82/46	56	269	22	24	26	1293
	18		109		4.4	17.3	5.1	43	96	16	106	-10/42	19/94	0/16	96/45	67	205	23	32	35	537
					16.3	17.9	6.0	29	64	9	71	3/29	10/63	0/9	64/30	45	133	13	24	26	1001
	19		110		0.2	18.2	10.4	21	54	22	62	-2/21	20/50	-1/22	58/22	32	123	31	6	10	565
					4.0	16.3	12.6	20	81	20	86	0/20	37/72	0/20	77/37	36	163	29	20	34	853
					17.4	18.3	5.0	15	62	18	66	4/15	15/60	-2/18	58/32	28	130	24	12	14	1129

TABLE 6-21: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Apr	20	80	111	2.3	17.1	8.0	45	117	20	127	7/44	-61/100	1/20	113/58	67	254	28	8	11	499
				6.7	16.2	11.8	21	57	7	61	0/21	22/52	0/7	54/29	33	111	9	6	8	1095
				10.3	15 0	11.6	10	101	1	101	4/10	50/88	0/1	70/73	24	268	2	1	—	—
				19.7	15.6	6.4	21	87	14	90	-7/20	50/71	0/14	77/47	34	214	21	15	34	1324
	21		112	2.8	13.8	5.2	44	111	14	120	-8/43	48/100	1/14	105/58	72	222	19	16	16	435
				9.9	14.7	7.5	28	73	22	81	3/28	23/69	-1/22	73/34	46	196	31	35	43	634
				18.3	16.5	8.1	20	78	1-	80	-5/20	13/76	0/1	65/47	42	246	1	5	6	1223
	22		113	2.3	15.5	7.5	13	43	9	46	-2/13	15/41	0/9	41/21	22	94	13	7	8	453
				11.2	15.5	6.7	7	52	17	55	4/6	9/51	-1/17	50/23	16	127	24	17	20	907
				19.0	14.1	6.3	40	106	14	114	-7/40	19/104	0/14	100/55	66	268	20	12	14	1474*
	23		114	2.2	15.2	8.0	36	89	12	97	-5/36	38/81	-1/12	88/42	55	200	17	20	22	490
				11.6	16.2	6.7	15	37	4	40	0/15	16/33	0/4	37/17	24	85	6	14	16	780
				19.3	14.0	6.3	27	99	9	103	-9/25	- 1/99	0/9	90/50	50	219	13	8	10	1409
	24		115	2.6	14.0	6.7	29	76	16	83	-5/28	47/60	-2/16	74/38	42	154	23	6	8	519
				10.0	14.6	7.2	9	42	57	72	3/9	-16/39	-4/57	68/23	16	80	82	16	30	687
				13.6	16.2	12.5	30	116	27	123	-1/30	20/114	0/27	107/62	59	315	40	25	36	1438
	25		116	3.0	18.6	5.2	36	88	35	101	-9/35	28/83	-3/35	93/39	55	185	50	12	19	454
				11.0	14.6	6.5	13	28	5	31	-1/13	10/26	0/5	30/10	20	64	7	14	17	1013
				20.2	14.1	4.9	29	71	6	76	-8/28	1/71	0/6	67/37	47	172	9	4	5	1236
	26		117	1.9	13.5	7.8	11	28	7	31	0/11	16/23	0/7	28/13	17	57	9	5	7	116
				11.4	16.2	6.7	16	37	10	41	-1/16	-17/33	-1/10	38/16	27	75	14	11	12	710
				19.1	14.1	6.3	17	51	11	55	-2/17	- 9/50	0/11	48/27	33	129	16	5	5	1344
	27		118	2.3	14.0	6.7	43	107	9	116	-6/43	62/87	0/9	103/52	63	220	14	17	20	502
				10.3	16.2	8.0	20	46	20	54	1/20	0/46	-1/20	51/18	33	98	28	27	29	1095
				19.5	15.6	6.4	21	73	32	82	-4/21	56/47	-1/32	75/34	31	148	46	21	38	1333

TABLE 6-22: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
Apr	28	86	119	3.4	13.9	6.0	39	94	30	107	-3/39	48/81	0/30	98/42	62	196	43	10	13	526
				10.2	14.0	7.2	18	38	34	54	-2/18	3/38	-2/34	53/12	28	72	48	29	51	896
				18.7	16.1	7.7	14	43	4	45	-2/13	12/41	0/4	40/22	22	86	5	6	7	1449*
	29		120	3.2	15.1	6.7	13	43	10	46	4/12	10/41	0/10	40/22	25	115	14	10	13	408
				11.2	14.6	6.7	9	33	7	35	-2/9	-16/29	0/6	31/16	15	69	9	8	11	873
				18.9	14.1	6.4	25	64	7	69	-3/25	30/57	0/7	62/30	42	176	10	19	19	1470*
	30		121	2.0	15.2	8.0	30	87	15	93	-1/30	63/59	0/15	80/47	45	162	21	3	4	126
				10.0	16.2	8.1	16	64	8	66	1/16	50/40	0/8	58/31	25	116	11	8	9	948
				19.2	15.6	6.5	9	67	37	77	-4/8	36/57	-1/37	64/44	21	202	53	5	6	1258
May	1		122	2.4	15.3	8.0	42	103	22	113	-4/42	55/87	1/22	102/50	64	206	31	24	25	506
				10.4	15.9	7.8	16	37	16	43	-1/16	-16/33	0/16	41/14	25	69	23	18	27	827
				17.9	15.6	7.9	27	75	12	80	-5/27	20/72	-1/12	72/37	46	193	17	16	17	1432
	2		123	2.8	15.5	6.5	50	125	13	135	-6/49	75/100	-1/13	119/63	73	251	18	23	27	532
				10.3	14.6	7.2	19	52	8	56	-2/19	12/50	-1/8	50/25	34	108	12	16	19	905
				18.7	16.1	7.7	17	56	6	59	2/17	33/45	0/6	49/31	30	139	8	5	6	1557*
	3		124	3.2	14.8	6.3	11	26	18	34	0/11	12/24	-1/18	32/11	17	51	25	11	20	562
				11.2	14.6	6.5	17	43	20	51	-3/16	-17/40	0/20	47/18	27	95	29	14	21	788
				18.9	14.0	6.3	12	36	20	43	-1/12	26/25	-1/20	39/18	20	71	28	7	11	1379
	4		125	2.0	14.5	7.4	57	186	19	195	-3/57	144/117	-1/19	167/100	85	343	27	8	9	490
				10.0	16.1	8.2	15	79	4	80	-4/14	27/74	0/4	61/52	34	243	6	3	4	851
				19.1	15.6	6.3	28	95	27	103	-6/[illegible]	55/78	0/27	89/51	52	267	39	30	40	1406
	5		126	2.4	13.9	6.7	45	89	10	100	-5/[illegible]	11/88	-1/10	97/25	67	150	14	61	107	318
				10.3	16.1	8.2	34	82	16	90	-5/34	-26/77	-1/16	81/38	52	172	23	29	31	1058
				19.5	16.1	6.9	40	126	8	133	-1/40	85/93	-1/8	113/69	82	267	12	28	44	1425
	6		127	2.7	13.6	6.3	26	93	21	99	4/26	55/75	-1/21	88/45	46	171	30	24	32	166

TABLE 6-23: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
May	6	89	127	10.7	14.6	6.6	21	53	9	58	-3/21	9/52	0/9	52/26	38	153	13	7	9	989
				14.9	12.4	8.0	19	50	17	56	-2/19	13/48	-1/16	51/22	32	116	23	18	23	1269
	7		128	6.4	24.6	7.1	18	102	24	106	4/17	56/85	0/24	84/65	35	259	34	23	32	649
				11.0	11.3	6.7	8	23	6	25	-2/8	0/23	0/6	22/11	14	59	8	9	9	1018
				19.5	14.1	5.6	23	77	9	81	-6/23	28/71	0/9	71/37	39	155	13	3	4	1377
	8		129	1.9	15.0	7.7	21	70	2	73	-1/21	55/44	0/2	62/39	31	123	2	2	3	122
				11.3	16.1	6.7	5	14	8	17	0/5	7/12	0/8	15/6	9	28	11	3	5	1076
				19.1	14.1	6.3	25	78	6	82	/25	54/56	0/6	71/40	38	170	8	7	9	1393
	9		130	1.0	15.2	8.2	30	113	46	126	-3/30	84/76	-2/46	114/54	50	215	65	12	14	585
				12.6	17.8	5.7	55	125	44	143	1/55	56/111	3/44	132/54	81	253	64	69	76	780
				19.2	13.6	6.9	15	34	36	51	-2/15	10/32	16/36	47/17	25	68	51	18	38	1221
	10		131	2.5	13.9	6.5	33	95	34	106	-2/33	69/65	-2/34	96/46	4	173	49	33	44	517
				9.9	15.8	8.5	20	96	21	101	-2/20	37/89	2/21	83/57	44	293	30	8	16	969
				15.8	16.6	10.7	39	135	13	142	4/39	-85/106	0/13	123/71	68	266	19	16	19	972
	11		132	2.9	17.6	6.5	32	121	21	127	-2/32	92/79	-1/21	113/58	55	224	31	28	31	266
				10.3	14.3	6.8	18	63	29	72	1/18	45/44	-3/29	65/30	30	120	41	14	25	628
				19.9	16.0	6.5	21	70	6	73	-3/21	37/60	0/6	64/36	42	139	9	15	23	1237
	12		133	3.1	13.8	6.7	21	59	15	64	4/21	9/58	0/15	58/27	40	126	22	23	34	433
				11.1	14.6	6.7	23	72	6	76	-4/23	1/72	0/6	65/39	46	217	8	8	8	788
				20.2	13.8	4.7	27	55	24	66	-4/27	4/54	1/24	62/21	42	106	34	23	24	1469*
	13		134	1.9	12.3	6.7	22	57	18	64	-2/22	34/46	-1/18	58/26	38	126	26	5	6	119
				11.4	15.8	6.2	6	16	4	18	0/6	2/16	0/4	16/7	11	32	5	1	2	926
				19.0	18.8	10.7	39	107	15	115	0/39	50/95	-1/15	100/57	65	225	21	12	14	1507*
	14		135	2.2	15.2	7.9	20	54	20	61	-1/20	29/45	-1/20	55/26	32	108	29	3	5	402
				11.6	15.7	6.3	16	47	19	53	2/16	-7/46	0/19	47/24	29	107	27	9	10	987

TABLE 6-24: APL Ephem Overlap Statistics (Con't)

Overlap		Epoch			Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D	Y H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
May 14		80	135	19.3	17.0	9.2	36	105	17	112	-5/36	16/104	0/17	99/54	56	253	24	16	18	1175
				23.3	15.2	11.3	38	132	17	138	1/38	100/87	-1/17	121/68	60	245	24	22	24	1870*
	15		136	11.9	17.7	5.2	42	164	34	173	6/41	-138/89	1/33	154/79	66	285	49	35	40	809
				19.4	18.8	11.3	47	139	23	149	1/47	-100/97	-1/23	130/73	72	289	33	8	10	1272
	16		137	1.2	11.8	11.7	48	128	43	143	1/48	-47/119	0/43	131/59	81	301	61	14	18	108
				10.0	16.0	7.2	23	66	54	89	2/22	24/62	-2/54	83/31	37	153	77	24	49	1006
				19.7	19.3	8.2	53	179	20	187	-7/52	-21/177	0/20	160/98	88	411	29	8	8	1198
	17		138	1.4	13.8	11.7	26	91	12	96	2/26	30/86	0/12	81/51	45	245	17	15	17	266
				10.8	16.1	6.7	35	78	44	96	-1/35	-28/73	2/44	92/28	55	141	64	48	70	849
				21.5	17.0	6.2	23	80	6	84	-7/22	21/77	0/6	71/45	41	216	8	3	3	1313
				24.0	15.7	13.3	17	80	23	85	1/1	26/76	0/23	76/37	32	161	33	11	21	1529*
	18		139	3.1	17.7	14.6	17	86	12	88	-2/17	58/63	0/12	77/43	27	174	17	9	9	566
				14.9	21.9	10.2	79	354	17	363	-19/77	8/354	1/17	298/208	144	991	25	22	25	1131
	19		140	1.8	17.5	6.7	16	58	7	60	0/16	-36/45	-1/7	51/32	30	125	10	10	10	407
				9.4	15.8	8.3	46	118	21	128	-1/46	69/96	-1/21	115/57	72	260	30	26	31	1014
				17.1	14.4	6.3	38	110	21	118	-3/38	-74/82	-1/21	105/55	62	230	31	30	36	1401
				22.9	12.3	6.5	74	235	31	248	1/74	170/162	0/31	212/129	115	430	46	2	3	1472*
	20		141	5.3	13.3	6.8	46	122	18	132	3/46	-82/91	1/18	115/64	71	235	26	10	10	332
				8.0	11.0	8.2	16	53	12	57	-3/16	1/53	-1/12	47/33	48	201	18	12	13	704
				19.1	14.3	3.1	12	36	3	38	6/10	- 4/36	0/3	35/14	35	84	4	17	18	1331
	21		142	1.2	12.6	6.5	29	102	7	106	-1/29	-74/70	0/7	92/54	45	215	10	14	14	236
				11.6	15.2	4.8	25	75	9	80	5/24	-47/59	0/9	67/43	41	155	12	7	8	940
				11.6	14.5	4.8	55	129	4	140	2/55	-60/114	0/4	128/57	83	236	6	60	74	875
				17.2	14.4	8.8	32	189	18	193	-7/31	-115/108	2/17	180/72	66	260	20	32	62	1288
	22		143	0.9	14.3	6.4	60	122	19	137	-4/59	33/118	1/19	131/41	93	221	27	71	127	228

TABLE 6-25: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
May	22	80	143	8.2	14.5	7.2	51	115	37	131	2/51	15/114	-2/37	122/48	79	226	54	43	51	897
				15.6	10.1	2.8	22	54	6	59	5/22	-21/50	-1/6	53/25	40	101	8	16	16	1074
				19.3	10.5	6.9	65	221	17	231	-10/64	73/209	-1/17	198/119	106	491	25	35	41	[illegible]
	23		144	2.5	13.8	6.6	92	219	28	239	-11/92	-107/191	-2/28	217/100	137	430	40	89	101	182
				10.4	14.5	6.5	34	88	3	94	0/34	-42/77	0/3	85/41	55	168	4	27	27	820
				17.5	13.8	6.6	64	157	18	171	-7/63	94/126	-1/18	153/76	95	295	26	57	65	1315
	24		145	1.0	14.3	6.9	30	77	24	86	-3/30	-49/59	1/24	77/39	44	146	35	15	18	94
				5.9	14.6	8.0	80	299	25	311	8/80	-217/206	0/25	265/161	132	684	37	24	27	733
				15.9	15.8	5.8	56	131	26	145	-4/56	53/120	1/26	136/50	88	235	37	67	88	1146
	25		146	1.2	16.0	6.4	116	243	58	276	-14/115	-54/237	5/58	261/90	192	537	82	79	82	110
				10.1	15.4	6.1	55	123	33	139	3/55	-15/122	0/33	133/39	89	250	47	83	119	923
				16.2	13.8	8.2	65	151	44	170	-6/64	9/151	-2/44	157/67	113	391	64	56	61	1427
	26		147	1.4	15.7	6.5	128	311	28	337	-16/127	-121/286	0/28	303/149	213	614	41	105	121	296
				12.3	13.0	5.0	46	100	64	127	-5/46	-11/99	5/64	123/35	74	193	92	58	93	756
				17.8	15.3	9.6	205	599	133	647	-15/204	-428/419	6/133	565/316	298	1092	192	77	90	1285
	27		148	1.5	21.6	14.0	52	154	21	164	-3/52	33/151	0/21	144/80	106	423	30	15	19	705
				15.2	23.0	9.2	162	389	111	436	-4/162	-116/372	-2/111	400/[illegible]	262	771	160	138	184	1215
	28		149	1.5	17.5	7.3	141	428	20	451	-14/140	-197/380	-1/20	391/225	238	865	28	38	43	520
				10.9	15.7	6.3	114	281	20	304	1/114	-151/237	-1/20	273/134	170	539	28	88	99	1023
				17.9	21.2	13.8	76	177	36	196	-2/76	-90/153	-1/36	181/75	109	324	52	88	129	1471*
	29		150	3.1	14.0	6.5	172	425	48	461	-17/172	-263/333	3/48	410/211	245	762	69	162	188	212
				12.4	18.4	9.2	108	336	18	354	-5/108	-244/231	0/18	300/187	167	661	27	14	18	769
				22.4	17.1	7.0	109	236	81	272	-11/108	44/231	-3/81	261/75	171	440	115	150	232	1623*
	30		151	2.1	13.1	9.6	60	175	14	186	5/60	-129/119	1/14	161/93	88	314	20	26	27	566
				10.9	15.4	6.6	43	157	10	163	4/43	-113/109	1/10	142/81	76	301	15	11	14	751

TABLE 6-26: APL Ephem Overlap Statistics (Con't)

Overlap			Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	Y	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
May	30	80	151	20.0	15.3	6.5	150	406		+35	-22/149	117/389	-2/37	385/203	258	771	53	71	85	1212
	31		152	3.1	12.2	5.2	61	144	40	161	-9/60	70/125	-2/40	147/66	108	369	57	53	57	180
				12.4	14.5	5.0	117	328	18	349	15/116	-233/231	-1/18	301/18	176	669	26	33	40	1017
				19.9	13.8	6.3	82	179	5	196	-3/82	-38/175	0/5	183/72	135	370	7	12	19	1206
June	1		153	2.0	12.3	6.2	136	447	61	471	-5/136	353/274	1/61	409/233	210	813	89	66	73	271
				13.8	15.9	4.1	150	528	42	550	0/150	419/321	5/41	479/271	239	993	61	22	28	929
				19.9	12.4	6.3	170	546	103	581	5/170	-408/363	-1/103	499/297	262	979	150	28	40	1377
	2		154	2.3	15.6	9.0	108	243	87	280	4/108	50/238	3/87	265/90	169	575	124	119	166	188
				10.8	15.1	6.6	221	734	28	767	7/221	-565/467	1/28	644/415	334	1299	41	13	26	931
				22.4	16.8	5.3	43	116	8	124	1/43	-58/101	1/8	109/59	67	244	12	21	24	1560*
	3		155	2.0	15.9	12.5	343	1159	99	1213	12/342	-933/688	-1/99	1035/633	491	2016	143	50	60	568
				10.7	15.3	6.6	48	124	162	210	6/48	-79/96	7/162	199/67	75	248	234	46	85	654
				19.7	16.8	7.8	327	843	162	919	-21/327	-428/727	1/162	828/398	508	1868	235	165	174	1194
	4		156	2.8	18.0	10.5	94	328	82	351	-15/93	-125/303	-3/82	307/171	155	785	116	44	59	376
				10.7	18.2	10.3	118	286	63	315	-9/117	-15/286	-1/63	284/137	178	591	90	11	20	1237
				19.6	16.8	7.8	205	575	72	614	10/205	407/405	-2/72	539/294	306	1027	102	136	138	1421
	5		157	2.7	18.5	11.3	334	797	59	866	13/334	-406/686	3/59	763/371	493	1758	85	95	111	814
				10.5	18.9	10.6	99	314	115	348	2/99	-225/218	2/115	313/152	158	684	166	41	49	1182
				19.4	20.0	10.8	246	665	108	717	6/246	-446/493	-3/108	625/351	361	1295	157	62	76	1177
	6		158	2.6	17.1	9.7	349	1163	72	1217	-14/349	-904/732	3/72	1049/617	539	2404	102	90	114	363
				11.9	18.9	9.3	164	628	36	650	14/163	-529/338	-2/36	567/319	245	1169	51	49	51	719
				19.4	18.4	10.7	182	485	126	533	-9/182	-5/485	-5/126	480/231	314	1178	182	153	192	1265
	7		159	2.4	17.0	9.8	54	286	199	352	8/54	-163/235	7/199	313/163	99	686	283	70	149	342

TABLE 6-27: APL Ephem Overlap Statistics (Con't)

Overlap		Epoch		Orbit Span	Over-lap	RMS (M)				M/σ (M)				Max (M)			Min (M)		Transfer Time (TM)
M	D	D/Y	H	(H)	(H)	H	L	C	D	H	L	C	D	H	L	C	D	M	Minutes
June	7	159	11.7	18.9	9.7	465	2448	159	2497	101/454	-1749/1712	-11/159	2018/1470	858	6308	225	343	408	972
	8	160	0.7	18.4	5.3	1590	3303	550	3707	149/1583	- 949/3164	6/550	3497/1227	2323	6315	774	1752	2065	328
			0.7	64.0	22.7	2804	10992	1349	11424	2/2804	-8665/6763	24/1349	10062/5410	4235	20266	1957	485	523	1010

* The asterisked times occur on the following day.

TABLE 7: Numerical Verification of the Orbital Effects of the UTC-UT1 Time Correction

Component	Maximum 18-Hour APL-GTDS Positions Differences (Meters)	
	APL Solution Compared With Standard GTDS Solution	APL Solution Compared With GTDS Solution Obtained Using Modified Greenwich Hour Angle
Radial	23.7	23.7
Cross-Track	344.8	48.6
Along-Track	152.1	114.6
Total	352.4	115.0

TABLE 8-1

* * * * * * MAGSAT SPACECRAFT CLOCK TIME FIT COMPARISON 03/25/81 * * * * * *

FIT	START CLOCK	END CLOCK	START TIME YYDDD.DD	END TIME YYDDD.DD	COEF1	COEF2	COEF3	COMP CLOCK	COMP TIME YYDDD.DD	OVER-LAP HR.HH	DELTA T (MS)
1	2147623812.	2147624598.	79303.03	79303.04	26182034257.693	491.54338	0.0				
2	2147686720.	2147687415.	79303.39	79303.39	26212956307.221	491.54435	0.0	2147655659.	79303.21	8.48	-8.50
3	2147740592.	2147620191.	79303.70	79304.15	26239436790.365	491.54456	0.0	2147714004.	79303.55	7.26	-0.43
4	2147967488.	2148151361.	79304.99	79306.03	26350966286.105	491.54457	0.0	2147853640.	79304.57	20.11	-1.44
5	2148138512.	2148321818.	79305.96	79307.00	26435032204.051	491.54456	0.0	2148144937.	79306.00	-1.75	-0.11
6	2148493568.	2148690573.	79307.98	79309.10	26609558050.459	491.54456	0.0	2148497693.	79307.49	23.45	0.34
7	2148637120.	2148841366.	79308.80	79310.07	26680120255.953	491.54457	0.0	2148663847.	79308.95	-7.30	-0.12
8	2148820736.	2149032786.	79309.64	79311.05	26770375702.910	491.54456	0.0	2148241051.	79309.96	-5.55	0.00
9	2149192016.	2149387919.	79311.95	79313.07	26952876368.101	491.54456	0.0	2149112401.	79311.50	21.74	0.25
10	2149364208.	2149571885.	79312.93	79314.12	27037516409.808	491.54456	0.0	2149376064.	79313.00	-3.24	0.05
11	2149718864.	2149914014.	79314.95	79316.06	27211845638.349	491.54456	0.0	2149645375.	79314.53	20.07	-0.45
12	2149890192.	2150056006.	79315.93	79317.11	27296060984.335	491.54456	0.0	2149902103.	79315.99	-3.25	-0.06
13	2150054464.	2150269676.	79316.86	79318.09	27376807993.732	491.54456	0.0	2150076235.	7931[illegible]	-5.95	-0.08
14	2150216384.	2150441088.	79317.78	79319.06	27456398888.869	491.54457	0.0	2150243030.	7931[illegible]	-7.28	0.02
15	2150397728.	2150611752.	79318.81	79320.03	27545537546.373	491.54456	0.0	2150415405.	7931[illegible]	-5.92	0.14
16	2150580656.	2150794680.	79319.85	79321.07	27635654810.554	491.54456	0.0	2150596204.	79319.[illegible]	-4.25	-0.06
17	2150771024.	2150965767.	79320.94	79322.05	27729029165.661	491.54456	0.0	2150782852.	79321.01	-3.23	0.24
18	2150934816.	2151148777.	79321.87	79323.09	27809540232.760	491.54456	0.0	2150950252.	79321.96	-4.23	0.09
19	2151125391.	2151320285.	79322.95	79324.06	27903216338.018	491.54456	0.0	2151137064.	79323.02	-3.19	0.12
20	2151306944.	2151491758.	79323.99	79325.04	27992457727.875	491.54456	0.0	2151313615.	79324.02	-1.82	0.10
21	2151468304.	2151675277.	79324.90	79326.08	28071773358.533	491.54456	0.0	2151480031.	79324.97	-3.20	0.08
22	2151650912.	2151868206.	79325.94	79327.18	28161533328.036	491.54456	0.0	2151663095.	79326.01	-3.33	0.11
23	2151803456.	2152025649.	79326.81	79328.10	28236515501.955	491.54456	0.0	2151835631.	79327.00	-8.84	-0.08
24	2151986096.	2152200854.	79327.85	79329.07	28326291200.463	491.54456	0.0	2152007873.	79327.97	-5.95	-0.27
25	2152176503.	2152371289.	79328.93	79330.04	28419884725.963	491.54456	0.0	2152188279.	79329.00	-3.22	0.26
26	2152356768.	2152555004.	79329.96	79331.09	28508493006.684	491.54456	0.0	2152364029.	79330.00	-1.98	-0.09
27	2152530665.	2152726191.	79330.95	79332.06	28593941638.594	491.54456	0.0	2152542805.	79331.02	-3.33	-0.08
28	2152712768.	2152896627.	79331.98	79333.03	28683497617.212	491.54456	0.0	2152719455.	79332.02	-1.83	0.01
29	2152855824.	2153079255.	79332.80	79334.07	28753801269.630	491.54456	0.0	2152876226.	79332.91	-5.57	-0.27
30	2153038352.	2153250364.	79333.84	79335.04	28843521915.312	491.54456	0.0	2153058624.	79333.95	-5.59	0.22
31	2153227040.	2153432849.	79334.91	79336.08	28936270475.975	491.54456	0.0	2153238702.	79334.98	-3.18	-0.16
32	2153409536.	2153604158.	79335.95	79337.06	29025975392.491	491.54456	0.0	2153421193.	79336.02	-3.18	-0.32
33	2153556368.	2153775540.	79336.78	79338.03	29098149863.368	491.54456	0.0	2153580263.	79336.92	-6.53	0.05
34	2153760976.	2153970472.	79337.95	79339.14	29198723[illegible]3.350	491.54456	0.0	2153768256.	79337.99	-1.99	-0.06
35	2153917228.	2154116595.	79338.84	79339.97	29275528633.935	491.54456	0.0	2153943850.	79338.99	-7.27	-0.04
36	2154115888.	2154311593.	79339.97	79341.08	29373178877.160	491.54456	0.0	2154116242.	79339.97	-0.10	0.04
37	2154285504.	2154495031.	79340.93	79342.12	29456749317.004	491.54456	0.0	2154298745.	79341.01	-3.51	-0.02
38	2154459408.	2154653694.	79341.92	79343.03	29542034265.244	491.54456	0.0	2154477220.	79342.02	-4.86	-0.33
39	2154639527.	2154836545.	79342.95	79344.07	29630570780.039	491.54456	0.0	2154646611.	79342.99	-1.93	-0.11
40	2154812880.	2155007505.	79343.93	79345.04	29715781504.391	491.54456	0.0	2154824713.	79344.00	-3.23	-0.25
41	2154994862.	2155189939.	79344.97	79346.08	29805233767.058	491.54456	0.0	2155001184.	79345.00	-1.73	-0.20
42	2155089568.	2155360951.	79345.51	79347.05	29851785986.170	491.54456	0.0	2155139754.	79345.79	-13.70	0.18
43	2155337376.	2155531701.	79346.92	79348.02	29973594661.262	491.54456	0.0	2155319164.	79346.98	-3.22	-0.18
44	2155517392.	2155714160.	79347.94	79349.06	30062080547.054	491.54456	0.0	2155524547.	79347.58	-1.95	-0.28
45	2155690688.	2155885156.	79348.93	79350.03	30147263253.721	491.54456	0.0	2155702424.	79348.99	-3.20	-0.33
46	2155861808.	2156067455.	79349.90	79351.07	30231376358.878	491.54456	0.0	2155873482.	79349.97	-3.19	-0.26
47	2156026830.	2156238227.	79350.84	79352.04	30312492025.131	491.54456	0.0	2156047163.	79350.95	-5.55	0.36
48	2156223968.	2156420233.	79351.96	79353.08	30409394137.255	491.54456	0.0	2156231058.	79352.00	-1.95	0.06
49	2156396976.	2156591114.	79352.94	79354.05	30494435278.689	491.54456	0.0	2156408605.	79353.01	-3.18	-0.19
50	2156550832.	2156762248.	79353.82	79355.02	30570062358.799	491.54456	0.0	2156570573.	79353.93	-5.50	0.07

TABLE 8–2

* * * * * * MAGSAT SPACECRAFT CLOCK TIME FIT COMPARISON 03/25/81 * * * * * *

FIT	START CLOCK	END CLOCK	START TIME YYDDD.DD	END TIME YYDDD.DD	COEF1	COEF2	COEF3	COMP CLOCK	COMP TIME YYDDD.DD	OVER-LAP HH.HH	DELTA T (MS)
51	2156696944.	2156956029.	79354.65	79356.13	30641882918.154	491.54456	0.0	2156729556.	79354.84	-8.92	0.03
52	2156920592.	2157115015.	79355.92	79357.03	30751815876.444	491.54456	0.0	2156938311.	79356.02	-4.84	-0.14
53	2156956031.	2156956572.	79356.13	79356.13	3076923572 4.719	491.54460	0.0	2157035523.	79356.58	-21.71	-4.03
54	2157049869.	2157297500.	79356.66	79358.07	30815361282.689	491.54456	0.0	2157003221.	79356.39	12.74	2.69
55	2157273824.	2157467902.	79357.53	79359.04	30925445145.298	491.54455	0.0	2157285662.	79358.00	-3.23	-0.02
56	2157454800.	2157650383.	79358.66	79360.08	31014402912.579	491.54457	0.0	2157461351.	79359.00	-1.79	-0.04
57	2157626288.	2157843555.	79359.94	79361.17	31098696907.530	491.54456	0.0	2157638336.	79360.01	-3.29	0.06
58	2157806553.	2158004252.	79360.98	79362.09	31188288276.772	491.54456	0.0	2157826074.	79361.08	-4.78	0.33
59	2157979680.	2158173793.	79361.95	79363.05	31272404823.506	491.54456	0.0	2157991566.	79362.02	-3.36	0.08
60	2158159360.	2158344813.	79362.97	79364.03	31360725550.330	491.54456	0.0	2158166577.	79363.01	-1.97	-0.40
61	2158330311.	2158526737.	79363.94	79365.06	31444755584.401	491.54456	0.0	2158337562.	79363.99	-1.98	0.06
63	2158538160.	2158684889.	80 0.13	80 0.96	10921630.150	491.54456	0.0	2158532449.	80 0.09	1.56	
64	2158683968.	2158891577.	80 0.56	80 2.14	82592759.442	491.54456	0.0	2158684429.	80 0.96	-0.13	0.11
65	2158855856.	2159050100.	80 1.93	80 3.04	167083371.627	491.54456	0.0	2158873717.	80 2.04	-4.88	-0.14
66	2159026656.	2159221730.	80 2.91	80 4.02	251039182.495	491.54456	0.0	2159043676.	80 2.97	-3.20	-0.06
67	2159207446.	2159402343.	80 3.93	80 5.04	339905623.844	491.54456	0.0	2159214588.	80 3.97	-1.95	-0.03
68	2159379168.	2159584346.	80 4.91	80 6.08	424314539.010	491.54456	0.0	2159390756.	80 4.98	-3.16	-0.09
69	2159561498.	2159767359.	80 5.95	80 7.12	513741240.895	491.54456	0.0	2159572722.	80 6.01	-3.17	0.19
70	2159911264.	2160107877.	80 7.94	80 9.06	685863434.152	491.54456	0.0	2159839312.	80 7.93	19.65	0.19
71	2160065472.	2160301868.	80 8.82	80 10.16	761663537.864	491.54456	0.0	2160066675.	80 8.94	-5.79	-0.07
72	2160254848.	2160460258.	80 9.89	80 11.06	854750280.457	491.54456	0.0	2160278358.	80 10.03	-6.42	0.30
73	2160436624.	2160631662.	80 10.93	80 12.04	944101284.930	491.54456	0.0	2160448461.	80 10.99	-3.23	0.15
74	2160607200.	2160812600.	80 11.90	80 13.07	1027946990.263	491.54456	0.0	2160619431.	80 11.97	-3.34	0.24
75	2160786576.	2160995319.	80 12.92	80 14.11	1116118287.297	491.54456	0.0	2160795566.	80 12.99	-3.55	0.06
76	2160959424.	2161153423.	80 13.90	80 15.01	1201080781.782	491.54456	0.0	2160977372.	80 14.00	-4.90	0.38
77	2161141168.	2161335192.	80 14.94	80 16.04	1290416056.661	491.54456	0.0	2161147256.	80 14.97	-1.67	-0.17
78	2161311632.	2161505580.	80 15.91	80 17.01	1374206708.915	491.54456	0.0	2161323412.	80 15.97	-3.22	-0.08
79	2161493280.	2161688046.	80 16.94	80 18.05	1463494795.291	491.54456	0.0	2161499430.	80 16.97	-1.68	0.12
80	2161672570.	2161875914.	80 17.96	80 19.14	1551623820.224	491.54456	0.0	2161680308.	80 18.00	-2.11	-0.19
81	2162050624.	2162233063.	80 20.11	80 21.15	1737454207.718	491.54456	0.0	2161965269.	80 19.62	23.31	-0.81
82	2162194896.	2162392150.	80 20.93	00 22.05	1808370324.471	491.54456	0.0	2162213560.	80 21.04	-5.21	0.27
83	2162391376.	2162562495.	80 22.05	80 23.02	1904949990.316	491.54456	0.0	2162391763.	80 22.05	-0.11	-0.09
84	2162546960.	2162744063.	80 22.93	80 24.05	1981425469.071	491.54456	0.0	2162554728.	80 22.98	-2.12	-0.09
85	2162676576.	2162924373.	80 23.67	80 25.08	2045137509.734	491.54456	0.0	2162710320.	80 23.86	-9.21	-0.14
86	2162882548.	2163094733.	80 24.84	80 26.05	2146381925.191	491.54456	0.0	2162903461.	80 24.96	-5.71	-0.11
87	2163071472.	2163276382.	80 25.92	80 27.08	2239246490.135	491.54456	0.0	2163083103.	80 25.98	-3.18	-0.13
88	2163252544.	2163447715.	80 26.95	80 28.06	2328251446.573	491.54457	0.0	2163264463.	80 27.02	-3.25	0.07
89	2163447024.	2163603154.	80 28.05	80 28.94	2423847033.843	491.54456	0.0	2163447370.	80 28.06	-0.09	-0.25
90	2163602416.	2163798365.	80 28.94	80 30.05	2500229125.637	491.54456	0.0	2163602785.	80 28.94	-0.10	-0.25
91	2163775312.	2163966645.	80 29.92	80 31.02	2585215214.429	491.54456	0.0	2163786839.	80 29.99	-3.15	-0.11
92	2163954271.	2164150301.	80 30.94	80 32.05	2673181537.911	491.54456	0.0	2163961558.	80 30.98	-1.99	-0.35
93	2164132624.	2164331823.	80 31.78	80 33.09	2746103647.867	491.54456	0.0	2164126463.	80 31.92	-6.51	-0.05
94	2164307072.	2164501601.	80 32.55	80 34.05	2846598950.346	491.54456	0.0	2164319448.	80 33.02	-3.38	-0.18
95	2164489600.	2164671918.	80 33.99	80 35.02	2936319595.893	491.54456	0.0	2164495601.	80 34.02	-1.64	0.07
96	2164658768.	2164853256.	80 34.95	80 36.05	3019473206.365	491.54456	0.0	2164663343.	80 34.99	-1.80	0.03
97	2164840960.	2165023579.	80 35.98	80 37.02	3109028692.980	491.54456	0.0	2164847108.	80 36.02	-1.68	-0.03
98	2164992704.	2165226758.	80 36.85	80 38.18	3183617631.015	491.54456	0.0	2165008142.	80 36.94	-4.22	0.12

TABLE 8-3

* * * * * * MAGSAT SPACECRAFT CLOCK TIME FIT COMPARISON 03/25/81 * * * * * *

FIT	START CLOCK	END CLOCK	START TIME YYDDD.DD	END TIME YYDDD.DD	COEF1	COEF2	COEF3	COMP CLOCK	COMP TIME YYDDD.DD	OVER-LAP HH.HH	DELTA T (MS)
99	2165190456.	2165375085.	80 37.97	80 39.02	3280841212.983	491.54456	0.0	2165206627.	80 38.08	-4.95	-0.04
100	2165360400.	2165556343.	80 38.94	80 40.05	3364356690.126	491.54456	0.0	2165367743.	80 38.98	-2.01	0.00
101	2165541776.	2165726447.	80 39.97	80 41.02	3453510[illegible]6.520	491.54456	0.0	2165549060.	80 40.01	-1.99	0.02
102	2165685936.	2165907711.	80 40.79	80 42.05	3524372[illegible]50.244	491.54456	0.0	2165706192.	80 40.91	-5.53	0.03
103	2165884575.	2166076593.	80 41.92	80 43.03	3622011970.551	491.54456	0.0	2165896143.	80 41.99	-3.16	0.18
104	2166046752.	2166256966.	80 42.84	80 44.05	3701729193.039	491.54456	0.0	2166062673.	80 42.93	-4.35	0.06
105	2166536672.	2166803361.	80 45.92	80 47.15	3967123932.647	491.54456	0.0	2166422619.	80 44.98	44.75	0.14
106	2166671376.	2166962019.	80 46.40	80 48.05	4008759722.994	491.54456	0.0	2166737369.	80 46.77	-18.02	0.54
107	2167118368.	2167312871.	80 48.94	80 50.05	4228476209.774	491.54456	[illegible]	2167040194.	80 48.50	21.35	0.43
108	2167288622.	2167493154.	80 49.91	80 51.07	4312163637.689	491.54456	[illegible]	2167300747.	80 49.98	-3.31	-0.17
109	2167466640.	2167662898.	80 50.93	80 52.04	4400650506.591	491.54456	[illegible]	2167486657.	80 51.00	-3.35	-0.20
110	2167635680.	2167844977.	80 51.91	80 53.07	4484724288.193	491.54456	0.0	2167661289.	80 51.97	-3.17	-0.04
111	2167820672.	2168013887.	80 52.94	80 54.04	4573689922.066	491.54456	0.0	2167832625.	80 53.01	-3.32	-0.09
112	2167990624.	2168194878.	80 53.90	80 55.07	4657228902.797	491.54456	0.0	2168002256.	80 53.97	-3.18	-0.43
113	2168180512.	2168364623.	80 54.98	80 56.03	4750567316.319	491.54456	0.0	2168187695.	80 55.02	-1.96	-0.08
114	2168352928.	2168545596.	80 55.96	80 57.06	4835[illegible]7463.582	491.54456	0.0	2168356776.	80 56.00	-1.[illegible]0	0.04
115	2168522208.	2168715146.	80 56.93	80 58.03	4918[illegible]8126.869	491.54456	0.0	2168533902.	80 56.99	-3.19	0.21
116	2168692112.	2168896196.	80 57.89	80 59.06	5002041514.055	491.54456	0.0	2168703629.	80 57.96	-3.15	-0.09
117	2168872816.	2169065692.	80 58.92	80 60.02	5090865582.379	491.54456	0.0	2168884506.	80 58.99	-3.19	-0.18
118	2169052474.	2169268801.	80 59.94	80 61.17	5179175495.350	491.54456	0.0	2169059683.	80 59.98	-1.[illegible]0	0.04
119	2169233296.	2169427439.	80 60.97	80 62.08	5268057566.012	491.54456	0.0	2169251049.	80 61.07	-4.85	-0.18
120	2169403632.	2169[illegible]3.	80 61.94	80 63.04	5351785300.023	491.54456	0.0	2169415536.	80 62.01	-3.25	0.07
121	2169566160.	2169[illegible]5.	80 62.87	80 64.07	5431675054.920	491.54456	0.0	2169581554.	80 62.95	-4.20	-0.01
122	2169754032.	2169[illegible]4.	80 63.94	80 65.10	5524022514.727	491.54456	0.0	2169766274.	80 64.01	-3.34	0.18
123	2169916400.	2170128823.	80 64.86	80 66.07	5603833621.854	491.54456	0.0	2169937552.	80 64.98	-5.89	0.40
124	2170104242.	2170298309.	80 65.93	80 67.03	5696166335.545	491.54456	0.0	2170116533.	80 66.00	-3.36	0.06
125	2170284928.	2170476143.	80 66.96	80 68.06	5784981556.175	491.54456	0.0	2170291615.	80 66.99	-1.83	-0.08
126	2170454416.	2170659596.	80 67.92	80 69.09	5868292460.554	491.54456	0.0	2170466280.	80 67.99	-3.24	0.26
127	2170635214.	2170840312.	80 68.95	80 70.12	5957162734.124	491.54457	0.0	2170647405.	80 69.02	-3.33	0.33
128	2170802696.	2171005580.	80 69.90	80 71.08	6039487600.714	491.54456	0.0	2170821504.	80 70.01	-5.14	0.32
129	2170985376.	2171190201.	80 70.94	80 72.11	6129282961.110	491.54456	0.0	2170997478.	80 71.01	-3.30	0.07
130	2171164801.	2171359293.	80 71.96	80 73.07	6217478344.076	491.54456	0.0	2171177501.	80 72.03	-3.47	0.09
131	2171335152.	2171551061.	80 72.93	80 74.16	6301213451.685	491.54456	0.0	2171347223.	80 73.00	-3.30	0.24
132	2171515937.	2171708890.	80 73.96	80 75.06	6390077335.072	491.54456	0.0	2171533495.	80 74.06	-4.80	0.10
133	2171684880.	2171878133.	80 74.92	80 76.02	6473120347.930	491.54456	0.0	2171696665.	80 74.99	-3.28	0.28
134	2171865552.	2172057751.	80 75.95	80 77.04	6561928687.297	491.54456	0.0	2171871643.	80 75.98	-1.72	-0.18
135	2172034351.	2172227916.	80 76.91	80 78.01	6644900917.235	491.54456	0.0	2172046051.	80 76.98	-3.20	-0.20
136	2172214928.	2172406156.	80 77.94	80 79.04	6733662559.517	491.54456	0.0	2172221422.	80 77.97	-1.77	0.25
137	2172384128.	2172587647.	80 78.90	80 80.06	6816831899.734	491.54456	0.0	2172396142.	80 78.97	-3.28	-0.40
138	2172564368.	2172757642.	80 79.92	80 81.02	6905427890.694	491.54456	0.0	2172576008.	80 79.99	-3.18	-0.03
139	2172733600.	2172936735.	80 80.89	80 82.04	6988612960.182	491.54456	0.0	2172745621.	80 80.96	-3.28	0.25
140	2172826768.	2173091798.	80 81.42	80 82.92	7034409183.743	491.54456	0.0	2172881752.	80 81.73	-15.01	-0.10
141	2173091744.	2173286138.	80 82.92	80 84.03	7164656695.746	491.54456	0.0	2173091771.	80 82.92	-0.01	-0.23
142	2173091829.	2173118121.	80 82.92	80 83.07	7164698476.862	491.54459	0.0	2173188584.	80 83.48	-26.53	-2.92
143	2173273696.	2173466399.	80 83.96	80 85.06	7254094211.810	491.54456	0.0	2173195509.	80 83.52	21.24	2.91
144	2173443088.	2173647255.	80 84.92	80 86.08	7337357927.643	491.54456	0.0	2173454744.	80 84.99	-3.16	0.31
145	2173620560.	2173815322.	80 85.94	80 87.04	7424789942.337	491.54456	0.0	2173634168.	80 86.01	-3.54	-0.11
146	2173792272.	2173956138.	80 86.91	80 88.07	7508997424.121	491.54456	0.0	2173803757.	80 86.98	-3.15	-0.15

TABLE 8-4

* * * * * * MAGSAT SPACECRAFT CLOCK TIME FIT COMPARISON 03/25/81 * * * * * *

FIT	START CLOCK	END CLOCK	START TIME YYDDD.DD	END TIME YYDDD.DD	COEF1	COEF2	COEF3	COMP CLOCK	COMP TIME YYDDD.DD	OVER-LAP HH.HH	DELTA T (MS)
147	2173972240.	2174176304.	80 87.93	80 89.09	759745971 5.919	491.54456	0.0	2173964185.	80 88.00	-3.26	-0.07
148	2174133568.	2174344213.	80 88.85	80 90.05	767675961 6.841	491.54456	0.0	2174154936.	80 88.97	-5.84	0.08
149	2174321168.	2174512912.	80 89.92	80 91.01	776897337 6.563	491.54456	0.0	2174332651.	80 89.98	-3.15	-0.13
150	2174489936.	2174692730.	80 90.88	80 92.03	785193036 8.900	491.54456	0.0	2174501424.	80 90.94	-3.14	-0.13
151	2174665776.	2174850311.	80 91.90	80 92.93	794032974 2.975	491.54456	0.0	2174681263.	80 91.97	-3.13	-0.26
152	2174849696.	2175041165.	80 92.93	80 94.01	802876844 0.427	491.54456	0.0	2174850004.	80 92.93	-0.08	-0.35
153	2175010848.	2175222201.	80 93.84	80 95.04	811798182 9.330	491.54456	0.0	2175026007.	80 93.93	-4.14	0.04
154	2175208752.	2175413049.	80 94.97	80 96.13	820526046 4.154	491.54456	0.0	2175215477.	80 95.01	-3.84	0.21
155	2175389136.	2175569294.	80 95.99	80 97.02	829392724 8.487	491.54456	0.0	2175401053.	80 96.06	-3.27	0.09
156	2175546576.	2175749284.	80 96.89	80 98.04	837131601 4.369	491.54456	0.0	2175557535.	80 96.95	-3.10	-0.38
157	2175736816.	2175929081.	80 97.97	80 99.07	846482745 1.631	491.54456	0.0	2175743050.	80 98.01	-1.70	-0.29
158	2175905904.	2176109657.	80 98.93	80100.09	854794173 8.235	491.54456	0.0	2175917453.	80 99.00	-3.16	-0.32
159	2176085554.	2176276833.	80 99.96	80101.04	863624771 8.812	491.54456	0.0	2176097606.	80100.03	-3.29	0.10
160	2176253856.	2176466541.	80100.91	80102.14	871897565 1.329	491.54456	0.0	2176265345.	80100.98	-3.14	0.02
161	2176444640.	2176624856.	80102.00	80103.02	881215448 9.082	491.54456	0.0	2176456651.	80102.07	-3.26	0.06
162	2176612416.	2176804217.	80102.95	80104.05	889522386 9.164	491.54456	0.0	2176616636.	80102.99	-1.70	-0.08
163	2176781104.	2176983774.	80103.91	80105.07	897814153 8.191	491.54456	0.0	2176792661.	80103.98	-3.16	0.22
164	2176960701.	2177151917.	80104.94	80106.02	906642146 7.133	491.54456	0.0	2176972238.	80105.00	-3.15	-0.28
165	2177128832.	2177331338.	80105.89	80107.04	914906534 5.492	491.54456	0.0	2177140375.	80105.96	-3.15	0.07
166	2177318800.	2177343374.	80106.97	80107.11	924244308 2.891	491.54454	0.0	2177325069.	80107.01	-1.71	-0.01
167	2147483664.	2147615158.	80107.29	80108.06	926988445 3.538	491.54457	0.0	2162413515.	80 22.17	4.27	********
168	2147607794.	2147787696.	80108.00	80109.02	933089988 0.277	491.54456	0.0	2147613476.	80108.03	-1.55	0.23
169	2147747767.	2147966746.	80108.79	80110.04	939970284 6.902	491.54456	0.0	2147767732.	80108.91	-5.45	0.09
170	2147943920.	2148145659.	80109.91	80111.06	949612078 7.867	491.54456	0.0	2147955333.	80109.97	-3.12	-0.05
171	2148122992.	2148313972.	80110.93	80112.01	958414265 5.344	491.54456	0.0	2148134426.	80110.99	-3.12	0.16
172	2148302176.	2148492855.	80111.95	80113.03	967221957 5.939	491.54456	0.0	2148306074.	80111.98	-1.61	0.01
173	2148453120.	2148671932.	80112.81	80114.05	974641527 8.168	491.54456	0.0	2148473066.	80113.92	-5.43	-0.05
174	2148648432.	2148835656.	80113.92	80115.00	984241982 9.211	491.54456	0.0	2148660182.	80113.98	-3.21	0.10
175	2148809424.	2149030580.	80114.83	80116.09	992155457 1.433	491.54456	0.0	2148824540.	80114.92	-4.13	0.23
176	2148978784.	2149198297.	80115.80	80117.05	100048025 58.427	491.54456	0.0	2149004662.	80115.94	-7.07	0.04
177	2149184288.	2149376144.	80116.97	80118.06	101058169 32.658	491.54456	0.0	2149191293.	80117.01	-1.91	-0.03
178	2149364590.	2149543830.	80117.99	80119.01	101944433 99.676	491.54456	0.0	2149370367.	80118.02	-1.58	-0.33
179	2149531920.	2149722407.	80118.94	80120.03	102766935 51.216	491.54456	0.0	2149537675.	80118.98	-1.63	-0.00
180	2149711024.	2149902037.	80119.96	80121.05	103647311 48.012	491.54456	0.0	2149716716.	80119.99	-1.55	-0.31
181	2149876000.	2150080522.	80120.90	80122.06	104458242 04.134	491.54456	0.0	2149889015.	80120.97	-3.56	-0.15
182	2150056752.	2150248056.	80121.93	80123.02	105346718 66.432	491.54456	0.0	2150066587.	80122.00	-3.26	-0.09
183	2150235280.	2150426507.	80122.94	80124.03	106224263 34.018	491.54456	0.0	2150241668.	80122.98	-1.74	-0.23
184	2150402720.	2150625594.	80123.90	80125.17	107047305 55.335	491.54456	0.0	2150414614.	80123.97	-3.25	-0.25
185	2150581088.	2150782417.	80124.91	80126.06	107924063 74.868	491.54456	0.0	2150603341.	80125.04	-6.08	0.14
186	2150758201.	2150938275.	80125.92	80126.94	108794653 07.144	491.54456	0.0	2150770305.	80125.99	-3.31	0.03
187	2150937088.	2150938275.	80126.94	80126.94	109673962 38.549	491.54457	0.0	2150937682.	80126.94	-0.16	0.39
188	2147483664.	2147662601.	80127.13	80128.15	109839379 39.648	491.54455	0.0	2149210970.	80117.12	4.43	********
189	2147483664.	2147484399.	80127.13	80127.13	109839379 40.190	491.54454	0.0	2147573133.	80127.64	-24.43	0.41
190	2147628304.	2147655269.	80127.95	80129.24	110550349 43.960	491.54456	0.0	2147556352.	80127.54	19.65	0.21
191	2147805811.	2147985085.	80128.96	80129.98	111422875 44.641	491.54456	0.0	2147830540.	80129.10	-6.75	-0.26
192	2147984656.	2148174719.	80129.98	80131.06	112301978 31.773	491.54456	0.0	2147984671.	80129.98	-0.06	-0.17
193	2148329856.	2148519430.	80131.94	80133.02	113998790 14.837	491.54456	0.0	2148252288.	80131.50	21.18	-0.48
194	2148506272.	2148709118.	80132.95	80134.10	114865953 39.676	491.54456	0.0	2148512651.	80132.98	-1.80	0.11

TABLE 8-5

* * * * * * MAGSAT SPACECRAFT CLOCK TIME FIT COMPARISON 03/25/81 * * * * * *

FIT	START CLOCK	END CLOCK	START TIME YYDDD.DD	END TIME YYDDD.DD	COEF1	COEF2	COEF3	COMP CLOCK	COMP TIME YYDDD.DD	OVER-LAP HH.HH	DELTA T (MS)
195	2148684912.	2148674737.	80133.96	80135.04	11574404860.439	491.54456	0.0	2148697015.	80134.03	-3.31	0.02
196	2148852000.	2149052270.	80134.91	80136.05	11656536056.457	491.54458	0.0	2148863369.	80134.98	-3.10	0.77
197	2149087564.	2149230179.	80136.26	80137.07	11772532709.521	491.54457	0.0	2149070127.	80136.15	4.88	2..7
198	2149206544.	2149356089.	80136.93	80138.01	11830810233.212	491.54456	0.0	2149218362.	80137.00	-3.23	0.03
199	2149561376.	2149750634.	80138.95	80140.03	12005225972.841	491.54456	0.0	2149478733.	80138.48	22.57	-0.81
200	2149728099.	2149927486.	80139.90	80141.03	12087177756.438	491.54456	0.0	2149739367.	80139.96	-3.08	-0.23
201	2149905184.	2150104335.	80140.91	80142.04	12174222925.239	491.54456	0.0	2149916335.	80140.97	-3.05	-0.27
202	2150082080.	2150281426.	80141.91	80143.05	12261175191.836	491.54456	0.0	2150093206.	80141.98	-3.04	-0.17
203	2150258576.	2150459060.	80142.92	80144.06	12348127458.316	491.54456	0.0	2150270201.	80142.98	-3.07	-0.33
204	2150435608.	2150634707.	80143.92	80145.06	12435048266.929	491.54456	0.0	2150447434.	80143.99	-3.17	-0.11
205	2150594080.	2150823216.	80144.82	80146.13	12512846007.153	491.54456	0.0	2150614354.	80144.94	-5.55	-0.09
206	2150789040.	2150987633.	80145.93	80147.06	12608677535.086	491.54456	0.0	2150806128.	80146.03	-4.67	0.23
207	2150965392.	2151164943.	80146.94	80148.07	12695362401.283	491.54456	0.0	2150976913.	80147.00	-3.04	-0.15
208	2151141648.	2151351883.	80147.94	80149.14	12782000079.896	491.54456	0.0	2151153256.	80148.01	-3.18	-0.04
209	2151317792.	2151516960.	80148.94	80150.08	12868582704.868	491.54456	0.0	2151334838.	80149.04	-4.65	0.05
210	2151493760.	2151692733.	80149.94	80151.08	12955078818.508	491.54456	0.0	2151505360.	80150.01	-3.17	-0.18
211	2151669152.	2151867436.	80150.94	80152.07	13041291802.213	491.54456	0.0	2151660943.	80151.01	-3.22	-0.30
212	2151827104.	2152043789.	80151.84	80153.07	13118932248.116	491.54456	0.0	2151847270.	80151.95	-5.51	0.03
213	2152002608.	2152219043.	80152.84	80154.07	13205200285.418	491.54456	0.0	2152023199.	80152.96	-5.62	-0.18
214	2152177968.	2152394278.	80153.84	80155.07	13291397539.521	491.54456	0.0	2152196506.	80153.95	-5.61	0.17
215	2152370704.	2152569051.	80154.93	80156.06	13386135672.013	491.54456	0.0	2152382491.	80155.00	-3.22	0.03
216	2152545584.	2152742810.	80155.93	80157.05	13472097184.786	491.54456	0.0	2152557318.	80155.99	-3.20	0.22
217	2152720256.	2152917159.	80156.92	80158.04	13557956256.594	491.54456	0.0	2152731533.	80156.98	-3.08	-0.12
218	2152905536.	2153091223.	80157.97	80159.03	13649029632.861	491.54456	0.0	2152911348.	80158.01	-1.59	-0.24
219	2153050800.	2153265069.	80159.03	80160.02	13740095144.549	491.54456	0.0	2153091012.	80159.03	-0.06	-0.19
220	2153253344.	2153449903.	80159.95	80161.07	13819992763.538	491.54456	0.0	2153259207.	80159.99	-1.60	-0.05

TABLE 9: MAGSAT CHRONSC/CHRONINT Tapes Delivered to NSSDC

Split No.	Date Span (YYMMDD) From / Thru	CSC Release Date (YYMMDD)	NSSDC Release Date (YYMMDD)
1	791102 / 791107	800501	800703
2	791108 / 791115	800428	"
3	791116 / 791123	800425	"
4	791124 / 791201	800429	"
5	791202 / 791209	800530	"
6	791210 / 791217	800508	"
7	791218 / 791225	800522	800716
8	791226 / 800102	801010	801121
9	800103 / 800110	800707	800904
10	800111 / 800118	"	"
11	800119 / 800126	801018	801121
12	800127 / 800203	801024	"
13	800204 / 800211	800918	801104
14	800212 / 800219	801006	"
15	800220 / 800227	800918	"
16	800228 / 800306	"	"
17	800307 / 800314	810224	810316
18	800315 / 800322	801004	801104
19	800323 / 800330	"	"
20	800331 / 800407	801218	810116
21	800408 / 800415	801019	801121
22	800416 / 800423	810107	810121
23	800424 / 800501	801031	801121
24	800502 / 800509	810224	810316
25	800510 / 800517	810102	810202
26	800518 / 800525	"	810204
27	800526 / 800602	"	"
28	800603 / 800609	810224	810316

TABLE 10: MAGSAT CHRONFIN Tapes Delivered to NSSDC

Batch No.	Date Span (YYMMDD) From		Thru	CSC Release Date (YYMMDD)	NSSDC Release Date (YYMMDD)
1	791102	/	07	810211	810312
2	08	/	15	"	"
3	16	/	23	"	"
4	791124	/	791201	"	"
5	791202	/	09	810227	"
6	10	/	17	810324	810409
7	18	/	25	"	"
8	791226	/	800102	"	"
9	800103	/	10	"	"
10	11	/	18	"	"
11	19	/	26	"	810512
12	800127	/	800203	810528	810618
13	800204	/	11	810508	810529
14	12	/	19	810615	810630
15	20	/	27	"	"
16	800228	/	800306	"	"
17	800307	/	14	810618	810715
18	15	/	22	"	"
19	23	/	30	810720	810831
20	800331	/	800407	"	"
21	800408	/	15	"	"
22	16	/	23	"	"
23	800424	/	800501	"	"
24	800502	/	09	"	"
25	10	/	17	"	"
26	18	/	19	"	"

TABLE 11-1: Selected Quiet Periods for Anomaly Map Derivation

MJD	START HOUR	END HOUR	DATE	START MILLISEC	END MILLISEC
44179	18	24	11/ 2/1979	648 00000	864 00000
44180	0	6	11/ 3/1979	0	216 00000
44181	15	24	11/ 4/1979	540 00000	864 00000
44182	0	24	11/ 5/1979	0	864 00000
44183	0	24	11/ 6/1979	0	864 00000
44184	0	9	11/ 7/1979	0	324 00000
44185	18	24	11/ 8/1979	648 00000	864 00000
44187	3	18	11/10/1979	108 00000	648 00000
44188	9	12	11/11/1979	324 00000	432 00000
44188	21	24	11/11/1979	756 00000	864 00000
44189	0	6	11/12/1979	0	216 00000
44189	18	21	11/12/1979	648 00000	756 00000
44191	12	24	11/14/1979	432 00000	864 00000
44192	0	24	11/15/1979	0	864 00000
44194	12	21	11/17/1979	432 00000	756 00000
44195	6	24	11/18/1979	216 00000	864 00000
44196	0	18	11/19/1979	0	648 00000
44197	3	6	11/20/1979	108 00000	216 00000
44198	6	24	11/21/1979	216 00000	864 00000
44199	0	24	11/22/1979	0	864 00000
44200	0	21	11/23/1979	0	756 00000
44202	9	24	11/25/1979	324 00000	864 00000
44203	0	18	11/26/1979	0	648 00000
44203	21	24	11/26/1979	756 00000	864 00000
44204	0	6	11/27/1979	0	216 00000
44204	9	24	11/27/1979	324 00000	864 00000
44205	0	24	11/28/1979	0	864 00000
44206	0	15	11/29/1979	0	540 00000
44206	21	24	11/29/1979	756 00000	864 00000
44207	0	3	11/30/1979	0	108 00000
44207	21	24	11/30/1979	756 00000	864 00000
44208	0	3	12/ 1/1979	0	108 00000
44209	15	24	12/ 2/1979	540 00000	864 00000
44210	12	24	12/ 3/1979	432 00000	864 00000
44212	0	6	12/ 5/1979	0	216 00000
44212	9	12	12/ 5/1979	324 00000	432 00000
44212	18	24	12/ 5/1979	648 00000	864 00000
44213	3	6	12/ 6/1979	108 00000	216 00000
44213	9	24	12/ 6/1979	324 00000	864 00000
44214	0	24	12/ 7/1979	0	864 00000
44216	0	9	12/ 9/1979	0	324 00000
44216	12	24	12/ 9/1979	432 00000	864 00000
44217	0	12	12/10/1979	0	432 00000
44217	21	24	12/10/1979	756 00000	864 00000
44218	3	18	12/11/1979	108 00000	648 00000
44218	21	24	12/11/1979	756 00000	864 00000
44219	0	24	12/12/1979	0	864 00000
44220	0	24	12/13/1979	0	864 00000
44221	0	24	12/14/1979	0	864 00000
44223	9	18	12/16/1979	324 00000	648 00000
44225	6	9	12/18/1979	216 00000	324 00000
44225	12	24	12/18/1979	432 00000	864 00000
44226	0	21	12/19/1979	0	756 00000
44227	0	24	12/20/1979	0	864 00000
44228	0	18	12/21/1979	0	648 00000
44228	[illegible]	24	12/21/1979	756 00000	864 00000
44230	[illegible]	24	12/23/1979	0	864 00000
44231	[illegible]	9	12/24/1979	108 00000	324 00000
44231	[illegible]	24	12/24/1979	756 00000	864 00000

TABLE 11-2: Selected Quiet Periods for Anomaly Map Derivation (Con't)

MJD	START HOUR	END HOUR	DATE	START MILLISEC	END MILLISEC
44232	0	24	12/25/1979	0	86400000
44233	0	12	12/26/1979	0	43200000
44234	21	24	12/27/1979	75600000	86400000
44238	6	18	12/31/1979	21600000	64800000
44240	18	21	1/ 2/1980	64800000	75600000
44244	9	24	1/ 6/1980	32400000	86400000
44245	0	18	1/ 7/1980	0	64800000
44246	6	9	1/ 8/1980	21600000	32400000
44246	12	24	1/ 8/1980	43200000	86400000
44247	0	18	1/ 9/1980	0	64800000
44248	3	24	1/10/1980	10800000	86400000
44249	0	3	1/11/1980	0	10800000
44250	3	24	1/12/1980	10800000	86400000
44252	9	24	1/14/1980	32400000	86400000
44253	0	15	1/15/1980	0	54000000
44254	9	24	1/16/1980	32400000	86400000
44255	0	3	1/17/1980	0	10800000
44255	21	24	1/17/1980	75600000	86400000
44256	0	24	1/18/1980	0	86400000
44257	0	21	1/19/1980	0	75600000
44258	6	21	1/20/1980	21600000	75600000
44259	6	24	1/21/1980	21600000	86400000
44260	0	15	1/22/1980	0	54000000
44261	0	24	1/23/1980	0	86400000
44262	0	15	1/24/1980	0	54000000
44262	21	24	1/24/1980	75600000	86400000
44263	0	9	1/25/1980	0	32400000
44264	6	21	1/26/1980	21600000	75600000
44268	15	24	1/30/1980	54000000	86400000
44269	0	21	1/ [illegible]/1980	0	75600000
44270	0	9	2/ [illegible]/1980	0	32400000
44270	12	15	2/ [illegible]/1980	43200000	54000000
44271	15	24	2/ 2/1980	54000000	86400000
44272	0	24	2/ 3/1980	0	86400000
44273	0	6	2/ 4/1980	0	21600000
44273	9	24	2/ 4/1980	32400000	86400000
44274	0	24	2/ 5/1980	0	86400000
44276	0	3	2/ 7/1980	0	10800000
44279	0	24	2/10/1980	0	86400000
44280	0	3	2/11/1980	0	10800000
44280	6	24	2/11/1980	21600000	86400000
44281	0	24	2/12/1980	0	86400000
44282	0	24	2/13/1980	0	86400000
44286	0	21	2/17/1980	0	75600000
44287	12	15	2/18/1980	43200000	54000000
44288	12	24	2/19/1980	43200000	86400000
44289	0	24	2/20/1980	0	86400000
44290	0	24	2/21/1980	0	86400000
44291	0	24	2/22/1980	0	86400000
44292	0	9	2/23/1980	0	32400000
44293	6	12	2/24/1980	21600000	43200000
44293	18	24	2/24/1980	64800000	86400000
44294	0	9	2/25/1980	0	32400000
44297	15	18	2/28/1980	54000000	64800000
44298	3	12	2/29/1980	10800000	43200000
44298	15	24	2/29/1980	54000000	86400000
44299	0	24	3/ 1/1980	0	86400000
44300	0	24	3/ 2/1980	0	86400000
44301	0	12	3/ 3/1980	0	43200000
44301	21	24	3/ 3/1980	75600000	86400000

TABLE 11-3: Selected Quiet Periods for Anomaly Map Derivation (Con't)

MJD	START HOUR	END HOUR	DATE	START MILLISEC	END MILLISEC
44302	0	9	3/ 4/1980	0	32400000
44302	12	24	3/ 4/1980	43200000	86400000
44303	15	24	3/ 5/1980	54000000	86400000
44304	0	6	3/ 6/1980	0	21600000
44304	18	24	3/ 6/1980	64800000	86400000
44305	6	24	3/ 7/1980	21600000	86400000
44306	0	3	3/ 8/1980	0	10800000
44306	9	24	3/ 8/1980	32400000	86400000
44307	0	3	3/ 9/1980	0	10800000
44307	12	15	3/ 9/1980	43200000	54000000
44307	18	24	3/ 9/1980	64800000	86400000
44308	0	24	3/10/1980	0	86400000
44309	0	6	3/11/1980	0	21600000
44309	15	24	3/11/1980	54000000	86400000
44310	0	24	3/12/1980	0	86400000
44311	0	3	3/13/1980	0	10800000
44311	12	21	3/13/1980	43200000	75600000
44312	0	3	3/14/1980	0	10800000
44312	6	24	3/14/1980	21600000	86400000
44313	0	24	3/15/1980	0	86400000
44314	0	24	3/16/1980	0	86400000
44315	0	9	3/17/1980	0	32400000
44315	12	24	3/17/1980	43200000	86400000
44316	0	24	3/18/1980	0	86400000
44317	0	3	3/19/1980	0	10800000
44317	21	24	3/19/1980	75600000	86400000
44318	0	24	3/20/1980	0	86400000
44321	9	24	3/23/1980	32400000	86400000
44322	0	24	3/24/1980	0	86400000
44323	0	18	3/25/1980	0	64800000
44325	6	24	3/27/1980	21600000	86400000
44326	9	21	3/28/1980	32400000	75600000
44327	12	21	3/29/1980	43200000	75600000
44328	12	18	3/30/1980	43200000	64800000
44330	3	24	4/ 1/1980	10800000	86400000
44331	0	24	4/ 2/1980	0	86400000
44332	12	15	4/ 3/1980	43200000	54000000
44332	18	24	4/ 3/1980	64800000	86400000
44333	0	3	4/ 4/1980	0	10800000
44334	0	12	4/ 5/1980	0	43200000
44334	21	24	4/ 5/1980	75600000	86400000
44335	0	3	4/ 6/1980	0	10800000
44339	18	21	4/10/1980	64800000	75600000
44343	0	12	4/14/1980	0	43200000
44346	9	15	4/17/1980	32400000	54000000
44346	21	24	4/17/1980	75600000	86400000
44347	0	24	4/18/1980	0	86400000
44348	0	24	4/19/1980	0	86400000
44349	3	24	4/20/1980	10800000	86400000
44350	0	21	4/21/1980	0	75600000
44351	18	21	4/22/1980	64800000	75600000
44352	6	21	4/23/1980	21600000	75600000
44353	9	21	4/24/1980	32400000	75600000
44354	18	24	4/25/1980	64800000	86400000
44355	0	24	4/26/1980	0	86400000
44356	0	18	4/27/1980	0	64800000
44357	3	24	4/28/1980	10800000	86400000
44358	0	24	4/29/1980	0	86400000
44359	0	3	4/30/1980	0	10800000
44359	18	21	4/30/1980	64300000	75600000

TABLE 11-4: Selected Quiet Periods for Anomaly Map Derivation (Con't)

MJD	START HOUR	END HOUR	DATE	START MILLISEC	END MILLISEC
44360	6	9	5/ 1/1980	216 00000	324 00000
44360	21	24	5/ 1/1980	756 00000	864 00000
44361	0	24	5/ 2/1980	0	864 00000
44362	0	24	5/ 3/1980	0	864 00000
44363	0	24	5/ 4/1980	0	864 00000
44364	0	12	5/ 5/1980	0	432 00000
44366	3	12	5/ 7/1980	108 00000	432 00000
44367	9	21	5/ 8/1980	324 00000	756 00000
44369	6	18	5/10/1980	216 00000	648 00000
44372	12	15	5/13/1980	432 00000	540 00000
44373	9	12	5/14/1980	324 00000	432 00000
44374	0	3	5/15/1980	0	108 00000
44374	12	24	5/15/1980	432 00000	864 00000
44375	0	24	5/16/1980	0	864 00000
44376	0	24	5/17/1980	0	864 00000
44377	0	24	5/18/1980	0	864 00000
44378	0	9	5/19/1980	0	324 00000
44378	21	24	5/19/1980	756 00000	864 00000
44379	0	24	5/20/1980	0	864 00000
44380	0	24	5/21/1980	0	864 00000
44381	0	12	5/22/1980	0	432 00000
44381	18	24	5/22/1980	648 00000	864 00000
44382	3	9	5/23/1980	108 00000	324 00000
44382	21	24	5/23/1980	756 00000	864 00000
44383	0	9	5/24/1980	0	324 00000
44385	15	18	5/26/1980	540 00000	648 00000
44386	3	24	5/27/1980	108 00000	864 00000
44387	0	24	5/28/1980	0	864 00000
44388	0	15	5/29/1980	0	540 00000
44392	6	21	6/ 2/1980	216 00000	756 00000
44393	6	9	6/ 3/1980	216 00000	324 00000
44394	0	24	6/ 4/1980	0	864 00000
44395	0	24	6/ 5/1980	0	864 00000
44396	0	9	6/ 6/1980	0	324 00000
44399	0	6	6/ 9/1980	0	216 00000
44404	6	9	6/14/1980	216 00000	324 00000
44405	3	24	6/15/1980	108 00000	864 00000
44406	0	9	6/16/1980	0	324 00000
44406	21	24	6/16/1980	756 00000	864 00000
44407	0	24	6/17/1980	0	864 00000
44408	0	24	6/18/1980	0	864 00000
44409	0	12	6/19/1980	0	432 00000
44410	0	15	6/20/1980	0	540 00000
44410	18	24	6/20/1980	648 00000	864 00000
44411	0	12	6/21/1980	0	432 00000
44411	21	24	6/21/1980	756 00000	864 00000
44412	0	21	6/22/1980	0	756 00000
44413	0	12	6/23/1980	0	432 00000
44413	15	21	6/23/1980	540 00000	756 00000
44415	6	15	6/25/1980	216 00000	540 00000
44416	6	9	6/26/1980	216 00000	324 00000
44417	0	24	6/27/1980	0	864 00000
44418	0	24	6/28/1980	0	864 00000
44419	0	21	6/29/1980	0	756 00000
44420	6	9	6/30/1980	216 00000	324 00000
44420	18	24	6/30/1980	648 00000	864 00000

----ENDOFJOB----

TABLE 12: The MGST (6/80) Field Model

		INTERNAL				COEFFICIENTS					
n	m	g_n^m	h_n^m	n	m	g_n^m	h_n^m	n	m	g_n^m	h_n^m
1	0	-29989.6		8	0	18.4		11	5	-0.4	0.6
1	1	-1958.6	5608.1	8	1	6.8	6.9	11	6	-0.3	-0.1
2	0	-1994.8		8	2	-0.1	-17.9	11	7	1.7	-2.4
2	1	3027.2	-2127.3	8	3	-10.8	4.0	11	8	1.8	-0.3
2	2	1661.6	-196.1	8	4	-7.0	-22.3	11	9	-0.6	-1.4
3	0	1279.9		8	5	4.3	9.2	11	10	2.1	-1.6
3	1	-2179.8	-334.4	8	6	2.7	16.1	11	11	3.5	0.6
3	2	1251.4	270.7	8	7	6.3	-13.1	12	0	-1.6	
3	3	833.0	-251.1	8	8	-1.2	-14.8	12	1	0.4	0.6
4	0	938.3		9	0	5.6		12	2	-0.1	0.6
4	1	782.5	211.6	9	1	10.4	-21.1	12	3	-0.1	2.3
4	2	398.4	-256.7	9	2	1.1	15.2	12	4	0.6	-1.5
4	3	-419.2	52.0	9	3	-12.6	8.9	12	5	0.5	0.5
4	4	199.3	-297.6	9	4	9.5	-4.8	12	6	-0.6	0.2
5	0	-217.4		9	5	-3.3	-6.5	12	7	-0.4	-0.4
5	1	357.6	45.2	9	6	-1.3	9.0	12	8	0.1	0.0
5	2	261.0	149.4	9	7	6.8	9.5	12	9	-0.4	0.0
5	3	-73.9	-150.3	9	8	1.4	-5.9	12	10	-0.2	-1.5
5	4	-162.0	-78.1	9	9	-5.1	2.1	12	11	0.7	0.3
5	5	-48.3	91.8	10	0	-3.3		12	12	0.0	0.7
6	0	48.3		10	1	-3.5	1.4	13	0	0.0	
6	1	65.2	-14.5	10	2	2.5	0.4	13	1	-0.5	-0.4
6	2	41.4	93.4	10	3	-5.3	2.6	13	2	0.3	0.4
6	3	-192.2	70.6	10	4	-2.1	5.6	13	3	-0.7	1.6
6	4	3.5	-42.9	10	5	4.6	-4.2	13	4	0.0	0.0
6	5	13.7	-2.4	10	6	3.1	-0.4	13	5	1.2	-0.6
6	6	-107.6	16.9	10	7	0.6	-1.3	13	6	-0.4	-0.1
7	0	71.7		10	8	1.8	3.5	13	7	0.4	0.8
7	1	-59.0	-82.4	10	9	2.8	-0.5	13	8	-0.6	0.2
7	2	1.6	-27.5	10	10	-0.5	-6.2	13	9	0.2	0.8
7	3	20.5	-4.9	11	0	2.4		13	10	0.1	0.5
7	4	-12.6	16.1	11	1	-1.3	0.7	13	11	0.4	-0.1
7	5	0.6	18.1	11	2	-1.9	1.7	13	12	-0.4	0.0
7	6	10.6	-22.9	11	3	2.2	-1.1	13	13	0.0	-0.1
7	7	-2.0	-9.9	11	4	0.1	-2.7				
EXTERNAL COEFFICIENTS											
1	0	20.4									
1	1	-0.6	-0.4								

All coefficients in nT. Mean radius of the Earth is 6371.2 km. Mean epoch is 1979.85.

TABLE 13-1: GSFC (9/80-2) Magnetic Field Model

(Mean Radius of the Earth is 6371.2 km; Mean Epoch is 1980.0)

n	m	g_n^m	h_n^m	$\dot{g}_n^m$	$\dot{h}_n^m$	$\ddot{g}_n^m$	$\ddot{h}_n^m$	$\dddot{g}_n^m$	$\dddot{h}_n^m$
1	0	-29987.9		20.51		-0.408		-0.0151	
1	1	-1957.4	5606.7	9.08	-9.04	-0.224	0.579	-0.0078	0.0319
2	0	-1996.7		-19.53		0.294		0.0064	
2	1	3027.7	-2128.8	4.78	-18.74	0.249	-1.440	0.0044	-0.0479
2	2	1662.9	-198.6	9.86	-26.82	0.347	-0.607	0.0033	-0.0134
3	0	1280.2		4.51		0.652		0.0190	
3	1	-2180.8	-335.5	-3.55	-5.57	0.668	-1.109	0.0189	-0.0306
3	2	1251.3	270.9	-2.19	1.64	0.176	-0.078	0.0089	-0.0028
3	3	832.9	-251.5	3.87	-6.62	0.573	-0.245	0.0140	-0.0115
4	0	937.1		-2.20		-0.124		-0.0040	
4	1	782.3	211.8	-2.24	3.66	-0.043	-0.120	-0.0002	-0.0061
4	2	397.2	-256.8	-10.09	1.08	-0.403	0.033	-0.0084	0.0015
4	3	-419.6	52.4	-3.82	6.77	-0.132	0.554	-0.0009	0.0182
4	4	198.3	-298.0	-5.54	-2.73	-0.224	-0.096	-0.0059	-0.0031
5	0	-217.1		-1.04		-0.080			
5	1	357.0	45.2	-0.86	3.30	-0.048	0.086		
5	2	261.5	149.9	-0.73	0.50	-0.099	-0.067		
5	3	-74.3	-150.7	-4.81	-0.82	-0.136	0.053		
5	4	-161.5	-77.7	0.11	1.09	0.016	-0.018		
5	5	-47.7	91.8	1.49	0.87	0.009	0.009		

TABLE 13-2: GSFC (9/80-2) Magnetic Field Model

n	m	g_n^m	h_n^m	$\dot{g}_n^m$	$\dot{h}_n^m$	$\ddot{g}_n^m$	$\ddot{h}_n^m$	$\dddot{g}_n^m$	$\dddot{h}_n^m$
6	0	49.1		0.75		0.039			
6	1	65.0	-14.6	-0.04	0.03	0.031	0.024		
6	2	42.0	93.4	3.49	-1.20	0.078	-0.037		
6	3	-191.4	70.9	2.20	-0.96	-0.012	-0.067		
6	4	3.9	-42.9	0.44	0.11	0.018	0.048		
6	5	14.1	-1.9	1.78	0.56	0.039	0.003		
6	6	-107.1	17.5	1.34	2.72	0.078	0.041		
7	0	71.0		0.08					
7	1	-58.1	-83.2	-0.36	-1.44				
7	2	1.3	-27.1	0.05	-0.03				
7	3	20.1	- 5.5	0.45	0.15				
7	4	-13.0	15.9	0.94	0.58				
7	5	0.8	17.8	0.17	-0.37				
7	6	10.8	-23.6	-0.20	0.03				
7	7	-2.7	-9.9	0.09	0.54				
8	0	18.9		0.60					
8	1	7.2	7.5	0.08	-0.08				
8	2	0.9	-17.7	0.22	-0.30				
8	3	-10.4	3.2	0.08	-0.09				
8	4	-7.1	-22.4	-0.24	-0.34				
8	5	4.0	9.4	-0.35	0.31				

TABLE 13-3: GSFC (9/80-2) Magnetic Field Model (Con't)

n	m	g_n^m	h_n^m	$\dot{g}_n^m$	$\dot{h}_n^m$	$\ddot{g}_n^m$	$\ddot{h}_n^m$	$\dddot{g}_n^m$	$\dddot{h}_n^m$
8	6	3.7	16.3	0.53	-0.54				
8	7	7.1	-13.4	-0.48	-0.67				
8	8	-1.3	-15.2	-0.26	0.05				
9	0	5.2		-0.31					
9	1	10.7	-21.8	0.17	0.08				
9	2	1.0	16.0	-0.04	0.09				
9	3	-12.0	8.9	0.02	0.24				
9	4	9.2	-4.9	-0.12	-0.19				
9	5	-3.9	-7.5	-0.27	-0.27				
9	6	-1.1	9.5	-0.04	-0.02				
9	7	7.1	10.8	0.26	-0.05				
9	8	1.5	-5.3		-0 28				
9	9	-5.0	2.1	-0.45	0.15				
10	0	-3.3		-0.12					
10	1	-4.1	1.0	-0.10	-0.07				
10	2	2.7	-0.1	0.04	-0.08				
10	3	-5.5	2.6	-0.09	0.05				
10	4	-1.6	5.5	0.01	-0.06				
10	5	5.2	-4.3	0.01	-0.01				
10	6	2.6	-1.3	-0.19	-0.14				
10	7	1.3	-1.1	0.18	0.11				

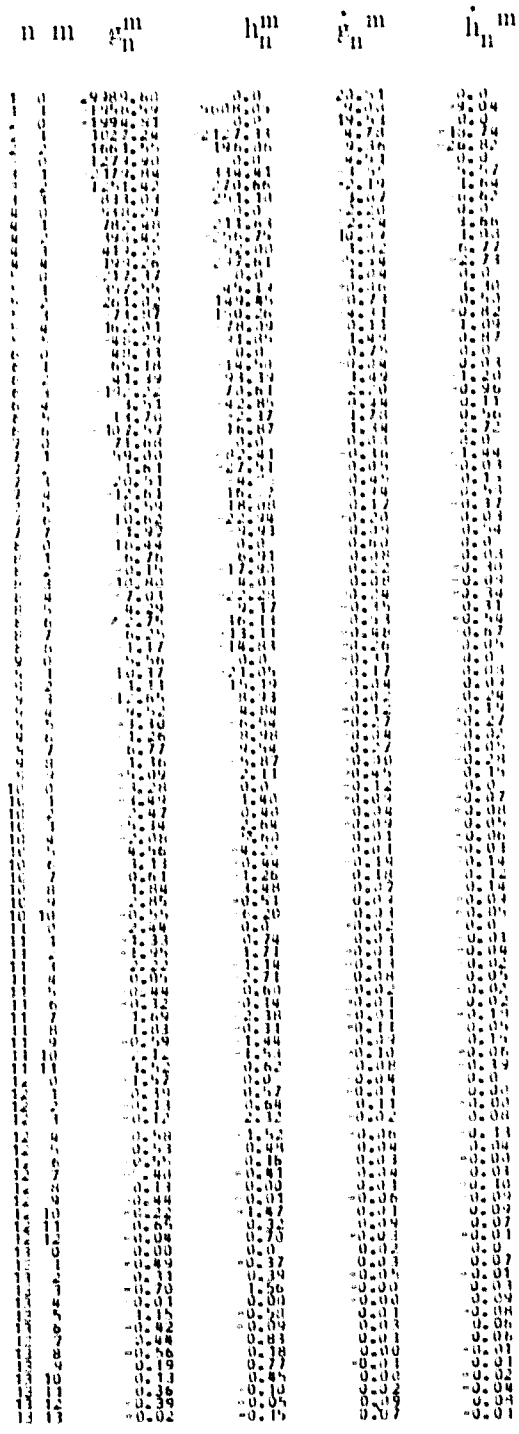
TABLE 13-4: GSFC (9/80-2) Magnetic Field Model (Con't)

n	m	g_n^m	h_n^m	$\dot{g}_n^m$	$\dot{h}_n^m$	$\ddot{g}_n^m$	$\ddot{h}_n^m$	$\dddot{g}_n^m$	$\dddot{h}_n^m$
10	8	2.4	4.4	0.07	0.14				
10	9	3.2	-0.6	0.09	-0.09				
10	10	-0.3	-6.2	0.03	-0.05				
11	0	2.3		-0.02					
11	1	-0.6	1.1	0.03	-0.03				
11	2	-2.3	2.4	-0.03	-0.04				
11	3	2.1	-2.1	-0.13	-0.02				
11	4	0.3	-2.3	0.08	0.05				
11	5	-0.4	0.4	-0.02	-0.02				
11	6	-0.5	-0.1	-0.01	0.02				
11	7	1.4	-3.5	-0.01	-0.19				
11	8	1.5	-0.2	-0.11	0.05				
11	9	-0.8	-0.7	0.09	0.15				
11	10	1.9	-1.7	-0.10	-0.06				
11	11	3.4	-0.1	0.08	-0.39				
12	0	-2.0		-0.04					
12	1	-0.2	0.5	-0.03					
12	2	0.5	0.5	0.11					
12	3	-0.3	2.9	-0.02	0.08				
12	4	-0.2	-1.9	-0.06	-0.13				
12	5	1.1	0.5	0.04	0.04				

TABLE 13-5: GSFC (9/80-2) Magnetic Field Model (Con't)

n	m	g_n^m	h_n^m	$\dot{g}_n^m$	$\dot{h}_n^m$	$\ddot{g}_n^m$	$\ddot{h}_n^m$	$\dddot{g}_n^m$	$\dddot{h}_n^m$
12	6	-0.3	0.2	0.03					
12	7	0.1	.2	0.04	0.03				
12	8	0.2	-0.3	0.01	-0.10				
12	9	-0.5	-0.5	-0.06	-0.09				
12	10	0.5	-0.6	0.01	0.09				
12	11	0.8	0.6	0.09	-0.07				
12	12	0.3	-0.1	-0.03	-0.01				
13	0	0.5		0.02					
13	1	-0.2	0.3	0.03	0.07				
13	2	0.2	0.2	-0.05	-0.01				
13	3	-0.6	1.5		0.03				
13	4	0.2	0.8		0.09				
13	5	0.9	-1.0	0.01	-0.08				
13	6	0.2	0.2	0.03	0.06				
13	7	0.3	1.2	0.03	0.06				
13	8	-0.5	-0.2		-0.01				
13	9	0.2	0.7	-0.01	0.01				
13	10	0.4	-0.1		-0.02				
13	11	0.2	-0.5	0.02	-0.04				
13	12		0.4	0.09	0.08				
13	13	0.6	-0.4	0.07	-0.01				

TABLE 14: MG680982 Magnetic Field Model (Hybrid)



EXTRD 20.3506 -.57065 -.403

TABLE 15

MGST (4/81 - 2) Magnetic Field Model (Mean Radius of the Earth is 6371.2 km; Mean Epoch is 1980.0)

n	m	g_n^m	h_n^m	$\dot{g}_n^m$	$\dot{h}_n^m$	n	m	g_n^m	h_n^m	$\dot{g}_n^m$	$\dot{h}_n^m$
1	0	-29987.1992	0.0	25.5006	0.0						
1	1	-1956.8499	5604.6992	12.7797	-22.4291						
2	0	-1996.1599	0.0	-10.9121	0.0						
2	1	3027.3999	-2129.4900	0.4997	-12.8701						
2	2	1663.4700	-199.5940	11.0924	-20.7837	10	0	-3.1655	0.0	0.0	0.0
3	0	1279.8398	0.0	-5.5591	0.0	10	1	-3.7985	1.2410	0.0	0.0
3	1	-2181.0098	-334.3179	-6.8558	3.9476	10	2	2.4283	0.3517	0.0	0.0
3	2	1251.3899	271.1260	-2.8656	1.2512	10	3	-5.6169	2.8965	0.0	0.0
3	3	832.9939	-252.2270	-0.4574	-9.3632	10	4	-1.8245	5.8108	0.0	0.0
4	0	937.7239	0.0	-0.8866	0.0	10	5	4.4932	-4.2533	0.0	0.0
4	1	782.4900	212.1590	1.7974	-0.4077	10	6	3.3183	-0.1433	0.0	0.0
4	2	398.8809	-256.7009	-6.7219	-1.7278	10	7	0.6620	-1.3152	0.0	0.0
4	3	-419.4490	52.3576	0.7458	5.7137	10	8	2.2744	3.1297	0.0	0.0
4	4	198.1100	-297.8259	-7.1757	-4.0504	10	9	3.0744	-0.2220	0.0	0.0
5	0	-217.1930	0.0	0.8506	0.0	10	10	-0.5127	-6.4101	0.0	0.0
5	1	357.8259	45.8589	-1.8311	1.1179	11	0	2.5306	0.0	0.0	0.0
5	2	261.0789	150.0330	-0.2326	1.5023	11	1	-1.3179	0.8516	0.0	0.0
5	3	-74.3122	-150.6050	-3.3072	-1.9304	11	2	-1.7512	1.3518	0.0	0.0
5	4	-161.9970	-77.7046	1.5411	3.5556	11	3	2.4466	-1.5451	0.0	0.0
5	5	-48.0779	92.3465	-2.8648	0.6250	11	4	0.1943	-3.2202	0.0	0.0
6	0	48.4670	0.0	1.8391	0.0	11	5	-0.8793	0.4874	0.0	0.0
6	1	65.0140	-14.6005	2.2172	-1.5358	11	6	-0.3620	-0.3112	0.0	0.0
6	2	41.8842	93.2305	0.5549	-2.7061	11	7	1.3695	-2.3564	0.0	0.0
6	3	-191.9640	70.9701	0.8889	-0.7413	11	8	1.5004	-0.2571	0.0	0.0
6	4	3.4732	-43.0250	0.8978	1.1510	11	9	-0.6277	-1.4790	0.0	0.0
6	5	13.8394	-2.1551	0.2548	0.6146	11	10	1.8995	-1.9808	0.0	0.0
6	6	-107.5630	17.2746	-1.3382	3.8416	11	11	3.5150	1.1033	0.0	0.0
7	0	72.0457	0.0	1.0795	0.0	12	0	-1.6658	0.0	0.0	0.0
7	1	-59.1687	-82.5246	-2.4521	-1.2790	12	1	0.0256	0.4031	0.0	0.0
7	2	1.6301	-27.1809	0.1458	0.9416	12	2	-0.1926	0.6179	0.0	0.0
7	3	20.9040	-5.1868	0.6488	0.9903	12	3	-0.1506	2.2822	0.0	0.0
7	4	-12.1437	15.9127	-0.6511	-0.2454	12	4	0.8084	-1.3900	0.0	0.0
7	5	0.4333	17.9332	-1.6620	-0.5056	12	5	0.5401	0.3849	0.0	0.0
7	6	10.2831	-23.0047	1.2556	-0.6845	12	6	-0.4816	0.1485	0.0	0.0
7	7	-1.8357	-9.9483	1.4643	1.7987	12	7	-0.2130	-0.2573	0.0	0.0
8	0	18.4998	0.0	0.0	0.0	12	8	0.3159	0.1197	0.0	0.0
8	1	6.7175	7.2322	0.0	0.0	12	9	-0.5973	-0.0053	0.0	0.0
8	2	-0.2359	-17.5606	0.0	0.0	12	10	-0.1681	-1.3414	0.0	0.0
8	3	[illegible]8967	3.7609	0.0	0.0	12	11	0.8132	0.5922	0.0	0.0
8	4	[illegible]2094	-22.2458	0.0	0.0	12	12	-0.0091	0.9256	0.0	0.0
8	5	[illegible]3976	9.1350	0.0	0.0	13	0	0.0411	0.0	0.0	0.0
8	6	2.5015	16.1418	0.0	0.0	13	1	-0.4080	-0.4635	0.0	0.0
8	7	6.0789	-13.3017	0.0	0.0	13	2	0.5084	0.2589	0.0	0.0
8	8	-0.8228	-14.8067	0.0	0.0	13	3	-0.5793	1.2100	0.0	0.0
9	0	5.3647	0.0	0.0	0.0	13	4	-0.1343	-0.2075	0.0	0.0
9	1	10.4460	-20.9417	0.0	0.0	13	5	0.8523	-0.5053	0.0	0.0
9	2	1.4050	15.4728	0.0	0.0	13	6	-0.5145	-0.0883	0.0	0.0
9	3	-12.1238	8.6556	0.0	0.0	13	7	0.1587	0.8596	0.0	0.0
9	4	9.4872	-5.0625	0.0	0.0	13	8	-0.8705	0.2690	0.0	0.0
9	5	-3.5681	-6.8346	0.0	0.0	13	9	0.1739	0.3787	0.0	0.0
9	6	-1.0295	8.9911	0.0	0.0	13	10	-0.0871	0.2080	0.0	0.0
9	7	6.8808	9.6780	0.0	0.0	13	11	0.3253	-0.1189	0.0	0.0
9	8	1.4149	-5.6725	0.0	0.0	13	12	-0.4895	-0.3603	0.0	0.0
9	9	-5.0474	2.1854	0.0	0.0	13	13	0.4457	-0.9202	0.0	0.0

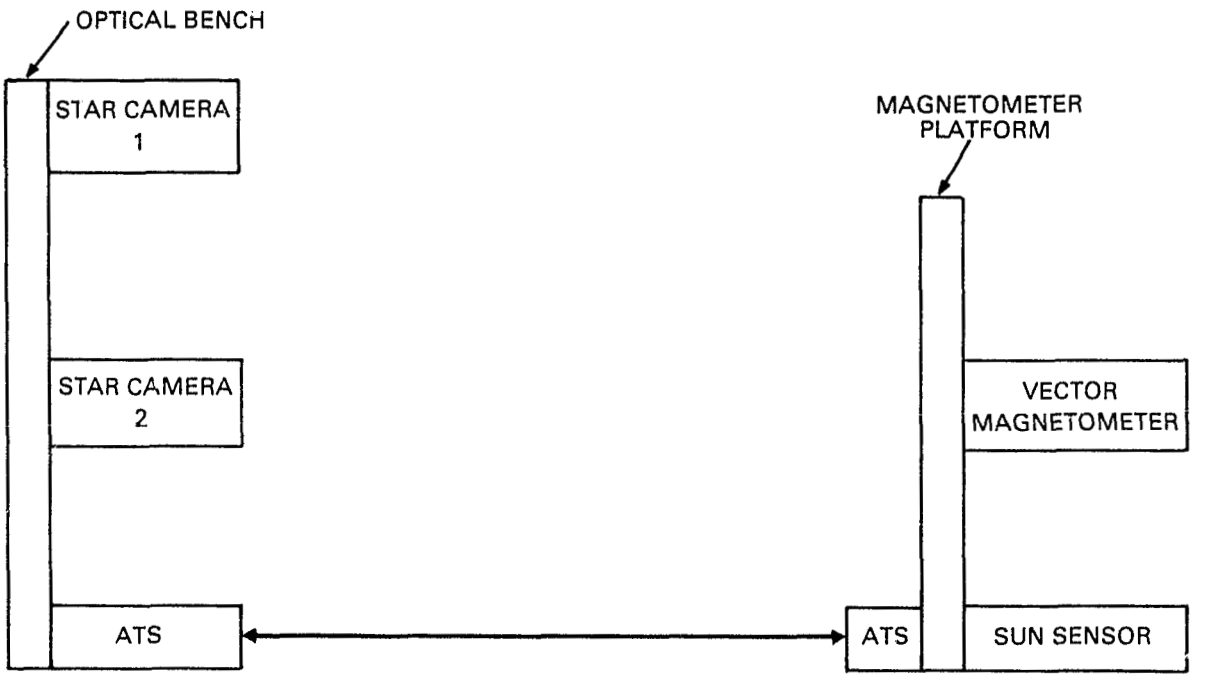


Figure 1. Block Schematic of the Magsat Fine Attitude System

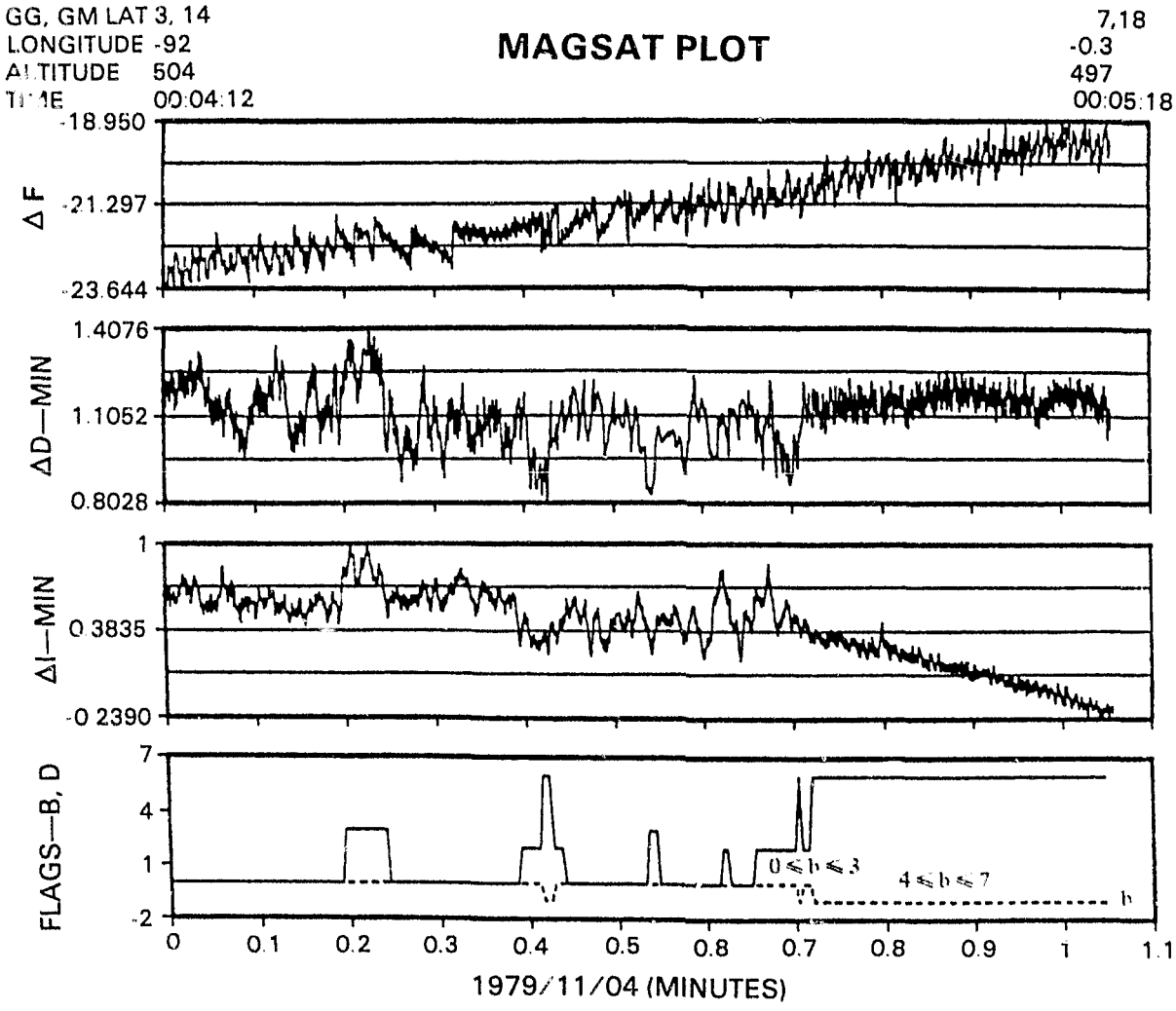


Figure 2 Correlation of data jumps with changes in the attitude flag. The "b" character is plotted as a dotted line with 0 for $0 \leqslant b \leqslant 3$ and - 1 for $4 \leqslant b \leqslant 7$. The "d" character is plotted as a solid line. (Figure furnished by J. C. Cain of the USGS).

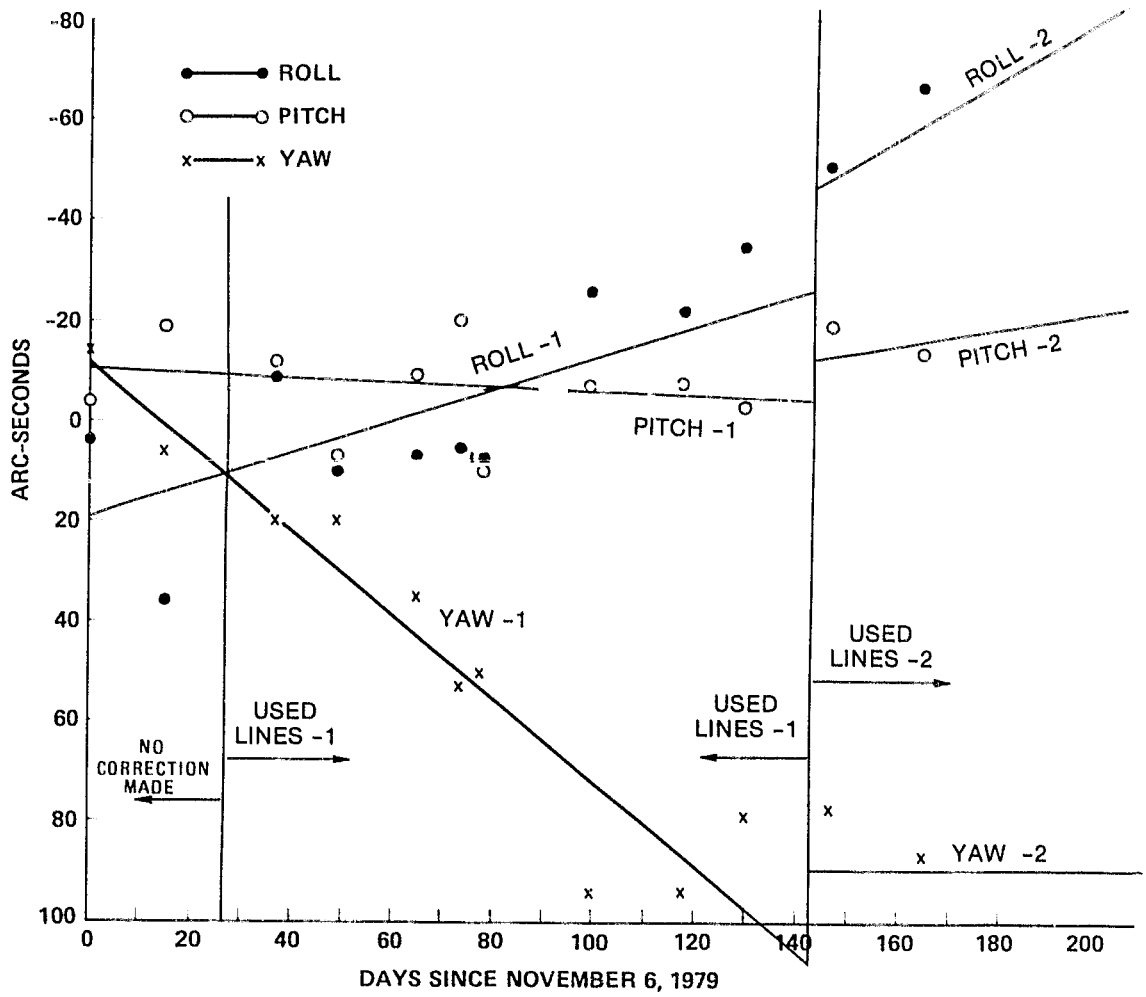


Figure 3. Changes in attitude alignment, data adjustments, for the pitch, roll, and yaw axis. Fine attitude data only.

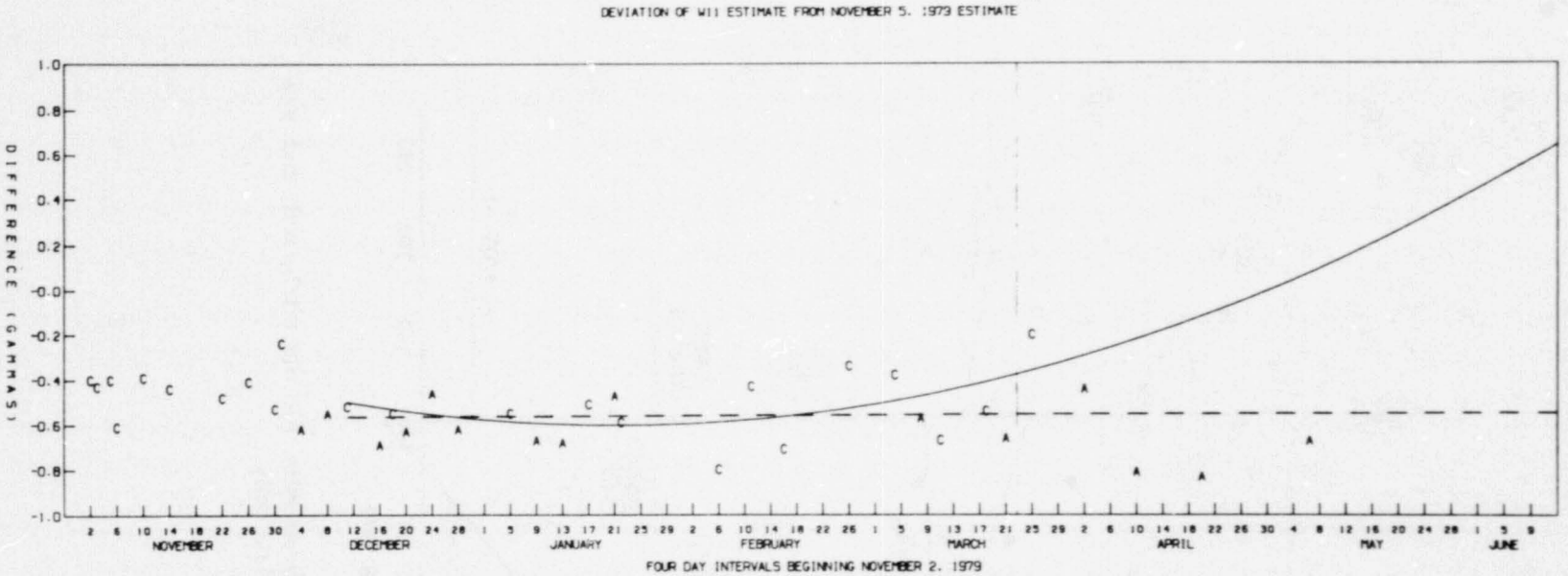


Figure 4. Deviation of W11 estimate from November 5, 1979 estimate.

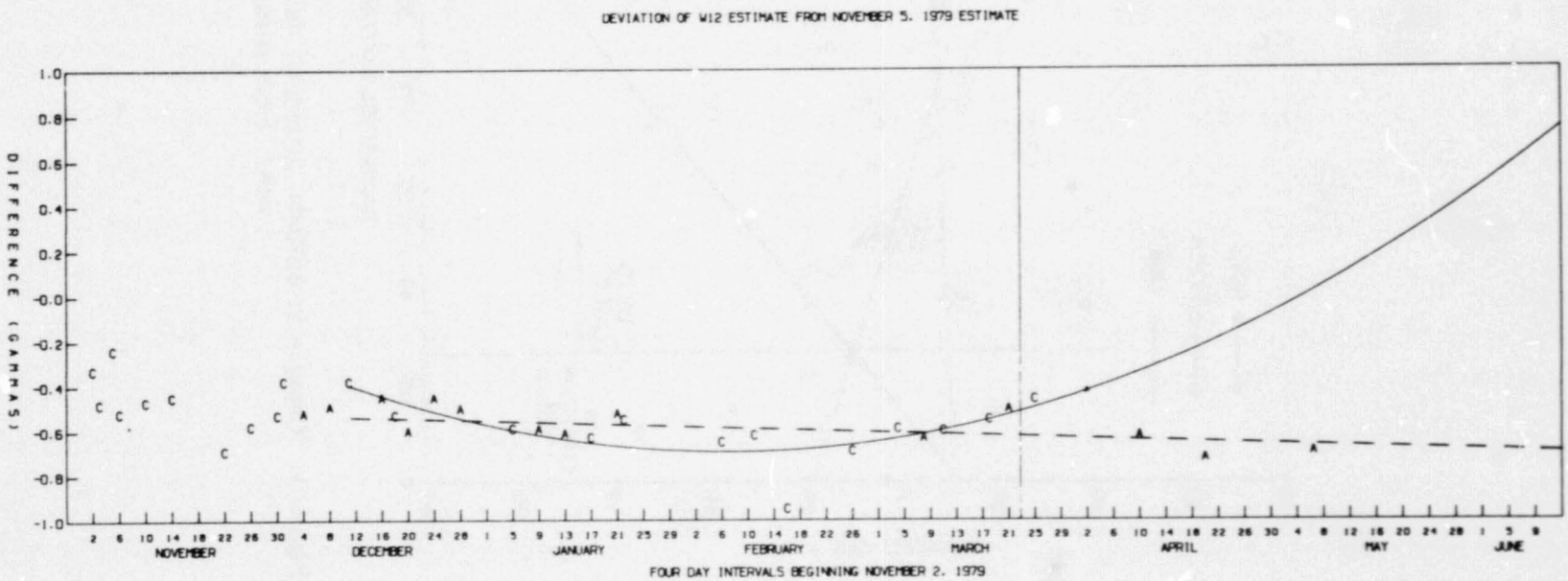


Figure 5. Deviation of W12 estimate from November 5, 1979 estimate.

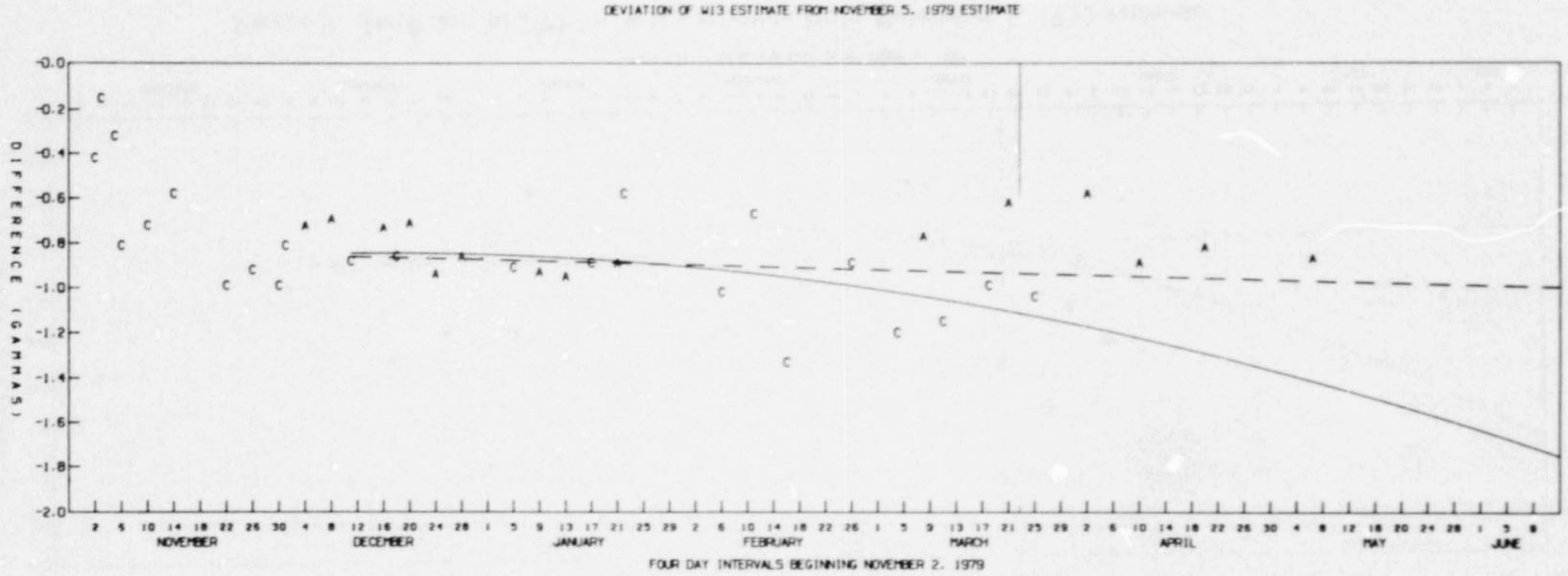


Figure 6. Deviation of W13 estimate from November 5, 1979 estimate.

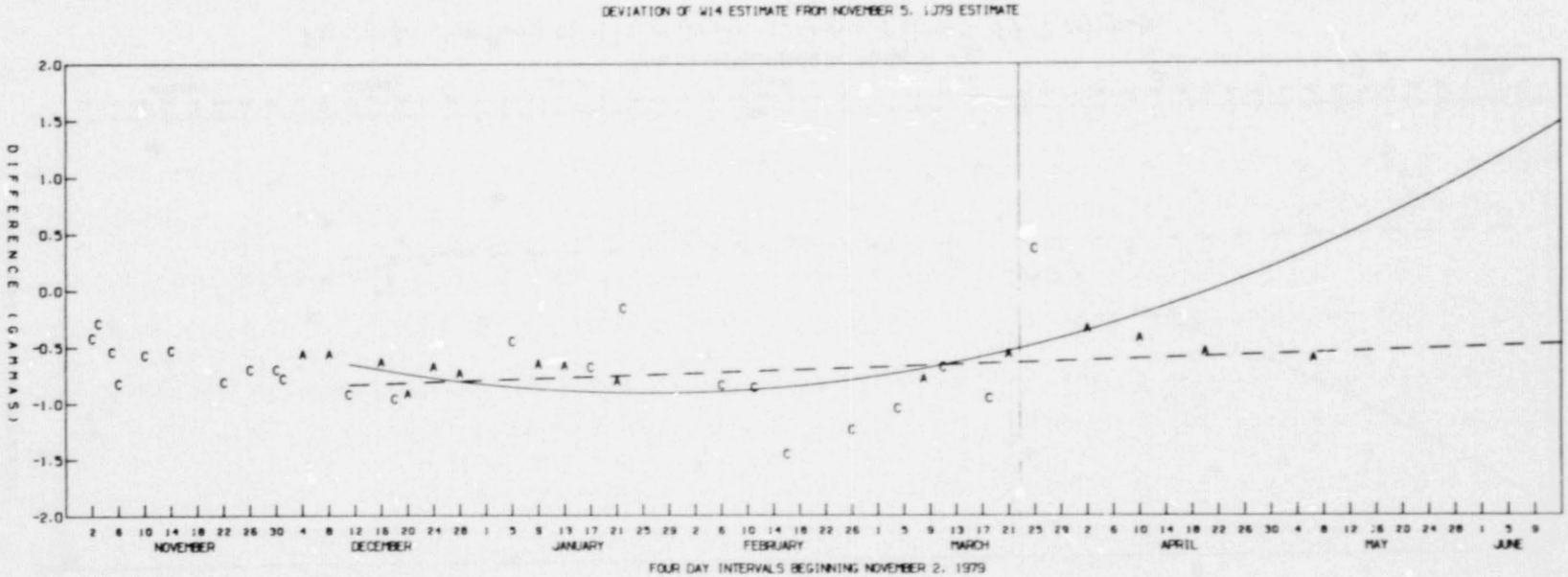


Figure 7. Deviation of W14 estimate from November 5, 1979 estimate.

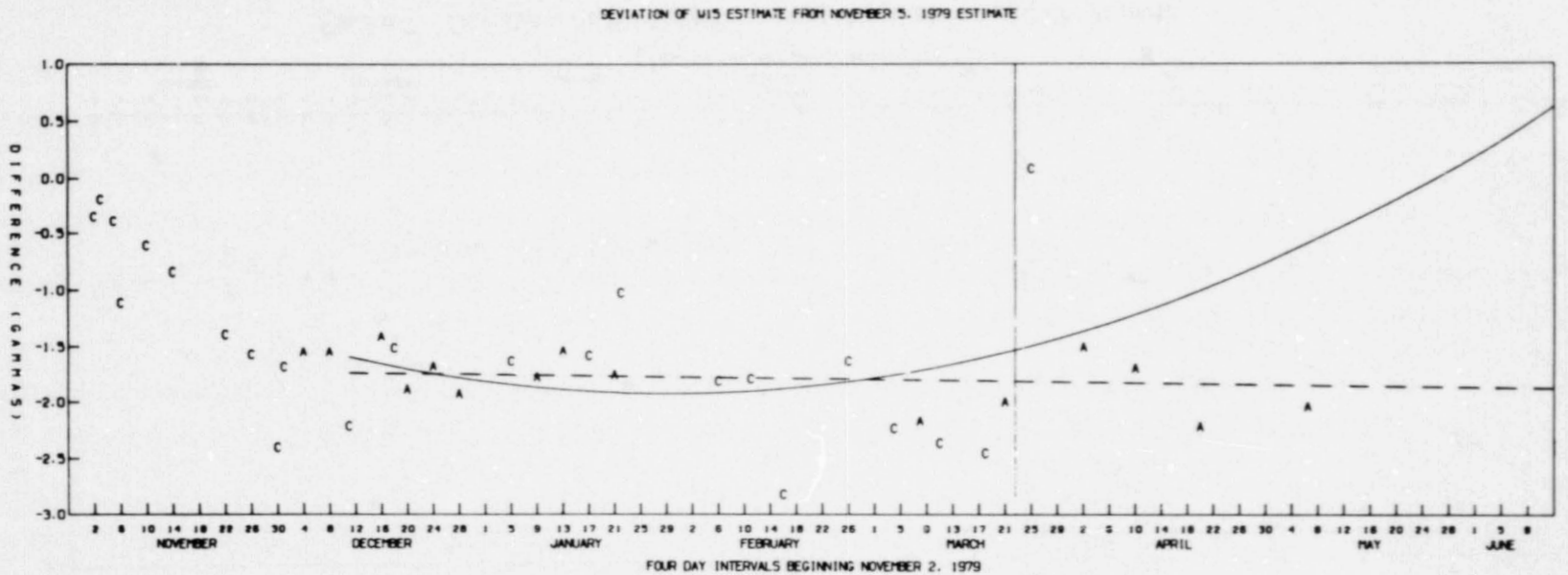


Figure 8. Deviation of W15 estimate from November 5, 1979 estimate.

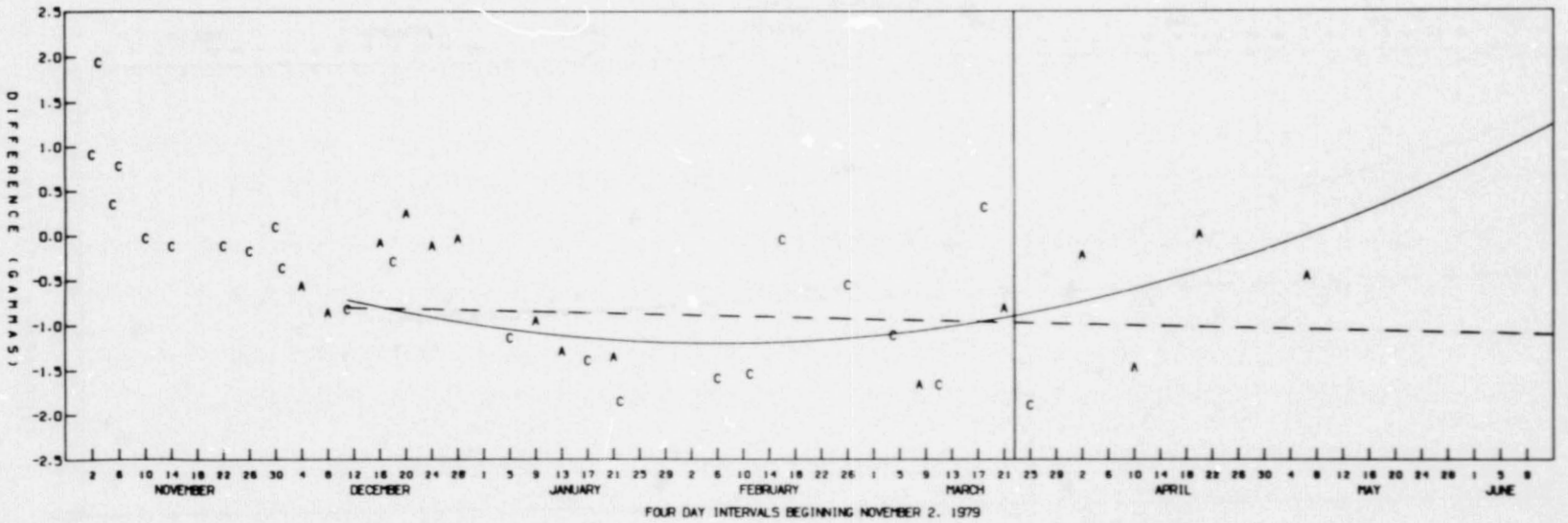


Figure 9. Deviation of (W17 – W16) estimate from November 5, 1979 estimate.

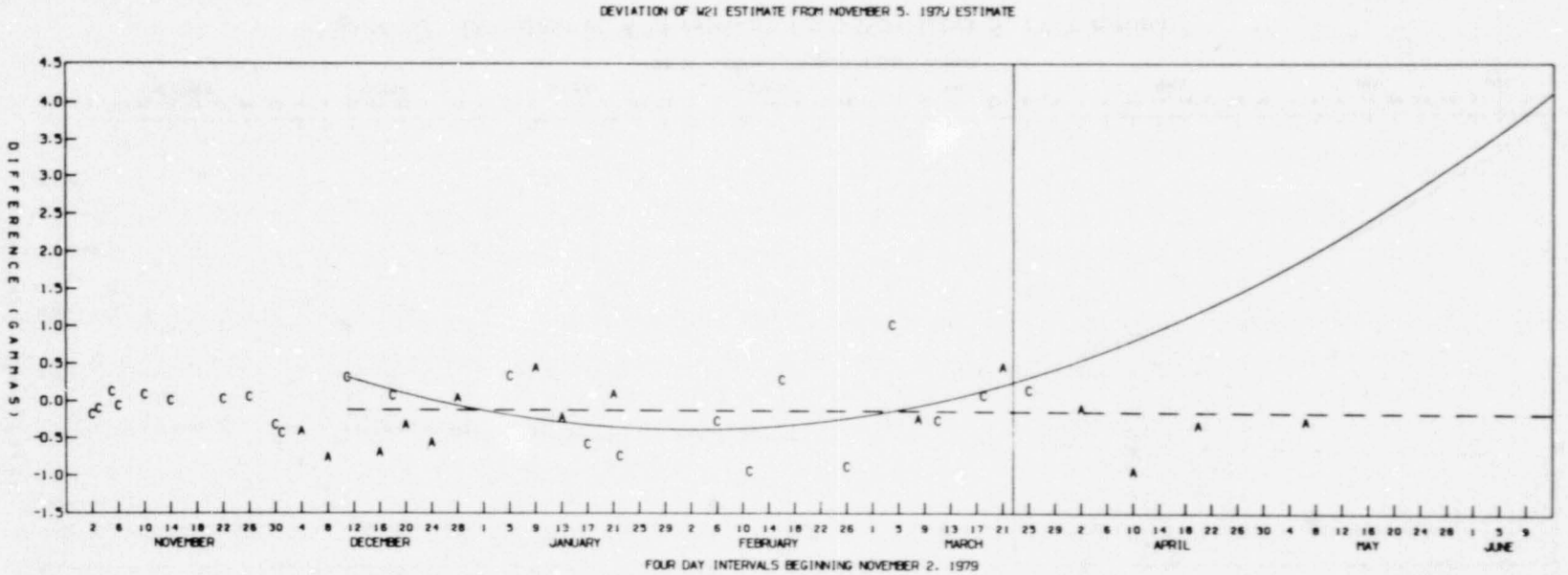


Figure 10. Deviation of W21 estimate from November 5, 1979 estimate.

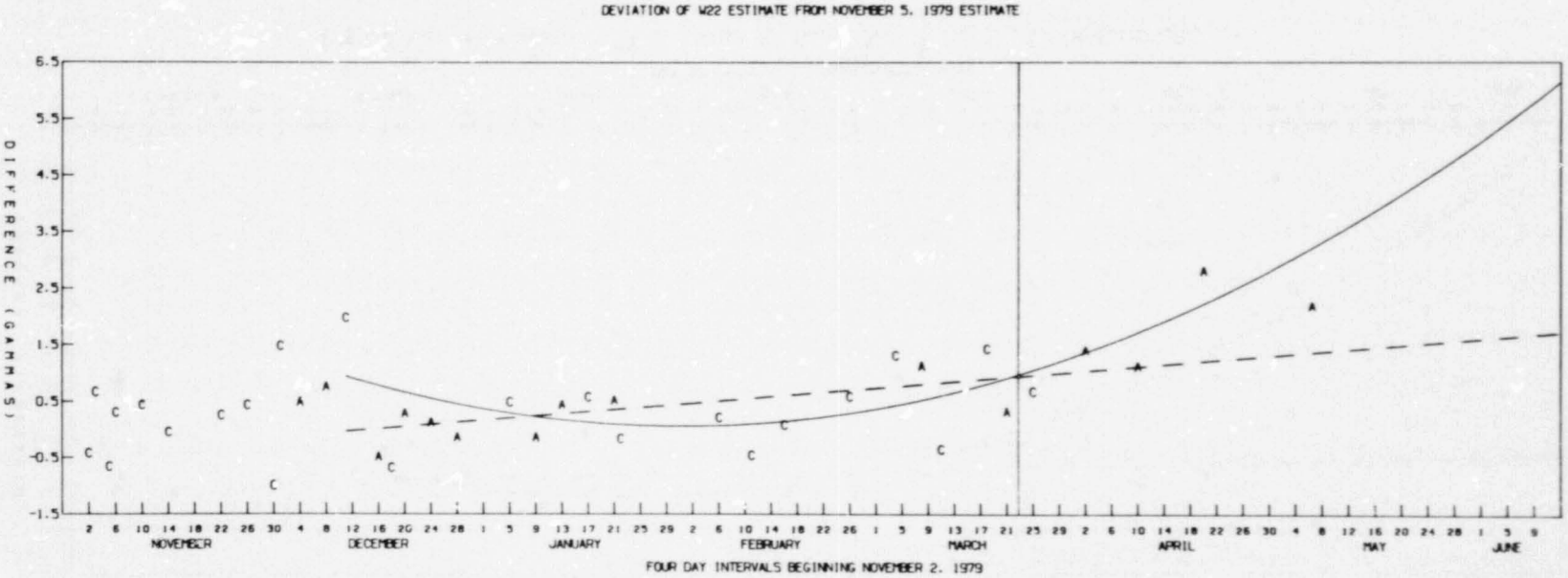


Figure 11. Deviation of W22 estimate from November 5, 1979 estimate.

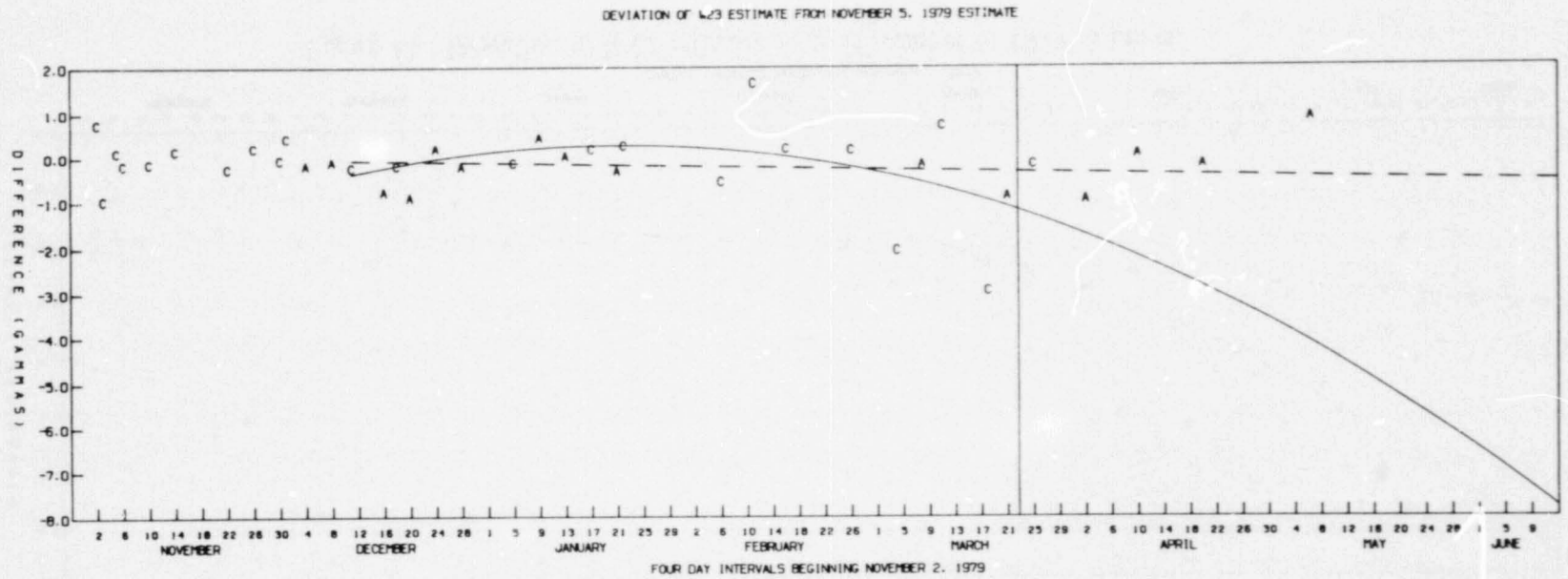


Figure 12. Deviation of W23 estimate from November 5, 1979 estimate.

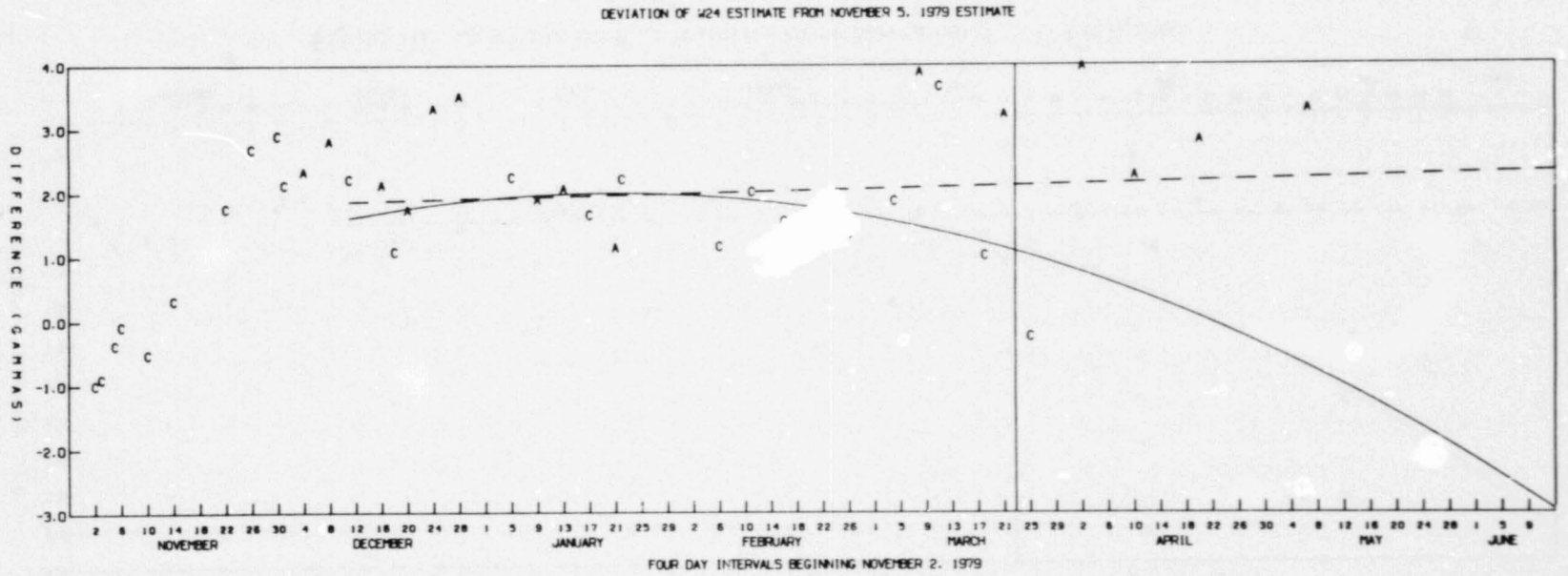


Figure 13. Deviation of W24 estimate from November 5, 1979 estimate.

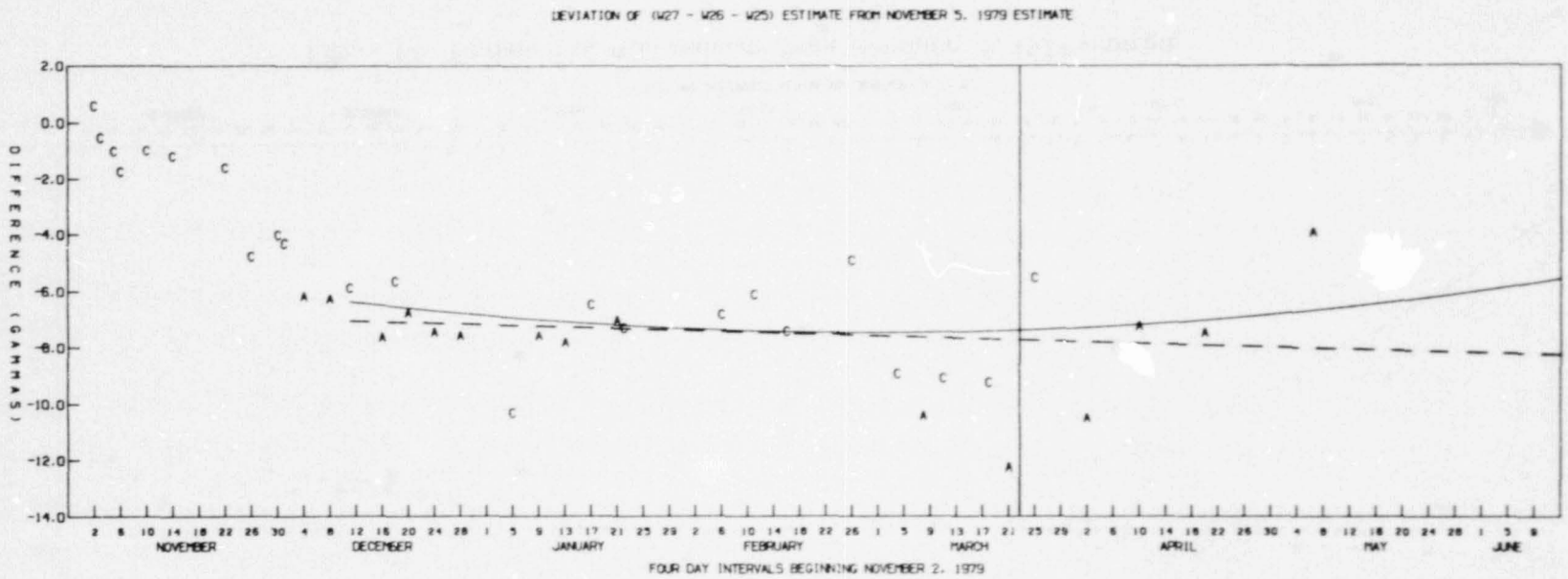


Figure 14. Deviation of (W27 - W26 - W25) estimate from November 5, 1979 estimate.

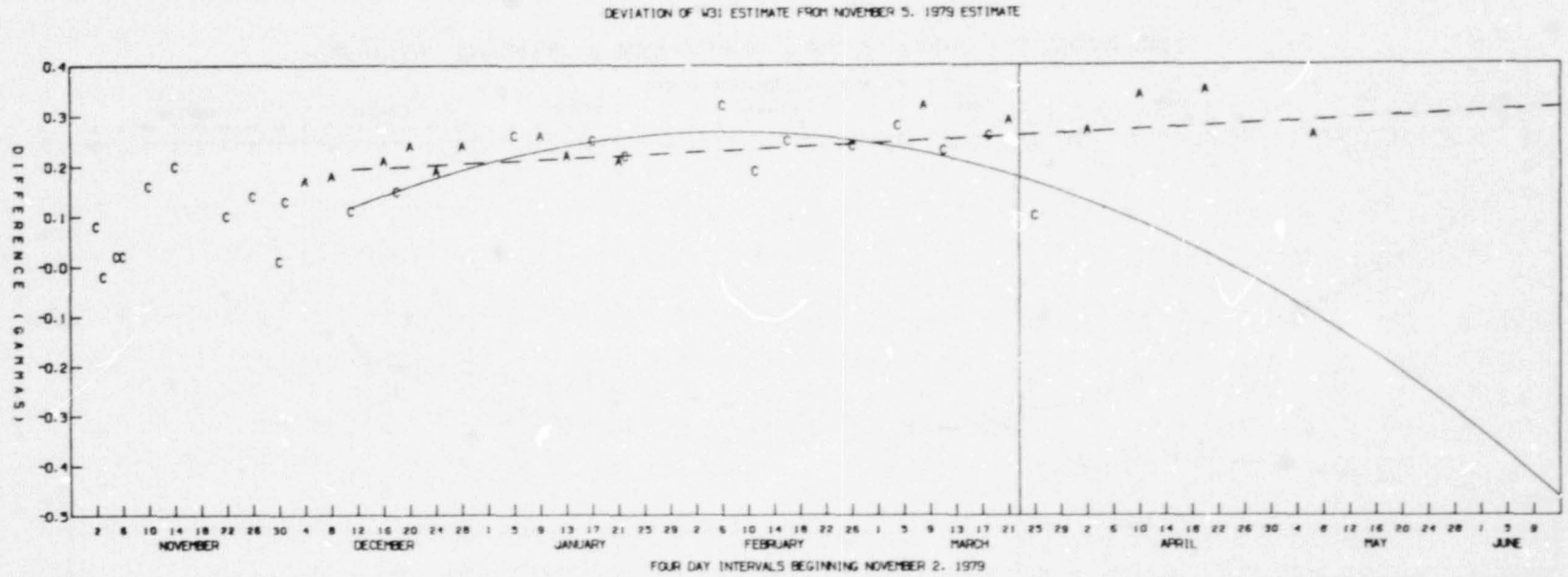


Figure 15. Deviation of W31 estimate from November 5, 1979 estimate.

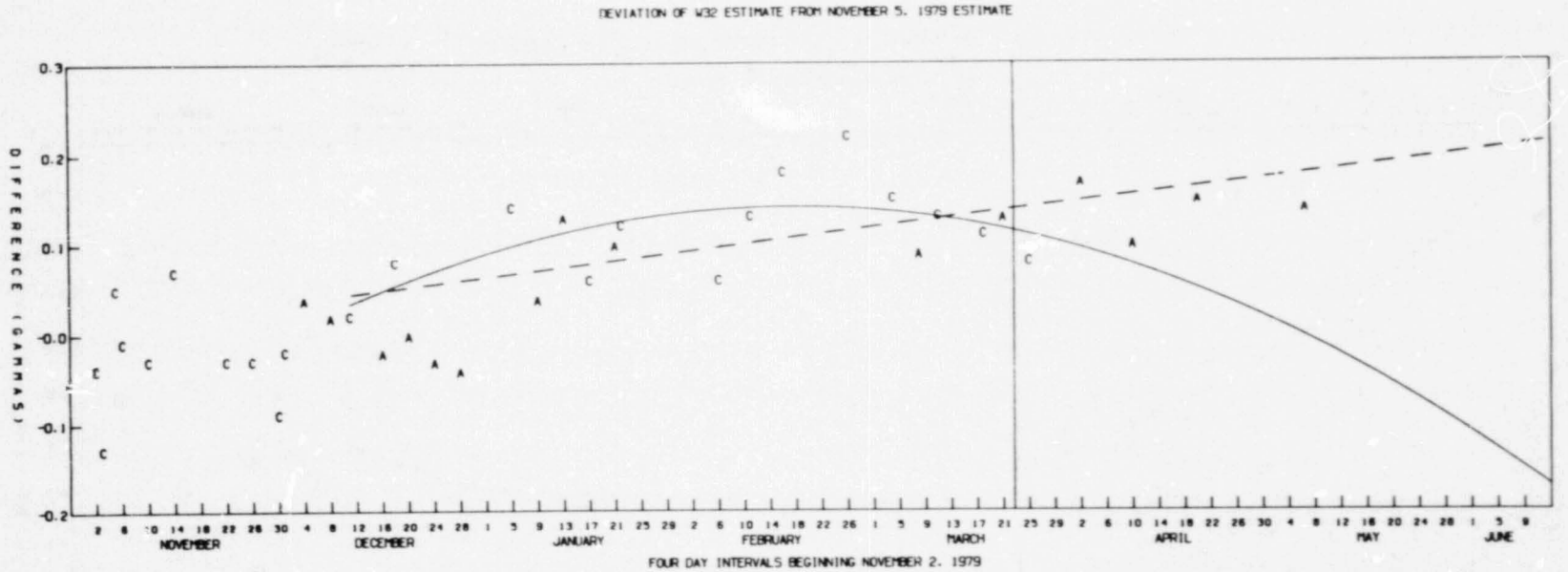


Figure 16. Deviation of W32 estimate from November 5, 1979 estimate.

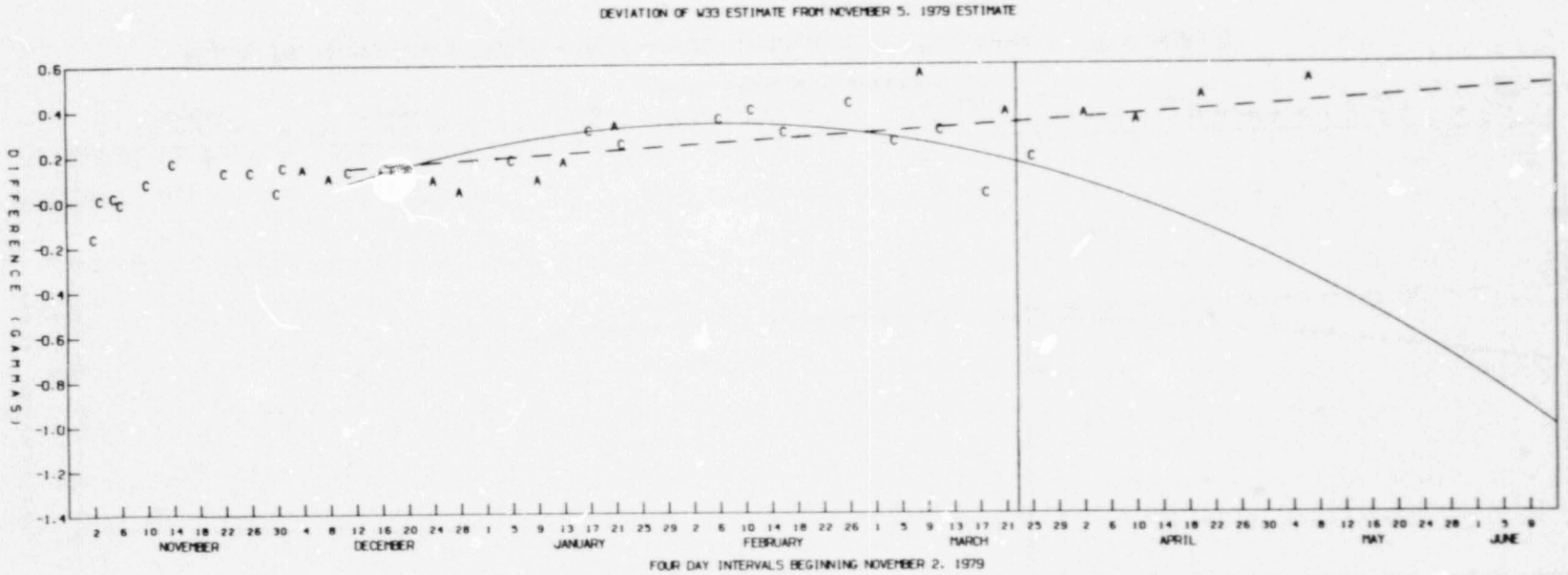


Figure 17. Deviation of W33 estimate from November 5, 1979 estimate.

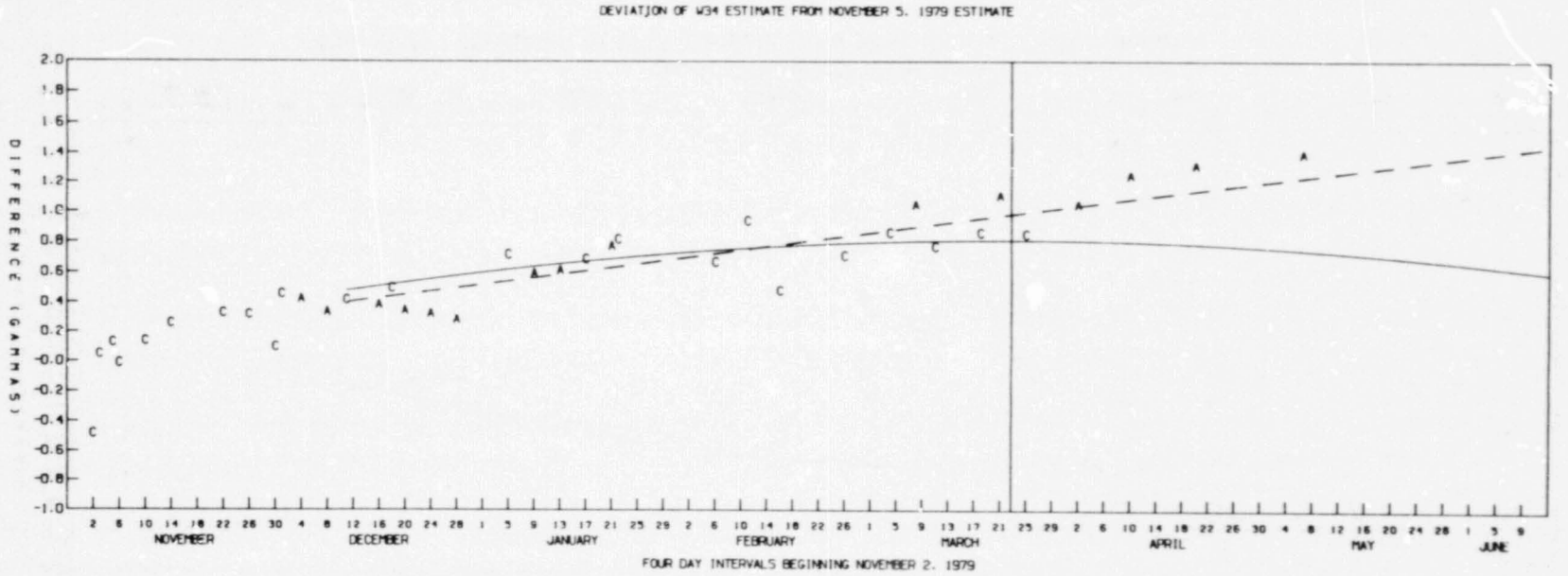


Figure 18. Deviation of W34 estimate from November 5, 1979 estimate.

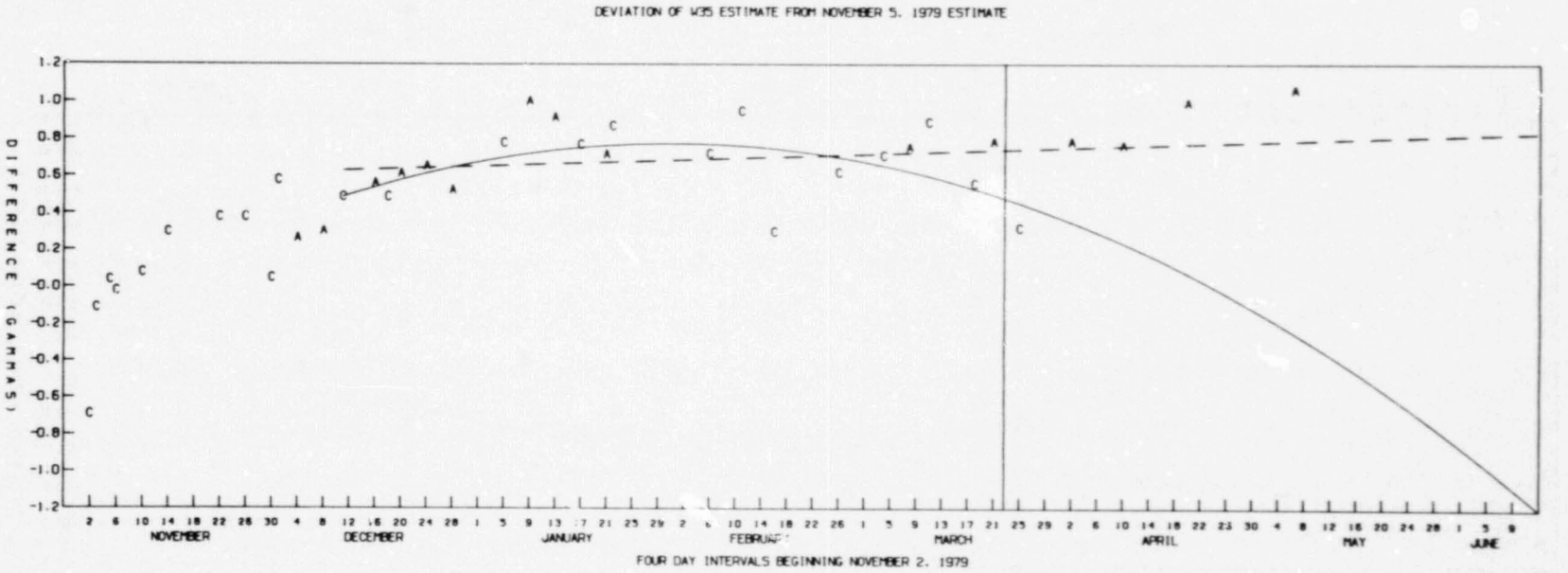


Figure 19. Deviation of W35 estimate from November 5, 1979 estimate.

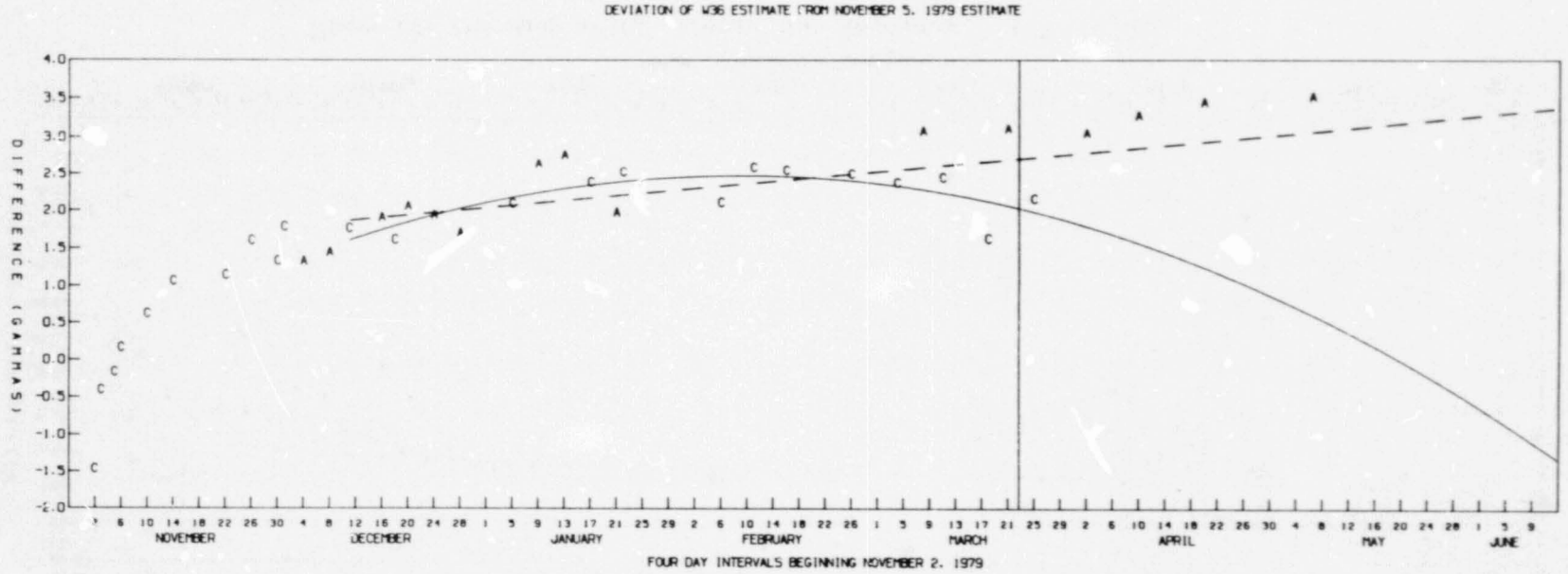


Figure 20. Deviation of W36 estimate from November 5, 1979 estimate.

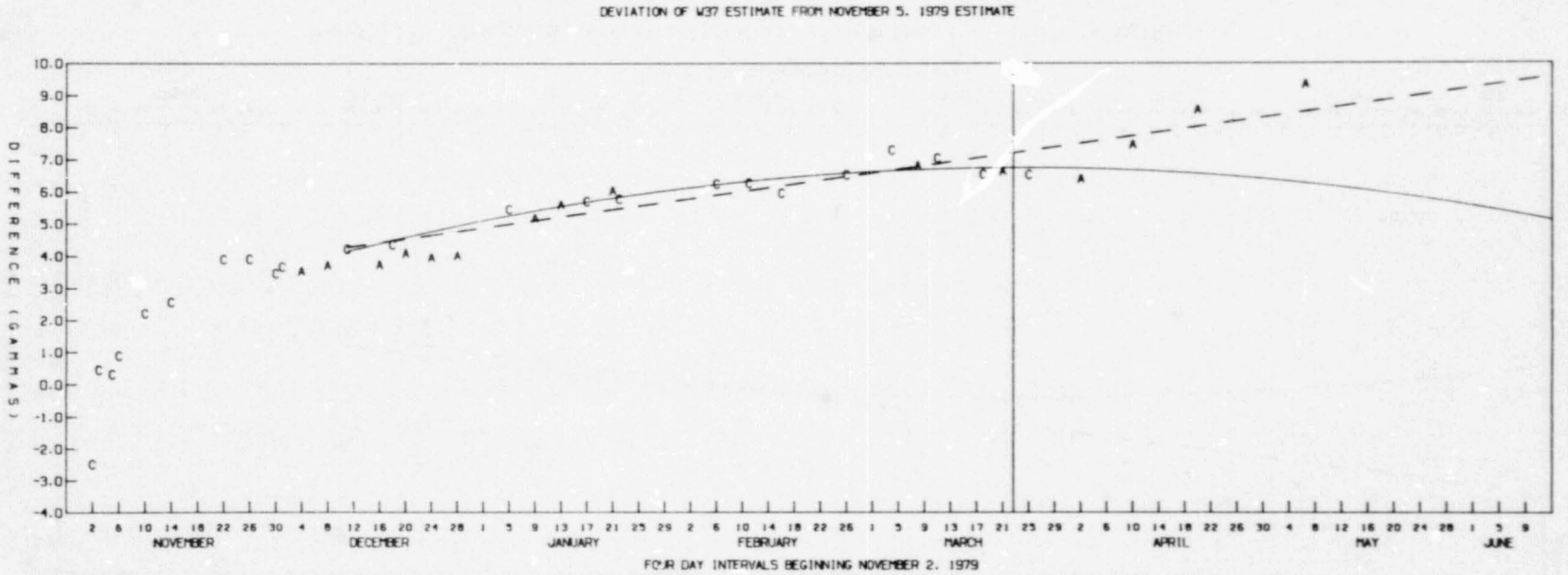


Figure 21. Deviation of W37 estimate from November 5, 1979 estimate.

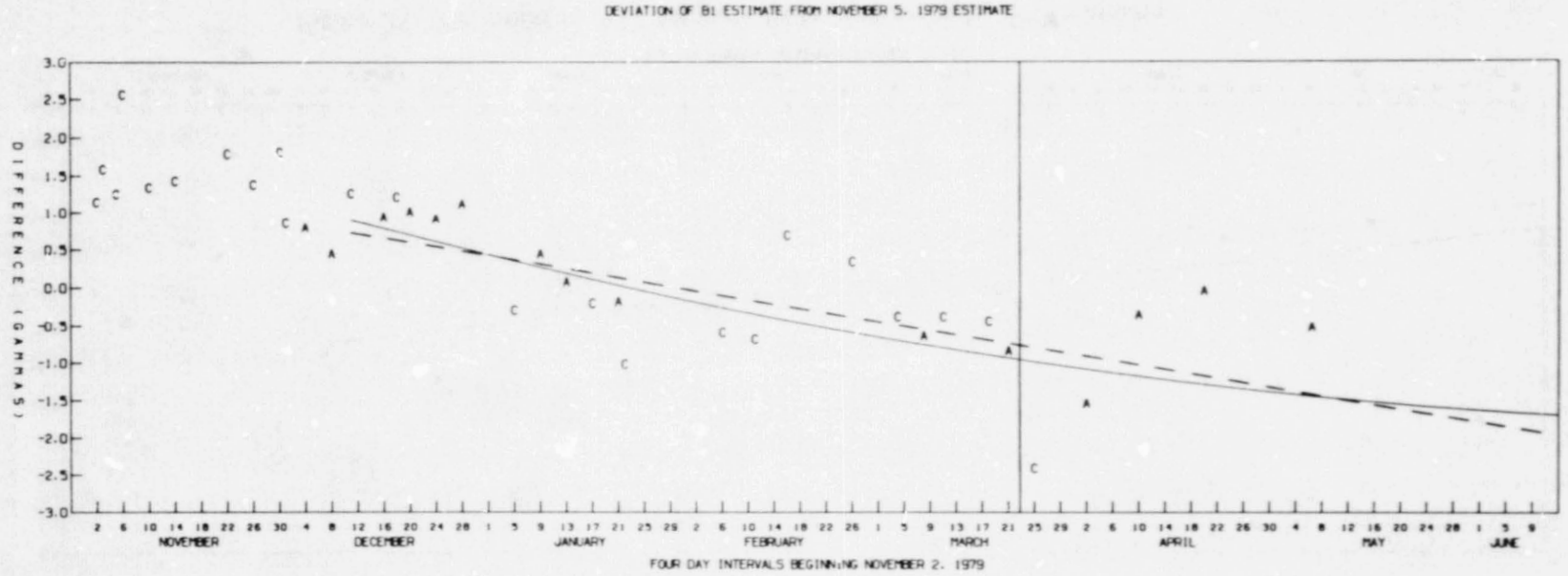


Figure 22. Deviation of B1 estimate from November 5, 1979 estimate.

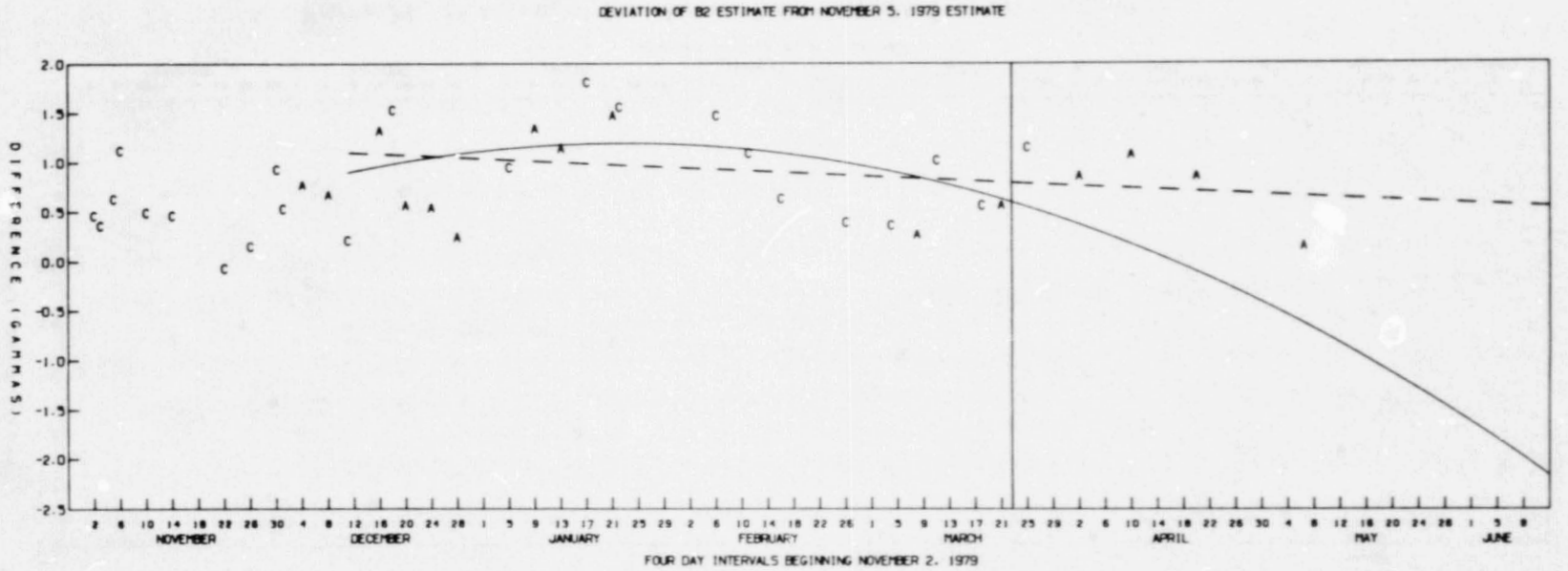


Figure 23. Deviation of B2 estimate from November 5, 1979 estimate.

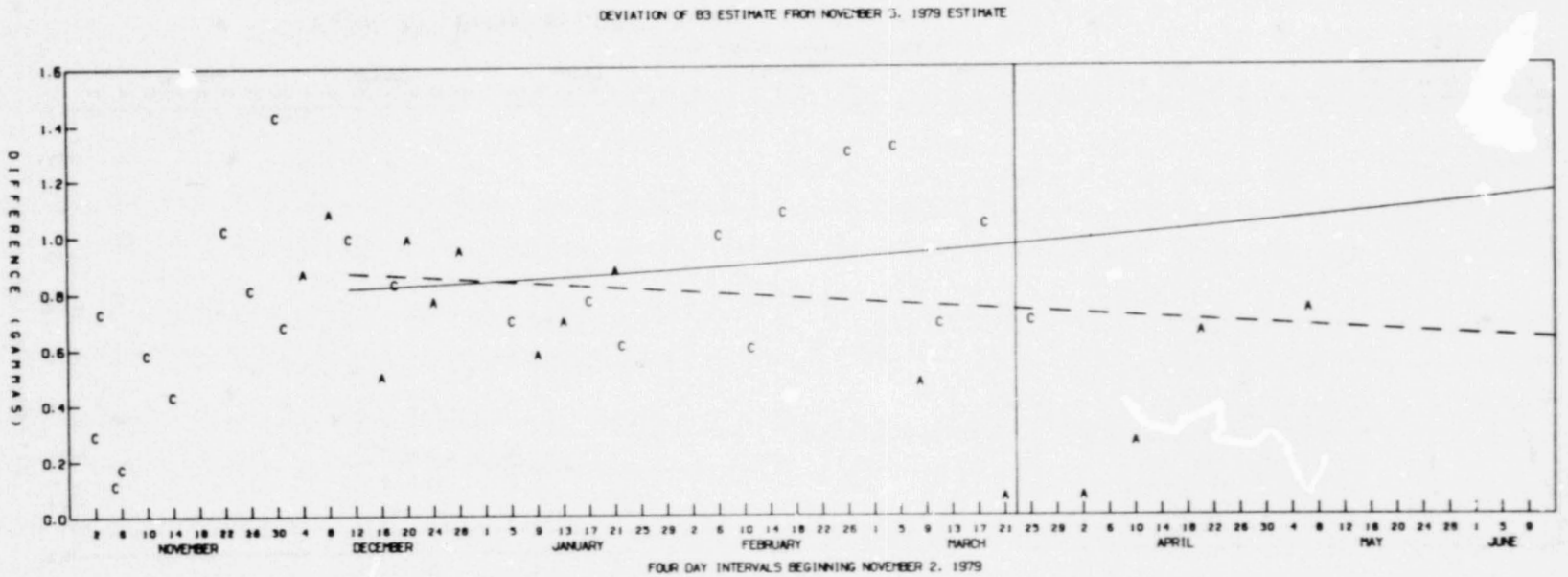


Figure 24. Deviation of B3 estimate from November 5, 1979 estimate.

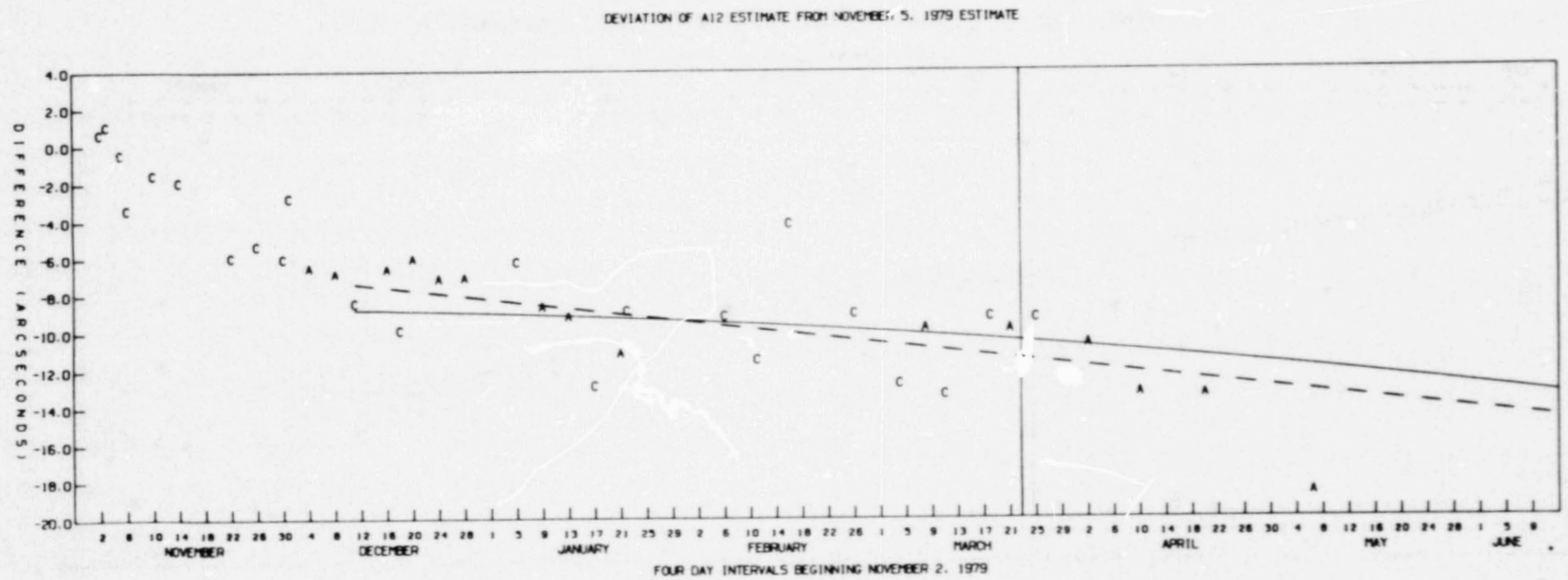


Figure 25. Deviation of A12 estimate from November 5, 1979 estimate.

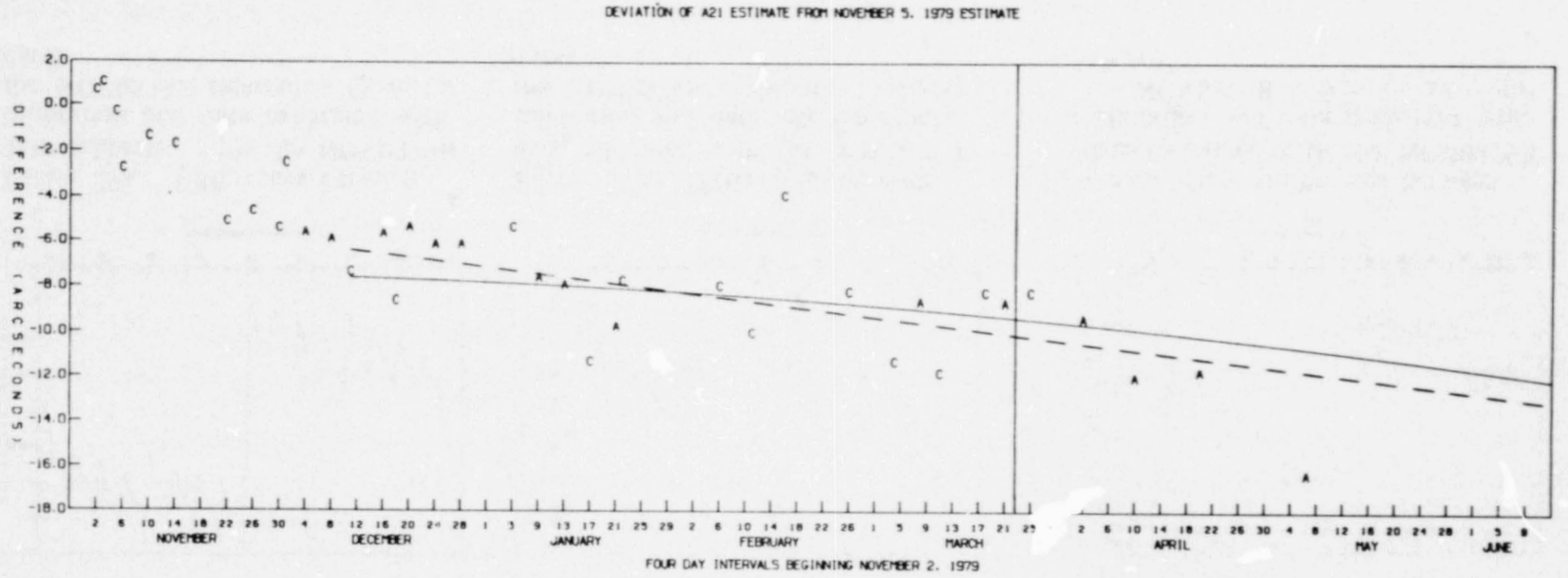


Figure 26. Deviation of A21 estimate from November 5, 1979 estimate.

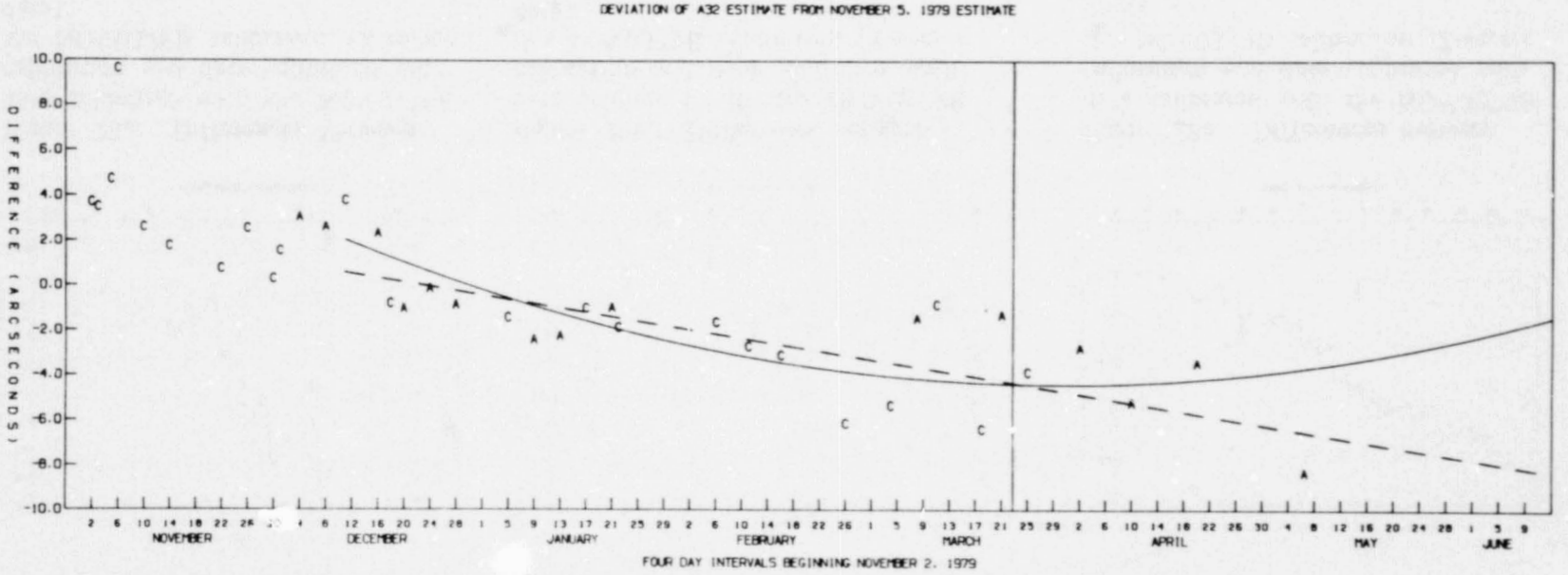


Figure 27. Deviation of A32 estimate from November 5, 1979 estimate.

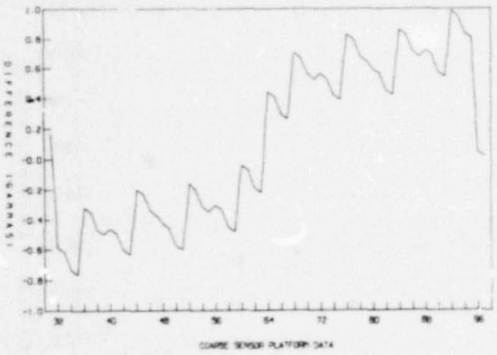


Figure 28a. Differences between data calibrated with the NOV0279B calibration and data calibrated with the NOV0379B calibration (X-vector data).

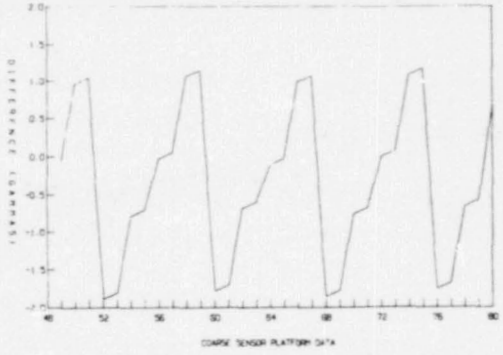


Figure 28b. Differences between data calibrated with the NOV0279B calibration and data calibrated with the NOV0379B calibration (Y-vector data).

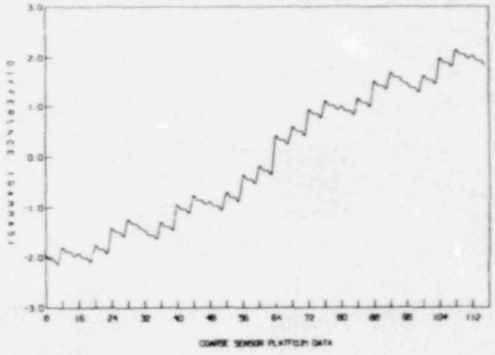


Figure 28c. Differences between data calibrated with the NOV0279B calibration and data calibrated with the NOV0379B calibration (Z-vector data).

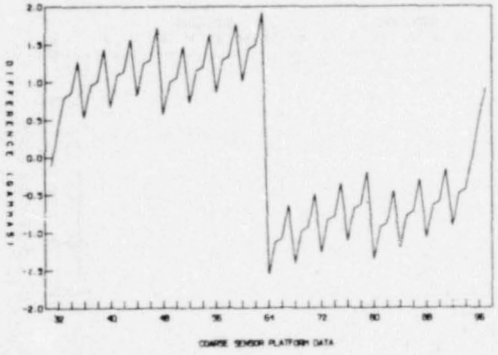


Figure 29a. Differences between data calibrated with the NOV0379B calibration and data calibrated with the NOV0579B calibration (X-vector data).

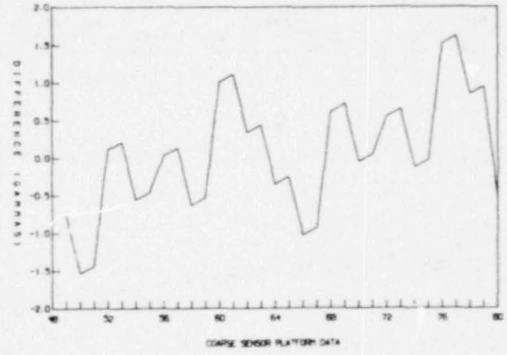


Figure 29b. Differences between data calibrated with the NOV0379B calibration and data calibrated with the NOV0579B calibration (Y-vector data).

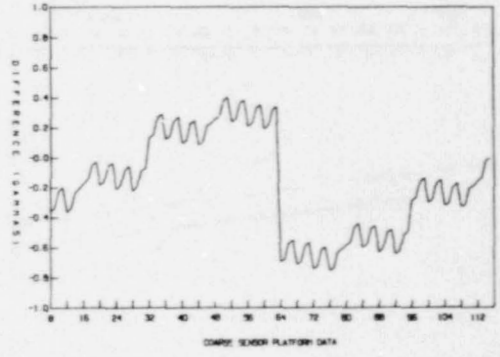


Figure 29c. Differences between data calibrated with the NOV0379B calibration and data calibrated with the NOV0579B calibration (Z-vector data).

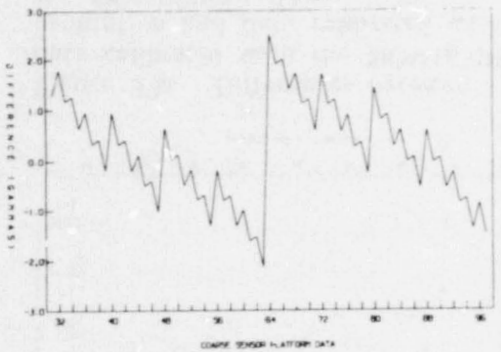


Figure 30a. Differences between data calibrated with the NOV0579B calibration and data calibrated with the NOV0679B calibration (X-vector data).

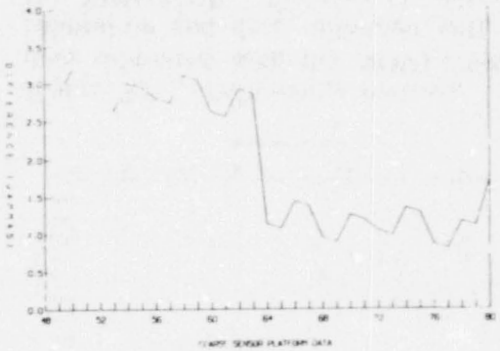


Figure 30b. Differences between data calibrated with the NOV0579B calibration and data calibrated with the NOV0679B calibration (Y-vector data).

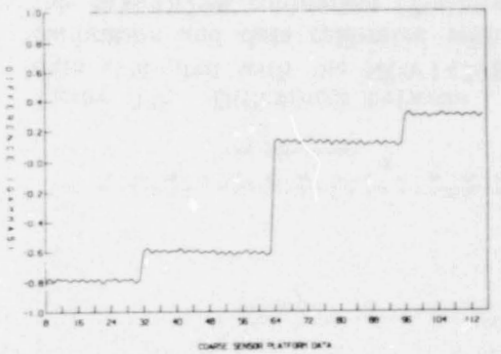


Figure 30c. Differences between data calibrated with the NOV0579B calibration and data calibrated with the NOV0679B calibration (Z-vector data).

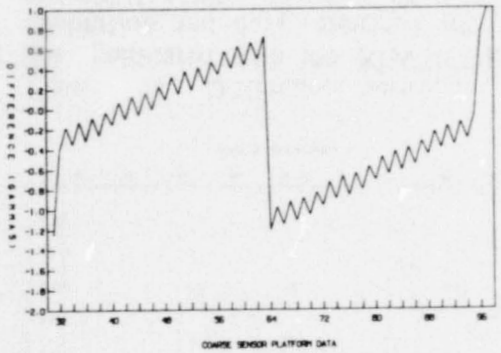


Figure 31a. Differences between data calibrated with the NOV0679B calibration and data calibrated with the NOV1079B calibration (X-vector data).

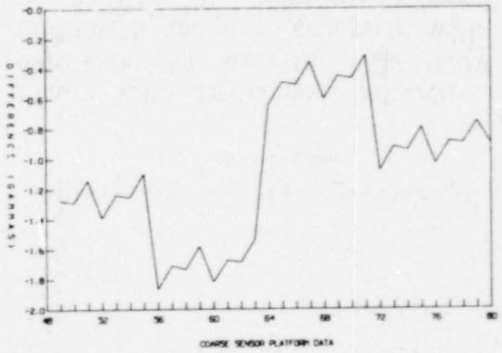


Figure 31b. Differences between data calibrated with the NOV0679B calibration and data calibrated with the NOV1079B calibration (Y-vector data).

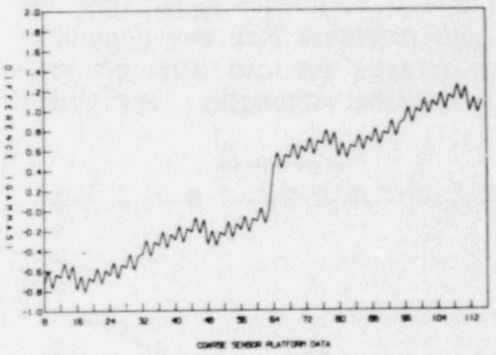


Figure 31c. Differences between data calibrated with the NOV0679B calibration and data calibrated with the NOV1079B calibration (Z-vector data).

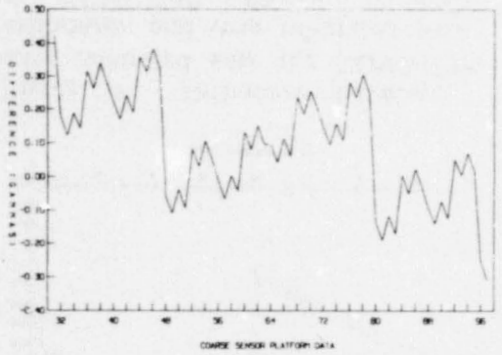


Figure 32a. Differences between data calibrated with the NOV1079B calibration and data calibrated with the NOV1479B calibration (X-vector data).

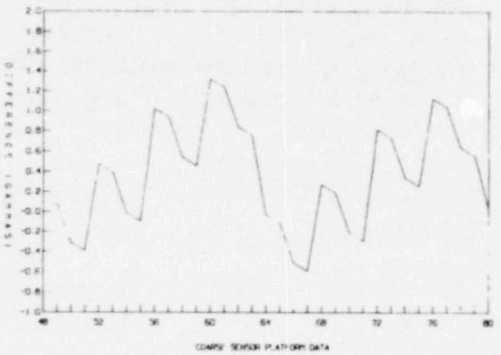


Figure 32b. Differences between data calibrated with the NOV1079B calibration and data calibrated with the NOV1479B calibration (Y-vector data).

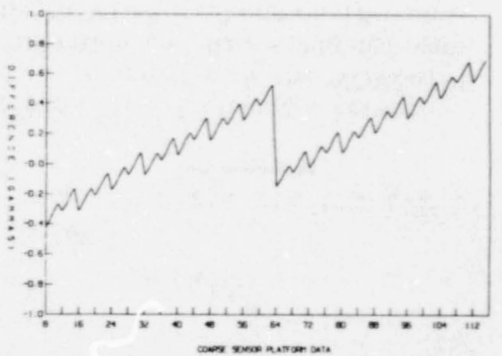


Figure 32c. Differences between data calibrated with the NOV1079B calibration and data calibrated with the NOV1479B calibration (Z-vector data).

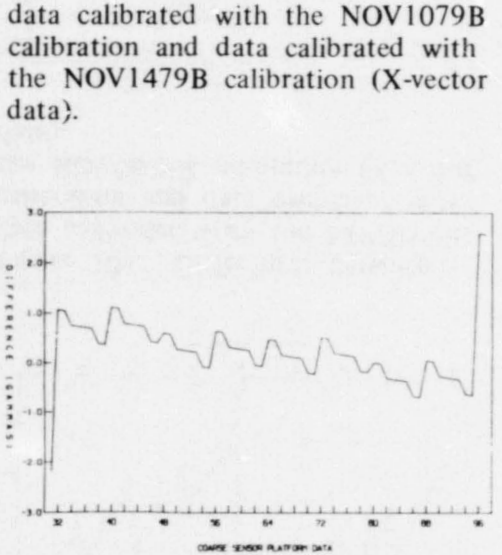


Figure 33a. Differences between data calibrated with the NOV1479B calibration and data calibrated with the NOV1879B calibration (X-vector data).

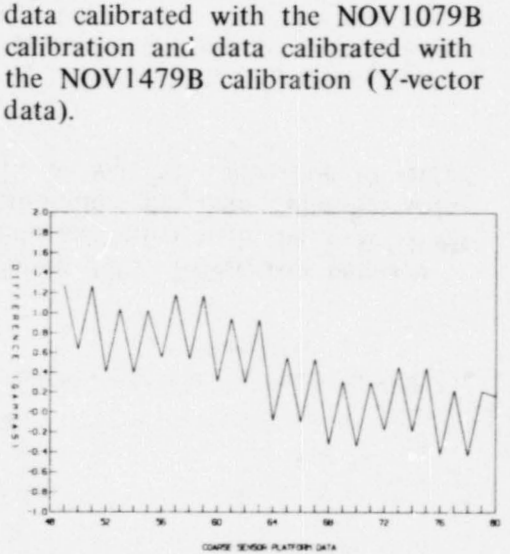


Figure 33b. Differences between data calibrated with the NOV1479B calibration and data calibrated with the NOV1879B calibration (Y-vector data).

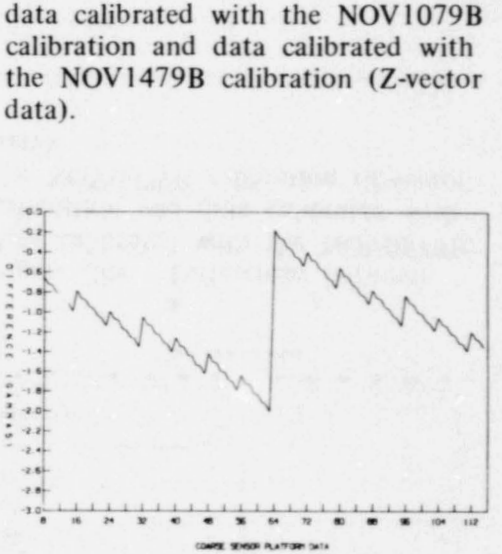


Figure 33c. Differences between data calibrated with the NOV1479B calibration and data calibrated with the NOV1879B calibration (Z-vector data).

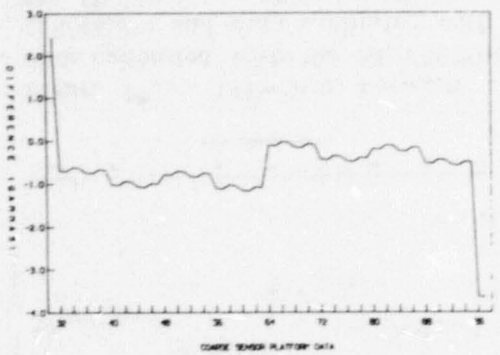


Figure 34a. Differences between data calibrated with the NOV1879B calibration and data calibrated with the NOV2279B calibration (X-vector data).

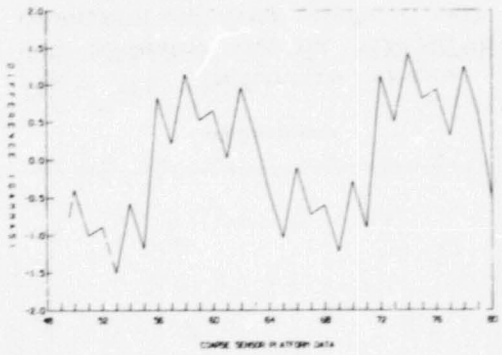


Figure 34b. Differences between data calibrated with the NOV1879B calibration and data calibrated with the NOV2279B calibration (Y-vector data).

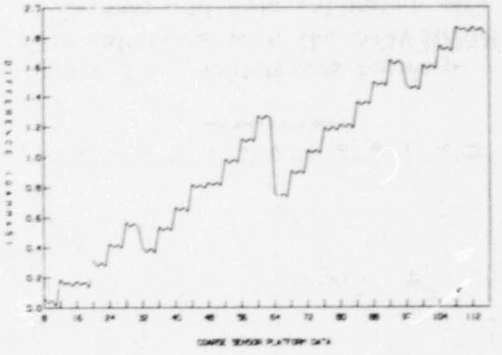


Figure 34c. Differences between data calibrated with the NOV1879B calibration and data calibrated with the NOV2279B calibration (Z-vector data).

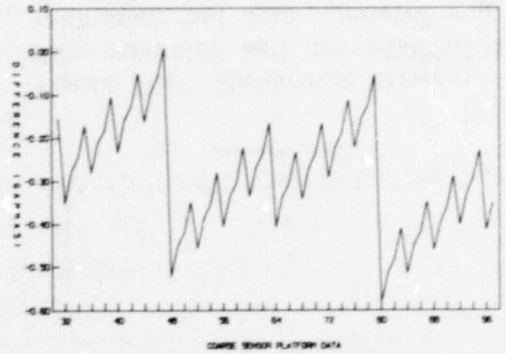


Figure 35a. Differences between data calibrated with the NOV2279B calibration and data calibrated with the NOV2679B calibration (X-vector data).

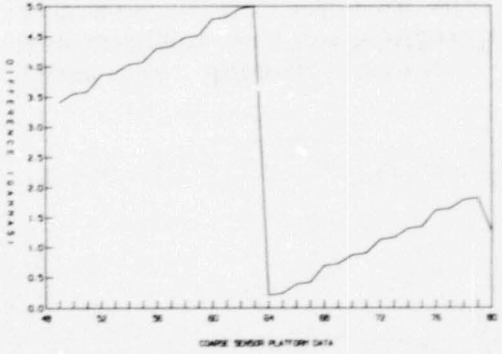


Figure 35b. Differences between data calibrated with the NOV2279B calibration and data calibrated with the NOV2679B calibration (Y-vector data).

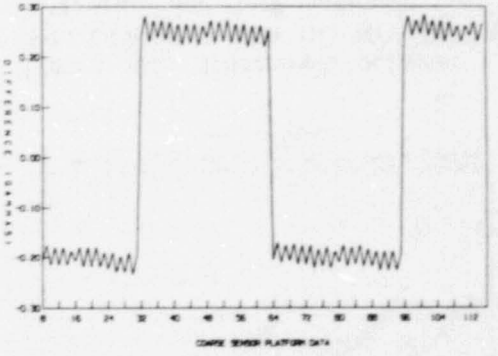


Figure 35c. Differences between data calibrated with the NOV2279B calibration and data calibrated with the NOV2679B calibration (Z-vector data).

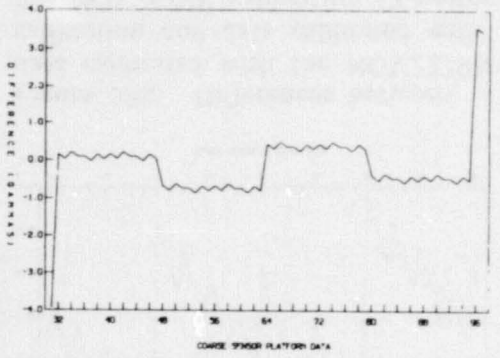


Figure 36a. Differences between data calibrated with the NOV2679B calibration and data calibrated with the NOV3079B calibration (X-vector data).

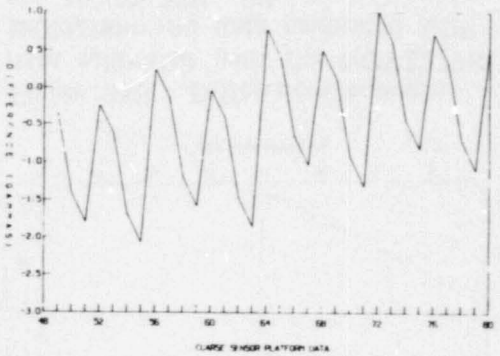


Figure 36b. Differences between data calibrated with the NOV2679B calibration and data calibrated with the NOV3079B calibration (Y-vector data).

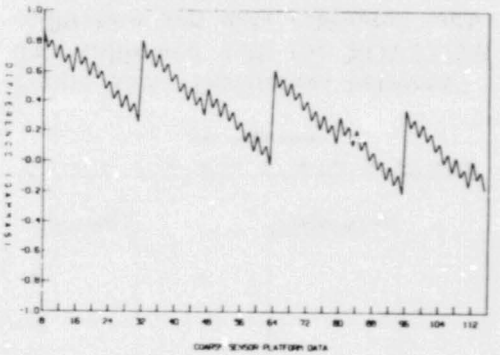


Figure 36c. Differences between data calibrated with the NOV2679B calibration and data calibrated with the NOV3079B calibration (Z-vector data).

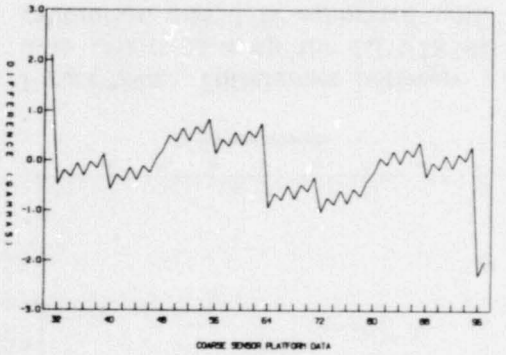


Figure 37a. Differences between data calibrated with the NOV3079B calibration and data calibrated with the DEC0179B calibration (X-vector data).

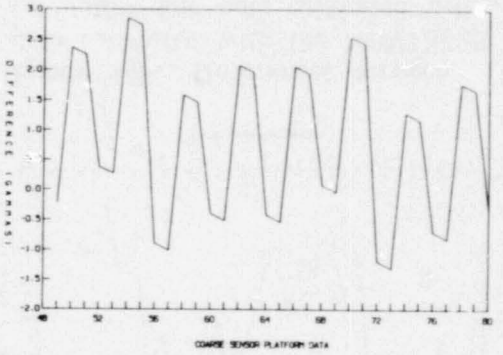


Figure 37b. Differences between data calibrated with the NOV3079B calibration and data calibrated with the DEC0179B calibration (Y-vector data).

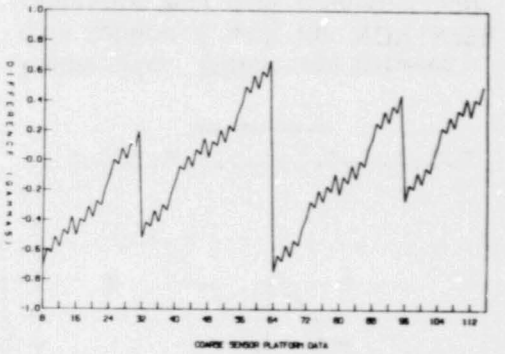


Figure 37c. Differences between data calibrated with the NOV3079B calibration and data calibrated with the DEC0179B calibration (Z-vector data).

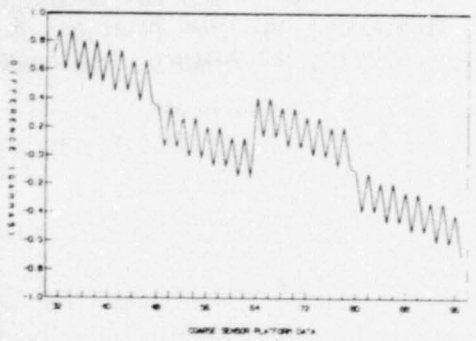


Figure 38a. Differences between data calibrated with the DEC0179B calibration and data calibrated with the DEC1179B calibration (X-vector data).

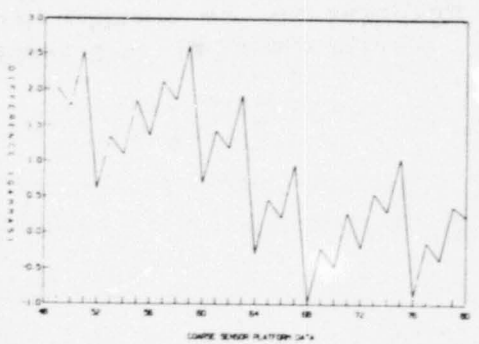


Figure 38b. Differences between data calibrated with the DEC0179B calibration and data calibrated with the DEC1179B calibration (Y-vector data).

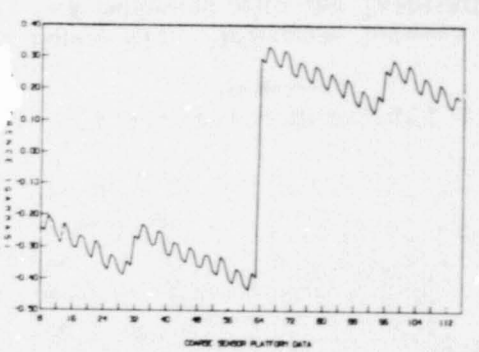


Figure 38c. Differences between data calibrated with the DEC0179B calibration and data calibrated with the DEC1179B calibration (Z-vector data).

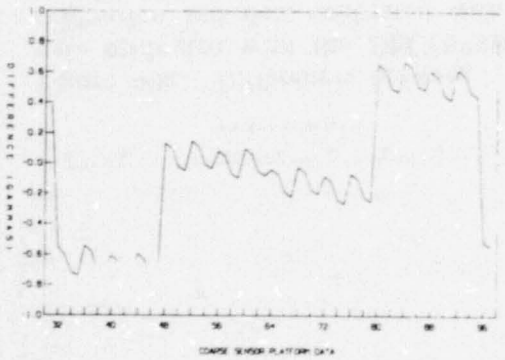


Figure 39a. Differences between data calibrated with the DEC1179B calibration and data calibrated with the DEC1879B calibration (X-vector data).

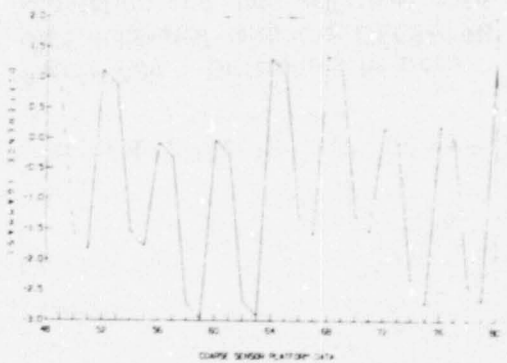


Figure 39b. Differences between data calibrated with the DEC1179B calibration ar ' data calibrated with the DEC1879b calibration (Y-vector data).

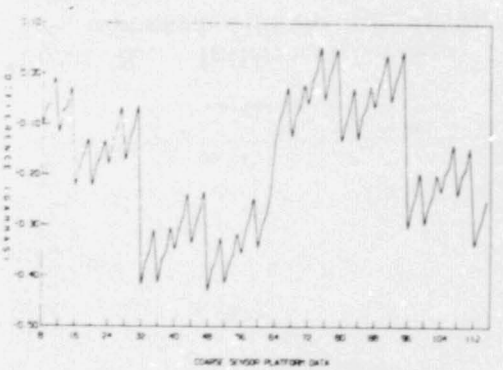


Figure 39c. Differences between data calibrated with the DEC1179B calibration and data calibrated with the DEC1879B calibration (Z-vector data).

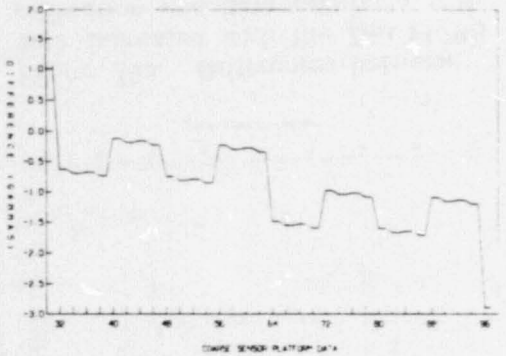


Figure 40a. Differences between data calibrated with the DEC1879B calibration and data calibrated with the JAN0580B calibration (X-vector data).

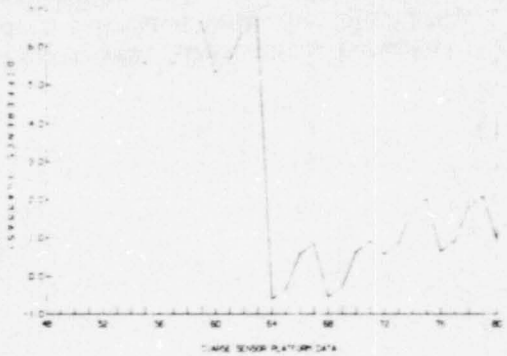


Figure 40b. Differences between data calibrated with the DEC1879B calibration and data calibrated with the JAN0580B calibration (Y-vector data).

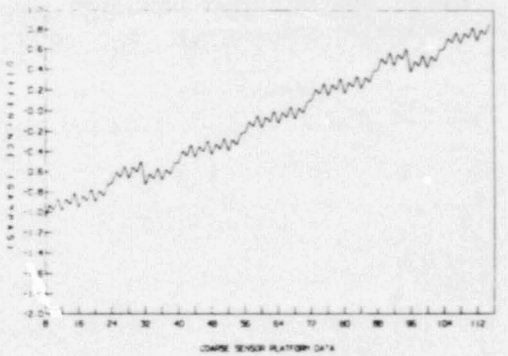


Figure 40c. Differences between data calibrated with the DEC1879B calibration and data calibrated with the JAN0580B calibration (Z-vector data).

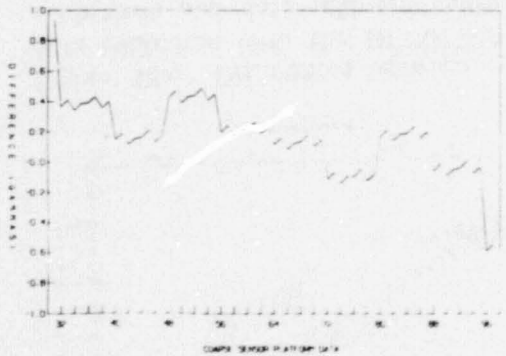


Figure 41a. Differences between data calibrated with the JAN0580B calibration and data calibrated with the JAN1780B calibration (X-vector data).

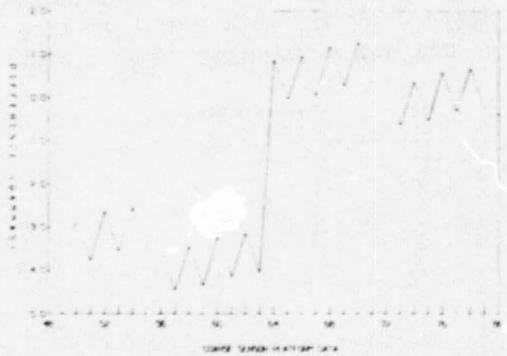


Figure 41b. Differences between data calibrated with the JAN0580B calibration and data calibrated with the JAN1780B calibration (Y-vector data).

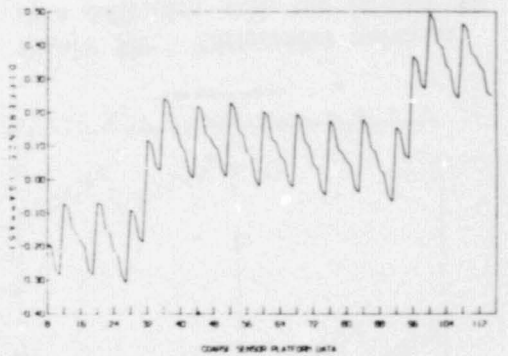


Figure 41c. Differences between data calibrated with the JAN0580B calibration and data calibrated with the JAN1780B calibration (Z-vector data).

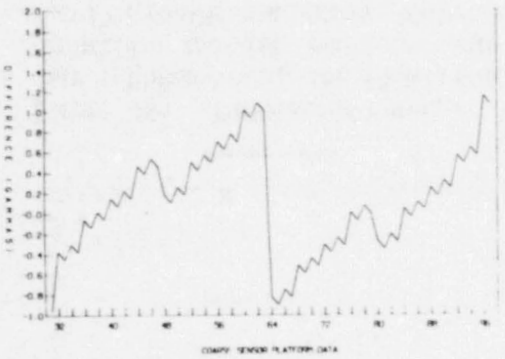


Figure 42a. Differences between data calibrated with the JAN1780B calibration and data calibrated with the JAN2280B calibration (X-vector data).

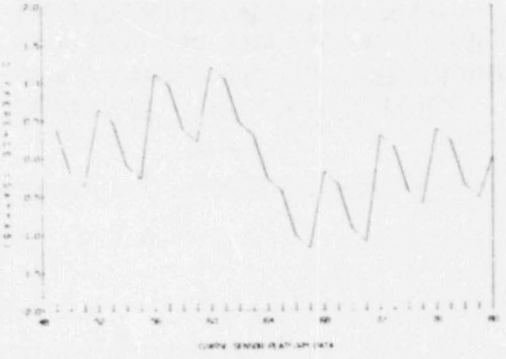


Figure 42b. Differences between data calibrated with the JAN1780B calibration and data calibrated with the JAN2280B calibration (Y-vector data).

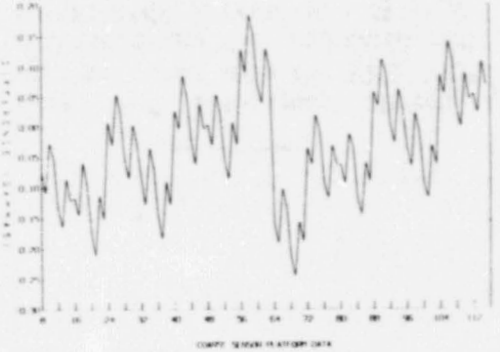


Figure 42c. Differences between data calibrated with the JAN1780B calibration and data calibrated with the JAN2280B calibration (Z-vector data).

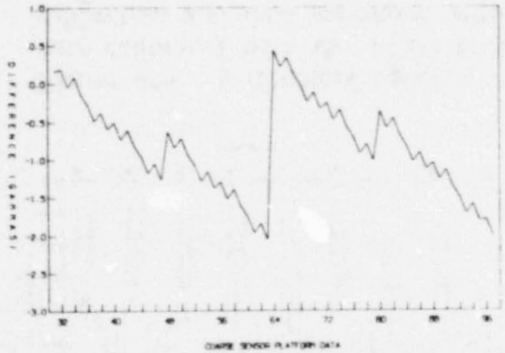


Figure 43a. Differences between data calibrated with the JAN2280B calibration and data calibrated with the FEB0680B calibration (X-vector data).

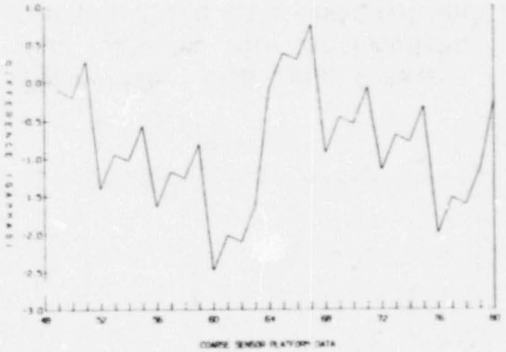


Figure 43b. Differences between data calibrated with the JAN2280B calibration and data calibrated with the FEB0680B calibration (Y-vector data).

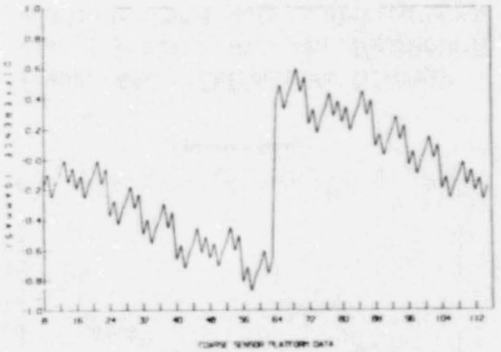


Figure 43c. Differences between data calibrated with the JAN2280B calibration and data calibrated with the FEB0680B calibration (Z-vector data).

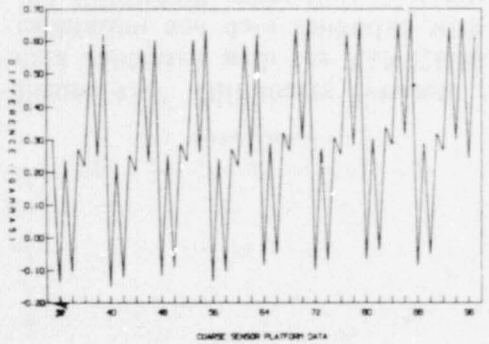


Figure 44a. Differences between data calibrated with the FEB0680B calibration and data calibrated with the FEB1180B calibration (X-vector data).

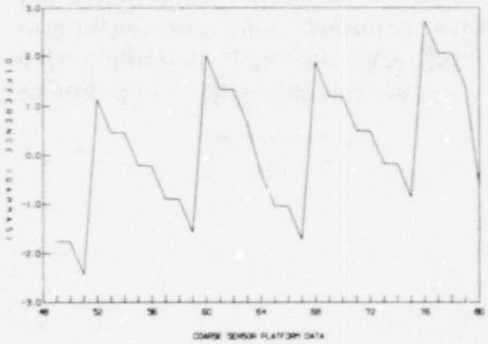


Figure 44b. Differences between data calibrated with the FEB0680B calibration and data calibrated with the FEB1180B calibration (Y-vector data).

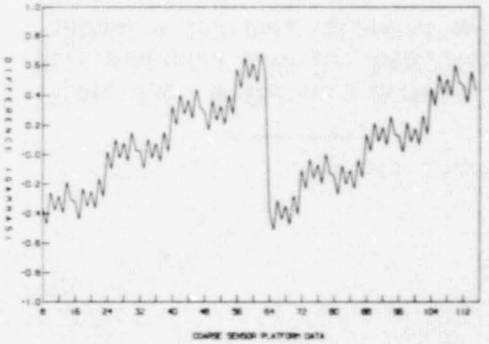


Figure 44c. Differences between data calibrated with the FEB0680B calibration and data calibrated with the FEB1180B calibration (Z-vector data).

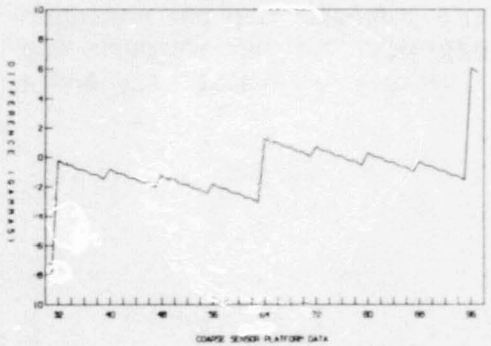


Figure 45a. Differences between data calibrated with the FEB1180B calibration and data calibrated with the FEB1680B calibration (X-vector data).

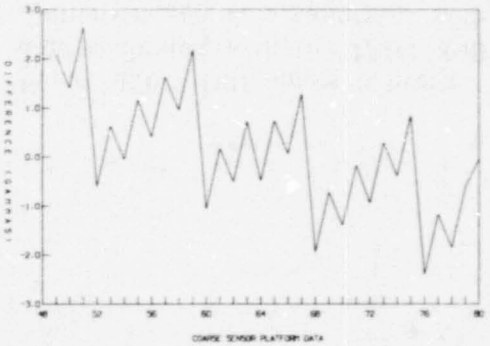


Figure 45b. Differences between data calibrated with the FEB1180B calibration and data calibrated with the FEB1680B calibration (Y-vector data).

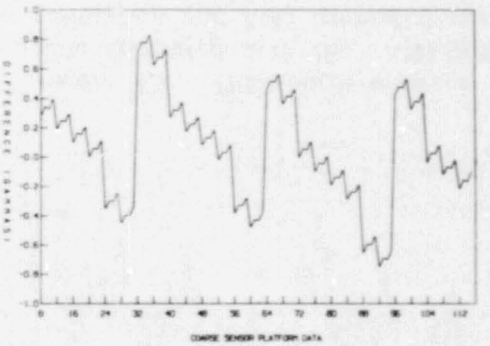


Figure 45c. Differences between data calibrated with the FEB1180B calibration and data calibrated with the FEB1680B calibration (Z-vector data).

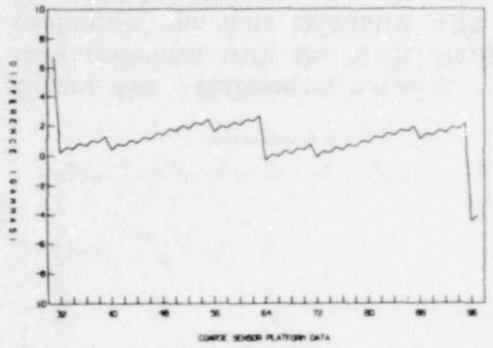


Figure 46a. Differences between data calibrated with the FEB1680B calibration and data calibrated with the FEB2680B calibration (X-vector data).

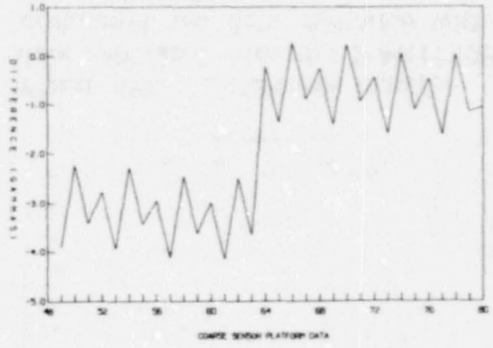


Figure 46b. Differences between data calibrated with the FEB1680B calibration and data calibrated with the FEB2680B calibration (Y-vector data).

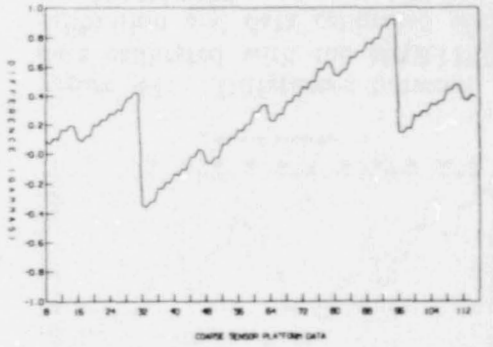


Figure 46c. Differences between data calibrated with the FEB1680B calibration and data calibrated with the FEB2680B calibration (Z-vector data).

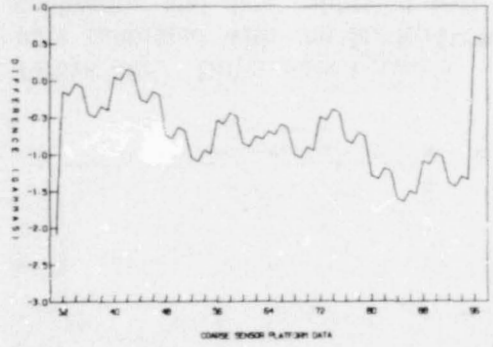


Figure 47a. Differences between data calibrated with the FEB2680B calibration and data calibrated with the MAR0480B calibration (X-vector data).

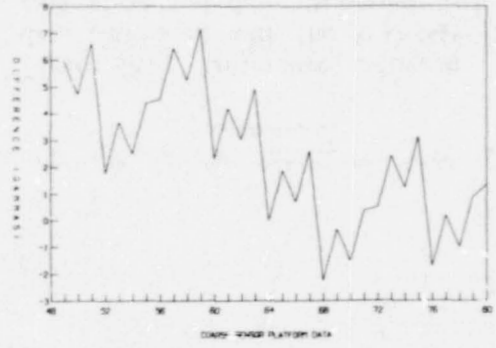


Figure 47b. Differences between data calibrated with the FEB2680B calibration and data calibrated with the MAR0480B calibration (Y-vector data).

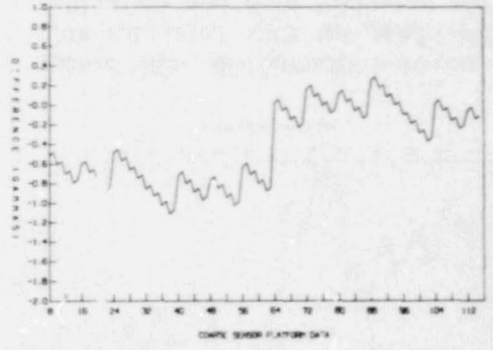


Figure 47c. Differences between data calibrated with the FEB2680B calibration and data calibrated with the MAR0480B calibration (Z-vector data).

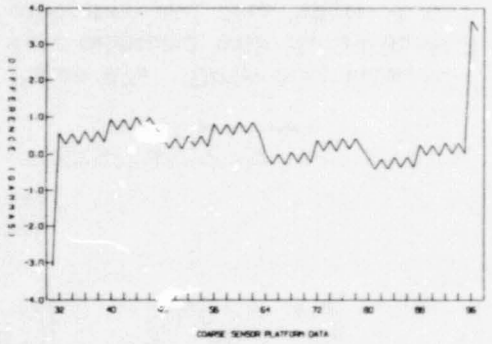


Figure 48a. Differences between data calibrated with the MAR0480B calibration and data calibrated with the MAR1180B calibration (X-vector data).

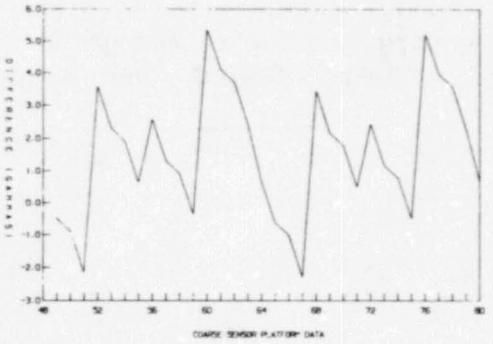


Figure 48b. Differences between data calibrated with the MAR0480B calibration and data calibrated with the MAR1180B calibration (Y-vector data).

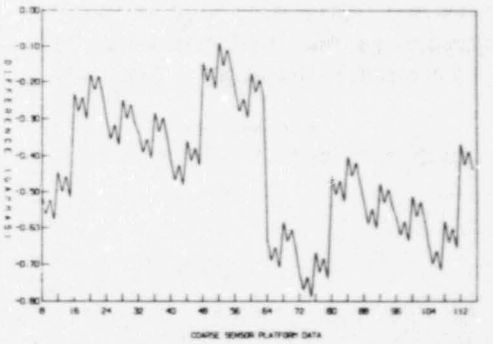


Figure 48c. Differences between data calibrated with the MAR0480B calibration and data calibrated with the MAR1180B calibration (Z-vector data).

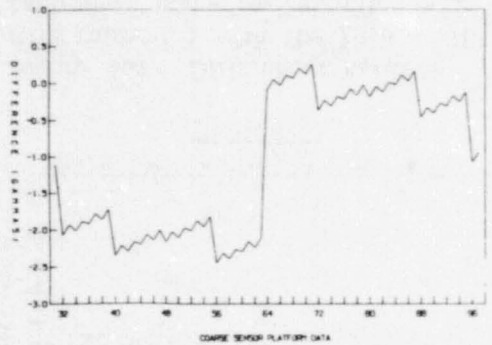


Figure 49a. Differences between data calibrated with the MAR1180B calibration and data calibrated with the MAR1880B calibration (X-vector data).

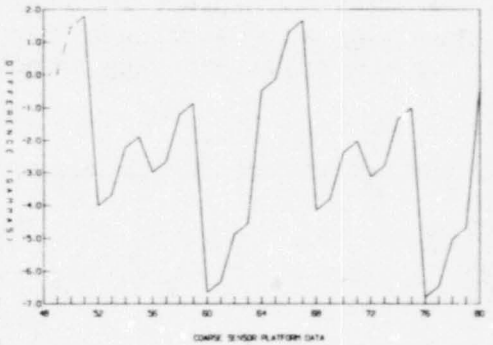


Figure 49b. Differences between data calibrated with the MAR1180B calibration and data calibrated with the MAR1880B calibration (Y-vector data).

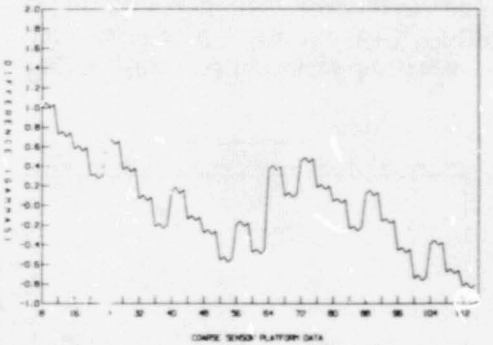


Figure 49c. Differences between data calibrated with the MAR1180B calibration and data calibrated with the MAR1880B calibration (Z-vector data).

Figure 50a. Differences between data calibrated with the MAR1880B calibration and data calibrated with the MAR2580B calibration (X-vector data).

Figure 50b. Differences between data calibrated with the MAR1880B calibration and data calibrated with the MAR2580B calibration (Y-vector data).

Figure 50c. Differences between data calibrated with the MAR1880B calibration and data calibrated with the MAR2580B calibration (Z-vector data).

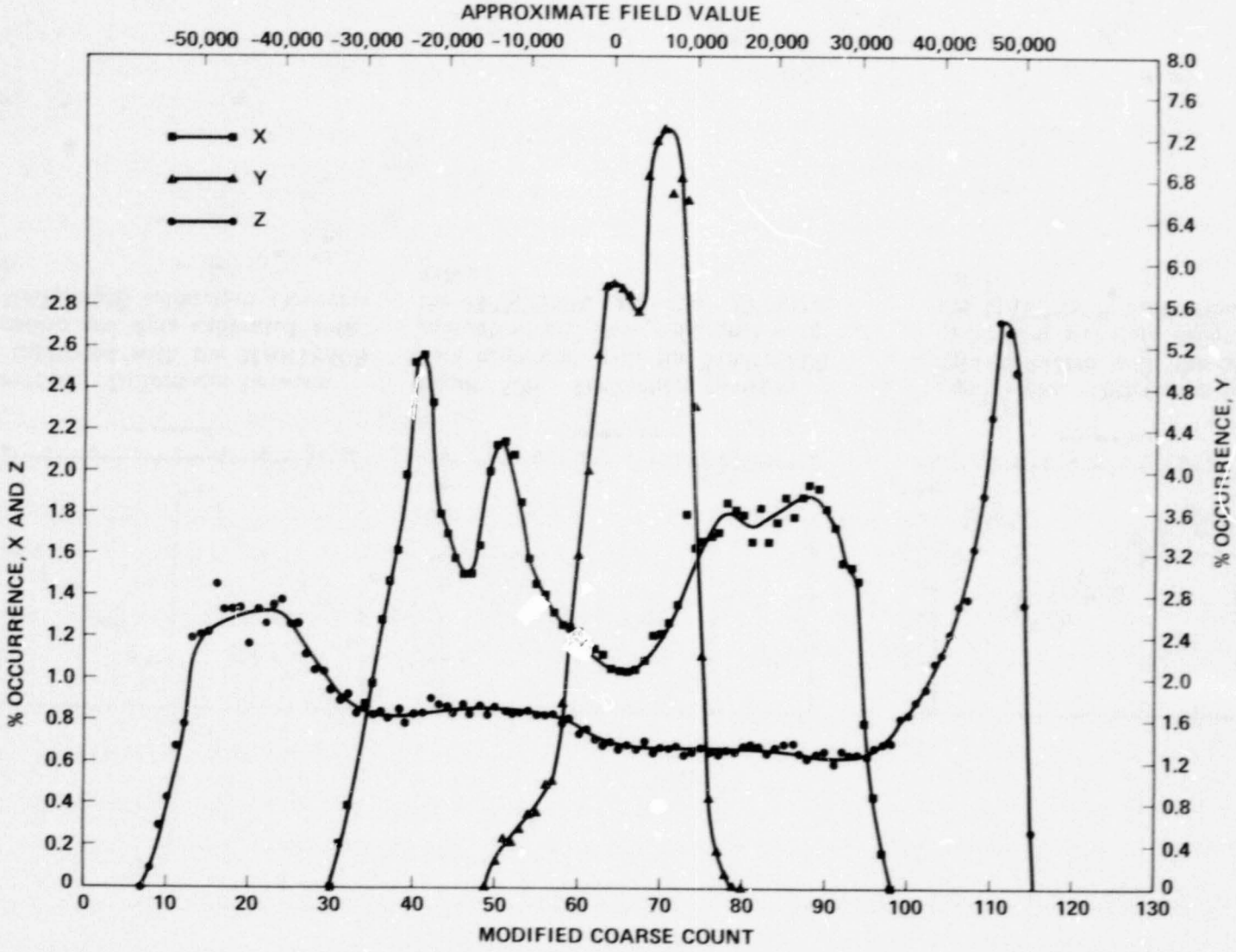


Figure 51. Frequency of occurrence of coarse count values of the fluxgate magnetometer.

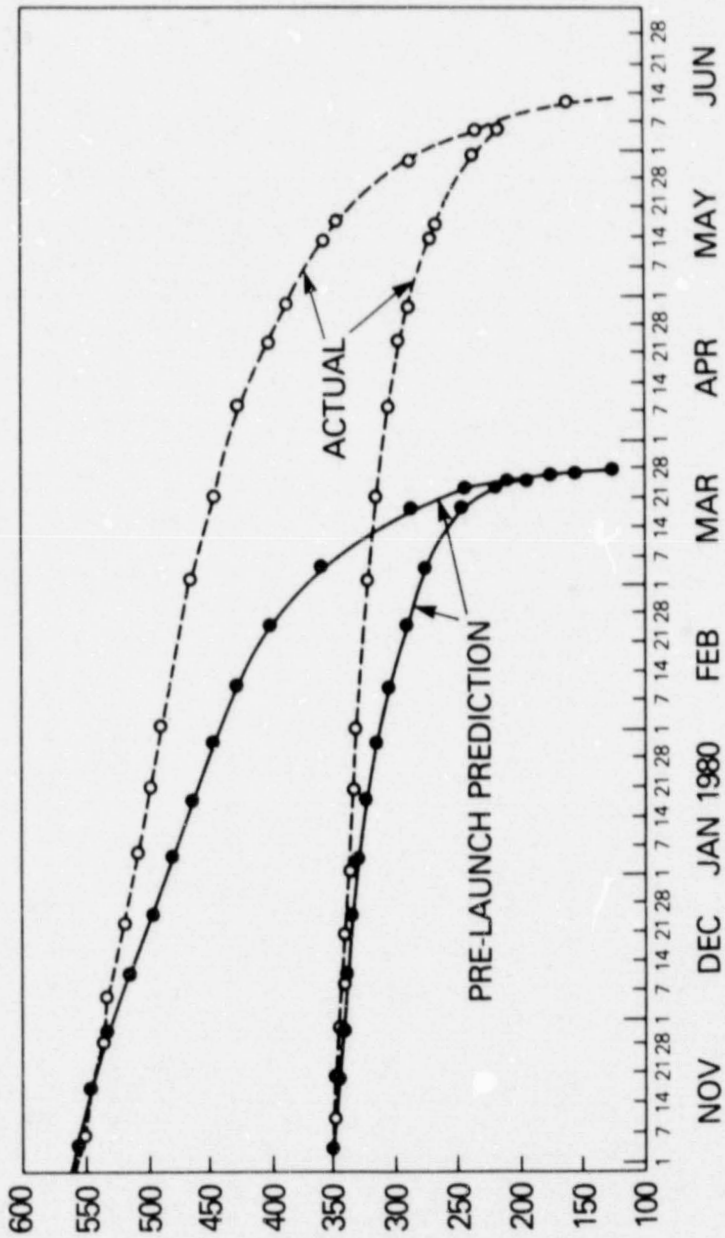


Figure 52. Magsat Apogee and Perigee Heights (Km) vs. Time

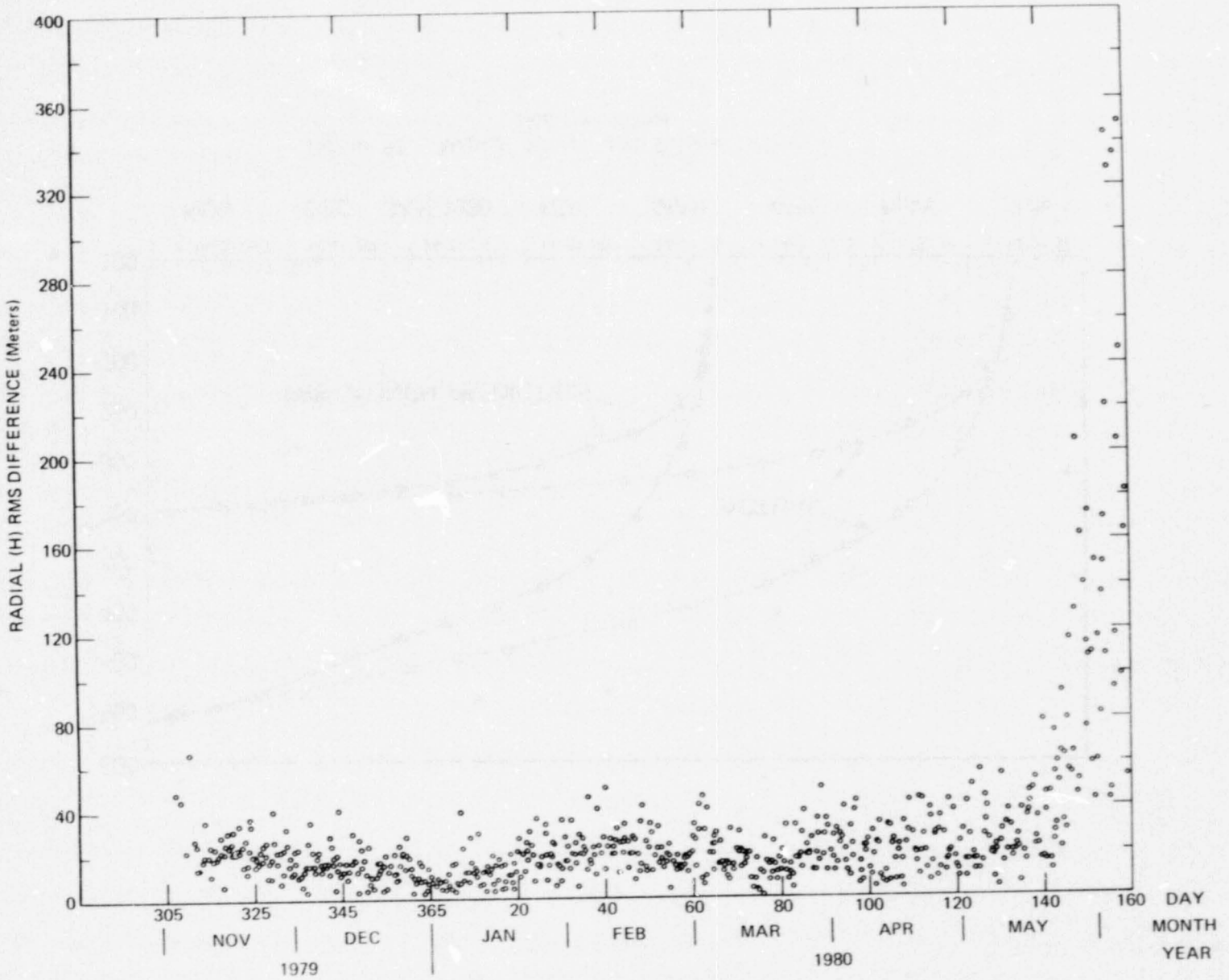


Figure 53-1. Radial RMS difference vs time

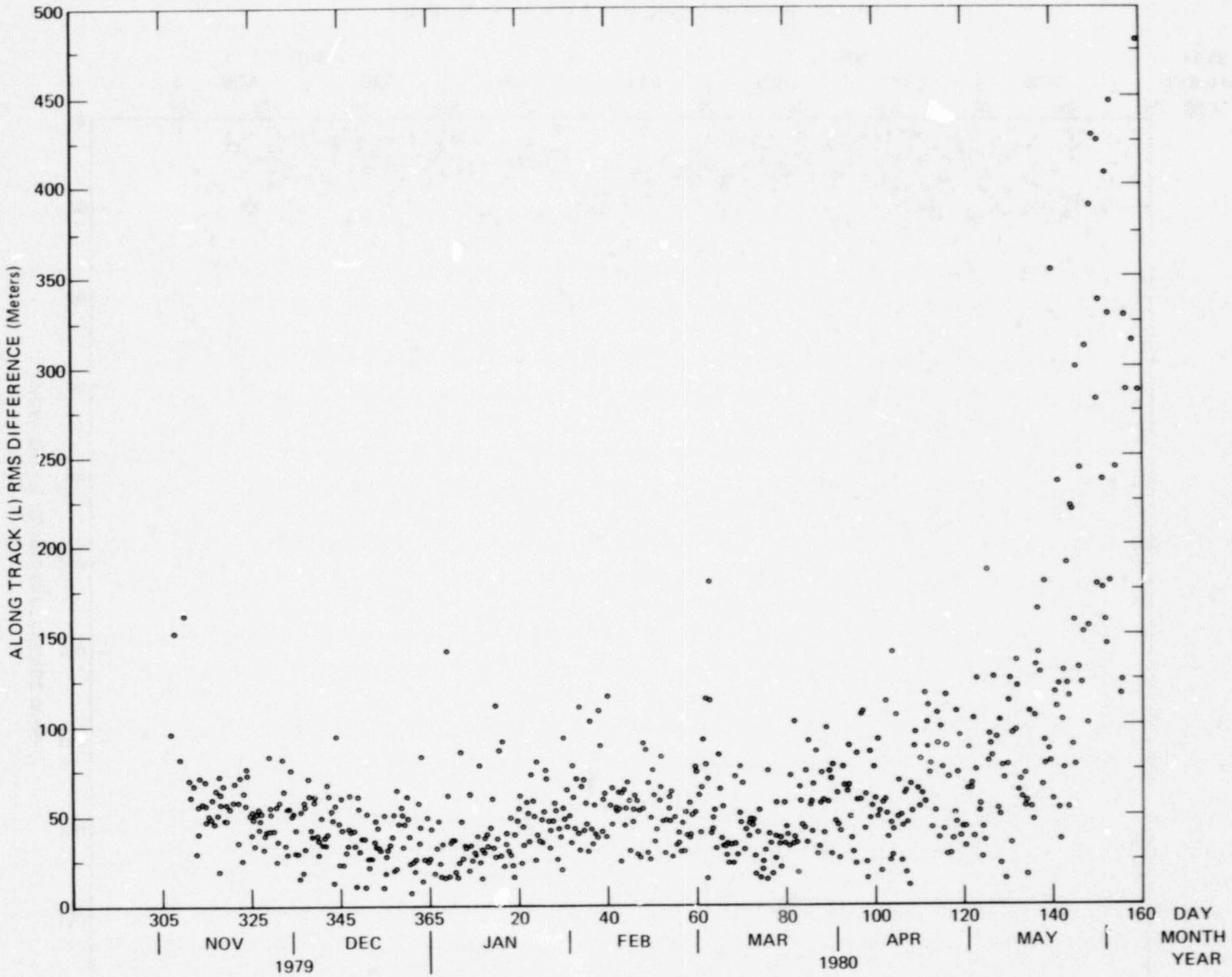


Figure 53-2. Along track RMS difference vs time

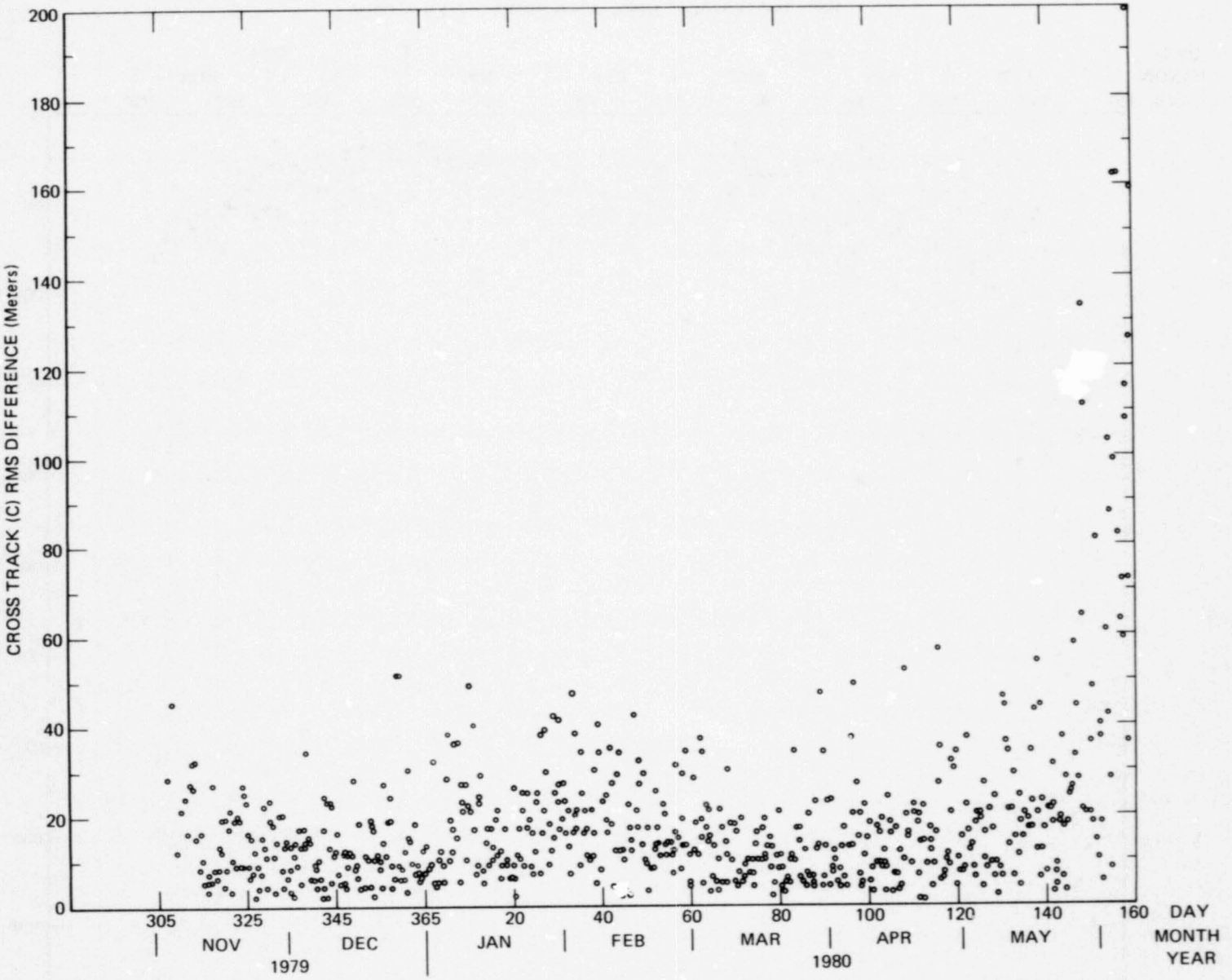


Figure 53-3. Cross track RMS difference vs time

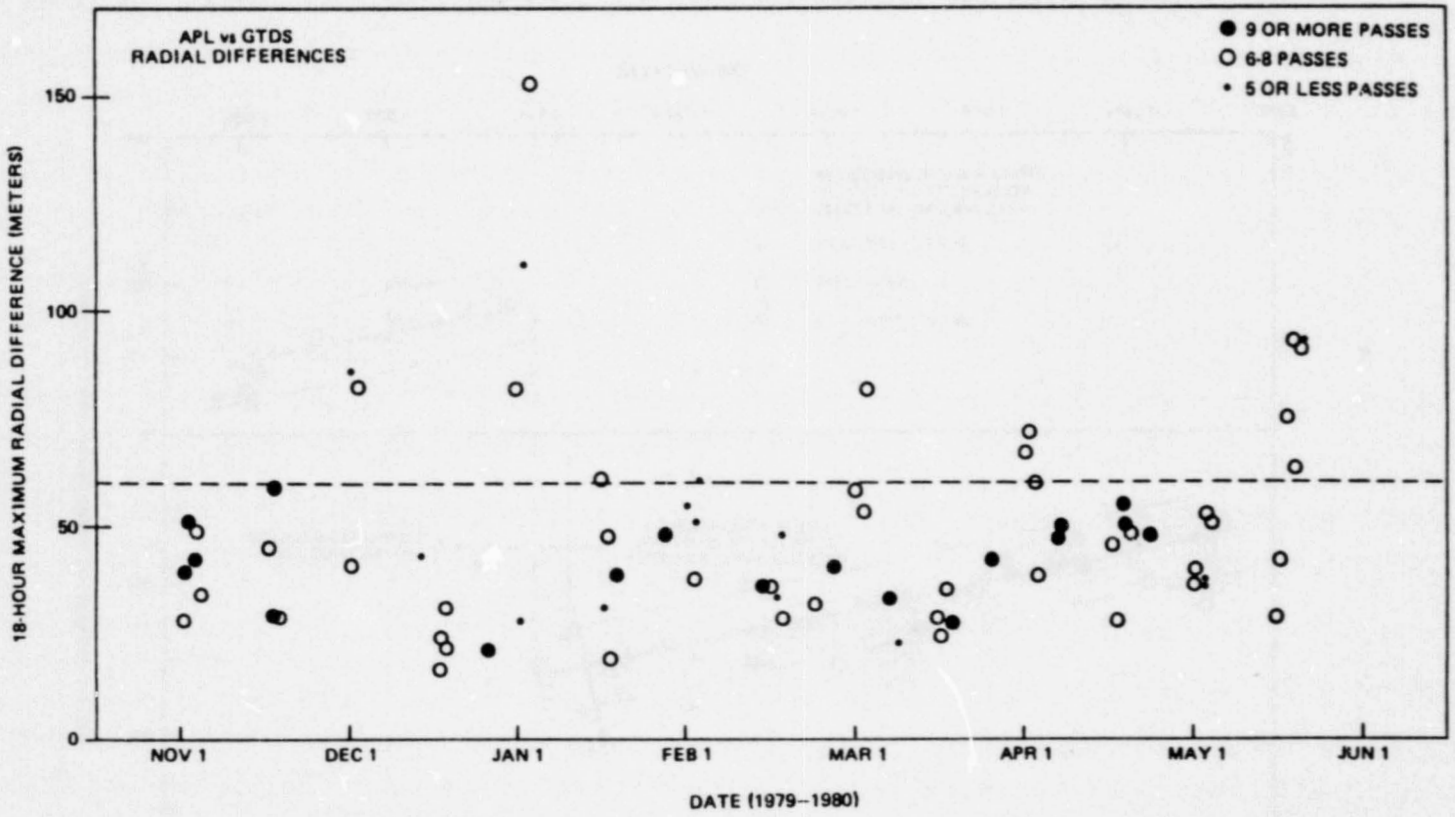


Figure 54. 18-Hour Radial Position Comparisons Between APL and GTDS Magsat-1 Solutions.

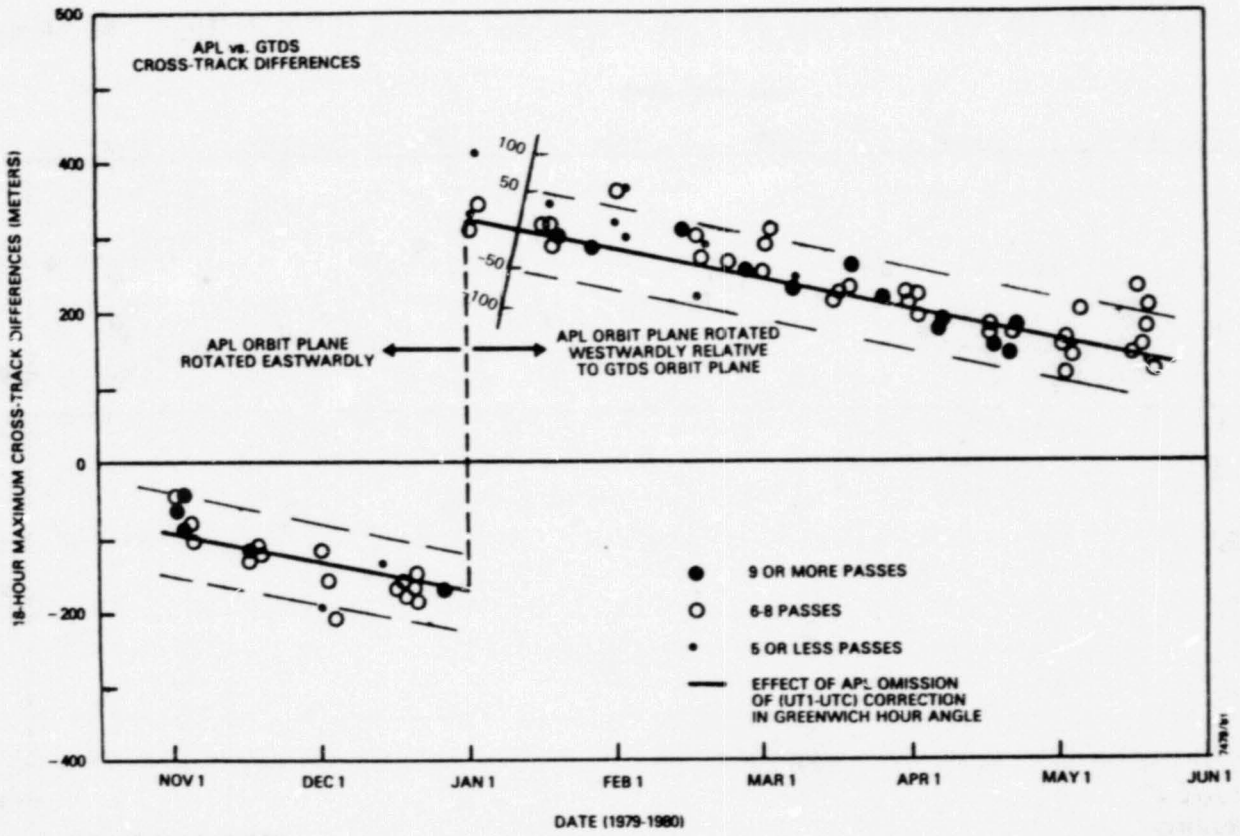


Figure 55. 18-Hour Cross-Track Position Comparisons Between APL and GTDS Magsat-1 Solutions.

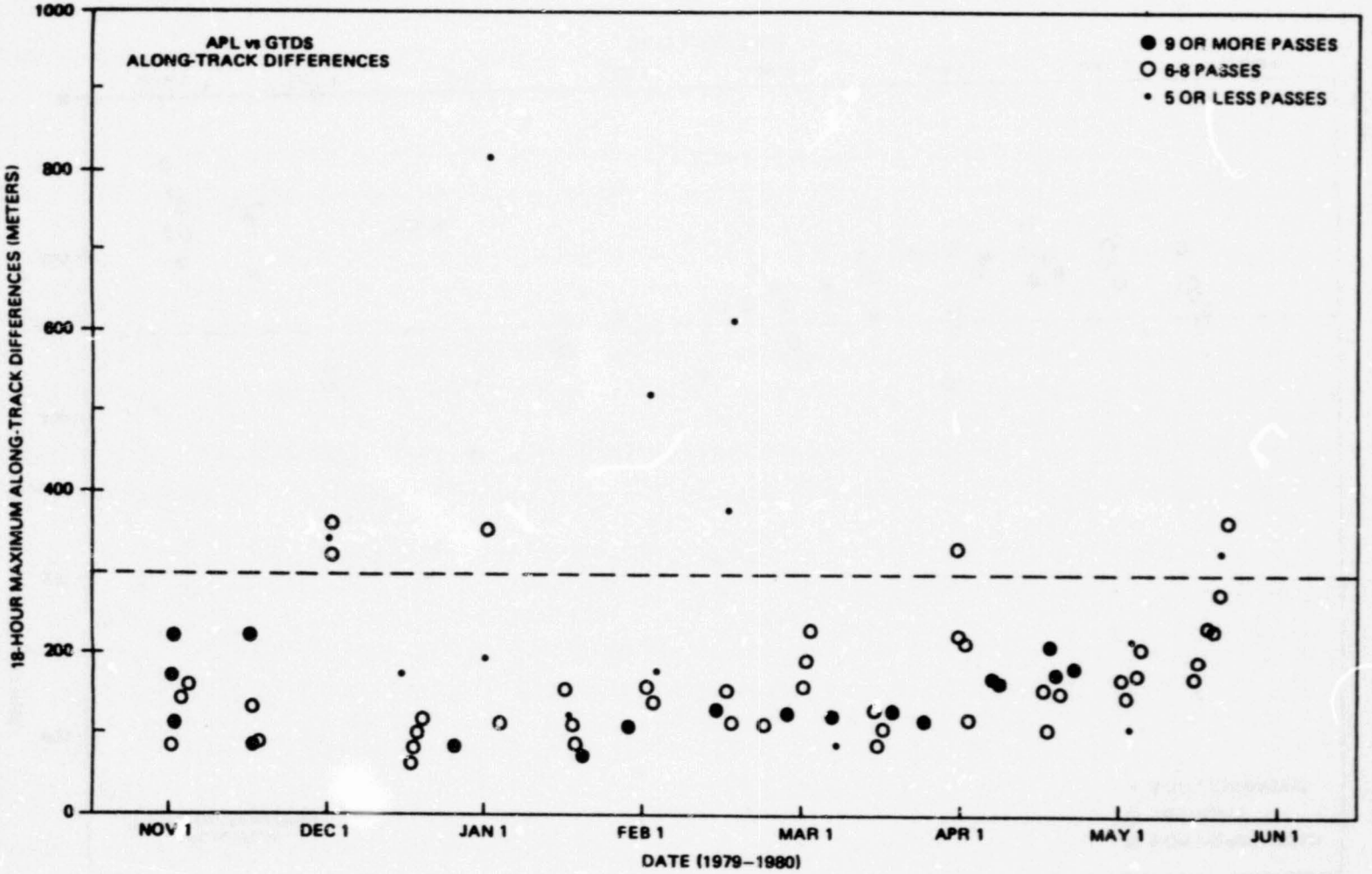


Figure 56. 18-Hour Along-Track Position Comparisons Between APL and GTDS Magsat-1 Solutions.

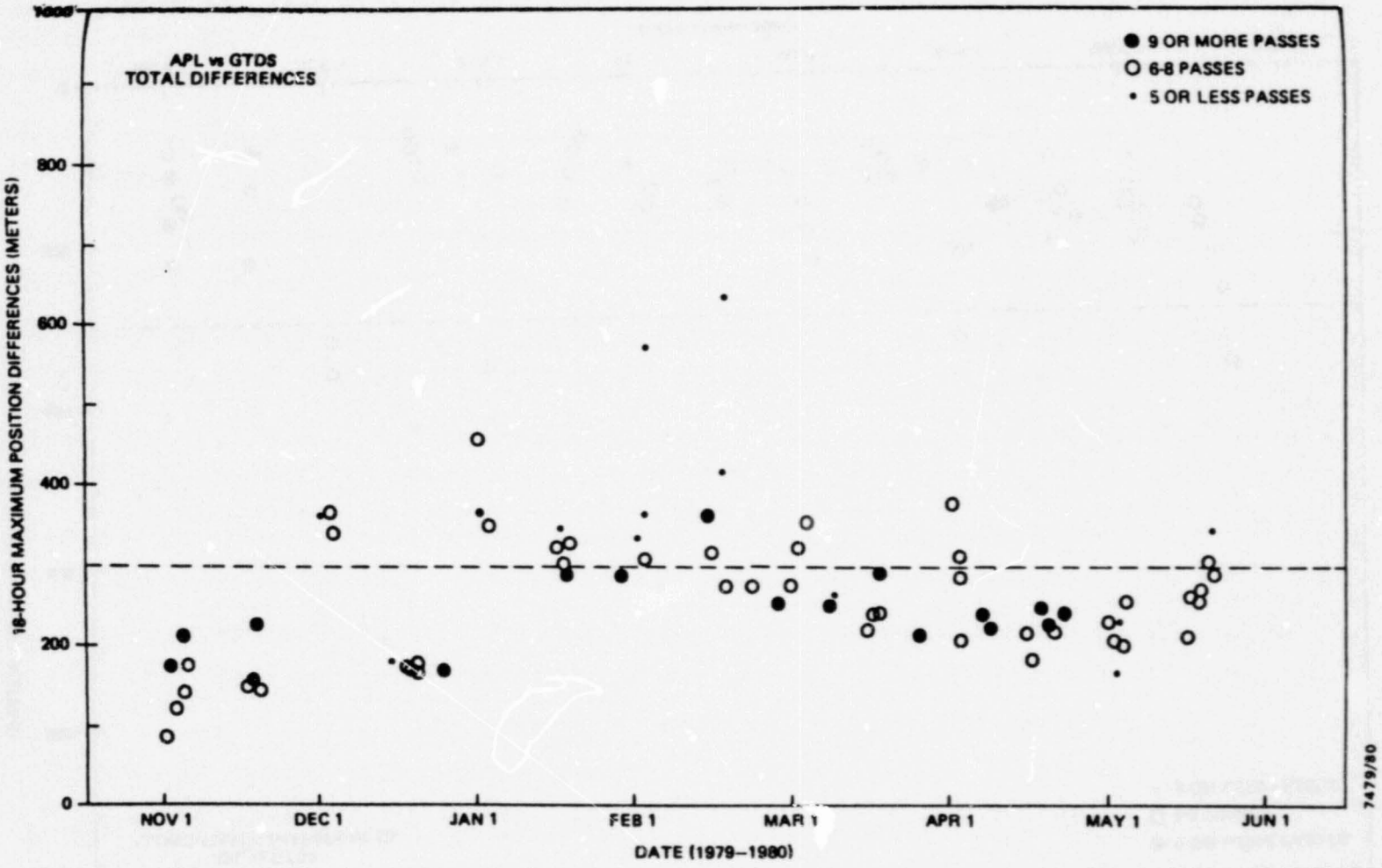


Figure 57. 18-Hour Total Position Comparisons Between APL and GTDS Magsat-1 Solutions.

Figure 58-1. Magsat Data Availability of Intermediate Attitude Vector Data – November 1979.

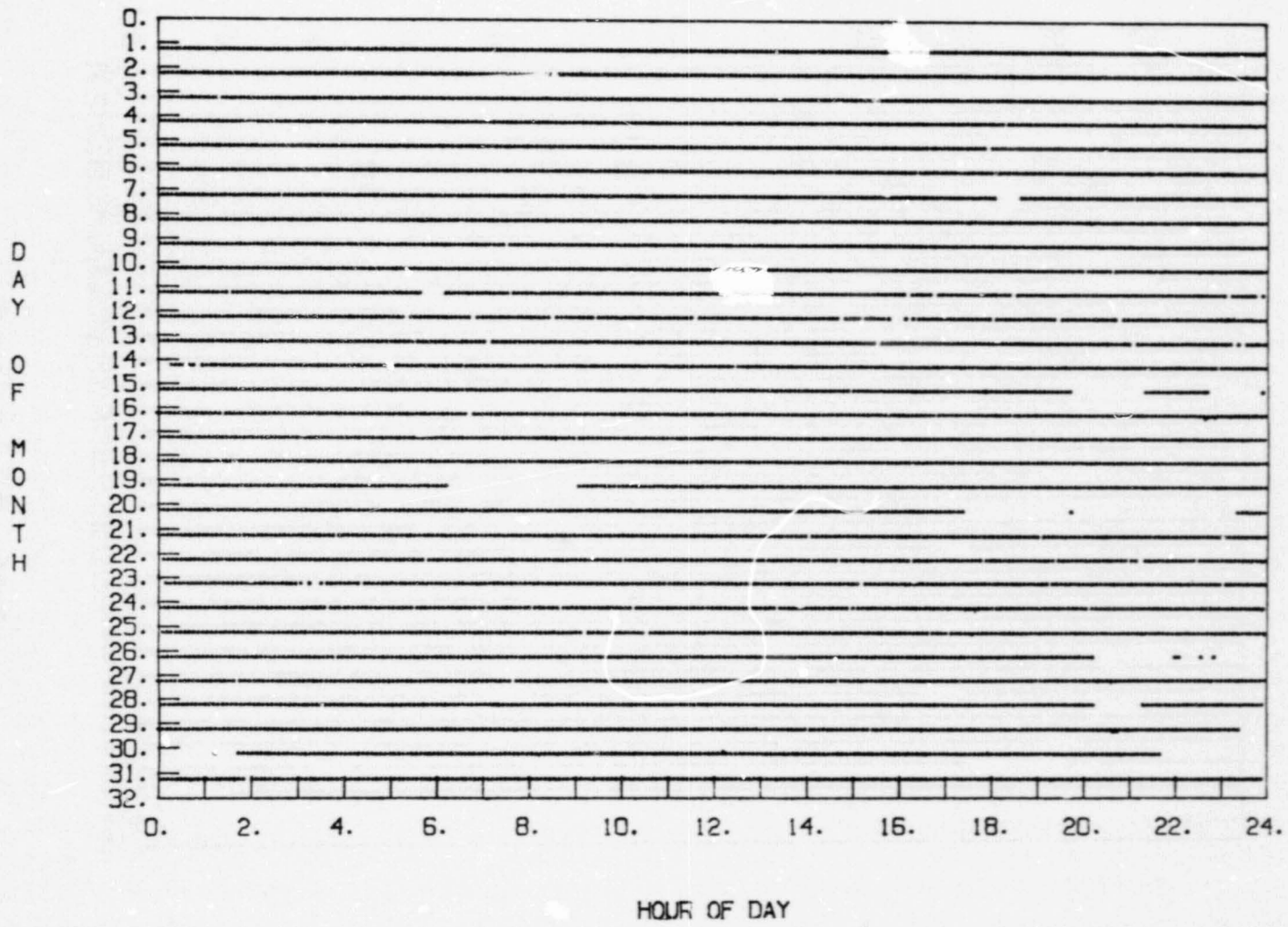


Figure 58-2. Magsat Data Availability of Intermediate Attitude Vector Data – December 1979.

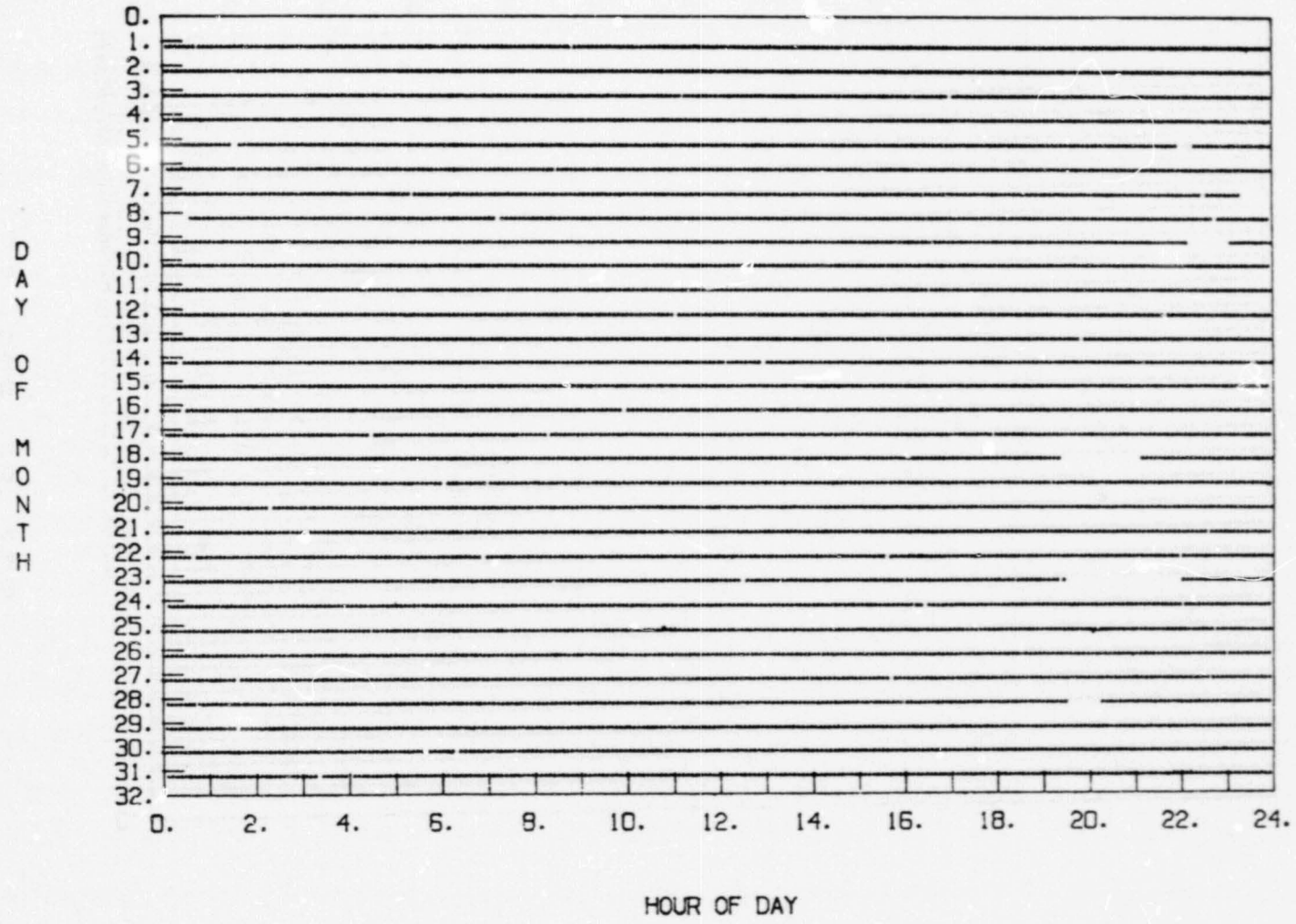


Figure 58-3. Magsat Data Availability of Intermediate Attitude Vector Data – January 1980.

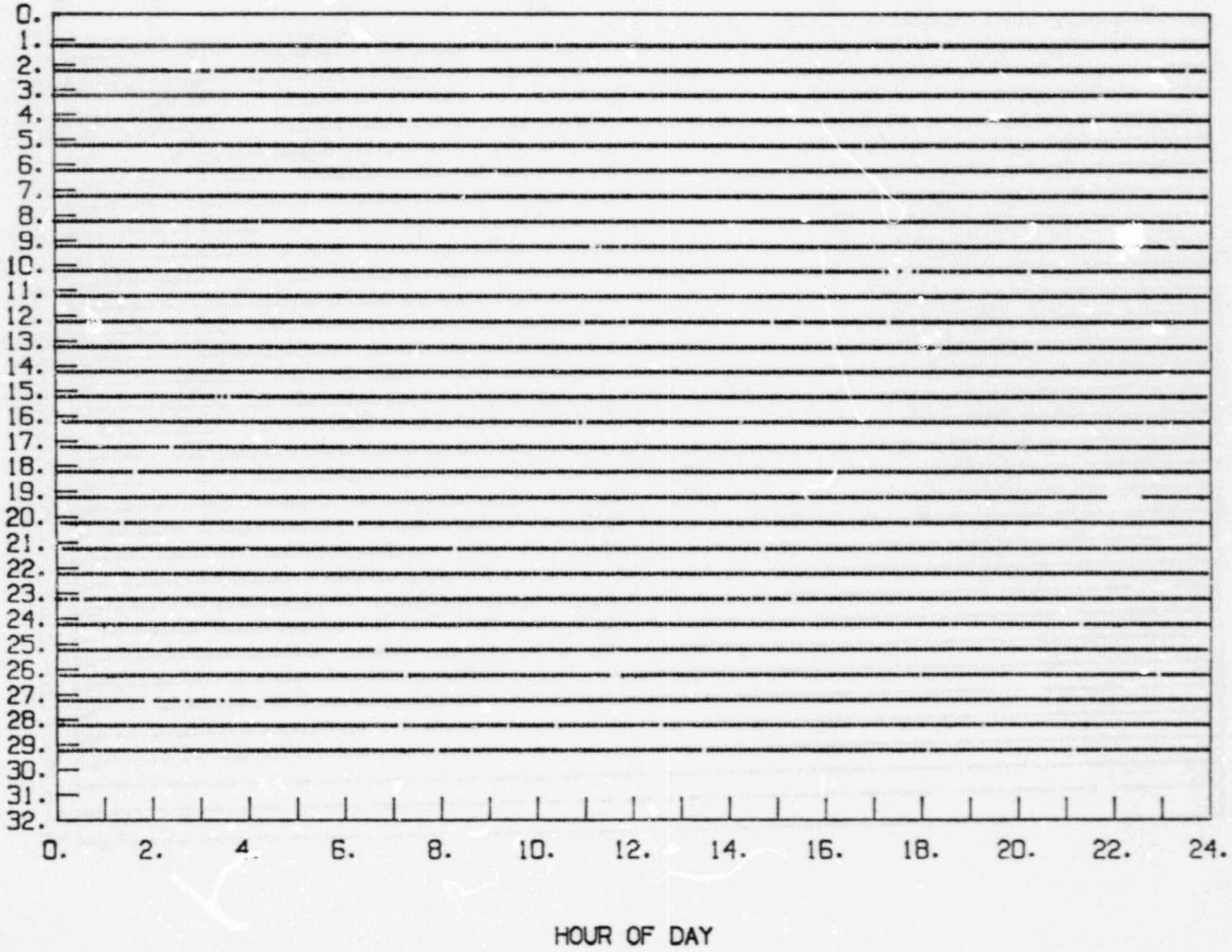


Figure 58-4. Magsat Data Availability of Intermediate Attitude Vector Data – February 1980.

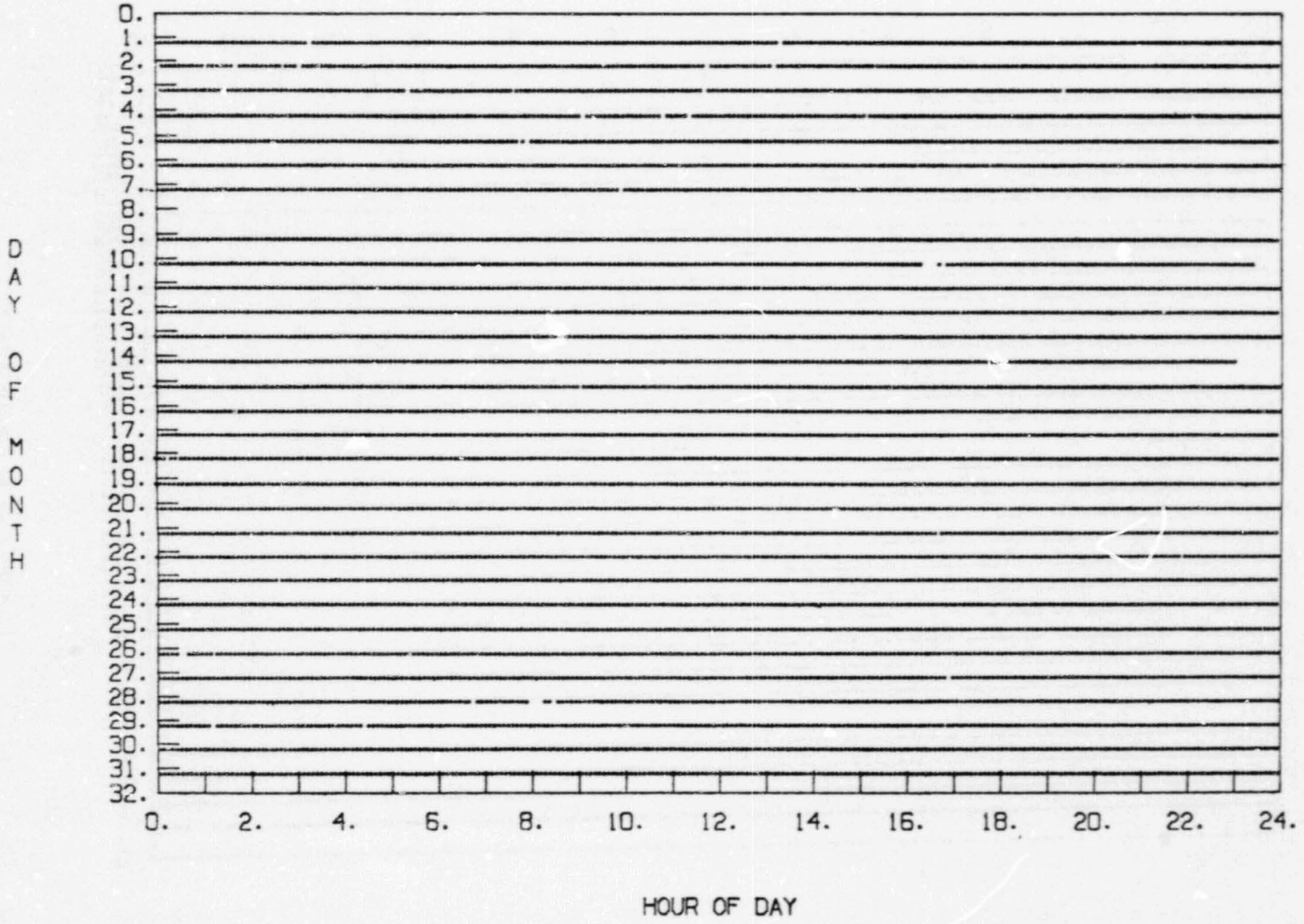


Figure 58-5. Magsat Data Availability Intermediate Attitude Vector Data – March 1980.

Figure 58-6. Magsat Data Availability of Intermediate Attitude Vector Data – April 1980.

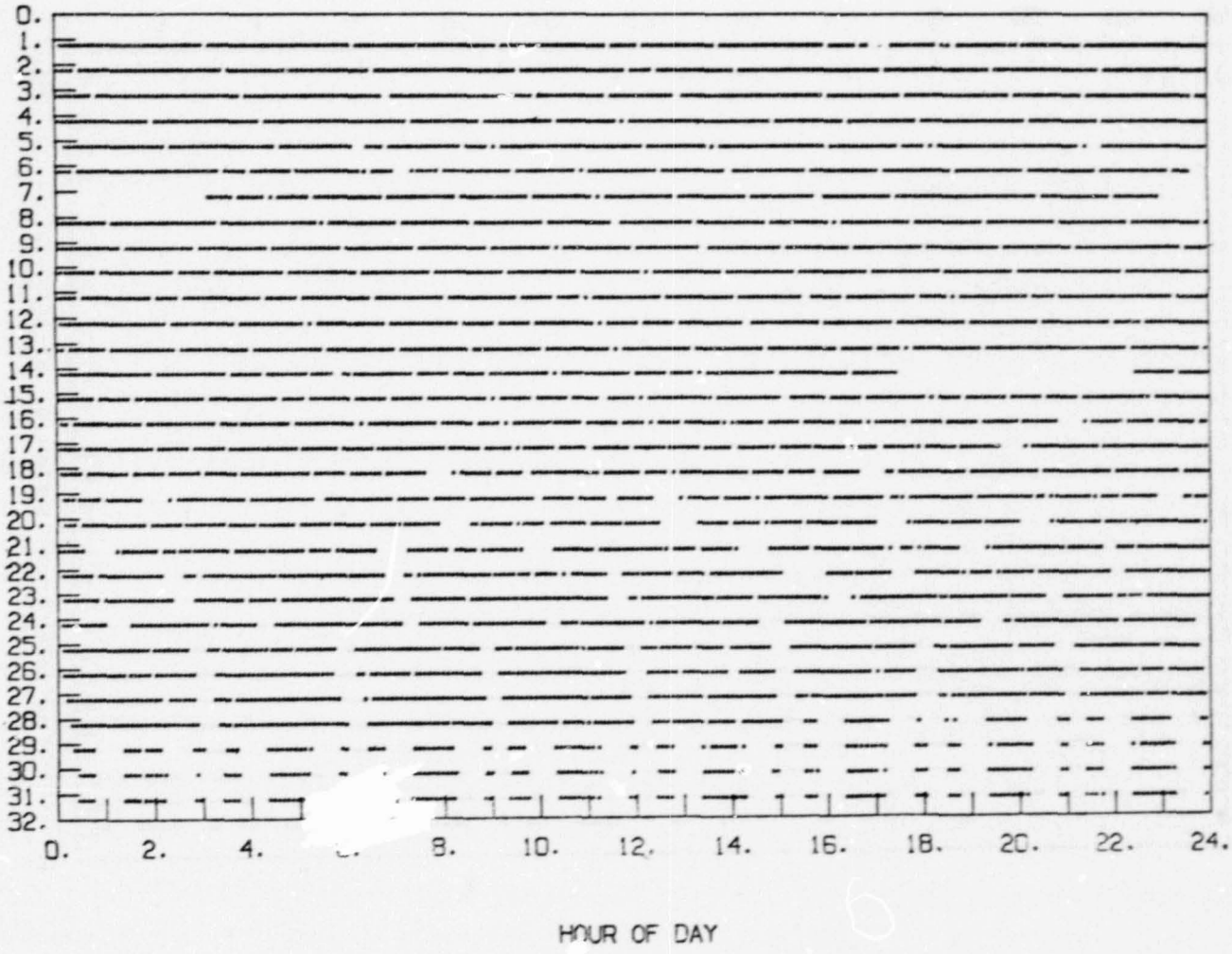


Figure 58-7. Magsat Data Availability of Intermediate Attitude Vector Data – May 1980.

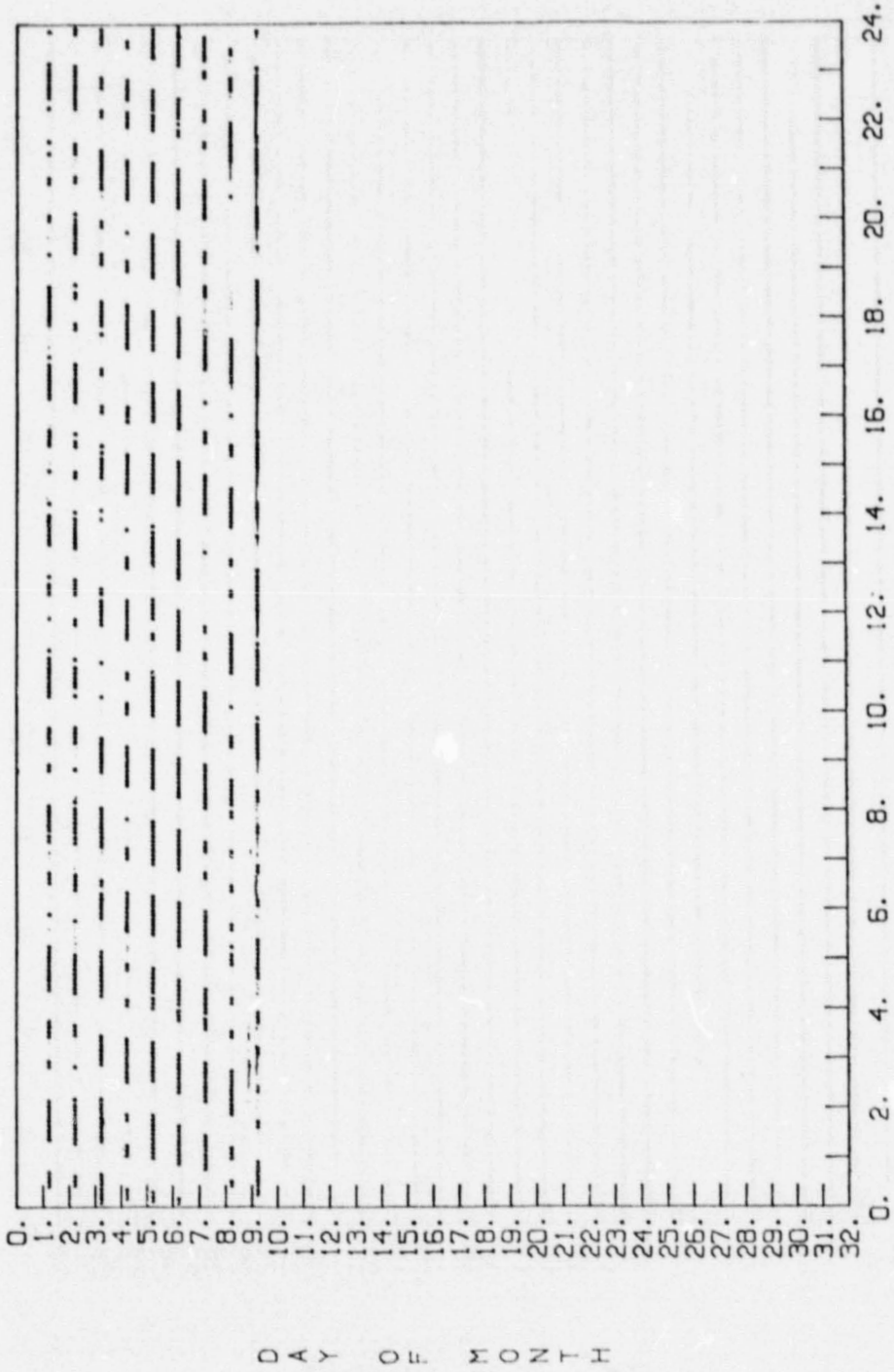


Figure 58-8. Magsat Data Availability of Intermediate Attitude Vector Data – June 1980.

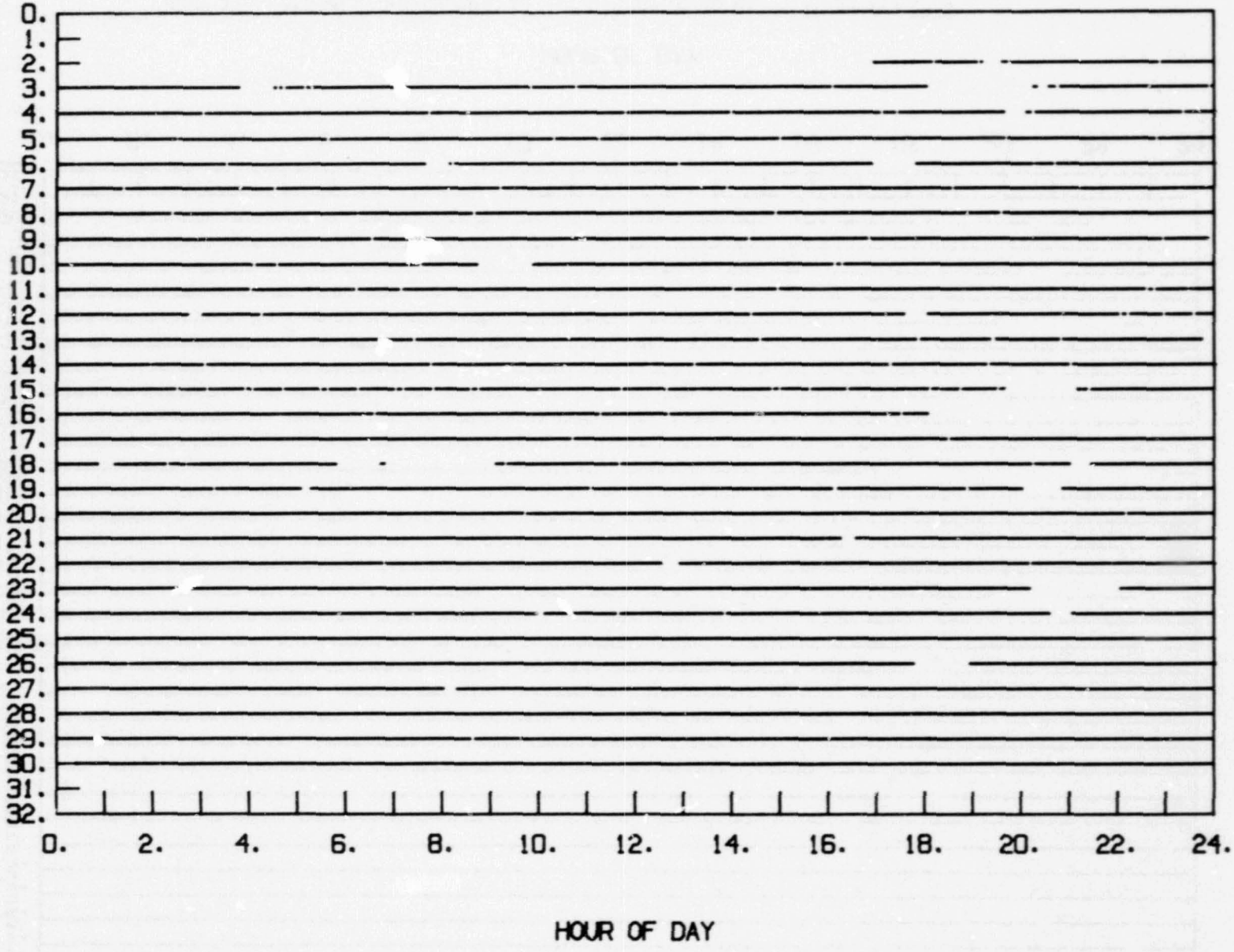


Figure 59-1. Magsat data availability of fine attitude vector data – November 1979

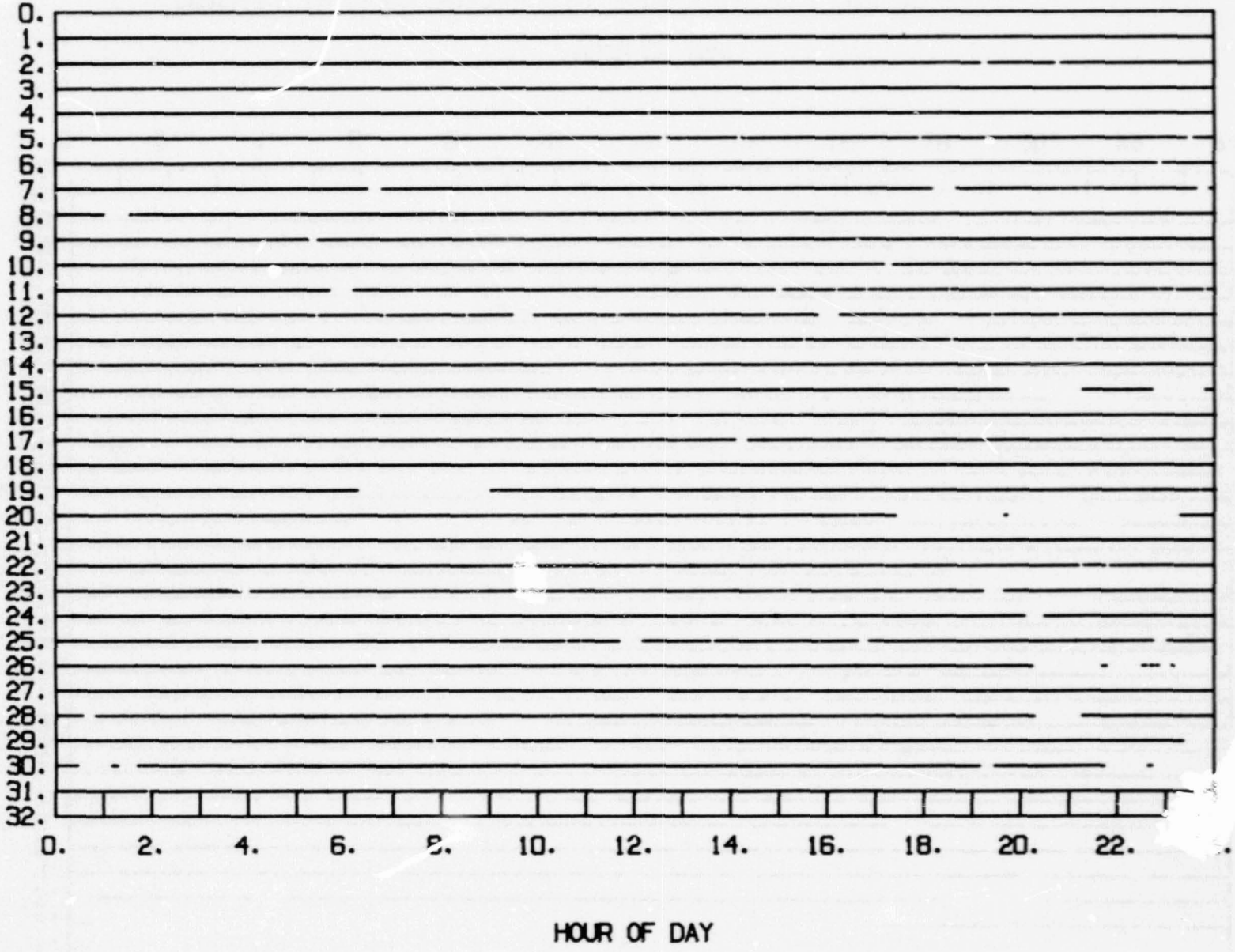


Figure 59-2. Magsat data availability of fine attitude vector data – December 1979

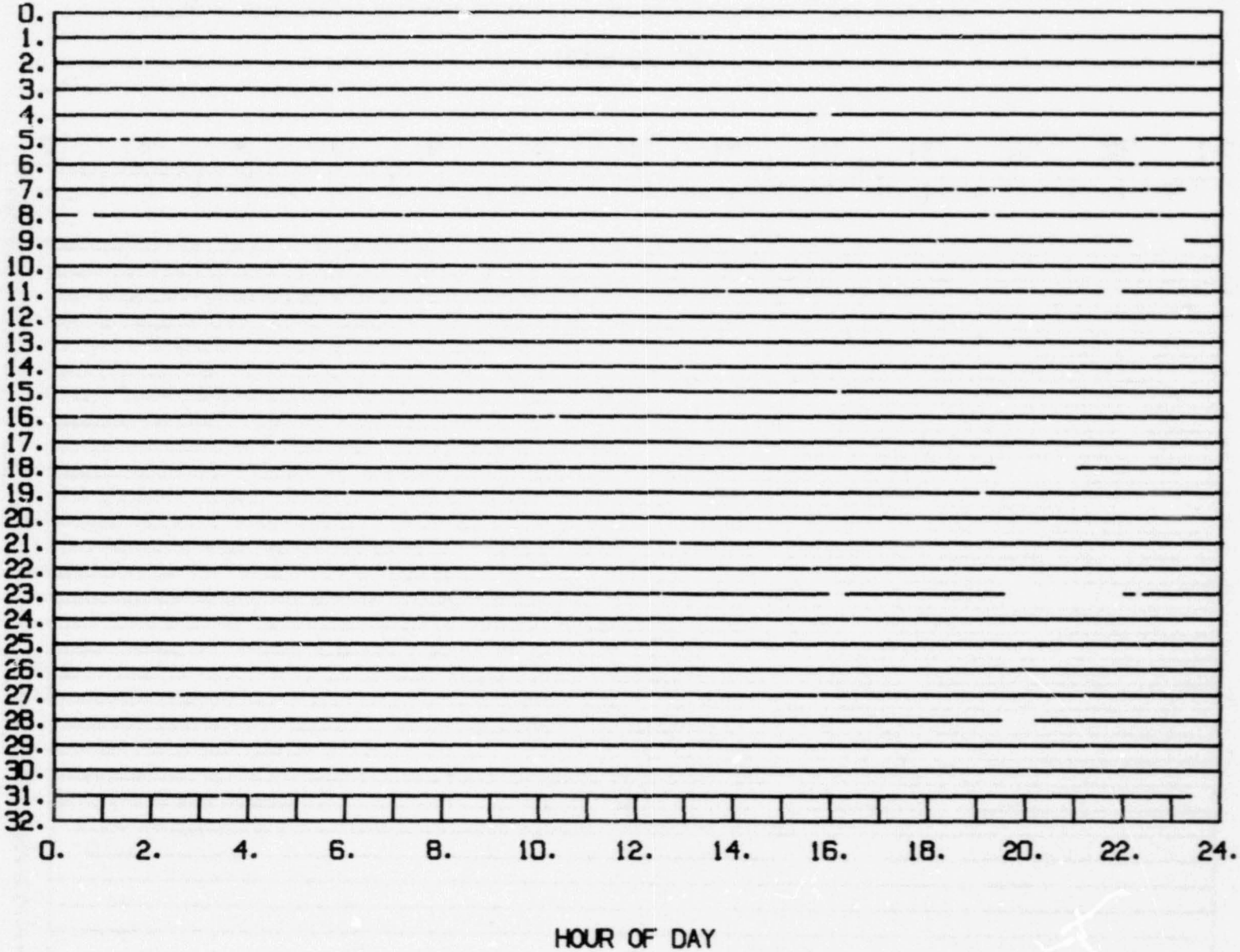


Figure 59-3. Magsat data availability of fine attitude vector data – January 1980

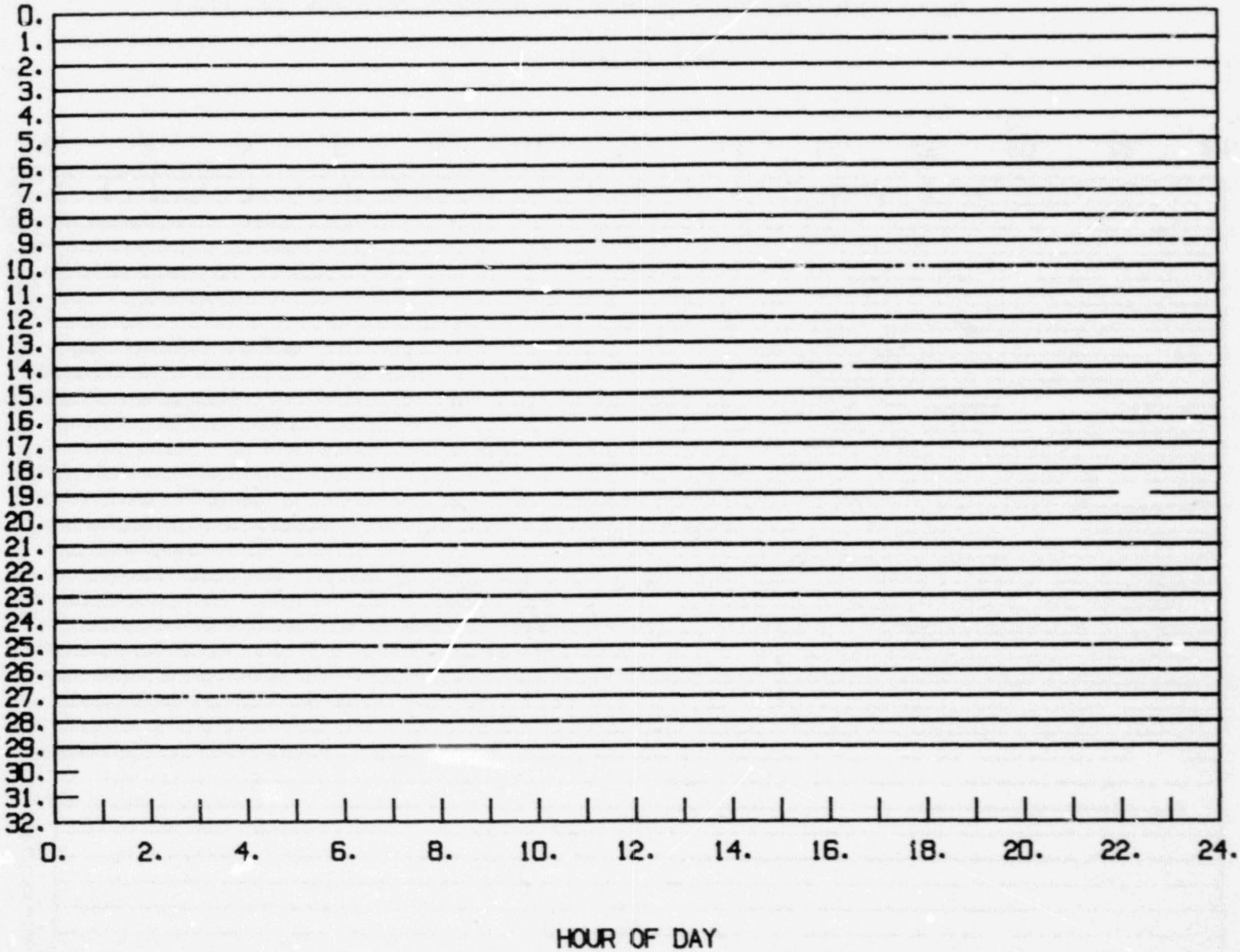


Figure 59-4. Magsat data availability of fine attitude vector data – February 1980

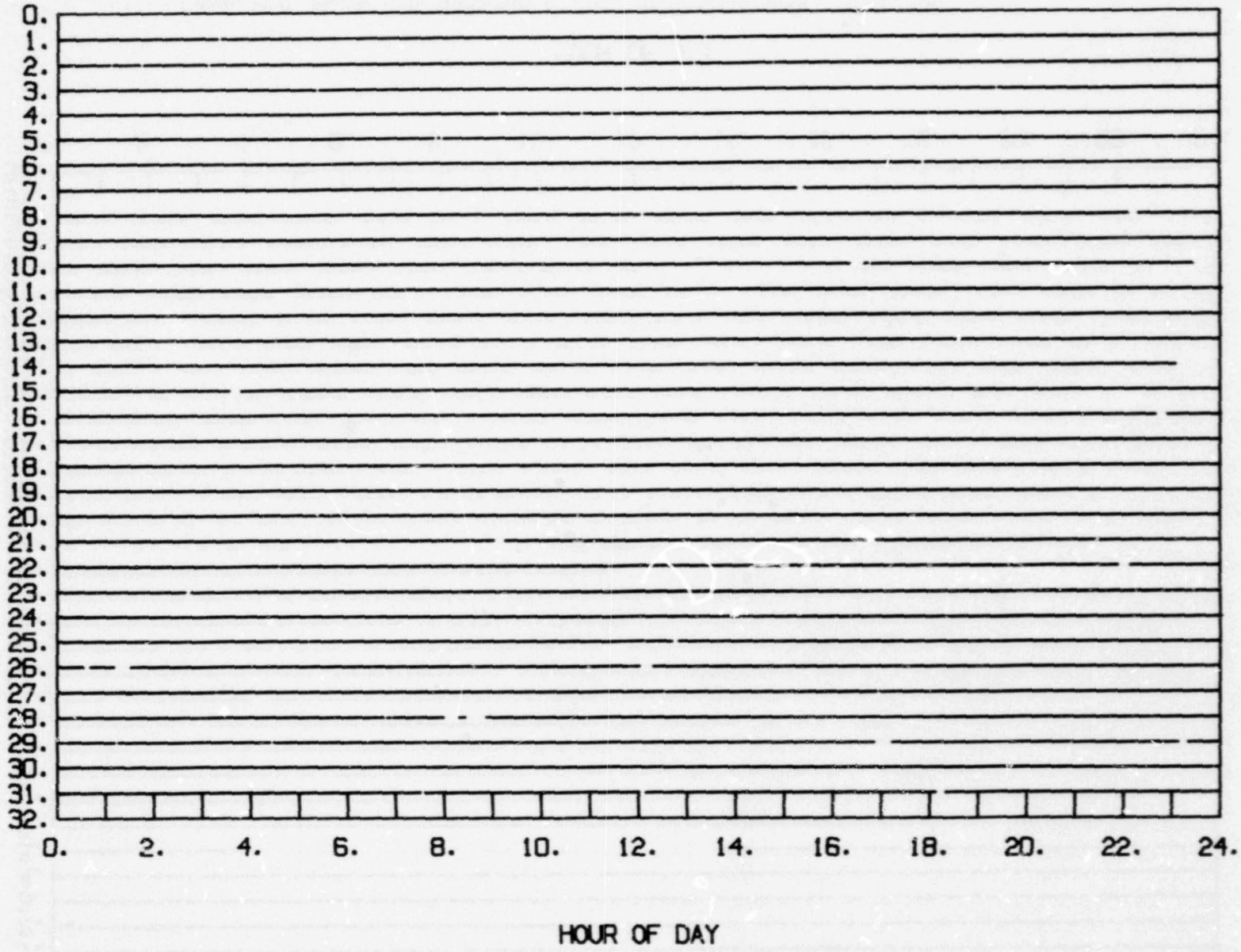


Figure 59-5. Magsat data availability of fine attitude vector data – March 1980

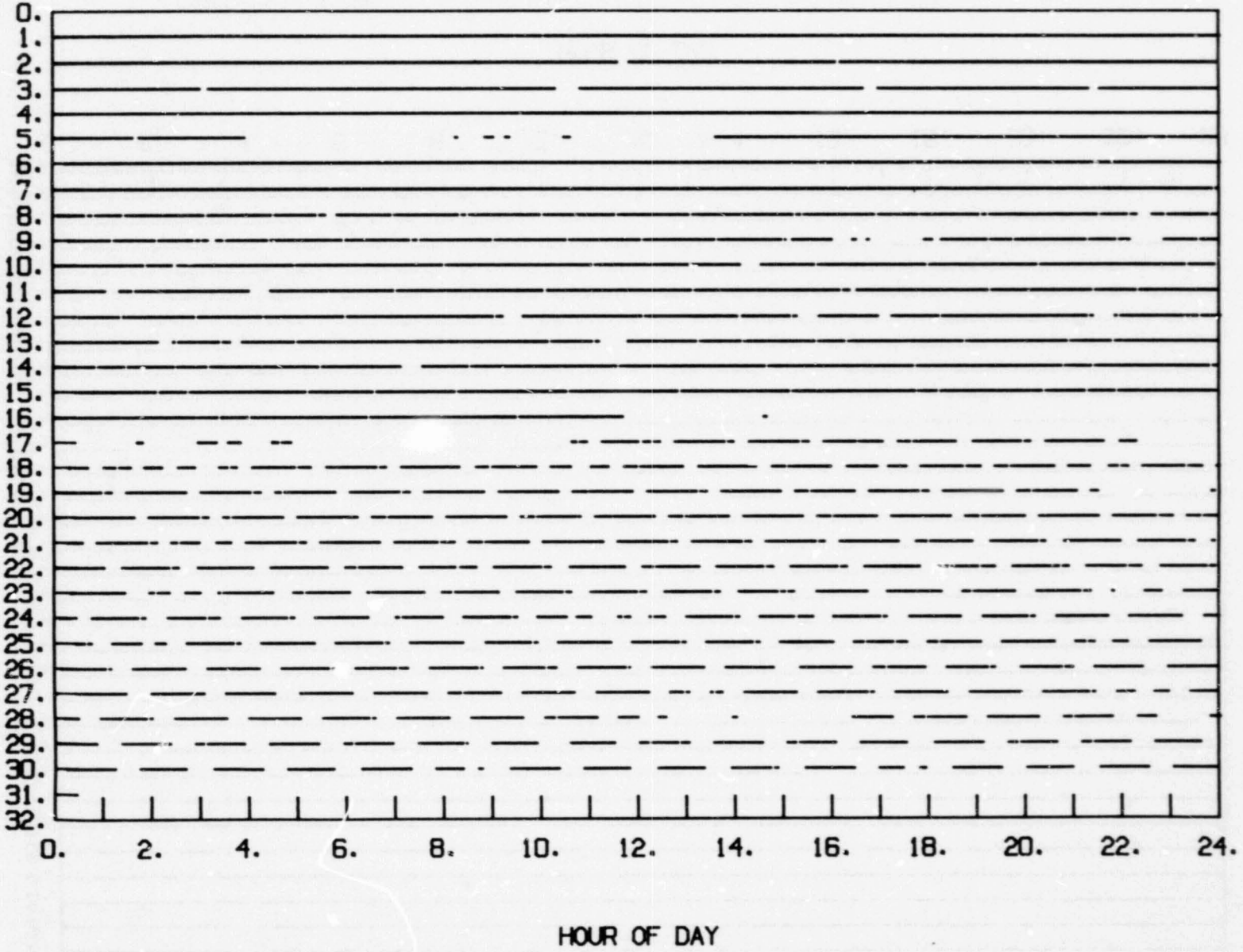


Figure 59-6. Magnat data availability of fine attitude vector data – April 1980

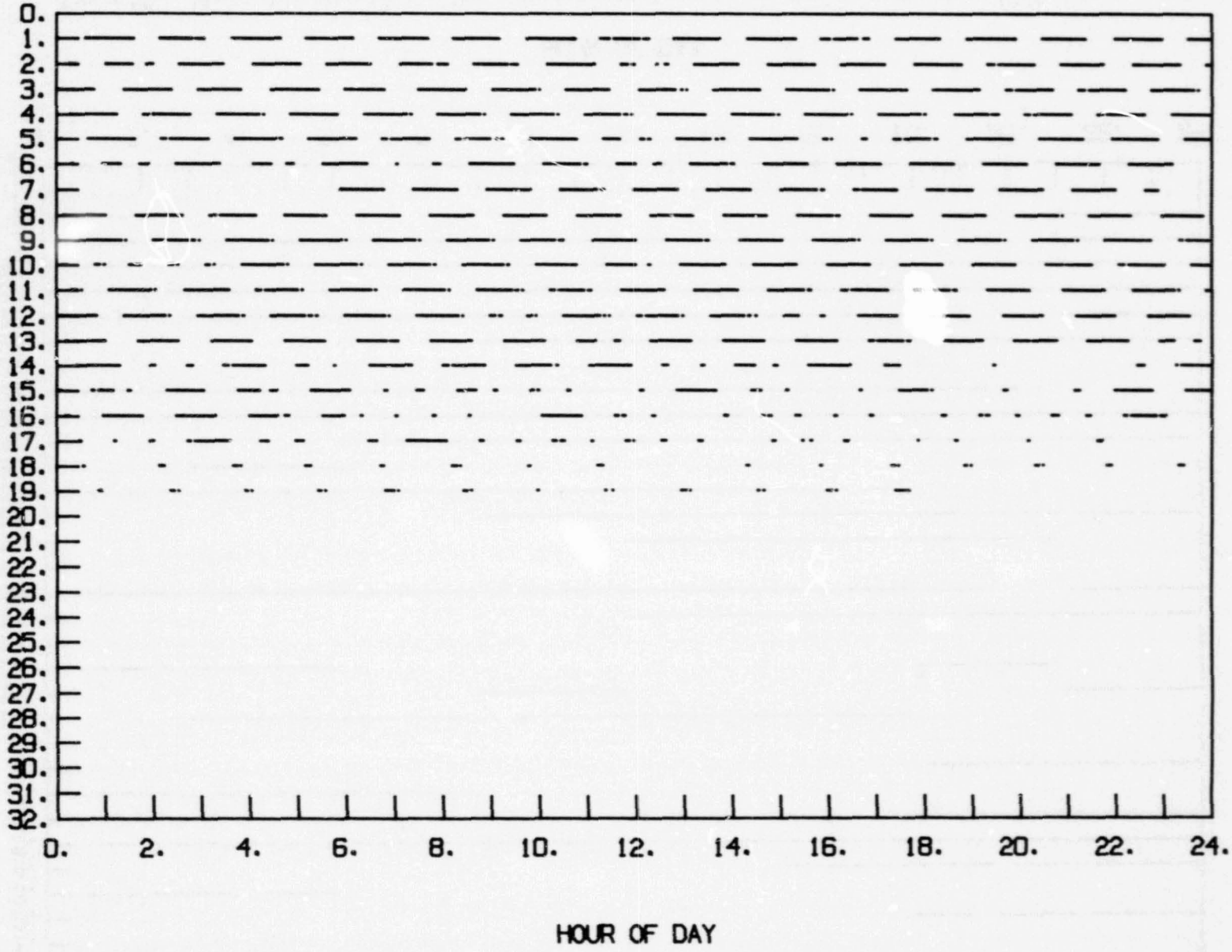


Figure 59-7. Magsat data availability of fine attitude vector data – May 1980

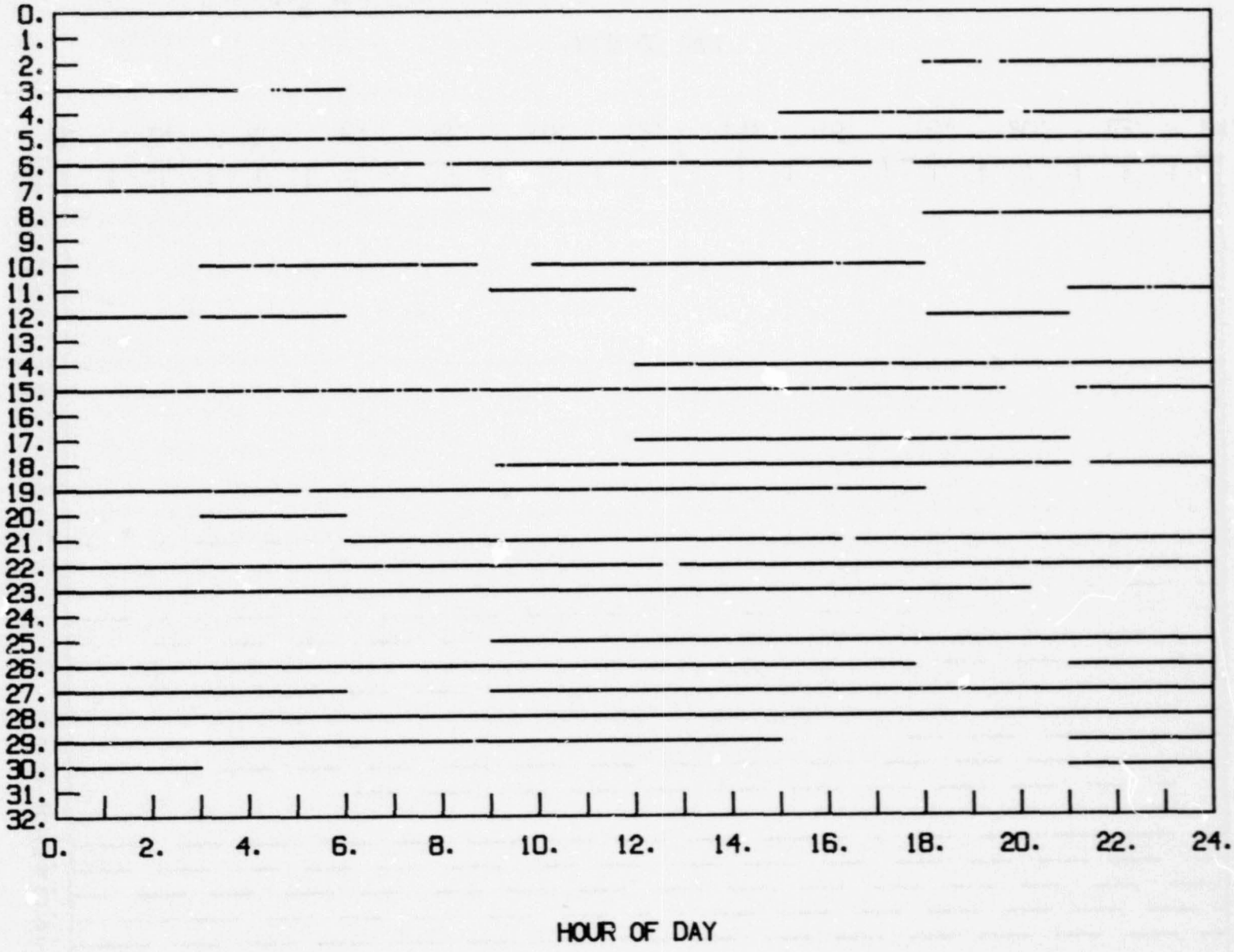


Figure 60-1. Magsat data availability of fine attitude vector quiet (KP LT 2+) data – November 1979

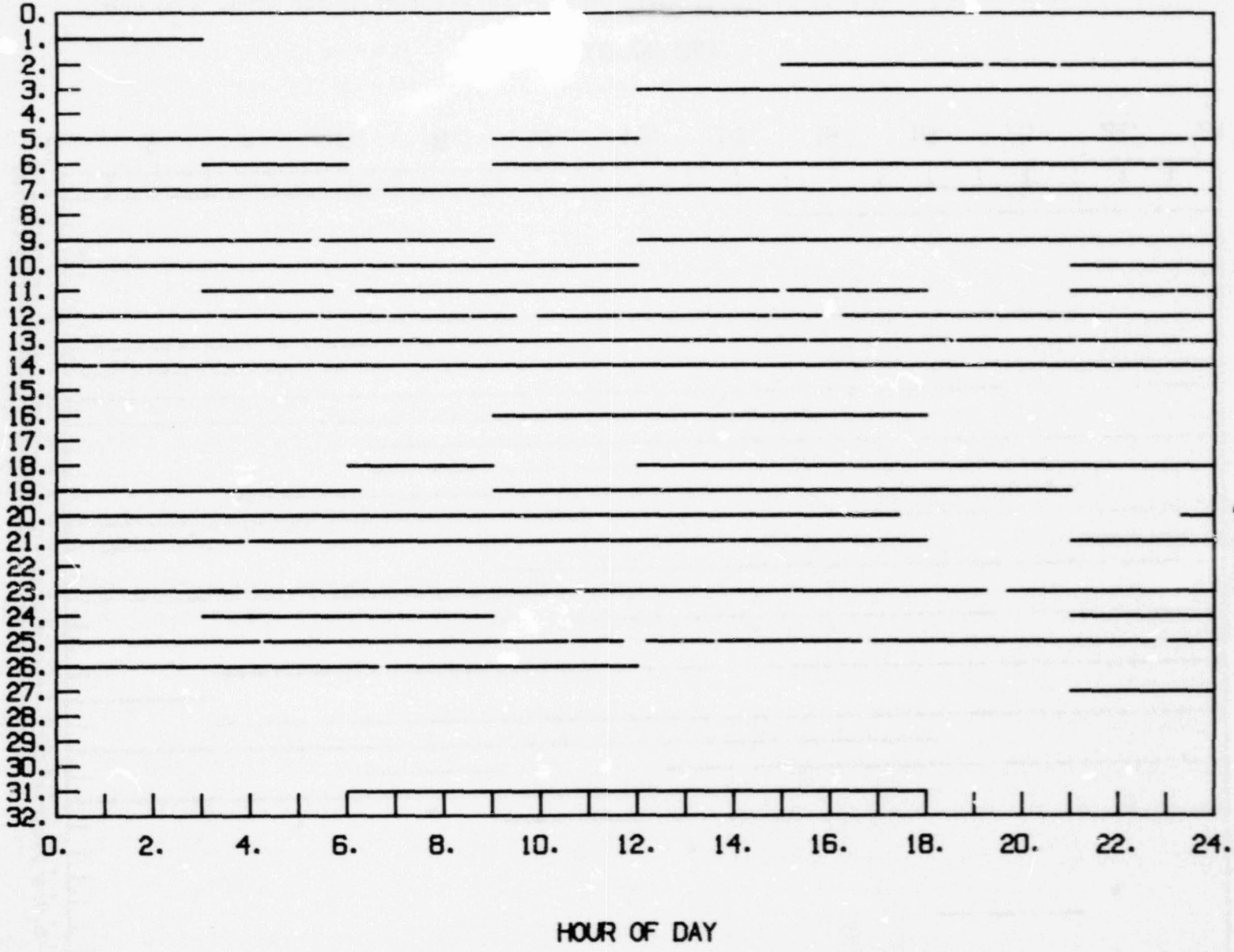


Figure 60-2. Magsat data availability of fine attitude vector quiet (KP LT 2+) data – December 1979

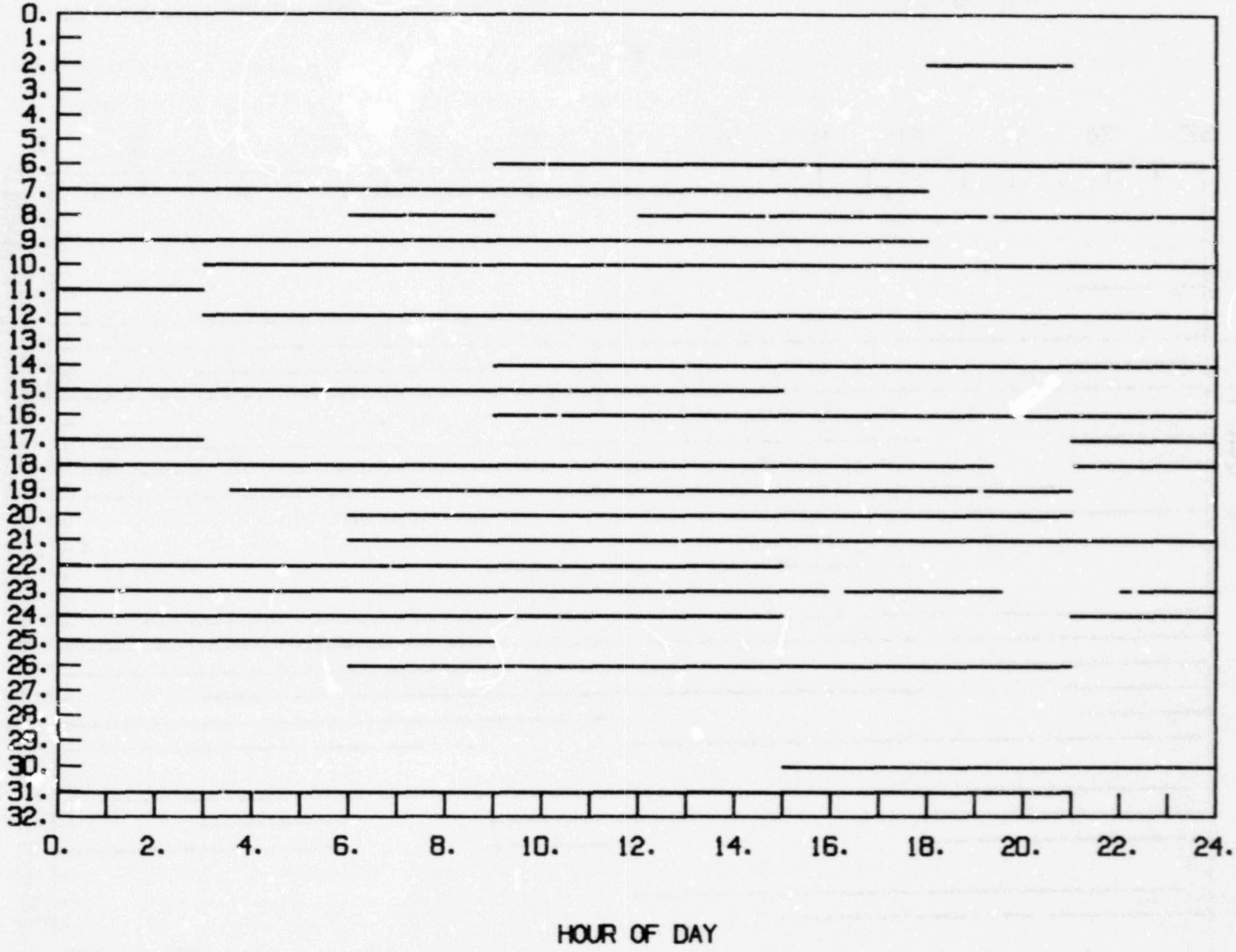


Figure 60-3. Magsat data availability of fine attitude vector quiet (KP LT 2+) data – January 1980

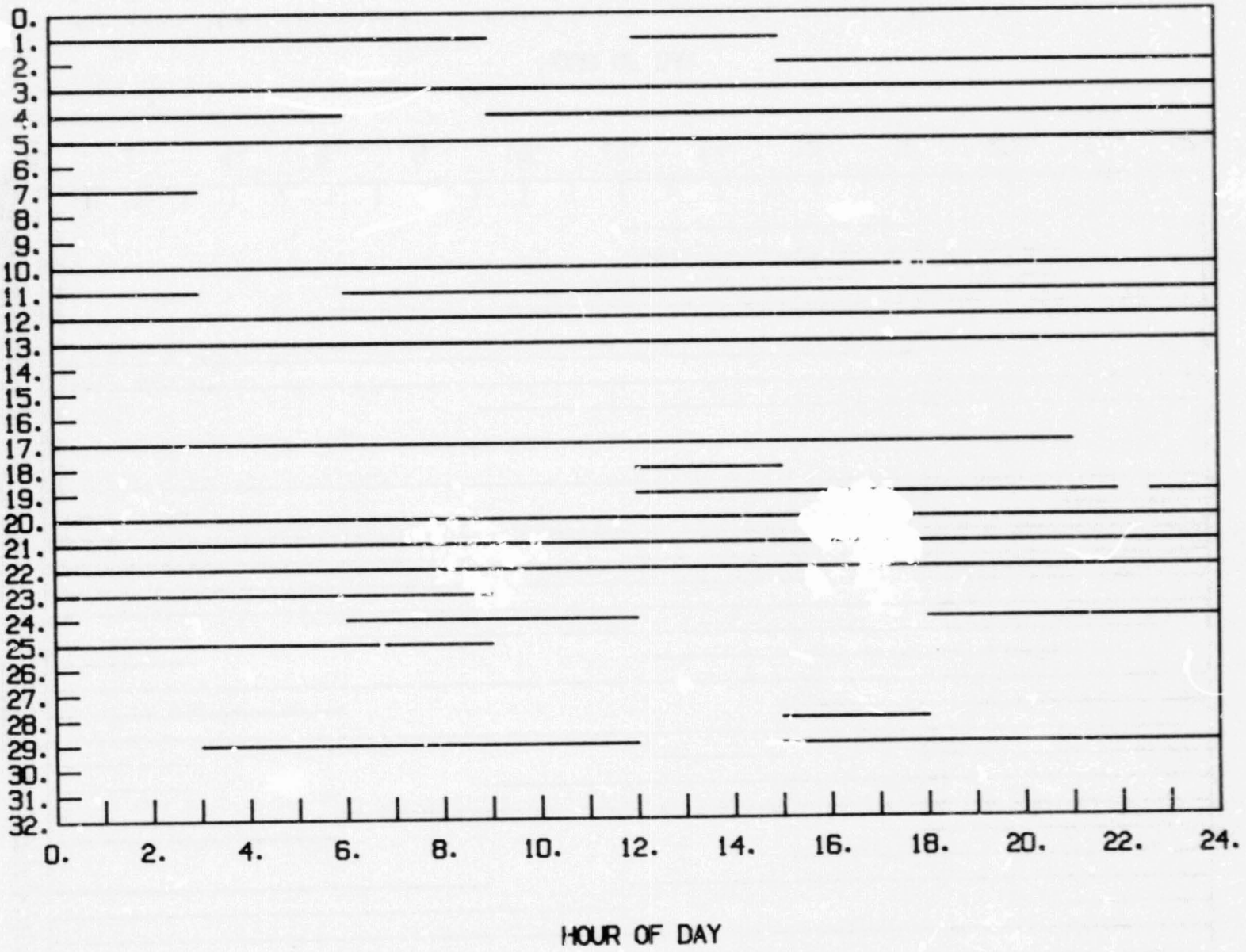


Figure 60-4. Magsat data availability of fine attitude vector quiet (KP LT 2+) data – February 1980

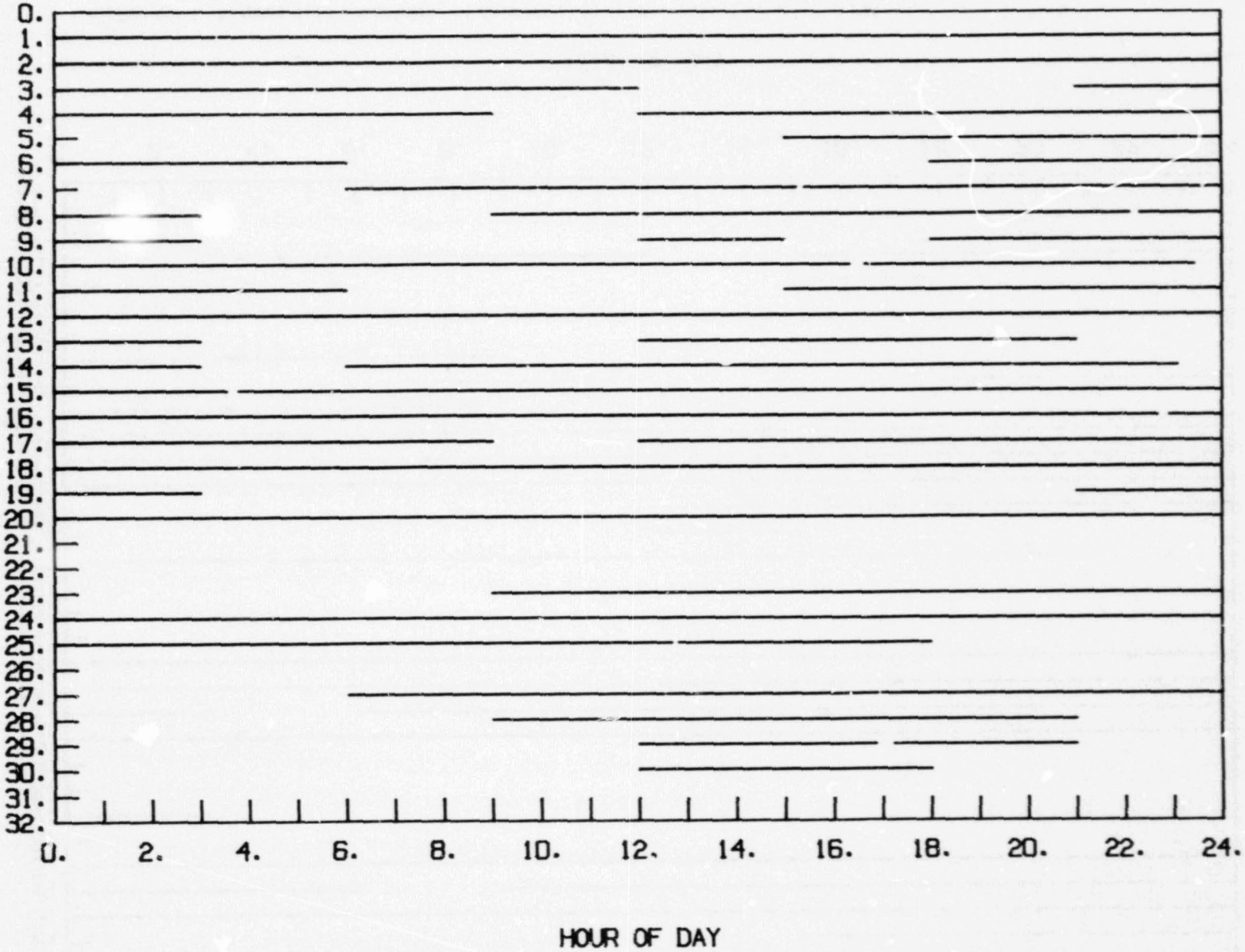


Figure 60-5. Magsat data availability of fine attitude vector quiet (KP LT 2+) data – March 1980

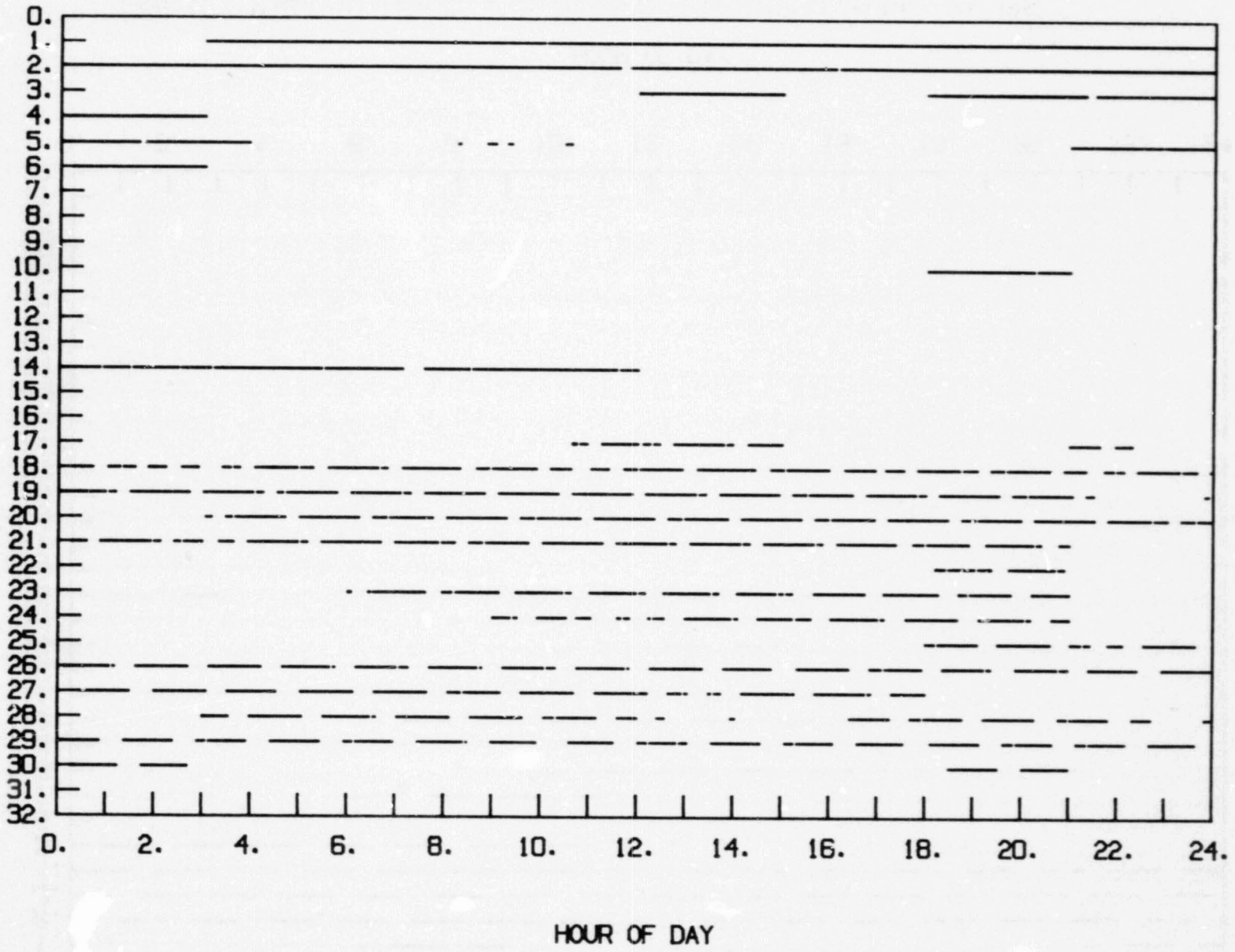


Figure 6C-6. Magsat data availability of fine attitude vector quiet (KP LT 2+) data – April 1980

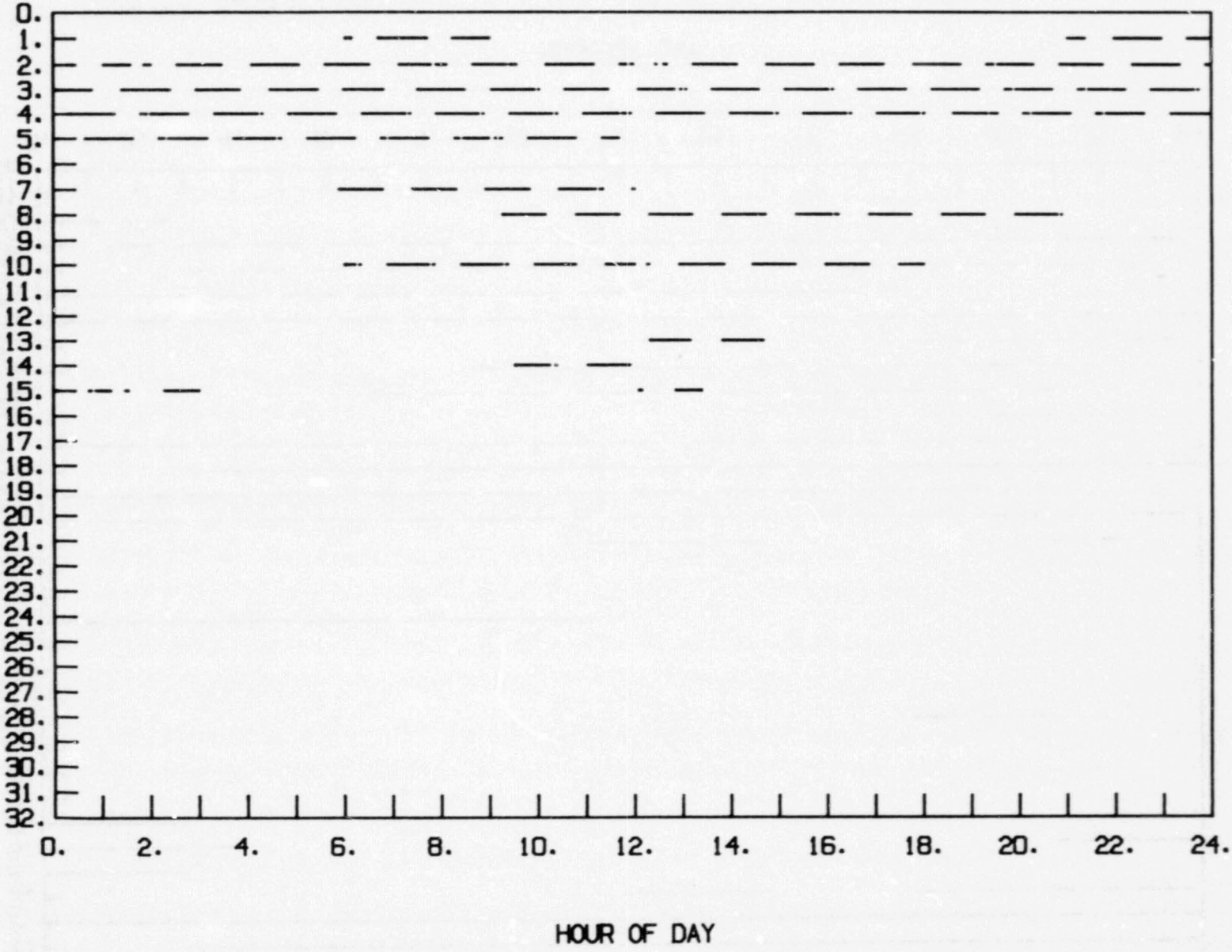


Figure 60-7. Magsat data availability of fine attitude vector quiet (KP LT 2+) data – May 1980

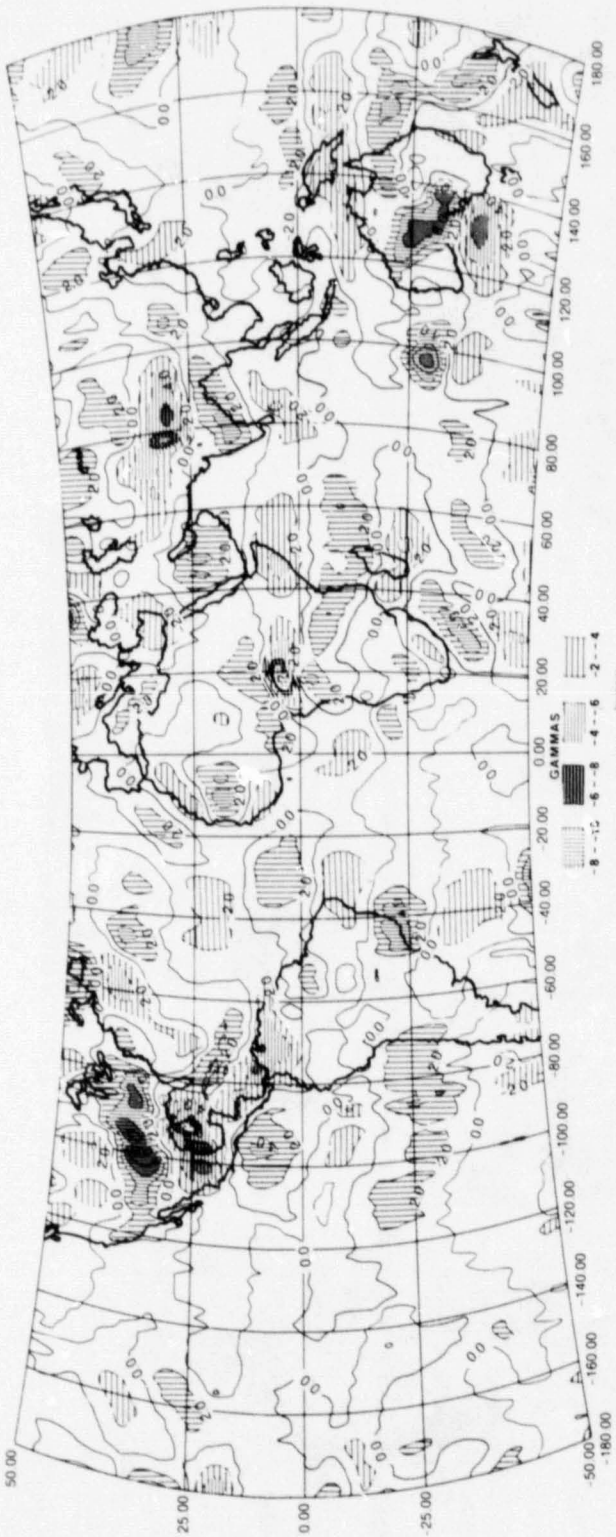


Figure 61. Average Magnetic Anomaly Map from the Pogo Data.

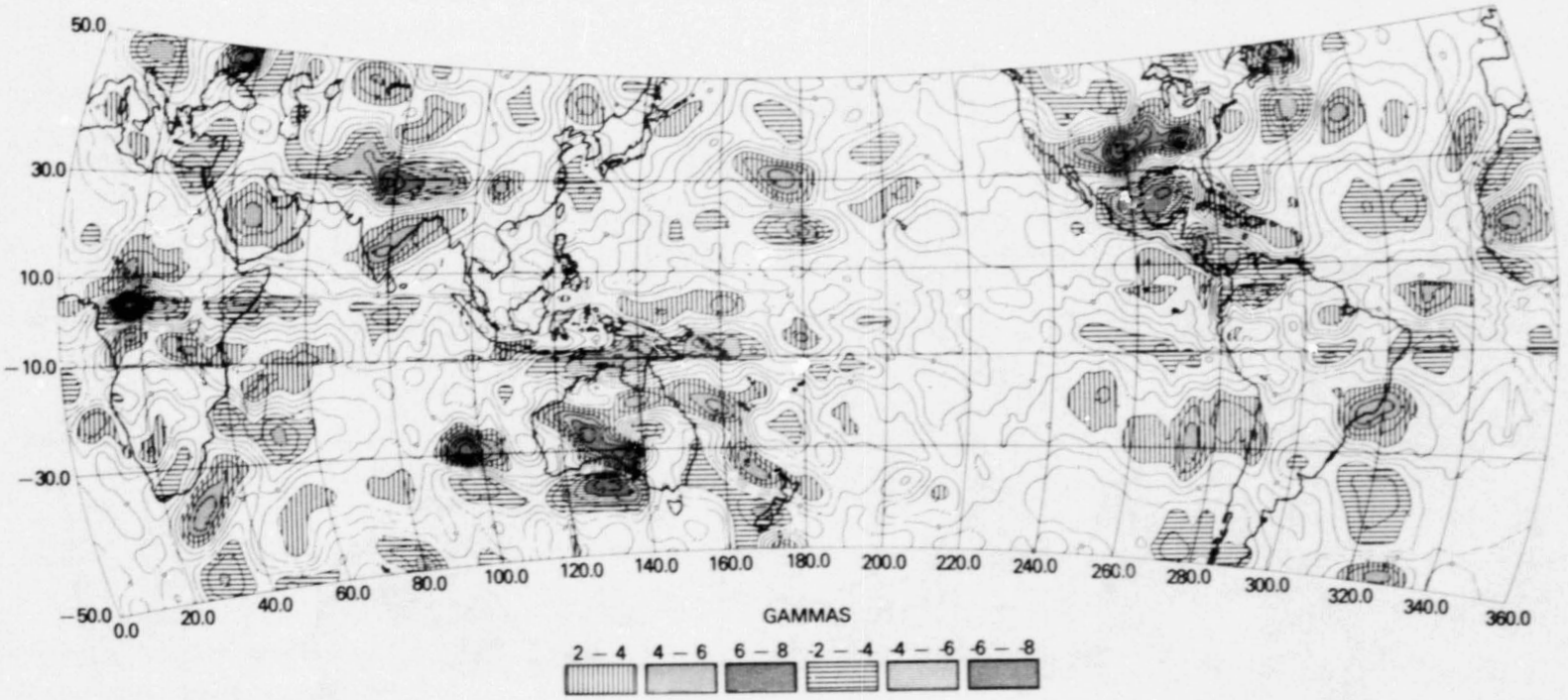


Figure 62. Scalar Magnetic Anomaly Map from the Pogo Satellites Reduced to 500KM Altitude.

Figure 63. North Polar Anomalies in Scalar Magnetic Field from the Pogo Satellites.

Figure 64. South Polar Anomalies in Scalar Magnetic Field from the Pogo Satellites.

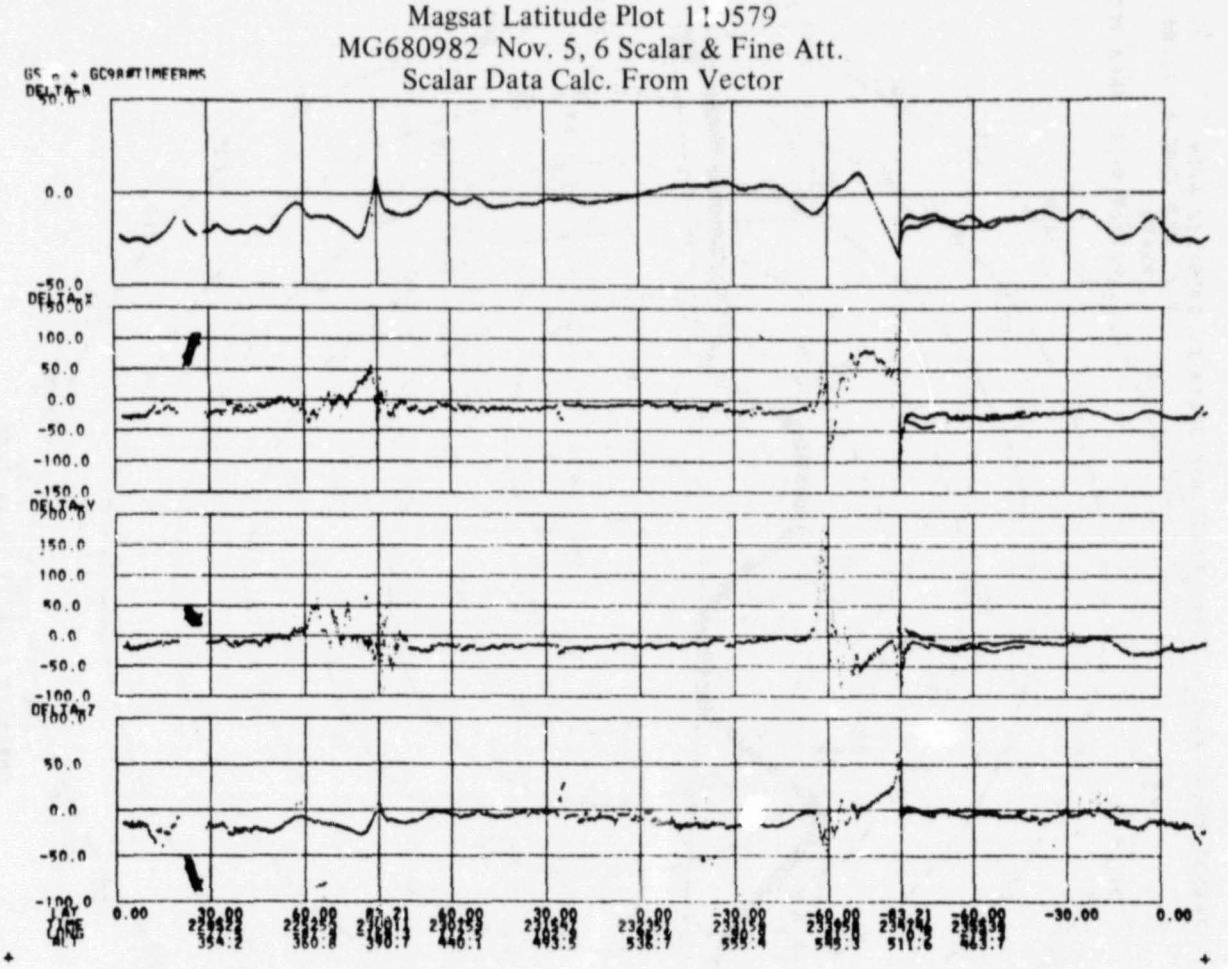


Figure 65. Magsat Latitude Plot (LATPLOT)

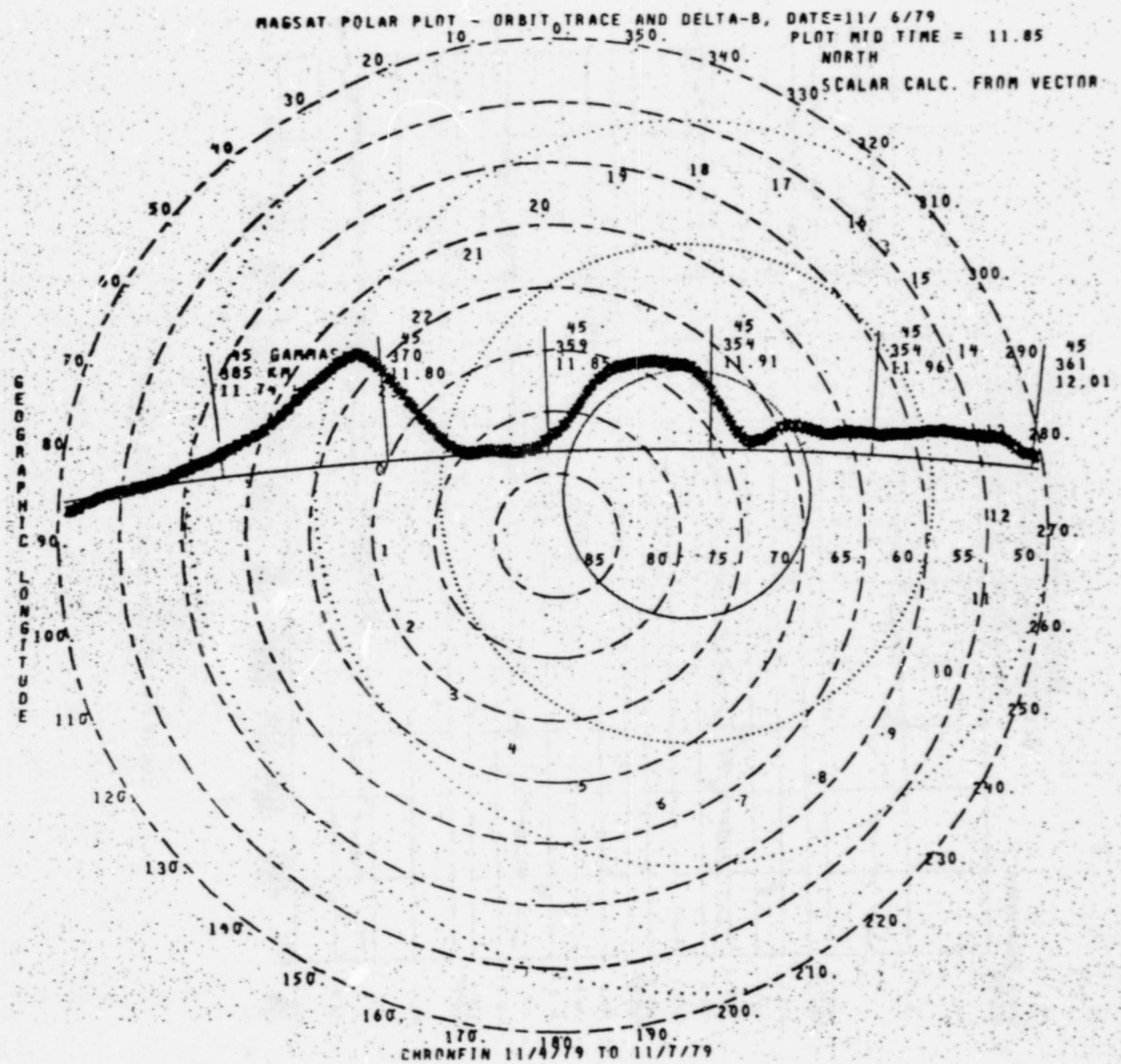


Figure 66. Magsat Polar Plot (POLEPLOT)

ORIGINAL PAGE IS
OF POOR QUALITY

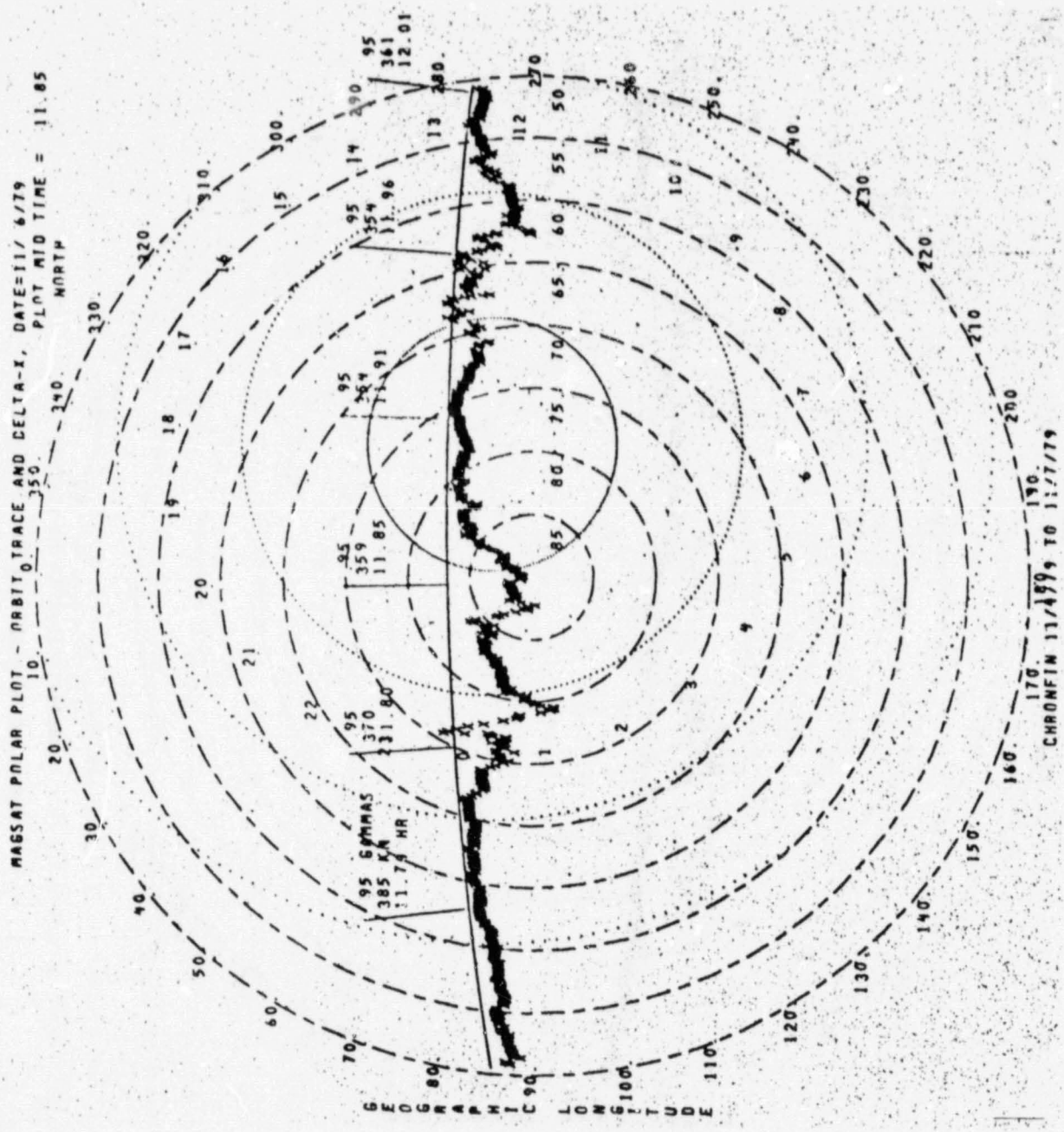


Figure 67. Magsat Polar Plot (POLEPLOT)

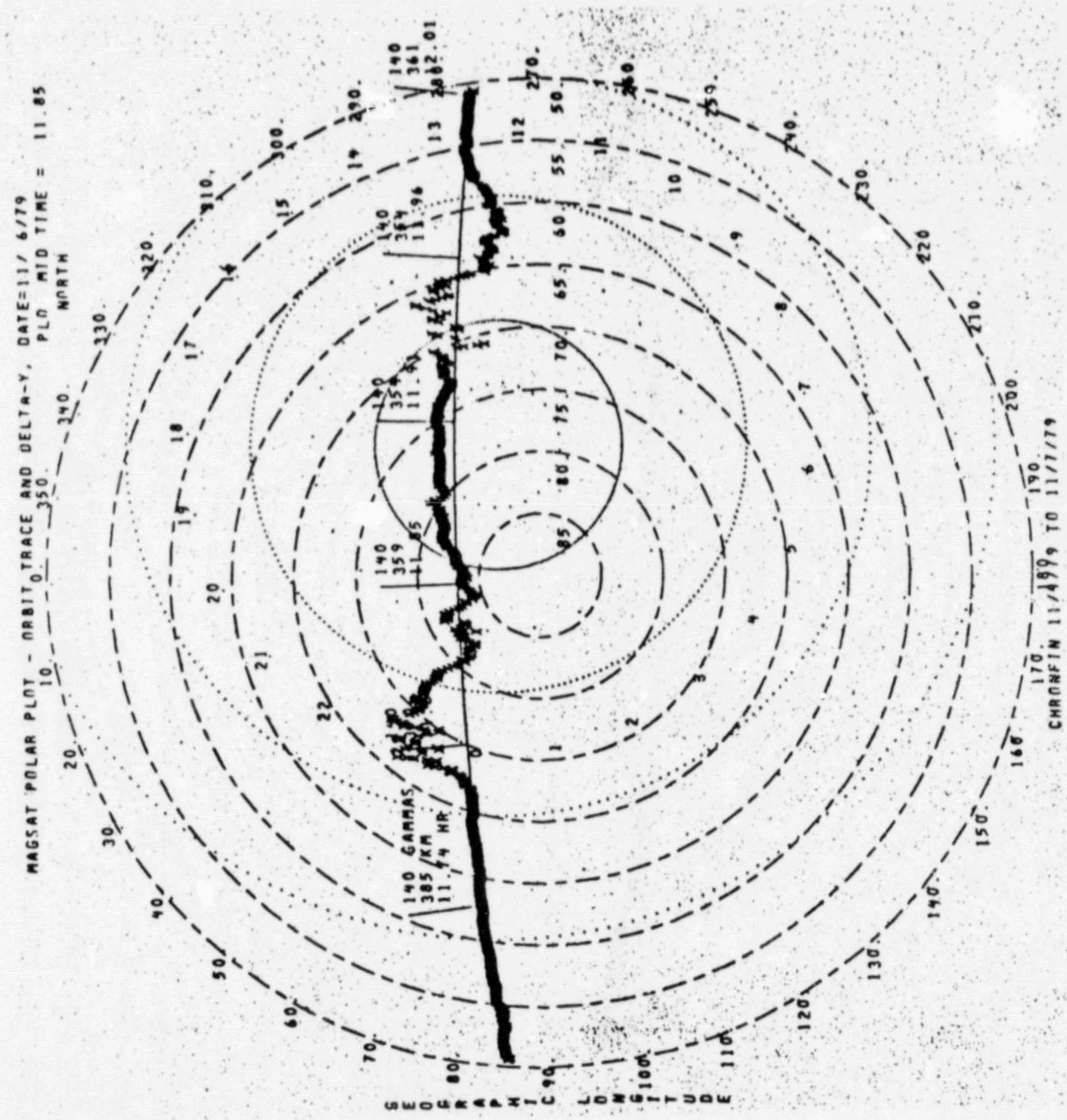


Figure 68. Magsat Polar Plot (POLEPLOT)

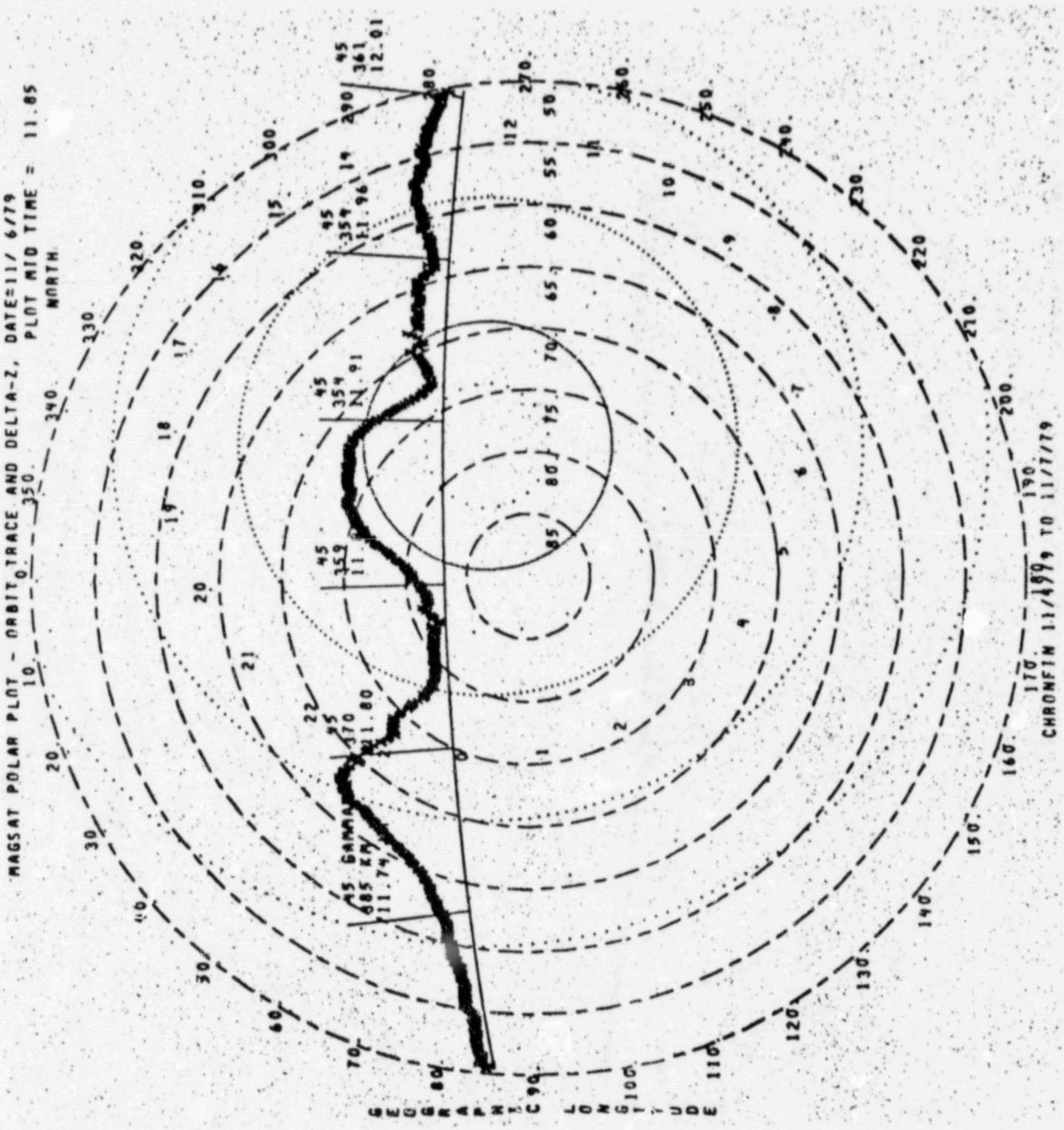


Figure 69. Magsat Polar Plot (POLEPLOT)

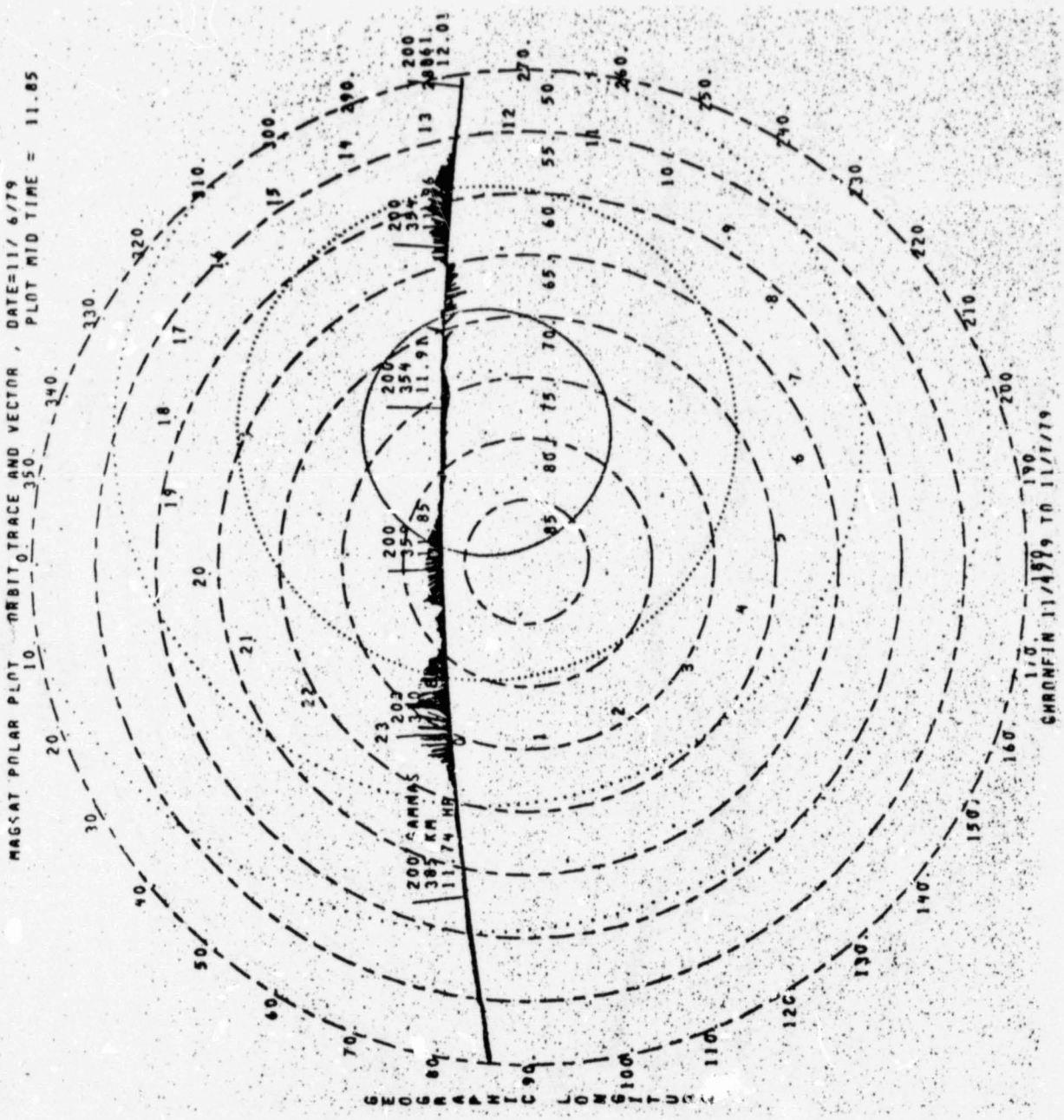


Figure 70. Magsat Polar Plot (POLEPLOT)

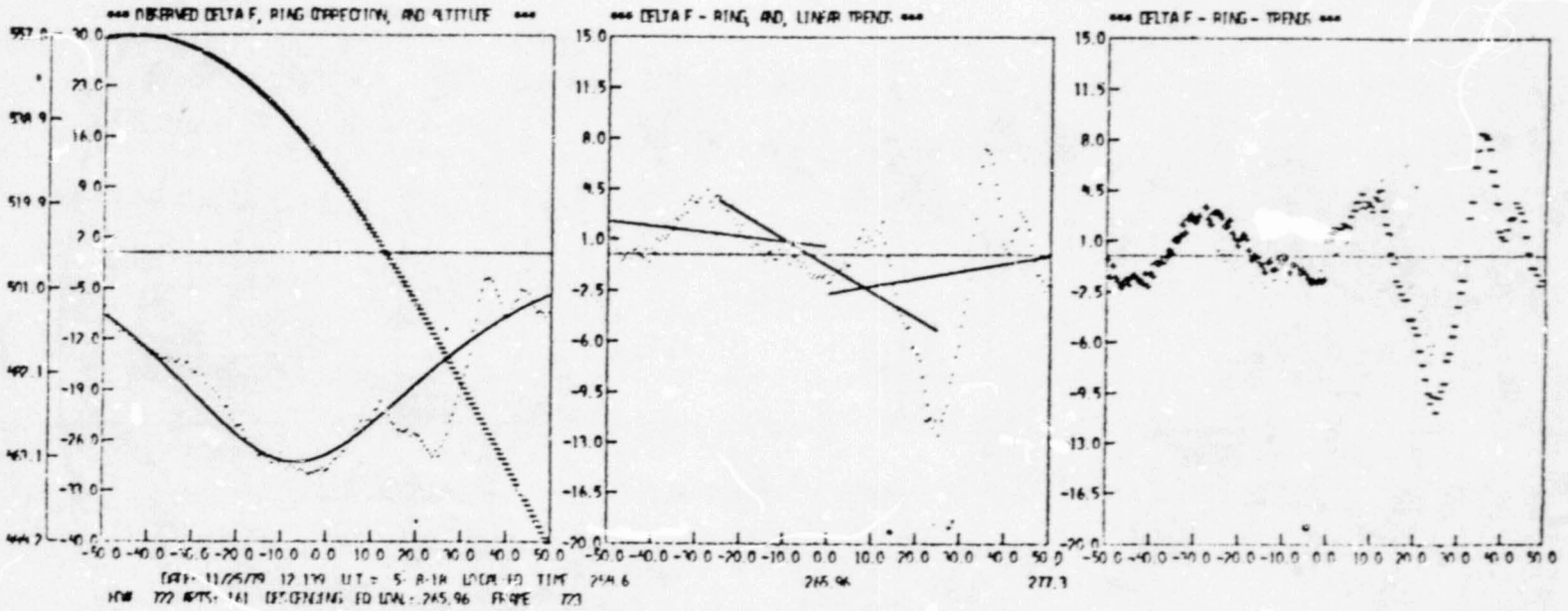


Figure 71. Plots of Low Latitude Scalar Data Used in Anomaly Maps.

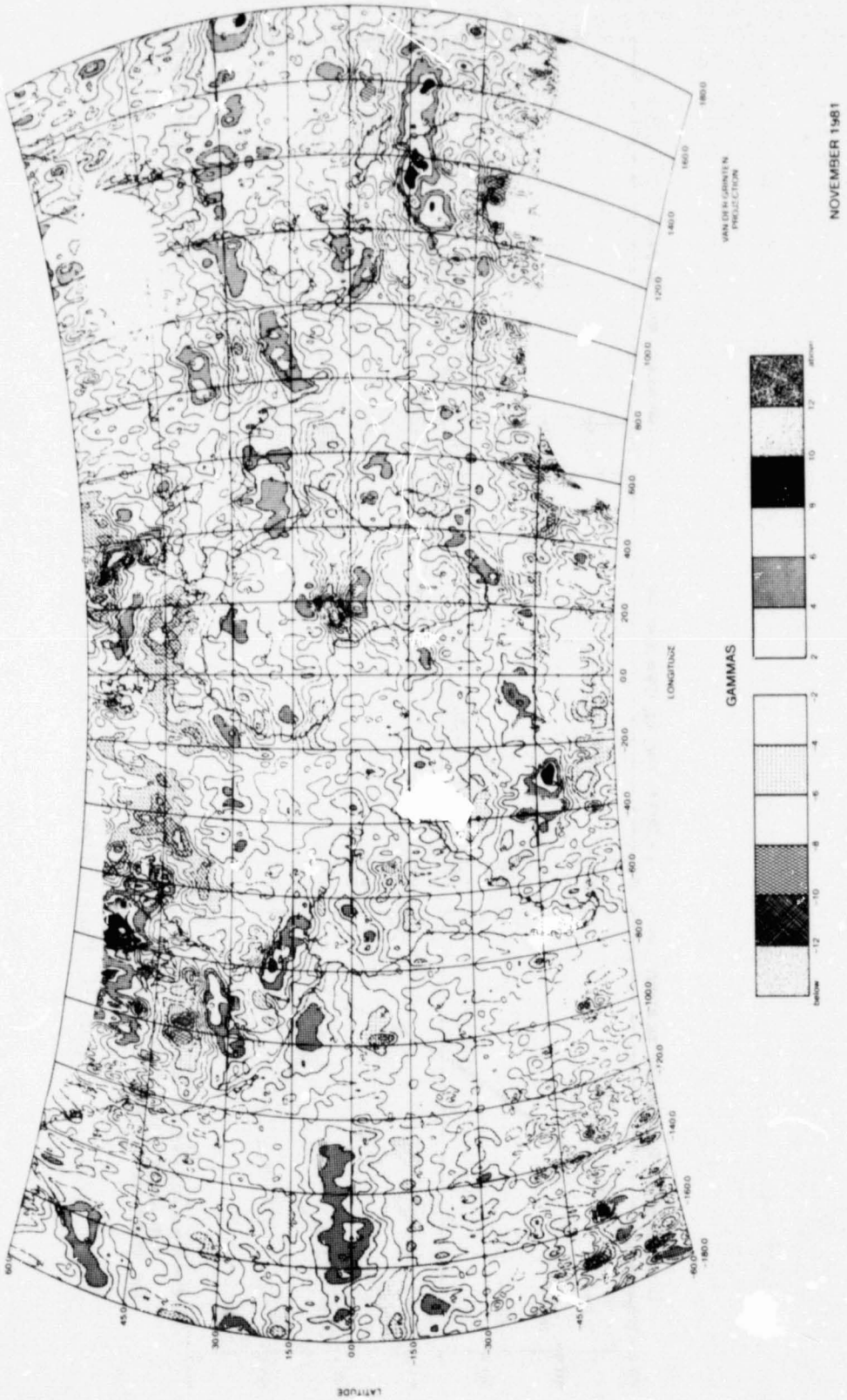


Figure 72. Magnetic Anomaly Map Using Magsat Data – ΔX Contours

Figure 73. Magnetic Anomaly Map Using Magsat Data – ΔY Contours

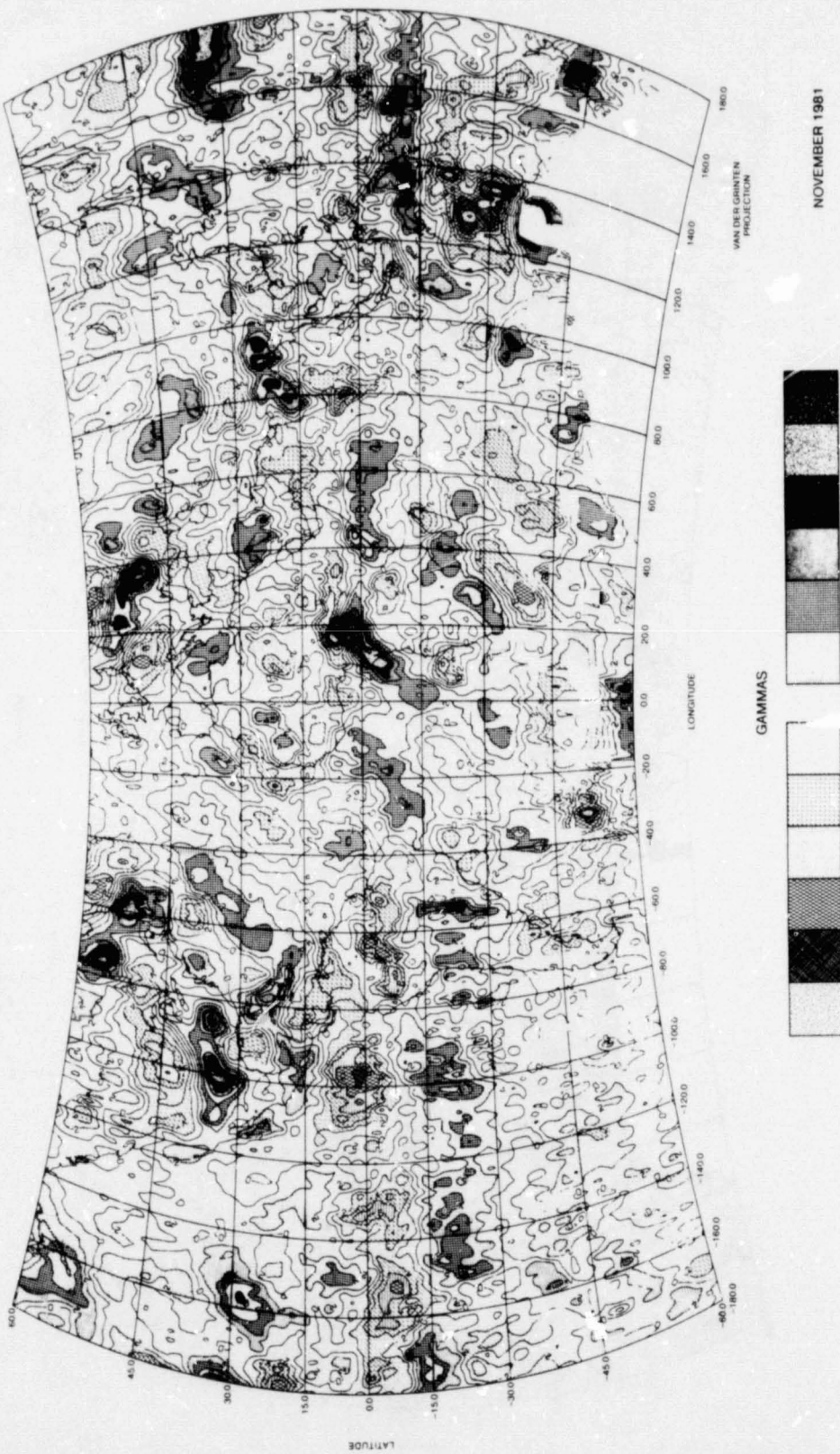


Figure 74. Magnetic Anomaly Map Using Magsat Data – ΔZ Contours

Appendix 1

INVESTIGATOR-B TABLE

This table is taken from the Investigator-B tape. The listing is ordered by the pass number, and each pass consists of two lines. The first line indicates the time at which the pass began, while the second line indicates the time at which the pass ended. Along with the ending and starting times, the table shows the indicated values at both the ascending and descending nodes. The ΔB values are those computed at the ascending and descending nodes at the Dip Equator. Areas in which no data is available are indicated by asterisks.

Description of the Titles on the Table

PASS	The pass number on which the data is found on the Investigator-B tape
MJD	The modified Julian day corresponding to the pass
MSEC	The time in milliseconds at the start and end of the pass
DATE	month/day/year
HR:MN:SC	hours:minutes:seconds
KP	Magnetic Activity Index
DEQL	Relative Equatorial Disturbance in horizontal component from observatories
EQL	The longitude at which the satellite crosses the equator
E	External field due to the ring-current and other magnetosphere currents
I	The associated induced field of the external currents
DELTA B	The ΔB at the Dip Equator

Investigator-B Table. Pass by Pass Catalog of Auxiliary Parameters (Pages 1-2 through 1-79)

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D_EQL	EQL	E	I	I/E	DELTA_B	DESCENDING KP	D_EQL	EQL	E	I	I/E	DELTA_B
1	44179	3910887	11/ 2/79	1: 5:10	33	-73.1	-107.7	*****	*****	*****	******	33	-32.0	60.8	30.3	3.7	0.12	-32.9
	44179	82888823	11/ 2/79	2:18: 8														
2	44179	8293744	11/ 2/79	2:18:13	33	-78.0	-131.2	59.5	14.0	0.24	-70.8	37	-14.1	37.3	31.7	5.2	0.17	-65.3
	44179	13919962	11/ 2/79	3:51:59														
3	44179	13924879	11/ 2/79	3:52: 4	37	-48.0	-154.6	53.8	18.5	0.34	-66.5	37	3.4	13.8	38.9	7.1	0.18	-34.0
	44179	19552041	11/ 2/79	5:25:52														
4	44179	19556997	11/ 2/79	5:25:56	37	-32.5	-178.1	67.3	14.2	0.21	-77.2	27	1.2	-9.6	38.3	5.2	0.14	-42.7
	44179	25180265	11/ 2/79	6:59:40														
5	44179	25185182	11/ 2/79	6:59:45	27	-23.4	158.4	54.2	13.3	0.25	-59.6	27	-10.6	-33.1	36.7	6.6	0.18	-34.9
	44179	30813305	11/ 2/79	8:33:33														
6	44179	30816283	11/ 2/79	8:33:38	27	-23.8	135.0	55.7	17.4	0.31	-65.6	27	-16.3	-56.5	26.6	6.2	0.23	-64.1
	44179	36443515	11/ 2/79	10: 7:23														
7	44179	36448434	11/ 2/79	10: 7:28	27	-37.3	111.5	53.3	17.6	0.33	-64.8	27	-18.1	-80.0	25.5	6.0	0.23	-28.9
	44179	42077703	11/ 2/79	11:41:11														
8	44179	42076620	11/ 2/79	11:41:16	30	-48.2	89.1	51.7	15.7	0.30	-60.3	30	-25.1	-103.5	31.6	4.1	0.13	-39.8
	44179	47699888	11/ 2/79	13:14:59														
9	44179	47704805	11/ 2/79	13:15: 4	30	-53.5	64.6	62.1	20.0	0.32	******	30	-26.6	-126.9	24.3	-1.9	-0.08	-68.4
	44179	53332004	11/ 2/79	14:48:52														
10	44179	53336923	11/ 2/79	14:48:56	23	-42.8	41.1	56.6	19.1	0.34	-70.0	23	-30.4	-150.4	27.5	1.5	0.06	-28.7
	44179	58960190	11/ 2/79	16:22:40														
11	44179	58965107	11/ 2/79	16:22:45	23	-33.2	17.7	58.7	22.6	0.39	-69.1	23	-22.2	-173.8	34.6	5.4	0.16	-40.1
	44179	64593291	11/ 2/79	17:56:33														
12	44179	64598209	11/ 2/79	17:56:38	17	-20.2	-5.8	55.9	21.3	0.38	******	17	-21.3	162.7	33.2	9.7	0.29	-40.1
	44179	69070276	11/ 2/79	19:11:10														
13	44179	70600214	11/ 2/79	19:36:40	17	-13.3	-29.2	50.1	9.7	0.19	******	17	-21.3	139.2	30.8	11.1	0.36	-40.8
	44179	75852612	11/ 2/79	21: 4:12														
14	44179	75857528	11/ 2/79	21: 4:17	10	-12.2	-52.7	41.9	10.1	0.24	-48.8	10	-25.6	115.8	33.9	6.7	0.20	-35.3
	44179	81480797	11/ 2/79	22:38: 0														
15	44179	81485714	11/ 2/79	22:38: 5	10	-27.6	-76.2	42.6	7.2	0.17	-48.1	10	-27.4	92.3	26.3	7.2	0.27	-30.6
	44180	712413	11/ 3/79	0:11:52														
16	44180	717340	11/ 3/79	0:11:57	7	-34.7	-99.6	43.6	11.3	0.26	-52.9	7	-24.3	68.8	31.5	3.1	0.00	-28.1
	44180	6341101	11/ 3/79	1:45:41														
17	44180	6346017	11/ 3/79	1:45:46	7	-37.5	-123.1	44.9	8.8	0.20	-49.4	7	-16.3	45.4	32.2	3.0	0.09	-32.3
	44180	11969285	11/ 3/79	3:19:29														
18	44180	11974202	11/ 3/79	3:19:34	3	-27.2	-146.6	40.3	8.4	0.21	-43.7	3	-6.9	28.1	31.2	2.7	0.09	-43.0
	44180	17599186	11/ 3/79	4:53:19														
19	44180	17604106	11/ 3/79	4:53:24	3	-18.3	-170.0	37.6	10.4	0.28	-43.2	10	4.9	-1.5	33.5	3.7	0.11	-32.8
	44180	23082125	11/ 3/79	6:24:42														
20	44180	23234504	11/ 3/79	6:27:14	10	-14.6	166.5	37.2	6.5	0.18	-40.6	10	5.8	-25.0	30.0	-4.0	-0.13	-22.9
	44180	28857773	11/ 3/79	8: 0:57														
21	44180	28862690	11/ 3/79	8: 1: 2	10	-8.8	143.1	36.5	6.9	0.19	-40.8	27	-1.2	-48.5	16.3	2.8	0.17	-18.5
	44180	34485957	11/ 3/79	9:34:45														
22	44180	34490875	11/ 3/79	9:34:50	27	-8.1	119.6	29.5	11.5	0.39	-36.7	27	-11.5	-71.9	16.0	2.6	0.17	-35.6
	44180	40116109	11/ 3/79	11: 8:36														
23	44180	40121026	11/ 3/79	11: 8:41	27	-24.3	96.1	38.2	10.4	0.27	-43.8	23	-30.0	-95.4	25.1	0.9	0.04	-27.7
	44180	45749210	11/ 3/79	12:42:29														
24	44180	45754127	11/ 3/79	12:42:34	23	-27.8	72.7	40.0	14.0	0.35	-47.6	23	-29.8	-118.8	21.0	2.8	0.13	-22.4
	44180	51377396	11/ 3/79	14:16:17														
25	44180	51382312	11/ 3/79	14:16:22	23	-9.4	49.2	28.9	7.8	0.27	-36.7	33	-23.3	-142.3	21.9	-1.6	-0.07	-22.1
	44180	57005561	11/ 3/79	15:50: 5														
26	44180	57010498	11/ 3/79	15:50:10	33	-14.5	25.8	45.0	18.4	0.41	-56.2	33	-12.5	-165.6	18.4	-7.0	-0.38	-13.6
	44180	62636717	11/ 3/79	17:23:56														
27	44180	62641633	11/ 3/79	17:24: 1	33	-20.4	2.3	55.4	23.3	0.42	-65.7	***	******	******	**********		******	-13.6
	44180	64981573	11/ 3/79	18: 3: 1														
28	44180	72953992	11/ 3/79	20:15:53	***	******	******	*****	*****	*****	-65.7	***	******	******	**********		******	-65.2
	44180	73204670	11/ 3/79	20:20: 4														
29	44180	74015482	11/ 3/79	20:33:35	33	-3.7	-44.6	52.0	19.2	0.37	-50.7	33	-1.2	123.9	15.5	9.8	0.63	-21.5
	44180	79520278	11/ 3/79	22: 5:20														
30	44180	79525205	11/ 3/79	22: 5:25	33	-28.1	-68.1	45.6	9.9	0.22	-55.4	33	-30.7	100.4	28.6	9.6	0.34	-35.9
	44180	85153388	11/ 3/79	23:39:13														
31	44180	85158306	11/ 3/79	23:39:18	33	-41.8	-91.5	40.3	11.6	0.29	-55.4	33	-39.9	77.0	30.1	2.5	0.08	******
	44181	4381319	11/ 4/79	1:13: 1														
32	44181	4386245	11/ 4/79	1:13: 6	33	-57.9	-115.0	54.8	16.1	0.29	-66.7	33	-20.4	53.5	23.6	-2.8	-0.12	-19.9
	44181	10009513	11/ 4/79	2:46:49														
33	44181	10014430	11/ 4/79	2:46:54	30	-52.5	-138.4	55.2	18.0	0.33	-67.9	30	-10.9	30.0	25.1	3.7	0.15	-25.2
	44181	15649901	11/ 4/79	4:20:39														
34	44181	15644828	11/ 4/79	4:20:44	30	-28.8	-161.9	39.1	8.4	0.21	-44.9	30	13.5	6.6	37.5	5.1	0.14	-37.2
	44181	21298096	11/ 4/79	5:54:28														
35	44181	21273013	11/ 4/79	5:54:33	23	-24.2	174.6	50.5	7.6	0.15	-55.5	23	-9.1	-16.9	37.7	-7.6	-0.20	-30.4
	44181	28896281	11/ 4/79	7:28:16														
36	44181	28901198	11/ 4/79	7:28:21	23	-22.9	151.2	47.2	7.4	0.16	-50.9	23	-3.3	-40.3	23.0	1.1	0.05	-25.0
	44181	32379955	11/ 4/79	8:59:39														
37	44181	32532332	11/ 4/79	9: 2:12	27	-14.4	127.7	41.2	9.2	0.22	-43.2	27	-11.4	-63.8	22.6	2.0	0.09	-28.0
	44181	38153133	11/ 4/79	10:35:53														
38	44181	38158001	11/ 4/79	10:35:58	27	-40.2	104.3	51.1	14.5	0.28	-58.5	27	-20.6	-87.2	10.8	-0.7	-0.06	-58.4
	44181	43783787	11/ 4/79	12: 9:43														
39	44181	43788703	11/ 4/79	12: 9:48	20	-40.1	80.8	41.4	14.7	0.36	-47.4	20	-26.0	-110.7	19.3	2.3	0.12	-22.6
	44181	49411970	11/ 4/79	13:43:31														
40	44181	49416888	11/ 4/79	13:43:36	20	-27.0	57.3	41.1	13.5	0.33	-50.2	20	-24.8	-134.2	20.0	-1.0	-0.05	-16.0
	44181	55042356	11/ 4/79	15:17:22														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	ECL	E	I	I/S	DELTA B	DESCENDING KP	D ECL	ECL	E	I	I/S	DELTA L
41	44181	55047284	11/ 4/79	15:17:27	17	-13.8	33.9	37.6	12.9	0.34	-43.7	17	-16.8	-157.6	20.9	-2.4	-0.11	-14.4
	44181	60670552		16:51:10														
42	44181	60675469	11/ 4/79	16:51:15	17	-5.8	10.4	39.8	24.3	0.56	-52.9	20	-7.7	178.9	24.1	2.9	0.12	-24.7
	44181	66299475		18:24:59														
43	44181	66304394	11/ 4/79	18:25: 4	20	5.2	-13.9	37.7	19.1	0.40	-43.6	20	-3.0	155.5	20.2	1.2	0.06	-13.7
	44181	70733210		19:38:53														
44	44181	72396536	11/ 4/79	20: 6:36	20	10.5	-36.5	36.1	7.0	0.19	-35.6	10	-2.0	132.0	13.3	2.4	0.18	-16.0
	44181	77555844	11/ 4/79	21:32:35														
45	44181	77560765	11/ 4/79	21:32:40	10	4.3	-99.9	30.4	5.5	0.18	-36.1	10	-9.7	108.6	25.2	2.6	0.10	-24.9
	44181	83184032	11/ 4/79	23: 6:24														
46	44181	83188949	11/ 4/79	23: 6:28	10	-19.8	-83.4	32.7	8.4	0.26	-40.1	3	-22.4	85.1	18.7	1.9	0.10	-21.4
	44182	2415649	11/ 5/79	0:40:15														
47	44182	2420575	11/ 5/79	0:40:20	3	-31.5	-106.8	31.8	6.0	0.19	-36.6	3	-20.4	61.6	23.1	-0.2	-0.01	-20.9
	44182	8043844	11/ 5/79	2:14: 3														
48	44182	8048781	11/ 5/79	2:14: 8	3	-34.1	-130.3	27.4	5.5	0.20	-32.6	0	-8.3	38.2	25.5	0.1	0.00	-22.0
	44182	13671774		3:47:51														
49	44182	13676700	11/ 5/79	3:47:56	0	-11.7	-153.8	26.4	4.9	0.19	-24.9	0	0.8	14.7	27.5	0.2	0.01	-13.9
	44182	19299907	11/ 5/79	5:21:39														
50	44182	19304884	11/ 5/79	5:21:44	0	-0.9	-177.2	34.1	3.6	0.10	-32.8	3	8.2	-8.7	26.3	-1.4	-0.05	-22.3
	44182	24926921		6:55:26														
51	44182	24931842	11/ 5/79	6:55:31	3	3.0	159.3	30.0	7.6	0.25	-33.3	3	11.0	-32.2	10.4	-1.0	-0.09	-8.9
	44182	30555110	11/ 5/79	8:29:15														
52	44182	30560027	11/ 5/79	8:29:20	3	5.4	135.9	24.8	8.0	0.32	-30.0	7	9.9	-55.6	11.8	-1.4	-0.12	-13.3
	44182	36183296	11/ 5/79	10: 3: 3														
53	44182	36188212	11/ 5/79	10: 3: 8	7	-4.7	112.4	25.6	11.3	0.44	-33.3	7	-2.3	-79.1	14.9	3.3	0.22	-35.0
	44182	41607952	11/ 5/79	11:34:27														
54	44182	41620340	11/ 5/79	11:37: 0	10	-15.6	89.0	27.6	7.4	0.27	-31.9	10	-4.3	-102.5	20.1	1.4	0.07	-23.7
	44182	47443598	11/ 5/79	13:10:43														
55	44182	47448515	11/ 5/79	13:10:48	10	-14.5	65.5	28.6	6.7	0.23	-32.9	10	-9.1	-126.0	10.5	-1.5	-0.09	-13.4
	44182	53071783	11/ 5/79	14:44:31														
56	44182	53076700	11/ 5/79	14:44:36	7	0.8	42.0	24.6	7.7	0.31	-29.7	7	-10.1	-149.5	9.9	-2.7	-0.28	-4.0
	44182	58700206	11/ 5/79	16:18:20														
57	44182	58705131	11/ 5/79	16:18:25	7	9.1	18.6	29.4	7.7	0.26	-28.1	7	0.8	-172.9	14.9	-1.3	-0.09	-10.9
	44182	64528399	11/ 5/79	17:52: 8														
58	44182	64533316	11/ 5/79	17:52:13	10	24.4	-4.9	26.9	9.4	0.35	-29.1	10	9.7	163.6	11.7	1.7	0.15	-8.9
	44182	69956584	11/ 5/79	19:25:56														
59	44182	69961501	11/ 5/79	19:26: 1	10	21.6	-28.3	28.6	6.8	0.24	-24.9	10	6.9	140.2	9.9	3.0	0.30	-10.2
	44182	75583535	11/ 5/79	20:59:43														
60	44182	75588458	11/ 5/79	20:59:48	3	9.6	-51.8	27.3	7.1	0.26	-31.6	3	-15.4	116.7	21.0	2.0	0.10	-17.8
	44182	81211727	11/ 5/79	22:33:31														
61	44182	81216644	11/ 5/79	22:33:36	3	0.3	-75.2	30.7	5.4	0.18	-31.6	3	-22.3	93.3	13.6	2.1	0.15	-14.4
	44183	439414	11/ 6/79	0: 7:19														
62	44183	444338	11/ 6/79	0: 7:24	7	-6.2	-98.7	31.9	8.8	0.27	-37.8	7	-9.9	69.8	23.4	-3.1	-0.13	-17.3
	44183	6067353	11/ 6/79	1:41: 7														
63	44183	6072276	11/ 6/79	1:41:12	7	-13.6	-122.1	27.7	5.6	0.20	-30.4	7	0.1	46.4	23.7	-2.2	-0.09	-19.5
	44183	11695545	11/ 6/79	3:14:55														
64	44183	11700461	11/ 6/79	3:15: 0	10	-6.7	-145.6	27.7	3.2	0.12	-26.2	10	17.0	22.9	19.3	-3.7	-0.19	-26.9
	44183	17323723	11/ 6/79	4:48:43														
65	44183	17326647	11/ 6/79	4:48:48	10	3.2	-169.0	24.1	1.6	0.07	-22.1	10	20.3	-0.5	18.5	-2.7	-0.15	-9.8
	44183	22951915	11/ 6/79	6:22:31														
66	44183	22956832	11/ 6/79	6:22:36	7	3.9	167.5	21.6	4.7	0.22	-23.3	7	11.7	-24.0	12.1	1.1	0.09	-9.2
	44183	27459373	11/ 6/79	7:37:39														
67	44183	29317420	11/ 6/79	8: 8:37	7	9.7	144.1	24.9	1.9	0.08	-26.0	13	7.5	-47.4	6.7	0.5	0.08	-7.2
	44183	34207297	11/ 6/79	9:30: 7														
68	44183	34212219	11/ 6/79	9:30:12	13	8.0	120.6	23.7	9.9	0.42	-28.2	13	6.6	-70.9	7.0	0.7	0.10	-7.1
	44183	39835488	11/ 6/79	11: 3:55														
69	44183	39840405	11/ 6/79	11: 4: 0	13	2.8	97.8	24.6	6.1	0.25	******	10	-1.0	-94.4	12.9	-2.0	-0.15	-13.5
	44183	45463673	11/ 6/79	12:37:43														
70	44183	45468590	11/ 6/79	12:37:48	10	-2.8	73.7	19.7	4.3	0.22	-19.9	10	-7.2	-117.8	10.7	-2.1	-0.19	-6.5
	44183	51090870	11/ 6/79	14:11:30														
71	44183	51095792	11/ 6/79	14:11:35	10	1.4	50.2	17.7	6.2	0.35	******	3	-6.1	-141.3	9.7	-2.4	-0.25	-4.5
	44183	56719061	11/ 6/79	15:45:19														
72	44183	56723977	11/ 6/79	15:45:23	3	20.2	26.8	20.1	5.0	0.25	-19.6	***	******	******	**********		******	-4.5
	44183	60867697	11/ 6/79	16:54:27														
73	44183	60871468	11/ 6/79	16:54:31	***	******	******	*****	*****	*****	-19.6	3	10.2	171.8	10.0	-0.5	-0.05	-6.8
	44183	67976416	11/ 6/79	18:52:56														
74	44183	67981331	11/ 6/79	18:53: 1	3	33.1	-20.1	21.3	4.9	0.23	-19.9	3	8.9	148.4	7.7	1.6	0.21	-7.0
	44183	73599630	11/ 6/79	20:26:39														
75	44183	73604601	11/ 6/79	20:26:44	3	26.1	-43.6	17.9	3.5	0.20	-17.3	3	2.0	124.9	11.5	0.1	0.01	-6.6
	44183	79227860	11/ 6/79	22: 0:27														
76	44183	79232787	11/ 6/79	22: 0:32	3	10.6	-67.0	19.2	4.3	0.22	-23.3	3	-14.6	101.5	10.6	-2.5	-0.23	-6.5
	44183	84856054	11/ 6/79	23:34:16														
77	44183	84860971	11/ 6/79	23:34:20	3	4.6	-90.5	20.8	5.6	0.27	-28.4	10	-11.2	78.0	11.8	-5.0	-0.43	-5.1
	44184	4084239	11/ 7/79	1: 8: 4														
78	44184	4089157	11/ 7/79	1: 8: 9	10	-5.4	-113.9	32.0	3.2	0.10	-33.9	10	14.9	54.6	17.8	-3.9	-0.22	-15.0
	44184	9710449	11/ 7/79	2:41:50														
79	44184	9715376	11/ 7/79	2:41:55	20	-4.5	-137.4	27.0	3.7	0.14	-28.3	20	15.4	31.1	18.4	-2.8	-0.15	-11.0
	44184	15338043	11/ 7/79	4:15:38														
80	44184	15343561	11/ 7/79	4:15:43	20	-9.5	-160.8	29.9	7.4	0.25	-33.6	20	24.7	7.7	19.9	-3.5	-0.18	-9.1
	44184	20967803	11/ 7/79	5:49:27														

PASS	MJD	MSEC	DATE	GR: MN: SC	ASCENDING REV	D ECL	ECL	E	I	I/E	DELTA B	DESCENDING REV	D ECL	ECL	B	I	I/E	DELTA B
81	44184	209727200	11/ 7/79	5:49:32	17	1.2	175.7	29.1	3.3	0.11	-30.5	17	18.2	-15.8	20.7	-6.8	-0.33	-14.9
	44184	265995997	11/ 7/79	7:23:15														
82	44184	266009914	11/ 7/79	7:23:20	17	6.8	152.3	26.9	7.5	0.28	-30.4	17	9.5	-39.2	5.7	0.2	0.03	-6.7
	44184	322192068	11/ 7/79	8:56:59														
83	44184	322241065	11/ 7/79	8:57: 4	23	-3.4	128.8	37.7	10.9	0.29	-40.2	23	-4.6	-62.7	17.1	6.7	0.39	-23.4
	44184	378503092	11/ 7/79	10:30:50														
84	44184	378553190	11/ 7/79	10:30:55	23	-17.2	105.4	46.0	15.1	0.33	-54.2	23	5.7	-86.1	15.2	5.0	0.33	-18.2
	44184	434785377	11/ 7/79	12: 4:38														
85	44184	434833505	11/ 7/79	12: 4:43	23	-22.6	81.9	26.9	10.5	0.39	-30.6	23	-7.9	-109.6	25.0	[illegible]	0.18	-28.5
	44184	491018857	11/ 7/79	13:38:21														
86	44184	491067748	11/ 7/79	13:38:26	23	-19.5	58.5	29.0	10.7	0.37	-37.0	23	-5.8	-133.0	15.9	-4.7	-0.31	-9.6
	44184	547290051	11/ 7/79	15:12: 9														
87	44184	547339768	11/ 7/79	15:12:13	37	-16.6	35.9	31.5	10.5	0.33	-37.4	37	-13.5	-156.5	19.0	-3.3	-0.17	-12.9
	44184	603572448	11/ 7/79	16:45:57														
88	44184	603621601	11/ 7/79	16:46: 2	37	-18.7	11.6	70.2	26.6	0.38	-85.4	37	-18.0	-179.9	45.5	12.7	0.28	-55.7
	44184	659854830	11/ 7/79	18:19:45														
89	44184	659903466	11/ 7/79	18:19:50	40	-25.4	-11.9	83.9	36.7	0.44	-104.7	40	-18.6	156.6	28.7	17.9	0.63	-40.4
	44184	716116402	11/ 7/79	19:53:31														
90	44184	716165066	11/ 7/79	19:53:36	40	-13.6	-35.3	60.4	19.8	0.33	******	23	-29.0	133.2	38.4	17.6	0.46	-56.6
	44184	772398345	11/ 7/79	21:27:19														
91	44184	772447511	11/ 7/79	21:27:24	23	-25.1	-58.8	47.7	14.5	0.30	-61.6	23	-36.8	109.7	43.4	10.2	0.24	-52.2
	44184	828680197	11/ 7/79	23: 1: 8														
92	44184	828729557	11/ 7/79	23: 1:12	23	-49.2	-82.2	48.0	16.7	0.35	-59.3	27	-35.7	86.3	31.5	3.3	0.10	-34.4
	44185	20912600	11/ 8/79	0:34:51														
93	44185	20962706	11/ 8/79	0:34:56	27	-54.3	-105.7	52.7	16.4	0.31	15.1	27	-33.7	62.8	40.9	6.7	0.16	-45.9
	44185	77194741	11/ 8/79	2: 8:39														
94	44185	77243921	11/ 8/79	2: 8:44	27	-54.7	-129.1	50.2	14.7	0.29	-56.5	20	-8.1	39.4	38.0	6.8	0.18	-41.0
	44185	133466681	11/ 8/79	3:42:26														
95	44185	133515934	11/ 8/79	3:42:31	20	-42.3	-152.6	54.6	14.8	0.27	-60.7	20	3.3	15.9	40.6	7.7	0.19	-34.9
	44185	189748611	11/ 8/79	5:16:14														
96	44185	189797781	11/ 8/79	5:16:19	20	-30.3	-176.	58.8	8.7	0.15	29.2	47	6.4	-7.5	42.5	5.9	0.14	-44.6
	44185	245981321	11/ 8/79	6:49:58														
97	44185	246033049	11/ 8/79	6:50: 3	47	-54.3	160.5	58.4	9.5	0.16	-59.6	47	-13.7	-31.0	35.2	-0.2	-0.00	******
	44185	302263116	11/ 8/79	8:23:46														
98	44185	302312483	11/ 8/79	8:23:51	47	-55.7	137.1	81.2	27.4	0.34	-100.0	37	-11.6	-54.4	20.2	8.0	0.40	-25.3
	44185	358554772	11/ 8/79	9:57:35														
99	44185	358604032	11/ 8/79	9:57:40	37	-74.5	113.6	88.7	26.2	0.30	-103.3	37	-49.3	-77.9	31.2	13.3	0.62	-46.2
	44185	414787552	11/ 8/79	11:31:18														
100	44185	414833672	11/ 8/79	11:31:23	37	-80.6	90.2	88.9	22.2	0.25	-98.3	30	-46.0	-101.3	38.8	14.7	0.38	-55.3
	44185	471069400	11/ 8/79	13: 5: 6														
101	44185	471138572	11/ 8/79	13: 5:11	30	-60.4	66.7	66.2	14.9	0.23	-72.0	30	-54.1	-124.8	47.7	10.3	0.22	-55.3
	44185	527351251	11/ 8/79	14:38:55														
102	44185	527400421	11/ 8/79	14:39: 0	23	-39.2	43.3	52.5	17.4	0.33	-65.1	23	-46.9	-148.2	35.4	4.7	0.13	-36.5
	44185	583593701	11/ 8/79	16:12:39														
103	44185	583642965	11/ 8/79	16:12:44	23	-17.9	19.8	47.9	13.6	0.28	-50.9	23	-14.4	-171.6	35.3	3.1	0.09	******
	44185	639675803	11/ 8/79	17:46:27														
104	44185	639924480	11/ 8/79	17:46:32	17	2.3	-3.6	43.2	12.8	0.30	-48.7	17	-10.4	164.9	26.1	4.9	0.19	-26.0
	44185	696108353	11/ 8/79	19:20:37														
105	44185	696157530	11/ 8/79	19:20:42	17	4.5	-27.1	42.6	10.0	0.24	- 0.5	17	-17.7	141.5	26.5	7.8	0.29	-30.9
	44185	752370444	11/ 8/79	20:53:37														
106	44185	752419969	11/ 8/79	20:54: 1	17	-12.5	-50.5	37.7	12.6	0.33	-45.8	17	-30.9	118.0	33.4	7.2	0.22	-33.5
	44185	808652388	11/ 8/79	22:27:46														
107	44185	808701155	11/ 8/79	22:27:50	17	-19.2	-73.9	43.5	11.4	0.26	-55.5	17	-31.7	94.6	31.0	6.8	0.22	-34.7
	44186	88509	11/ 9/79	0: 1:28														
108	44186	93425	11/ 9/79	0: 1:33	23	-37.4	-97.4	49.0	16.4	0.33	-63.7	23	-32.1	71.1	37.7	3.9	0.10	-37.1
	44186	5714719	11/ 9/79	1:35:14														
109	44186	5719643	11/ 9/79	1:35:19	23	-56.0	-120.8	55.0	17.7	0.32	-68.4	23	-21.6	47.7	34.5	4.3	0.12	-39.2
	44186	113429212	11/ 9/79	8: 9: 2														
110	44186	113478260	11/ 9/79	8: 9: 7	23	-41.4	-144.3	48.0	13.5	0.28	-54.6	23	0.5	24.2	34.9	7.4	0.21	-34.4
	44186	169710961	11/ 9/79	9:42:51														
111	44186	169760114	11/ 9/79	9:42:56	23	-21.9	-167.7	49.9	12.2	0.24	-57.7	23	9.4	0.8	35.3	7.4	0.21	-34.0
	44186	225943467	11/ 9/79	11:16:34														
112	44186	225993284	11/ 9/79	11:16:39	27	-22.2	168.8	52.5	11.2	0.21	-60.3	27	3.5	-22.7	40.2	-3.0	-0.07	-31.9
	44186	282235527	11/ 9/79	7:50:23														
113	44186	282284532	11/ 9/79	7:50:28	27	-19.7	145.4	42.9	10.0	0.23	-51.3	13	-4.5	-46.1	22.6	5.0	0.22	-25.1
	44186	338466855	11/ 9/79	9:24: 6														
114	44186	338517421	11/ 9/79	9:24:11	13	-15.8	121.9	36.7	12.3	0.33	-44.2	13	-13.4	-69.5	20.9	8.6	0.41	-28.8
	44186	394749930	11/ 9/79	10:57:54														
115	44186	394799937	11/ 9/79	10:57:59	13	-18.9	98.5	34.9	9.4	0.27	-41.9	40	-24.7	-93.0	22.7	0.9	0.04	-22.2
	44186	450988231	11/ 9/79	12:31:38														
116	44186	451037378	11/ 9/79	12:31:43	40	-21.0	75.0	37.9	9.9	0.26	-41.3	40	-31.5	-116.4	36.9	4.2	0.11	-35.9
	44186	507266865	11/ 9/79	14: 5:26														
117	44186	507316919	11/ 9/79	14: 5:31	40	-67.2	51.6	70.3	28.3	0.40	-93.1	47	-25.7	-139.9	23.3	-3.1	-0.13	-15.2
	44186	563467726	11/ 9/79	15:39: 8														
118	44186	563536449	11/ 9/79	15:39:13	47	-60.3	28.2	91.5	33.7	0.37	-113.1	47	-31.6	-163.3	35.2	6.0	0.17	-112.5
	44186	619769919	11/ 9/79	17:12:56														
119	44186	619818134	11/ 9/79	17:13: 1	47	-57.4	4.7	73.5	31.4	0.43	-92.0	43	-30.0	173.2	38.8	14.0	0.36	-90.2
	44186	676091168	11/ 9/79	18:40:40														
120	44186	676051055	11/ 9/79	18:40:45	43	3.2	-18.7	49.7	12.0	0.24	-50.6	43	-24.4	149.6	41.8	14.4	0.35	******
	44186	732276830	11/ 9/79	20:20:27														

PASS	MJD	MSEC	DATE	GR:MN:SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
121	44186	73232533	11/ 9/79	20:20:32	43	-19.8	-42.2	70.0	24.6	0.35	-74.4	33	-42.0	126.3	48.1	12.3	0.26	-53.4
	44186	78850905	11/ 9/79	21:54:10														
122	44186	78855823	11/ 9/79	21:54:15	33	-34.8	-65.6	54.9	15.2	0.28	-68.3	33	-45.7	102.9	45.8	8.4	0.18	-54.7
123	44186	84476872	11/ 9/79	23:27:56														
	44186	84481795	11/ 9/79	23:28: 1	33	-47.5	-89.1	51.0	15.0	0.30	-68.1	13	-53.5	79.5	44.0	5.9	0.13	-48.6
124	44187	3701378	11/10/79	1: 1:41														
	44187	3706294	11/10/79	1: 1:46	13	-66.3	-112.5	59.0	10.2	0.17	-66.6	13	-41.0	56.0	44.3	7.6	0.17	-50.9
125	44187	9329503	11/10/79	2:35:29														
	44187	9334480	11/10/79	2:35:34	13	-67.7	-135.9	55.4	11.4	0.21	-61.5	20	-24.9	32.6	38.3	7.9	0.20	-41.0
126	44187	14952833	11/10/79	4: 9:12														
	44187	14957749	11/10/79	4: 9:17	20	-37.0	-159.4	51.4	12.0	0.23	-61.5	20	13.4	9.1	43.9	7.5	0.17	-40.1
127	44187	20580773	11/10/79	5:43: 9														
	44187	20585689	11/10/79	5:43: 5	17	-17.9	177.2	54.6	10.5	0.19	-61.4	17	9.1	-14.3	45.9	3.8	0.08	-47.3
128	44187	26204041	11/10/79	7:16:44														
	44187	26208958	11/10/79	7:16:48	17	-19.8	153.7	52.5	14.3	0.27	-48.9	17	-3.7	-37.7	30.9	5.8	0.19	-28.2
129	44187	31411456	11/10/79	8:43:31														
	44187	35568950	11/10/79	9:52:48	***	******	******	*****	*****	*****	-48.9	13	-29.3	-61.2	**********		******	-31.6
130	44187	37456470	11/10/79	10:24:16														
	44187	37461396	11/10/79	10:24:21	13	-31.5	106.8	46.0	16.5	0.36	-57.6	13	-37.1	-84.6	36.8	5.4	0.15	-38.8
131	44187	43081959	11/10/79	11:58: 1														
	44187	43086879	11/10/79	11:58: 6	13	-30.6	83.4	40.3	11.1	0.28	-47.6	13	-36.8	-108.1	37.5	6.2	0.17	-43.6
132	44187	48705232	11/10/79	13:31:45														
	44187	48710149	11/10/79	13:31:50	13	-34.2	60.0	44.9	11.0	0.24	-53.2	13	-35.0	-131.5	36.2	3.5	0.10	-38.2
133	44187	54328501	11/10/79	15: 5:28														
	44187	54333418	11/10/79	15: 5:33	13	-27.9	36.5	41.6	14.4	0.35	-49.8	13	-34.9	-155.0	35.9	4.1	0.12	-47.1
134	44187	59956430	11/10/79	16:39:16														
	44187	59961357	11/10/79	16:39:21	13	-4.5	13.1	44.5	14.7	0.33	-50.5	13	-30.5	-178.4	35.5	6.3	0.18	-38.4
135	44187	65579710	11/10/79	18:12:59														
	44187	65584626	11/10/79	18:13: 4	17	5.5	-10.4	39.0	15.4	0.39	-49.2	17	-22.1	158.2	31.8	6.5	0.20	-31.4
136	44187	71202980	11/10/79	19:46:42														
	44187	71207897	11/10/79	19:46:47	17	-2.4	-33.8	47.7	10.4	0.22	-46.4	17	-22.2	134.7	33.4	9.4	0.28	-41.1
137	44187	76826249	11/10/79	21:20:26														
	44187	76831166	11/10/79	21:20:31	27	-20.1	-57.2	56.5	16.8	0.30	-73.8	27	-41.0	111.3	40.3	13.8	0.34	-48.5
138	44187	82454434	11/10/79	22:54:14														
	44187	82459352	11/10/79	22:54:19	27	-43.9	-80.7	58.1	11.5	0.20	-69.5	30	-49.2	57.8	38.9	10.9	0.28	-47.5
139	44188	1677706	11/11/79	0:27:57														
	44188	1682623	11/11/79	0:28: 2	30	-53.6	-104.1	58.3	14.6	0.25	-70.2	30	-53.8	64.4	38.1	7.3	0.19	-41.4
140	44188	7300975	11/11/79	2: 1:40														
	44188	7305892	11/11/79	2: 1:45	30	-55.6	-127.6	50.0	8.1	0.16	-59.6	33	10.8	41.3	22.1	-1.2	-0.06	-17.6
141	44188	12929160	11/11/79	3:35:29														
	44188	12934078	11/11/79	3:35:34	33	-39.9	-151.0	39.6	6.9	0.17	-59.6	33	26.6	17.5	26.7	2.2	0.08	-18.9
142	44188	18550454	11/11/79	5: 9:10														
	44188	18555380	11/11/79	5: 9:15	33	-17.4	-174.4	53.9	7.8	0.15	-56.7	17	48.5	-5.9	28.2	2.2	0.08	-23.0
143	44188	24176080	11/11/79	6:42:56														
	44188	24181599	11/11/79	6:43: 1	17	-6.0	102.1	40.6	8.3	0.20	-56.7	17	31.9	-29.3	24.8	-0.3	-0.01	-19.7
144	44188	29801909	11/11/79	8:16:41														
	44188	29806835	11/11/79	8:16:46	17	-10.6	138.7	38.5	11.9	0.31	-47.2	20	4.6	-52.8	15.5	2.5	0.16	-17.5
145	44188	35425188	11/11/79	9:50:25														
	44188	35430105	11/11/79	9:50:30	20	-8.7	115.3	23.5	14.5	0.49	-41.0	20	-6.9	-76.2	13.4	3.7	0.28	-12.8
146	44188	41048458	11/11/79	11:24: 8														
	44188	41053374	11/11/79	11:24:13	20	-4.7	91.8	22.7	5.1	0.23	-27.6	23	-10.0	-99.7	21.5	0.8	0.04	-26.2
147	44188	46671728	11/11/79	12:57:51														
	44188	46676645	11/11/79	12:57:56	20	-8.6	68.4	22.5	3.9	0.17	-26.7	20	-7.2	-123.1	13.6	-5.1	-0.37	-8.5
148	44188	52295979	11/11/79	14:31:35														
	44188	52300897	11/11/79	14:31:40	20	1.4	44.9	7.6	2.9	0.38	-26.7	30	-4.7	-146.5	6.2	-5.8	-0.93	1.9
149	44188	57922192	11/11/79	16: 5:22														
	44188	57927117	11/11/79	16: 5:27	30	20.9	21.5	10.2	0.3	0.03	-6.7	30	13.6	-170.0	1.6	-7.3	-4.44	7.3
150	44188	63545469	11/11/79	17:39: 5														
	44188	63550386	11/11/79	17:39:10	20	52.2	-1.9	17.5	0.2	0.01	-12.7	20	20.0	166.6	1.4	-1.7	-1.21	4.8
151	44188	69168740	11/11/79	19:12:48														
	44188	69173657	11/11/79	19:12:53	20	45.5	-25.4	13.9	0.5	0.04	-10.0	20	9.1	143.2	6.8	0.0	0.01	-6.6
152	44188	74792009	11/11/79	20:46:32														
	44188	74796926	11/11/79	20:46:36	17	19.9	-48.8	17.0	4.6	0.27	-20.6	17	-1.1	119.7	14.4	-2.8	-0.20	-8.6
153	44188	80415279	11/11/79	22:20:15														
	44188	80420196	11/11/79	22:20:20	17	8.7	-72.2	21.7	1.9	0.09	-20.6	17	-15.9	96.3	**********		**********	
154	44188	86042475	11/11/79	23:54: 2														
	44188	86047398	11/11/79	23:54: 7	10	-14.3	-95.7	27.6	4.9	0.18	-32.8	10	-13.1	72.8	19.3	-5.7	-0.29	-10.6
155	44189	5263041	11/12/79	1:27:43														
	44189	5267965	11/12/79	1:27:47	10	-22.5	-119.1	31.4	5.3	0.17	-31.7	10	-6.3	49.4	16.9	-1.6	-0.10	-15.0
156	44189	10891231	11/12/79	3: 1:31														
	44189	10896150	11/12/79	3: 1:36	13	-21.2	-142.5	29.4	3.5	0.12	-28.5	13	19.2	26.0	22.1	2.2	0.10	-18.3
157	44189	16514253	11/12/79	4:35:14														
	44189	16519173	11/12/79	4:35:19	13	-8.3	-166.0	25.5	0.9	0.03	-24.1	13	42.5	2.5	18.8	-1.2	-0.06	-12.5
158	44189	22132526	11/12/79	6: 8:57														
	44189	22332443	11/12/79	6: 9: 2	23	10.1	170.6	26.1	-0.1	-0.00	-23.8	23	32.8	-20.9	25.8	-3.3	-0.13	-19.2
159	44189	27760797	11/12/79	7:42:40														
	44189	27765713	11/12/79	7:42:45	23	-10.9	147.1	37.4	9.0	0.24	-44.9	23	28.8	-44.3	10.6	-0.4	-0.03	-3.1
160	44189	33384066	11/12/79	9:16:24														
	44189	33388983	11/12/79	9:16:28	23	-21.4	125.7	40.4	12.7	0.31	-45.7	23	-3.7	-67.8	21.7	4.7	0.21	-24.7
	44189	39007336	11/12/79	10:50: 7														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
161	44189	39012253	11/12/79	10:50:12	23	-24.9	100.3	36.6	5.5	0.15	-38.1	23	-10.9	-91.2	29.7	-3.3	-0.02	-21.2
	44189	44630605	11/12/79	12:23:50														
162	44189	44635523	11/12/79	12:23:55	23	-26.5	76.8	32.6	9.7	0.30	-35.7	23	-18.7	-114.6	23.0	3.1	0.13	-35.1
	44189	50253876	11/12/79	13:57:33														
163	44189	50258793	11/12/79	13:57:38	23	-19.4	53.4	36.9	9.4	0.25	-35.7	23	-15.2	-138.1	25.0	1.2	0.05	-26.0
	44189	55877142	11/12/79	15:31:17														
164	44189	55882002	11/12/79	15:31:22	23	-14.8	30.0	35.9	12.2	0.34	-42.7	23	-7.5	-161.5	24.3	1.2	0.05	-25.9
	44189	61500415	11/12/79	17: 5: 0														
165	44189	61505332	11/12/79	17: 5: 5	23	7.1	6.5	40.9	15.4	0.38	-48.0	20	9.9	175.1	24.2	4.4	0.18	-27.7
	44189	67121716	11/12/79	18:38:41														
166	44189	67126636	11/12/79	18:38:46	20	24.7	-16.9	32.6	5.5	0.17	-35.6	20	15.8	151.6	13.1	2.0	0.15	-12.1
	44189	72744908	11/12/79	20:12:24														
167	44189	72749905	11/12/79	20:12:29	20	20.0	-40.3	18.3	2.5	0.14	******	17	2.0	128.2	20.6	3.2	0.15	-21.6
	44189	76366258	11/12/79	21:46: 8														
168	44189	76373175	11/12/79	21:46:13	17	-6.8	-63.8	25.5	8.0	0.31	******	17	-4.0	104.8	26.2	3.1	0.12	-21.6
	44189	83989552	11/12/79	23:19:49														
169	44189	83994479	11/12/79	23:19:54	17	-25.0	-87.2	25.0	10.9	0.44	******	40	-26.8	81.3	23.9	3.4	0.01	-24.6
	44190	32128228	11/13/79	0:53:32														
170	44190	32177750	11/13/79	0:53:37	40	-56.2	-110.6	49.8	16.3	0.33	-67.9	40	-20.6	57.7	37.8	2.7	0.07	-40.9
	44190	68361922	11/13/79	2:27:16														
171	44190	68411019	11/13/79	2:27:21	40	-81.8	-134.1	74.6	27.9	0.38	-98.2	47	-21.3	34.5	43.6	10.1	0.23	-50.7
	44190	14459372	11/13/79	4: 0:59														
172	44190	14464269	11/13/79	4: 1: 4	47	-83.9	-157.5	77.6	25.4	0.33	-93.0	47	-20.2	11.0	55.3	14.4	0.26	******
	44190	20082641	11/13/79	5:34:42														
173	44190	20087559	11/13/79	5:34:47	47	-80.7	179.1	98.6	26.2	0.27	-115.7	37	-24.6	-12.4	53.5	11.7	0.22	-59.3
	44190	25705912	11/13/79	7: 8:25														
174	44190	25710829	11/13/79	7: 8:30	37	-71.5	155.7	91.6	25.6	0.28	-105.8	37	-23.6	-35.8	45.2	10.7	0.24	-44.2
	44190	31327211	11/13/79	8:42: 7														
175	44190	31332132	11/13/79	8:42:12	43	-102.5	132.2	107.9	28.1	0.26	-121.8	43	-32.1	-59.3	36.1	7.5	0.21	-40.5
	44190	36950464	11/13/79	10:15:50														
176	44190	36955471	11/13/79	10:15:55	43	-122.9	108.8	122.5	37.5	0.31	-145.9	43	-35.9	-82.7	40.6	20.0	0.49	-60.2
	44190	42573754	11/13/79	11:49:33														
177	44190	42578671	11/13/79	11:49:38	40	-129.1	85.4	128.7	36.2	0.28	-148.7	40	-60.5	-106.1	60.7	27.4	0.45	-89.2
	44190	48197024	11/13/79	13:23:17														
178	44190	48201940	11/13/79	13:23:21	40	-118.3	61.9	128.7	25.8	0.20	-142.7	40	-63.1	-129.5	50.4	15.3	0.31	-136.0
	44190	53818320	11/13/79	14:56:58														
179	44190	53823244	11/13/79	14:57: 3	50	-127.0	38.5	123.9	38.5	0.31	-151.8	50	-55.2	-153.0	50.7	7.9	0.16	-59.7
	44190	59441598	11/13/79	16:30:41														
180	44190	59446515	11/13/79	16:30:46	50	-134.4	15.1	116.0	46.4	0.40	-147.1	50	-52.4	-176.4	65.7	23.3	0.36	-86.0
	44190	65506807	11/13/79	18: 4:24														
181	44190	65509784	11/13/79	18: 4:29	53	-98.6	-8.4	115.4	47.7	0.41	-148.2	53	-50.8	160.2	66.2	24.5	0.37	-87.9
	44190	70688137	11/13/79	19:38: 8														
182	44190	70693054	11/13/79	19:38:13	53	-83.8	-31.8	128.9	33.5	0.31	-134.6	53	-41.5	136.7	**********		******	-64.2
	44190	76306488	11/13/79	21:11:46														
183	44190	76311408	11/13/79	21:11:51	43	-86.9	-55.2	97.6	23.2	0.24	-116.2	43	-56.9	113.3	68.4	26.6	0.39	-89.9
	44190	81929701	11/13/79	22:45:29														
184	44190	81934678	11/13/79	22:45:34	43	-128.0	-78.6	104.0	30.2	0.29	-135.0	43	-49.1	89.9	53.9	22.8	0.42	-76.1
	44191	1151303	11/14/79	0:19:11														
185	44191	1157211	11/14/79	0:19:17	50	-152.1	-102.1	112.2	36.5	0.33	-146.4	50	-81.0	66.4	72.1	24.6	0.34	-91.8
	44191	6775504	11/14/79	1:52:55														
186	44191	6780431	11/14/79	1:53: 0	50	-158.1	-125.5	110.5	40.0	0.36	-147.1	43	-62.8	43.0	65.9	21.7	0.33	-132.0
	44191	12395639	11/14/79	3:26:35														
187	44191	12400555	11/14/79	3:26:40	43	-126.8	-148.9	99.7	30.7	0.31	-123.4	43	-41.4	19.6	72.0	23.8	0.33	-85.8
	44191	18018908	11/14/79	5: 0:18														
188	44191	18023825	11/14/79	5: 0:23	43	-84.5	-172.4	98.7	22.0	0.22	-114.4	27	-32.3	-3.8	76.9	23.0	0.30	-92.4
	44191	23642178	11/14/79	6:34: 2														
189	44191	23647094	11/14/79	6:34: 7	27	-67.3	164.2	81.4	18.9	0.23	-93.2	27	-40.4	-27.3	74.8	13.4	0.18	-88.8
	44191	29262489	11/14/79	8: 7:42														
190	44191	29267415	11/14/79	8: 7:47	27	-57.0	140.8	75.3	19.2	0.26	-90.2	10	-55.0	-50.7	63.4	16.7	0.26	-78.9
	44191	34885768	11/14/79	9:41:25														
191	44191	34890685	11/14/79	9:41:30	10	-61.9	117.4	69.0	22.8	0.33	-85.1	10	-63.2	-74.1	59.6	18.1	0.30	-78.4
	44191	40504123	11/14/79	11:15: 4														
192	44191	40509039	11/14/79	11:15: 9	10	-64.7	93.9	67.7	18.2	0.27	-78.7	7	-77.8	-97.5	69.0	5.8	0.08	-77.1
	44191	46126402	11/14/79	12:48:46														
193	44191	46131326	11/14/79	12:48:51	7	-61.0	70.5	63.0	17.2	0.27	-78.7	7	-82.3	-121.0	53.0	12.2	0.23	-61.6
	44191	51747714	11/14/79	14:22:27														
194	44191	51752630	11/14/79	14:22:32	7	-58.2	47.1	57.2	20.4	0.36	-75.4	10	-64.8	-144.4	49.7	9.4	0.19	-54.2
	44191	57370932	11/14/79	15:56:10														
195	44191	57375839	11/14/79	15:56:15	10	-40.4	23.6	55.3	20.7	0.37	-70.0	10	-42.8	-167.8	51.0	7.9	0.15	-55.8
	44191	62983957	11/14/79	17:29:49														
196	44191	62994254	11/14/79	17:29:54	10	-33.1	0.2	52.7	19.8	0.38	-63.5	3	-39.0	168.7	51.4	10.4	0.20	-55.0
	44191	68612606	11/14/79	19: 3:32														
197	44191	68617523	11/14/79	19: 3:37	3	-27.6	-23.2	63.9	11.0	0.17	-63.9	3	-40.0	145.3	47.8	12.2	0.25	-60.2
	44191	74234938	11/14/79	20:37:11														
198	44191	74238861	11/14/79	20:37:16	0	-28.6	-46.6	*****	*****	*****	20.9	0	-43.8	121.9	51.1	10.4	0.20	-56.7
	44191	79856198	11/14/79	22:10:56														
199	44191	79861114	11/14/79	22:11: 1	0	-37.2	-70.1	57.9	13.7	0.24	-74.0	0	-51.9	98.5	48.7	11.8	0.24	-50.2
	44191	85477552	11/14/79	23:44:34														
200	44191	85479403	11/14/79	23:44:39	0	-51.2	-93.5	58.5	13.8	0.24	-76.8	0	-52.7	75.0	48.6	6.4	0.13	-50.9
	44192	4697822	11/15/79	1: 1:17														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING AP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
201	44192	47027749	11/15/79	1:18: 7	0	-58.0	-116.9	59.0	12.2	0.21	-71.1	0	-41.5	51.6	44.3	7.1	0.16	-49.2
	44192	10317148	11/15/79	2:51:57														
202	44192	10322075	11/15/79	2:52: 2	10	-53.1	-140.3	53.8	11.5	0.20	-63.3	10	-19.1	28.2	32.7	5.4	0.17	-32.5
203	44192	15936452	11/15/79	4:25:38														
	44192	15943579	11/15/79	4:25:43	10	-39.0	-103.6	47.5	6.5	0.14	-51.3	10	-9.7	4.8	41.5	6.6	0.16	-42.4
204	44192	21563637	11/15/79	5:59:23														
	44192	21568615	11/15/79	5:59:28														
205	44192	27184003	11/15/79	7:33: 4	7	-22.5	172.3	46.1	6.1	0.13	-49.6	7	-8.4	-18.7	41.1	-0.6	-0.02	-49.1
	44192	27186936	11/15/79	7:33: 8														
206	44192	32805312	11/15/79	9: 6:45														
	44192	32810240	11/15/79	9: 6:50	13	-22.9	125.0	42.7	15.2	0.35	-52.9	13	-29.4	-65.5	33.3	7.9	0.24	-40.5
207	44192	38426677	11/15/79	10:40:23														
	44192	38428553	11/15/79	10:40:28	13	-33.2	102.6	42.7	14.0	0.33	-53.8	13	-44.7	-38.9	38.1	7.2	0.19	-45.9
208	44192	44046940	11/15/79	12:14: 6														
	44192	44051804	11/15/79	12:14:11	13	-30.9	79.1	36.0	11.7	0.33	-53.8	13	-56.2	-112.4	35.6	5.9	0.17	-41.2
	44192	49666226	11/15/79	13:47:46														
209	44192	49671201	11/15/79	13:47:51	13	-26.2	55.7	41.6	11.4	0.27	-53.7	13	-46.2	-135.8	35.5	2.3	0.06	-47.2
	44192	55288561	11/15/79	15:21:28														
210	44192	55293488	11/15/79	15:21:33	7	-19.5	32.3	34.2	12.6	0.37	-42.6	7	-29.2	-159.2	31.8	-0.5	-0.01	-30.6
	44192	60933869	11/15/79	16:55: 9														
211	44192	60914711	11/15/79	16:55:14	7	-4.6	8.9	37.6	13.8	0.37	-44.1	3	-15.4	177.4	36.1	4.2	0.12	-40.4
	44192	66530186	11/15/79	18:28:50														
212	44192	66535111	11/15/79	18:28:55	3	3.5	-14.6	39.4	5.2	0.13	-37.4	3	-11.3	154.0	27.2	5.8	0.21	-28.6
	44192	70759434	11/15/79	19:39:19														
213	44192	70824473	11/15/79	21:10:22	***	******	******	*****	*****	*****	-37.4	10	-14.1	130.5	**********		******	-28.6
	44192	77770101	11/15/79	21:36:10														
214	44192	77775017	11/15/79	21:36:15	10	-0.9	-61.4	35.1	5.7	0.16	-42.7	10	-19.9	107.1	30.7	3.6	0.12	-29.2
	44192	83388454	11/15/79	23: 9:43														
215	44192	83393371	11/15/79	23: 9:53	10	-20.9	-84.6	39.4	8.1	0.21	-53.9	23	-19.0	83.7	22.0	-3.9	-0.18	-48.9
	44193	2612450	11/16/79	0:43:32														
216	44193	2617376	11/16/79	0:43:37	23	-31.1	-108.3	28.1	1.2	0.04	-30.0	23	-4.6	60.3	23.7	-9.9	-0.42	-14.9
217	44193	82306114	11/16/79	2:17:10														
	44193	82357730	11/16/79	2:17:15	23	-29.2	-131.7	20.0	-1.6	-0.08	-20.8	33	13.1	36.8	20.4	-3.3	-0.16	-15.0
218	44193	138540e4	11/16/79	3:50:54														
	44193	138590e0	11/16/79	3:50:59	33	-25.4	-155.1	38.9	5.6	0.14	-40.3	33	-4.7	13.4	35.7	1.1	0.03	-28.4
219	44193	19472438	11/16/79	5:24:32														
	44193	19477355	11/16/79	5:24:37	33	-35.2	-178.5	62.4	12.5	0.20	-69.8	37	-0.9	-10.0	**********		******	-70.9
220	44193	25991032	11/16/79	6:58:11														
	44193	25995955	11/16/79	6:58:15	37	-42.0	158.1	71.2	14.5	0.20	-77.0	37	-7.8	-33.4	27.5	0.4	0.01	-20.9
221	44193	30714308	11/16/79	8:31:54														
	44193	30719225	11/16/79	8:31:59	37	-37.5	134.6	57.7	11.5	0.20	-63.9	20	-13.7	-56.8	28.1	6.7	0.24	-36.1
222	44193	36332602	11/16/79	10: 5:32														
	44193	36337579	11/16/79	10: 5:37	20	-31.6	111.2	41.0	9.5	0.23	-45.5	20	-21.5	-80.3	20.8	3.1	0.15	-47.6
223	44193	41952735	11/16/79	11:39:12														
	44193	41957634	11/16/79	11:39:17	20	-41.4	87.8	42.7	10.9	0.26	-48.6	20	-25.9	-103.7	29.5		0.10	-35.3
224	44193	47574030	11/16/79	13:12:54														
	44193	47578957	11/16/79	13:12:58	20	-49.0	64.4	52.5	15.9	0.30	-64.6	20	-32.3	-127.1	30.0	0.	0.03	-30.3
225	44193	53192395	11/16/79	14:46:32														
	44193	53197311	11/16/79	14:46:37	27	-43.8	40.9	53.1	18.6	0.35	-67.9	27	-31.9	-150.5	31.3	2.4	0.08	-30.5
226	44193	58815605	11/16/79	16:20:15														
	44193	58820561	11/16/79	16:20:20	27	-34.7	17.5	56.8	20.9	0.37	-65.7	27	-23.0	-174.0	39.3	5.5	0.14	-65.6
227	44193	64435934	11/16/79	17:53:55														
	44193	64440902	11/16/79	17:54: 0	27	-16.9	-5.9	54.0	24.5	0.45	-70.7	27	-14.1	162.6	30.5	9.1	0.30	-36.4
228	44193	70054340	11/16/79	19:27:34														
	44193	70059257	11/16/79	19:27:39	27	-9.1	-29.3	57.8	15.8	0.27	-57.5	27	-17.7	139.2	-15.8	7.1	-0.45	-43.7
229	44193	75672094	11/16/79	21: 1:12														
	44193	75677010	11/16/79	21: 1:17	20	-11.5	-52.7	43.4	11.4	0.26	-55.0	20	-26.5	115.3	37.2	6.7	0.18	-39.6
230	44193	81295904	11/16/79	22:34:55														
	44193	81300881	11/16/79	22:35: 0	20	-25.6	-70.1	46.6	10.6	0.23	-59.8	20	-37.3	92.4	29.4	8.6	0.29	-52.5
231	44194	5135581	11/17/79	0: 8:33														
	44194	5184498	11/17/79	0: 8:38	33	-58.9	-99.6	58.6	15.3	0.26	-79.2	33	-33.3	69.9	41.6	5.7	0.14	-43.9
232	44194	6131937	11/17/79	1:42:11														
	44194	6136853	11/17/79	1:42:16	33	-56.2	-123.0	45.7	10.2	0.22	-53.9	33	-22.4	45.5	37.5	5.6	0.15	-41.4
233	44194	11755206	11/17/79	3:15:55														
	44194	11760122	11/17/79	3:16: 0	23	-40.9	-146.4	42.9	9.8	0.23	-48.7	23	3.7	22.1	37.9	4.2	0.11	-34.7
234	44194	17372578	11/17/79	4:49:32														
	44194	17377494	11/17/79	4:49:37	23	-24.4	-169.8	49.4	8.8	0.18	-54.5	23	12.1	-1.3	33.2	1.1	0.03	-27.9
235	44194	22995847	11/17/79	6:23:15														
	44194	23000763	11/17/79	6:23:20	27	-21.8	166.8	47.1	9.2	0.19	-53.6	27	26.1	-24.7	34.3	-1.5	-0.05	-28.4
236	44194	28614202	11/17/79	7:56:54														
	44194	28619118	11/17/79	7:56:59	27	-17.5	143.3	43.1	7.1	0.16	-47.8	20	-3.6	-48.1	24.4	3.2	0.13	-27.9
237	44194	34232556	11/17/79	9:30:32														
	44194	34237473	11/17/79	9:30:37	20	-31.0	119.9	45.3	15.2	0.34	-54.3	20	-16.0	-71.6	23.1	7.5	0.32	-54.6
238	44194	39852629	11/17/79	11: 4:12														
	44194	39857546	11/17/79	11: 4:17	20	-25.8	96.5	36.6	6.4	0.18	-37.4	10	-48.3	-95.0	31.6	5.2	0.17	-38.5
239	44194	45470934	11/17/79	12:37:50														
	44194	45475951	11/17/79	12:37:55	10	-21.3	73.1	33.4	8.2	0.25	-38.2	10	-38.9	-118.4	25.5	3.4	0.13	-26.8
240	44194	51089339	11/17/79	14:11:29														
	44194	51094255	11/17/79	14:11:34	10	-15.1	49.7	28.3	11.1	0.39	-40.5	7	-25.9	-141.6	24.1	1.8	0.04	-23.1
	44194	56712603	11/17/79	15:45:12														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
241	44194	5e7175?5	11/17/79	15:45:17	7	3.3	26.2	26.3	8.3	0.32	-30.5	7	-16.7	-165.2	23.0	-3.7	-0.03	-21.0
	44194	62330963	11/17/79	17:18:50														
242	44194	62335879	11/17/79	17:18:55	7	7.6	2.8	28.6	11.1	0.39	-32.1	20	-11.4	171.3	27.2	3.9	0.14	-30.5
243	44194	67951203	11/17/79	18:52:31														
	44194	67956200	11/17/79	18:52:36	20	24.0	-20.6	38.5	9.5	0.25	-40.4	20	1.1	147.9	22.3	5.3	0.24	-25.4
244	44194	73569637	11/17/79	20:26: 9														
	44194	73574554	11/17/79	20:26:14	20	14.4	-44.0	30.6	8.6	0.28	-33.3	10	-3.7	124.5	26.2	3.8	0.14	-29.1
245	44194	79187992	11/17/79	21:59:47														
	44194	79192908	11/17/79	21:59:52	10	-6.6	-67.4	30.0	6.7	0.22	-40.7	10	-13.8	101.1	22.5	3.2	0.14	-21.9
246	44194	84806347	11/17/79	23:33:26														
	44194	84811263	11/17/79	23:33:31	10	-19.4	-90.8	29.7	8.3	0.28	******	27	-25.2	77.7	23.5	3.0	0.00	-21.4
247	44195	4023905	11/18/79	1: 7: 3														
	44195	4028831	11/18/79	1: 7: 8	27	-29.4	-114.2	35.9	4.2	0.12	-38.7	27	6.6	54.3	18.3	-3.5	-0.30	-13.2
248	44195	9644039	11/18/79	2:40:44														
	44195	9648955	11/18/79	2:40:48	7	-19.5	-137.7	27.7	0.2	0.01	-24.9	7	16.4	30.8	14.9	-2.5	-0.17	-10.1
249	44195	15262393	11/18/79	4:14:22														
	44195	15267310	11/18/79	4:14:27	7	-7.2	-161.1	24.5	0.2	0.01	-20.7	7	31.9	7.4	22.0	-2.2	-0.10	-14.1
250	44195	20880748	11/18/79	5:48: 0														
	44195	20885604	11/18/79	5:48: 5	***	******	******	*****	*****	*****	-20.7	***	******	******	**********		******	-14.1
252	44195	24500728	11/18/79	6:49:20														
	44195	32795052	11/18/79	9: 6:35	13	-9.2	128.7	*****	*****	*****	-37.0	13	-3.9	-62.6	17.1	2.9	0.17	-21.1
253	44195	37736513	11/18/79	10:28:58														
	44195	37743432	11/18/79	10:29: 3	13	-13.7	105.3	31.5	9.6	0.31	-35.3	13	-8.3	-86.2	17.3	2.8	0.16	-34.8
254	44195	43358038	11/18/79	12: 2:38														
	44195	43363014	11/18/79	12: 2:43	10	-18.7	81.8	24.2	9.2	0.38	-29.3	10	-20.4	-109.6	22.8	3.7	0.16	-24.1
255	44195	48976452	11/18/79	13:36:16														
	44195	489d1368	11/18/79	13:36:21	10	-15.1	58.4	28.9	5.8	0.20	-35.4	10	-17.9	-133.1	22.6	0.6	0.03	-23.5
256	44195	54594806	11/18/79	15: 9:54														
	44195	54599723	11/18/79	15: 9:59	10	-7.1	35.0	28.0	8.7	0.31	-31.7	10	-9.3	-156.5	19.3	-0.5	-0.03	-16.6
257	44195	60213161	11/18/79	16:43:33														
	44195	60218077	11/18/79	16:43:38	10	14.4	11.6	27.3	9.2	0.34	-31.0	10	-7.5	-179.9	22.9	2.3	0.10	-22.9
258	44195	65831515	11/18/79	18:17:11														
	44195	65836431	11/18/79	18:17:16	3	16.8	-11.8	27.4	9.2	0.34	-33.8	3	4.8	158.7	21.3	1.3	0.06	-17.6
259	44195	71449870	11/18/79	19:50:49														
	44195	71454786	11/18/79	19:50:54	3	17.4	-35.2	32.5	3.2	0.10	-33.8	3	-9.0	133.3	23.8	-2.4	-0.10	-21.2
260	44195	77067240	11/18/79	21:24:27														
	44195	77072157	11/18/79	21:24:32	3	2.8	-58.6	30.3	7.0	0.23	-39.2	3	-10.6	109.9	25.6	3.0	0.12	-26.0
261	44195	82690510	11/18/79	22:58:10														
	44195	82695427	11/18/79	22:58:15	3	-11.6	-82.1	29.0	6.2	0.21	-36.1	3	-16.7	86.5	19.8	1.2	0.06	-22.6
262	44196	1006887	11/19/79	0: 1:46														
	44196	1911815	11/19/79	0:31:51	3	-21.6	-105.5	33.3	8.3	0.25	-42.2	3	-14.4	63.0	25.1	-0.5	-0.02	-25.0
263	44196	7525253	11/19/79	2: 5:25														
	44196	7530169	11/19/79	2: 5:30	3	-35.6	-128.9	28.8	6.0	0.21	-32.7	7	4.1	39.6	21.0	-2.3	-0.11	-27.2
264	44196	13145575	11/19/79	3:39: 5														
	44196	13150490	11/19/79	3:39:10	7	-8.2	-152.3	23.4	6.1	0.26	-23.3	7	19.8	16.2	19.3	-5.4	-0.27	-6.3
265	44196	18763928	11/19/79	5:12:43														
	44196	1876d844	11/19/79	5:12:48	7	0.3	-175.7	31.8	3.6	0.11	-31.7	1	25.4	-7.2	25.5	-3.2	-0.13	-19.9
266	44196	243d2232	11/19/79	6:46:22														
	44196	24387198	11/19/79	6:46:27	1	-5.0	160.9	31.6	3.6	0.27	-34.6	1	12.6	-30.6	20.8	0.4	0.02	-22.4
267	44196	29995722	11/19/79	8:19:55														
	44196	30000638	11/19/79	8:20: 0	1	-7.5	137.5	37.6	10.2	0.27	-46.4	302	-4.1	-54.0	21.3	4.2	0.20	-30.3
268	44196	35614076	11/19/79	9:53:34														
	44196	35618992	11/19/79	9:53:38	302	-12.6	114.1	35.8	10.0	0.28	-43.0	302	-11.9	-77.4	16.0	6.4	0.40	-43.5
269	44196	41234394	11/19/79	11:27:14														
	44196	41239313	11/19/79	11:27:19	302	-21.7	90.6	35.2	8.0	0.23	-36.2	2	-27.6	-100.8	23.8	5.8	0.24	-31.7
270	44196	46852750	11/19/79	13: 0:52														
	44196	46857667	11/19/79	13: 0:57	2	-22.6	67.2	38.5	8.4	0.22	-43.1	2	-20.1	-124.3	18.7	3.6	0.19	******
271	44196	52471105	11/19/79	14:34:31														
	44196	52476021	11/19/79	14:34:36	2	-13.7	43.8	28.9	6.7	0.23	-34.8	2	-9.2	-147.7	14.8	-3.0	-0.20	-11.1
272	44196	58089459	11/19/79	16: 8: 9														
	44196	58094375	11/19/79	16: 8:14	2	7.8	20.4	27.1	5.9	0.22	-24.6	2	-0.9	-171.1	18.0	-3.2	-0.01	-16.5
273	44196	63707814	11/19/79	17:41:47														
	44196	63712730	11/19/79	17:41:52	2	22.5	-3.0	24.2	7.1	0.29	-27.1	2	1.4	165.5	14.1	1.3	0.09	-21.5
274	44196	69323218	11/19/79	19:15:23														
	44196	69328135	11/19/79	19:15:28	2	23.6	-26.4	27.4	5.9	0.21	15.0	2	4.6	142.4	41.2	22.6	0.55	-19.7
275	44196	74940625	11/19/79	20:49: 0														
	44196	74945753	11/19/79	20:49: 5	3	0.5	-49.8	29.6	11.4	0.38	-40.2	3	2.7	118.7	17.3	4.6	0.27	-20.6
276	44196	80559131	11/19/79	22:22:39														
	44196	80564107	11/19/79	22:22:44	3	-16.2	-73.2	38.2	10.6	0.28	-52.9	3	-12.4	95.3	20.4	7.9	0.39	-26.3
277	44196	86177545	11/19/79	23:56:17														
	44196	86182461	11/19/79	23:56:22	20	-34.2	-96.6	37.8	8.0	0.21	-50.0	20	-22.3	71.9	29.7	2.5	0.08	-30.7
278	44197	5393927	11/20/79	1:29:53														
	44197	5398850	11/20/79	1:29:58	20	-41.1	-120.1	33.7	5.7	0.17	-38.3	20	-14.9	48.5	27.6	1.6	0.06	******
279	44197	11012202	11/20/79	3: 3:42														
	44197	11017208	11/20/79	3: 3:47	13	-31.7	-143.5	31.4	5.3	0.17	-33.1	13	15.4	25.0	24.5	0.8	0.03	-21.0
280	44197	16631642	11/20/79	4:37:10														
	44197	16635558	11/20/79	4:37:15	13	-2.5	-166.9	31.3	4.3	0.14	-32.3	13	25.3	1.6	20.7	-3.4	-0.16	-14.3
281	44197	22248907	11/20/79	6:10:49														
	44197	22253913	11/20/79	6:10:53	23	0.6	169.7	31.1	6.2	0.20	-33.0	23	24.8	-21.8	19.7	-10.0	-0.51	-11.9
	44197	27867352	11/20/79	7:44:27														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EqL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
282	44197	27872207	11/20/79	7:44:32	23	-10.9	146.3	34.0	6.0	0.18	-40.3	23	11.6	-45.2	14.6	-1.5	-0.09	-12.3
	44197	33480790	11/20/79	9:18: 0														
283	44197	33485706	11/20/79	9:19: 5	27	-15.0	122.9	32.8	10.8	0.33	-40.3	27	3.3	-66.6	12.6	1.2	0.10	-15.0
	44197	39100864	11/20/79	10:51:40														
284	44197	39105780	11/20/79	10:51:45	27	-27.9	99.5	31.5	7.7	0.24	-36.2	30	-6.2	-92.0	14.4	-1.2	-0.08	-15.6
	44197	44719288	11/20/79	12:25:19														
285	44197	44724134	11/20/79	12:25:24	30	-28.8	76.1	30.5	8.9	0.29	-34.2	30	-15.0	-115.4	17.3	1.3	0.07	-20.7
	44197	50337572	11/20/79	13:58:57														
286	44197	50342489	11/20/79	13:59: 2	30	-18.9	52.7	31.1	11.1	0.36	-42.5	33	-12.8	-138.8	21.3	2.5	0.03	-22.9
	44197	55951011	11/20/79	15:32:31														
287	44197	55955927	11/20/79	15:32:35	33	-13.0	29.3	45.2	15.9	0.35	-53.6	33	-7.5	-162.2	18.0	-2.8	-0.10	-16.7
	44197	61569366	11/20/79	17: 6: 9														
288	44197	61574282	11/20/79	17: 6:14	33	2.7	5.9	39.7	12.4	0.31	-45.7	17	-2.0	174.4	19.6	4.9	0.25	-23.3
	44197	67187720	11/20/79	18:39:47														
289	44197	67192637	11/20/79	18:39:52	17	22.4	-17.6	28.2	6.1	0.22	-31.2	17	-1.3	150.9	17.8	2.9	0.16	-19.2
	44197	72806074	11/20/79	20:13:26														
290	44197	72810991	11/20/79	20:13:30	17	19.5	-41.0	19.1	2.6	0.14	-22.0	13	-9.5	127.5	21.1	3.9	0.04	-21.3
	44197	78419514	11/20/79	21:46:59														
291	44197	78424430	11/20/79	21:47: 4	13	-8.3	-64.4	22.6	6.7	0.30	-32.9	13	-12.9	104.1	21.7	0.4	0.02	-20.7
	44197	84040079	11/20/79	23:20:40														
292	44197	84044997	11/20/79	23:20:44	13	-20.3	-87.8	25.9	9.6	0.37	-37.9	27	-16.5	80.7	18.7	-1.9	-0.10	-15.7
	44198	3257452	11/21/79	0:54:17														
293	44198	3262368	11/21/79	0:54:22	27	-43.4	-111.2	36.8	6.7	0.18	-42.8	27	-6.7	57.3	27.1	-1.0	-0.04	-26.7
	44198	8870891	11/21/79	2:27:50														
294	44198	8875807	11/21/79	2:27:55	27	-50.7	-134.6	41.7	12.9	0.31	-51.5	20	7.6	33.9	21.3	-0.2	-0.01******	
	44198	14489245	11/21/79	4: 1:29														
295	44198	14494161	11/21/79	4: 1:34	20	-21.8	-158.0	32.8	10.0	0.30	-37.2	20	49.9	10.5	30.5	-0.7	-0.02	-24.0
	44198	20107599	11/21/79	5:35: 7														
296	44198	20112516	11/21/79	5:35:12	20	-7.1	178.6	42.8	8.0	0.19	-48.4	20	48.6	-12.9	37.3	-2.6	-0.07	-30.2
	44198	25721038	11/21/79	7: 8:41														
297	44198	25725954	11/21/79	7: 8:45	20	-7.4	155.2	41.7	10.0	0.24	-45.2	20	8.8	-38.3	17.0	-0.1	-0.00	-17.8
	44198	31339392	11/21/79	8:42:19														
298	44198	31344309	11/21/79	8:42:24	10	-24.1	131.8	44.4	11.0	0.25	-50.4	10	-3.5	-59.7	20.8	4.0	0.19	-24.9
	44198	36957746	11/21/79	10:15:57														
299	44198	36962663	11/21/79	10:16: 2	10	-25.4	108.4	40.1	10.6	0.26	-47.2	10	-16.4	-83.1	26.4	5.2	0.20	-30.8
	44198	42571186	11/21/79	11:49:31														
300	44198	42576102	11/21/79	11:49:36	10	-28.5	85.0	34.4	10.1	0.29	-41.7	10	-27.0	-106.5	27.7	5.4	0.19******	
	44198	48189540	11/21/79	13:23: 9														
301	44198	48194457	11/21/79	13:23:14	10	-27.2	61.6	36.8	9.7	0.26	-47.0	10	-25.2	-129.9	21.0	0.9	0.05******	
	44198	53807894	11/21/79	14:56:47														
302	44198	53812811	11/21/79	14:56:52	13	-17.1	38.2	35.9	11.4	0.32	-43.7	13	-15.1	-153.4	14.1	-0.5	-0.03	-10.8
	44198	59422316	11/21/79	16:30:22														
303	44198	59427242	11/21/79	16:30:27	13	-10.3	14.8	37.0	11.0	0.30	-40.6	13	-10.5	-176.8	21.6	4.2	0.20	-23.5
	44198	65040671	11/21/79	18: 4: 0														
304	44198	65045587	11/21/79	18: 4: 5	17	8.9	-8.7	34.8	11.7	0.33	-45.3	17	-11.1	159.8	27.3	5.3	0.19	-28.1
	44198	70654111	11/21/79	19:37:34														
305	44198	70659026	11/21/79	19:37:39	17	6.0	-32.1	34.4	6.0	0.18	-32.9	17	-12.7	136.4	25.2	7.4	0.29	-33.0
	44198	76272464	11/21/79	21:11:12														
306	44198	76277380	11/21/79	21:11:17	3	-1.3	-55.5	31.0	6.2	0.20	-42.7	3	-13.8	113.0	29.7	3.4	0.11******	
	44198	81890818	11/21/79	22:44:30														
307	44198	81895735	11/21/79	22:44:55	3	-23.6	-78.9	35.6	3.0	0.09	-41.2	3	-16.2	89.6	20.1	2.7	0.14	-21.7
	44199	1104256	11/22/79	0:18:24														
308	44199	1109171	11/22/79	0:18:29	0	-33.2	-102.3	38.5	2.8	0.07	-44.8	0	-22.8	66.2	25.4	1.3	0.05	-24.8
	44199	6722610	11/22/79	1:52: 2														
309	44199	6727526	11/22/79	1:52: 7	0	-42.2	-125.7	30.5	3.5	0.11	-32.7	0	-2.4	42.8	21.1	0.3	0.01	-20.2
	44199	12340963	11/22/79	3:25:40														
310	44199	12345880	11/22/79	3:25:45	0	-31.1	-149.1	26.5	4.1	0.15	-24.3	0	11.6	19.4	24.3	0.8	0.03	-19.1
	44199	17954401	11/22/79	4:59:14														
311	44199	17959319	11/22/79	4:59:19	0	-6.9	-172.5	34.4	5.7	0.17	-34.8	13	41.2	-4.0	25.0	0.4	0.02	-23.3
	44199	23572757	11/22/79	6:32:52														
312	44199	23577673	11/22/79	6:32:57	13	3.3	164.1	29.0	5.0	0.17	-29.5	13	38.7	-27.4	21.8	-2.8	-0.13	-32.1
	44199	29185949	11/22/79	8: 0:25														
313	44199	29190867	11/22/79	8: 0:30	13	-8.7	140.7	32.6	8.0	0.25	-40.1	13	10.4	-50.8	16.8	-0.9	-0.06	-18.0
	44199	34804304	11/22/79	9:40: 4														
314	44199	34809221	11/22/79	9:40: 9	13	-14.4	117.3	27.6	10.6	0.38	-36.8	13	-2.4	-74.2	14.3	3.3	0.23	-16.7
	44199	40418973	11/22/79	11:13:38														
315	44199	40423889	11/22/79	11:13:43	13	-18.0	93.9	24.8	2.8	0.11	-25.5	7	-23.8	-97.6	21.7	3.9	0.18	-27.5
	44199	46037327	11/22/79	12:47:17														
316	44199	46042243	11/22/79	12:47:22	7	-13.6	70.5	27.7	5.0	0.18	-31.8	7	-24.8	-121.0	19.8	2.3	0.11	-20.6
	44199	51650766	11/22/79	14:20:50														
317	44199	51655682	11/22/79	14:20:55	7	-19.0	47.1	23.1	6.5	0.28	-31.9	7	-14.6	-144.4	17.2	1.2	0.07	-15.1
	44199	57269120	11/22/79	15:54:29														
318	44199	57274037	11/22/79	15:54:34	7	7.6	23.7	25.5	4.4	0.17	-27.0	7	-6.3	-167.8	20.3	0.3	0.01	-20.0
	44199	62882559	11/22/79	17:28: 2														
319	44199	62887475	11/22/79	17:28: 7	7	15.7	0.3	24.4	6.5	0.27	-25.4	3	-3.8	168.8	19.0	3.3	0.17******	
	44199	68500913	11/22/79	19: 1:40														
320	44199	68505830	11/22/79	19: 1:45	3	24.5	-23.1	28.0	6.0	0.21	-28.4	3	-2.7	145.4	17.6	5.5	0.31******	
	44199	74118035	11/22/79	20:35:18														
321	44199	74122956	11/22/79	20:35:22	3	19.9	-46.5	22.9	6.4	0.28	-27.8	0	-6.0	122.0	23.9	4.2	0.18	-20.9
	44199	79731478	11/22/79	22:10:31														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	ASCENDING D_EQL	ASCENDING EQL	ASCENDING E	ASCENDING I	ASCENDING I/E	ASCENDING DELTA_B	DESCENDING KP	DESCENDING D_EQL	DESCENDING EQL	DESCENDING E	DESCENDING I	DESCENDING I/E	DESCENDING DELTA_B
322	44199	79736394	11/22/79	22: 8:56	0	-5.4	-69.9	26.4	6.4	0.24	-37.7	0	-14.2	98.6	21.8	4.2	0.19	-25.4
	44199	85349832	11/23/79	23:42:29														
323	44199	85354749	11/22/79	23:42:34	3	-29.2	-93.3	30.4	6.2	0.20	-39.6	3	-18.9	75.2	21.7	3.9	0.04	-19.7
	44200	4563271	11/23/79	1:16: 3														
324	44200	4568187	11/23/79	1:16: 8	3	-35.4	-116.7	29.5	4.4	0.15	14.3	3	-12.3	51.8	18.7	-1.6	-0.08	-19.7
	44200	10181025	11/23/79	2:49:41														
325	44200	10186542	11/23/79	2:49:46	0	-26.2	-140.1	26.0	3.1	0.12	-27.8	0	-2.7	28.3	17.5	0.6	0.04	-16.0
	44200	15795065	11/23/79	4:23:15														
326	44200	15799981	11/23/79	4:23:19	0	-16.8	-163.5	24.6	3.6	0.15	-27.7	0	22.3	4.9	21.2	2.3	0.10	-18.8
	44200	21413419	11/23/79	5:56:53														
327	44200	21416335	11/23/79	5:56:58	3	-1.1	173.1	27.6	2.7	0.10	14.0	3	26.5	-18.5	25.5	-3.9	-0.15	-20.7
	44200	27026858	11/23/79	7:30:26														
328	44200	27031774	11/23/79	7:30:31	3	0.5	149.7	27.3	7.0	0.26	-35.5	3	14.4	-41.9	16.8	3.3	0.02	-15.2
	44200	32640297	11/23/79	9: 4: 0														
329	44200	32645213	11/23/79	9: 4: 5	17	-11.3	126.3	30.0	8.5	0.29	-34.7	17	-2.6	-65.3	**********	**********	******	-24.0
	44200	38255948	11/23/79	10:37:35														
330	44200	38260863	11/23/79	10:37:40	17	-22.0	102.9	27.4	5.9	0.22	-31.7	17	-12.4	-88.7	17.0	3.6	0.04	-19.2
	44200	43374302	11/23/79	12:11:14														
331	44200	43879218	11/23/79	12:11:19	10	-20.7	79.5	20.6	5.7	0.28	-21.9	10	-29.6	-112.1	17.6	1.2	0.07	-17.6
	44200	49487741	11/23/79	13:44:47														
332	44200	49492657	11/23/79	13:44:52	10	4.6	56.1	25.2	4.5	0.18	-30.8	10	-22.9	-135.5	16.8	-3.4	-0.02	-15.9
	44200	55106095	11/23/79	15:18:26														
333	44200	55111011	11/23/79	15:18:31	10	16.7	32.7	22.7	4.2	0.18	-22.3	10	-2.7	-158.9	12.8	-1.3	-0.11	-10.3
	44200	60719534	11/23/79	16:51:59														
334	44200	60724450	11/23/79	16:52: 4	10	21.5	9.3	28.6	6.7	0.23	-29.9	17	9.5	177.7	15.6	1.6	0.10	-16.7
	44200	66337883	11/23/79	18:25:37														
335	44200	66342804	11/23/79	18:25:42	17	22.4	-14.1	23.9	6.9	0.29	-26.5	17	10.7	154.3	17.4	2.1	0.12	-17.3
	44200	71951328	11/23/79	19:59:11														
336	44200	71956243	11/23/79	19:59:16	***	******	******	*****	*****	*****	-26.5	***	******	******	**********	**********	******	-17.3
	44200	72708305	11/23/79	20:11:48														
337	44200	79417890	11/23/79	22: 3:37	***	******	******	45.6	13.5	0.30	-26.5	20	-0.2	107.5	22.9	3.0	0.13	-24.1
	44200	83182131	11/23/79	23: 0:22														
338	44200	83187053	11/23/79	23: 0:27	20	-39.5	-84.3	36.9	12.1	0.33	-50.5	30	-14.9	84.1	18.7	2.0	0.11	-21.2
	44201	2397541	11/24/79	0:39:57														
339	44201	2402458	11/24/79	0:40: 2	30	-73.4	-107.7	43.9	12.0	0.27	-57.6	30	-22.3	60.7	27.6	2.6	0.09	-29.4
	44201	8010982	11/24/79	2:13:30														
340	44201	8015898	11/24/79	2:13:35	30	-73.3	-131.1	41.0	11.0	0.27	-51.8	37	-5.9	37.3	28.5	0.8	0.03	-25.6
	44201	13629355	11/24/79	3:47: 9														
341	44201	13634251	11/24/79	3:47:14	37	-50.1	-154.5	55.3	15.5	0.28	-65.1	37	8.9	13.9	37.5	4.8	0.13	-34.1
	44201	19242775	11/24/79	5:20:42														
342	44201	19247691	11/24/79	5:20:47	37	-40.2	-177.9	70.7	20.6	0.29	-88.6	40	22.3	-9.5	47.2	5.4	0.11	-50.4
	44201	24856213	11/24/79	6:54:16														
343	44201	24861129	11/24/79	6:54:21	40	-41.3	158.7	79.1	20.7	0.26	-93.2	40	-3.1	-32.9	50.3	[illegible]	0.16	-50.8
	44201	30474567	11/24/79	8:27:54														
344	44201	30479484	11/24/79	8:27:59	40	-60.7	135.3	79.0	17.6	0.22	-91.0	40	-23.5	-56.3	42.8	[illegible]	0.13	-48.8
	44201	36086306	11/24/79	10: 1:28														
345	44201	36092922	11/24/79	10: 1:32	40	-68.2	111.9	63.1	17.0	0.27	-72.7	40	-19.9	-79.7	33.1	5.9	0.20	-32.9
	44201	41705133	11/24/79	11:35: 5														
346	44201	41710048	11/24/79	11:35:10	40	-76.5	88.5	79.7	22.6	0.28	******	37	-28.9	-103.1	35.4	16.9	0.48	-54.5
	44201	47316571	11/24/79	13: 8:38														
347	44201	47323487	11/24/79	13: 8:43	37	-97.9	65.1	92.0	29.1	0.32	-113.6	37	-43.1	-126.5	31.9	14.6	0.46	-44.6
	44201	52935199	11/24/79	14:42:15														
348	44201	52940121	11/24/79	14:42:20	37	-38.1	41.7	51.3	18.7	0.37	-66.	37	-44.8	-149.9	35.8	11.7	0.33	-44.6
	44201	58546644	11/24/79	16:15:48														
349	44201	58553560	11/24/79	16:15:53	37	-19.7	18.3	52.5	15.6	0.30	-55.4	37	-12.5	-173.3	32.6	2.8	0.09	-33.1
	44201	64162082	11/24/79	17:49:22														
350	44201	64166999	11/24/79	17:49:26	40	-39.1	-5.1	77.0	36.8	0.48	-103.4	40	-9.1	163.3	29.9	14.3	0.48	-40.7
	44201	69780437	11/24/79	19:23: 0														
351	44201	69785353	11/24/79	19:23: 5	40	-21.9	-23.5	51.4	12.4	0.24	-53.0	40	-24.8	139.9	43.3	6.5	0.15	-46.5
	44201	74160091	11/24/79	20:36: 0														
352	44201	75665598	11/24/79	21: 4:20	40	-44.0	-51.9	65.1	26.3	0.40	-89.4	40	-29.3	116.5	37.2	11.5	0.31	-47.4
	44201	81007058	11/24/79	22:30: 7														
353	44201	81011985	11/24/79	22:30:11	40	-66.5	-75.3	61.4	13.8	0.23	-77.9	40	-37.5	93.1	44.4	13.7	0.31	-56.4
	44202	220508	11/25/79	0: 3:40														
354	44202	225424	11/25/79	0: 3:45	43	-111.3	-98.7	77.1	24.5	0.32	-105.7	43	-60.7	69.7	57.9	12.8	0.22	-66.5
	44202	5838862	11/25/79	1:37:18														
355	44202	5843779	11/25/79	1:37:23	43	-136.1	-122.1	87.6	31.9	0.36	-35.8	43	-46.9	46.3	45.0	11.3	0.25	-52.2
	44202	11452301	11/25/79	3:10:52														
356	44202	11457217	11/25/79	3:10:57	50	-119.2	-145.5	91.5	31.4	0.34	-116.0	50	-0.2	22.9	48.5	15.5	0.32	-57.9
	44202	17065740	11/25/79	4:44:25														
357	44202	17070656	11/25/79	4:44:30	50	-51.0	-168.9	73.7	16.9	0.23	-84.1	50	13.4	-0.5	63.8	17.2	0.27	-73.9
	44202	22679179	11/25/79	6:17:59														
358	44202	22684095	11/25/79	6:18: 4	23	-41.2	167.7	61.7	12.2	0.20	-70.4	23	-2.0	-23.9	61.8	10.3	0.17	-62.4
	44202	28297533	11/25/79	7:51:37														
359	44202	28302449	11/25/79	7:51:42	23	-42.6	144.3	*****	*****	*****	-72.2	20	-32.4	-47.3	48.0	13.4	0.28	-57.8
	44202	33910973	11/25/79	9:25:10														
360	44202	33915889	11/25/79	9:25:15	20	-48.2	120.9	53.9	20.1	0.37	-69.3	20	-47.1	-70.7	42.4	13.1	0.31	-52.6
	44202	39524412	11/25/79	10:58:44														
361	44202	39529327	11/25/79	10:58:49	20	-54.4	97.5	55.0	12.8	0.23	-64.1	17	-65.5	-94.1	45.8	9.2	0.20	-54.5
	44202	45137850	11/25/79	12:32:17														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KE	ASCENDING D_ECL	ASCENDING	ASCENDING	ASCENDING	ASCENDING	ASCENDING DELTA_E	DESCENDING KE	DESCENDING D_ECL	DESCENDING	DESCENDING	DESCENDING	DESCENDING DELTA_E
362	44202	45142706	11/25/79	12:32:22	17	-55.4	74.1	54.0	14.1	0.26	-64.9	17	-68.5	-117.5	38.8	7.2	0.19 -45.3
	44202	50751290		14: 2:51													
363	44202	50756206	11/25/79	14: 5:56	17	-36.0	50.7	46.0	15.1	0.33	-63.4	10	-46.0	-140.4	37.7	6.3	0.17 -43.4
	44202	56369643	11/25/79	15:39:29													
364	44202	56374559	11/25/79	15:39:34	10	-14.1	27.3	42.4	12.4	0.29	******	10	-35.3	-164.2	37.0	4.8	0.13 -40.9
	44202	61983003	11/25/79	17:13: 3													
365	44202	61987999	11/25/79	17:13: 7	10	-6.8	3.9	42.4	11.9	0.28	-49.4	13	-23.6	172.4	35.3	6.9	0.20 -40.0
	44202	67596521	11/25/79	18:46:36													
366	44202	67601457	11/25/79	18:46:41	13	2.7	-19.5	44.6	8.1	0.18	-45.5	13	-20.6	149.0	30.6	7.2	0.24 -35.7
	44202	73209900	11/25/79	20:20: 9													
367	44202	73214876	11/25/79	20:20:14	13	6.9	-42.9	37.1	6.0	0.16	-36.8	17	-19.0	125.6	37.3	4.9	0.13 -35.0
	44202	78823400	11/25/79	21:53:43													
368	44202	78828316	11/25/79	21:53:48	17	-18.5	-66.3	42.9	8.5	0.20	-55.0	17	-22.1	102.2	36.3	3.7	0.10 -36.6
	44202	84436846	11/25/79	23:27:16													
369	44202	84441754	11/25/79	23:27:21	17	-37.9	-89.7	37.5	4.7	0.23	-48.9	10	-28.5	78.8	33.4	1.9	0.06 -29.0
	44203	3694455	11/26/79	1: 0:54													
370	44203	3659371	11/26/79	1: 0:59	10	-67.4	-113.1	45.4	4.0	0.09	-43.6	10	-28.5	55.4	33.2	4.0	0.12 -49.5
	44203	9265675	11/26/79	2:34:25													
371	44203	9270538	11/26/79	2:34:30	10	-61.9	-130.5	41.6	5.0	0.12	-45.7	0	-14.2	32.8	32.6	4.5	0.14 -34.3
	44203	14879122	11/26/79	4: 7:59													
372	44203	14884037	11/26/79	4: 8: 4	0	-23.4	-159.9	34.5	4.2	0.12	-38.4	0	30.7	8.6	37.1	2.4	0.07 -34.1
	44203	20497475	11/26/79	5:41:37													
373	44203	20502391	11/26/79	5:41:42	0	1.4	176.7	38.0	3.3	0.09	-41.5	0	39.4	-14.8	33.9	-2.7	-0.08 -32.6
	44203	26110914	11/26/79	7:15:10													
374	44203	26115830	11/26/79	7:15:15	0	2.8	153.3	31.9	6.9	0.22	-36.0	0	30.5	-38.2	18.3	1.0	0.05 -19.1
	44203	31724354	11/26/79	8:48:44													
375	44203	31729269	11/26/79	8:48:49	3	-14.9	129.9	29.2	5.8	0.20	-32.3	3	10.7	-61.6	15.2	2.7	0.18 -18.2
	44203	37337792	11/26/79	10:22:17													
376	44203	37342703	11/26/79	10:22:22	3	-22.9	106.6	26.4	5.4	0.20	-29.4	3	-24.2	-85.0	17.6	3.1	0.17 -19.7
	44203	42951252	11/26/79	11:55:51													
377	44203	42956147	11/26/79	11:55:56	13	-17.0	83.2	20.0	3.5	0.02	-20.5	13	-27.5	-108.4	15.5	1.0	0.10******
	44203	48564670	11/26/79	13:29:24													
378	44203	48569586	11/26/79	13:29:29	13	-8.6	59.8	23.3	1.0	0.04	-27.9	13	-21.3	-131.8	11.9	-2.4	-0.20 -10.3
	44203	54178109	11/26/79	15: 2:58													
379	44203	54183025	11/26/79	15: 3: 3	13	0.6	36.4	19.6	5.7	0.29	-23.0	13	-10.4	-155.2	16.4	2.2	0.14 -15.0
	44203	59791578	11/26/79	16:36:31													
380	44203	59798533	11/26/79	16:36:36	13	7.7	13.0	27.2	8.0	0.30	-30.0	13	-3.5	-178.6	24.6	1.1	0.05 -15.0
	44203	65[illegible]53	11/26/79	17:46:39													
381	44203	65788008	11/26/79	18:56:28	***	******	******	*****	*****	*****	-30.0	23	2.4	158.0	**********	******	-25.8
	44203	71019838	11/26/79	19:43:39													
382	44203	71024816	11/26/79	19:43:44	23	7.1	-33.8	46.6	13.0	0.28	-47.5	23	3.3	134.6	21.4	0.0	0.31 -29.6
	44203	76633340	11/26/79	21:17:13													
383	44203	76638425	11/26/79	21:17:18	17	0.3	-57.2	35.5	5.6	0.16	-45.9	17	-9.1	111.2	29.2	3.6	0.12 -30.1
	44203	82246778	11/26/79	22:50:46													
384	44203	82251644	11/26/79	22:50:51	17	-32.5	-80.6	32.0	2.6	0.08	-38.3	20	-21.2	87.8	22.9	0.8	0.04 -23.6
	44204	1460217	11/27/79	0:24:20													
385	44204	1465133	11/27/79	0:24:25	20	-51.7	-104.0	35.6	5.6	0.16	-45.4	20	-22.8	64.5	25.6	-0.1	-0.00 -25.0
	44204	7073656	11/27/79	1:57:53													
386	44204	7078572	11/27/79	1:57:58	20	-46.0	-127.4	31.6	2.5	0.08	-35.6	10	-1.7	41.1	23.9	-0.8	-0.04 -18.6
	44204	12687095	11/27/79	3:31:27													
387	44204	12692011	11/27/79	3:31:32	10	-27.0	-150.8	25.5	1.8	0.07	-24.5	10	9.6	17.7	24.8	-0.5	-0.02 -16.4
	44204	18300533	11/27/79	5: 5: 0													
388	44204	18305449	11/27/79	5: 5: 5	10	-10.1	-174.2	34.6	3.3	0.09	-35.1	23	4.0	-5.7	25.7	-1.5	-0.06 -22.3
	44204	23913973	11/27/79	6:38:33													
389	44204	23918869	11/27/79	6:38:38	23	-7.6	162.4	32.5	9.9	0.30	-38.2	23	14.8	-29.1	21.2	-2.6	-0.12 -16.7
	44204	29547411	11/27/79	8:12: 7													
390	44204	29532327	11/27/79	8:12:12	23	-11.0	139.0	32.3	6.2	0.19	-40.1	7	5.8	-52.5	19.8	1.6	0.08 -21.1
	44204	35140850	11/27/79	9:45:40													
391	44204	35145706	11/27/79	9:45:45	7	-25.8	115.7	29.9	8.2	0.27	-37.1	7	-6.5	-75.9	21.5	5.3	0.25 -24.0
	44204	40754290	11/27/79	11:19:14													
392	44204	40759206	11/27/79	11:19:19	7	-30.0	32.3	31.3	3.9	0.12	-33.7	10	-27.3	-99.3	25.4	5.0	0.20 -31.5
	44204	46372043	11/27/79	12:52:52													
393	44204	46377560	11/27/79	12:52:57	10	-22.3	68.9	36.9	4.6	0.12	-41.6	10	-22.4	-122.7	17.7	1.4	0.08 -18.3
	44204	51986003	11/27/79	14:26:26													
394	44204	51990999	11/27/79	14:26:30	10	-12.5	45.5	29.3	6.6	0.23	-38.2	7	-15.7	-146.1	17.0	1.0	0.06******
	44204	57597239	11/27/79	15:59:57													
395	44204	57602225	11/27/79	16: 0: 2	7	9.7	22.1	29.8	6.5	0.22	-30.1	7	-1.0	-169.5	22.2	1.9	0.08 -23.7
	44204	63210748	11/27/79	17:33:30													
396	44204	63215604	11/27/79	17:33:35	7	15.3	-1.3	28.0	7.3	0.26	******	7	1.7	167.1	18.7	3.8	0.20 -20.9
	44204	68824187	11/27/79	19: 7: 4													
397	44204	68829103	11/27/79	19: 7: 9	7	22.4	-24.7	30.4	4.9	0.16	-30.6	7	-4.1	143.7	20.0	5.1	0.26 -25.1
	44204	74437626	11/27/79	20:40:37													
398	44204	74442542	11/27/79	20:40:42	3	5.9	-48.1	24.2	7.6	0.31	-31.6	3	-7.9	120.3	24.3	1.7	0.07 -24.4
	44204	80051005	11/27/79	22:14:11													
399	44204	80055980	11/27/79	22:14:15	3	-7.7	-71.5	27.1	5.8	0.22	-39.[illegible]	3	-12.9	97.0	22.5	2.2	0.10 -23.6
	44204	85604504	11/27/79	23:47:44													
400	44204	85608131	11/27/79	23:47:48	3	-31.1	-94.9	28.9	4.6	0.16	-38.1	3	-18.4	73.6	23.5	-2.5	-0.11 -19.2
	44205	4875977	11/28/79	1:21:15													
401	44205	4880893	11/28/79	1:21:20	3	-37.6	-118.3	28.8	2.0	0.07	******	3	-12.8	50.2	21.3	-0.2	-0.01 -23.5
	44205	10469415	11/28/79	2:54:49													

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D	ECL	E	I	I/E	DELTA B	DESCENDING KP	D	ECL	E	I	I/E	DELTA B
402	44205	1943[illegible]31	11/28/79	2:54:54	0	-26.9	-141.7	28.7	1.1	0.04	-30.1	0	7.6	28.8	20.6	2.4	0.12	-20.5
	44205	[illegible]2854	11/28/79	4:28:22														
403	44205	[illegible]7770	11/28/79	4:28:27	0	-18.0	-105.1	27.9	3.1	0.11	-30.8	0	17.8	3.4	23.8	1.6	0.07	-22.3
	44205	[illegible]6233	11/28/79	6: 1:56														
404	44205	[illegible]709	11/28/79	6: 2: 1	10	2.9	171.6	26.5	3.2	0.12	-28.6	10	32.6	-20.0	25.4	-4.7	-0.18	-21.0
	44205	[illegible]732	11/28/79	7:35:29														
405	44205	27334648	11/28/79	7:35:34	10	6.4	148.2	23.3	7.0	0.30	-33.6	10	27.9	-43.4	14.7	3.8	0.06	-13.8
	44205	32943171	11/28/79	9: 9: 3														
406	44205	32948367	11/28/79	9: 9: 8	0	-12.9	124.8	21.2	8.0	0.38	-29.0	0	-0.8	-66.8	14.5	3.3	0.24	-16.6
	44205	38550609	11/28/79	10:42:36														
407	44205	38561525	11/28/79	10:42:41	0	-22.2	101.4	20.2	4.3	0.21	-22.9	0	-9.7	-90.2	18.7	2.5	0.14	-20.2
	44205	44170349	11/28/79	12:16:10														
408	44205	44174965	11/28/79	12:16:14	3	-20.6	78.0	17.7	2.7	0.15	-17.7	3	-17.7	-113.6	17.9	2.6	0.15	-19.8
	44205	49776572	11/28/79	13:49:38														
409	44205	49783488	11/28/79	13:49:43	3	-2.6	54.6	20.2	3.4	0.17	-27.9	3	-18.5	-137.0	16.7	3.4	0.03	-16.1
	44205	55392011	11/28/79	15:23:12														
410	44205	55396927	11/28/79	15:23:16	3	9.7	31.2	18.6	5.3	0.29	******	3	-5.3	-160.4	13.6	-0.9	-0.07	-12.1
	44205	60054[illegible]50	11/28/79	16:56:45														
411	44205	60110366	11/28/79	16:56:50	3	27.6	7.8	19.0	4.6	0.24	-20.8	7	10.8	176.3	13.5	-1.8	-0.07	******
	44205	66618830	11/28/79	18:30:18														
412	44205	66623804	11/28/79	18:30:23	7	30.3	-15.6	19.2	3.7	0.04	-20.8	7	11.6	152.9	10.5	-3.9	-0.08	-6.7
	44205	72232328	11/28/79	20: 3:52														
413	44205	72237244	11/28/79	20: 3:57	7	33.4	-39.0	15.5	-1.3	-0.08	-14.3	3	5.1	129.5	12.8	1.2	0.09	-13.4
	44205	77845767	11/28/79	21:37:25														
414	44205	77850683	11/28/79	21:37:30	3	5.6	-62.3	18.7	3.6	0.19	-26.5	3	8.[illegible]	136.1	18.4	-1.5	-0.08	-16.0
	44205	83459206	11/28/79	23:10:59														
415	44205	83464121	11/28/79	23:11: 4	3	-12.2	-85.7	18.7	4.6	0.25	-28.3	3	-2.9	82.7	12.3	-3.1	-0.41	-8.1
	44206	2670679	11/29/79	0:44:30														
416	44206	2675594	11/29/79	0:44:35	3	-33.2	-109.1	23.7	0.4	0.02	-27.9	3	-4.5	59.3	15.0	-4.8	-0.32	-11.4
	44206	8284117	11/29/79	2:18: 4														
417	44206	8289033	11/29/79	2:18: 9	3	-32.5	-132.5	21.8	-3.0	-0.14	-20.9	0	9.1	35.9	14.0	-3.8	-0.27	-8.9
	44206	13897556	11/29/79	3:51:37														
418	44206	13902472	11/29/79	3:51:42	0	-2.2	-155.9	15.7	-4.1	-0.26	-8.8	0	45.4	12.5	18.3	-5.7	-0.31	-7.9
	44206	19510995	11/29/79	5:25:10														
419	44206	19515911	11/29/79	5:25:15	0	19.5	-179.3	17.6	-3.6	-0.21	-16.7	7	54.7	-10.9	16.5	-9.0	-0.54	-12.0
	44206	25119519	11/29/79	6:58:39														
420	44206	25124434	11/29/79	6:58:44	7	22.7	157.3	12.7	0.9	0.07	-11.7	7	31.2	-34.3	4.1	-3.6	-0.91	******
	44206	30732957	11/29/79	8:32:12														
421	44206	30737873	11/29/79	8:32:17	7	11.3	133.9	21.3	6.2	0.29	-29.0	7	16.3	-57.6	8.1	3.8	0.09	-9.3
	44206	36346397	11/29/79	10: 5:46														
422	44206	36351312	11/29/79	10: 5:51	7	-4.9	110.5	15.1	4.9	0.33	-19.2	7	-5.8	-81.0	12.4	3.0	0.24	-13.4
	44206	41959835	11/29/79	11:39:19														
423	44206	41964751	11/29/79	11:39:24	7	-5.4	87.2	9.2	-1.8	-0.20	-6.4	7	-18.4	-104.4	8.1	-1.0	-0.13	******
	44206	47573274	11/29/79	13:12:53														
424	44206	47578190	11/29/79	13:12:58	7	3.2	63.8	17.3	-2.1	-0.12	-18.1	7	-16.2	-127.8	9.5	-1.4	-0.14	-8.6
	44206	53186713	11/29/79	14:46:26														
425	44206	53191629	11/29/79	14:46:31	23	23.2	40.4	13.9	4.1	0.29	-19.4	23	-4.8	-151.2	3.5	-3.2	-0.90	-0.4
	44206	58795237	11/29/79	16:19:55														
426	44206	58800152	11/29/79	16:20: 0	23	31.0	17.0	9.1	1.2	0.13	-8.7	23	25.1	-174.6	-3.6	-0.3	1.90	10.9
	44206	64430676	11/29/79	17:53:28														
427	44206	64413592	11/29/79	17:53:33	23	54.7	-6.4	2.9	-1.6	-0.55	-6.4	23	25.7	162.0	3.2	-2.7	-0.84	1.1
	44206	70022114	11/29/79	19:27: 2														
428	44206	70027030	11/29/79	19:27: 7	23	43.3	-29.8	20.1	-1.5	-0.08	-18.6	23	25.5	138.6	-3.9	-2.8	0.72	4.4
	44206	75635553	11/29/79	21: 0:35														
429	44206	75640468	11/29/79	21: 0:40	10	26.6	-53.2	10.5	1.7	0.16	-19.4	10	8.1	115.2	11.3	-1.9	-0.17	-8.4
	44206	81244077	11/29/79	22:34: 4														
430	44206	81248992	11/29/79	22:34: 8	10	4.6	-76.6	16.1	0.2	0.01	-22.6	10	5.6	91.9	7.8	-3.7	-0.47	-5.1
	44207	460464	11/30/79	0: 7:40														
431	44207	465380	11/30/79	0: 7:45	10	-26.0	-100.0	14.7	0.8	0.05	-22.9	10	4.3	68.5	12.5	-7.9	-0.63	-5.0
	44207	6068989	11/30/79	1:41: 8														
432	44207	6073904	11/30/79	1:41:13	10	-37.1	123.3	16.6	-1.8	-0.11	-16.5	10	12.6	45.1	10.2	-5.6	-0.55	-5.8
	44207	11682467	11/30/79	3:14:42														
433	44207	11687343	11/30/79	3:14:47	17	-17.5	-146.7	10.6	-2.1	-0.20	-7.5	17	45.9	21.7	12.2	-6.1	-0.51	-3.9
	44207	17295808	11/30/79	4:48:15														
434	44207	17300782	11/30/79	4:48:20	17	13.1	-170.1	15.3	-2.0	-0.13	-13.2	17	67.2	-1.7	12.4	-11.6	-0.93	-1.6
	44207	22909305	11/30/79	6:21:49														
435	44207	22914221	11/30/79	6:21:54	50	20.5	166.5	12.4	1.5	0.12	-16.4	50	76.9	-25.1	10.6	-20.9	-1.26	-0.9
	44207	28517823	11/30/79	7:55:17														
436	44207	28522744	11/30/79	7:55:22	50	3.2	143.1	8.9	-6.6	-0.74	-4.1	33	38.0	-48.5	1.3	-13.7	-7.41	12.5
	44207	34131267	11/30/79	9:28:51														
437	44207	34136183	11/30/79	9:28:56	33	-24.9	119.7	34.7	11.1	0.32	-40.0	33	12.6	-71.9	3.4	3.2	2.44	-10.9
	44207	39744736	11/30/79	11: 2:24														
438	44207	39749622	11/30/79	11: 2:29	33	-12.8	96.3	16.6	2.1	0.13	-13.2	33	-4.4	-95.3	-6.4	-4.5	0.71	5.7
	44207	45356145	11/30/79	12:35:56														
439	44207	45363061	11/30/79	12:36: 3	33	-1.3	72.9	11.4	1.4	0.12	******	33	-3.2	-118.6	-1.1	-2.2	2.00	3.2
	44207	50966869	11/30/79	14: 9:26														
440	44207	50971785	11/30/79	14: 9:31	33	19.1	49.6	-2.2	-4.0	1.79	-1.7	27	12.3	-142.0	-11.4	-10.1	0.87	19.0
	44207	56580107	11/30/79	15:43: 9														
441	44207	56585023	11/30/79	15:43:13	27	14.4	26.2	15.2	4.4	0.29	-18.0	27	7.6	-165.4	5.2	-3.0	-0.58	-3.9
	44207	62193546	11/30/79	17:16:33														

PASS	EJD	MSEC	DATE	HR:MN:SC	ASCENDING KEP	D ECL	ECL	E	I	I/E	DELTA B	DESCENDING KEP	D ECL	ECL	E	I	I/E	DELTA B
442	44207	62198402	11/30/79	17:16:38	27	22.1	2.8	15.6	5.9	0.38	-16.7	20	15.7	171.2	15.9	-3.5	-0.32	-6.3
	44207	67802071	11/30/79	18:50: 2														
443	44207	67856986	11/30/79	18:50: 6	20	29.0	-20.6	16.1	2.2	0.14	-19.4	20	14.7	147.8	15.1	2.2	0.15	-16.2
	44207	73415538	11/30/79	20:23:35														
444	44207	73420424	11/30/79	20:23:40	20	24.8	-44.0	18.6	5.5	0.30	-24.0	20	2.5	124.4	17.3	1.3	0.07	-17.0
	44207	79028948	11/30/79	21:57: 8														
445	44207	79033864	11/30/79	21:57:13	20	-5.9	-67.4	19.3	7.9	0.41	-33.7	20	-0.1	101.0	17.5	3.5	0.20	-20.1
	44207	84637471	11/30/79	23:30:37														
446	44207	84642387	11/30/79	23:30:42	20	-24.9	-90.8	20.7	7.6	0.37	-33.6	17	-11.8	77.7	17.6	-1.3	-0.08	-13.9
	44208	3853614	12/ 1/79	1: 4:13														
447	44208	3858530	12/ 1/79	1: 4:18	17	-26.9	-114.1	25.6	1.5	0.06	-27.3	17	-9.1	54.3	16.7	-0.8	-0.05	-18.3
	44208	9462137	12/ 1/79	2:37:42														
448	44208	9467053	12/ 1/79	2:37:47	10	-22.3	-137.5	26.4	1.1	0.04	-27.7	10	-0.9	30.9	15.7	0.8	0.05	-15.5
	44208	15075576	12/ 1/79	4:11:15														
449	44208	15080492	12/ 1/79	4:11:20	10	-12.8	-160.9	22.3	1.0	0.07	-23.1	10	14.7	7.5	21.9	0.9	0.04	-18.9
	44208	20689015	12/ 1/79	5:44:49														
450	44208	20693931	12/ 1/79	5:44:53	27	-2.1	175.7	35.6	1.7	0.05	-39.1	27	25.7	-15.9	27.9	-1.0	-0.07	-25.8
	44208	26277538	12/ 1/79	7:18:17														
451	44208	26302454	12/ 1/79	7:18:22	27	-12.4	152.3	40.9	12.9	0.32	-50.	27	33.7	-39.3	22.4	2.8	0.12	-20.9
	44208	31910977	12/ 1/79	8:51:50														
452	44208	31915833	12/ 1/79	8:51:55	27	-37.1	128.9	45.4	11.6	0.26	-52.0	27	-7.0	-62.7	20.7	4.3	0.21	-29.0
	44208	37519501	12/ 1/79	10:25:19														
453	44208	37524416	12/ 1/79	10:25:24	27	-49.9	105.6	41.0	7.6	0.19	-45.4	27	-26.6	-86.1	22.2	6.7	0.30	-29.8
	44208	43132940	12/ 1/79	11:58:52														
454	44208	43137855	12/ 1/79	11:58:57	23	-49.1	82.2	42.7	9.8	0.23	-86.8	23	-26.5	-109.4	17.2	3.5	0.21	-39.0
	44208	48746379	12/ 1/79	13:32:26														
455	44208	48751295	12/ 1/79	13:32:31	23	-41.8	58.8	54.9	11.7	0.21	-65.8	23	-22.6	-132.8	16.6	3.1	0.01	-18.9
	44208	54354902	12/ 1/79	15: 5:54														
456	44208	54359817	12/ 1/79	15: 5:59	27	-17.6	35.4	42.5	12.7	0.30	-51.0	27	-6.6	-156.2	18.8	3.2	0.01	-19.8
	44208	59968341	12/ 1/79	16:39:28														
457	44208	59973257	12/ 1/79	16:39:33	27	-0.6	12.0	46.4	15.8	0.34	-58.9	27	9.6	-179.6	16.4	-3.6	-0.04	-53.3
	44208	65576864	12/ 1/79	18:12:56														
458	44208	65581780	12/ 1/79	18:13: 1	23	3.6	-11.4	33.8	11.5	0.34	-46.4	23	8.4	157.0	18.9	3.6	0.19	-21.6
	44208	71190303	12/ 1/79	19:46:30														
459	44208	71195219	12/ 1/79	19:46:35	23	1.8	-34.8	32.6	2.9	0.09	-29.8	23	3.2	133.6	20.1	2.7	0.13	-26.0
	44208	76803742	12/ 1/79	21:20: 3														
460	44208	76808658	12/ 1/79	21:20: 8	20	-13.6	-58.1	33.6	8.7	0.26	-47.9	20	-14.0	110.3	24.0	1.1	0.04	-24.0
	44208	82412266	12/ 1/79	22:53:32														
461	44208	82417181	12/ 1/79	22:53:37	20	-21.7	-81.5	26.2	4.9	0.19	-33.4	33	-18.0	86.9	18.4	0.1	0.01	-19.3
	44209	1623972	12/ 2/79	0:27: 3														
462	44209	1628900	12/ 2/79	0:27: 8	33	-22.0	-104.9	31.7	6.5	0.20	-40.4	33	-16.0	63.5	25.2	-1.8	-0.07*******	
	44209	7237423	12/ 2/79	2: 0:37														
463	44209	7242339	12/ 2/79	2: 0:42	33	-33.2	-128.3	32.0	6.1	0.19	-8.8	30	-0.6	40.1	24.0	1.5	0.06	-25.4
	44209	12845946	12/ 2/79	3:34: 5														
464	44209	12850862	12/ 2/79	3:34:10	30	-27.2	-151.7	28.7	5.6	0.19	-30.8	30	4.7	16.7	21.2	-0.8	-0.04	-15.1
	44209	18459385	12/ 2/79	5: 7:39														
465	44209	18464301	12/ 2/79	5: 7:44	30	-20.3	-175.1	40.2	4.2	0.11	-42.6	27	19.7	-6.7	23.8	-1.7	-0.07	-22.1
	44209	24067900	12/ 2/79	6:41: 7														
466	44209	24072824	12/ 2/79	6:41:12	27	-18.4	161.6	41.1	9.4	0.23	-44.9	27	25.0	-30.1	22.1	-3.5	-0.16	-19.2
	44209	29081347	12/ 2/79	8:14:41														
467	44209	29086263	12/ 2/79	8:14:46	27	-23.2	138.2	40.8	8.1	0.20	-47.2	30	9.9	-53.4	24.5	-0.3	-0.01	-30.0
	44209	35289872	12/ 2/79	9:48: 9														
468	44209	35294787	12/ 2/79	9:48:14	30	-36.1	114.8	36.7	7.6	0.20	-44.2	30	-5.8	-76.8	13.4	2.8	0.21	-17.0
	44209	40903310	12/ 2/79	11:21:43														
469	44209	40908226	12/ 2/79	11:21:48	30	-42.5	91.4	35.3	5.0	0.14	-36.5	23	-31.5	-100.2	21.1	4.5	0.21	-27.5
	44209	46511838	12/ 2/79	12:55:11														
470	44209	46516750	12/ 2/79	12:55:16	23	-22.9	68.0	36.4	3.3	0.09	-40.2	23	-20.0	-123.6	10.6	-0.1	-0.01	-11.2
	44209	52125272	12/ 2/79	14:28:45														
471	44209	52130188	12/ 2/79	14:28:50	23	-10.7	44.6	20.0	2.8	0.14	-26.5	17	-13.0	-147.0	11.1	-1.5	-0.14	-9.3
	44209	57733796	12/ 2/79	16: 2:13														
472	44209	57738712	12/ 2/79	16: 2:18	17	15.7	21.3	23.0	5.3	0.23	-21.3	17	4.8	-170.4	14.2	-1.9	-0.14	-12.4
	44209	63347235	12/ 2/79	17:35:47														
473	44209	63352151	12/ 2/79	17:35:52	17	16.6	-2.1	30.7	13.5	0.44	-39.5	17	6.6	166.3	18.6	2.3	0.12	-18.8
	44209	68955738	12/ 2/79	19: 9:15														
474	44209	68960674	12/ 2/79	19: 9:20	17	22.4	-25.5	28.2	5.7	0.20	-28.7	17	7.3	142.9	12.9	1.6	0.12	-15.4
	44209	74569197	12/ 2/79	20:42:49														
475	44209	74574113	12/ 2/79	20:42:54	13	0.3	-48.9	23.0	5.7	0.25	-29.6	13	-0.6	119.5	19.6	-0.3	-0.02	-19.0
	44209	80177721	12/ 2/79	22:16:17														
476	44209	80182636	12/ 2/79	22:16:22	13	-15.6	-72.3	25.1	5.8	0.23	-37.6	13	-15.8	96.1	17.8	2.1	0.12	-19.4
	44209	85791159	12/ 2/79	23:49:51														
477	44209	85796075	12/ 2/79	23:49:56	23	-33.7	-95.6	32.3	9.2	0.28	-45.5	23	-18.3	72.7	23.0	-3.0	-0.13	-18.6
	44210	900 2632	12/ 3/79	1:23:22														
478	44210	5307548	12/ 3/79	1:23:27	23	-43.9	-119.0	40.6	12.5	0.31	-51.8	23	-11.2	49.4	26.5	0.9	0.03	-26.4
	44210	10611156	12/ 3/79	2:56:51														
479	44210	10616072	12/ 3/79	2:56:56	33	-46.5	-142.4	47.3	11.7	0.25	-56.2	33	2.9	26.0	31.6	4.7	0.15	-32.4
	44210	16219060	12/ 3/79	4:30:19														
480	44210	16224535	12/ 3/79	4:30:24	33	-47.3	-165.8	55.0	13.2	0.24	-66.8	33	6.7	2.6	31.0	3.5	0.11	-31.1
	44210	21833113	12/ 3/79	6: 3:53														
481	44210	21838044	12/ 3/79	6: 3:58	33	-40.0	170.8	56.5	13.1	0.23	-67.0	33	1.0	-20.9	36.8	-2.2	-0.06	-32.5
	44210	27441642	12/ 3/79	7:37:21														

PASS	MJD	MSEC	DATE	TIME	ASCENDING KP	D ECL	E/L	E	I	I/E	DELTA B	DESCENDING KP	D ECL	E/L	E	I	I/E DELTA B
482	44210	27446553	12/ 3/79	7:37:26	33	-36.3	147.5	49.9	11.0	0.22	******	33	-1.2	-48.2	24.5	1.5	0.06 -22.5
	44210	33055080		9:10:55													
483	44210	33059956	12/ 3/79	9:10:59	23	-35.8	124.1	44.8	11.5	0.26	-52.3	23	-13.3	-67.5	22.5	4.2	0.19*******
	44210	38603624	12/ 3/79	10:44:23													
484	44210	38668520	12/ 3/79	10:44:28	23	-33.4	100.7	33.2	4.1	0.12	-35.1	23	-27.9	-90.9	27.5	5.7	0.21 -33.0
	44210	44277042	12/ 3/79	12:17:57													
485	44210	44281958	12/ 3/79	12:18: 1	17	-30.9	77.3	29.2	7.4	0.25	-31.4	17	-31.3	-114.3	25.1	4.4	0.18 -28.5
	44210	49885566	12/ 3/79	13:51:25													
486	44210	49890482	12/ 3/79	13:51:30	17	-13.8	53.9	32.8	7.7	0.24	-41.5	10	-19.9	-137.7	22.0	1.5	0.17 -23.7
	44210	55499016	12/ 3/79	15:24:54													
487	44210	55499026	12/ 3/79	15:24:59	10	-4.2	30.6	24.4	6.5	0.27	-26.5	10	-7.2	-161.1	13.9	-1.8	-0.10 -16.5
	44211	61107728	12/ 3/79	16:58:27													
488	44211	1[illegible]44	12/ 3/7	16:58:32	10	10.9	7.2	28.5	7.0	0.25	-29.6	10	9.4	175.5	19.0	0.9	0.04 -18.8
	44211	7[illegible]53	12/ 3/79	18:31:56													
489	44210	[illegible]38	12/ 3/79	18:32: 0	10	21.8	-16.2	26.5	7.4	0.28	-30.2	10	9.4	152.2	15.6	1.0	0.10 -14.6
	44210	74245[illegible]	12/ 3/79	20:57:24													
490	44210	74329491	12/ 3/79	20:57:29	10	14.3	-39.6	20.2	1.9	0.09	-21.5	3	-2.2	128.8	10.2	0.7	0.04 -16.1
	44210	77938014	12/ 3/79	21:38:58													
491	44210	77942930	12/ 3/79	21:39: 2	3	-14.6	-63.0	24.3	5.5	0.23	-32.6	3	-15.5	105.4	19.9	-0.2	-0.01 -19.2
	44210	83546538	12/ 3/79	23:12:26													
492	44210	83551454	12/ 3/79	23:12:31	3	-19.9	-86.3	23.7	3.1	0.34	******	20	-14.9	82.9	14.7	-1.8	-0.12 -14.1
	44211	2758011	12/ 4/79	0:45:58													
493	44211	2702927	12/ 4/79	0:46: 2	20	-30.6	-109.7	31.1	7.2	0.23	-37.5	20	-14.6	58.6	22.9	0.9	0.03 -24.8
	44211	8306538	12/ 4/79	2:19:26													
494	44211	8371449	12/ 4/79	2:19:31	20	-41.1	-133.1	39.6	9.6	0.24	-48.0	33	-1.8	35.3	23.7	0.9	0.04 -22.3
	44211	13979973	12/ 4/79	3:52:59													
495	44211	13984889	12/ 4/79	3:53: 4	33	-48.4	-156.5	44.7	12.7	0.28	-53.0	33	7.1	11.9	30.8	1.3	0.04 -26.8
	44211	19588496	12/ 4/79	5:26:28													
496	44211	1959[illegible]16	12/ 4/79	5:26:34	33	-42.0	-179.9	66.7	15.3	0.23	-81.3	40	14.6	-11.5	38.5	3.2	0.08 -40.5
	44211	25197320	12/ 4/79	6:59:57													
497	44211	25201936	12/ 4/79	7:[illegible]0: 1	40	-43.2	156.8	64.3	17.2	0.27	-76.0	40	-0.3	-54.9	26.4	-1.0	-0.04 -23.3
	44211	30805544	12/ 4/79	8:33:25													
498	44211	30810459	12/ 4/79	8:33:30	40	-49.4	133.4	65.8	14.1	0.21	-76.6	30	-10.8	-58.3	9.8	6.8	0.70 -17.4
	44211	36418982	12/ 4/79	10: 6:58													
499	44211	36423898	12/ 4/79	10: 7: 3	30	-62.4	110.0	66.0	13.1	0.20	-72.6	30	-29.3	-81.6	25.0	9.9	0.40 -33.0
	44211	42027536	12/ 4/79	11:40:27													
500	44211	42032421	12/ 4/79	11:40:32	33	-83.4	80.6	71.9	19.7	0.27	-83.2	33	-34.3	-105.0	24.0	9.9	0.41 -37.5
	44211	47636030	12/ 4/79	13:13:56													
501	44211	47640945	12/ 4/79	13:14: 0	33	-93.0	63.3	92.9	28.8	0.31	-114.9	33	-38.7	-128.4	30.5	8.2	0.27 -39.2
	44211	53249468	12/ 4/79	14:47:29													
502	44211	53254334	12/ 4/79	14:47:34	40	-78.5	39.9	88.0	32.3	0.37	-113.8	40	-38.6	-151.8	35.0	3.6	0.27 -44.0
	44211	58857992	12/ 4/79	16:20:57													
503	44211	58862908	12/ 4/79	16:21: 2	40	-66.2	16.5	88.2	29.8	0.34	-104.0	40	-34.5	-175.1	47.3	10.4	0.35 -61.7
	44211	64406515	12/ 4/79	17:54:26													
504	44211	64471430	12/ 4/79	17:54:31	27	-46.3	-6.9	70.6	24.2	0.34	-91.3	27	-26.2	161.5	44.8	13.8	0.31 -55.2
	44211	70075039	12/ 4/79	19:27:55													
505	44211	70079954	12/ 4/79	19:27:59	27	-28.5	-30.3	77.4	19.7	0.26	-79.3	27	-29.8	138.1	41.3	9.9	0.24 -53.0
	44211	75688477	12/ 4/79	21: 1:28													
506	44211	75693393	12/ 4/79	21: 1:33	20	-55.8	-53.6	70.1	17.7	0.25	-87.3	20	-47.9	114.7	50.3	11.5	0.23 -58.3
	44211	81297001	12/ 4/79	22:34:57													
507	44211	81301916	12/ 4/79	22:35: 1	20	-61.9	-77.0	61.9	13.2	0.21	-6.1	20	-54.4	91.3	45.9	11.2	0.24 -53.6
	44212	5086228	12/ 5/79	0: 8:26													
508	44212	5131144	12/ 5/79	0: 8:33	20	-61.2	-100.4	58.4	12.4	0.21	-73.3	20	-52.4	68.0	50.6	6.4	0.13 -52.3
	44212	6116752	12/ 5/79	1:41:56													
509	44212	6121667	12/ 5/79	1:42: 1	20	-60.6	-123.8	57.3	10.7	0.19	-64.9	20	-40.9	44.6	46.3	7.0	0.16 -49.7
	44212	11725275	12/ 5/79	3:15:25													
510	44212	11730131	12/ 5/79	3:15:30	13	-50.9	-147.1	48.2	11.4	0.24	-53.1	13	-1.7	21.2	40.2	3.3	0.18 -48.4
	44212	17333798	12/ 5/79	4:48:53													
511	44212	17338714	12/ 5/79	4:48:58	13	-18.2	-170.5	48.2	10.6	0.22	-55.7	13	8.6	-2.2	43.9	3.8	0.13 -44.6
	44212	22942342	12/ 5/79	6:22:22													
512	44212	22947257	12/ 5/79	6:22:27	23	-13.2	166.1	43.5	11.8	0.27	30.1	23	-10.[illegible]	-25.5	42.1	-0.4	-0.01 -37.1
	44212	28550846	12/ 5/79	7:55:50													
513	44212	28555761	12/ 5/79	7:55:55	23	-30.3	142.7	54.1	14.0	0.26	-68.0	20	-29.2	-48.9	30.1	4.8	0.16 -31.0
	44212	34164283	12/ 5/79	9:29:24													
514	44212	34169199	12/ 5/79	9:29:29	20	-34.9	119.4	49.4	16.4	0.33	-63.1	20	-31.3	-72.3	32.3	11.0	0.36 -40.8
	44212	39772803	12/ 5/79	11: 2:52													
515	44212	39777723	12/ 5/79	11: 2:57	20	-36.8	96.0	45.5	9.8	0.22	-51.8	23	-31.9	-95.7	36.3	7.6	0.21 -44.8
	44212	45381331	12/ 5/79	12:36:21													
516	44212	45386246	12/ 5/79	12:36:26	23	-36.9	72.6	45.6	11.3	0.25	-51.7	23	-33.9	-119.0	31.3	5.7	0.18 -35.1
	44212	50989855	12/ 5/79	14: 9:49													
517	44212	50994770	12/ 5/79	14: 9:54	23	-41.9	49.2	49.0	15.4	0.31	-65.6	23	-26.7	-142.4	26.4	2.9	0.11 -28.1
	44212	56598378	12/ 5/79	15:43:18													
518	44212	56603294	12/ 5/79	15:43:23	23	-23.9	25.9	50.0	14.0	0.28	-58.1	23	-24.0	-165.8	28.2	4.5	0.16 -31.5
	44212	62206901	12/ 5/79	17:16:46													
519	44212	62211817	12/ 5/79	17:16:51	23	-8.4	2.5	37.5	12.9	0.34	-45.9	10	-11.7	170.8	27.6	0.1	0.22 -32.5
	44212	67817637	12/ 5/79	18:50:17													
520	44212	67822552	12/ 5/79	18:50:22	10	10.7	-20.9	38.0	11.9	0.31	-0.2	10	-9.3	147.5	27.4	3.9	0.22 -32.2
	44212	73426160	12/ 5/79	20:23:46													
521	44212	73431075	12/ 5/79	20:23:51	10	-5.5	-44.3	40.9	10.7	0.26	-47.8	17	-24.1	124.1	29.6	4.3	0.14 -30.9
	44212	79[illegible]3	12/ 5/79	21:57:14													

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING NF	ASCENDING EQL	ASCENDING F	ASCENDING A	ASCENDING A/E	ASCENDING DELTA I	DESCENDING EP	DESCENDING EQL	DESCENDING F	DESCENDING A	DESCENDING I	I/E DELTA I
522	44212	79039599	12/ 5/79	21:57: 19	17	-29.9	-67.6	33.5	9.6	0.29	18.2	17	-35.3	105.7	24.3	-3.3	-0.01	-24.5
	44212	84343332	12/ 5/79	23:25: 43														
523	44212	84649906	12/ 5/79	23:30: 49	17	-28.5	-91.0	36.5	9.1	0.25	-51.5	23	-36.8	77.5	31.1	-2.1	-0.07	-20.4
	44213	3704263	12/ 6/79	1: 1: 44														
524	44213	3856646	12/ 6/79	1: 4: 16	23	-31.0	-114.4	50.0	11.6	0.23	-59.9	23	-15.2	54.0	32.4	1.8	0.36	-35.9
	44213	9486169	12/ 6/79	2:37: 45														
525	44213	9470084	12/ 6/79	2:37: 50	20	-24.0	-137.8	36.2	4.5	0.12	-39.1	20	5.2	30.6	22.0	0.4	0.02	-21.3
	44213	15073693	12/ 6/79	4: 11: 13														
526	44213	15078033	12/ 6/79	4: 11: 18	20	-24.6	-161.1	30.8	3.0	0.26	-35.9	20	27.6	7.2	30.5	2.8	0.08	-29.1
	44213	20684217	12/ 6/79	5: 44: 42														
527	44213	20687132	12/ 6/79	5: 44: 47	23	-8.9	175.5	39.0	3.4	0.09	-41.3	23	40.9	-16.2	31.7	-4.5	-0.14	-27.2
	44213	26290739	12/ 6/79	7: 18: 10														
528	44213	26295055	12/ 6/79	7: 18: 15	23	-9.7	152.1	37.2	9.8	0.26	-44.6	23	26.3	-39.9	12.5	-3.1	-0.25	-10.9
	44213	31899203	12/ 6/79	8: 51: 39														
529	44213	31904179	12/ 6/79	8: 51: 44	17	-17.5	128.7	35.6	8.9	0.25	-40.2	17	-8.3	-62.9	11.5	3.0	0.31	-13.9
	44213	37507787	12/ 6/79	10: 25: 7														
530	44213	37512703	12/ 6/79	10: 25: 12	17	-16.9	103.4	24.9	5.8	0.23	-31.0	17	-12.7	-86.3	19.0	3.9	0.31	-24.7
	44213	43116310	12/ 6/79	11: 58: 36														
531	44213	43121226	12/ 6/79	11: 58: 41	7	-16.0	82.0	17.4	7.3	0.42	-24.4	7	-15.5	-109.7	18.5	3.0	0.16	-20.9
	44213	48724834	12/ 6/79	13: 32: 4														
532	44213	48729749	12/ 6/79	13: 32: 9	7	-16.4	58.6	20.7	7.9	0.38	-35.3	7	-19.8	-133.0	19.3	1.8	0.08	-19.2
	44213	54333353	12/ 6/79	15: 5: 33														
533	44213	54338273	12/ 6/79	15: 5: 38	3	-7.1	35.3	25.9	9.0	0.35	-33.0	3	-13.9	-156.4	17.2	1.7	0.10	-15.6
	44213	59941680	12/ 6/79	16: 39: 1														
534	44213	59946796	12/ 6/79	16: 39: 6	3	15.4	11.9	27.8	8.7	0.31	-32.7	3	-8.4	-179.8	20.8	4.4	0.21	-24.0
	44213	65550836	12/ 6/79	18: 12: 30														
535	44213	65555812	12/ 6/79	18: 12: 35	10	21.6	-11.5	29.8	8.4	0.33	-36.0	10	-5.7	156.3	19.6	2.5	0.13	-16.9
	44213	71159419	12/ 6/79	19: 45: 59														
536	44213	71164334	12/ 6/79	19: 46: 4	10	17.8	-34.9	28.4	3.8	0.13	-28.3	10	-3.5	133.5	18.8	3.5	0.18	-23.2
	44213	76767943	12/ 6/79	21: 19: 27														
537	44213	76772858	12/ 6/79	21: 19: 32	10	-3.6	-58.2	29.8	7.4	0.25	-44.2	10	-23.2	110.1	23.9	1.1	0.05	-23.6
	44213	82376466	12/ 6/79	22: 52: 56														
538	44213	82381381	12/ 6/79	22: 53: 1	10	-20.2	-81.6	28.9	3.9	0.13	-36.1	13	-26.1	86.7	20.5	1.3	0.06	-22.7
	44214	1450009	12/ 7/79	0: 23: 55														
539	44214	1587448	12/ 7/79	0: 26: 27	13	-23.6	-105.3	33.7	6.0	0.18	-40.6	13	-22.1	63.4	27.1	-1.1	-0.04	-26.2
	44214	7191053	12/ 7/79	1: 59: 51														
540	44214	7195970	12/ 7/79	1: 59: 55	13	-29.6	-128.3	42.1	4.3	0.10	-35.0	13	1.6	40.0	26.4	-2.3	-0.09	-22.5
	44214	12802203	12/ 7/79	3: 33: 42														
541	44214	12837199	12/ 7/79	3: 33: 47	10	-23.5	-151.7	27.7	5.7	0.26	-21.5	10	16.0	16.6	20.4	-1.8	-0.07	-18.0
	44214	18410806	12/ 7/79	5: 6: 50														
542	44214	18415722	12/ 7/79	5: 6: 55	10	2.0	-175.1	23.9	1.9	0.08	-23.1	7	34.5	-6.8	23.1	-2.7	-0.12	-19.3
	44214	23866951	12/ 7/79	6: 37: 46														
543	44214	24319329	12/ 7/79	6: 40: 19	7	10.5	161.5	20.1	3.2	0.16	-21.1	7	31.8	-30.1	12.5	-2.3	-0.19	-11.0
	44214	29622938	12/ 7/79	8: 13: 42														
544	44214	29627853	12/ 7/79	8: 13: 47	7	6.3	138.2	23.1	5.6	0.24	-31.8	10	8.8	-53.5	10.9	1.2	0.11	-15.3
	44214	35231400	12/ 7/79	9: 47: 11														
545	44214	35236376	12/ 7/79	9: 47: 16	10	-5.0	114.8	19.5	7.7	0.39	-28.3	10	-4.4	-76.9	10.3	4.2	0.41	-12.2
	44214	40839984	12/ 7/79	11: 20: 39														
546	44214	40844900	12/ 7/79	11: 20: 44	10	-4.2	91.4	15.1	0.4	0.03	******	7	-4.2	-110.2	12.1	2.2	0.18	-14.3
	44214	46446508	12/ 7/79	12: 54: 8														
547	44214	46453423	12/ 7/79	12: 54: 13	7	-3.1	68.1	18.2	1.0	0.05	-23.3	7	-7.9	-123.6	7.6	-3.4	-0.05	-5.6
	44214	52057031	12/ 7/79	14: 27: 37														
548	44214	52061947	12/ 7/79	14: 27: 41	7	3.4	44.7	12.5	0.9	0.07	-18.0	7	-4.9	-147.0	5.2	-2.0	-0.38	-1.1
	44214	57665555	12/ 7/79	16: 1: 5														
549	44214	57673470	12/ 7/79	16: 1: 10	7	25.4	21.3	15.8	1.9	0.12	-12.2	7	13.1	-170.4	7.6	-3.6	-0.47	-2.8
	44214	63278078	12/ 7/79	17: 34: 34														
550	44214	63278993	12/ 7/79	17: 34: 38	7	34.2	-2.0	15.3	2.8	0.18	-15.6	17	21.5	166.3	5.5	-4.1	-0.75	0.1
	44214	68868241	12/ 7/79	19: 8: 4														
551	44214	68887763	12/ 7/79	19: 8: 7	17	36.2	-25.4	14.5	-2.1	-0.15	-11.8	17	14.0	142.9	5.3	-1.7	-0.32	-5.7
	44214	74336942	12/ 7/79	20: 38: 56														
552	44214	74341370	12/ 7/79	20: 41: 31	13	4.8	-48.8	16.3	4.4	0.26	-21.6	13	2.9	119.5	9.3	-4.4	-0.47	-3.9
	44214	80094979	12/ 7/79	22: 14: 54														
553	44214	80099894	12/ 7/79	22: 14: 59	13	-4.4	-72.2	14.7	0.7	0.05	-21.0	13	-6.5	96.2	7.3	-4.7	-0.64	-3.4
	44214	85703502	12/ 7/79	23: 48: 23														
554	44214	85708417	12/ 7/79	23: 48: 28	13	-0.5	-95.5	16.3	-0.6	-0.03	-21.4	13	-5.0	72.8	10.8	-11.1	-1.02	0.3
	44215	4912025	12/ 8/79	1: 21: 52														
555	44215	4916941	12/ 8/79	1: 21: 56	13	-5.7	-118.9	17.8	-1.2	-0.07	-18.7	13	6.8	49.4	17.2	-9.3	-0.55	-10.5
	44215	10520548	12/ 8/79	2: 55: 20														
556	44215	10525464	12/ 8/79	2: 55: 25	27	0.2	-142.3	18.5	-1.6	-0.08	-15.3	27	47.3	26.1	13.1	-6.1	-0.62	-1.4
	44215	16129072	12/ 8/79	4: 28: 49														
557	44215	16133968	12/ 8/79	4: 28: 53	27	10.1	-165.6	6.5	-2.0	-0.30	-6.9	27	69.2	2.7	7.6	-11.0	-1.46	5.2
	44215	21985217	12/ 8/79	6: 59: 45														
558	44215	21937596	12/ 8/79	6: 2: 17	20	36.0	171.0	9.0	-0.9	-0.09	-9.6	20	67.0	-20.7	11.2	-12.5	-1.12	-3.7
	44215	27341203	12/ 8/79	7: 35: 41														
559	44215	27346119	12/ 8/79	7: 35: 46	20	31.7	147.6	10.4	0.0	0.00	-17.7	20	44.2	-44.0	-11.1	-2.4	0.22	15.7
	44215	32949727	12/ 8/79	9: 9: 9														
560	44215	32954643	12/ 8/79	9: 9: 14	20	15.5	124.3	8.2	2.8	0.34	-12.7	20	11.9	-67.4	-6.1	-3.6	0.10	4.5
	44215	38529231	12/ 8/79	10: 42: 38														
561	44215	38536166	12/ 8/79	10: 42: 43	20	3.1	100.9	6.4	-1.3	-0.21	-7.9	20	5.0	-90.8	8.8	3.4	0.04	-10.5
	44215	44914396	12/ 8/79	12: 13: 34														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	B	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	B	I	I/E	DELTA B
562	44215	44166774	12/ 8/79	12: 16: 6	30	-7.0	77.5	15.6	4.2	0.27	-16.5	30	-4.1	-114.2	12.8	-0.1	-0.01	-16.3
	44215	49770382	12/ 8/79	13: 49: 30														
563	44215	49775298	12/ 8/79	13: 49: 35	30	-28.0	54.2	32.8	15.6	0.48	-49.1	30	-0.5	-137.5	9.3	-1.3	-0.15	-7.8
	44215	55378905	12/ 8/79	15: 22: 58														
564	44215	55383821	12/ 8/79	15: 23: 3	23	-22.5	30.8	30.7	11.3	0.37	-38.3	23	-6	-160.9	11.4	0.7	0.06	-11.4
	44215	60987429	12/ 8/79	16: 56: 27														
565	44215	60992344	12/ 8/79	16: 56: 32	23	11.2	7.4	35.8	11.7	0.33	-42.2	27	[illegible]	175.7	8.9	1.8	0.20	-10.5
	44215	66443674	12/ 8/79	18: 27: 23														
566	44215	66595933	12/ 8/79	18: 29: 55	27	24.5	-15.9	24.4	5.6	0.23	-29.4	27	8.2	152.4	17.0	3.1	0.18	-19.2
	44215	72199560	12/ 8/79	20: 3: 19														
567	44215	72204476	12/ 8/79	20: 3: 24	27	6.9	-39.3	43.1	14.2	0.33	-51.5	23	-11.1	129.0	21.2	5.4	0.25	-25.6
	44215	77806054	12/ 8/79	21: 36: 46														
568	44215	77812999	12/ 8/79	21: 36: 52	23	-9.5	-62.7	34.2	12.3	0.36	-50.6	23	-15.6	105.6	23.2	1.8	0.08	-24.5
	44215	83264229	12/ 8/79	23: 7: 44														
569	44215	83410000	12/ 8/79	23: 10: 16	23	-34.4	-86.0	32.5	10.2	0.31	-48.9	20	-32.5	82.3	25.8	1.9	0.07	-28.1
	44216	2023165	12/ 9/79	0: 33: 43														
570	44216	2028080	12/ 9/79	0: 33: 48	20	-41.7	-109.4	40.6	6.5	0.16	-48.6	20	-30.2	58.9	32.1	5.4	0.17	-37.5
	44216	8079319	12/ 9/79	2: 14: 39														
571	44216	8231089	12/ 9/79	2: 17: 11	20	-30.4	-132.8	33.0	5.2	0.16	-41.5	20	-2.7	35.5	25.9	2.8	0.11	-26.2
	44216	13835936	12/ 9/79	3: 50: 35														
572	44216	13840212	12/ 9/79	3: 50: 40	20	-14.6	-156.1	20.6	2.5	0.12	-21.8	20	34.4	12.2	29.4	-0.5	-0.02	-23.5
	44216	19443820	12/ 9/79	5: 24: 3														
573	44216	19446735	12/ 9/79	5: 24: 6	20	-0.6	-179.5	31.1	3.0	0.10	-35.8	20	37.5	-11.2	29.5	-4.3	-0.15	-25.7
	44216	24899905	12/ 9/79	6: 54: 59														
574	44216	25052383	12/ 9/79	6: 57: 32	20	1.0	157.1	28.2	5.6	0.20	-29.9	20	12.7	34.5	19.4	2.2	0.11	-17.6
	44216	30655941	12/ 9/79	8: 30: 55														
575	44216	30660866	12/ 9/79	8: 31: 0	20	-0.4	133.8	30.7	6.9	0.22	-37.2	23	-1.8	-57.9	12.8	4.5	0.35	-14.7
	44216	36112097	12/ 9/79	10: 1: 52														
576	44216	36264475	12/ 9/79	10: 4: 24	23	-6.4	110.4	23.1	6.1	0.26	-28.9	23	-20.2	-[illegible]	17.0	5.8	0.34	-18.6
	44216	41868083	12/ 9/79	11: 37: 48														
577	44216	41872999	12/ 9/79	11: 37: 52	20	-18.6	87.1	22.4	4.1	0.19		20	-31.3	-[illegible]	21.1	5.4	0.26	-27.1
	44216	47476606	12/ 9/79	13: 11: 16														
578	44216	47481521	12/ 9/79	13: 11: 21	20	-17.4	63.7	35.5	6.9	0.19		20	-13.0	-128.[illegible]	[illegible].0	0.1	0.01	-13.1
	44216	52932752	12/ 9/79	14: 42: 12														
579	44216	53085130	12/ 9/79	14: 44: 45	13	1.1	40.3	20.9	5.6	0.27	-26.2	13	-9.1	-151.[illegible]	7.1	-0.2	-0.03	-3.1
	44216	58668738	12/ 9/79	16: 16: 8														
580	44216	58693653	12/ 9/79	16: 18: 13	13	11.7	17.0	20.6	5.2	0.25	-19.2	13	4.0	-174.7	12.8	1.2	0.09	*******
	44216	64148883	12/ 9/79	17: 49: 4														
581	44216	64257201	12/ 9/79	17: 51: 37	17	25.9	-6.4	20.4	5.1	0.25	-30.9	17	11.7	161.[illegible]	11.0	0.3	0.03	-9.2
	44216	69900809	12/ 9/79	19: 25: 0														
582	44216	69905765	12/ 9/79	19: 25: 5	17	26.2	-29.8	25.9	2.2	0.09	-23.6	17	7.7	138.5	9.9	2.5	0.26	-13.2
	44216	75509392	12/ 9/79	20: 58: 29														
583	44216	75514308	12/ 9/79	20: 58: 34	17	5.5	-53.1	23.1	5.7	0.25	-37.1	17	-5.9	116.2	15.9	-0.5	-0.03	-14.3
	44216	80965537	12/ 9/79	22: 29: 25														
584	44216	81117516	12/ 9/79	22: 31: 57	17	-9.2	-76.5	26.5	4.5	0.17	-38.1	17	-14.7	91.9	15.4	1.3	0.08	-17.9
	44217	172094	12/11/79	0: 2: 52														
585	44217	324473	12/10/79	0: 5: 24	10	-31.9	-99.8	25.3	5.3	0.21	-38.2	10	-12.8	68.4	22.9	-1.9	-0.08	-20.9
	44217	5928081	12/10/79	1: 38: 48														
586	44217	5932947	12/10/79	1: 38: 52	10	-25.5	-123.2	23.6	-0.0	-0.00	-26.4	10	-8.2	45.1	22.2	-0.6	-0.03	-21.5
	44217	11384227	12/10/79	3: 9: 44														
587	44217	11536605	12/10/79	3: 12: 16	13	-16.9	-146.6	21.8	1.1	0.05	-29.7	13	13.7	21.7	20.6	-2.0	-0.10	-14.0
	44217	17140212	12/10/79	4: 45: 40														
588	44217	17145148	12/10/79	4: 45: 45	13	6.4	-169.9	21.4	4.6	0.22	-24.6	13	28.6	-1.6	22.3	-1.3	-0.06	-17.3
	44217	22536358	12/10/79	6: 16: 36														
589	44217	22740736	12/10/79	6: 19: 8	10	14.0	166.7	13.1	4.4	0.33	-17.7	10	29.2	-25.0	17.6	-3.9	-0.22	-12.5
	44217	28452344	12/10/79	7: 54: 32														
590	44217	28457260	12/10/79	7: 54: 37	10	11.1	143.3	18.7	2.7	0.15	-25.3	10	11.4	-48.4	5.4	1.6	0.29	-5.9
	44217	33806403	12/10/79	9: 23: 28														
591	44217	33900807	12/10/79	9: 25: 0	10	5.4	120.0	15.7	6.8	0.43	-22.8	10	1.6	-71.7	6.9	3.7	0.54	-6.2
	44217	39584476	12/10/79	10: 59: 24														
592	44217	39589391	12/10/79	10: 59: 29	10	-1.8	96.6	15.4	-0.2	-0.01	-14.8	13	-15.0	-95.1	11.5	1.2	0.10	-12.8
	44217	45020620	12/10/79	12: 33: 20														
593	44217	45175998	12/10/79	12: 32: 52	13	-4.8	73.3	16.7	2.0	0.12	-19.3	13	-18.7	-118.5	12.7	0.7	0.06	-11.6
	44217	50644263	12/10/79	14: 3: 44														
594	44217	50776607	12/10/79	14: 6: 16	13	-7.2	49.9	23.8	3.1	0.13	-37.2	27	-8.7	-141.8	12.3	-1.[illegible]	-0.09	-11.9
	44217	56380215	12/10/79	15: 39: 40														
595	44217	56385130	12/10/79	15: 39: 45	27	-9.7	46.5	34.0	11.2	0.33	-41.9	27	-4.4	-165.2	16.9	3.5	0.21	-21.8
	44217	61836340	12/10/79	17: 10: 36														
596	44217	61888738	12/10/79	17: 11: 8	27	16.2	3.2	25.6	6.3	0.24	-32.1	17	15.9	171.5	12.5	1.3	0.10	-13.7
	44217	67532347	12/10/79	18: 46: 32														
597	44217	67597202	12/10/79	18: 46: 37	17	24.1	-20.2	31.2	4.2	0.13	-32.1	17	13.6	148.1	9.3	5.9	0.63	-13.8
	44217	73050458	12/10/79	20: 17: 30														
598	44217	73234836	12/10/79	20: 20: 2	17	14.7	-43.5	22.5	2.6	0.12	-32.1	7	-3.8	124.7	14.3	1.0	0.07	-15.3
	44217	78802247	12/10/79	21: 53: 29														
599	44217	78805219	12/10/79	21: 53: 25	7	-23.3	-66.9	21.8	5.0	0.23	-29.3	7	-12.3	101.4	17.3	3.1	0.01	-16.4
	44217	84408843	12/10/79	23: 26: 48														
600	44217	84413739	12/10/79	23: 26: 53	7	-32.3	-90.3	23.6	7.3	0.31	-36.8	23	-17.6	78.3	20.2	-2.[illegible]	-0.14	-15.[illegible]
	44218	346718[illegible]	12/11/79	0: 57: 47														
601	44218	351955[illegible]	12/11/79	1: 0: 19	23	-30.9	-113.[illegible]	32.8	6.5	0.17	-41.9	23	-3.6	54.7	20.3	-1.2	-0.06	-20.4
	44218	922095[illegible]	12/11/79	2: 33: 40														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	ECL	E	I	I/E	DELTA L	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA B
602	44218	92258870	12/11/79	2:33:45	23	-23.5	-137.0	24.3	1.2	0.05	-29.3	13	9.5	31.3	17.3	-1.5	-0.09	-13.5
	44218	146771100	12/11/79	4: 4:37														
603	44218	14829478	12/11/79	4: 7: 9	13	-9.7	-160.3	19.0	4.6	0.23	-29.2	13	17.0	7.9	24.3	-2.3	-0.10	******
	44218	202807??	12/11/79	5:38: 0														
604	44218	20433086	12/11/79	5:40:33	7	4.1	176.4	*****	*****	*****	-29.2	7	25.6	-15.4	26.2	-5.1	-0.20	-22.3
	44218	26033734	12/11/79	7:13:53														
605	44218	26036661	12/11/79	7:13:58	7	10.3	152.9	18.7	5.1	0.27	-29.2	7	38.2	-38.8	9.6	0.0	0.00	-10.7
606	44218	31491857	12/11/79	8:44:51														
	44218	31644235	12/11/79	8:47:24	7	2.5	129.6	18.0	4.9	0.27	-25.3	7	16.2	-62.1	9.4	2.3	0.24	-14.3
607	44218	37095404	12/11/79	10:18:15														
	44218	37247843	12/11/79	10:20:47	7	-5.8	106.2	15.1	4.3	0.29	-19.2	7	-14.7	-85.5	11.0	3.1	0.28	******
608	44218	42891450	12/11/79	11:54:11														
	44218	42856366	12/11/79	11:54:16	7	-8.4	82.3	13.0	1.6	0.12	******	7	-21.4	-108.9	13.5	1.6	0.12	-16.0
609	44218	48307536	12/11/79	13:25: 7														
	44218	48459978	12/11/79	13:27:39	7	-0.2	59.5	22.7	1.4	0.06	-25.4	7	-21.4	-132.2	9.7	-1.3	-0.14	-8.1
610	44218	53911696	12/11/79	14:58:31														
	44218	54064074	12/11/79	15: 1: 4	7	25.0	36.1	16.8	6.4	0.38	-20.2	7	2.9	-155.6	9.1	-2.0	-0.22	-17.0
611	44218	59665220	12/11/79	16:34:25														
	44218	59670139	12/11/79	16:34:30	7	26.1	12.8	26.9	6.7	0.25	-29.9	7	8.8	-178.9	18.3	3.1	0.17	-19.3
612	44218	65267837	12/11/79	18: 7:47														
	44218	65272765	12/11/79	18: 7:52	23	18.8	-10.6	20.5	11.5	0.56	-29.9	23	17.2	157.7	7.4	-3.4	-0.47	-1.6
613	44218	70876368	12/11/79	19:41:16														
	44218	70881288	12/11/79	19:41:21	23	15.6	-33.9	20.4	2.8	0.14	-22.1	23	8.3	134.4	9.0	2.6	0.29	-13.3
614	44218	76332518	12/11/79	21:12:12														
	44218	76484836	12/11/79	21:14:44	13	6.0	-57.3	17.5	2.1	0.12	-30.3	13	-15.9	111.0	13.1	-1.6	-0.09	******
615	44218	81936125	12/11/79	22:45:36														
	44218	82088504	12/11/79	22:48: 8	13	-9.9	-80.6	24.5	2.0	0.08	16.1	13	-17.9	87.6	10.9	-5.2	-0.47	-8.9
616	44219	1291372	12/12/79	0:21:31														
	44219	1296290	12/12/79	0:21:36	7	-9.0	-104.0	*****	*****	*****	-37.6	7	-9.7	64.3	18.4	-3.5	-0.19	-15.7
617	44219	6747519	12/12/79	1:52:27														
	44219	6899898	12/12/79	1:54:59	7	-11.2	-127.3	22.3	1.1	0.05	******	7	6.4	40.9	22.7	-0.5	-0.02	-21.0
618	44219	12351128	12/12/79	3:25:51														
	44219	12503506	12/12/79	3:28:23	7	-11.4	-150.7	24.3	4.6	0.19	-30.6	7	25.1	17.6	25.7	-0.7	-0.03	-20.1
619	44219	17954736	12/12/79	4:59:14														
	44219	18107114	12/12/79	5: 1:47	7	5.7	-174.1	*****	*****	*****	-30.6	3	32.7	-5.8	23.2	-3.1	-0.13	-19.3
620	44219	23709487	12/12/79	6:35: 9														
	44219	23714408	12/12/79	6:35:14	3	12.9	162.6	22.1	3.1	0.14	-19.6	3	19.3	-29.1	16.1	-4.1	-0.25	-12.9
621	44219	29310150	12/12/79	8: 8:30														
	44219	29315067	12/12/79	8: 8:35	3	7.0	139.2	20.9	5.1	0.25	-19.6	10	5.1	-52.5	10.0	2.7	0.27	-13.1
622	44219	34916948	12/12/79	9:41:56														
	44219	34921873	12/12/79	9:42: 1	10	-5.9	115.9	17.4	7.6	0.44	-26.7	10	-2.8	-75.8	9.6	4.5	0.47	-11.9
623	44219	40373136	12/12/79	11:12:53														
	44219	40525478	12/12/79	11:15:25	10	-12.5	92.5	19.3	1.5	0.08	-26.7	10	-27.4	-99.2	15.0	3.8	0.25	-19.7
624	44219	46123919	12/12/79	12:48:43														
	44219	46126840	12/12/79	12:48:48	10	-5.0	69.2	21.6	2.4	0.11	-25.5	10	-25.5	-122.6	11.1	0.2	0.02	-11.7
625	44219	51580071	12/12/79	14:19:40														
	44219	51732449	12/12/79	14:22:12	10	4.9	45.8	16.1	6.3	0.39	-25.5	13	-32.8	-145.9	9.9	-0.8	-0.08	-8.0
626	44219	57295955	12/12/79	15:54:55														
	44219	57362846	12/12/79	15:56: 2	13	4.2	22.5	23.2	3.7	0.16	-25.8	13	-18.5	-169.3	13.2	-0.2	-0.01	-12.1
627	44219	62939936	12/12/79	17:28:59														
	44219	62944826	12/12/79	17:29: 4	13	-1.5	-0.9	23.1	4.9	0.21	-26.2	17	-12.9	167.4	13.1	-0.1	-0.01	-11.8
628	44219	68544243	12/12/79	19: 2:24														
	44219	68549171	12/12/79	19: 2:29	17	-6.3	-24.2	26.3	7.5	0.29	-26.2	17	-7.1	144.0	11.5	3.6	0.31	-14.7
629	44219	74143926	12/12/79	20:35:43														
	44219	74148847	12/12/79	20:35:48	17	-13.0	-47.6	24.2	8.7	0.36	-33.2	17	-1.8	120.7	12.5	-0.5	-0.04	-10.5
630	44219	79749504	12/12/79	22: 9: 9														
	44219	79754421	12/12/79	22: 9:14	17	-12.8	-71.0	19.7	4.8	0.22	******	17	-0.2	97.3	13.8	0.4	0.03	-14.1
631	44219	85205651	12/12/79	23:40: 5														
	44219	85358029	12/12/79	23:42:38	3	-13.3	-94.3	23.1	3.4	0.15	-32.8	3	1.2	74.0	14.8	-5.7	-0.38	-7.6
632	44220	4409259	12/13/79	1:13:29														
	44220	4561636	12/13/79	1:16: 1	3	-10.2	-117.7	21.0	1.1	0.05	-26.8	3	6.6	50.6	15.2	-5.0	-0.33	-11.5
633	44220	10012807	12/13/79	2:46:52														
	44220	10165245	12/13/79	2:49:25	7	-6.4	-141.0	19.4	2.2	0.11	-24.7	7	8.3	27.3	15.8	-2.5	-0.16	-9.9
634	44220	15616474	12/13/79	4:20:16														
	44220	15768853	12/13/79	4:22:48	7	-10.5	-164.4	17.5	4.8	0.28	-26.4	7	11.6	3.9	17.3	-2.8	-0.16	-11.7
635	44220	21220083	12/13/79	5:53:40														
	44220	21372461	12/13/79	5:56:12	13	-14.6	172.3	21.4	3.4	0.16	-25.5	13	9.5	-19.5	21.4	-6.6	-0.31	-25.0
636	44220	26972133	12/13/79	7:29:32														
	44220	26977052	12/13/79	7:29:37	13	-7.5	148.9	15.8	4.4	0.28	-25.7	13	2.4	-42.8	6.2	0.2	0.04	-5.8
637	44220	32428232	12/13/79	9: 0:28														
	44220	32580660	12/13/79	9: 3: 0	7	4.1	129.6	13.6	4.3	0.32	-18.7	7	-5.7	-66.2	5.7	2.0	0.34	-10.0
638	44220	38031830	12/13/79	10:33:51														
	44220	38184268	12/13/79	10:36:24	7	3.7	102.2	17.8	1.2	0.06	-20.5	7	-12.1	-89.3	12.6	3.1	0.24	-15.2
639	44220	43635498	12/13/79	12: 7:15														
	44220	43787870	12/13/79	12: 9:47	13	4.3	78.9	20.4	5.9	0.29	-24.2	13	-19.5	-112.9	10.2	1.7	0.16	-10.7
640	44220	49239106	12/13/79	13:40:39														
	44220	49391884	12/13/79	13:43:11	13	5.9	55.5	24.5	4.1	0.17	-31.3	13	-21.9	-136.2	11.5	-0.2	-0.01	-11.9
641	44220	54842714	12/13/79	15:14: 2														
	44220	54995093	12/13/79	15:16:35	7	17.0	32.2	10.9	4.1	0.38	-13.2	7	-25.4	-159.6	6.2	-2.9	-0.47	-2.8
	44220	60446322	12/13/79	16:47:26														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	ECL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA B
642	44220	60398700	12/13/79	16:49:58	7	10.2	8.8	13.5	3.1	0.23	-13.0	7	-12.2	177.1	6.4	-3.0	-0.47	-2.7
	44220	60499930	12/13/79	16:20:49														
643	44220	66202308	12/13/79	18:23:22	10	6.2	-14.5	15.5	2.7	0.17	-19.3	10	-7.0	153.7	7.6	-1.2	-0.15	-4.1
	44220	71653539	12/13/79	19:54:13														
644	44220	71805916	12/13/79	19:56:45	10	-11.6	-37.9	19.6	3.7	0.19	-24.0	10	0.8	130.4	7.6	0.4	0.05	-15.4
	44220	77401657	12/13/79	21:30: 1														
645	44220	77406575	12/13/79	21:30: 6	10	-16.8	-61.2	20.2	4.9	0.24	-33.3	10	5.4	107.0	13.8	-0.7	-0.05	-12.5
	44220	82857805	12/13/79	23: 0:57														
646	44220	83010183	12/13/79	23: 3:30	10	-19.9	-84.6	19.4	7.3	0.38	-31.2	3	-15.1	83.7	11.0	-0.6	-0.60	-12.5
	44221	2208809	12/14/79	0:36:48														
647	44221	2213791	12/14/79	0:36:53	3	-20.9	-107.9	28.3	3.3	0.12	-38.0	3	-11.6	60.3	20.9	-2.6	-0.13	-19.2
	44221	7811499	12/14/79	2:10:11														
648	44221	7814416	12/14/79	2:10:16	3	-19.5	-131.3	26.7	0.2	0.01	-33.4	17	16.8	37.0	19.0	-3.5	-0.18	-14.3
	44221	13267646	12/14/79	3:41: 7														
649	44221	13420024	12/14/79	3:43:40	17	-3.7	-154.6	14.7	0.9	0.06	-15.3	17	31.5	13.6	16.8	-6.9	-0.41	-4.9
	44221	18871254	12/14/79	5:14:31														
650	44221	19023632	12/14/79	5:17: 3	17	11.1	-178.0	16.8	-0.5	-0.03	-17.6	10	46.8	-9.7	19.2	-7.3	-0.38	-13.6
	44221	24474801	12/14/79	6:47:54														
651	44221	24627240	12/14/79	6:50:27	10	15.2	158.7	17.9	1.1	0.06	-14.6	10	27.8	-33.1	4.8	-3.9	-0.81	-1.5
	44221	30078470	12/14/79	8:21:18														
652	44221	30230848	12/14/79	8:23:50	10	6.9	135.3	19.5	3.4	0.18	-22.8	10	17.2	-56.4	5.6	-1.3	-0.24	-3.2
	44221	35082078	12/14/79	9:54:42														
653	44221	35834456	12/14/79	9:57:14	10	-1.6	112.0	9.3	1.1	0.12	-9.7	10	-12.7	-79.8	8.3	4.0	0.48	-9.9
	44221	41285686	12/14/79	11:28: 5														
654	44221	41438064	12/14/79	11:30:38	10	-11.0	88.6	12.9	1.3	0.10	-15.3	10	-17.1	-103.1	12.4	1.5	0.12	-16.0
	44221	47034030	12/14/79	13: 3:54														
655	44221	47038968	12/14/79	13: 3:58	10	2.4	65.3	15.4	1.2	0.08	-20.4	10	-4.5	-126.5	8.7	-2.5	-0.29	-7.7
	44221	52490138	12/14/79	14:34:50														
656	44221	52642576	12/14/79	14:37:22	13	15.4	41.9	7.3	1.8	0.24	******	13	1.0	-149.8	2.9	-3.2	-1.10	0.6
	44221	58093806	12/14/79	16: 8:13														
657	44221	58246184	12/14/79	16:10:46	13	25.7	18.6	10.1	-0.1	-0.01	-4.3	13	13.7	-173.2	7.2	-2.7	-0.37	-4.2
	44221	63839949	12/14/79	17:43:59														
658	44221	63844876	12/14/79	17:44: 4	17	15.7	-4.8	25.0	9.0	0.36	-35.2	17	11.7	163.5	13.6	3.6	0.27	-14.4
	44221	69296107	12/14/79	19:14:56														
659	44221	69448495	12/14/79	19:17:28	17	12.6	-28.1	22.4	5.9	0.26	-29.4	17	6.3	140.1	11.0	4.4	0.40	-15.7
	44221	74899714	12/14/79	20:48:19														
660	44221	75052093	12/14/79	20:50:52	13	7.2	-51.5	14.3	5.8	0.40	-27.0	13	-6.9	116.8	13.8	-2.9	-0.21	-10.3
	44221	80503323	12/14/79	22:21:43														
661	44221	80655700	12/14/79	22:24:15	13	-5.7	-74.8	15.4	1.7	0.11	-26.6	13	-9.1	93.4	8.4	-0.9	-0.11	-9.3
	44221	86251432	12/14/79	23:57:31														
662	44221	86256359	12/14/79	23:57:36	10	-20.8	-98.1	22.3	3.9	0.17	-36.7	10	-3.7	70.1	16.9	-4.4	-0.26	-12.4
	44222	5307530	12/15/79	1:28:27														
663	44222	5459968	12/15/79	1:30:59	10	-22.0	-121.5	20.7	0.5	0.02	-25.9	10	2.2	46.8	12.9	-1.5	-0.12	-13.5
	44222	11053732	12/15/79	3: 4:13														
664	44222	11058601	12/15/79	3: 4:18	30	-16.9	-144.8	25.4	1.8	0.07	-26.1	30	16.8	23.4	23.1	0.1	0.00	-19.9
	44222	16509890	12/15/79	4:35: 9														
665	44222	16662209	12/15/79	4:37:42	30	-5.0	-168.2	27.7	10.8	0.39	-37.2	30	27.0	0.1	15.3	-1.0	-0.06	-12.0
	44222	22113498	12/15/79	6: 8:33														
666	44222	22265876	12/15/79	6:11: 5	17	8.0	168.5	17.9	6.3	0.35	-22.6	17	30.5	-23.3	26.2	-2.9	-0.11	-21.7
	44222	27717106	12/15/79	7:41:57														
667	44222	27869485	12/15/79	7:44:29	17	-14.0	145.1	38.6	7.2	0.19	-47.7	17	21.0	-46.6	22.6	2.0	0.09	-24.8
	44222	33463249	12/15/79	9:17:43														
668	44222	33468177	12/15/79	9:17:48	27	-27.9	121.8	42.6	10.8	0.25	-50.0	27	-4.2	-70.3	10.9	0.8	0.07	-7.1
	44222	38919407	12/15/79	10:48:39														
669	44222	39071785	12/15/79	10:51:11	27	-33.0	98.4	36.1	5.4	0.15	-39.4	20	-21.6	-93.3	27.2	7.6	0.28	-34.1
	44222	44523014	12/15/79	12:22: 3														
670	44222	44675393	12/15/79	12:24:35	20	-26.0	75.1	32.0	7.6	0.24	******	20	-19.8	-116.7	19.5	3.9	0.20	-32.7
	44222	50269158	12/15/79	13:57:49														
671	44222	50274085	12/15/79	13:57:54	20	-12.9	51.7	*****	*****	*****	-35.0	23	-11.8	-140.0	17.7	3.6	0.04	-18.2
	44222	55725316	12/15/79	15:28:45														
672	44222	55877694	12/15/79	15:31:17	23	-8.3	28.4	24.4	6.4	0.26	-26.5	23	-5.5	-163.4	21.3	1.6	0.07	-24.5
	44222	61328923	12/15/79	17: 2: 8														
673	44222	61481301	12/15/79	17: 4:41	23	6.2	5.1	43.1	16.2	0.38	-52.9	27	15.1	173.3	21.5	3.9	0.04	-22.5
	44222	67075066	12/15/79	18:37:55														
674	44222	67079994	12/15/79	18:37:59	27	-7.7	-18.3	53.5	21.2	0.40	-163.1	***	******	******	**********		******	-22.5
	44222	71095910	12/15/79	19:44:55														
675	44222	76640536	12/15/79	21:17:20	***	******	******	*****	*****	*****	-163.1	17	-22.7	126.6	**********		******	-35.3
	44222	78277378	12/15/79	21:44:37														
676	44222	78282994	12/15/79	21:44:42	17	-31.8	-65.0	30.8	10.2	0.33	-44.7	***	******	******	**********		******	-35.3
	44222	81860736	12/15/79	22:44:20														
677	44222	85795062	12/15/79	23:49:55	***	******	******	*****	*****	*****	-44.7	27	-34.8	79.9	33.0	0.5	0.02	-27.8
	44223	3681635	12/16/79	0:51:21														
678	44223	3086561	12/16/79	0:51:26	27	-45.8	-111.7	44.3	9.0	0.20	-55.9	27	-20.9	56.6	30.8	5.2	0.17	-35.8
	44223	8537791	12/16/79	2:22:17														
679	44223	8690169	12/16/79	2:24:50	27	-32.9	-135.0	33.1	3.7	0.11	-39.7	30	-2.9	33.2	27.4	4.6	0.17	-30.0
	44223	14283934	12/16/79	3:58: 3														
680	44223	14286802	12/16/79	3:58: 8	30	-28.4	-158.3	37.0	8.0	0.21	-45.5	30	20.8	9.9	32.7	1.1	0.03	-27.2
	44223	19740092	12/16/79	5:29: 0														
681	44223	19892470	12/16/79	5:31:32	30	-19.1	178.3	49.3	11.3	0.23	-64.8	23	17.5	-13.4	30.2	-2.0	-0.07	-59.5
	44223	25485994	12/16/79	7: 4:45														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA P	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
682	44223	25470917	12/16/79	7: 4:50	23	-5.5	155.0	34.0	3.5	0.10	-36.3	23	11.6	-36.8	24.4	3.3	0.14	-25.2
	44223	30942146	12/16/79	8:35:42														
683	44223	31396525	12/16/79	8:36:14	17	-19.7	131.6	28.9	3.5	0.12	******	17	-1.1	-60.1	19.8	2.5	0.13	-26.2
684	44223	36668290	12/16/79	10:11:28	17	-30.2	109.3	29.3	6.4	0.22	******	17	-20.2	-85.5	20.6	4.2	0.20	-24.9
	44223	36693217	12/16/79	10:11:53														
	44223	42144448	12/16/79	11:42:24														
685	44223	42296826	12/16/79	11:44:56	20	-20.3	64.9	22.3	5.5	0.25	-27.2	20	-13.4	-106.8	11.7	0.9	0.08	-15.7
	44223	47890590	12/16/79	13:18:10														
686	44223	47895518	12/16/79	13:18:15	20	-16.1	61.6	34.6	5.6	0.16	******	20	-11.5	-139.2	14.7	-1.6	-0.11	-14.9
	44223	53346748	12/16/79	14:49: 6														
687	44223	53499126	12/16/79	14:51:39	20	-14.6	38.3	34.3	12.8	0.37	-44.6	20	-2.0	-153.5	11.0	-0.3	-0.03	-10.2
	44223	59092852	12/16/79	16:24:52														
688	44223	59097818	12/16/79	16:24:57	20	-1.6	14.9	29.0	8.2	0.28	-31.9	20	0.1	-176.6	12.5	2.8	0.22	-13.5
	44223	64549048	12/16/79	17:55:49														
689	44223	64701426	12/16/79	17:58:41	20	20.6	-8.4	27.0	9.8	0.36	-36.0	20	11.9	159.8	10.8	-1.6	-0.14	-6.4
	44223	70295191	12/16/79	19:31:35														
690	44223	70300119	12/16/79	19:31:40	20	26.8	-31.8	28.9	5.8	0.20	-32.2	20	9.1	136.5	9.5	-3.4	-0.36	-12.9
	44223	75751348	12/16/79	21: 2:31														
691	44223	75903727	12/16/79	21: 5: 3	33	3.2	-55.1	18.9	6.6	0.35	******	33	-8.6	113.1	15.6	-4.1	-0.26	-13.4
	44223	81497492	12/16/79	22:38:17														
692	44223	81502420	12/16/79	22:38:22	33	-43.1	-78.4	28.6	8.2	0.29	-46.2	33	-16.8	89.8	11.6	-4.7	-0.40	-8.0
693	44224	5536 49	12/17/79	0: 9:13	37	-52.7	-101.8	41.9	12.8	0.31	-63.7	37	-13.1	66.5	25.0	0.8	0.03	-25.1
	44224	7066027	12/17/79	0:11:46														
694	44224	62997 93	12/17/79	1:44:59	37	-41.3	-125.1	32.2	2.8	0.09	-38.5	37	-6.6	43.1	27.8	1.2	0.04	-27.8
	44224	6304720	12/17/79	1:45: 4														
695	44224	11896484	12/17/79	3:18:18	23	-29.6	-148.5	30.3	5.5	0.18	-32.9	23	14.1	19.8	29.4	-0.3	-0.01	-24.0
	44224	11903413	12/17/79	3:18:23														
696	44224	17354642	12/17/79	4:49:14	23	-11.7	-171.8	36.0	7.0	0.19	-39.6	30	30.9	-3.6	30.3	0.8	0.03	-26.4
	44224	17507021	12/17/79	4:51:47														
697	44224	23100786	12/17/79	6:25: 0	30	-7.6	164.9	44.8	8.2	0.18	-48.7	30	31.6	-26.9	27.3	-1.9	-0.07	-23.3
	44224	23105714	12/17/79	6:25: 5														
698	44224	28556943	12/17/79	7:55:56	30	-22.8	141.5	44.1	7.5	0.17	-51.5	20	4.9	-50.2	12.0	-0.2	-0.02	-12.3
	44224	28709321	12/17/79	7:58:29														
699	44224	34305086	12/17/79	9:31:43	20	-26.0	118.2	31.3	7.1	0.23	-38.8	20	-10.4	-73.6	17.8	5.8	0.32	-24.8
	44224	34380814	12/17/79	9:31:48														
700	44224	39931779	12/17/79	11: 5: 1	20	-16.1	94.8	24.7	2.6	0.10	-26.3	27	-16.6	-96.9	22.7	4.0	0.18	******
	44224	39906707	12/17/79	11: 5: 6														
701	44224	45357936	12/17/79	12:35:57	27	-27.3	71.5	36.5	10.3	0.28	-45.3	27	-17.9	-120.3	15.9	1.3	0.08	-17.9
	44224	45510314	12/17/79	12:38:30														
702	44224	51104479	12/17/79	14:11:44	27	-21.7	48.2	33.6	10.3	0.31	-46.3	30	-14.2	-143.6	16.2	1.7	0.10	-18.1
	44224	51109007	12/17/79	14:11:49														
703	44224	56702772	12/17/79	15:45: 2	30	-5.8	24.8	35.5	11.9	0.33	-45.8	30	-5.4	-166.9	19.2	-3.6	-0.19	-18.0
	44224	56707700	12/17/79	15:45: 7														
704	44224	62158629	12/17/79	17:15:58	30	-9.0	1.5	45.8	18.9	0.41	-58.6	23	-6.2	169.7	27.0	9.8	0.36	-35.9
	44224	62311307	12/17/79	17:18:31														
705	44224	67905072	12/17/79	18:51:45	23	2.2	-21.8	41.3	12.4	0.30	-49.2	23	-5.4	146.4	26.0	4.6	0.33	-35.0
	44224	67910000	12/17/79	18:51:50														
706	44224	73503705	12/17/79	20:25: 3	23	0.1	-45.2	34.1	9.2	0.27	-40.1	27	-15.3	123.0	25.8	0.8	0.03	-26.6
	44224	73508693	12/17/79	20:25: 8														
707	44224	78959922	12/17/79	21:55:59	27	-41.9	-68.5	44.6	17.6	0.40	-71.5	27	-31.4	99.7	23.8	6.1	0.26	-29.6
	44224	79112305	12/17/79	21:58:32														
708	44224	84706066	12/17/79	23:31:46	27	-43.4	-91.9	39.4	10.3	0.26	-59.6	27	-32.5	76.4	29.5	2.6	0.09	-52.9
	44224	84710993	12/17/79	23:31:50														
709	44225	3905993	12/18/79	1: 5: 5	27	-30.3	-115.2	43.8	11.5	0.26	-58.1	27	-13.9	53.0	24.9	1.9	0.08	-29.7
	44225	3910177	12/18/79	1: 5:10														
710	44225	9503942	12/18/79	2:38:23	10	-25.1	-138.5	38.9	4.3	0.11	4.7	10	-0.8	29.7	25.6	4.2	0.16	-27.8
	44225	9508992	12/18/79	2:38:28														
711	44225	14960099	12/18/79	4: 9:20	10	-24.2	-161.9	28.8	4.7	0.16	-33.4	10	21.1	6.4	32.1	2.0	0.06	-29.7
	44225	15112651	12/18/79	4:11:52														
712	44225	20706242	12/18/79	5:45: 6	13	-4.4	174.8	34.2	2.0	0.06	-37.1	13	19.1	-17.0	31.1	-3.5	-0.11	-27.8
	44225	20711293	12/18/79	5:45:11														
713	44225	26304935	12/18/79	7:18:24	13	-9.1	151.5	31.2	3.1	0.26	-38.3	13	0.2	-40.3	17.4	2.8	0.16	-15.4
	44225	26309986	12/18/79	7:18:29														
714	44225	31903627	12/18/79	8:51:43	23	-10.9	128.1	26.4	6.0	0.23	-32.1	23	-9.4	-63.7	16.2	3.8	0.18	-20.9
	44225	31908678	12/18/79	8:51:48														
715	44225	37502320	12/18/79	10:25: 2	23	-20.9	104.8	27.9	4.4	0.16	-32.3	23	-15.9	-87.0	19.3	4.0	0.21	-26.1
	44225	37507370	12/18/79	10:25: 7														
716	44225	42958478	12/18/79	11:55:58	20	-24.9	81.5	21.6	7.0	0.33	******	20	-28.1	-110.3	19.8	5.0	0.25	-25.9
	44225	43110979	12/18/79	11:58:30														
717	44225	48704620	12/18/79	13:31:44	20	-18.7	58.1	36.7	6.8	0.19	-44.7	20	-18.9	-133.7	17.7	1.4	0.08	-20.1
	44225	48709672	12/18/79	13:31:49														
718	44225	54303313	12/18/79	15: 5: 3	17	-11.0	34.9	28.4	5.1	0.18	-32.8	17	-5.9	-157.0	15.6	-0.1	-0.01	-14.2
	44225	54308364	12/18/79	15: 5: 8														
719	44225	59902006	12/18/79	16:38:22	17	8.0	11.5	31.9	8.5	0.27	-36.7	17	0.8	179.7	20.7	2.9	0.14	******
	44225	59907056	12/18/79	16:38:27														
720	44225	65500698	12/18/79	18:11:40	17	19.2	-11.9	25.7	8.6	0.34	-35.7	17	6.3	156.3	17.5	0.3	0.02	-18.4
	44225	65505749	12/18/79	18:11:45														
721	44225	70956856	12/18/79	19:42:36	17	12.5	-35.2	31.2	2.8	0.09	-32.2	17	5.3	133.0	10.5	0.7	0.07	-12.9
	44225	71109357	12/18/79	19:45: 9														
	44225	76702999	12/18/79	21:18:22														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
722	44225	76708051	12/18/79	21:18:28	17	-9.5	-58.6	27.6	8.4	0.31	-45.3	17	-14.1	108.7	19.4	1.3	0.07	-20.6
	44225	82301691	12/18/79	22:51:41														
723	44225	82306743	12/18/79	22:51:46	17	-30.3	-81.9	27.7	6.6	0.24	8.1	17	-23.3	86.3	16.9	3.4	0.20	-21.5
	44226	1499156	12/19/79	0:24:59														
724	44226	1504083	12/19/79	0:25: 4	17	-34.5	-105.2	29.9	4.2	0.14	-39.9	17	-15.6	63.0	22.8	-0.4	-0.02	-22.4
	44226	7097847	12/19/79	1:58:17														
725	44226	7102776	12/19/79	1:58:22	17	-30.5	-128.6	31.7	2.6	0.08	-33.0	20	2.4	39.7	27.9	0.5	0.02	-25.5
	44226	12554005	12/19/79	3:29:14														
726	44226	12706383	12/19/79	3:31:46	20	-26.7	-151.9	32.0	5.4	0.17	-32.9	20	9.9	16.3	29.1	-0.9	-0.03	-20.0
	44226	16300148	12/19/79	4:31: 0														
727	44226	18305076	12/19/79	5: 5: 5	20	-7.8	-175.2	43.6	5.6	0.13	-46.3	17	14.6	-7.0	22.2	5.0	0.22	-26.5
	44226	22532350	12/19/79	6:15:32														
729	44226	22459348	12/19/79	9: 0:59	***	******	******	*****	*****	*****	-46.3	13	-8.0	-53.7	**********		******	-24.0
	44226	35699015	12/19/79	9:44:54														
730	44226	35998943	12/19/79	9:44:58	13	-16.3	114.8	29.9	7.7	0.26	-38.8	13	-12.9	-77.0	17.1	3.5	0.32	-22.2
	44226	40692707	12/19/79	11:18:12														
731	44226	40097034	12/19/79	11:18:17	13	-12.4	91.4	24.4	3.1	0.13	-28.4	10	-17.1	-100.3	18.4	4.8	0.26	-24.9
	44226	46148864	12/19/79	12:49: 8														
732	44226	46301243	12/19/79	12:51:41	10	-15.8	68.1	23.1	4.9	0.17	-34.3	10	-18.5	-123.7	15.8	3.0	0.19	-16.3
	44226	51895007	12/19/79	14:24:55														
733	44226	51899935	12/19/79	14:24:59	10	-18.9	44.8	28.5	5.5	0.19	-35.9	13	-11.1	-147.0	14.7	3.3	0.02	-13.7
	44226	57493700	12/19/79	15:58:13														
734	44226	57498627	12/19/79	15:58:18	13	-1.4	21.4	30.2	7.2	0.24	-33.2	13	-2.0	-170.3	18.3	0.4	0.02	-16.6
	44226	63092392	12/19/79	17:31:32														
735	44226	63097320	12/19/79	17:31:37	13	10.0	-1.9	28.7	8.7	0.30	-34.4	17	5.4	166.3	15.4	1.3	0.07	-15.3
	44226	68691085	12/19/79	19: 4:51														
736	44226	68696012	12/19/79	19: 4:56	17	22.8	-25.2	30.0	2.6	0.09	-28.1	17	6.6	143.0	14.1	1.5	0.11	-17.9
	44226	74289777	12/19/79	20:38: 9														
737	44226	74294705	12/19/79	20:38:14	23	-14.0	-48.5	26.7	3.4	0.13	-30.4	23	-1.4	119.7	14.6	-0.1	-0.01	-14.9
	44226	79888469	12/19/79	22:11:28														
738	44226	79893398	12/19/79	22:11:33	23	-24.0	-71.9	29.3	6.1	0.21	-45.5	23	-17.6	96.3	18.1	5.8	0.32	-24.2
	44226	85467162	12/19/79	23:44:47														
739	44226	85492090	12/19/79	23:44:52	0	-23.7	-95.2	31.4	5.5	0.17	-45.8	0	-20.3	73.0	21.5	1.3	0.06	*******
	44227	4686100	12/20/79	1:18: 6														
740	44227	4691029	12/20/79	1:18:11	0	-18.6	-118.5	30.6	4.5	0.15	-37.7	0	-9.7	49.7	23.4	3.4	0.02	-24.2
	44227	10284793	12/20/79	2:51:24														
741	44227	10289721	12/20/79	2:51:29	13	-17.8	-141.9	27.3	2.9	0.10	-33.3	13	5.8	26.3	24.5	2.1	0.08	-22.3
	44227	15883446	12/20/79	4:24:43														
742	44227	15888 [illegible]	12/20/79	4:24:48	13	-16.0	-165.2	26.4	3.0	0.11	-31.7	13	11.1	3.0	24.1	1.3	0.05	-23.1
	44227	21482 [illegible]	12/20/79	5:58: 2														
743	44227	21487.07	12/20/79	5:58: 7	7	1.7	171.5	26.7	2.5	0.09	-26.6	7	16.1	-20.3	24.4	-4.1	-0.17	-20.8
	44227	27080871	12/20/79	7:31:20														
744	44227	27085799	12/20/79	7:31:25	7	0.4	148.1	27.2	7.5	0.28	-38.2	7	11.7	-43.7	16.9	1.5	0.09	-17.1
	44227	32679563	12/20/79	9: 4:39														
745	44227	32684491	12/20/79	9: 4:44	10	-18.6	124.8	30.5	10.0	0.33	-39.8	10	-11.3	-67.0	17.3	4.1	0.24	-23.7
	44227	38276256	12/20/79	10:37:58														
746	44227	38283134	12/20/79	10:38: 3	10	-39.2	101.5	37.0	7.4	0.20	-42.8	10	-17.7	-90.3	20.1	4.0	0.20	-25.6
	44227	43867949	12/20/79	12:11:16														
747	44227	43881876	12/20/79	12:11:21	20	-40.2	75.1	36.7	12.1	0.33	-41.8	20	-15.8	-113.7	18.5	4.7	0.25	-24.1
	44227	49475641	12/20/79	13:44:35														
748	44227	49480569	12/20/79	13:44:40	20	-22.1	54.8	39.3	11.2	0.28	-51.8	20	-18.2	-137.0	14.1	-0.9	-0.06	-16.1
	44227	55074333	12/20/79	15:17:54														
749	44227	55079262	12/20/79	15:17:59	17	-18.4	31.5	37.7	14.1	0.37	-48.0	17	-10.8	-160.3	18.5	3.3	0.02	-16.4
	44227	60673026	12/20/79	16:51:13														
750	44227	60677954	12/20/79	16:51:17	17	-2.2	8.1	43.3	13.3	0.31	-52.6	***	******	******	**********		******	-18.4
	44227	62737513	12/20/79	17:25:37														
751	44227	70806856	12/20/79	19:41: 8	***	******	******	*****	*****	*****	-52.6	***	******	******	**********		**********	
	44227	71242243	12/20/79	19:47:22														
754	44227	83908350	12/20/79	23:18:28	10	-40.3	-85.2	34.9	11.0	0.32	-50.1	3	-33.8	83.0	27.3	4.4	0.16	-31.0
	44228	420158 [illegible]	12/21/79	0:37:41														
755	44228	4266501	12/21/79	0:37:46	3	-28.3	-108.5	32.7	5.0	0.15	-43.3	3	-27.0	59.7	29.6	4.0	0.14	-33.1
	44228	7800206	12/21/79	2:11: 9														
756	44228	7805194	12/21/79	2:11: 5	3	-28.3	-111.8	30.4	3.5	0.12	-35.0	0	-10.1	36.4	28.8	3.4	0.12	-28.7
	44228	13458959	12/21/79	3:44:18														
757	44228	13463866	12/21/79	3:44:23	0	-14.9	-155.2	22.3	6.3	0.28	-26.7	0	5.2	13.0	30.2	0.6	0.02	-23.1
	44228	19057406	12/21/79	5:17:37														
758	44228	19062334	12/21/79	5:17:42	0	-5.3	-178.5	29.1	4.7	0.16	-36.1	3	22.9	-10.3	26.9	-2.1	-0.07	-27.5
	44228	24656993	12/21/79	6:50:56														
759	44228	24661026	12/21/79	6:51: 1	3	2.2	158.2	26.3	5.5	0.21	-31.3	3	9.3	-33.6	18.3	1.8	0.10	-18.7
	44228	30254791	12/21/79	8:24:14														
760	44228	30259719	12/21/79	8:24:19	3	-0.7	134.9	27.0	6.5	0.24	-36.1	7	-0.5	-56.9	16.4	2.9	0.17	-23.1
	44228	35853483	12/21/79	9:57:33														
761	44228	35856412	12/21/79	9:57:38	7	-18.6	111.5	28.3	5.6	0.20	-35.4	7	-14.7	-80.3	15.7	4.3	0.28	-20.8
	44228	41447261	12/21/79	11:30:47														
762	44228	41452188	12/21/79	11:30:52	7	-27.9	88.2	31.1	5.7	0.18	-36.0	7	-16.3	-103.6	19.0	4.2	0.22	-25.0
	44228	47045953	12/21/79	13: 4: 5														
763	44228	47050861	12/21/79	13: 4:10	7	-28.2	64.9	37.9	6.2	0.16	-44.7	7	-21.2	-126.9	17.3	-0.7	-0.04	-16.0
	44228	52643674	12/21/79	14:37:23														
764	44228	52648591	12/21/79	14:37:28	13	-11.8	41.5	32.1	9.0	0.28	-43.0	13	-13.9	-159.3	14.4	3.7	0.05	-14.3
	44228	58242355	12/21/79	16:10:42														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
765	44228	58247284	12/21/79	16:10:47	13	-3.3	18.2	41.5	9.5	0.23	-43.7	13	-1.8	-173.6	16.5	-3.2	-0.01	-15.2
	44228	63841048	12/21/79	17:44: 1														
766	44228	63845976	12/21/79	17:44: 5	23	1.8	-5.1	38.6	15.3	0.40	-53.0	23	0.2	163.1	17.8	2.5	0.18	-18.7
	44228	69438027	12/21/79	19:17:18														
767	44228	69442947	12/21/79	19:17:22	23	1.6	-28.4	37.9	9.4	0.25	-39.6	23	-4.3	139.8	21.4	4.7	0.22	-27.9
	44228	75036713	12/21/79	20:50:36														
768	44228	75041640	12/21/79	20:50:41	20	-21.4	-51.8	40.5	14.0	0.34	-59.2	20	-22.0	116.4	29.3	2.8	0.10	-30.5
	44228	80635495	12/21/79	22:23:55														
769	44228	80640333	12/21/79	22:24: 0	20	-41.9	-75.1	42.5	12.0	0.28	-63.6	20	-29.6	93.1	26.4	4.4	0.17	-28.7
	44228	86234098	12/21/79	23:57:14														
770	44228	86239025	12/21/79	23:57:19	23	-43.7	-98.4	44.5	9.1	0.20	-62.2	23	-20.7	69.8	23.5	1.1	0.04	-26.4
	44229	5431810	12/22/79	1:30:31														
771	44229	5436735	12/22/79	1:30:36	23	-20.7	-121.7	35.0	4.3	0.12	******	23	-4.9	46.4	21.9	0.2	0.01	-21.7
	44229	11025545	12/22/79	3: 3:45														
772	44229	11030512	12/22/79	3: 3:50	30	-9.9	-145.1	31.4	4.2	0.13	-33.7	30	27.8	23.1	19.6	-2.8	-0.14	-12.6
	44229	16624276	12/22/79	4:37: 4														
773	44229	16629204	12/22/79	4:37: 9	30	-12.0	-168.4	27.7	1.2	0.04	-28.2	30	47.4	-0.2	10.1	-10.4	-1.02	1.3
	44229	22227730	12/22/79	6:10:22														
774	44229	22227652	12/22/79	6:10:27	23	7.1	168.3	20.5	1.8	0.09	-22.5	23	46.9	-23.5	11.9	-9.4	-0.79	-5.6
	44229	27829416	12/22/79	7:43:41														
775	44229	27834344	12/22/79	7:43:46	23	1.2	144.9	21.9	-2.2	-0.10	-23.4	23	40.9	-46.9	4.8	-5.6	-1.18	-1.5
	44229	33420108	12/22/79	9:17: 0														
776	44229	33425037	12/22/79	9:17: 5	40	-10.8	121.6	26.3	5.4	0.20	-30.1	40	10.5	-70.2	-4.1	-1.1	0.26	0.8
	44229	39013866	12/22/79	10:50:13														
777	44229	39018814	12/22/79	10:50:18	40	-33.1	98.3	40.4	9.2	0.23	-45.6	30	-9.0	-93.5	8.4	4.0	0.48	-9.3
	44229	44612579	12/22/79	12:23:32														
778	44229	44617596	12/22/79	12:23:37	30	-22.6	75.0	30.4	8.1	0.27	-36.8	30	-18.1	-116.8	19.1	4.2	0.22	-24.0
	44229	50211271	12/22/79	13:56:51														
779	44229	50216199	12/22/79	13:56:56	30	-14.2	51.6	29.1	7.4	0.25	-40.5	33	-10.0	-140.2	15.8	1.8	0.12	-18.2
	44229	55809963	12/22/79	15:30: 9														
780	44229	55814891	12/22/79	15:30:14	33	-7.3	28.3	31.7	5.3	0.17	-34.1	33	-6.6	-163.5	20.0	-3.6	-0.03	-19.3
	44229	61403741	12/22/79	17: 3:23														
781	44229	61408668	12/22/79	17: 3:28	33	-7.9	5.0	62.5	21.5	0.34	-76.3	37	1.6	173.2	18.4	6.1	0.33	-24.7
	44229	67002433	12/22/79	18:36:42														
782	44229	67007361	12/22/79	18:36:47	37	-25.6	-18.3	53.3	19.5	0.37	-132.1	37	-5.1	149.8	26.8	10.4	0.39	-36.7
	44229	72601126	12/22/79	20:10: 1														
783	44229	72606053	12/22/79	20:10: 6	37	-1.1	-41.7	31.1	6.2	0.20	-37.0	13	-18.7	126.5	24.7	5.3	0.00	-35.8
	44229	78194913	12/22/79	21:43:14														
784	44229	78199831	12/22/79	21:43:19	13	-20.9	-65.0	27.1	6.9	0.25	-38.4	13	-20.8	103.2	22.3	-3.0	-0.13	-16.8
	44229	83793595	12/22/79	23:16:33														
785	44229	83798524	12/22/79	23:16:38	13	-32.1	-88.3	25.7	9.2	0.36	-41.5	7	-23.4	79.9	21.9	-2.3	-0.10	-18.0
	44230	2992288	12/23/79	0:49:52														
786	44230	2997216	12/23/79	0:49:57	7	-37.9	-111.6	31.8	3.8	0.12	-39.8	7	-19.9	56.5	22.9	-0.7	-0.03	-22.3
	44230	6590930	12/23/79	2:23:10														
787	44230	6595908	12/23/79	2:23:15	7	-26.5	-135.0	26.6	0.9	0.03	-29.3	3	6.2	33.2	21.7	-3.9	-0.04	-17.7
	44230	14184758	12/23/79	3:56:24														
788	44230	14189685	12/23/79	3:56:29	3	-6.3	-158.3	23.6	4.1	0.17	-26.0	3	20.9	9.9	24.6	-4.1	-0.17	-15.9
	44230	19784442	12/23/79	5:29:44														
789	44230	19789361	12/23/79	5:29:49	3	5.6	178.4	33.1	4.7	0.14	-38.6	7	14.8	-13.4	25.9	-4.4	-0.17	-22.7
	44230	25378211	12/23/79	7: 2:58														
790	44230	25383139	12/23/79	7: 3: 3	7	2.1	155.1	29.9	7.3	0.24	-35.9	7	-1.1	-36.8	15.2	2.8	0.18	-14.4
	44230	30976933	12/23/79	8:36:16														
791	44230	30981831	12/23/79	8:36:21	7	-1.1	131.7	29.4	6.5	0.22	-35.6	7	-0.4	-60.1	14.9	4.1	0.28	-19.8
	44230	36575596	12/23/79	10: 9:35														
792	44230	36580524	12/23/79	10: 9:40	7	-16.3	108.4	24.0	7.1	0.29	-32.0	7	-19.0	-83.4	14.1	3.7	0.26	-16.3
	44230	42169373	12/23/79	11:42:49														
793	44230	42174301	12/23/79	11:42:54	0	-13.9	85.1	19.5	3.6	0.18	-23.9	0	-23.8	-106.7	15.5	2.6	0.17	-21.2
	44230	47780066	12/23/79	13:16: 8														
794	44230	47772993	12/23/79	13:16:12	0	-9.3	61.8	28.2	2.1	0.08	-33.7	0	-19.9	-153.1	13.2	1.0	-0.07	-14.5
	44230	53366757	12/23/79	14:49:26														
795	44230	53371686	12/23/79	14:49:31	10	8.5	38.4	16.2	4.7	0.29	-33.7	10	-11.4	-153.4	6.5	0.2	0.02	-4.6
	44230	58961523	12/23/79	16:22:41														
796	44230	58966446	12/23/79	16:22:46	10	18.2	15.1	21.9	2.0	0.09	-20.8	10	8.3	-176.7	7.1	0.7	0.10	-6.9
	44230	64560211	12/23/79	17:56: 0														
797	44230	64565139	12/23/79	17:56: 5	10	31.1	-8.2	18.7	1.3	0.07	-24.4	10	19.1	160.0	3.8	-2.3	-0.61	2.3
	44230	70156205	12/23/79	19:29:16														
798	44230	70161127	12/23/79	19:29:21	10	32.4	-31.5	20.0	-1.7	-0.09	-13.5	10	17.6	136.7	-0.5	-3.7	7.08	0.8
	44230	75749977	12/23/79	21: 2:29														
799	44230	75754904	12/23/79	21: 2:34	20	13.0	-54.9	11.8	1.1	0.09	-22.0	20	1.6	113.3	10.0	-5.0	-0.51	-5.8
	44230	81348670	12/23/79	22:35:48														
800	44230	81353597	12/23/79	22:35:53	20	-4.4	-78.2	13.8	-1.2	-0.02	-17.7	20	-10.1	90.0	4.8	-4.8	-1.01	-0.6
	44231	548314	12/24/79	0: 9: 8														
801	44231	553273	12/24/79	0: 9:13	23	-27.2	-101.5	30.3	6.8	0.22	-42.9	23	-16.1	66.7	26.5	-3.1	-0.00	-25.4
	44231	6142122	12/24/79	1:42:22														
802	44231	6147049	12/24/79	1:42:27	23	-17.2	-124.8	24.9	3.8	0.15	******	23	-6.6	43.4	22.8	1.0	0.08	-23.2
	44231	11740815	12/24/79	3:15:40														
803	44231	11745742	12/24/79	3:15:45	17	-8.4	-148.1	22.4	4.3	0.19	-24.6	17	12.9	20.0	20.4	-1.0	-0.05	-15.4
	44231	17338281	12/24/79	4:48:58														
804	44231	17343206	12/24/79	4:49: 3	17	3.8	-171.5	24.6	1.7	0.07	-25.1	17	21.1	-3.3	15.7	-5.1	-0.32	-9.0
	44231	22932056	12/24/79	6:22:12														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
805	44231	22936983	12/24/79	6:22:16	13	8.1	165.2	20.2	3.3	0.17	-23.2	13	39.3	-26.6	10.6	-4.5	-0.43	-6.0
	44231	28530743		7:55:30														
806	44231	28535676	12/24/79	7:55:35	13	8.3	141.9	20.9	1.2	0.06	******	23	18.6	-49.9	12.7	0.7	0.05	-16.7
	44231	34127725	12/24/79	9:28:47														
807	44231	34132548	12/24/79	9:28:52	23	-4.2	118.6	14.1	5.9	0.42	-21.7	23	-0.6	-73.3	10.1	3.2	0.32	-11.5
	44231	39721498	12/24/79	11: 2: 1														
808	44231	39726425	12/24/79	11: 2: 6	23	-21.3	95.2	21.6	3.6	0.17	-25.3	10	-18.9	-96.6	8.8	0.2	0.03	-12.1
	44231	45320190	12/24/79	12:35:20														
809	44231	45325118	12/24/79	12:35:25	10	-20.0	71.9	29.1	8.3	0.28	-37.0	10	-8.0	-119.9	12.5	2.8	0.22	-15.6
	44231	50913907	12/24/79	14: 8:33														
.0	44231	50918895	12/24/79	14: 8:39	10	-9.2	48.6	26.7	12.3	0.46	-43.[illegible]	27	9.9	-143.2	11.8	3.8	0.06	-11.4
	44231	56312659	12/24/79	15:41:52														
811	44231	56317587	12/24/79	15:41:57	27	-6.7	25.3	41.6	14.8	0.35	-[illegible]	27	17.3	-166.5	8.1	-3.4	-0.42	-6.4
	44231	62106437	12/24/79	17:[illegible]:6														
812	44231	62111365	12/24/79	17:15:11	27	6.0	1.9	27.8	3.1	0.11	-29.4	10	15.8	170.1	11.0	3.4	0.31	-13.0
	44231	67705130	12/24/79	18:48:25														
813	44231	67710057	12/24/79	18:48:30	10	25.4	-21.4	26.1	2.2	0.08	-25.9	10	13.4	146.8	10.2	1.7	0.17	-14.0
	44231	73333824	12/24/79	20:21:43														
814	44231	73338750	12/24/79	20:21:48	10	15.0	-44.7	23.5	8.0	0.34	-31.7	13	-4.4	123.5	15.0	-1.4	-0.09	-13.1
	44231	78857589	12/24/79	21:54:57														
815	44231	78902527	12/24/79	21:55: 2	13	-16.6	-68.0	24.0	10.2	0.43	-41.6	13	-15.2	100.2	15.3	0.5	0.03	-16.8
	44231	84496291	12/24/79	23:26:16														
816	44231	84501219	12/24/79	23:28:21	13	-22.4	-91.3	22.9	4.7	0.21	-34.8	0	-16.9	76.8	17.2	-3.2	-0.19	-11.7
	44232	3690069	12/25/79	1: 1:30														
817	44232	3694996	12/25/79	1: 1:34	0	-8.0	-114.7	25.4	0.8	0.03	-29.1	0	-1.7	53.5	18.0	-1.8	-0.10	-17.8
	44232	9288761	12/25/79	2:34:48														
818	44232	9293689	12/25/79	2:34:53	0	2.8	-138.0	21.1	-0.8	-0.04	-22.4	0	5.9	30.2	16.3	-3.8	-0.05	-12.3
	44232	14882539	12/25/79	4: 8: 2														
819	44232	14887466	12/25/79	4: 8: 7	0	16.6	-161.3	13.2	1.7	0.13	-16.5	0	13.2	6.9	21.3	-3.4	-0.16	-14.3
	44232	20481230	12/25/79	5:41:21														
820	44232	20486159	12/25/79	5:41:26	0	23.4	175.4	14.8	0.4	0.02	-16.7	0	25.8	-16.4	18.5	-7.8	-0.42	-12.4
	44232	26075008	12/25/79	7:14:35														
821	44232	26079935	12/25/79	7:14:39	0	20.9	152.1	16.0	5.5	0.34	-23.5	0	31.5	-39.8	7.8	-2.0	-0.25	-7.1
	44232	31673700	12/25/79	8:47:53														
822	44232	31678028	12/25/79	8:47:58	0	-2.4	128.7	11.4	3.6	0.31	-23.5	0	17.4	-63.1	6.8	0.0	0.00	-10.1
	44232	37270187	12/25/79	10:21:15														
823	44232	37275109	12/25/79	10:21:15	0	-11.7	105.4	13.3	2.7	0.20	-18.6	0	-6.0	-86.4	7.0	0.9	0.13	-7.8
	44232	42863973	12/25/79	11:54:23														
824	44232	42868846	12/25/79	11:54:28	13	-3.2	82.1	8.7	-0.4	-0.04	-10.2	13	-0.9	-109.7	3.7	-2.0	-0.53	-3.7
	44232	48462630	12/25/79	13:27:42														
825	44232	48467579	12/25/79	13:27:47	13	11.3	58.8	1.2	-7.6	-6.16	0.4	13	5.6	-133.1	-0.3	-6.2	0.98	11.9
	44232	54356428	12/25/79	15: 0:56														
826	44232	54361355	12/25/79	15: 1: 1	3	30.8	35.4	-1.5	-4.0	3.13	3.0	3	10.2	-156.4	-11.5	-7.1	0.62	19.4
	44232	59650205	12/25/79	16:34:10														
827	44232	59655133	12/25/79	16:34:15	3	40.8	12.1	3.3	-3.1	-0.92	-1.5	3	20.2	-179.7	-6.8	-4.3	0.63	11.4
	44232	65246198	12/25/79	18: 7:26														
828	44232	65251121	12/25/79	18: 7:31	10	47.4	-11.2	9.7	-0.3	-0.03	-14.1	10	23.7	157.0	2.3	-3.3	-1.45	3.6
	44232	70844865	12/25/79	19:40:44														
829	44232	70849814	12/25/79	19:40:49	10	51.8	-34.5	6.7	-2.3	-0.34	-[illegible].3	10	28.9	133.7	-10.2	-7.0	0.69	12.7
	44232	76438603	12/25/79	21:13:58														
830	44232	76443590	12/25/79	21:14:[illegible]3	13	40.3	-57.8	-1.0	-3.7	3.68	-3.9	13	19.3	110.3	0.2	-10.5	-49.13	10.0
	44232	82037355	12/25/79	22:47:17														
831	44232	82042283	12/25/79	22:47:22	13	-14.7	-81.1	13.1	-1.2	-0.09	-18.1	13	4.2	87.0	4.2	-6.1	-1.44	0.4
	44233	1230158	12/26/79	0:20:30														
832	44233	1235077	12/26/79	0:20:35	20	-29.1	-104.5	14.2	-3.3	-0.24	-16.7	20	0.5	63.7	11.0	-7.9	-0.72	-4.4
	44233	6828842	12/26/79	1:53:48														
833	44233	6833770	12/26/79	1:53:53	20	-31.0	-127.8	18.2	-1.7	-0.09	-20.0	13	24.3	40.4	9.6	-5.3	-0.86	0.0
	44233	12426219	12/26/79	3:27: 6														
834	44233	12427547	12/26/79	3:27: 7	13	-15.1	-151.1	1.5	-4.0	-2.75	2.4	13	40.4	17.1	11.0	-3.0	-0.82	******
	44233	18019346	12/26/79	5: 0:19														
835	44233	18024274	12/26/79	5: 0:24	13	5.2	-174.4	3.7	-4.8	-1.31	0.9	10	74.0	-6.3	4.8	-12.6	-2.63	5.3
	44233	23618030	12/26/79	6:33:38														
836	44233	23622966	12/26/79	6:33:42	10	20.9	162.3	-1.6	-2.6	1.61	-1.9	10	79.3	-29.6	-8.3	-3.6	1.15	14.0
	44233	29116816	12/26/79	8: 8:51														
837	44233	29216743	12/26/79	8: 6:56	10	28.0	138.9	7.9	-2.3	-0.30	******	17	38.6	-52.9	-3.0	-2.7	0.91	0.4
	44233	34805593	12/26/79	9:40: 5														
838	44233	34810521	12/26/79	9:40:10	17	13.9	115.6	4.0	1.7	0.42	-9.8	17	9.4	-76.2	-3.6	2.7	-0.75	-0.3
	44233	40404285	12/26/79	11:13:24														
839	44233	40409213	12/26/79	11:13:29	17	0.1	92.3	19.0	1.7	0.09	-22.3	20	-5.1	-99.5	2.3	0.7	0.29	-4.9
	44233	45998063	12/26/79	12:46:38														
840	44233	46002990	12/26/79	12:46:42	20	5.5	69.0	9.5	0.4	0.05	-13.9	20	-13.2	-122.9	-1.8	-2.8	1.57	5.2
	44233	51596755	12/26/79	14:19:56														
841	44233	51601683	12/26/79	14:20: 1	20	18.7	45.7	1.4	-2.1	-1.47	******	33	-10.4	-146.2	-6.4	-3.8	0.90	13.1
	44233	57190533	12/26/79	15:53:10														
842	44233	57195460	12/26/79	15:53:15	33	26.6	22.3	21.3	3.7	0.17	-24.8	33	2.1	-169.5	-0.9	-4.2	4.73	4.1
	44233	62784309	12/26/79	17:26:24														
843	44233	62789238	12/26/79	17:26:29	33	22.4	-1.0	42.1	12.8	0.30	-48.5	37	8.3	167.2	5.9	3.2	0.53	-42.6
	44233	68383002	12/26/79	18:59:43														
844	44233	68387929	12/26/79	18:59:47	37	14.1	-24.3	46.7	14.5	0.31	-53.9	37	4.1	143.9	20.6	2.8	0.13	-22.7
	44233	72924876	12/26/79	20:15:24														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	EVL	E	I	A/E	DELTA B	DESCENDING KP	D ECL	ECL	E	A	I/E	DELTA B
845	44233	78061282	12/26/79	21:41: 1	***	******	******	*****	*****	*****	-53.9	27	-8.5	120.6	**********		******	-22.7
	44233	79574736	12/26/79	22: 6:14														
846	44233	79579663	12/26/79	22: 6:19	27	-25.0	-70.9	*****	*****	*****	******	27	-24.1	97.2	24.5	8.3	0.34	-22.7
	44233	84769878	12/26/79	23:32:49														
847	44233	7954	12/27/79	0: 0: 7	13	-29.3	-94.3	30.2	6.4	0.21	******	13	-28.4	73.9	26.0	-0.0	-0.00	-23.1
	44234	43630311	12/27/79	11:12:43														
848	44234	43079 53	12/27/79	11:12:47	13	-23.1	-117.6	30.0	4.7	0.16	-36.8	13	-11.4	50.6	23.6	0.2	0.01	-34.8
	44234	99597022	12/27/79	27:45:55														
849	44234	99646881	12/27/79	27:46: 4	30	-20.1	-140.9	26.3	3.8	0.33	-28.5	30	5.9	27.3	12.1	-4.4	-0.36	-3.1
	44234	15553530	12/27/79	4:19:13														
850	44234	15558457	12/27/79	4:19:19	30	-17.7	-164.2	12.4	-4.6	-0.37	-12.2	30	26.8	4.0	22.7	0.6	0.03	-19.7
	44234	21152222	12/27/79	5:52:[illegible]														
851	44234	21157150	12/27/79	5:52:27	30	-1.0	172.5	29.6	2.7	0.09	-33.1	30	24.2	-19.4	27.6	-3.9	-0.14	-23.0
	44234	26745999	12/27/79	7:25:45														
852	44234	26750947	12/27/79	7:25:50	30	-4.2	149.2	42.7	11.5	0.27	-56.0	30	19.1	-42.7	9.3	-2.7	-0.29	-5.5
	44234	32343403	12/27/79	8:59: 3														
853	44234	32348391	12/27/79	8:59: 8	30	-14.4	125.8	30.5	8.5	0.27	-37.1	30	-4.7	-66.0	11.8	3.1	0.26	******
	44234	37937243	12/27/79	10:32:17														
854	44234	37942169	12/27/79	10:32:22	30	-13.1	102.5	23.7	2.2	0.09	-28.5	30	-8.2	-89.3	13.1	2.7	0.21	-18.4
	44234	43531019	12/27/79	12: 5:31														
855	44234	43535945	12/27/79	12: 5:35	30	-25.0	79.2	22.6	9.1	0.40	-30.1	30	-23.1	-112.6	10.2	1.2	0.12	-12.8
	44234	49129709	12/27/79	13:38:49														
856	44234	49134638	12/27/79	13:38:54	30	-16.9	55.9	12.2	9.6	0.23	-53.4	30	-24.5	-135.9	15.7	1.6	0.10	-18.2
	44234	54723487	12/27/79	15:12: 3														
857	44234	54728414	12/27/79	15:12: 8	33	-23.1	32.6	49.3	16.6	0.34	-63.2	33	-7.2	-159.3	12.3	1.7	0.14	-13.5
	44234	60517265	12/27/79	16:45:17														
858	44234	60322192	12/27/79	16:45:22	33	2.7	9.2	41.7	9.5	0.23	******	33	-1.1	177.4	18.2	3.3	0.51	-27.6
	44234	65911041	12/27/79	18:18:31														
859	44234	65915969	12/27/79	18:18:35	17	13.1	-14.1	33.3	6.4	0.19	-39.7	17	6.5	154.1	16.9	3.7	0.22	-18.3
	44234	71509734	12/27/79	19:51:49														
860	44234	71514661	12/27/79	19:51:54	17	0.4	-37.4	35.3	6.2	0.18	-36.3	10	-8.2	130.8	19.4	3.3	0.20	-23.4
	44234	77103511	12/27/79	21:25: 3														
861	44234	77108439	12/27/79	21:25: 8	10	-7.1	-60.7	25.3	6.4	0.25	-36.0	10	-15.3	107.5	22.6	1.6	0.07	-22.6
	44234	82697269	12/27/79	22:58:17														
862	44234	82702216	12/27/79	22:58:22	10	-37.5	-84.0	27.5	6.0	0.22	-39.0	10	-23.5	84.2	22.7	0.8	0.03	-24.2
	44235	1892295	12/28/79	0:31:32														
863	44235	1897222	12/28/79	0:31:37	10	-52.2	-107.3	28.8	4.0	0.14	-38.8	10	-20.4	60.6	26.1	1.3	0.05	******
	44235	7490986	12/28/79	2: 4:50														
864	44235	7495914	12/28/79	2: 4:55	10	-56.5	-130.6	31.6	0.8	0.03	-35.1	27	-8.8	37.5	27.9	-0.2	-0.01	-24.7
	44235	13084764	12/28/79	3:38: 4														
865	44235	13089691	12/28/79	3:38: 9	27	-55.4	-154.0	25.8	4.3	0.16	-27.8	27	-3.7	14.2	26.9	-0.8	-0.03	-18.1
	44235	18678540	12/28/79	5:11:18														
866	44235	18683498	12/28/79	5:11:23	27	-37.2	-177.3	35.0	6.9	0.20	-41.8	17	40.1	-9.1	26.4	0.7	0.03	-26.9
	44235	24272318	12/28/79	6:44:32														
867	44235	24277246	12/28/79	6:44:37	17	-0.4	159.4	23.7	3.5	0.15	-28.3	17	48.3	-32.4	19.0	1.7	0.09	-18.6
	44235	29871010	12/28/79	8:17:51														
868	44235	29875953	12/28/79	8:17:55	17	2.1	136.1	22.2	3.4	0.15	-30.7	43	11.8	-55.7	17.1	1.5	0.09	-24.8
	44235	35464788	12/28/79	9:51: 4														
869	44235	35469715	12/28/79	9:51: 9	43	-20.1	112.8	25.5	8.2	0.32	-36.1	43	-33.0	-79.1	16.9	7.2	0.42	-23.9
	44235	41058505	12/28/79	11:24:18														
870	44235	41063493	12/28/79	11:24:23	43	-26.7	89.5	42.0	6.0	0.14	-46.3	40	-34.4	-102.4	4.6	2.2	0.47	-9.1
	44235	46652342	12/28/79	12:57:32														
871	44235	46657269	12/28/79	12:57:37	40	-31.2	66.1	41.7	6.9	0.16	-49.4	40	-27.9	-125.7	18.8	7.0	0.37	-24.9
	44235	52251034	12/28/79	14:30:51														
872	44235	52255902	12/28/79	14:30:55	40	-12.1	42.8	30.3	4.0	0.13	-36.1	33	-21.2	-149.0	15.5	3.3	0.21	-16.9
	44235	57844811	12/28/79	16: 4: 4														
873	44235	57849739	12/28/79	16: 4: 9	33	-10.9	19.5	38.1	11.8	0.31	-43.9	33	-7.0	-172.3	17.7	5.5	0.31	-20.5
	44235	63438589	12/28/79	17:37:18														
874	44235	63443516	12/28/79	17:37:23	17	19.5	-3.8	29.4	6.9	0.24	-36.0	17	-0.6	164.4	16.5	6.3	0.38	-20.4
	44235	69032306	12/28/79	19:10:32														
875	44235	69037293	12/28/79	19:10:37	17	25.6	-27.1	34.3	4.4	0.13	-35.1	***	******	******	**********		******	-20.4
	44235	73053209	12/28/79	20:17:33														
876	44235	76647387	12/28/79	21:17:27	***	******	******	*****	*****	*****	-35.1	40	-3.6	117.7	**********		******	-33.3
	44235	80220912	12/28/79	22:17: 0														
877	44235	80225831	12/28/79	22:17: 5	40	-36.3	-73.6	38.3	15.1	0.39	-60.8	40	-3.2	94.4	5.7	-0.4	-0.08	-6.9
	44235	85819595	12/28/79	23:50:19														
878	44235	85824524	12/28/79	23:50:24	40	-106.0	-97.1	68.4	24.6	0.36	-95.9	40	-31.8	71.1	29.0	5.7	0.20	-31.3
	44236	5010424	12/29/79	1:23:30														
879	44236	5015351	12/29/79	1:23:35	40	-115.7	-120.4	51.0	10.3	0.20	-63.8	40	-23.8	87.6	34.1	4.4	0.13	-39.4
	44236	10609116	12/29/79	2:56:49														
880	44236	10614044	12/29/79	2:56:54	50	-86.5	-143.7	64.0	15.5	0.24	-77.6	50	-3.7	24.5	27.6	0.0	0.22	-27.9
	44236	16202893	12/29/79	4:30: 2														
881	44236	16207621	12/29/79	4:30: 7	50	-70.5	-167.0	55.6	14.5	0.26	-69.7	50	13.1	1.2	35.7	3.9	0.11	-36.3
	44236	21796071	12/29/79	6: 3:16														
882	44236	21801598	12/29/79	6: 3:21	40	-47.2	169.7	67.9	19.8	0.29	-85.8	40	-4.0	-22.2	40.5	3.0	0.08	-39.0
	44236	27390447	12/29/79	7:36:30														
883	44236	27395375	12/29/79	7:36:35	40	-44.1	146.4	59.7	11.0	0.18	-73.3	40	1.2	-45.5	33.2	4.2	0.13	-37.2
	44236	32984224	12/29/79	9: 9:44														
884	44236	32989152	12/29/79	9: 9:49	37	-49.2	123.9	56.7	10.5	0.18	-62.2	37	-17.6	-68.8	19.1	6.3	0.33	-62.7
	44236	38578032	12/29/79	10:42:58														

PASS	MJD	MSEC	DATE	HR: MN: SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
885	44236	38582929	12/29/79	10: 43: 2	37	-38.1	99.7	47.3	5.0	0.11	-49.3	37	-20.9	-92.1	36.1	10.7	0.30	-46.7
	44236	44171779	12/29/79	12: 16: 11														
886	44236	44176706	12/29/79	12: 16: 16	40	-37.7	76.4	37.1	9.4	0.25	-43.3	40	-46.8	-115.4	24.2	5.0	0.21	-30.4
	44236	49770471	12/29/79	13: 49: 30														
887	44236	49775399	12/29/79	13: 49: 35	40	-43.3	53.1	60.6	19.7	0.32	-79.2	40	-54.5	-134.7	22.3	3.8	0.17	-27.8
	44236	55364248	12/29/79	15: 22: 44														
888	44236	55369176	12/29/79	15: 22: 49	37	-41.1	29.8	75.9	25.8	0.34	-94.2	37	-15.3	-162.0	20.7	4.1	0.20	-25.5
	44236	60958025	12/29/79	16: 55: 58														
889	44236	60962953	12/29/79	16: 56: 2	37	-35.4	6.5	80.3	26.3	0.33	-99.1	50	-8.0	174.6	31.1	10.2	0.33	-42.1
	44236	66551802	12/29/79	18: 29: 11														
890	44236	66556730	12/29/79	18: 29: 16	50	-40.5	-16.8	83.3	30.0	0.36	-101.6	50	4.1	151.3	9.6	6.7	0.69	-18.4
	44236	72145530	12/29/79	20: 2: 25														
891	44236	72150507	12/29/79	20: 2: 30	50	-43.7	-40.2	74.4	16.5	0.22	-136.4	43	-11.7	128.9	10.8	7.8	0.72	-23.8
	44236	77739356	12/29/79	21: 35: 39														
892	44236	77744284	12/29/79	21: 35: 44	43	-75.5	-63.5	76.9	26.7	0.35	-137.5	43	-33.7	104.7	22.8	8.3	0.36	-36.1
	44236	83333134	12/29/79	23: 8: 53														
893	44236	83338061	12/29/79	23: 8: 58	***	******	******	*****	*****	*****	-137.5	***	******	******	**********		******	-36.1
	44236	84193338	12/29/79	23: 23: 13														
894	44237	4189082	12/30/79	1: 9: 49	***	******	******	*****	*****	*****	-137.5	47	-52.2	58.1	58.5	10.4	0.18	-66.0
	44237	8124155	12/30/79	2: 15: 24														
895	44237	8129056	12/30/79	2: 15: 29	47	-40.2	-133.4	72.8	18.2	0.25	-91.1	43	-18.6	34.8	38.8	8.1	0.21	-43.3
	44237	13717906	12/30/79	3: 48: 37														
896	44237	13722834	12/30/79	3: 48: 42	43	-14.4	-156.7	66.2	18.3	0.28	-82.1	43	-26.4	11.5	55.1	9.6	0.17	-54.2
	44237	19311683	12/30/79	5: 21: 51														
897	44237	19316610	12/30/79	5: 21: 56	43	-15.9	180.0	74.0	19.9	0.27	-93.0	33	-31.5	-11.9	51.5	7.2	0.14	-56.5
	44237	24905401	12/30/79	6: 55: 5														
898	44237	24910388	12/30/79	6: 55: 10	33	-41.1	156.7	70.7	17.2	0.24	-83.0	33	-34.2	-35.2	46.1	7.8	0.17	-46.7
	44237	30499238	12/30/79	8: 28: 19														
899	44237	30504165	12/30/79	8: 28: 24	33	-49.4	133.3	65.6	13.0	0.20	-76.5	33	-32.3	-58.5	39.0	5.6	0.14	-47.3
	44237	36093014	12/30/79	10: 1: 33														
900	44237	36097942	12/30/79	10: 1: 37	33	-71.4	110.0	74.2	16.4	0.22	-83.9	33	-34.0	-81.8	34.2	14.2	0.42	-49.2
	44237	41686792	12/30/79	11: 34: 46														
901	44237	41691719	12/30/79	11: 34: 51	33	-66.0	86.7	58.4	14.4	0.25	-68.6	27	-14.7	-105.1	9.6	0.7	0.07	-15.2
	44237	47280508	12/30/79	13: 8: 0														
902	44237	47285496	12/30/79	13: 8: 5	27	-49.4	63.4	50.0	13.7	0.27	-62.7	27	-18.7	-128.4	27.9	8.1	0.29	-50.9
	44237	52674346	12/30/79	14: 41: 14														
903	44237	52879273	12/30/79	14: 41: 19	30	-30.3	40.1	50.3	14.5	0.29	-63.6	30	-17.5	-151.7	17.6	1.8	0.10	-18.0
	44237	58468123	12/30/79	16: 14: 28														
904	44237	58473050	12/30/79	16: 14: 33	30	-19.8	16.8	48.7	14.7	0.30	-56.7	30	-3.3	-175.0	32.4	8.8	0.27	-38.0
	44237	64061900	12/30/79	17: 47: 41														
905	44237	64066628	12/30/79	17: 47: 46	33	3.3	-6.5	50.4	19.4	0.39	******	33	-2.0	161.7	30.0	6.0	0.20	-32.3
	44237	69055677	12/30/79	19: 20: 55														
906	44237	69060604	12/30/79	19: 21: 0	33	8.6	-29.8	49.0	4.9	0.10	-45.4	33	-4.6	138.3	18.4	3.2	0.17	-24.2
	44237	75249455	12/30/79	20: 54: 9														
907	44237	75254382	12/30/79	20: 54: 14	27	-7.3	-53.1	34.1	3.5	0.10	-42.1	***	******	******	**********		******	-24.2
	44237	78411779	12/30/79	21: 45: 11														
908	44237	81557950	12/30/79	22: 39: 17	***	******	******	*****	*****	*****	-42.1	***	******	******	-2.5	-0.1	0.06	-33.3
	44237	81867621	12/30/79	22: 44: 27														
909	44237	14901	12/31/79	0: 0: 14	23	-59.6	-99.8	33.7	2.6	0.08	-43.1	23	-24.5	68.4	32.6	-3.1	-0.00	-29.5
	44238	5633254	12/31/79	1: 33: 53														
910	44238	5638171	12/31/79	1: 33: 58	23	-49.7	-123.1	39.5	4.7	0.12	-43.1	23	-17.9	45.1	30.6	1.0	0.03	-31.3
	44238	11227757	12/31/79	3: 7: 7														
911	44238	11232666	12/31/79	3: 7: 12	23	-35.6	-146.4	31.8	2.9	0.09	-35.5	23	17.7	21.8	22.6	-4.2	-0.18	-13.4
	44238	16821535	12/31/79	4: 40: 21														
912	44238	16826462	12/31/79	4: 40: 26	23	-18.9	-169.7	31.4	-2.0	-0.06	-34.4	23	18.2	-1.5	21.3	-3.0	-0.23	-13.4
	44238	22415313	12/31/79	6: 13: 35														
913	44238	22420240	12/31/79	6: 13: 40	13	-13.6	167.0	32.1	7.7	0.24	-42.8	13	14.7	-24.8	31.3	-3.9	-0.13	-25.1
	44238	28009089	12/31/79	7: 46: 49														
914	44236	28014017	12/31/79	7: 46: 54	13	-6.6	143.7	36.0	4.6	0.13	-44.7	13	13.2	-48.1	21.2	-0.8	-0.04	-21.3
	44238	33602866	12/31/79	9: 20: 2														
915	44238	33607794	12/31/79	9: 20: 7	10	-4.0	120.4	22.5	6.8	0.30	-30.8	10	-14.1	-71.5	20.3	5.0	0.25	-26.2
	44238	39196644	12/31/79	10: 53: 16														
916	44238	39201571	12/31/79	10: 53: 21	10	-12.1	97.1	22.1	2.5	0.11	-28.3	13	-31.7	-94.8	20.7	2.8	0.14	-25.0
	44238	44785545	12/31/79	12: 26: 25														
917	44238	44790433	12/31/79	12: 26: 30	13	-18.1	73.7	23.8	7.3	0.30	-33.2	13	-43.4	-118.1	20.0	3.9	0.20	-22.0
	44238	50379282	12/31/79	13: 59: 39														
918	44238	50384210	12/31/79	13: 59: 44	13	-7.2	50.4	23.1	3.5	0.15	-33.8	17	-39.7	-141.4	14.6	-0.4	-0.03	-14.4
	44238	55973000	12/31/79	15: 32: 53														
919	44238	55977987	12/31/79	15: 32: 57	17	3.9	27.1	22.0	4.7	0.21	-26.1	17	-27.1	-164.7	14.9	0.4	0.02	-15.0
	44238	61506836	12/31/79	17: 6: 6														
920	44238	61511784	12/31/79	17: 6: 11	17	20.6	3.6	32.6	9.6	0.29	******	23	-6.7	172.0	19.6	1.3	0.07	-19.5
	44238	67106614	12/31/79	18: 39: 20														
921	44238	67110541	12/31/79	18: 39: 25	23	29.1	-19.5	41.5	11.5	0.27	-49.5	23	-1.1	148.7	20.0	5.1	0.26	-26.0
	44238	72734391	12/31/79	20: 12: 34														
922	44238	72739318	12/31/79	20: 12: 39	23	15.1	-42.8	7	10.7	0.24	-47.4	37	0.1	125.4	25.8	3.5	0.14	-29.0
	44238	78348168	12/31/79	21: 45: 48														
923	44238	78353096	12/31/79	21: 45: 53	37	-64.8	-66.1	35.7	22.2	0.40	-82.1	37	-4.1	102.1	23.6	8.9	0.38	-41.8
	44238	83941945	12/31/79	23: 19: 1														
924	44236	83946872	12/31/79	23: 19: 6	37	-94.6	-89.4	45.8	35.4	0.77	-72.7	23	-4.4	78.8	20.3	2.4	0.12	-23.1
	44239	31330428	1/ 1/80	0: 52: 13														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING NP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING NP	D EQL	EQL	E	I	I/E	DELTA B
925	44239	31379146	1/ 1/80	0:52:17	23	-74.1	-112.7	32.9	18.1	0.43	-50.4	23	-12.2	55.5	25.6	-4.4	-0.17	-25.7
926	44239	87297728	1/ 1/80	2:25:29														
927	44239	87346556	1/ 1/80	2:25:34	23	-70.9	-136.0	39.8	4.8	0.12	2.1	23	-10.9	32.1	30.3	5.1	0.17	-33.0
928	44239	14318590	1/ 1/80	3:56:38														
929	44239	14323517	1/ 1/80	3:58:43	23	-56.6	-159.3	39.4	8.2	0.21	-49.3	23	-26.2	8.8	30.6	2.3	0.08	-27.1
930	44239	19912367	1/ 1/80	5:31:52														
931	44239	19917234	1/ 1/80	5:31:57	23	-49.5	177.3	46.9	8.5	0.18	-57.5	23	-16.3	-14.5	36.0	-5.8	-0.42	-35.4
932	44239	25536144	1/ 1/80	7: 5: 6														
933	44239	25511071	1/ 1/80	7: 5:11	23	-26.0	154.0	51.8	8.6	0.17	-59.7	23	-11.1	-37.8	26.6	-1.8	-0.07	-21.8
934	44239	31099521	1/ 1/80	8:38:19														
935	44239	31104844	1/ 1/80	8:38:24	33	-38.9	139.7	62.6	12.8	0.20	******	33	-21.1	-61.1	28.4	-5.7	0.24	-35.2
936	44239	36694436	1/ 1/80	10:11:34														
937	44239	36699363	1/ 1/80	10:11:39	33	-48.9	107.4	62.6	14.5	0.23	-73.2	33	-26.9	-84.4	24.8	3.5	0.38	-35.9
938	44239	42288212	1/ 1/80	11:44:48														
939	44239	42293140	1/ 1/80	11:44:53	33	-65.1	84.1	67.4	23.2	0.34	-83.6	33	-24.9	-107.7	23.6	6.9	0.29	-33.8
940	44239	47881990	1/ 1/80	13:18: 1														
941	44239	47886917	1/ 1/80	13:18: 6	33	-68.3	60.8	84.1	23.3	0.28	-103.2	33	-33.6	-131.0	23.6	2.8	0.12	-28.1
942	44239	53470852	1/ 1/80	14:51:10														
943	44239	53475779	1/ 1/80	14:51:15	43	-68.9	37.5	84.5	31.8	0.38	-110.8	43	-36.2	-154.3	32.5	5.6	0.17	-35.8
944	44239	59064628	1/ 1/80	16:24:24														
945	44239	59069556	1/ 1/80	16:24:29	43	-62.4	14.2	93.9	31.4	0.33	-115.4	43	-39.8	-177.6	47.4	12.8	0.27	-59.3
946	44239	68658406	1/ 1/80	17:57:38														
947	44239	68663333	1/ 1/80	17:57:43	50	-73.6	-9.1	104.3	41.6	0.40	-136.1	50	-37.2	159.1	48.5	15.3	0.32	-62.6
948	44239	70252183	1/ 1/80	19:30:52														
949	44239	70257110	1/ 1/80	19:30:57	50	-80.7	-32.4	143.7	50.9	0.35	-161.7	50	-25.3	135.8	22.7	28.6	1.17	******
950	44239	75845965	1/ 1/80	21: 4: 5														
951	44239	75850868	1/ 1/80	21: 4:10	50	-116.1	-55.7	134.2	46.1	0.34	-178.0	50	-74.3	112.4	63.0	35.9	0.63	******
952	44239	81439737	1/ 1/80	22:37:19														
953	44239	81444664	1/ 1/80	22:37:24	50	-122.5	-79.0	109.4	26.0	0.24	-136.9	50	-78.9	89.1	68.3	32.4	0.47	-100.5
954	44240	631794	1/ 2/80	0:10:31														
955	44240	636741	1/ 2/80	0:10:36	43	-111.1	-102.3	104.6	26.3	0.25	-129.1	43	-67.2	65.8	79.7	21.3	0.27	******
956	44240	6225571	1/ 2/80	1:43:45														
957	44240	6230496	1/ 2/80	1:43:50	43	-81.1	-125.7	87.2	14.8	0.17	-99.9	43	-57.1	42.5	64.3	13.5	0.21	-72.1
958	44240	11614433	1/ 2/80	3:16:54														
959	44240	11819360	1/ 2/80	3:16:59	30	-65.9	-149.0	71.8	14.2	0.20	-83.5	30	-45.8	19.2	62.4	13.5	0.22	-67.0
960	44240	17408209	1/ 2/80	4:50: 8														
961	44240	17413137	1/ 2/80	4:50:13	30	-47.3	-172.3	69.8	13.0	0.19	-79.1	20	-61.0	-4.1	60.7	11.3	0.19	-67.0
962	44240	23001986	1/ 2/80	6:23:21														
963	44240	23006914	1/ 2/80	6:23:26	20	-38.9	164.4	63.3	14.7	0.23	-76.1	20	-76.5	-27.4	59.5	7.6	0.13	-59.4
964	44240	28595764	1/ 2/80	7:56:35														
965	44240	28600691	1/ 2/80	7:56:40	20	-40.1	141.1	59.1	14.3	0.24	-74.8	23	-56.3	-50.7	46.6	8.5	0.18	-59.1
966	44240	34184626	1/ 2/80	9:29:44														
967	44240	34189553	1/ 2/80	9:29:49	23	-35.3	117.8	53.1	16.7	0.31	-70.9	23	-38.6	-74.0	43.5	14.8	0.34	-57.0
968	44240	39778402	1/ 2/80	11: 2:58														
969	44240	39783330	1/ 2/80	11: 3: 3	23	-49.7	94.5	60.2	14.2	0.24	******	33	-35.8	-97.3	39.8	11.5	0.29	-55.3
970	44240	45372109	1/ 2/80	12:36:12														
971	44240	45377107	1/ 2/80	12:36:17	33	-69.2	71.2	78.6	23.6	0.30	-96.6	33	-35.7	-120.6	39.1	11.2	0.29	-48.4
972	44240	50965957	1/ 2/80	14: 9:25														
973	44240	50970884	1/ 2/80	14: 9:30	33	-39.9	47.9	53.7	12.5	0.23	-69.7	20	-37.2	-143.9	41.2	10.5	0.26	-49.0
974	44240	56554819	1/ 2/80	15:42:34														
975	44240	56559746	1/ 2/80	15:42:39	20	-38.3	24.6	55.3	14.7	0.25	-69.1	20	-35.6	-167.2	40.4	6.4	0.16	-46.0
976	44240	62148596	1/ 2/80	17:15:48														
977	44240	[illegible]3523	1/ 2/80	17:15:53	20	-37.5	1.3	51.6	14.9	0.29	-60.9	10	-33.9	169.5	38.8	7.1	0.18	-42.9
978	44240	[illegible]373	1/ 2/80	18:49: 2														
979	44240	6[illegible]101	1/ 2/80	18:49: 7	10	-30.4	-22.0	50.9	11.3	0.22	-55.6	10	-33.6	146.2	37.0	8.2	0.22	-44.6
980	44240	73533150	1/ 2/80	20:22:16														
981	44240	73341077	1/ 2/80	20:22:21	10	-23.8	-45.3	49.4	8.6	0.17	-54.2	20	-30.0	122.9	39.4	3.1	0.08	-40.7
982	44240	78925013	1/ 2/80	21:55:25														
983	44240	78929939	1/ 2/80	21:55:29	20	-23.0	-68.6	45.5	7.7	0.17	-60.3	20	-29.1	99.6	36.2	4.4	0.12	-38.1
984	44240	84516749	1/ 2/80	23:28:38														
985	44240	84523717	1/ 2/80	23:28:43	20	-26.7	-91.9	48.6	10.4	0.21	-63.1	27	-17.6	76.2	34.4	1.6	0.05	******
986	44241	37096117	1/ 3/80	1: 1:49														
987	44241	37715773	1/ 3/80	1: 1:55	27	-22.4	-115.2	43.0	2.9	0.07	-46.2	27	-16.0	52.9	38.2	3.8	0.02	-35.9
988	44241	9[illegible]4623	1/ 3/80	2:35: 4														
989	44241	9309550	1/ 3/80	2:35: 9	27	-27.8	-136.5	56.3	10.6	0.19	-64.9	43	-7.4	29.6	25.8	2.3	0.09	-23.6
990	44241	14893405	1/ 3/80	4: 8:13														
991	44241	14898412	1/ 3/80	4: 8:18	43	-31.4	-161.8	48.0	11.7	0.24	-59.9	43	23.9	6.3	41.5	7.2	0.17	-41.6
992	44241	20487261	1/ 3/80	5:41:27														
993	44241	20492189	1/ 3/80	5:41:32	17	-6.8	174.8	42.2	3.4	0.08	-48.2	17	26.7	-17.0	47.7	2.2	0.05	-47.1
994	44241	26081039	1/ 3/80	7:14:41														
995	44241	26085956	1/ 3/80	7:14:45	17	-8.5	151.5	38.9	6.3	0.16	-46.8	17	-13.3	-40.3	30.5	2.0	0.07	-31.2
996	44241	31669901	1/ 3/80	8:47:49														
997	44241	31674826	1/ 3/80	8:47:54	33	-12.8	128.2	35.3	6.8	0.20	-42.2	33	-19.3	-63.6	25.4	5.6	0.22	-40.4
998	44241	37263677	1/ 3/80	10:21: 3														
999	44241	37268605	1/ 3/80	10:21: 8	33	-12.4	104.9	35.9	5.8	0.16	-44.5	33	-9.2	-86.9	20.9	7.6	0.36	-29.4
1000	44241	42857577	1/ 3/80	11:54:17														
1001	44241	42862382	1/ 3/80	11:54:22	37	-27.7	81.6	44.8	14.4	0.32	-55.6	37	-11.6	-110.2	15.3	3.2	0.34	-23.3
1002	44241	48446317	1/ 3/80	13:27:26														
1003	44241	48451366	1/ 3/80	13:27:31	37	-19.0	58.3	43.4	8.6	0.20	******	37	-18.9	-133.5	22.6	4.7	0.21	-27.8
	44241	54040033	1/ 3/80	15: 0:40														

PASS	MJD	MSEC		HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
965	44241	5404504[illegible]		15: 0:45	27	-1.5	35.0	35.5	9.4	0.24	-43.4	27	-11.2	-156.8	20.2	3.2	0.01	-18.5
	44241	59633879	1/ 3/80	16:33:53														
966	44241	59638727	1/ 3/80	16:33:58	27	-2.3	11.7	36.4	7.1	0.20	******	27	-9.4	179.9	22.5	1.4	0.06	-24.7
967	44241	65224945	1/ 3/80	18: 7: 4	33	-21.8	-11.6	43.2	13.7	0.32	-54.7	33	-8.3	156.6	26.7	-2.2	-0.08	-21.2
	44241	65229871	1/ 3/80	18: 7: 9														
968	44241	70813805	1/ 3/80	19:40:13	33	-13.6	-34.9	45.8	5.4	0.12	-44.0	33	-12.2	133.3	21.0	5.1	0.15	-26.5
	44241	70818733	1/ 3/80	19:40:18														
969	44241	76407563	1/ 3/80	21:13:27	37	-31.7	-58.2	60.7	21.1	0.35	-84.6	37	-8.7	110.0	13.3	2.4	0.17	-21.6
	44241	76412510	1/ 3/80	21:13:32														
970	44241	81996445	1/ 3/80	22:46:36	37	-29.2	-81.5	48.6	12.5	0.26	-63.0	37	-21.4	86.7	26.0	6.6	0.26	-32.9
	44241	82001372	1/ 3/80	22:46:41														
971	44242	1169733	1/ 4/80	0:19:49	30	-28.7	-104.8	44.8	5.2	0.12	******	30	-15.2	63.4	36.7	5.4	0.15	-41.4
	44242	1194657	1/ 4/80	0:19:54														
972	44242	6783507	1/ 4/80	1:53: 3	30	-20.3	-128.1	41.4	2.8	0.07	-44.4	33	2.0	40.1	39.6	1.5	0.04	-35.6
	44242	6788434	1/ 4/80	1:53: 8														
973	44242	12372389	1/ 4/80	3:26:12	33	-16.9	-151.4	33.7	3.3	0.10	-33.4	33	6.2	16.8	39.8	-0.2	-0.01	-27.6
	44242	12377296	1/ 4/80	3:26:17														
974	44242	17966146	1/ 4/80	4:59:26	33	-10.7	-174.7	43.1	6.3	0.15	-47.8	30	15.2	-6.5	33.3	-5.0	-0.15	-25.8
	44242	17971073	1/ 4/80	4:59:31														
975	44242	23559035	1/ 4/80	6:32:39	30	-6.2	162.0	39.1	7.9	0.20	-45.9	30	18.7	-29.8	25.7	3.9	0.04	-25.4
	44242	23559935	1/ 4/80	6:32:39														
976	44242	29146784	1/ 4/80	8: 5:48	30	-4.5	138.7	35.7	5.3	0.15	-43.2	30	-8.7	-53.1	24.7	2.9	0.12	-32.4
	44242	29153712	1/ 4/80	8: 5:53														
977	44242	34737647	1/ 4/80	9:38:57	30	-12.0	115.4	34.3	9.8	0.29	-45.1	30	-13.8	-76.4	25.1	9.0	0.36	-35.2
	44242	34742573	1/ 4/80	9:39: 2														
978	44242	40331423	1/ 4/80	11:12:11	30	-10.1	92.1	35.9	4.7	0.13	-40.9	23	6.6	-99.7	23.1	4.8	0.21	-29.6
	44242	40336351	1/ 4/80	11:12:16														
979	44242	45925200	1/ 4/80	12:45:25	23	-10.7	68.8	31.7	4.8	0.15	-36.0	23	6.1	-123.0	18.6	2.8	0.15	-20.4
	44242	45930120	1/ 4/80	12:45:30														
980	44242	51514062	1/ 4/80	14:18:34	23	-18.4	45.5	46.0	11.2	0.24	-57.3	40	-10.4	-146.3	25.4	6.6	0.26	-30.7
	44242	51518989	1/ 4/80	14:18:38														
981	44242	57107839	1/ 4/80	15:51:47	40	-15.4	22.2	45.0	8.8	0.20	-49.5	40	-8.0	-169.6	17.3	-3.0	-0.17	-15.0
	44242	57112706	1/ 4/80	15:51:52														
982	44242	62696701	1/ 4/80	17:24:56	40	-21.6	-1.1	52.9	16.8	0.32	-63.8	33	-12.4	167.1	21.9	10.5	0.48	-31.5
	44242	62701628	1/ 4/80	17:25: 1														
983	44242	68290478	1/ 4/80	18:58:10	33	-18.3	-24.4	54.3	13.0	0.24	-60.6	33	-15.6	143.8	18.8	6.8	0.36	-28.2
	44242	68295405	1/ 4/80	18:58:15														
984	44242	73879340	1/ 4/80	20:31:19	33	-23.5	-47.7	44.2	10.6	0.24	-50.5	30	-21.0	120.5	30.1	5.3	0.18	-35.3
	44242	73884267	1/ 4/80	20:31:24														
985	44242	79468202	1/ 4/80	22: 4:26	30	-20.2	-71.0	43.0	10.8	0.25	0.5	30	-19.3	97.2	26.6	6.9	0.22	-32.2
	44242	79473129	1/ 4/80	22: 4:33														
986	44242	85061978	1/ 4/80	23:37:41	27	-28.5	-94.3	38.1	8.1	0.21	******	27	-14.5	73.9	29.9	6.8	0.03	-25.6
	44242	85066936	1/ 4/80	23:37:46														
987	44243	4253740	1/ 5/80	1:10:53	27	-10.5	-117.6	*****	*****	*****	******	27	-7.6	50.6	31.2	3.9	0.03	-32.4
	44243	4258717	1/ 5/80	1:10:58														
988	44243	9843861	1/ 5/80	2:44: 3	20	-14.9	-140.9	42.6	2.9	0.07	-43.8	20	1.2	27.3	28.1	3.1	0.11	-24.4
	44243	9848807	1/ 5/80	2:44: 8														
989	44243	15432742	1/ 5/80	4:17:12	20	-11.5	-164.2	36.8	4.6	0.13	-40.6	20	9.1	4.0	34.5	2.1	0.06	-31.0
	44243	15437669	1/ 5/80	4:17:17														
990	44243	21026519	1/ 5/80	5:50:26	20	-9.2	172.5	34.5	5.1	0.15	-41.0	20	4.1	-19.3	37.5	-4.0	-0.11	-31.2
	44243	21031446	1/ 5/80	5:50:31														
991	44243	26615381	1/ 5/80	7:23:35	20	-6.5	149.2	31.9	7.3	0.23	-44.4	20	-7.8	-42.6	19.4	1.8	0.09	-19.1
	44243	26620398	1/ 5/80	7:23:40														
992	44243	32209157	1/ 5/80	8:56:49	27	-3.9	125.9	29.9	7.3	0.24	-37.9	27	-8.8	-65.9	21.4	5.9	0.27	-30.0
	44243	32214085	1/ 5/80	8:56:54														
993	44243	37738023	1/ 5/80	10:29:58	27	-1.8	102.6	32.5	5.5	0.17	-38.6	27	2.2	-89.2	25.3	5.6	0.22	-30.4
	44243	37802946	1/ 5/80	10:30: 2														
994	44243	43391706	1/ 5/80	12: 3:11	30	-19.5	73.3	40.0	11.0	0.28	-48.2	30	-4.9	-112.5	30.6	7.5	0.25	-37.1
	44243	43396724	1/ 5/80	12: 3:16														
995	44243	48980658	1/ 5/80	13:36:20	30	-31.4	56.0	49.7	14.1	0.28	-64.7	30	2.0	-135.8	17.1	1.2	0.07	-18.1
	44243	48985586	1/ 5/80	13:36:25														
996	44243	54569520	1/ 5/80	15: 9:29	27	-16.0	32.7	38.9	8.8	0.23	-46.0	27	-2.8	-159.1	19.5	2.2	0.11	-19.9
	44243	54574447	1/ 5/80	15: 9:34														
997	44243	60163297	1/ 5/80	16:42:43	27	-12.1	9.4	40.8	9.6	0.24	-44.9	27	-3.9	177.6	19.7	4.1	0.21	-23.9
	44243	60168224	1/ 5/80	16:42:48														
998	44243	65752158	1/ 5/80	18:15:52	30	-10.0	-13.9	43.2	7.0	0.16	-48.2	30	-13.0	154.3	24.4	3.5	0.15	-24.4
	44243	65757086	1/ 5/80	18:15:57														
999	44243	71341020	1/ 5/80	19:49: 1	30	-5.3	-37.2	44.4	5.1	0.12	-45.3	30	-9.9	131.0	18.5	2.5	0.13	******
	44243	71345947	1/ 5/80	19:49: 5														
1000	44243	76934797	1/ 5/80	21:22:14	30	-4.2	-60.5	37.3	9.4	0.25	-51.8	30	-15.3	107.7	24.6	2.5	0.10	-26.4
	44243	76939725	1/ 5/80	21:22:19														
1001	44243	82526611	1/ 5/80	22:55:26	30	-10.6	-83.8	38.2	9.8	0.26	-52.4	27	-14.2	84.4	21.8	1.0	0.04	-22.6
	44243	82531536	1/ 5/80	22:55:31														
1002	44244	1715470	1/ 6/80	0:28:35	27	-7.5	-107.1	47.0	8.9	0.19	-54.6	27	-11.4	61.1	30.6	2.5	0.08	-32.6
	44244	1720397	1/ 6/80	0:28:40														
1003	44244	7304335	1/ 6/80	2: 1:44	27	-8.9	-130.4	42.8	6.0	0.14	-9.2	33	0.5	37.8	32.7	0.3	0.01	-28.5
	44244	7309259	1/ 6/80	2: 1:49														
1004	44244	12897667	1/ 6/80	3:34:57	33	-17.5	-153.7	42.0	11.2	0.27	-47.9	33	5.6	14.5	35.9	1.6	0.05	-27.1
	44244	12902790	1/ 6/80	3:35: 2														
	44244	16486725	1/ 6/80	5: 3: 6														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	ECL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA B
1005	44244	18491651	1/ 6/80	5: 8:11	33	-5.6	-177.0	36.0	4.4	0.12	-42.1	20	17.7	-8.8	34.5	1.6	0.05	-35.4
	44244	24075587	1/ 6/80	6:41:15														
1006	44244	24080513	1/ 6/80	6:41:20	20	-5.9	159.7	33.3	6.6	0.20	-37.7	20	7.9	-32.1	23.6	3.2	0.14	-23.3
	44244	29669303	1/ 6/80	8:14:29														
1007	44244	29674291	1/ 6/80	8:14:34	20	-11.0	136.4	36.7	5.7	0.16	-44.4	13	-8.9	-55.4	21.3	3.9	0.19	-26.8
	44244	35258225	1/ 6/80	9:47:38														
1008	44244	35263152	1/ 6/80	9:47:43	13	-11.2	113.1	29.4	6.0	0.20	-38.5	13	-10.2	-78.7	21.9	3.1	0.37	-25.2
	44244	40847087	1/ 6/80	11:20:47														
1009	44244	40852014	1/ 6/80	11:20:52	13	-6.6	89.8	30.5	3.8	0.12	-36.9	20	2.2	-102.0	24.5	5.3	0.22	-30.1
	44244	46435949	1/ 6/80	12:53:55														
1010	44244	46440676	1/ 6/80	12:54: 0	20	-10.2	66.5	34.5	5.7	0.17	-42.3	20	-6.8	-125.3	21.1	3.2	0.15	-23.0
	44244	52029725	1/ 6/80	14:27: 9														
1011	44244	52034633	1/ 6/80	14:27:14	20	-10.0	43.2	34.6	10.2	0.29	-45.7	20	-5.0	-148.0	15.0	3.0	0.23	-15.6
	44244	57618587	1/ 6/80	16: 0:18														
1012	44244	57623514	1/ 6/80	16: 0:23	20	-5.1	13.9	35.5	6.9	0.20	-36.4	20	-4.3	-171.9	20.7	3.0	0.17	-21.7
	44244	63207448	1/ 6/80	17:33:27														
1013	44244	63212376	1/ 6/80	17:33:32	20	-4.3	-3.4	37.1	9.2	0.25	-44.1	13	-3.1	164.9	18.5	4.0	0.25	-37.0
	44244	68796310	1/ 6/80	19: 0:36														
1014	44244	68801237	1/ 6/80	19: 6:41	13	-11.4	-20.6	41.2	6.8	0.17	-40.5	13	-4.9	141.6	13.1	2.9	0.16	-22.5
	44244	74390087	1/ 6/80	20:39:50														
1015	44244	74395014	1/ 6/80	20:39:55	13	-6.2	-43.9	37.9	8.8	0.23	-46.1	13	-7.8	118.3	23.2	5.5	0.02	-23.1
	44244	79978930	1/ 6/80	22:12:58														
1016	44244	79983876	1/ 6/80	22:13: 3	13	-7.9	-73.2	34.6	5.8	0.17	5.5	13	-14.0	95.0	20.6	2.8	0.13	-22.0
	44244	85507811	1/ 6/80	23:46: 7														
1017	44244	85572738	1/ 6/80	23:46:12	3	-3.5	-96.5	37.4	5.6	0.15	******	3	-10.0	71.7	28.2	-0.9	-0.03	-23.4
	44245	47586e43	1/ 7/80	1:19:18														
1018	44245	47635e66	1/ 7/80	1:19:23	3	-7.8	-119.8	33.8	3.2	0.09	-37.3	3	-4.6	48.4	27.6	-0.9	-0.03	-25.8
	44245	10347300	1/ 7/80	2:52:27														
1019	44245	10352428	1/ 7/80	2:52:32	0	-5.8	-143.1	32.7	1.9	0.06	-34.8	0	1.2	25.1	23.8	1.6	0.08	-18.1
	44245	15936362	1/ 7/80	4:25:36														
1020	44245	15941269	1/ 7/80	4:25:41	0	-9.7	-166.4	29.5	3.7	0.12	-34.8	0	1.4	1.8	26.4	1.0	0.04	-22.0
	44245	21529649	1/ 7/80	5:58:49														
1021	44245	21534575	1/ 7/80	5:58:54	7	-9.9	170.3	29.0	5.1	0.18	-37.3	7	15.9	-21.5	29.7	-4.2	-0.14	-22.0
	44245	27118509	1/ 7/80	7:31:58														
1022	44245	27123437	1/ 7/80	7:32: 3	7	0.4	147.0	27.2	4.9	0.18	-37.3	7	12.4	-44.8	16.7	2.1	0.12	-16.9
	44245	32707371	1/ 7/80	9: 5: 7														
1023	44245	32712298	1/ 7/80	9: 5:12	10	-0.5	123.7	24.5	7.1	0.29	-32.7	10	-3.4	-68.1	15.2	5.7	0.37	-32.2
	44245	38296233	1/ 7/80	10:38:16														
1024	44245	38301159	1/ 7/80	10:38:21	10	0.1	100.4	24.4	3.1	0.13	-29.3	10	-4.4	-91.4	20.9	3.6	0.17	-24.9
	44245	43885035	1/ 7/80	12:11:25														
1025	44245	43890021	1/ 7/80	12:11:30	10	-0.7	77.1	27.0	7.3	0.27	-33.4	10	-7.4	-114.7	18.4	3.7	0.20	-20.6
	44245	49473956	1/ 7/80	13:44:33														
1026	44245	49478883	1/ 7/80	13:44:38	10	4.7	53.8	27.2	5.1	0.19	-35.7	10	-4.8	-138.0	14.5	0.9	0.06	-14.5
	44245	55067733	1/ 7/80	15:17:47														
1027	44245	55072600	1/ 7/80	15:17:52	13	9.2	30.5	24.5	4.3	0.18	-28.2	13	6.6	-161.3	8.5	-1.5	-0.17	-5.1
	44245	60656595	1/ 7/80	16:50:56														
1028	44245	60661522	1/ 7/80	16:51: 1	13	8.8	7.2	25.3	1.4	0.06	-25.6	23	9.2	175.4	14.1	1.6	0.11	-14.1
	44245	66245456	1/ 7/80	18:24: 5														
1029	44245	66250384	1/ 7/80	18:24:10	23	5.4	-16.1	27.7	4.2	0.15	-30.5	23	4.8	152.1	12.0	-0.4	-0.03	-9.1
	44245	71834318	1/ 7/80	19:57:14														
1030	44245	71839249	1/ 7/80	19:57:19	23	5.9	-39.4	33.0	3.4	0.10	-33.4	27	8.7	128.9	6.5	-3.5	-0.53	-4.3
	44245	77423180	1/ 7/80	21:30:23														
1031	44245	77426107	1/ 7/80	21:30:28	27	11.3	-62.6	24.3	5.0	0.21	-31.1	27	0.7	105.6	19.1	-2.9	-0.15	-16.7
	44245	83012287	1/ 7/80	23: 3:32														
1032	44245	83017215	1/ 7/80	23: 3:37	***	******	******	*****	*****	*****	-31.1	***	******	******	**********	******	-16.7	
	44245	84019955	1/ 7/80	23:20:19														
1033	44246	2158888	1/ 8/80	0:35:58	27	-29.0	-109.2	41.8	9.3	0.22	-49.9	27	1.4	59.0	24.5	1.0	0.04	-27.0
	44246	7791986	1/ 8/80	2: 9:51														
1034	44246	7796904	1/ 8/80	2: 9:56	27	-20.9	-132.5	38.4	4.4	0.11	-42.7	23	1.0	35.7	31.5	1.6	0.05	-30.5
	44246	13360839	1/ 8/80	3:43: 0														
1035	44246	13385766	1/ 8/80	3:43: 5	23	-13.6	-155.8	29.8	5.4	0.18	-33.0	23	1.7	12.4	31.4	-4.1	-0.13	-19.8
	44246	18969701	1/ 8/80	5:16: 9														
1036	44246	18974627	1/ 8/80	5:16:14	23	-14.2	-179.1	36.8	10.6	0.29	-48.1	20	10.6	-10.9	28.1	-4.4	-0.16	-27.8
	44246	24556502	1/ 8/80	6:49:18														
1037	44246	24563489	1/ 8/80	6:49:23	20	-11.4	157.6	32.6	8.8	0.27	-48.1	20	7.9	-34.2	23.2	1.0	0.04	-17.7
	44246	30149399	1/ 8/80	8:22:29														
1038	44246	30154317	1/ 8/80	8:22:34	20	-13.6	134.3	35.5	6.0	0.17	-43.2	23	-4.2	-57.5	22.5	1.5	0.07	-24.5
	44246	35738252	1/ 8/80	9:55:38														
1039	44246	35743178	1/ 8/80	9:55:43	23	-13.4	111.0	27.8	5.9	0.21	-35.0	23	1.4	-80.8	24.5	5.9	0.24	-28.1
	44246	41327113	1/ 8/80	11:28:47														
1040	44246	41332040	1/ 8/80	11:28:52	23	-8.2	87.7	23.8	4.0	0.17	-30.9	7	8.5	-104.1	21.9	4.0	0.18	-26.8
	44246	46915975	1/ 8/80	13: 1:55														
1041	44246	46920902	1/ 8/80	13: 2: 0	7	0.0	64.4	26.8	5.4	0.20	-35.1	7	-0.3	-127.3	18.9	1.5	0.08	-19.1
	44246	52534837	1/ 8/80	14:35: 4														
1042	44246	52539764	1/ 8/80	14:35: 9	7	1.3	41.1	22.5	6.1	0.27	-29.9	3	-0.4	-150.6	11.3	2.6	0.23	-11.2
	44246	58093699	1/ 8/80	16: 8:13														
1043	44246	58098625	1/ 8/80	16: 8:18	3	7.9	17.9	26.2	6.4	0.25	-28.8	3	3.1	-173.9	16.9	2.0	0.12	-16.1
	44246	63682500	1/ 8/80	17:41:22														
1044	44246	63687487	1/ 8/80	17:41:27	10	6.3	-5.4	29.0	5.8	0.20	-34.4	10	1.1	162.8	13.0	1.8	0.13	-11.5
	44246	69271422	1/ 8/80	19:14:31														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D	ECL	E	I	I/E	DELTA B	DESCENDING KP	D	ECL	E	I	I/E	DELTA B
1045	44246	69276348	1/ 8/80	19:14:36	10		8.2	-23.7	33.0	3.9	0.12	******	10		2.7	139.5	11.8	0.7	0.06	-13.4
	44246	74880264	1/ 8/80	20:47:40																
1046	44246	74865210	1/ 8/80	20:47:45	7		2.9	-52.0	28.5	5.4	0.19	-35.4	7		4.2	116.2	17.0	-2.9	-0.17	-12.8
	44246	80449145	1/ 8/80	22:20:49																
1047	44246	80454972	1/ 8/80	22:20:54	7		0.5	-75.3	25.0	1.9	0.08	6.6	7		4.9	92.9	11.6	-1.8	-0.16	-9.2
	44246	86035965	1/ 8/80	23:53:55																
1048	44246	86039984	1/ 8/80	23:53:59	13		-2.8	-98.6	28.5	3.1	0.11	-34.9	13		5.3	69.6	19.9	-3.0	-0.25	-12.4
	44247	5224164	1/ 9/80	1:27: 4																
1049	44247	5229092	1/ 9/80	1:27: 9	13		-5.9	-121.9	25.0	0.5	0.02	-25.9	13		4.5	46.3	20.0	-0.4	-0.02	-19.8
	44247	10813028	1/ 9/80	3: 0:13																
1050	44247	10817953	1/ 9/80	3: 0:17	10		-6.6	-145.2	27.9	1.6	0.06	-30.9	10		4.1	23.0	20.3	-0.2	-0.01	-13.4
	44247	16401883	1/ 9/80	4:33:21																
1051	44247	16406815	1/ 9/80	4:33:26	10		-3.0	-108.5	28.0	5.2	0.19	-34.1	10		0.5	-0.2	20.2	0.0	0.00	-16.5
	44247	21990740	1/ 9/80	6: 0:30																
1052	44247	21995677	1/ 9/80	6: 0:35	7		-7.9	168.2	*****	*****	*****	-35.7	7		2.7	-23.5	20.4	-3.4	-0.13	-15.7
	44247	27579611	1/ 9/80	7:39:39																
1053	44247	27584548	1/ 9/80	7:39:44	7		-1.0	145.0	30.7	3.3	0.11	-39.4	7		5.9	-46.8	19.1	1.7	0.09	-20.9
	44247	33168473	1/ 9/80	9:12:48																
1054	44247	33173400	1/ 9/80	9:12:53	7		0.9	121.7	23.7	6.6	0.28	-32.6	7		1.6	-70.1	15.9	4.3	0.27	-30.8
	44247	38757344	1/ 9/80	10:45:57																
1055	44247	38762262	1/ 9/80	10:46: 2	7		1.4	98.4	24.5	2.9	0.12	-30.7	7		2.6	-93.4	23.0	3.1	0.14	-28.1
	44247	44346196	1/ 9/80	12:19: 6																
1056	44247	44351123	1/ 9/80	12:19:11	7		-0.3	75.1	26.7	6.8	0.25	-33.7	7		5.9	-116.7	20.3	3.5	0.18	-22.7
	44247	49935058	1/ 9/80	13:52:15																
1057	44247	49939965	1/ 9/80	13:52:19	7		-0.6	51.8	27.4	6.0	0.22	-36.6	7		-0.8	-140.0	17.5	2.6	0.16	-19.3
	44247	55523919	1/ 9/80	15:25:23																
1058	44247	55528847	1/ 9/80	15:25:28	7		-0.6	28.5	26.9	5.6	0.22	-31.7	7		-0.8	-163.3	15.8	2.2	0.15	-17.9
	44247	61107866	1/ 9/80	16:58:27																
1059	44247	61112792	1/ 9/80	16:58:32	7		2.4	5.2	29.0	7.4	0.25	-34.5	10		-3.6	173.5	17.1	4.7	0.27	-21.3
	44247	66096757	1/ 9/80	18:31:36																
1060	44247	66701654	1/ 9/80	18:31:41	10		1.5	-18.1	28.0	5.8	0.20	-34.2	10		-1.9	150.2	17.0	3.8	0.22	-20.0
	44247	72285989	1/ 9/80	20: 4:45																
1061	44247	72290516	1/ 9/80	20: 4:50	10		1.4	-41.3	25.9	5.0	0.19	-33.3	33		2.0	126.9	16.3	1.4	0.08	-18.8
	44247	77878430	1/ 9/80	21:37:54																
1062	44247	77879379	1/ 9/80	21:37:59	33		-2.4	-64.6	27.8	5.8	0..	-36.1	***	******	******	**********	******	-32.0		
	44247	83460142	1/ 9/80	23:11: 0																
1063	44247	83465045	1/ 9/80	23:11: 5	33		-9.3	-67.9	28.8	6.1	0.21	-38.3	3		-3.2	80.3	17.9	-1.2	-0.06	-14.9
	44248	2648979	1/10/80	0:44: 8																
1064	44248	2653936	1/10/80	0:44:13	3		-10.1	-111.2	32.9	3.3	0.10	-38.8	3		-4.3	57.1	22.0	1.9	0.09	-24.5
	44248	8237841	1/10/80	2:17:17																
1065	44248	8242767	1/10/80	2:17:22	3		-8.0	-134.5	33.1	1.2	0.04	-35.3	3		-4.2	33.7	21.4	1.3	0.06	-19.5
	44248	13826703	1/10/80	3:50:26																
1066	44248	13831629	1/10/80	3:50:31	3		-6.7	-157.8	24.4	3.4	0.14	-28.2	3		17.7	10.4	24.3	-2.4	-0.10	-10.6
	44248	19415584	1/10/80	5:23:35																
1067	44248	19420491	1/10/80	5:23:40	3		-4.2	178.9	25.7	4.4	0.17	-33.0	0		22.6	-12.8	25.7	-3.3	-0.13	-26.4
	44248	25004426	1/10/80	6:56:44																
1068	44248	25009352	1/10/80	6:56:49	0		3.2	155.6	21.8	6.5	0.30	-28.9	0		4.1	-36.1	19.0	-0.1	-0.00	-14.8
	44248	30588374	1/10/80	8:29:48																
1069	44248	30593293	1/10/80	8:29:53	0		1.2	132.4	25.7	2.8	0.11	-31.6	7		1.0	-59.4	15.1	3.1	0.21	-16.2
	44248	36177293	1/10/80	10: 2:57																
1070	44248	36162101	1/10/80	10: 3: 2	7		3.2	109.1	21.3	3.5	0.16	-27.9	7		3.7	-82.7	19.2	3.7	0.30	-22.8
	44248	41766035	1/10/80	11:36: 6																
1071	44248	41771023	1/10/80	11:36:11	7		5.9	85.8	20.2	3.2	0.16	-25.4	13		4.4	-106.0	20.3	3.7	0.18	-26.3
	44248	47354957	1/10/80	13: 9:14																
1072	44248	47359834	1/10/80	13: 9:19	13		5.7	62.5	25.4	1.1	0.04	-29.0	13		6.9	-129.3	15.6	-0.8	-0.05	-25.7
	44248	52938933	1/10/80	14:42:18																
1073	44248	52943832	1/10/80	14:42:23	10		-2.1	39.2	26.6	5.2	0.19	-31.3	10		5.3	-152.6	6.3	0.7	0.10	-4.5
	44248	58527784	1/10/80	16:15:27																
1074	44248	58532691	1/10/80	16:15:32	10		2.0	15.9	27.8	5.7	0.20	-32.0	10		4.2	-175.8	11.9	4.0	0.33	-14.2
	44248	64116626	1/10/80	17:48:36																
1075	44248	64121553	1/10/80	17:48:41	7		11.9	-7.4	26.7	5.3	0.20	-34.7	7		3.4	160.9	7.2	0.1	0.01	-4.5
	44248	69705468	1/10/80	19:21:45																
1076	44248	69710415	1/10/80	19:21:50	7		12.6	-30.6	22.4	2.0	0.09	-22.3	7		5.5	137.6	8.4	-0.6	-0.07	-11.6
	44248	75489434	1/10/80	20:54:49																
1077	44248	75494362	1/10/80	20:54:54	13		3.0	-53.9	19.9	4.3	0.22	-29.6	13		-2.8	114.3	16.3	-2.9	-0.18	-12.4
	44248	80878296	1/10/80	22:27:58																
1078	44248	80883223	1/10/80	22:28: 3	13		-1.2	-77.2	30.4	3.9	0.13	-36.8	13		-6.3	91.0	11.8	0.8	0.07	-12.4
	44249	86334449	1/10/80	23:53:54																
1079	44249	17277	1/11/80	0: 0:17	7		4.8	-100.5	31.5	3.7	0.12	-34.8	7		-6.4	67.7	23.5	1.4	0.06	-21.5
	44249	5655293	1/11/80	1:34:15																
1080	44249	5660209	1/11/80	1:34:20	7		4.1	-123.8	29.0	0.0	0.00	-29.2	7		-8.8	44.5	22.8	4.3	0.17	******
	44249	11239468	1/11/80	3: 7:19																
1081	44249	11244153	1/11/80	3: 7:24	17		2.5	-147.1	27.7	0.2	0.01	-25.0	17		-1.6	21.2	23.0	1.8	0.08	-18.6
	44249	16826043	1/11/80	4:40:28																
1082	44249	16833016	1/11/80	4:40:33	17		0.6	-170.3	24.7	5.2	0.21	-30.2	17		0.9	-2.1	21.9	1.4	0.06	-18.5
	44249	22416931	1/11/80	6:13:36																
1083	44249	22421678	1/11/80	6:13:41	30		2.1	166.4	22.5	5.1	0.23	-29.7	30		20.8	-25.4	20.3	-3.5	-0.17	-12.6
	44249	26100628	1/11/80	7:46:40																
1084	44249	26105625	1/11/80	7:46:45	30		6.2	143.1	20.0	-1.7	-0.08	-24.6	30		26.6	-48.7	17.0	-2.3	-0.14	-16.6
	44249	33589759	1/11/80	9:19:49																

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING REV	D	ECL	E	I	A/E	DELTA B	DESCENDING REV	D	ECL	E	I	I/E	DELTA B
1085	44249	335946687	1/11/80	9:19:54	27		-12.6	119.8	26.9	3.3	0.35	-36.6	27		3.4	-72.0	14.3	4.3	0.30	-15.2
	44249	39173706	1/11/80	10:52:53																
1086	44249	39176632	1/11/80	10:52:58	27		-15.7	90.5	33.5	4.5	0.13	-37.0	27		5.1	-95.2	21.7	3.8	0.18	-26.1
	44249	44762568	1/11/80	12:26: 2																
1087	44249	44767494	1/11/80	12:26: 7	27		-14.1	73.2	34.1	6.8	0.20	-39.9	27		2.2	-118.5	19.5	3.0	0.15	-23.6
	44249	50351429	1/11/80	13:59:11																
1088	44249	50356356	1/11/80	13:59:16	27		-7.9	50.0	33.2	8.5	0.26	-44.7	27		0.3	-141.8	22.1	1.9	0.09	******
	44249	55935375	1/11/80	15:32:15																
1089	44249	55940302	1/11/80	15:32:20	27		-17.3	26.7	42.0	11.6	0.28	-50.2	27		-1.5	-165.1	19.8	-0.5	-0.03	-21.6
	44249	61524237	1/11/80	17: 5:24																
1090	44249	61529103	1/11/80	17: 5:29	27		-16.2	3.4	45.8	15.2	0.33	-55.0	30		-9.3	171.6	19.9	5.7	0.28	******
	44249	67113099	1/11/80	18:38:33																
1091	44249	67118025	1/11/80	18:38:38	30		-13.6	-19.9	47.3	15.7	0.33	-55.3	30		-10.4	148.4	26.8	6.6	0.25	-33.6
	44249	72697045	1/11/80	20:11:37																
1092	44249	72701972	1/11/80	20:11:41	30		-13.7	-43.2	50.8	18.5	0.36	-59.9	27		-8.2	125.1	13.2	2.8	0.21	-16.9
	44249	78285906	1/11/80	21:44:45																
1093	44249	78290833	1/11/80	21:44:50	27		-24.2	-66.5	44.6	15.8	0.35	-63.3	27		-14.5	101.8	29.2	4.5	0.15	-34.2
	44249	83869853	1/11/80	23:17:49																
1094	44249	83874779	1/11/80	23:17:54	27		-10.8	-89.7	35.9	7.5	0.21	-47.7	7		-18.0	78.5	29.1	0.2	0.01	-25.0
	44250	3056714	1/12/80	0:50:58																
1095	44250	3063641	1/12/80	0:51: 3	7		-4.3	-113.0	42.8	5.9	0.14	-49.8	7		-21.1	55.2	29.8	4.2	0.14	-33.6
	44250	8642662	1/12/80	2:24: 2																
1096	44250	8647588	1/12/80	2:24: 7	7		-11.4	-136.3	39.2	5.1	0.13	******	10		-13.9	32.0	24.8	5.0	0.20	-25.8
	44250	14231522	1/12/80	3:57:11																
1097	44250	14236449	1/12/80	3:57:16	10		-10.0	-159.6	29.3	5.0	0.17	-34.6	10		-6.7	8.7	33.3	1.2	0.04	-27.6
	44250	19815469	1/12/80	5:30:15																
1098	44250	19820395	1/12/80	5:30:20	10		-11.9	177.1	29.1	5.4	0.19	-36.1	13		-12.2	-14.6	29.5	-3.7	-0.12	-27.6
	44250	25404330	1/12/80	7: 3:24																
1099	44250	25409257	1/12/80	7: 3:29	13		-8.0	153.9	25.8	7.8	0.30	-32.7	13		-0.5	-37.9	20.4	-1.6	-0.06	-17.5
	44250	30968277	1/12/80	8:36:28																
1100	44250	30993204	1/12/80	8:36:33	13		-7.7	130.6	23.0	6.9	0.30	-31.1	17		-3.4	-61.2	18.2	2.2	0.12	-24.1
	44250	36577138	1/12/80	10: 9:37																
1101	44250	36582065	1/12/80	10: 9:42	17		-9.2	107.3	20.1	7.3	0.37	-29.6	17		-6.4	-84.4	17.4	3.8	0.22	-22.2
	44250	42161054	1/12/80	11:42:41																
1102	44250	42166011	1/12/80	11:42:46	13		-1.9	84.0	15.7	6.3	0.40	-24.7	13		-7.2	-107.7	20.3	2.7	0.13	-23.9
	44250	47749946	1/12/80	13:15:49																
1103	44250	47754873	1/12/80	13:15:54	13		0.9	60.7	27.2	3.9	0.14	-34.9	13		-4.6	-131.9	18.7	1.3	0.07	-19.7
	44250	53333893	1/12/80	14:48:53																
1104	44250	53338819	1/12/80	14:48:58	10		1.7	37.5	27.6	4.0	0.15	-32.1	10		-1.7	-154.3	12.0	1.1	0.09	-8.8
	44250	58922754	1/12/80	16:22: 2																
1105	44250	58927681	1/12/80	16:22: 7	10		2.1	14.2	29.2	5.9	0.20	-32.8	10		2.6	-177.6	16.1	4.0	0.25	-18.6
	44250	64506701	1/12/80	17:55: 6																
1106	44250	64511627	1/12/80	17:55:11	10		-0.3	-9.1	28.6	8.1	0.28	-38.7	10		3.9	159.2	17.6	3.5	0.03	******
	44250	70095562	1/12/80	19:28:15																
1107	44250	70100489	1/12/80	19:28:20	10		-0.1	-32.4	32.4	3.5	0.11	-33.1	10		-0.2	135.9	11.6	1.4	0.12	-14.9
	44250	75679509	1/12/80	21: 1:19																
1108	44250	75684435	1/12/80	21: 1:24	10		-5.0	-55.7	28.7	6.6	0.23	-40.5	10		-4.3	112.6	17.3	-2.3	-0.13	-14.3
	44250	81268370	1/12/80	22:34:28																
1109	44250	81273297	1/12/80	22:34:33	10		1.7	-78.9	30.3	2.3	0.07	-39.4	10		-5.2	89.3	12.5	-1.6	-0.13	-12.0
	44251	452317	1/13/80	0: 7:32																
1110	44251	457243	1/13/80	0: 7:37	0		10.8	-102.2	34.4	2.6	0.07	-39.4	0		6.2	66.0	21.9	-3.3	-0.15	-16.5
	44251	6336203	1/13/80	1:43:36																
1111	44251	6041109	1/13/80	1:40:41	0		7.9	-125.5	28.0	1.6	0.06	-28.6	0		3.7	42.8	19.6	-3.2	-0.11	-17.7
	44251	11025123	1/13/80	3:13:45																
1112	44251	11630951	1/13/80	3:13:50	27		2.9	-148.8	28.4	0.6	0.02	-25.5	27		5.4	19.5	21.9	-1.0	-0.05	-13.3
	44251	17209079	1/13/80	4:46:49																
1113	44251	17213997	1/13/80	4:46:54	27		10.4	-172.0	20.0	-0.0	-0.00	-24.1	27		21.2	-3.8	10.4	-9.0	-0.87	1.7
	44251	22797931	1/13/80	6:19:57																
1114	44251	22802859	1/13/80	6:20: 2	33		15.2	164.7	10.5	0.5	0.05	-11.7	33		26.6	-27.1	15.2	-7.3	-0.48	-7.3
	44251	26381878	1/13/80	7:33: 1																
1115	44251	26386805	1/13/80	7:33: 6	33		-10.8	141.4	39.0	10.5	0.27	-49.8	43		8.0	-50.3	18.3	-3.0	-0.16	-17.0
	44251	32965824	1/13/80	9:26: 5																
1116	44251	32970751	1/13/80	9:26:10	43		-8.9	118.1	23.3	5.5	0.23	-30.0	43		-2.6	-73.6	17.7	8.3	0.47	-25.0
	44251	39554686	1/13/80	10:59:14																
1117	44251	39559613	1/13/80	10:59:19	43		-43.2	94.8	52.8	14.6	0.28	-64.2	43		-14.1	-96.9	13.6	10.0	0.73	-31.0
	44251	45138032	1/13/80	12:32:18																
1118	44251	45143559	1/13/80	12:32:23	43		-64.2	71.6	84.0	28.6	0.34	-104.1	43		-19.8	-120.2	30.9	17.5	0.56	-50.1
	44251	50727494	1/13/80	14: 5:27																
1119	44251	50732420	1/13/80	14: 5:32	43		-57.7	48.3	72.5	21.3	0.29	-69.2	40		-25.8	-143.4	31.8	9.2	0.29	-39.2
	44251	56311440	1/13/80	15:38:31																
1120	44251	56316367	1/13/80	15:38:36	40		-60.4	25.0	83.2	26.1	0.31	-101.8	40		-18.0	-166.7	29.8	1.6	0.05	-35.4
	44251	61895387	1/13/80	17:11:35																
1121	44251	61900313	1/13/80	17:11:40	40		-61.3	1.7	88.9	32.8	0.37	-110.3	47		-33.6	170.0	39.5	12.8	0.32	-58.5
	44251	67479332	1/13/80	18:44:39																
1122	44251	67484260	1/13/80	18:44:44	47		-64.2	-21.5	105.3	38.8	0.37	-124.2	47		-20.2	146.7	30.4	22.1	0.73	-59.3
	44251	73065248	1/13/80	20:17:45																
1123	44251	73070172	1/13/80	20:17:50	47		-66.7	-44.8	97.5	27.9	0.29	-106.5	37		-38.3	123.4	40.7	17.6	0.43	-61.6
	44251	78654106	1/13/80	21:50:54																
1124	44251	78659034	1/13/80	21:50:59	37		-93.6	-68.1	88.7	29.9	0.34	-119.0	37		-46.7	100.2	49.5	15.4	0.32	-63.1
	44251	84236053	1/13/80	23:23:58																

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
1125	44251	84242979	1/13/80	23:24: 2	37	-91.8	-91.4	78.4	23.6	0.30	-102.8	37	-50.8	78.9	56.0	11.2	0.20	-62.3
	44252	34217o3	1/14/80	0:57: 1														
1126	44252	3426680	1/14/80	0:57: 6	37	-67.2	-114.6	69.9	12.4	0.18	-83.0	37	-47.5	53.6	58.0	11.5	0.19	-69.4
	44252	90106l5	1/14/80	2:30: 10														
1127	44252	9015542	1/14/80	2:30: 15	37	-66.9	-137.9	73.8	15.4	0.21	-85.3	30	-45.4	30.4	48.3	14.4	0.30	-58.1
	44252	14594561	1/14/80	4: 3: 14														
1128	44252	1459948	1/14/80	4: 3: 19	30	-44.5	-161.2	59.3	13.6	0.23	-69.2	30	-41.2	7.1	51.3	11.7	0.23	-56.3
	44252	20178507	1/14/80	5:36: 18														
1129	44252	2018343l	1/14/80	5:36: 23	30	-37.4	175.5	56.4	13.2	0.23	-68.9	20	-47.2	-16.2	58.3	4.7	0.08	-61.1
	44252	2576254	1/14/80	7: 9: 22														
1130	44252	257o7350	1/14/80	7: 9: 27	20	-35.1	152.3	55.0	15.8	0.29	-68.9	20	-39.1	-39.5	49.5	6.3	0.13	-45.7
	44252	31346401	1/14/80	8:42: 26														
1131	44252	3135l327	1/14/80	8:42: 31	20	-32.0	129.0	54.1	15.7	0.29	-66.3	20	-30.5	-62.7	34.1	7.5	0.22	-82.9
	44252	3693526l	1/14/80	10:15: 35														
1132	44252	36940139	1/14/80	10:15:40	20	-30.8	105.7	48.6	11.5	0.24	-57.0	20	-24.0	-86.0	36.6	9.5	0.26	-46.1
	44252	42519208	1/14/80	11:48: 39														
1133	44252	42524135	1/14/80	11:48: 44	17	-28.6	82.4	43.5	11.4	0.26	-52.4	17	-25.4	-109.3	32.4	8.0	0.25	-47.8
	44252	48105129	1/14/80	13:21: 45														
1134	44252	48110047	1/14/80	13:21:50	17	-28.7	59.2	54.7	12.3	0.22	-65.5	17	-27.6	-132.6	40.4	6.8	0.17	-46.1
	44252	5368906l	1/14/80	14:54: 49														
1135	44252	5369393	1/14/80	14:54:53	20	-26.0	35.9	50.4	18.1	0.36	-66.4	20	-28.4	-155.8	34.5	6.2	0.18	-37.0
	44252	5927301	1/14/80	16:27: 53														
1136	44252	592779	1/14/80	16:27:57	20	-33.2	12.6	58.2	21.2	0.36	-75.5	20	-24.0	-179.1	32.7	8.4	0.26	-39.7
	44252	6485690	1/14/80	18: 0:56														
1137	44252	6486l88o	1/14/80	18: 1: 1	13	-21.1	-10.7	48.5	16.1	0.33	-62.0	13	-18.1	157.6	31.9	4.3	0.14	-31.1
	44252	7044090	1/14/80	19:34: 0														
1138	44252	7044582	1/14/80	19:34: 5	13	-20.8	-33.9	49.3	10.6	0.22	-49.5	13	-19.0	134.3	23.5	4.8	0.21	-30.7
	44252	760297	1/14/80	21: 7: 9														
1139	44252	760346	1/14/80	21: 7:14	17	-22.8	-57.2	41.4	10.1	0.24	-54.6	17	-25.1	111.1	30.4	2.5	0.08	-32.2
	44252	81o1371	1/14/80	22:40: 13														
1140	44252	8161864	1/14/80	22:40:18	17	-14.1	-80.5	45.2	8.8	0.19	-59.7	17	-21.7	37.8	23.4	1.4	0.06	-26.5
	44253	79902	1/15/80	0:13: 14														
1141	44253	79982	1/15/80	0:13: 19	7	-1.8	-103.8	38.1	5.2	0.14	-46.5	7	-6.8	64.5	34.5	0.1	0.00	-32.8
	44253	6383816	1/15/80	1:46: 23														
1142	44253	638674	1/15/80	1:46: 28	7	7.1	-127.0	34.5	2.0	0.06	-36.8	7	-6.3	41.3	33.2	2.6	0.08	-31.7
	44253	1190773	1/15/80	3:19: 27														
1143	44253	1197269	1/15/80	3:19: 32	3	-4.8	-150.3	37.0	3.2	0.09	-37.3	3	-15.1	18.0	32.4	0.5	0.02	-22.7
	44253	1755171	1/15/80	4:52: 31														
1144	44253	175566	1/15/80	4:52:36	3	-15.4	-173.6	37.4	4.4	0.12	-41.9	10	-14.8	-5.3	29.5	3.0	0.00	-26.7
	44253	2313656	1/15/80	6:25: 35														
1145	44253	231405	1/15/80	6:25:40	10	-12.3	163.2	29.1	6.4	0.22	-32.6	10	-16.8	-28.6	28.4	-0.4	-0.01	-24.6
	44253	2871902	1/15/80	7:58: 39														
1146	44253	287245	1/15/80	7:58: 44	10	-10.3	139.9	35.2	5.5	0.16	-41.8	17	-15.7	-51.8	29.3	2.3	0.07	-34.9
	44253	3430354	1/15/80	9:31: 43														
1147	44253	343084	1/15/80	9:31: 48	17	-10.3	116.6	32.6	10.7	0.33	-43.3	17	-13.1	-75.1	23.5	8.3	0.36	-29.0
	44253	3988749	1/15/80	11: 4:47														
1148	44253	398924	1/15/80	11: 4:52	17	-17.0	93.3	36.2	5.5	0.15	-41.2	20	-12.8	-98.4	27.4	7.6	0.28	-36.5
	44253	454714	1/15/80	12:37: 51														
1149	44253	4547636	1/15/80	12:37:56	20	-19.2	70.1	46.3	12.3	0.26	-58.2	20	-9.5	-121.6	20.6	4.3	0.21	-24.0
	44253	5105538	1/15/80	14:10: 55														
1150	44253	5106031	1/15/80	14:11: 0	20	-11.9	46.6	30.6	6.0	0.20	-39.1	23	-6.7	-144.9	18.6	1.5	0.08	-18.4
	44253	5663933	1/15/80	15:43: 59														
1151	44253	566442	1/15/80	15:44: 4	***	******	******	*****	*****	*****	-39.1	23	-4.8	-168.2	16.6	-1.5	-0.08	-17.6
	44253	6222426	1/15/80	17:17: 4														
1152	44253	6222918	1/15/80	17:17: 9	23	-11.0	0.3	39.9	12.8	0.32	-48.6	23	-2.7	168.5	18.2	-0.8	-0.04	-16.0
	44253	6780620	1/15/80	18:50: 8														
1153	44253	6781313	1/15/80	18:50: 13	23	-22.4	-23.0	42.3	8.7	0.20	-45.1	23	-12.7	145.3	24.7	5.8	0.23	-32.3
	44253	7339425	1/15/80	20:23: 12														
1154	44253	733970	1/15/80	20:23: 17	23	-6.4	-46.3	45.7	7.9	0.17	-46.1	13	-8.6	122.0	23.5	0.5	0.02	-24.6
	44253	7897610	1/15/80	21:56: 16														
1155	44253	789810	1/15/80	21:56: 21	13	-5.0	-69.6	30.5	5.1	0.17	-43.9	13	-5.9	96.7	16.9	0.1	0.00	-17.1
	44253	8496004	1/15/80	23:29: 20														
1156	44253	849649	1/15/80	23:29: 24	13	-1.9	-92.8	30.3	5.4	0.18	-40.8	43	-10.6	75.5	30.9	-3.5	-0.11	-21.8
	44254	374669	1/16/80	1: 2:26														
1157	44254	375162	1/16/80	1: 2:31	43	-24.2	-116.1	52.3	13.1	0.25	-65.9	43	-13.5	52.2	33.3	3.6	0.11	-35.6
	44254	933064	1/16/80	2:35: 30														
1158	44254	933557	1/16/80	2:35: 35	43	-28.5	-139.4	54.8	10.1	0.18	-63.9	30	-9.0	28.9	23.2	4.5	0.19	-22.2
	44254	1491459	1/16/80	4: 8:34														
1159	44254	1491951	1/16/80	4: 8:39	30	-25.6	-162.6	46.4	10.2	0.22	-55.5	30	-25.2	5.7	37.4	7.9	0.21	-40.1
	44254	2049853	1/16/80	5:41: 38														
1160	44254	2050343	1/16/80	5:41:43	23	-37.0	174.1	54.4	9.2	0.17	4.0	23	-36.7	-17.6	46.5	2.6	0.06	-46.7
	44254	2608246	1/16/80	7:14: 42														
1161	44254	260874	1/16/80	7:14:47	23	-36.7	150.8	59.0	13.3	0.23	-72.0	23	-22.7	-40.9	37.9	3.3	0.09	-37.3
	44254	3166642	1/16/80	8:47: 46														
1162	44254	3167135	1/16/80	8:47:51	10	-27.3	127.6	52.4	12.3	0.23	-61.9	10	-21.1	-64.2	30.0	6.6	0.22	-42.7
	44254	3724939	1/16/80	10:20: 49														
1163	44254	3725441	1/16/80	10:20:54	10	-25.0	104.3	43.2	8.7	0.20	-50.6	10	-19.0	-87.4	31.7	7.9	0.25	-39.5
	44254	4283333	1/16/80	11:53: 53														
1164	44254	4283826	1/16/80	11:53:58	13	-20.7	81.0	39.5	12.1	0.31	-46.6	13	-9.6	-110.7	29.8	6.0	0.20	-35.5
	44254	4841726	1/16/80	13:26: 57														

PASS	MJD	MSEC	DATE	HR: MN: SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
1165	44254	48422211	1/16/80	13: 27: 2	13	-20.8	57.7	44.8	9.7	0.22	-55.2	13	-8.3	-134.0	29.4	4.4	0.15	-38.2
	44254	54001231	1/16/80	15: 0: 1														
1166	44254	54006157	1/16/80	15: 0: 6	3	-21.8	34.5	34.4	10.2	0.30	-44.2	3	-13.6	-157.2	23.4	1.7	0.07	-21.9
	44254	59585176	1/16/80	16: 33: 5														
1167	44254	59590103	1/16/80	16: 33: 10	3	-18.9	11.2	36.2	12.5	0.35	-45.6	3	-12.2	179.5	27.2	5.7	0.21	-31.5
	44254	65169123	1/16/80	18: 6: 9														
1168	44254	65174049	1/16/80	18: 6: 14	3	-19.9	-12.1	37.3	12.5	0.33	-46.6	3	-12.7	156.2	25.9	2.5	0.11	-22.7
	44254	70753069	1/16/80	19: 39: 13														
1169	44254	70757995	1/16/80	19: 39: 17	3	-9.1	-35.3	43.6	5.9	0.14	-39.5	3	-11.2	133.0	21.7	3.4	0.16	-26.7
	44254	76337016	1/16/80	21: 12: 17														
1170	44254	76341942	1/16/80	21: 12: 21	3	-6.3	-58.6	36.6	8.1	0.22	-49.5	3	-6.9	109.7	24.7	3.1	0.01	-26.0
	44254	81920961	1/16/80	22: 45: 20														
1171	44254	81925868	1/16/80	22: 45: 25	3	-5.2	-81.9	37.0	7.2	0.19	-47.6	3	-4.8	86.4	19.6	0.7	0.04	-21.5
	44255	1103187	1/17/80	0: 18: 23														
1172	44255	1106114	1/17/80	0: 18: 28	10	-7.4	-105.1	35.4	5.1	0.14	-43.3	10	-6.0	63.2	29.3	0.3	0.01	-28.7
	44255	6687134	1/17/80	1: 51: 27														
1173	44255	6692060	1/17/80	1: 51: 32	10	-7.5	-128.4	35.1	-1.1	-0.03	-35.7	20	-5.2	39.9	25.8	-1.0	-0.04	-21.2
	44255	12271380	1/17/80	3: 24: 31														
1174	44255	12276006	1/17/80	3: 24: 36	20	-6.6	-151.7	32.2	3.5	0.11	-33.8	20	-15.0	16.6	29.2	0.4	0.01	-32.1
	44255	17853801	1/17/80	4: 57: 33														
1175	44255	17858724	1/17/80	4: 57: 38	20	-1.7	-174.9	27.5	-0.7	-0.03	-28.7	43	-16.1	-6.6	22.8	-3.7	-0.16	-19.1
	44255	23437744	1/17/80	6: 30: 37														
1176	44255	23442670	1/17/80	6: 30: 42	43	-2.5	161.8	39.3	3.3	0.08	-41.1	43	-0.3	-29.9	2.9	-12.5	-4.24	8.1
	44255	29021689	1/17/80	8: 3: 41														
1177	44255	29026617	1/17/80	8: 3: 46	43	-8.6	138.5	38.3	2.9	0.08	-41.9	30	-1.2	-53.2	21.6	-0.3	-0.01	-28.0
	44255	34604659	1/17/80	9: 36: 44														
1178	44255	34609580	1/17/80	9: 36: 49	30	-21.3	115.3	28.2	8.2	0.29	-37.3	30	-3.9	-76.4	13.2	4.2	0.32	-16.0
	44255	40188599	1/17/80	11: 9: 48														
1179	44255	40193525	1/17/80	11: 9: 53	30	-12.0	92.0	29.4	4.6	0.16	-34.2	33	11.3	-99.7	16.3	3.5	0.22	-23.6
	44255	45767630	1/17/80	12: 42: 47														
1180	44255	45772536	1/17/80	12: 42: 52	33	-3.6	68.7	27.7	4.3	0.15	-33.1	33	7.6	-123.0	12.8	3.0	0.00	-12.5
	44255	51451575	1/17/80	14: 15: 51														
1181	44255	51456533	1/17/80	14: 15: 56	33	-17.9	45.5	42.0	16.0	0.38	-57.9	30	5.7	-146.2	11.1	-0.3	-0.02	-6.4
	44255	56935522	1/17/80	15: 48: 55														
1182	44255	56940448	1/17/80	15: 49: 0	30	-4.0	22.2	26.2	5.4	0.21	-31.7	30	1.2	-169.5	11.5	-1.7	-0.15	-9.3
	44255	62519469	1/17/80	17: 21: 59														
1183	44255	62524395	1/17/80	17: 22: 4	30	-11.7	-1.1	33.2	8.8	0.26	-39.1	20	-1.0	167.2	14.4	1.3	0.09	-14.4
	44255	68104646	1/17/80	18: 55: 4														
1184	44255	68109570	1/17/80	18: 55: 9	20	-3.3	-24.3	36.7	5.4	0.15	3.3	20	-6.3	144.0	19.2	3.2	0.17	-23.0
	44255	73683674	1/17/80	20: 28: 3														
1185	44255	73688601	1/17/80	20: 28: 8	20	-1.8	-47.6	36.6	7.9	0.22	-42.1	13	-8.3	120.7	22.8	0.6	0.03	-22.2
	44255	79267620	1/17/80	22: 1: 7														
1186	44255	79272547	1/17/80	22: 1: 12	13	-8.0	-70.9	27.4	6.4	0.24	-39.9	13	-2.0	97.4	13.7	1.2	0.09	-16.1
	44255	84851567	1/17/80	23: 34: 11														
1187	44255	84856493	1/17/80	23: 34: 16	13	-5.0	-94.1	27.0	3.7	0.14	-36.2	13	-0.5	74.2	20.9	-4.0	-0.19	-10.7
	44256	40355512	1/18/80	1: 7: 15														
1188	44256	40404439	1/18/80	1: 7: 20	13	-0.6	-117.4	34.4	2.1	0.06	-36.6	13	2.2	50.9	26.1	-2.1	-0.08	-26.0
	44256	96194594	1/18/80	2: 40: 19														
1189	44256	96243854	1/18/80	2: 40: 24	7	6.2	-140.7	33.6	3.2	0.01	-33.1	7	2.2	27.6	24.9	2.2	0.09	-20.4
	44256	151984903	1/18/80	4: 13: 18														
1190	44256	152034161	1/18/80	4: 13: 23	7	-2.2	-163.9	27.2	5.2	0.19	-32.2	7	-16.1	4.4	26.2	2.2	0.08	-28.2
	44256	207824361	1/18/80	5: 46: 22														
1191	44256	207873603	1/18/80	5: 46: 27	10	-7.6	172.8	27.9	4.5	0.16	-32.9	10	-11.6	-18.9	30.3	-3.8	-0.13	-25.6
	44256	263663821	1/18/80	7: 19: 26														
1192	44256	263713091	1/18/80	7: 19: 31	10	-9.5	149.5	30.9	5.7	0.19	-39.3	10	-17.3	-42.1	23.2	3.4	0.02	-19.5
	44256	319503281	1/18/80	8: 52: 30														
1193	44256	319552551	1/18/80	8: 52: 35	7	-0.5	126.3	30.9	7.0	0.23	-38.0	7	-1.9	-65.4	18.9	2.9	0.15	-27.4
	44256	375293601	1/18/80	10: 25: 29														
1194	44256	375342861	1/18/80	10: 25: 34	7	0.0	103.0	30.5	3.9	0.13	-35.4	7	-3.1	-88.7	22.0	0.2	0.28	-29.3
	44256	431133051	1/18/80	11: 58: 33														
1195	44256	431182321	1/18/80	11: 58: 38	13	-5.9	79.7	27.9	8.9	0.32	-33.8	13	-5.6	-111.9	17.7	3.5	0.20	-20.6
	44256	486972511	1/18/80	13: 31: 37														
1196	44256	487021791	1/18/80	13: 31: 42	13	-3.9	56.5	33.0	3.9	0.27	-44.4	13	-5.1	-135.2	18.0	1.3	0.10	-18.8
	44256	542811981	1/18/80	15: 4: 41														
1197	44256	542861241	1/18/80	15: 4: 46	3	4.6	33.2	28.9	8.3	0.29	-36.3	3	-1.9	-158.5	14.4	0.2	0.01	-10.8
	44256	598602291	1/18/80	16: 37: 40														
1198	44256	598651551	1/18/80	16: 37: 45	3	-5.3	9.9	35.1	8.4	0.24	-42.3	3	-0.2	178.3	19.2	2.0	0.11	-19.5
	44256	654441741	1/18/80	18: 10: 44														
1199	44256	654491021	1/18/80	18: 10: 49	13	-7.6	-13.3	33.4	9.5	0.28	-42.3	13	-2.7	155.0	14.7	0.2	0.01	-11.7
1200	44256	697255391	1/18/80	19: 22: 5	***	******	******	*****	*****	*****	-42.3	***	******	******	**********	******	-11.7	
	44256	758511681	1/18/80	21: 4: 11														
1201	44256	760814481	1/18/80	21: 16: 48														
	44256	766130611	1/18/80	21: 16: 53	17	2.2	-59.8	28.8	5.1	0.18	-40.0	17	-2.8	108.5	12.9	-5.5	-0.43	-7.3
1202	44256	821920811	1/18/80	22: 49: 52														
	44256	821970081	1/18/80	22: 49: 57	17	9.1	-83.1	29.0	4.1	0.14	-35.6	17	-0.4	85.2	13.0	-1.9	-0.15	-32.1
	44257	1377018	1/19/80	0: 22: 57														
1203	44257	1380462	1/19/80	0: 23: 0	17	16.4	-106.4	32.2	2.6	0.08	-35.6	17	5.7	62.0	20.4	-1.9	-0.09	-17.6
	44257	6959483	1/19/80	1: 55: 59														
1204	44257	6964409	1/19/80	1: 56: 4	17	17.3	-129.6	28.9	-1.8	-0.06	-28.0	0	2.1	38.7	23.5	-1.5	-0.06	-18.4
	44257	12538513	1/19/80	3: 28: 56														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D	EQL	E	I	I/E	DELTA B	DESCENDING KP	D	EQL	E	I	I/E	DELTA B
1205	44257	12543440	1/19/80	3:29: 3	C		8.1	-152.9	*****	*****	*****	******	0		-1.5	15.4	20.0	-2.8	-0.11	-10.1
	44257	17945506	1/19/80	4:59: 5																
1206	44257	18072825	1/19/80	5: 1:12	0		6.9	-176.2	25.8	0.6	0.02	-26.0	3		2.3	-7.8	25.8	-3.0	-0.37	-19.2
	44257	23704694	1/19/80	6:35: 4																
1207	44257	23709612	1/19/80	6:35: 9	3		10.6	160.6	23.6	2.6	0.11	12.2	3		4.6	-31.1	8.7	-1.5	-0.17	-7.4
	44257	29289367	1/19/80	8: 8: 9																
1208	44257	29294295	1/19/80	8: 8:14	3		8.9	137.3	22.4	2.9	0.13	-25.4	10		5.7	-54.4	12.9	-1.4	-0.11	-16.5
	44257	34866400	1/19/80	9:41: 8																
1209	44257	34873326	1/19/80	9:41:13	10		2.4	114.0	20.0	5.8	0.29	-26.8	10		3.6	-77.6	15.3	6.4	0.40	-21.6
	44257	40452345	1/19/80	11:14:12																
1210	44257	40457272	1/19/80	11:14:17	10		5.6	90.8	22.2	2.8	0.12	-26.0	7		6.6	-100.9	14.0	2.1	0.15	-19.9
	44257	46036292	1/19/80	12:47:16																
1211	44257	46041218	1/19/80	12:47:21	7		5.5	67.5	25.6	4.7	0.18	-31.4	7		7.0	-124.2	9.8	3.8	0.08	-28.1
	44257	51615322	1/19/80	14:20:15																
1212	44257	51620249	1/19/80	14:20:20	7		8.3	44.3	23.0	3.1	0.13	-29.1	17		6.8	-147.4	8.2	1.0	0.12	-5.3
	44257	57199268	1/19/80	15:53:19																
1213	44257	57204195	1/19/80	15:53:24	17		-0.1	21.0	26.0	3.4	0.13	-27.5	17		0.7	-170.7	11.4	-0.2	-0.02	-8.3
	44257	62781250	1/19/80	17:26:41																
1214	44257	62786175	1/19/80	17:26:46	17		2.4	-2.3	28.3	7.7	0.27	-35.0	17		2.8	166.1	8.2	-0.8	-0.10	-31.6
	44257	68365194	1/19/80	18:59:25																
1215	44257	68370121	1/19/80	18:59:30	17		-0.7	-25.5	32.4	7.2	0.22	-32.5	17		3.6	142.8	10.3	2.4	0.23	-15.9
	44257	73944225	1/19/80	20:32:24																
1216	44257	73949152	1/19/80	20:32:29	17		3.6	-48.8	28.9	6.9	0.24	-36.1	10		4.4	119.5	14.9	-1.1	-0.07	-15.2
	44257	79527194	1/19/80	22: 5:27																
1217	44257	79532115	1/19/80	22: 5:32	10		5.7	-72.1	20.7	1.9	0.09	-30.5	10		7.1	96.3	8.4	-0.7	-0.08	-8.4
	44257	85109662	1/19/80	23:38:29																
1218	44257	85114586	1/19/80	23:38:34	27		0.3	-95.3	22.6	0.9	0.04	-29.1	27		6.6	73.0	17.1	-5.3	-0.31	-5.9
	44258	4293606	1/20/80	1:11:33																
1219	44258	4298533	1/20/80	1:11:38	27		-9.4	-118.6	30.0	1.8	0.06	15.4	27		3.2	49.8	11.9	-5.3	-0.49	-26.5
	44258	9873381	1/20/80	2:44:33																
1220	44258	9878301	1/20/80	2:44:38	23		1.4	-141.8	27.5	0.7	0.03	-31.0	23		3.9	26.5	18.5	0.5	0.03	-12.8
	44258	15457320	1/20/80	4:17:37																
1221	44258	15462247	1/20/80	4:17:42	23		8.7	-165.1	20.6	1.8	0.09	-24.0	23		17.9	3.2	21.8	0.5	0.02	-18.8
	44258	21053652	1/20/80	5:50:36																
1222	44258	21041279	1/20/80	5:50:41	7		14.2	171.6	22.4	3.7	0.17	-29.1	7		23.9	-20.0	25.3	-4.3	-0.17	-21.2
	44258	26420298	1/20/80	7:23:40																
1223	44258	26425225	1/20/80	7:23:45	7		15.9	148.4	18.0	2.5	0.14	-25.6	7		16.7	-43.3	11.5	-1.6	-0.14	-10.3
	44258	32204244	1/20/80	8:56:44																
1224	44258	32209170	1/20/80	8:56:49	7		3.0	125.1	15.9	1.0	0.06	-18.1	7		5.9	-66.5	10.1	1.3	0.18	-15.5
	44258	37783275	1/20/80	10:29:43																
1225	44258	37788202	1/20/80	10:29:48	7		-1.8	101.8	17.4	-0.3	-0.01	-19.2	7		5.3	-99.8	14.5	1.8	0.12	-18.2
	44258	43367223	1/20/80	12: 2:47																
1226	44258	43372148	1/20/80	12: 2:52	10		-2.6	78.6	16.1	6.7	0.42	-24.2	10		3.1	-113.1	9.7	1.4	0.15	-11.6
	44258	48946252	1/20/80	13:35:46																
1227	44258	48951178	1/20/80	13:35:51	10		7.1	55.3	16.2	3.1	0.19	-24.6	10		6.0	-136.3	8.3	0.4	0.05	-7.0
	44258	54530198	1/20/80	15: 8:50																
1228	44258	54535125	1/20/80	15: 8:55	7		15.5	32.1	16.7	3.1	0.19	-21.2	7		11.7	-159.6	4.5	-2.3	-0.52	1.3
	44258	60109229	1/20/80	16:41:49																
1229	44258	60114156	1/20/80	16:41:54	7		8.6	3.8	21.9	2.9	0.13	-24.0	7		12.2	177.2	7.5	-1.2	-0.16	-4.2
	44258	65693175	1/20/80	18:14:53																
1230	44258	65698102	1/20/80	18:14:58	20		1.0	-14.5	27.8	5.1	0.19	-31.8	20		8.9	153.9	8.4	-3.0	-0.35	0.6
	44259	712771?1	1/21/80	19:47:57																
1231	44258	71282048	1/20/80	19:48: 2	20		2.7	-37.7	28.2	2.3	0.08	-28.1	20		6.3	130.6	6.9	-1.3	-0.19	-6.3
	44258	76856153	1/20/80	21:20:56																
1232	44258	76861079	1/20/80	21:21: 1	23		3.4	-61.0	23.6	2.6	0.11	-31.4	23		5.4	107.4	11.1	-4.6	-0.41	-6.6
	44258	82440098	1/20/80	22:54: 0																
1233	44258	82445025	1/20/80	22:54: 5	23		7.2	-84.2	24.7	3.9	0.16	-32.1	27		9.0	84.1	6.9	-4.7	-0.68	-4.4
	44259	1620358	1/21/80	0:27: 0																
1234	44259	1625284	1/21/80	0:27: 5	27		8.8	-107.5	29.1	3.6	0.12	-35.6	27		9.9	60.9	15.3	-1.9	-0.12	-13.7
	44259	7199390	1/21/80	1:59:59																
1235	44259	7204315	1/21/80	2: 0: 4	27		5.6	-130.8	24.8	0.5	0.02	-26.7	10		5.4	37.6	20.4	-1.2	-0.06	-15.5
	44259	12783345	1/21/80	3:33: 3																
1236	44259	12788262	1/21/80	3:33: 8	10		2.3	-154.0	20.9	1.4	0.07	-18.9	10		2.5	14.3	21.8	-3.7	-0.17	-7.1
	44259	18367282	1/21/80	5: 6: 7																
1237	44259	18372208	1/21/80	5: 6:12	10		6.2	-177.3	21.7	0.1	0.00	-21.6	10		3.1	-8.9	18.2	-4.2	-0.23	-16.1
	44259	23940313	1/21/80	6:39: 6																
1238	44259	23951238	1/21/80	6:39:11	10		6.0	159.5	22.3	2.7	0.12	-23.4	10		5.2	-32.2	7.0	-2.3	-0.33	-2.8
	44259	29530253	1/21/80	8:12:10																
1239	44259	29535165	1/21/80	8:12:15	10		7.5	136.2	22.4	3.1	0.14	-27.5	10		11.1	-55.4	12.6	-2.8	-0.22	-16.0
	44259	35109280	1/21/80	9:45: 9																
1240	44259	35114216	1/21/80	9:45:14	10		2.6	112.9	20.2	5.1	0.25	-26.1	10		9.6	-78.7	12.3	5.2	0.40	-16.4
	44259	40693245	1/21/80	11:18:13																
1241	44259	40698161	1/21/80	11:18:18	10		0.9	89.7	21.5	3.7	0.17	-26.1	20		9.8	-102.0	16.9	3.8	0.22	-23.3
	44259	46274233	1/21/80	12:51:14																
1242	44259	46279159	1/21/80	12:51:19	20		-3.4	66.4	31.2	6.3	0.20	-39.7	20		8.2	-125.2	9.3	1.9	0.21	-8.7
	44259	51853263	1/21/80	14:24:13																
1243	44259	51856190	1/21/80	14:24:16	20		-0.2	43.2	26.2	0.4	0.24	-33.9	10		6.7	-148.5	6.0	1.5	0.25	-4.4
	44259	57437209	1/21/80	15:57:17																
1244	44259	57442136	1/21/80	15:57:22	10		-2.2	19.9	26.1	4.2	0.16	-27.3	10		9.4	-171.7	10.7	1.3	0.12	******
	44259	63016240	1/21/80	17:30:16																

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
1245	44259	63021166	1/21/80	17:30:21	10	2.3	-3.4	25.4	4.4	0.17	-31.4	7	7.3	165.0	7.6	1.7	0.22	-7.8
	44259	68600187	1/21/80	19: 3:20														
1246	44259	68605113	1/21/80	19: 3:25	7	3.5	-26.6	27.9	3.6	0.13	-28.3	7	9.5	141.7	7.1	-1.5	-0.21	-7.3
1247	44259	74179217	1/21/80	20:36:19														
	44259	74184144	1/21/80	20:36:24	7	13.5	-49.9	21.6	2.8	0.13	-23.8	17	12.6	118.5	8.8	-4.4	-0.50	-3.3
1248	44259	79758248	1/21/80	22: 9:18														
	44259	79763175	1/21/80	22: 9:23	17	12.3	-73.1	16.3	0.6	0.03	-23.5	17	20.8	95.2	-3.0	-0.8	2.26	10.4
1249	44259	85344169	1/21/80	23:42:24														
	44259	85349087	1/21/80	23:42:29	3	18.7	-96.4	14.2	-0.6	-0.05	-19.2	3	19.3	72.0	9.4	-10.7	-1.13	2.9
1250	44260	4374510	1/22/80	1:12:54														
	44260	4526688	1/22/80	1:15:26	3	23.9	-119.6	15.8	-4.4	-0.28	-14.7	3	14.2	48.7	10.2	-0.0	-0.59	-5.6
1251	44260	10105909	1/22/80	2:48:25														
	44260	10110835	1/22/80	2:48:30	0	23.2	-142.9	17.2	-4.7	-0.27	-13.6	0	11.9	25.5	10.5	-3.3	-0.32	1.2
1252	44260	15684939	1/22/80	4:21:24														
	44260	15689866	1/22/80	4:21:29	0	18.4	-166.2	12.1	0.2	0.01	-14.2	0	20.0	2.2	**********		******	-5.4
1253	44260	21268815	1/22/80	5:54:28														
	44260	21273811	1/22/80	5:54:33	10	23.7	170.6	8.8	-0.6	-0.07	-9.3	10	22.8	-21.1	16.7	-15.2	-0.91	-1.2
1254	44260	26850626	1/22/80	7:27:30														
	44260	26855546	1/22/80	7:27:35	10	23.0	147.3	15.6	1.4	0.09	-21.4	10	17.7	-44.3	-0.1	-1.6	15.37	-1.5
1255	44260	32426650	1/22/80	9: 0:29														
	44260	32434577	1/22/80	9: 0:34	13	11.3	124.1	15.7	2.1	0.14	-18.6	13	14.1	-67.6	2.5	2.0	0.82	-8.0
1256	44260	38008601	1/22/80	10:33:28														
	44260	38013607	1/22/80	10:33:33	13	6.2	100.8	15.3	0.4	0.02	-17.4	13	15.6	-90.8	8.8	-1.0	-0.12	-9.2
1257	44260	43592628	1/22/80	12: 6:32														
	44260	43597554	1/22/80	12: 6:37	10	8.1	77.5	11.0	2.5	0.23	-14.5	10	6.0	-114.1	8.1	0.4	0.05	-8.5
1258	44260	49171658	1/22/80	13:39:31														
	44260	49176585	1/22/80	13:39:36	10	16.6	54.3	12.4	2.5	0.20	-19.8	10	13.1	-137.3	3.7	-3.0	-0.83	0.2
1259	44260	54755604	1/22/80	15:12:35														
	44260	54760531	1/22/80	15:12:40	17	14.5	31.0	*****	*****	*****	-19.8	17	18.1	-160.6	0.3	-4.5	-13.57	4.9
1260	44260	60336654	1/22/80	16:45:36														
	44260	60341773	1/22/80	16:45:41	17	13.7	7.8	16.3	1.4	0.09	-16.1	17	17.0	176.1	4.8	-3.6	-0.11	-2.5
1261	44260	65915879	1/22/80	18:18:35														
	44260	65920805	1/22/80	18:18:40	30	8.6	-15.5	29.8	2.8	0.09	-31.9	30	12.3	152.9	6.2	-3.6	-0.58	0.2
1262	44260	71494909	1/22/80	19:51:34														
	44260	71499836	1/22/80	19:51:39	30	8.3	-38.7	32.0	7.5	0.23	-32.7	17	4.5	129.6	5.7	0.3	0.05	-7.6
1263	44260	77078855	1/22/80	21:24:38														
	44260	77083781	1/22/80	21:24:43	17	7.7	-62.0	26.7	6.6	0.25	-34.0	17	2.5	106.4	14.0	-1.6	-0.11	-12.3
1264	44260	82656179	1/22/80	22:57:36														
	44260	82661092	1/22/80	22:57:41	17	8.9	-85.3	25.9	5.9	0.23	-34.2	17	2.6	83.1	14.0	-3.6	-0.26	-12.7
1265	44261	1840116	1/23/80	0:30:40														
	44261	1845038	1/23/80	0:30:45	17	6.2	-108.5	33.3	4.9	0.15	-39.7	17	4.0	59.9	18.9	-0.6	-0.03	-18.7
1266	44261	7419143	1/23/80	2: 3:39														
	44261	7424069	1/23/80	2: 3:44	17	10.2	-131.8	26.5	-1.8	-0.07	-28.2	10	3.0	36.6	19.9	0.3	0.02	-17.4
1267	44261	13003088	1/23/80	3:36:43														
	44261	13008015	1/23/80	3:36:48	10	9.8	-155.0	18.7	0.1	0.01	-18.6	10	1.9	13.3	23.1	-4.0	-0.18	-8.6
1268	44261	18582120	1/23/80	5: 9:42														
	44261	18587046	1/23/80	5: 9:47	10	-0.7	-178.3	28.7	3.4	0.12	******	20	-7.8	-9.9	23.7	-1.9	-0.08	-25.3
1269	44261	24161150	1/23/80	6:42:41														
	44261	24166076	1/23/80	6:42:46	20	-0.1	158.5	30.6	.6	0.28	-35.6	20	0.5	-33.2	14.3	-1.0	-0.07	-10.6
1270	44261	29745096	1/23/80	8:15:45														
	44261	29750023	1/23/80	8:15:50	20	4.1	135.2	2	.8	0.30	-35.0	17	1.5	-56.4	12.3	3.1	0.25	-20.4
1271	44261	35324127	1/23/80	9:48:44														
	44261	35329053	1/23/80	9:48:49	17	-2.3	111.9	2	8.5	0.33	-33.9	17	7.4	-79.7	11.3	5.6	0.50	-16.4
1272	44261	40903158	1/23/80	11:21:43														
	44261	40908084	1/23/80	11:21:48	17	5.8	88.7	20.3	0.2	0.01	-24.5	13	16.7	-102.9	9.7	2.7	0.28	-21.7
1273	44261	46487847	1/23/80	12:54:47														
	44261	46492769	1/23/80	12:54:52	13	8.0	65.4	20.5	0.5	0.03	-24.3	13	9.4	-126.2	8.5	-1.9	-0.22	-6.7
1274	44261	52066873	1/23/80	14:27:46														
	44261	52071800	1/23/80	14:27:51	13	7.4	42.2	15.9	3.8	0.24	-21.4	7	13.4	-149.4	-1.3	-1.9	1.39	5.5
1275	44261	57645903	1/23/80	16: 0:45														
	44261	57650830	1/23/80	16: 0:50	7	15.8	18.9	16.2	0.3	0.02	-14.6	7	10.6	-172.7	3.5	-2.3	-0.66	1.7
1276	44261	63229849	1/23/80	17:33:49														
	44261	63234775	1/23/80	17:33:54	7	20.7	-4.3	18.2	2.6	0.14	-22.8	10	9.9	164.0	1.5	0.2	0.14	-0.9
1277	44261	68808880	1/23/80	19: 6:48														
	44261	68813806	1/23/80	19: 6:53	10	22.0	-27.6	*****	*****	*****	******	***	******	******	**********		******	-0.9
1278	44261	70392638	1/23/80	19:33:12														
	44261	79273137	1/23/80	22: 1:13	***	******	******	*****	*****	*****	******	***	******	******	**********		**********	
1279	44261	79971121	1/23/80	22:12:51														
	44261	79976046	1/23/80	22:12:56	3	7	-74.1	18.6	1.0	0.05	-24.9	3	10.5	94.3	4.9	-3.6	-0.74	-2.1
1280	44261	85550151	1/23/80	23:45:50														
	44261	85555077	1/23/80	23:45:55	3	3.4	-97.4	25.9	2.6	0.10	-32.3	3	9.1	71.0	15.7	-6.3	-0.40	-6.2
1281	44262	4729182	1/24/80	1:18:49														
	44262	4734107	1/24/80	1:18:54	3	7.1	-120.6	24.8	-1.3	-0.05	-25.5	3	9.5	47.8	12.4	-3.0	-0.24	-10.6
1282	44262	10413127	1/24/80	2:51:53														
	44262	10318054	1/24/80	2:51:58	0	10.7	-143.9	19.0	-2.4	-0.13	-16.8	0	9.5	24.5	10.8	-1.5	-0.14	-2.0
1283	44262	15892158	1/24/80	4:24:52														
	44262	15897085	1/24/80	4:24:57	0	12.9	-167.1	13.3	1.0	0.08	-14.5	0	14.6	1.3	14.1	-2.8	-0.20	-7.9
1284	44262	21471189	1/24/80	5:57:51														
	44262	21476115	1/24/80	5:57:56	7	24.0	169.6	14.9	2.4	0.16	-19.5	7	22.4	-22.0	19.1	-5.7	-0.30	-11.0
	44262	27050220	1/24/80	7:30:50														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/S	DELTA B	DESCENDING KP	D EQL	EQL	E	I	A/E	DELTA B
1285	44262	27055146	1/24/80	7:30:55	7	22.4	146.4	17.3	0.0	0.00	-23.4	7	16.0	-45.2	5.9	0.0	0.10	-7.6
	44262	32634166	1/24/80	9: 3:54														
1286	44262	32639092	1/24/80	9: 3:59	17	9.8	123.1	16.6	3.1	0.19	-20.6	17	7.5	-68.5	8.3	0.4	0.76	-15.5
	44262	38213197	1/24/80	10:36:53														
1287	44262	38218123	1/24/80	10:36:58	17	9.5	94.9	17.4	2.1	0.12	-23.5	17	16.3	-91.7	10.9	-0.2	-0.02	-13.1
	44262	43792223	1/24/80	12: 9:52														
1288	44262	43797154	1/24/80	12: 9:57	17	8.7	76.6	11.9	3.7	0.31	-17.1	17	7.1	-115.0	8.3	0.6	0.07	-9.0
	44262	49376174	1/24/80	13:42:56														
1289	44262	49381100	1/24/80	13:43: 1	17	8.8	53.3	19.1	3.4	0.18	-28.5	17	8.7	-138.3	10.0	-0.0	.06	-8.5
	44262	54955205	1/24/80	15:15:55														
1290	44262	54960131	1/24/80	15:16: 0	23	2.6	30.1	20.9	6.4	0.31	-26.2	23	8.8	-161.5	7.5	-2.2	-0.29	-24.9
	44262	60535961	1/24/80	16:48:55														
1291	44262	60540883	1/24/80	16:49: 0	23	1.4	6.8	31.6	6.3	0.20	-35.2	23	10.2	175.2	11.3	1.7	0.15	-11.6
	44262	66114987	1/24/80	18:21:54														
1292	44262	66119914	1/24/80	18:21:59	23	-9.4	-16.4	41.5	11.4	0.27	-49.5	23	5.7	152.0	7.2	2.8	0.38	-7.8
	44262	71694018	1/24/80	19:54:54														
1293	44262	71698944	1/24/80	19:54:58	23	0.0	-39.7	28.3	1.3	0.05	-24.9	10	2.8	128.7	9.8	-0.0	-0.07	-10.7
	44262	77273049	1/24/80	21:27:53														
1294	44262	77277975	1/24/80	21:27:57	10	7.8	-62.9	26.4	4.6	0.17	-32.3	10	-3.2	105.5	12.3	-4.4	-0.36	-7.8
	44262	82856994	1/24/80	23: 0:56														
1295	44262	82861941	1/24/80	23: 1: 1	10	9.2	-86.2	28.0	4.7	0.17	-35.6	3	5.8	82.2	10.2	-3.5	-0.54	-6.0
	44263	2035289	1/25/80	0:33:55														
1296	44263	2040214	1/25/80	0:34: 0	3	11.2	-109.4	29.7	1.0	0.03	-33.5	3	7.4	59.0	15.9	-1.6	-0.10	-16.4
	44263	7614318	1/25/80	2: 6:54														
1297	44263	7619245	1/25/80	2: 6:59	3	19.2	-132.7	24.0	-3.6	-0.15	-23.3	0	8.4	35.7	14.0	-1.8	-0.13	-8.7
	44263	13193349	1/25/80	3:39:53														
1298	44263	13196275	1/25/80	3:39:58	0	10.2	-155.9	14.7	-3.4	-0.23	-12.7	0	5.8	12.5	17.3	-6.2	-0.36	-2.0
	44263	18777296	1/25/80	5:12:57														
1299	44263	18782222	1/25/80	5:13: 2	0	5.6	-179.2	15.8	-0.0	-0.00	-19.2	7	14.3	-10.9	13.0	-7.2	-0.56	-11.2
	44263	24356326	1/25/80	6:45:56														
1300	44263	24361253	1/25/80	6:46: 1	7	15.5	157.6	11.8	2.0	0.17	-12.6	7	12.5	-34.0	1.7	-3.0	-1.82	3.8
	44263	29935357	1/25/80	8:18:55														
1301	44263	29940284	1/25/80	8:19: 0	7	20.0	134.3	10.2	-0.9	-0.08	-13.4	23	14.6	-57.3	2.3	-2.0	-0.85	-2.2
	44263	35430833	1/25/80	9:50:30														
1302	44263	35495720	1/25/80	9:51:35	23	21.4	111.1	4.9	-0.5	-0.11	-6.7	23	25.6	-80.5	3.7	1.5	0.41	-6.7
	44263	40946950	1/25/80	11:22:26														
1303	44263	41099328	1/25/80	11:24:59	23	26.4	87.8	1.2	-7.2	-0.39	1.9	23	23.3	-103.8	-1.4	-3.4	2.48	0.4
	44263	46673432	1/25/80	12:57:53														
1304	44263	46678359	1/25/80	12:57:58	23	22.1	64.5	12.9	-2.7	-0.21	-14.3	23	27.6	-127.0	-4.3	-6.2	1.43	5.5
	44263	52257378	1/25/80	14:30:57														
1305	44263	52262304	1/25/80	14:31: 2	23	18.3	41.3	16.9	5.2	0.31	-23.8	20	21.9	-150.3	-6.6	-2.5	0.37	9.8
	44263	57836409	1/25/80	16: 3:56														
1306	44263	57841336	1/25/80	16: 4: 1	20	15.3	18.0	11.8	2.5	0.21	-13.8	20	13.9	-173.6	1.7	-1.2	-0.68	2.3
	44263	63415443	1/25/80	17:36:55														
1307	44263	63420366	1/25/80	17:37: 0	27	2.8	-5.2	17.8	6.0	0.34	-25.8	27	12.8	163.2	3.7	-1.9	-0.51	-0.8
	44263	68994471	1/25/80	19: 9:54														
1308	44263	68999397	1/25/80	19: 9:59	27	-3.8	-28.5	27.5	8.2	0.30	-30.7	27	7.5	139.9	3.9	0.8	0.20	-9.5
	44263	74575232	1/25/80	20:42:55														
1309	44263	74580148	1/25/80	20:43: 0	27	15.2	-51.7	15.9	4.1	0.26	-23.9	27	10.8	116.7	8.1	-6.1	-0.76	-2.7
	44263	80154253	1/25/80	22:15:54														
1310	44263	80159179	1/25/80	22:15:59	27	8.8	-75.0	25.7	2.4	0.09	-35.3	27	10.2	93.4	1.3	-5.0	-4.46	4.8
	44263	85736478	1/25/80	23:48:56														
1311	44263	85741404	1/25/80	23:49: 1	13	7.7	-98.2	26.0	4.4	0.17	-33.3	13	12.1	70.2	17.9	-6.5	-0.50	-3.5
	44264	4915517	1/26/80	1:21:55														
1312	44264	4920436	1/26/80	1:22: 0	13	13.8	-121.5	20.1	-0.3	-0.02	-22.0	13	10.7	46.9	15.6	-3.4	-0.22	-14.2
	44264	10494540	1/26/80	2:54:54														
1313	44264	10499467	1/26/80	2:54:59	23	10.1	-144.7	22.0	-3.0	-0.14	-16.4	23	10.0	23.7	20.3	1.7	0.09	-15.0
	44264	15926107	1/26/80	4:25:26														
1314	44264	15955866	1/26/80	4:27:35	23	8.5	-168.0	13.1	0.2	0.01	******	23	23.2	0.4	12.3	-4.1	-0.33	-5.9
	44264	21507116	1/26/80	5:58:27														
1315	44264	21559494	1/26/80	6: 0:59	10	17.8	168.8	14.8	0.1	0.01	-15.8	10	22.2	-22.8	13.7	-7.9	-0.58	-5.2
	44264	27125468	1/26/80	7:32: 5														
1316	44264	27252537	1/26/80	7:34:15	10	17.5	145.5	18.6	-0.3	-0.02	-22.9	10	17.3	-46.1	10.5	-1.8	-0.18	-10.6
	44264	32809632	1/26/80	9: 0:49														
1317	44264	32814606	1/26/80	9: 0:54	10	11.6	122.3	10.2	2.0	0.20	-14.6	10	12.1	-69.3	6.3	3.2	0.51	-12.9
	44264	38393626	1/26/80	10:39:53														
1318	44264	38398552	1/26/80	10:39:58	10	5.3	99.0	10.9	1.5	0.14	-19.2	10	13.0	-92.6	14.5	0.8	0.06	-18.3
	44264	43972657	1/26/80	12:12:52														
1319	44264	43977533	1/26/80	12:12:57	17	7.1	75.8	13.5	2.5	0.18	-19.5	17	14.9	-115.8	4.1	-2.1	-0.50	-2.8
	44264	49551698	1/26/80	13:45:51														
1320	44264	49556614	1/26/80	13:45:56	17	14.4	52.5	13.1	1.5	0.12	-22.0	17	10.0	-139.1	6.6	-1.0	-0.15	-4.8
	44264	55130719	1/26/80	15:18:50														
1321	44264	55135644	1/26/80	15:18:55	7	15.5	29.3	13.0	1.7	0.13	-15.3	7	14.6	-162.3	3.0	-2.2	-0.72	-1.4
	44264	60709750	1/26/80	16:51:49														
1322	44264	60714675	1/26/80	16:51:54	7	7.1	6.0	15.8	3.0	0.19	-20.0	20	18.3	174.4	5.4	-0.8	-0.16	-3.7
	44264	66286780	1/26/80	18:24:48														
1323	44264	66293706	1/26/80	18:24:53	20	16.3	-17.2	19.0	0.5	0.03	-21.8	20	18.6	151.2	3.3	-1.3	-0.40	-1.1
	44264	71867811	1/26/80	19:57:47														
1324	44264	71873229	1/26/80	19:57:53	20	15.5	-40.5	17.0	-1.6	-0.10	-16.7	23	12.5	127.9	7.2	-2.4	-0.33	-5.1
	44264	77447333	1/26/80	21:30:47														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D DOL	B/L	X	Z	A/Z	DELTA B	DESCENDING KP	D DOL	B/L	D	I	I/E	DELTA B
1325	44264	77452259	1/26/80	21:30:52	23	12.1	-63.7	20.0	8.5	0.43	-32.9	23	5.6	104.7	9.2	-3.6	-0.39	-6.4
	44264	83026364	1/26/80	23: 3:46														
1326	44264	83031290	1/26/80	23: 3:51	23	3.2	-87.0	22.8	11.5	0.50	-37.7	23	12.2	81.4	7.3	-4.8	-0.66	-4.5
	44265	2205886	1/27/80	0:36:45														
1327	44265	2210813	1/27/80	0:36:50	23	-1.0	-110.2	24.5	6.3	0.26	-31.2	23	13.8	58.2	16.7	-5.8	-0.35	-13.9
	44265	7783669	1/27/80	2: 9:43														
1328	44265	7788015	1/27/80	2: 9:48	23	-4.8	-135.5	*****	*****	*****	-31.2	30	15.5	34.9	13.1	-2.4	-0.19	-9.7
	44265	13363704	1/27/80	3:42:43														
1329	44265	13368628	1/27/80	3:42:48	30	-9.2	-156.7	29.3	6.8	0.23	-35.5	30	-0.2	11.7	23.8	-0.3	-0.03	-16.0
	44265	18942763	1/27/80	5:15:42														
1330	44265	18947659	1/27/80	5:15:47	30	-3.3	-180.0	22.0	1.7	0.08	-15.7	27	-2.3	-11.6	20.8	-0.3	-0.01	-24.7
	44265	24524764	1/27/80	6:48:41														
1331	44265	24526690	1/27/80	6:48:46	27	-6.9	156.8	21.4	2.7	0.12	-25.1	27	-3.2	-34.8	19.5	-0.5	-0.02	-13.7
	44265	30100795	1/27/80	8:21:40														
1332	44265	30105721	1/27/80	8:21:45	27	-10.2	133.5	36.5	8.0	0.22	-44.8	23	7.6	-58.1	14.4	-4.8	-0.34	-11.4
	44265	35579826	1/27/80	9:54:39														
1333	44265	35584751	1/27/80	9:54:44	23	-27.6	110.3	37.6	9.6	0.25	-46.4	23	12.5	-81.3	12.8	7.4	0.57	-23.6
	44265	41256857	1/27/80	11:27:38														
1334	44265	41263782	1/27/80	11:27:43	23	-34.3	87.3	37.2	9.6	0.26	-46.8	43	22.0	-104.6	10.1	5.1	0.50	-19.6
	44265	46937687	1/27/80	13: 0:37														
1335	44265	46942813	1/27/80	13: 0:42	43	-9.5	63.8	35.5	5.0	0.14	-41.4	43	9.1	-127.8	13.6	-1.5	-0.11	-10.7
	44265	52416913	1/27/80	14:33:36														
1336	44265	52421844	1/27/80	14:33:41	43	-29.9	40.5	59.2	26.1	0.44	-82.2	43	12.6	-151.1	4.9	-5.4	-1.32	-78.8
	44265	57997913	1/27/80	16: 0:37														
1337	44265	58002841	1/27/80	16: 0:42	43	-50.4	17.3	75.5	27.0	0.36	-92.7	43	-9.4	-174.3	19.6	3.7	0.03	-16.4
	44265	63576945	1/27/80	17:39:36														
1338	44265	63581872	1/27/80	17:39:41	47	-59.3	-6.0	83.1	34.7	0.42	-109.2	47	-29.9	162.5	33.9	15.6	0.46	-48.6
	44265	69155976	1/27/80	19:12:35														
1339	44265	69160902	1/27/80	19:12:40	47	-50.5	-29.2	96.0	31.9	0.33	-107.1	47	-28.8	139.2	19.3	13.5	0.70	-42.2
	44265	74736973	1/27/80	20:45:36														
1340	44265	74741899	1/27/80	20:45:41	50	-76.0	-52.5	97.0	39.9	0.41	-123.7	50	-22.0	116.0	32.1	21.5	0.67	-58.7
	44265	80311069	1/27/80	22:18:31														
1341	44265	80316015	1/27/80	22:18:36	50	-76.9	-75.7	*****	*****	*****	-119.9	50	-35.0	92.7	30.4	13.5	0.44	-46.0
	44265	85891102	1/27/80	23:51:31														
1342	44265	85896029	1/27/80	23:51:36	30	-58.0	-99.0	69.3	17.9	0.26	-88.3	30	-35.4	69.5	49.6	9.8	0.20	-55.7
	44266	50703	1/28/80	1:24:30														
1343	44266	50750	1/28/80	1:24:35	30	-58.5	-122.2	68.6	17.6	0.26	-87.2	30	-27.0	46.2	49.6	9.1	0.18	-57.1
	44266	106491104	1/28/80	2:57:29														
1344	44266	106540089	1/28/80	2:57:34	37	-55.4	-145.5	73.8	19.2	0.26	-87.9	37	-18.3	23.0	47.8	7.9	0.17	-47.2
	44266	162281955	1/28/80	4:30:28														
1345	44266	162331200	1/28/80	4:30:33	37	-52.7	-168.7	68.1	23.6	0.35	-87.0	37	-11.2	-0.3	47.4	7.4	0.16	-50.9
	44266	218072225	1/28/80	6: 3:27														
1346	44266	218121511	1/28/80	6: 3:32	23	-30.0	168.0	55.9	12.9	0.23	-66.6	23	-21.3	-23.5	55.5	5.5	0.10	-53.6
	44266	272584453	1/28/80	7:36:18														
1347	44266	272634547	1/28/80	7:36:24	23	-29.4	144.8	53.3	8.6	0.16	-63.4	23	-28.2	-46.3	40.4	7.3	0.18	-49.4
	44266	327915288	1/28/80	9: 8:51														
1348	44266	327921305	1/28/80	9: 8:41	23	-29.4	121.5	46.1	12.1	0.26	-56.9	23	-27.8	-70.0	31.2	11.4	0.36	-46.2
	44266	383944572	1/28/80	10:42:24														
1349	44266	383949469	1/28/80	10:42:29	23	-33.7	98.3	43.3	9.5	0.22	-54.1	23	-26.3	-93.3	38.2	7.9	0.21	-49.2
	44266	441235595	1/28/80	14:15:23														
1350	44266	441285520	1/28/80	12:15:28	37	-44.5	75.0	64.4	18.3	0.28	-76.5	37	-2.4	-116.5	11.6	-1.2	-0.11	-12.7
	44266	497026625	1/28/80	13:48:44														
1351	44266	497075511	1/28/80	13:48:27	37	-39.7	51.8	49.0	15.2	0.31	-66.5	37	-14.1	-139.8	27.6	5.7	0.13	-32.0
	44266	552767411	1/28/80	15:21:16														
1352	44266	552861007	1/28/80	15:21:21	50	-31.7	28.5	48.5	19.2	0.40	-63.7	50	-15.6	-163.0	15.1	-4.6	-0.30	-11.3
	44266	608055771	1/28/80	16:54:15														
1353	44266	608060697	1/28/80	16:54:20	50	-59.9	5.3	85.2	29.0	0.34	-89.2	53	-29.4	173.7	20.2	3.3	0.17	-24.0
	44266	664348802	1/28/80	18:27:14														
1354	44266	664397281	1/28/80	18:27:19	53	-57.2	-17.9	87.4	38.2	0.44	-116.0	***	******	******	**********		******	-24.0
	44266	704295281	1/28/80	19:30:29														
1355	44266	727954031	1/28/80	20:13:15	53	-23.8	-41.2	45.2	12.2	0.27	-53.8	43	-38.8	127.3	25.1	5.3	0.21	-31.1
	44266	775922867	1/28/80	21:33:12														
1356	44266	775977901	1/28/80	21:33:17	43	-26.9	-64.4	41.6	15.5	0.37	-63.8	43	-30.6	104.0	20.1	-6.2	-0.31	-12.5
	44266	831716894	1/28/80	23: 6:11														
1357	44266	831768211	1/28/80	23: 6:16	43	-32.5	-87.7	54.2	19.2	0.35	-81.9	53	-44.1	80.8	47.7	10.5	0.22	-55.5
	44267	2346994	1/29/80	0:39: 6														
1358	44267	2351919	1/29/80	0:39:11	53	-98.9	-110.9	111.0	46.0	0.41	-153.2	53	-30.2	57.5	53.9	8.2	0.15	-62.9
	44267	7927744	1/29/80	2:12: 7														
1359	44267	7932670	1/29/80	2:12:12	53	-97.7	-134.2	112.6	37.4	0.33	-146.1	43	-38.7	34.3	63.7	17.1	0.27	-77.1
	44267	13506776	1/29/80	3:45: 6														
1360	44267	13511701	1/29/80	3:45:11	43	-56.5	-157.4	73.7	14.5	0.20	-85.6	43	-40.4	11.0	73.7	13.9	0.26	-82.8
	44267	19085806	1/29/80	5:18: 5														
1361	44267	19090732	1/29/80	5:18:10	43	-55.5	179.3	76.7	15.8	0.21	-44.7	17	-47.1	-12.2	72.0	15.5	0.22	-65.8
	44267	24659922	1/29/80	6:50:59														
1362	44267	24664847	1/29/80	6:51: 4	17	-49.2	156.1	67.2	16.0	0.24	-76.5	17	-55.7	-35.5	64.9	9.6	0.15	-63.9
	44267	30238952	1/29/80	8:23:58														
1363	44267	30243878	1/29/80	8:24: 3	17	-46.7	132.8	63.7	15.0	0.24	-75.4	27	-48.8	-58.7	49.3	13.0	0.26	-64.8
	44267	35817903	1/29/80	9:56:57														
1364	44267	35822909	1/29/80	9:57: 2	27	-48.5	109.6	54.7	16.2	0.30	-70.7	27	-39.6	-81.9	45.8	14.9	0.33	******
	44267	41397013	1/29/80	11:29:57														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
1365	44267	41401939	1/29/80	11:30: 1	27	-46.5	86.4	51.0	13.4	0.26	-64.5	37	-31.0	-105.2	44.0	12.3	0.28	-57.6
	44267	4697e044	1/29/80	13: 2:56														
1366	44267	46980970	1/29/80	13: 3: 0	37	-35.6	63.1	57.1	13.2	0.23	-71.7	37	-22.9	-128.4	39.9	3.0	0.08	-42.1
	44267	52259160	1/29/80	14:33:50														
1367	44267	52555086	1/29/80	14:35:55	37	-68.3	39.9	69.7	29.0	0.42	-94.6	43	-19.3	-151.7	27.2	1.3	0.05	-25.6
	44267	58129190	1/29/80	16: 8:09														
1368	44267	58134116	1/29/80	16: 8:54	43	-70.4	16.6	69.5	29.6	0.43	-91.9	43	-37.7	-174.9	34.5	3.8	0.25	-40.6
	44267	63706241	1/29/80	17:41:48														
1369	44267	63713147	1/29/80	17:41:53	37	-33.9	-6.6	57.1	20.2	0.35	-78.2	37	-33.6	161.8	29.6	6.3	0.21	-33.3
	44267	69267251	1/29/80	19:14:47														
1370	44267	69292178	1/29/80	19:14:52	37	-38.6	-29.9	86.7	21.6	0.25	-89.1	37	-35.0	138.6	23.6	17.5	0.74	-47.6
	44267	74861367	1/29/80	20:47:41														
1371	44267	74866292	1/29/80	20:47:46	37	-54.6	-53.1	85.0	26.2	0.31	-105.7	37	-35.0	115.3	31.4	16.0	0.51	-52.0
	44267	80440398	1/29/80	22:20:40														
1372	44267	80445323	1/29/80	22:20:45	37	-50.6	-76.4	65.1	13.7	0.21	-80.8	37	-33.9	92.1	28.7	13.0	0.45	-43.6
	44267	86019428	1/29/80	23:53:39														
1373	44267	86024354	1/29/80	23:53:44	33	-46.8	-99.6	69.0	14.2	0.21	-88.1	33	-36.3	68.9	51.8	10.6	0.21	-57.3
	44268	5198705	1/30/80	1:26:38														
1374	44268	5203630	1/30/80	1:26:43	33	-40.5	-122.8	*****	*****	*****	-63.4	33	-22.0	45.6	38.5	5.7	0.15	-43.3
	44268	10772821	1/30/80	2:59:32														
1375	44268	10777746	1/30/80	2:59:37	23	-21.4	-146.1	41.8	1.7	0.04	-42.8	23	-19.8	22.4	35.5	6.3	0.19	-33.3
	44268	16351851	1/30/80	4:32:31														
1376	44268	16356777	1/30/80	4:32:36	23	-22.2	-169.3	43.6	4.2	0.10	-43.6	23	-22.5	-0.9	34.0	5.4	0.16	-43.2
	44268	21948679	1/30/80	6: 5:28														
1377	44268	21933596	1/30/80	6: 5:33	20	-26.3	167.4	46.4	7.8	0.17	-53.6	20	-34.9	-24.1	45.8	2.7	0.06	-40.4
	44268	27557537	1/30/80	7:38:25														
1378	44268	27510600	1/30/80	7:38:30	20	-25.7	144.2	51.0	11.9	0.23	-66.6	20	-31.7	-47.3	34.1	4.4	0.13	-37.7
	44268	33084766	1/30/80	9:11:24														
1379	44268	33089691	1/30/80	9:11:29	33	-27.2	120.9	53.9	15.9	0.30	-67.3	33	-28.3	-70.6	33.9	11.6	0.34	-47.0
	44268	38663796	1/30/80	10:44:23														
1380	44268	38668722	1/30/80	10:44:28	33	-43.8	97.7	66.0	12.7	0.19	-73.2	33	-21.3	-93.8	35.4	7.9	0.22	-45.8
	44268	44237912	1/30/80	12:17:17														
1381	44268	44242838	1/30/80	12:17:22	20	-24.9	74.5	46.3	8.8	0.19	-51.6	20	-29.6	-117.1	36.2	8.4	0.23******	
	44268	49616942	1/30/80	13:50:16														
1382	44268	49621868	1/30/80	13:50:21	20	-24.0	51.2	47.7	9.6	0.20	-60.3	20	-24.4	-140.3	36.3	6.3	0.17	-41.4
	44268	55395973	1/30/80	15:23:15														
1383	44268	55400899	1/30/80	15:23:20	20	-35.6	28.0	50.7	15.7	0.31	-64.5	20	-25.3	-163.6	33.9	5.1	0.15	-39.1
	44268	60970069	1/30/80	16:56:10														
1384	44268	60975014	1/30/80	16:56:15	20	-28.4	4.7	47.5	13.8	0.29	******	13	-26.4	173.2	35.1	6.6	0.19******	
	44268	66549119	1/30/80	18:29: 9														
1385	44268	66554046	1/30/80	18:29:14	13	-22.4	-18.5	52.8	11.8	0.22	-59.6	13	-23.3	150.0	33.6	7.7	0.23	-40.3
	44268	72128150	1/30/80	20: 2: 8														
1386	44268	72133077	1/30/80	20: 2:13	13	-21.3	-41.7	56.5	10.7	0.19	-59.5	17	-22.2	126.7	32.9	4.2	0.13	-34.8
	44268	77702206	1/30/80	21:35: 2														
1387	44268	77707191	1/30/80	21:35: 7	17	-23.7	-65.0	48.9	15.3	0.31	-67.7	17	-28.9	103.5	31.3	3.6	0.12	-34.7
	44268	83281295	1/30/80	23: 8: 1														
1388	44268	83286222	1/30/80	23: 8: 6	17	-16.4	-88.2	47.3	12.1	0.26	-64.1	17	-24.1	80.2	34.4	5.0	0.14	-36.9
	44269	2457626	1/31/80	0:40:57														
1389	44269	2462549	1/31/80	0:41: 2	17	-18.0	-111.5	52.2	8.6	0.17	-61.3	17	-20.0	57.0	35.1	4.6	0.13	-40.2
	44269	8036654	1/31/80	2:13:56														
1390	44269	8041560	1/31/80	2:14: 1	17	-23.6	-134.7	46.2	7.6	0.17	-53.1	3	-20.7	33.8	31.9	6.7	0.21	-47.1
	44269	13610534	1/31/80	3:46:50														
1391	44269	13615449	1/31/80	3:46:55	3	-21.9	-158.0	41.1	3.8	0.09	-44.1	3	-27.3	10.5	37.5	4.0	0.11	-35.3
	44269	19191522	1/31/80	5:19:51														
1392	44269	19196447	1/31/80	5:19:56	3	-24.6	178.8	44.6	4.0	0.09	1.4	7	-40.6	-12.7	38.1	2.3	0.07	-43.4
	44269	24765636	1/31/80	6:52:45														
1393	44269	24770582	1/31/80	6:52:50	7	-19.6	155.6	41.8	6.6	0.16	-44.8	7	-28.0	-36.0	33.3	2.9	0.09	-30.5
	44269	30344667	1/31/80	8:25:44														
1394	44269	30349592	1/31/80	8:25:49	7	-13.0	132.3	39.8	9.4	0.23	-49.2	17	-21.4	-59.2	29.7	4.3	0.14	-34.7
	44269	35918793	1/31/80	9:58:38														
1395	44269	35923708	1/31/80	9:58:43	17	-8.7	109.1	32.2	7.1	0.22	-39.4	17	-12.0	-82.4	28.4	8.1	0.29******	
	44269	41497812	1/31/80	11:31:37														
1396	44269	41502739	1/31/80	11:31:42	17	-17.3	85.8	33.0	8.5	0.27	-42.3	13	-10.4	-105.7	30.1	7.3	0.24	-36.5
	44269	47076843	1/31/80	13: 4:36														
1397	44269	47081762	1/31/80	13: 4:41	13	-11.0	62.6	40.4	6.0	0.15	-49.6	13	-9.0	-128.9	26.7	3.4	0.13	-28.3
	44269	52650939	1/31/80	14:37:30														
1398	44269	52655864	1/31/80	14:37:35	10	-12.4	39.4	39.0	6.5	0.17	-44.3	10	-10.6	-152.2	18.7	2.7	0.15	-17.0
	44269	58229930	1/31/80	16:10:29														
1399	44269	58234916	1/31/80	16:10:34	10	-15.2	16.1	33.6	7.8	0.23	-40.3	10	-14.4	-175.4	23.5	3.6	0.15	-23.0
	44269	63804125	1/31/80	17:43:24														
1400	44269	63809031	1/31/80	17:43:29	17	-7.0	-7.1	32.5	10.6	0.33	-46.6	17	-14.2	161.4	22.2	2.0	0.09	-19.5
	44269	69383135	1/31/80	19:16:23														
1401	44269	69388062	1/31/80	19:16:28	17	-7.2	-30.4	35.0	3.2	0.18	-47.4	17	-9.2	138.1	18.6	2.9	0.15	-23.9
	44269	74957251	1/31/80	20:49:17														
1402	44269	74962177	1/31/80	20:49:22	23	-12.9	-53.6	43.8	10.5	0.24	-52.9	23	-13.3	114.9	26.7	2.3	0.09	-29.0
	44269	80539281	1/31/80	22:22:16														
1403	44269	80541208	1/31/80	22:22:21	23	-16.6	-76.8	42.8	9.9	0.23	-57.2	23	-13.8	91.6	**********		**********	
	44269	86113346	1/31/80	23:55:13														
1404	44269	86118273	1/31/80	23:55:18	20	-19.3	-100.1	46.9	4.7	0.21	-59.3	20	-12.0	68.4	37.9	3.8	0.15	-40.0
	44270	5290657	2/ 1/80	1:28:10														

PASS	BJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	ECL	B	I	I/B	DELTA B	DESCENDING KP	D ECL	ECL	B	I	I/B	DELTA B
1405	44270	5294231	2/ 1/80	1:28:14	20	-41.6	-123.3	45.0	5.6	0.12	******	20	-30.4	45.2	34.2	3.6	0.10	******
	44270	10868335	2/ 1/80	3: 1: 8														
1406	44270	10873262	2/ 1/80	3: 1:13	13	-48.6	-146.6	38.9	2.4	0.06	-37.8	13	-1.6	21.9	32.8	3.0	0.09	-30.2
	44270	16442452	2/ 1/80	4:34: 2														
1407	44270	16447377	2/ 1/80	4:34: 7	13	-37.4	-169.8	35.3	2.4	0.07	-32.7	13	6.9	-1.3	30.0	3.8	0.13	-28.5
	44270	22021481	2/ 1/80	6: 7: 1														
1408	44270	22026408	2/ 1/80	6: 7: 6	17	-20.2	167.0	32.9	5.5	0.17	-37.0	17	0.0	-24.5	30.4	-1.1	-0.04	******
	44270	27595597	2/ 1/80	7:39:55														
1409	44270	27600523	2/ 1/80	7:40: 0	17	-1.1	143.7	35.8	1.6	0.04	-40.2	17	6.2	-47.8	22.4	-0.3	-0.01	-23.7
	44270	33169713	2/ 1/80	9:12:49														
1410	44270	33174638	2/ 1/80	9:12:54	23	0.0	120.5	27.2	5.3	0.19	***.**	23	7.3	-71.0	11.9	4.0	0.34	******
	44270	38748376	2/ 1/80	10:45:48														
1411	44270	38753301	2/ 1/80	10:45:53	23	-19.4	97.3	29.0	3.7	0.13	-31.4	23	-1.6	-94.3	19.0	1.1	0.06	-22.4
	44270	44327405	2/ 1/80	12:18:47														
1412	44270	44332332	2/ 1/80	12:18:52	17	-22.3	74.0	25.6	6.7	0.26	-30.5	17	-17.6	-117.5	14.9	0.9	0.06	-15.1
	44270	49901521	2/ 1/80	13:51:41														
1413	44270	49906447	2/ 1/80	13:51:46	17	-10.1	50.8	26.4	5.7	0.22	-35.4	17	-14.8	-140.7	15.6	1.0	0.07	-16.2
	44270	55480552	2/ 1/80	15:24:40														
1414	44270	55485478	2/ 1/80	15:24:45	17	5.1	27.5	25.7	3.8	0.15	-27.7	17	-9.8	-168.0	14.5	-1.0	-0.07	-14.4
	44270	61054668	2/ 1/80	16:57:34														
1415	44270	61059593	2/ 1/80	16:57:39	17	14.3	4.3	30.9	7.4	0.24	-37.3	37	1.6	172.8	15.7	0.1	0.00	-14.5
	44270	66422339	2/ 1/80	18:27: 2														
1416	44270	66636412	2/ 1/80	18:30:36	37	26.6	-18.9	45.4	9.6	0.21	-52.3	37	-2.4	149.6	21.0	4.7	0.22	-25.0
	44270	72205601	2/ 1/80	20: 3:25														
1417	44270	72210527	2/ 1/80	20: 3:30	37	14.4	-42.2	46.5	10.8	0.23	-50.7	33	-12.5	126.3	17.9	4.0	0.22	-20.5
	44270	77782666	2/ 1/80	21:36:22														
1418	44270	77787591	2/ 1/80	21:36:27	33	-6.4	-65.4	43.2	13.1	0.30	-59.1	33	-26.9	103.1	19.3	2.9	0.15	-20.0
	44270	83361696	2/ 1/80	23: 9:21														
1419	44270	83366622	2/ 1/80	23: 9:26	33	-16.2	-88.6	37.9	9.6	0.25	-48.5	23	-29.0	79.8	18.7	-0.1	-0.01	-17.9
	44271	2534829	2/ 2/80	0:42:14														
1420	44271	2539754	2/ 2/80	0:42:19	23	-22.2	-111.9	39.9	4.1	0.10	-48.5	23	-23.5	56.6	24.5	1.5	0.06	-27.0
	44271	8112874	2/ 2/80	2:15:12														
1421	44271	8117802	2/ 2/80	2:15:17	23	-23.4	-135.1	30.6	0.4	0.01	-30.3	33	-7.6	33.4	20.5	1.0	0.05	-24.7
	44271	13689705	2/ 2/80	3:48: 9														
1422	44271	13694621	2/ 2/80	3:48:14	33	-32.3	-158.4	38.2	4.0	0.11	-41.9	33	5.7	10.1	26.4	-2.5	-0.10	-16.3
	44271	19261854	2/ 2/80	5:21: 1														
1423	44271	19266770	2/ 2/80	5:21: 6	33	-25.7	178.4	40.9	10.0	0.24	-51.5	30	8.0	-13.1	31.3	1.4	0.05	-36.1
	44271	24840875	2/ 2/80	6:54: 0														
1424	44271	24845801	2/ 2/80	6:54: 5	30	-15.0	155.2	44.6	7.3	0.16	-46.9	30	7.9	-36.3	22.8	0.0	0.00	-17.3
	44271	30414990	2/ 2/80	8:26:54														
1425	44271	30419917	2/ 2/80	8:26:59	30	-18.1	131.9	42.0	9.1	0.22	-48.3	23	9.2	-59.6	20.2	2.4	0.12	-23.5
	44271	35994021	2/ 2/80	9:59:54														
1426	44271	35998947	2/ 2/80	9:59:58	23	-13.2	108.7	33.4	5.9	0.18	-39.9	23	0.0	-82.8	21.9	7.1	0.32	******
	44271	41568137	2/ 2/80	11:32:48														
1427	44271	41573063	2/ 2/80	11:32:53	23	-22.9	85.5	32.6	4.6	0.14	-36.7	23	-10.3	-106.0	21.2	3.2	0.15	-27.9
	44271	47142552	2/ 2/80	13: 5:42														
1428	44271	47147178	2/ 2/80	13: 5:47	23	-28.0	62.2	42.0	6.8	0.16	-47.9	23	-20.7	-129.3	20.5	2.2	0.11	-22.0
	44271	52721282	2/ 2/80	14:38:41														
1429	44271	52726209	2/ 2/80	14:38:46	13	-9.4	39.0	34.1	4.1	0.12	-37.6	13	-19.3	-152.5	13.2	2.2	0.16	-12.3
	44271	58295398	2/ 2/80	16:11:35														
1430	44271	58300323	2/ 2/80	16:11:40	13	9.6	15.8	30.6	8.0	0.26	-34.6	13	-4.6	-175.7	15.9	1.3	0.08	-13.1
	44271	63869514	2/ 2/80	17:44:29														
1431	44271	63874439	2/ 2/80	17:44:34	7	20.5	-7.5	31.3	9.6	0.31	-42.5	7	-2.4	161.0	14.4	-0.1	-0.01	-9.4
	44271	69448584	2/ 2/80	19:17:28														
1432	44271	69453470	2/ 2/80	19:17:33	7	28.1	-30.7	35.1	4.0	0.11	-33.7	7	1.8	137.8	12.7	0.2	0.02	-14.3
	44271	75022659	2/ 2/80	20:50:22														
1433	44271	75027586	2/ 2/80	20:50:27	7	18.4	-54.0	30.3	6.8	0.22	-39.1	7	-16.6	114.6	18.6	-3.0	-0.16	-14.9
	44271	80596775	2/ 2/80	22:23:16														
1434	44271	80601701	2/ 2/80	22:23:21	7	4.9	-77.2	33.4	5.2	0.16	******	7	-23.3	91.3	13.5	0.9	0.07	-39.6
	44271	86174827	2/ 2/80	23:56:14														
1435	44271	86179749	2/ 2/80	23:56:19	7	-27.7	-100.4	40.6	6.2	0.15	-50.5	7	-27.4	66.1	27.4	0.4	0.01	-24.8
	44272	5348938	2/ 3/80	1:29: 8														
1436	44272	5353863	2/ 3/80	1:29:13	7	-28.5	-123.7	38.6	1.9	0.05	-40.9	7	-19.1	48.9	28.1	2.0	0.07	-28.6
	44272	10923054	2/ 3/80	3: 2: 3														
1437	44272	10927979	2/ 3/80	3: 2: 7	10	-36.8	-146.9	29.0	0.3	0.01	-26.0	10	8.8	21.6	23.3	1.1	0.05	-17.4
	44272	16502083	2/ 3/80	4:35: 2														
1438	44272	16507010	2/ 3/80	4:35: 7	10	-19.0	-170.1	26.0	3.0	0.12	-27.8	10	30.2	-1.6	20.6	0.4	0.02	-17.8
	44272	22076129	2/ 3/80	6: 7:56														
1439	44272	22081125	2/ 3/80	6: 8: 1	10	12.7	166.6	22.0	2.8	0.13	-24.2	10	39.7	-24.8	21.9	-1.9	-0.09	-17.0
	44272	27650315	2/ 3/80	7:40:50														
1440	44272	27655240	2/ 3/80	7:40:55	10	3.0	143.4	25.4	2.4	0.10	-29.8	10	27.5	-48.1	21.1	-0.4	-0.02	-22.2
	44272	33224430	2/ 3/80	9:13:44														
1441	44272	33229356	2/ 3/80	9:13:49	7	-6.9	120.2	23.0	5.7	0.25	******	7	8.1	-71.3	21.2	6.0	0.28	-27.6
	44272	38803460	2/ 3/80	10:46:43														
1442	44272	38808387	2/ 3/80	10:46:48	7	-21.0	96.9	22.1	3.9	0.18	-27.5	7	-1.3	-94.5	26.0	3.2	0.12	-30.6
	44272	44375896	2/ 3/80	12:19:35														
1443	44272	44380781	2/ 3/80	12:19:40	3	-26.5	73.7	27.0	9.0	0.33	-34.6	3	-21.8	-117.8	19.5	1.5	0.08	-18.6
	44272	49954836	2/ 3/80	13:52:34														
1444	44272	49959312	2/ 3/80	13:52:39	3	-13.3	50.5	28.1	6.6	0.23	-38.3	7	-13.2	-141.0	15.1	1.3	0.08	-13.5
	44272	55529002	2/ 3/80	15:25:29														

PASS	MJD	1SEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
1445	44272	55533927	2/ 3/80	15:25:33	7	2.3	27.2	30.2	3.3	0.11	-31.7	7	-5.2	-104.2	12.2	-3.7	-0.06	-15.9
	44272	61103117	2/ 3/80	16:58:23														
1446	44272	61108043	2/ 3/80	16:58:28	7	21.8	4.0	29.5	2.7	0.09	-30.8	3	7.2	172.5	12.4	1.4	0.12	-12.9
	44272	66677232	2/ 3/80	18:31:17														
1447	44272	66684159	2/ 3/80	18:31:22	3	26.2	-19.2	32.8	4.6	0.14	-36.3	3	6.0	149.3	14.2	1.5	0.11	-15.8
	44272	72256203	2/ 3/80	20: 4:16														
1448	44272	72261189	2/ 3/80	20: 4:21	3	28.2	-42.5	27.4	3.0	0.11	-29.0	10	-5.3	126.1	14.7	-1.8	-0.12	-10.9
	44272	77830378	2/ 3/80	21:37:10														
1449	44272	77835304	2/ 3/80	21:37:15	10	6.4	-65.7	26.8	7.0	0.26	-36.8	10	-16.0	102.8	12.5	-2.9	-0.23	-9.3
	44272	83404493	2/ 3/80	23:10: 4														
1450	44272	83409420	2/ 3/80	23:10: 9	10	-3.3	-88.9	33.1	4.9	0.15	-39.2	7	-25.1	79.6	14.9	-0.9	-0.06	-10.9
	44273	2577651	2/ 4/80	0:42:57														
1451	44273	2582552	2/ 4/80	0:43: 2	7	-12.3	-112.2	33.0	0.8	0.02	-0.5	7	-23.7	56.4	21.2	1.8	0.09	-24.3
	44273	8156656	2/ 4/80	2:15:56														
1452	44273	8161583	2/ 4/80	2:16: 1	7	-17.8	-136.4	27.5	-2.2	-0.08	-29.1	10	0.3	33.1	15.0	-1.3	-0.08	*******
	44273	13730773	2/ 4/80	3:48:50														
1453	44273	13735697	2/ 4/80	3:48:55	10	-13.3	-158.6	20.5	-2.0	-0.10	-18.7	10	15.2	9.9	17.5	-4.3	-0.24	-7.0
	44273	19304838	2/ 4/80	5:21:44														
1454	44273	19309813	2/ 4/80	5:21:49	10	-0.9	178.2	21.1	2.0	0.10	-25.6	23	36.1	-13.3	12.2	-6.6	-0.79	-5.1
	44273	24879003	2/ 4/80	6:54:39														
1455	44273	24883929	2/ 4/80	6:54:43	23	4.3	154.9	60.1	5.3	0.09	-32.0	23	25.3	-36.6	14.2	-2.9	-0.20	-6.6
	44273	30453118	2/ 4/80	8:27:33														
1456	44273	30458044	2/ 4/80	8:27:38	23	0.5	131.7	26.5	3.5	0.13	-31.8	20	24.0	-59.8	10.1	-1.5	-0.15	-11.1
	44273	36027233	2/ 4/80	10: 0:27														
1457	44273	36032100	2/ 4/80	10: 0:32	20	-4.6	108.5	20.6	4.9	0.24	-27.5	20	10.9	-83.0	**********		******	-23.7
	44273	41606267	2/ 4/80	11:33:26														
1458	44273	41611190	2/ 4/80	11:33:31	20	-16.1	85.2	24.4	6.2	0.25	-30.9	7	9.0	-106.3	16.7	1.3	0.08	-19.6
	44273	47180382	2/ 4/80	13: 6:20														
1459	44273	47165305	2/ 4/80	13: 6:25	7	-25.9	62.0	28.3	4.9	0.17	-36.5	7	-1.2	-129.5	14.2	-0.0	-0.00	-12.6
	44273	52755461	2/ 4/80	14:39:15														
1460	44273	52760403	2/ 4/80	14:39:20	3	-13.1	36.8	27.4	4.7	0.17	-30.0	3	-8.4	-152.7	5.9	1.1	0.19	-3.1
	44273	58329594	2/ 4/80	16:12: 9														
1461	44273	58334519	2/ 4/80	16:12:14	3	8.0	15.5	26.2	5.9	0.23	-27.6	3	0.8	-175.9	11.2	1.9	0.16	-10.6
	44273	63903709	2/ 4/80	17:45: 3														
1462	44273	63908634	2/ 4/80	17:45: 8	3	29.5	-7.7	27.3	5.9	0.22	-34.9	3	6.0	160.8	11.9	-0.3	-0.03	-8.1
	44273	69477824	2/ 4/80	19:17:57														
1463	44273	69482750	2/ 4/80	19:18: 2	3	32.4	-30.9	27.8	3.2	0.12	-26.8	3	7.5	137.6	8.1	-0.3	-0.03	-9.7
	44273	75049862	2/ 4/80	20:50:49														
1464	44273	75054899	2/ 4/80	20:50:54	3	23.4	-54.2	25.5	5.0	0.20	-33.3	3	-7.5	114.4	11.8	-4.4	-0.37	-5.7
	44273	80629004	2/ 4/80	22:23:49														
1465	44273	80633929	2/ 4/80	22:23:53	3	12.7	-77.4	26.2	0.9	0.03	-32.8	3	-17.8	91.1	8.0	-1.8	-0.23	-6.0
	44273	86203120	2/ 4/80	23:56:43														
1466	44273	86208045	2/ 4/80	23:56:48	0	-2.1	-100.6	30.5	2.5	0.08	-39.2	0	-15.2	67.9	19.7	-2.6	-0.13	-13.7
	44274	5377234	2/ 5/80	1:29:37														
1467	44274	5382161	2/ 5/80	1:29:42	0	-0.7	-123.8	26.3	-0.8	-0.03	-25.7	0	-8.9	44.7	17.7	-1.0	-0.06	-15.4
	44274	10951350	2/ 5/80	3: 2:31														
1468	44274	10956276	2/ 5/80	3: 2:36	0	-20.3	-147.1	21.3	-1.1	-0.05	-16.9	0	16.8	21.4	15.1	-1.1	-0.07	-8.2
	44274	16525465	2/ 5/80	4:35:25														
1469	44274	16530391	2/ 5/80	4:35:30	0	-12.3	-170.3	17.5	0.8	0.04	-16.5	0	29.8	-1.8	12.3	-1.5	-0.12	-7.2
	44274	22095580	2/ 5/80	6: 8:19														
1470	44274	22104506	2/ 5/80	6: 8:24	7	7.0	166.5	14.1	0.4	0.03	-14.7	7	31.3	-25.0	13.9	-3.3	-0.24	-7.0
	44274	27673695	2/ 5/80	7:41:13														
1471	44274	27678622	2/ 5/80	7:41:18	7	16.9	143.2	25.6	0.8	0.03	-29.8	7	26.8	-48.2	13.9	-1.8	-0.13	-13.6
	44274	33247811	2/ 5/80	9:14: 7														
1472	44274	33252736	2/ 5/80	9:14:12	13	9.4	120.0	22.8	6.2	0.27	-29.9	13	22.1	-71.5	9.2	3.0	0.33	-11.9
	44274	38821927	2/ 5/80	10:47: 1														
1473	44274	38826852	2/ 5/80	10:47: 6	13	-17.7	96.8	18.7	3.2	0.17	-23.5	13	4.6	-94.7	17.0	1.2	0.07	-19.1
	44274	44389953	2/ 5/80	12:19:58														
1474	44274	44403917	2/ 5/80	12:20: 3	10	-23.0	73.5	24.3	7.5	0.31	-31.7	10	-14.3	-117.9	10.5	-1.2	-0.07	-12.8
	44274	49973106	2/ 5/80	13:52:53														
1475	44274	49978032	2/ 5/80	13:52:58	10	-15.6	50.3	29.0	8.3	0.29	-40.9	10	-8.8	-141.2	12.8	1.1	0.08	-12.7
	44274	55545256	2/ 5/80	15:25:45														
1476	44274	55550182	2/ 5/80	15:25:50	10	-9.8	27.1	30.8	7.2	0.23	-35.4	10	-1.3	-164.4	13.1	3.3	0.02	-14.7
	44274	61120363	2/ 5/80	16:58:40														
1477	44274	61125279	2/ 5/80	16:58:45	10	20.1	3.9	31.8	8.3	0.26	-37.2	10	5.8	172.4	13.3	1.9	0.14	-14.3
	44274	66694470	2/ 5/80	18:31:34														
1478	44274	66699395	2/ 5/80	18:31:39	10	29.0	-19.4	32.2	6.9	0.21	-36.9	10	5.7	149.2	13.1	1.0	0.08	-13.8
	44274	72268585	2/ 5/80	20: 4:28														
1479	44274	72273510	2/ 5/80	20: 4:33	10	24.9	-42.6	27.3	7.4	0.27	-31.1	7	-4.1	125.9	14.4	-1.6	-0.11	-10.1
	44274	77842700	2/ 5/80	21:37:22														
1480	44274	77847626	2/ 5/80	21:37:27	7	11.2	-65.8	26.0	7.0	0.27	-38.3	7	-12.5	102.7	12.2	-4.5	-0.37	-8.2
	44274	83416815	2/ 5/80	23:10:16														
1481	44274	83421740	2/ 5/80	23:10:21	7	-0.8	-89.0	25.7	4.8	0.19	-35.9	0	-17.4	79.5	13.6	-4.1	-0.30	-9.2
	44275	2590931	2/ 6/80	0:43:10														
1482	44275	2595856	2/ 6/80	0:43:15	0	-16.7	-112.3	28.1	-0.9	-0.03	0.4	0	-12.4	56.3	18.8	-3.6	-0.03	-19.6
	44275	8150046	2/ 6/80	2:16: 5														
1483	44275	8169971	2/ 6/80	2:16: 9	0	-6.0	-135.5	25.6	0.3	0.01	-27.7	37	19.8	33.0	0.6	-8.9	-14.93	18.0
	44275	13739162	2/ 6/80	3:48:59														
1484	44275	13744087	2/ 6/80	3:49: 4	37	6.1	-158.7	-0.4	-8.3	20.61	******	37	45.9	9.8	5.5	-13.9	-2.55	13.7
	44275	19313277	2/ 6/80	5:21:53														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D FCL	EQL	E	I	I/E	DELTA D	DESCENDING KP	D FCL	EQL	E	I	I/E	D	A B
1485	44275	19318202	2/ 6/80	5: 21: 58	37	15.4	178.0	1.4	-6.5	-4.68	6.6	43	71.0	-13.4	3.4	-11.4	-29.4		5.4
	44275	19682477	2/ 6/80	6: 54: 42															
1486	44275	24887403	2/ 6/80	6: 54: 47	43	8.4	154.6	22.4	2.8	0.13	-23.1	43	38.1	-36.6	7.9	-8.9	-0.6		.6
1487	44275	30456592	2/ 6/80	8: 27: 36															
	44275	30461918	2/ 6/80	8: 27: 41	43	-38.0	151.6	74.8	22.4	0.30	-90.4	47	3.3	-59.9	29.1	15.0	0.51	-43.9	
1488	44275	36030707	2/ 6/80	10: 0: 30															
	44275	36035633	2/ 6/80	10: 0: 35	47	-53.5	108.4	44.7	12.9	0.29	-53.4	47	-35.4	-83.1	38.1	11.9	0.31	-52.3	
1489	44275	41606798	2/ 6/80	11: 33: 26															
	44275	41611714	2/ 6/80	11: 33: 31	47	-68.5	85.1	61.2	21.5	0.35	-76.1	50	-24.4	-106.3	25.1	10.6	0.42	-39.5	
1490	44275	47176974	2/ 6/80	13: 6: 16															
	44275	47181897	2/ 6/80	13: 6: 21	50	-65.3	61.9	67.3	23.3	0.34	-76.1	50	-45.5	-129.6	42.2	11.0	0.26	-54.0	
1491	44275	52754041	2/ 6/80	14: 39: 14															
	44275	52758901	2/ 6/80	14: 39: 18	53	-81.3	38.7	101.4	40.6	0.40	-136.0	53	-37.4	-152.8	36.5	9.7	0.27	-44.2	
1492	44275	58328152	2/ 6/80	16: 12: 8															
	44275	58333077	2/ 6/80	16: 12: 13	53	-88.3	15.5	115.9	45.2	0.39	-150.5	53	-30.2	-176.0	32.5	10.8	0.32	-52.8	
1493	44275	63900303	2/ 6/80	17: 45: 0															
	44275	63905226	2/ 6/80	17: 45: 5	53	-44.8	-7.8	76.1	29.1	0.38	-103.9	53	-45.2	160.8	52.4	16.4	0.31	-54.9	
1494	44275	69473416	2/ 6/80	19: 17: 54															
	44275	69479342	2/ 6/80	19: 17: 59	53	-80.6	-31.0	131.4	51.6	0.39	-152.3	53	-64.5	137.5	62.4	27.6	0.44	-90.5	
1495	44275	75046531	2/ 6/80	20: 50: 48															
	44275	75053458	2/ 6/80	20: 50: 53	23	-42.2	-54.2	73.2	16.9	0.23	-90.2	23	-73.9	114.3	57.5	15.4	0.27	-69.1	
1496	44275	80617732	2/ 6/80	22: 23: 37															
	44275	80622657	2/ 6/80	22: 23: 42	23	-50.1	-77.4	73.7	15.6	0.21	-93.3	23	-78.1	91.1	56.6	16.5	0.29	-69.5	
1497	44275	86191847	2/ 6/80	23: 56: 31															
	44275	86196772	2/ 6/80	23: 56: 36	20	-79.7	-100.7	79.5	19.2	0.24	-98.9	20	-68.3	67.5	61.0	11.2	0.18	-65.4	
1498	44276	53649?9	2/ 7/80	1: 29: 24															
	44276	53699?4	2/ 7/80	1: 29: 29	20	-79.6	-123.9	70.9	17.8	0.25	-86.4	20	-65.7	44.7	61.2	16.0	0.26	-73.3	
1499	44276	109390?4	2/ 7/80	3: 2: 19															
	44276	109440?0	2/ 7/80	3: 2: 24	20	-91.3	-147.1	67.4	17.5	0.26	-79.0	20	-31.4	21.4	57.1	15.1	0.26	-62.2	
1500	44276	16513209	2/ 7/80	4: 35: 13															
	44276	16518135	2/ 7/80	4: 35: 18	20	-81.2	-170.3	65.4	18.0	0.27	-79.2	20	-13.6	-1.8	53.9	13.5	0.25	-60.0	
1501	44276	22087324	2/ 7/80	6: 8: 7															
	44276	22092251	2/ 7/80	6: 8: 12	33	-54.2	100.4	68.6	20.9	0.30	-86.3	33	-14.1	-25.0	57.7	5.2	0.09	-52.4	
1502	44276	27656525	2/ 7/80	7: 40: 56															
	44276	27661450	2/ 7/80	7: 41: 1	33	-51.5	143.2	71.9	16.5	0.23	-91.9	33	-36.5	-48.2	60.4	15.4	0.23	-75.7	
1503	44276	33230640	2/ 7/80	9: 13: 50															
	44276	33235565	2/ 7/80	9: 13: 55	17	-48.1	120.0	61.2	19.1	0.31	-78.4	17	-43.7	-71.5	58.9	19.3	0.33	-76.4	
1504	44276	38806722	2/ 7/80	10: 46: 46															
	44276	38811647	2/ 7/80	10: 46: 51	17	-51.9	96.8	60.3	19.1	0.25	-73.8	17	-48.3	-94.7	58.2	12.7	0.22	-70.4	
1505	44276	44375922	2/ 7/80	12: 19: 35															
	44276	44380847	2/ 7/80	12: 19: 40	33	-53.5	73.5	60.9	14.2	0.23	-74.1	33	-53.6	-117.9	45.1	13.4	0.23	-52.0	
1506	44276	49952003	2/ 7/80	13: 52: 32															
	44276	49956929	2/ 7/80	13: 52: 36	33	-46.9	50.3	50.7	14.4	0.29	-68.0	20	-56.6	-141.1	40.6	8.9	0.22	******	
1507	44276	55521203	2/ 7/80	15: 25: 21															
	44276	55526128	2/ 7/80	15: 25: 26	20	-35.2	27.1	49.6	15.4	0.31	-63.0	20	-54.5	-164.4	39.6	9.7	0.24	-49.3	
1508	44276	61095318	2/ 7/80	16: 58: 15															
	44276	61100244	2/ 7/80	16: 58: 20	20	-18.2	3.9	56.0	18.0	0.32	-67.9	33	-18.9	172.4	36.1	9.0	0.25	-42.7	
1509	44276	66667222	2/ 7/80	18: 31: 7															
	44276	66672148	2/ 7/80	18: 31: 12	33	-18.6	-19.3	77.9	26.2	0.34	-93.0	33	-16.1	149.2	26.5	9.5	0.36	-37.6	
1510	44276	72240354	2/ 7/80	20: 4: 0															
	44276	72245280	2/ 7/80	20: 4: 5	33	-17.3	-42.6	65.5	18.4	0.28	-93.0	33	-24.4	126.0	32.5	7.7	0.24	-35.8	
1511	44276	77811529	2/ 7/80	21: 36: 51															
	44276	77816445	2/ 7/80	21: 36: 56	33	-26.2	-65.8	57.6	16.2	0.28	-75.7	33	-37.3	102.8	33.9	3.6	0.11	-37.8	
1512	44276	83386536	2/ 7/80	23: 9: 45															
	44276	83390501	2/ 7/80	23: 9: 50	33	-43.5	-89.0	58.3	18.8	0.32	-83.0	33	-47.2	79.5	37.3	5.3	0.14	-39.7	
1513	44277	2559019	2/ 8/80	0: 42: 39															
	44277	2563939	2/ 8/80	0: 42: 43	33	-63.9	-112.2	63.6	16.1	0.25	-8.4	33	-39.9	56.3	39.5	6.2	0.16	-45.4	
1514	44277	8133128	2/ 8/80	2: 15: 33															
	44277	8138054	2/ 8/80	2: 15: 38	33	-93.3	-135.5	54.7	11.3	0.21	-67.6	37	-21.9	33.1	38.3	3.4	0.22	-41.7	
1515	44277	13702329	2/ 8/80	3: 48: 22															
	44277	13707254	2/ 8/80	3: 48: 27	37	-66.5	-158.7	63.1	21.0	0.33	-82.0	37	7.6	9.9	28.6	-3.7	-0.13	-19.1	
1516	44277	19278056	2/ 8/80	5: 21: 18															
	44277	19283581	2/ 8/80	5: 21: 23	37	-54.2	178.1	61.7	17.4	0.28	49.6	33	29.5	-13.3	35.4	-0.5	-0.01	-38.9	
1517	44277	24847856	2/ 8/80	6: 54: 7															
	44277	24852781	2/ 8/80	6: 54: 12	33	-44.8	154.9	63.5	19.5	0.31	-76.7	33	-3.9	-36.6	42.3	1.9	0.04	-36.6	
1518	44277	30421971	2/ 8/80	8: 27: 1															
	44277	30426897	2/ 8/80	8: 27: 6	33	-51.1	131.7	69.8	13.9	0.20	-79.8	30	-7.8	-59.8	33.8	5.5	0.16	-42.5	
1519	44277	35991172	2/ 8/80	9: 59: 51															
	44277	35996097	2/ 8/80	9: 59: 56	30	-51.6	108.4	64.9	17.2	0.27	-77.8	30	-22.3	-83.0	33.3	12.0	0.36	-46.5	
1520	44277	41265286	2/ 8/80	11: 32: 45															
	44277	41270212	2/ 8/80	11: 32: 50	30	-56.9	85.2	54.8	11.1	0.20	-63.5	37	-32.5	-106.2	31.8	10.0	0.31	-44.7	
1521	44277	47139402	2/ 8/80	13: 5: 39															
	44277	47144328	2/ 8/80	13: 5: 44	37	-78.3	62.0	86.4	22.3	0.26	-101.7	37	-39.9	-129.4	40.5	9.5	0.23	-49.7	
1522	44277	52708602	2/ 8/80	14: 38: 28															
	44277	52713527	2/ 8/80	14: 38: 33	33	-60.9	38.8	76.9	25.7	0.33	-97.5	33	-44.9	-152.7	39.5	12.4	0.31	-47.9	
1523	44277	58282716	2/ 8/80	16: 11: 22															
	44277	58287642	2/ 8/80	16: 11: 27	33	-38.0	15.6	67.6	21.9	0.32	-83.7	33	-35.5	-175.3	37.2	11.9	0.32	-46.6	
1524	44277	63851917	2/ 8/80	17: 44: 11															
	44277	63856843	2/ 8/80	17: 44: 16	17	-11.2	-7.7	64.3	21.9	0.34	-84.6	17	-33.4	160.9	36.9	10.2	0.28	-43.0	
	44277	69426032	2/ 8/80	19: 17: 6															

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
1525	44277	69430957	2/ 8/80	19:17:10	17	1.1	-30.9	69.4	15.9	0.23	-73.5	17	-33.4	137.7	40.8	10.0	0.24	-52.4
	44277	74995233	2/ 8/80	20:49:55														
1526	44277	75000157	2/ 8/80	20:50: 0	30	-0.9	-54.1	54.3	15.7	0.29	-70.5	30	-32.5	114.5	38.3	2.6	0.07	******
	44277	80571315	2/ 8/80	22:22:51														
1527	44277	80576239	2/ 8/80	22:22:56	30	-27.3	-77.3	60.7	17.8	0.29	-84.3	30	-39.9	91.2	33.1	5.8	0.17	-36.8
	44277	86140514	2/ 8/80	23:55:40														
1528	44277	86145439	2/ 8/80	23:55:45	17	-50.0	-100.5	57.1	13.5	0.24	-74.8	17	-38.4	68.0	43.4	5.9	0.14	-44.5
	44278	53146?9	2/ 9/80	1:29:34														
1529	44278	53195?4	2/ 9/80	1:26:39	17	-51.3	-123.7	49.0	8.0	0.16	-56.9	17	-31.2	44.8	36.7	6.2	0.17	-40.4
	44278	10883829	2/ 9/80	3: 1:23														
1530	44278	10868754	2/ 9/80	3: 1:28	30	-57.3	-147.0	50.8	7.2	0.14	-52.8	30	2.5	21.6	27.8	4.5	0.16	-25.3
	44278	16457944	2/ 9/80	4:34:17														
1531	44278	16462869	2/ 9/80	4:34:22	30	-39.5	-170.1	40.3	3.6	0.09	-41.5	30	25.0	-1.6	29.3	0.1	0.00	-28.2
	44278	22027144	2/ 9/80	6: 7: 7														
1532	44278	22032070	2/ 9/80	6: 7:12	30	-21.6	166.6	45.7	9.7	0.21	-55.3	30	36.9	-24.8	34.6	-2.3	-0.07	-25.4
	44278	27600763	2/ 9/80	7:40: 0														
1533	44278	27605694	2/ 9/80	7:40: 5	30	-26.6	143.4	50.9	10.1	0.20	-61.8	30	25.8	-48.1	31.9	1.5	0.05	-33.0
	44278	33169968	2/ 9/80	9:12:49														
1534	44278	33174893	2/ 9/80	9:12:54	23	-36.7	120.2	47.9	15.1	0.32	******	23	-14.0	-71.3	31.9	12.9	0.40	-44.4
	44278	38744083	2/ 9/80	10:45:44														
1535	44278	38749008	2/ 9/80	10:45:49	23	-51.1	96.9	42.4	6.2	0.15	******	23	-30.1	-94.5	35.1	7.2	0.21	-43.2
	44278	44314515	2/ 9/80	12:18:54														
1536	44278	44319437	2/ 9/80	12:18:59	27	-45.5	73.7	47.8	11.6	0.24	-60.2	27	-32.[illegible]	-117.7	27.4	3.7	0.14	-29.9
	44278	49886626	2/ 9/80	13:51:28														
1537	44278	49893553	2/ 9/80	13:51:33	27	-44.6	50.5	58.4	15.3	0.26	-77.7	27	-[illegible].8	-140.9	22.8	0.8	0.03	-22.3
	44278	55457827	2/ 9/80	15:24:17														
1538	44278	55462752	2/ 9/80	15:24:22	27	-43.1	27.3	59.5	18.8	0.32	-74.4	27	-29.6	-164.1	29.7	5.1	0.17	-36.1
	44278	61031942	2/ 9/80	16:57:11														
1539	44278	61036867	2/ 9/80	16:57:16	27	-15.7	4.1	59.1	18.4	0.31	-73.6	30	-18.0	172.6	30.1	6.6	0.22	-37.4
	44278	66601142	2/ 9/80	18:30: 1														
1540	44278	66606067	2/ 9/80	18:30: 6	30	-8.5	-19.1	57.2	22.1	0.39	-71.3	30	-13.5	149.4	28.0	8.9	0.32	-38.0
	44278	72170342	2/ 9/80	20: 2:50														
1541	44278	72175207	2/ 9/80	20: 2:55	30	6.3	-42.4	51.0	12.5	0.24	-56.1	20	-18.8	126.2	28.7	3.0	0.10	-30.7
	44278	77744457	2/ 9/80	21:35:44														
1542	44278	77749382	2/ 9/80	21:35:49	20	1.6	-65.6	43.1	14.0	0.32	-60.8	20	-21.5	103.0	24.8	-1.6	-0.06	-23.6
	44278	83313657	2/ 9/80	23: 8:33														
1543	44278	83318582	2/ 9/80	23: 8:38	20	-32.6	-88.8	45.3	12.7	0.28	-63.3	10	-29.9	79.8	27.8	-0.3	-0.01	-25.1
	44279	2483841	2/10/80	0:41:23														
1544	44279	2488765	2/10/80	0:41:28	10	-46.0	-112.0	48.1	5.2	0.11	5.6	10	-31.3	56.6	32.9	3.9	0.12	-37.4
	44279	8057955	2/10/80	2:14:17														
1545	44279	8062881	2/10/80	2:14:22	10	-47.5	-135.2	45.6	4.0	0.09	-50.6	17	-15.2	33.3	28.0	4.4	0.16	-27.1
	44279	13627155	2/10/80	3:47: 7														
1546	44279	13632081	2/10/80	3:47:12	17	-38.7	-158.4	35.8	5.1	0.14	-39.1	17	2.8	10.1	35.6	2.3	0.07	-30.0
	44279	19201270	2/10/80	5:20: 1														
1547	44279	19206196	2/10/80	5:20: 6	17	-28.1	178.4	41.0	8.3	0.20	23.8	13	27.5	-13.1	30.7	1.2	0.04	-34.7
	44279	24770471	2/10/80	6:52:50														
1548	44279	24775396	2/10/80	6:52:55	13	-3.6	155.1	36.7	5.6	0.15	-39.6	13	26.7	-36.3	29.2	3.9	0.13	-22.7
	44279	30339670	2/10/80	8:25:39														
1549	44279	30344596	2/10/80	8:25:44	13	-7.9	131.9	36.1	4.2	0.12	-41.7	7	14.7	-59.5	24.0	4.1	0.17	-28.3
	44279	35913785	2/10/80	9:58:33														
1550	44279	35918711	2/10/80	9:58:38	7	-21.0	108.7	28.9	4.9	0.17	-34.5	7	-16.0	-82.7	24.2	0.1	0.25	-29.5
	44279	41482986	2/10/80	11:31:22														
1551	44279	41487910	2/10/80	11:31:27	7	-24.5	85.5	31.4	5.3	0.17	-36.0	3	-21.9	-105.9	25.4	4.6	0.18	******
	44279	47052186	2/10/80	13: 4:12														
1552	44279	47057110	2/10/80	13: 4:17	3	-18.0	62.3	36.1	6.8	0.19	-45.9	3	-23.5	-129.2	24.8	2.2	0.09	-24.7
	44279	52246300	2/10/80	14:37: 6														
1553	44279	52631226	2/10/80	14:37:11	7	-11.2	39.1	33.9	7.6	0.22	-41.2	7	-20.7	-152.4	18.2	3.6	0.20	-17.6
	44279	58195500	2/10/80	16: 9:55														
1554	44279	58200426	2/10/80	16:10: 0	7	0.4	15.8	31.3	9.9	0.32	-39.4	7	-15.3	-175.6	**********		******	-17.6
	44279	63596843	2/10/80	17:39:56														
1555	44279	63726125	2/10/80	17:42: 6	7	32.7	-7.4	37.9	2.6	0.07	-45.7	7	-14.1	161.2	19.2	1.9	0.10	-17.1
	44279	69339800	2/10/80	19:15:39														
1556	44279	69344724	2/10/80	19:15:44	7	39.4	-30.6	39.7	5.1	0.13	-39.9	7	0.6	138.0	19.4	1.8	0.09	-23.5
	44279	74908752	2/10/80	20:48:28														
1557	44279	74913678	2/10/80	20:48:33	7	21.1	-53.8	31.6	7.7	0.24	-42.4	7	1.3	114.8	20.8	-3.2	-0.15	-17.4
	44279	80477933	2/10/80	22:21:17														
1558	44279	80482879	2/10/80	22:21:22	7	5.5	-77.0	35.9	5.3	0.15	-47.5	7	-10.3	91.6	14.6	-1.4	-0.09	-13.7
	44279	86047133	2/10/80	23:54: 7														
1559	44279	86052079	2/10/80	23:54:12	3	-21.4	-100.2	34.4	6.9	0.20	-42.6	3	-18.9	66.4	20.2	-1.7	-0.06	-21.3
	44280	5221267	2/11/80	1:27: 1														
1560	44280	5226193	2/11/80	1:27: 6	3	-30.4	-123.4	32.2	4.9	0.15	-37.8	3	-11.8	45.1	24.2	0.5	0.02	-24.2
	44280	10790468	2/11/80	2:59:50														
1561	44280	10795394	2/11/80	2:59:55	23	-30.8	-146.6	30.7	-0.7	-0.02	-29.0	23	17.8	21.9	16.1	-1.0	-0.06	-9.5
	44280	16359668	2/11/80	4:32:39														
1562	44280	16364593	2/11/80	4:32:44	23	-25.3	-169.9	25.2	0.3	0.01	-26.5	23	28.4	-1.3	19.1	-1.1	-0.06	-15.9
	44280	21933783	2/11/80	6: 5:33														
1563	44280	21938708	2/11/80	6: 5:38	13	-16.2	166.9	23.4	3.2	0.14	-29.5	13	28.1	-24.5	23.0	-3.7	-0.16	-14.3
	44280	27502983	2/11/80	7:38:22														
1564	44280	27507908	2/11/80	7:38:27	13	3.3	143.7	25.4	0.9	0.04	-35.0	13	28.7	-47.7	18.9	-2.6	-0.14	-17.7
	44280	33072132	2/11/80	9:11:12														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
1565	44280	33077108	2/11/80	9:11:17	10	5.6	120.5	20.1	4.1	0.20	-27.5	10	14.1	-70.9	16.3	5.0	0.34	-20.6
	44280	38641383	2/11/80	10:44: 1														
1566	44280	38646309	2/11/80	10:44: 6	10	-6.3	97.3	21.9	2.3	0.11	-27.7	10	1.6	-94.1	20.9	0.9	0.05	-22.7
	44280	44215498	2/11/80	12:16:55														
1567	44280	44220423	2/11/80	12:17: 0	10	-8.6	74.1	23.8	4.5	0.19	-29.5	10	-16.0	-117.3	19.1	1.7	0.09	-18.3
	44280	49784698	2/11/80	13:49:44														
1568	44280	49789623	2/11/80	13:49:49	10	-9.7	50.9	26.8	5.6	0.21	-38.1	10	-15.2	-140.6	16.0	0.7	0.05	-15.2
	44280	55356118	2/11/80	15:22:36														
1569	44280	55361035	2/11/80	15:22:41	10	-1.4	27.7	24.4	4.8	0.19	-27.7	10	-5.7	-163.8	13.5	-0.1	-0.01	-13.3
	44280	60925309	2/11/80	16:55:25														
1570	44280	60930235	2/11/80	16:55:30	10	17.1	4.4	28.8	6.2	0.22	-33.7	10	3.9	173.0	16.2	0.6	0.03	-15.2
	44280	66494510	2/11/80	18:28:14														
1571	44280	66499435	2/11/80	18:28:19	10	23.5	-18.8	33.2	6.4	0.19	-39.4	10	6.2	149.8	15.6	0.6	0.04	-16.1
	44280	72063710	2/11/80	20: 1: 3														
1572	44280	72068635	2/11/80	20: 1: 8	10	19.2	-42.0	32.8	5.6	0.17	-34.4	3	3.3	126.6	14.7	-2.7	-0.18	-11.9
	44280	77632910	2/11/80	21:33:52														
1573	44280	77637834	2/11/80	21:33:57	3	14.7	-65.2	27.6	8.0	0.29	-38.7	3	-5.1	103.4	15.5	-3.3	-0.22	-12.3
	44280	83202110	2/11/80	23: 6:42														
1574	44280	83207035	2/11/80	23: 6:47	3	1.0	-88.4	30.1	5.5	0.18	-45.3	7	-13.7	80.2	15.1	-3.4	-0.22	-10.0
	44281	2374259	2/12/80	0:39:34														
1575	44281	2379183	2/12/80	0:39:39	7	-29.3	-111.6	34.7	4.1	0.12	-39.3	7	-17.4	57.0	20.8	-0.2	-0.01	-22.2
	44281	7943458	2/12/80	2:12:23														
1576	44281	7948384	2/12/80	2:12:28	7	-30.9	-134.8	31.4	1.9	0.06	-33.9	0	-6.7	33.8	17.3	2.0	0.12	-16.0
	44281	13512658	2/12/80	3:45:12														
1577	44281	13517584	2/12/80	3:45:17	0	-24.2	-158.0	27.1	1.9	0.07	-30.2	0	3.0	10.5	23.3	-0.5	-0.02	-16.2
	44281	19081858	2/12/80	5:18: 1														
1578	44281	19086783	2/12/80	5:18: 6	0	-15.3	178.8	29.2	3.3	0.11	-1.4	3	34.5	-12.7	21.1	-1.5	-0.07	-22.7
	44281	24655973	2/12/80	6:50:55														
1579	44281	24660898	2/12/80	6:51: 0	3	-1.3	155.5	25.9	3.3	0.13	-30.8	3	27.0	-35.9	19.8	-0.7	-0.04	-12.9
	44281	30225174	2/12/80	8:23:45														
1580	44281	30230099	2/12/80	8:23:50	3	-3.5	132.3	26.3	1.6	0.06	-32.6	10	18.9	-59.1	16.4	1.2	0.08	-19.3
	44281	35794373	2/12/80	9:56:34														
1581	44281	35799298	2/12/80	9:56:39	10	-11.3	109.1	18.5	2.4	0.13	-25.7	10	5.9	-82.3	19.3	1.8	0.09	-20.1
	44281	41364319	2/12/80	11:29:24														
1582	44281	41369236	2/12/80	11:29:29	10	-12.5	85.9	16.9	4.6	0.27	-25.7	13	0.7	-105.5	19.3	3.7	0.19	-24.7
	44281	46931791	2/12/80	13: 2:11														
1583	44281	46936715	2/12/80	13: 2:16	13	-17.4	62.7	30.5	7.3	0.24	-41.4	13	-15.2	-128.7	20.1	1.7	0.08	-19.8
	44281	52500990	2/12/80	14:35: 0														
1584	44281	52505915	2/12/80	14:35: 5	13	-7.4	39.5	27.4	4.5	0.16	-33.7	3	-15.2	-151.9	12.7	2.5	0.20	-11.9
	44281	57926915	2/12/80	16: 5:26														
1585	44281	58079293	2/12/80	16: 7:59	3	12.1	16.3	26.2	6.7	0.26	-29.5	3	-4.1	-175.1	14.1	3.5	0.25	-30.7
	44281	63642098	2/12/80	17:40:42														
1586	44281	63647019	2/12/80	17:40:47	3	27.7	-6.9	28.2	5.8	0.21	-38.0	3	3.1	161.7	15.0	0.3	0.02	-12.1
	44281	69211293	2/12/80	19:13:31														
1587	44281	69216219	2/12/80	19:13:36	3	29.8	-30.1	30.4	6.2	0.20	-32.4	3	5.3	138.5	13.6	-0.0	-0.00	-16.1
	44281	74780493	2/12/80	20:46:20														
1588	44281	74785419	2/12/80	20:46:25	10	21.3	-53.3	25.6	7.1	0.28	-38.7	10	1.8	115.2	13.9	-3.9	-0.28	-10.9
	44281	80349694	2/12/80	22:19: 9														
1589	44281	80354618	2/12/80	22:19:14	10	11.7	-76.5	29.1	3.3	0.11	-41.9	10	-8.0	92.0	9.6	0.1	0.01	-10.2
	44281	85918893	2/12/80	23:51:58														
1590	44281	85923818	2/12/80	23:52: 3	3	-9.2	-99.7	29.0	5.6	0.19	-41.5	3	-11.0	68.8	18.1	-3.5	-0.19	-11.0
	44282	5088092	2/13/80	1:24:48														
1591	44282	5093017	2/13/80	1:24:53	3	-17.7	-123.0	24.4	1.5	0.06	-29.1	3	-7.1	45.6	16.1	0.1	0.00	-15.5
	44282	10657293	2/13/80	2:57:37														
1592	44282	10662218	2/13/80	2:57:42	0	-20.7	-146.2	24.8	0.3	0.01	-24.6	0	10.9	22.4	15.3	-0.3	-0.02	-9.2
	44282	16226493	2/13/80	4:30:26														
1593	44282	16231417	2/13/80	4:30:31	0	-19.1	-169.4	25.5	1.6	0.06	-27.7	0	16.2	-0.8	15.7	-1.7	-0.11	-12.1
	44282	21795692	2/13/80	6: 3:15														
1594	44282	21800618	2/13/80	6: 3:20	0	-11.7	167.4	21.7	2.2	0.10	-27.1	0	24.7	-24.0	19.1	-3.8	-0.20	-12.1
	44282	27364892	2/13/80	7:36: 4														
1595	44282	27369818	2/13/80	7:36: 9	0	-4.1	144.2	21.8	0.3	0.01	-28.3	0	27.4	-47.2	16.2	-2.3	-0.14	-15.6
	44282	32934092	2/13/80	9: 8:54														
1596	44282	32939017	2/13/80	9: 8:59	7	10.3	121.0	13.1	1.5	0.12	-18.8	7	16.9	-70.4	9.6	3.8	0.40	-13.9
	44282	38503291	2/13/80	10:41:43														
1597	44282	38508217	2/13/80	10:41:48	7	4.3	97.8	13.3	-2.9	-0.22	-14.5	7	12.8	-93.6	13.2	-1.3	-0.10	-13.9
	44282	44072491	2/13/80	12:14:32														
1598	44282	44077417	2/13/80	12:14:37	7	1.6	74.6	16.3	2.2	0.13	-17.9	7	0.3	-116.8	9.0	-1.5	-0.17	******
	44282	49641691	2/13/80	13:47:21														
1599	44282	49646617	2/13/80	13:47:26	7	2.3	51.4	14.7	3.3	0.22	-23.1	7	-0.9	-140.0	4.9	-2.8	-0.56	-1.4
	44282	55210891	2/13/80	15:20:10														
1600	44282	55215816	2/13/80	15:20:15	7	10.3	29.2	12.9	1.6	0.13	-13.7	7	2.6	-163.2	4.1	-3.5	-0.85	-0.4
	44282	60780093	2/13/80	16:53: 0														
1601	44282	60785016	2/13/80	16:53: 5	7	30.1	5.0	16.6	3.3	0.20	-19.6	10	20.2	173.5	5.8	-3.0	-0.52	-2.7
	44282	66349292	2/13/80	18:25:49														
1602	44282	66354217	2/13/80	18:25:54	10	40.5	-18.2	16.4	1.2	0.07	-22.9	10	21.8	150.3	3.6	-3.4	-0.95	-0.4
	44282	71918491	2/13/80	19:58:38														
1603	44282	71923416	2/13/80	19:58:43	10	35.5	-41.4	18.2	0.4	0.02	-22.9	10	15.8	127.1	0.4	-8.2	-22.03	6.3
	44282	77488680	2/13/80	21:31:28														
1604	44282	77493599	2/13/80	21:31:33	10	34.6	-64.7	12.4	5.2	0.41	-22.2	10	9.2	103.9	2.9	-7.3	-2.50	1.3
	44282	83057874	2/13/80	23: 4:17														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
1605	44282	83062800	2/13/80	23: 4:22	10	12.1	-87.9	12.0	4.6	0.38	-24.1	13	-2.1	80.7	6.3	-3.0	-0.78	2.4
	44283	2225354	2/14/80	0:37: 3														
1606	44283	2230279	2/14/80	0:37:10	13	-22.3	-111.1	23.2	1.8	0.08	-27.0	13	-6.7	57.5	10.3	-1.7	-0.10	-14.9
	44283	7794553	2/14/80	2: 9:54														
1607	44283	7799479	2/14/80	2: 9:59	13	-22.6	-134.3	27.6	0.9	0.03	-29.4	33	20.8	34.3	-3.4	-0.4	1.89	11.4
	44283	13361788	2/14/80	3:42:41														
1608	44283	13366712	2/14/80	3:42:46	33	-8.7	-157.5	11.1	-7.2	-0.65	-1.4	33	30.2	11.1	10.4	-8.1	-0.78	1.2
	44283	18930987	2/14/80	5:15:30														
1609	44283	18935912	2/14/80	5:15:35	33	-5.7	179.3	21.6	-2.4	-0.11	-23.1	30	34.1	-12.1	6.7	-7.0	-1.04	-6.3
	44283	24500186	2/14/80	6:48:20														
1610	44283	24505112	2/14/80	6:48:25	30	8.4	156.1	22.2	-0.8	-0.04	-19.6	30	40.8	-35.3	8.0	-2.5	-0.31	-2.1
	44283	30069386	2/14/80	8:21: 9														
1611	44283	30074312	2/14/80	8:21:14	30	6.8	132.9	20.0	-0.1	-0.00	-20.6	47	41.9	-58.5	5.7	-0.7	-1.17	-4.2
	44283	35638587	2/14/80	9:53:58														
1612	44283	35643511	2/14/80	9:54: 3	47	-58.4	109.7	56.6	20.4	0.36	-76.9	47	-1.2	-81.7	14.9	10.6	0.71	-27.2
	44283	41207787	2/14/80	11:26:47														
1613	44283	41212711	2/14/80	11:26:52	47	-70.5	86.5	64.0	25.4	0.40	-84.6	33	-28.4	-104.9	40.4	17.6	0.43	-59.7
	44283	46776936	2/14/80	12:59:36														
1614	44283	46781912	2/14/80	12:59:41	33	-61.0	63.3	65.6	23.1	0.35	-87.8	33	-42.0	-128.1	33.7	9.6	0.29	-41.2
	44283	52341271	2/14/80	14:32:21														
1615	44283	52346196	2/14/80	14:32:26	33	-37.3	40.1	57.2	20.2	0.35	-75.4	40	-36.3	-151.3	29.9	4.9	0.16	-32.1
	44283	57910470	2/14/80	16: 5:10														
1616	44283	57915395	2/14/80	16: 5:15	40	-53.8	16.9	*****	*****	*****	-75.4	40	-24.6	-174.5	36.6	9.9	0.27	-47.2
	44283	63477736	2/14/80	17:37:57														
1617	44283	63482629	2/14/80	17:38: 2	27	-23.2	-6.3	62.9	29.3	0.47	-91.4	27	-15.9	162.3	35.7	8.3	0.23	-43.2
	44283	69046904	2/14/80	19:10:46														
1618	44283	69051829	2/14/80	19:10:51	27	-14.6	-29.5	67.7	21.1	0.31	-77.9	27	-18.4	139.1	34.9	6.8	0.19	-45.4
	44283	74616104	2/14/80	20:43:36														
1619	44283	74621029	2/14/80	20:43:41	17	-15.7	-52.7	48.6	13.8	0.28	-64.6	17	-22.5	115.9	33.5	1.7	0.05	-32.1
	44283	80185374	2/14/80	22:16:25														
1620	44283	80190230	2/14/80	22:16:30	17	-20.4	-75.9	43.9	8.7	0.20	-60.2	17	-31.5	92.7	27.2	4.0	0.15	-28.0
	44283	85754504	2/14/80	23:49:14														
1621	44283	85759429	2/14/80	23:49:19	23	-42.1	-99.1	42.3	9.0	0.21	-56.5	23	-33.5	69.5	40.1	2.6	0.06	-37.0
	44284	4920755	2/15/80	1:22: 0														
1622	44284	4925679	2/15/80	1:22: 5	23	-49.1	-122.3	39.5	9.4	0.24	-51.8	23	-22.8	46.3	32.6	3.4	0.11	-35.8
	44284	10489954	2/15/80	2:54:49														
1623	44284	10494879	2/15/80	2:54:54	27	-47.0	-145.5	46.9	9.6	0.20	-55.0	27	-2.0	23.1	32.8	5.8	0.18	-33.6
	44284	16057192	2/15/80	4:27:37														
1624	44284	16062113	2/15/80	4:27:42	27	-44.0	-168.7	45.8	10.7	0.23	-56.9	27	5.7	-0.1	35.8	7.0	0.19	-38.5
	44284	21626388	2/15/80	6: 0:26														
1625	44284	21631313	2/15/80	6: 0:31	20	-30.7	168.1	46.2	11.1	0.24	-62.7	20	-8.2	-23.3	44.0	3.0	0.08	-40.6
	44284	27190672	2/15/80	7:33:10														
1626	44284	27195598	2/15/80	7:33:15	20	-27.8	144.9	50.5	10.9	0.22	-66.9	20	-9.6	-46.5	39.3	5.3	0.14	-44.7
	44284	32759872	2/15/80	9: 5:59														
1627	44284	32764798	2/15/80	9: 6: 4	20	-26.0	121.7	43.8	10.3	0.23	-53.7	20	-16.9	-69.8	30.2	11.5	0.38	-43.6
	44284	38329072	2/15/80	10:38:49														
1628	44284	38333997	2/15/80	10:38:53	20	-35.6	98.5	37.0	4.5	0.12	-42.1	20	-30.6	-93.0	29.5	4.9	0.16	-36.7
	44284	43898272	2/15/80	12:11:38														
1629	44284	43903197	2/15/80	12:11:43	27	-25.6	75.3	32.0	8.0	0.25	-38.4	27	-20.5	-116.2	10.2	-1.2	-0.12	-9.3
	44284	49462556	2/15/80	13:44:22														
1630	44284	49467481	2/15/80	13:44:27	27	5.8	52.1	11.0	-1.6	-0.15	-16.1	27	-11.7	-139.4	7.6	-3.7	-0.49	-4.1
	44284	55031756	2/15/80	15:17:11														
1631	44284	55036682	2/15/80	15:17:16	30	2.6	28.9	12.5	5.2	0.41	-18.9	30	-14.5	-162.6	10.4	0.1	0.01	-17.3
	44284	60600956	2/15/80	16:50: 0														
1632	44284	60605881	2/15/80	16:50: 5	30	18.3	5.7	14.4	5.7	0.39	-19.1	30	-1.3	174.2	9.1	-2.0	-0.22	-7.0
	44284	66165241	2/15/80	18:22:45														
1633	44284	66170165	2/15/80	18:22:50	57	25.9	-17.5	14.5	2.4	0.16	-22.6	57	4.1	151.0	10.1	-2.4	-0.24	-6.1
	44284	71734440	2/15/80	19:55:34														
1634	44284	71739365	2/15/80	19:55:39	57	-7.4	-40.7	70.0	20.5	0.29	-77.8	70	-2.6	127.8	-0.6	-0.1	0.08	-8.7
	44284	77303640	2/15/80	21:28:23														
1635	44284	77308565	2/15/80	21:28:28	70	-63.5	-63.9	102.7	35.0	0.34	-134.4	70	-55.0	104.6	41.6	30.7	0.74	-75.6
	44284	82807925	2/15/80	23: 1: 7														
1636	44284	82872850	2/15/80	23: 1:12	70	-128.3	-87.1	109.1	35.4	0.32	-137.2	60	-65.6	81.4	46.7	27.1	0.58	-71.5
	44285	20388 48	2/16/80	0:33:58														
1637	44285	20423173	2/16/80	0:34: 2	60	-111.5	-110.3	64.3	17.8	0.28	-81.2	60	-79.0	58.2	79.5	27.7	0.35	-104.1
	44285	76064 48	2/16/80	2: 6:46														
1638	44285	76111373	2/16/80	2: 6:51	60	-120.1	-133.5	117.0	39.6	0.34	-150.2	57	-50.0	35.0	57.8	17.3	0.30	-69.6
	44285	131707 32	2/16/80	3:39:30														
1639	44285	131756 58	2/16/80	3:39:35	57	-142.7	-156.7	132.4	48.1	0.36	-167.3	57	-45.3	11.8	84.2	27.5	0.33	-103.0
	44285	187399 32	2/16/80	5:12:19														
1640	44285	187448 58	2/16/80	5:12:24	57	-140.6	-179.9	148.6	45.3	0.30	******	57	-61.7	-11.4	85.9	31.2	0.36	-112.5
	44285	243042 17	2/16/80	6:45: 4														
1641	44285	243091 42	2/16/80	6:45: 9	57	-146.4	156.9	146.1	39.9	0.27	******	57	-80.1	-34.6	89.4	7.1	0.08	-80.5
	44285	298735 40	2/16/80	8:17:53														
1642	44285	298783 43	2/16/80	8:17:58	57	-149.1	133.7	150.6	35.1	0.23	******	43	-66.1	-57.8	76.8	21.6	0.28	-97.9
	44285	354420 17	2/16/80	9:50:42														
1643	44285	354475 42	2/16/80	9:50:47	43	-126.5	110.5	115.7	23.4	0.20	-134.3	43	-54.6	-81.0	76.2	24.2	0.32	-100.4
	44285	410094 87	2/16/80	11:23:29														
1644	44285	410144 07	2/16/80	11:23:34	43	-136.7	87.3	117.6	26.1	0.22	-134.7	43	-66.2	-104.1	56.2	20.0	0.46	-88.0
	44285	465747 50	2/16/80	12:56:14														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQI	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA B
1645	44285	46579674	2/16/80	12:56:19	43	-122.1	64.9	112.8	33.1	0.29	-139.2	43	-84.6	-127.3	69.9	24.5	0.35	******
	44285	52143949	2/16/80	14:29: 3														
1646	44285	52148874	2/16/80	14:29: 8	43	-111.6	40.9	100.9	32.7	0.32	-127.4	30	-77.6	-150.5	62.9	17.3	0.27	-77.5
	44285	57708234	2/16/80	16: 1:48														
1647	44285	57713159	2/16/80	16: 1:53	30	-67.8	17.7	86.2	28.6	0.33	-104.8	30	-55.6	-173.7	65.5	15.0	0.23	-103.8
	44285	63277433	2/16/80	17:34:37														
1648	44285	63282359	2/16/80	17:34:42	30	-54.0	-5.5	88.0	31.9	0.36	-115.3	30	-51.4	163.1	65.6	16.2	0.25	-80.4
	44285	68841713	2/16/80	19: 7:21														
1649	44285	68846643	2/16/80	19: 7:26	30	-35.3	-28.7	97.4	27.6	0.28	-104.0	30	-26.6	139.9	45.8	5.7	0.12	-56.4
	44285	74409937	2/16/80	20:41: 9														
1650	44285	74414860	2/16/80	20:40:14	23	-41.8	-51.9	81.4	16.4	0.20	-95.1	23	-40.5	116.7	58.2	8.3	0.14	-62.5
	44285	79974220	2/16/80	22:12:54														
1651	44285	79979145	2/16/80	22:12:59	23	-54.8	-75.1	*****	*****	*****	-86.4	23	-52.5	93.5	49.2	10.0	0.20	-54.6
	44285	85542441	2/16/80	23:45:42														
1652	44285	85547362	2/16/80	23:45:47	20	-98.1	-98.3	69.1	13.5	0.20	-85.3	20	-60.2	70.3	59.8	10.4	0.17	-61.9
	44286	4711635	2/17/80	1:18:31														
1653	44286	4716500	2/17/80	1:18:36	20	-103.6	-121.5	65.3	11.9	0.18	-78.8	20	-56.9	47.1	53.4	14.1	0.26	-68.9
	44286	10274941	2/17/80	2:51:14														
1654	44286	10279862	2/17/80	2:51:19	17	-82.8	-144.7	63.4	9.5	0.15	-69.1	17	-36.9	23.9	44.7	14.4	0.32	-50.6
	44286	15844137	2/17/80	4:24: 4														
1655	44286	15849062	2/17/80	4:24: 9	17	-70.1	-167.9	62.6	10.0	0.16	-73.6	17	-33.7	0.7	41.7	11.2	0.27	-47.3
	44286	21408422	2/17/80	5:56:48														
1656	44286	21413346	2/17/80	5:56:53	17	-49.3	168.9	50.8	10.3	0.20	-64.8	17	-33.8	-22.5	45.2	3.0	0.07	-40.2
	44286	26977621	2/17/80	7:29:37														
1657	44286	26982547	2/17/80	7:29:42	17	-41.2	145.7	49.4	8.1	0.16	-64.3	17	-25.8	-45.7	45.3	4.8	0.11	-47.7
	44286	32541906	2/17/80	9: 2:21														
1658	44286	32546831	2/17/80	9: 2:26	7	-29.7	122.5	44.4	10.3	0.23	-58.4	7	-14.7	-68.9	37.9	10.0	0.26	-47.5
	44286	38108159	2/17/80	10:35: 8														
1659	44286	38113081	2/17/80	10:35:13	7	-30.1	93.3	39.1	4.7	0.12	-47.1	7	-16.4	-92.1	38.2	4.7	0.12	-42.9
	44286	43072441	2/17/80	12: 7:52														
1660	44286	43077365	2/17/80	12: 7:57	20	-34.4	76.1	39.5	11.0	0.28	-48.6	20	-28.2	-115.3	34.2	7.9	0.23	-39.7
	44286	49241041	2/17/80	13:40:41														
1661	44286	49246506	2/17/80	13:40:46	20	-44.9	52.9	47.5	13.7	0.29	-65.1	20	-36.0	-138.5	36.7	8.4	0.23	******
	44286	54805925	2/17/80	15:13:25														
1662	44286	54810850	2/17/80	15:13:30	13	-34.3	29.7	44.0	11.8	0.27	-53.2	13	-38.1	-161.7	35.8	7.0	0.20	-41.0
	44286	60375125	2/17/80	16:46:15														
1663	44286	60380050	2/17/80	16:46:20	13	-13.2	6.5	42.7	13.7	0.32	-53.2	13	-33.6	175.1	34.4	7.3	0.21	-39.7
	44286	65939419	2/17/80	18:18:59														
1664	44286	65944335	2/17/80	18:19: 4	13	-4.8	-16.7	48.2	12.5	0.26	-57.5	13	-27.4	151.9	40.3	8.4	0.21	-45.8
	44286	71503694	2/17/80	19:51:43														
1665	44286	71508619	2/17/80	19:51:48	13	3.9	-39.9	52.2	10.0	0.19	******	13	-21.3	128.7	33.8	4.3	0.13	-36.5
	44286	77072894	2/17/80	21:24:32														
1666	44286	77077819	2/17/80	21:24:37	13	-1.3	-63.0	45.6	12.1	0.26	-60.9	13	-26.4	105.5	30.0	3.8	0.03	-26.0
	44286	82637178	2/17/80	22:57:17														
1667	44286	82642103	2/17/80	22:57:22	13	-33.6	-86.2	46.9	13.9	0.30	-64.1	30	-38.4	82.3	32.8	5.9	0.18	-31.9
	44287	1803674	2/18/80	0:30: 3														
1668	44287	1808600	2/18/80	0:30: 8	30	-64.2	-109.4	68.8	19.2	0.28	-88.0	30	-41.2	59.2	44.6	11.0	0.25	-68.2
	44287	7371649	2/18/80	2: 2:51														
1669	44287	7376571	2/18/80	2: 2:56	30	-74.5	-132.6	66.4	12.4	0.19	-78.8	17	-30.6	36.0	41.2	10.8	0.26	-47.6
	44287	12935930	2/18/80	3:35:35														
1670	44287	12940855	2/18/80	3:35:40	17	-68.6	-155.8	50.4	9.7	0.19	-57.5	17	-27.0	12.8	41.7	7.8	0.19	-40.7
	44287	18503163	2/18/80	5: 8:23														
1671	44287	18508089	2/18/80	5: 8:28	17	-51.1	-179.0	54.1	6.3	0.12	-61.0	27	-18.6	-10.4	38.5	6.2	0.16	-45.9
	44287	24067451	2/18/80	6:41: 7														
1672	44287	24072373	2/18/80	6:41:12	27	-46.2	157.8	55.2	9.8	0.18	-63.2	27	-19.6	-33.6	39.1	0.7	0.02	-31.4
	44287	29611733	2/18/80	8:13:51														
1673	44287	29636658	2/18/80	8:13:56	27	-48.4	134.6	68.7	16.7	0.24	-85.2	20	-12.4	-56.8	42.2	3.1	0.07	-46.4
	44287	35209932	2/18/80	9:46:40														
1674	44287	35205857	2/18/80	9:46:45	20	-60.4	111.4	67.8	17.9	0.26	-84.0	20	-12.1	-80.0	39.6	15.8	0.40	-54.2
	44287	40765217	2/18/80	11:19:25														
1675	44287	40770142	2/18/80	11:19:30	20	-67.6	88.2	61.8	15.7	0.25	-76.8	20	-39.7	-103.2	44.3	11.2	0.25	-57.6
	44287	46329502	2/18/80	12:52: 9														
1676	44287	46334426	2/18/80	12:52:14	20	-62.6	65.0	70.0	18.8	0.27	-85.4	20	-46.2	-126.4	40.2	9.3	0.23	-46.5
	44287	51893756	2/18/80	14:24:53														
1677	44287	51898711	2/18/80	14:24:58	20	-50.3	41.8	55.8	14.6	0.26	-71.1	20	-42.2	-149.6	34.0	9.5	0.28	-39.7
	44287	57462965	2/18/80	15:57:42														
1678	44287	57467911	2/18/80	15:57:47	20	-21.3	18.6	51.4	13.2	0.26	-57.7	20	-32.1	-172.8	35.5	5.9	0.17	-56.8
	44287	63027270	2/18/80	17:30:27														
1679	44287	63032196	2/18/80	17:30:32	20	-15.2	-4.6	53.0	19.9	0.38	-73.8	27	-23.5	164.0	31.4	1.7	0.05	-32.1
	44287	68591555	2/18/80	19: 3:11														
1680	44287	68596480	2/18/80	19: 3:16	27	-18.1	-27.7	72.7	22.4	0.31	-82.8	27	-25.3	140.8	34.7	11.6	0.33	-49.3
	44287	74155841	2/18/80	20:35:55														
1681	44287	74160764	2/18/80	20:36: 0	27	-21.2	-50.9	67.4	19.8	0.29	-84.7	30	-26.7	117.6	40.0	7.5	0.19	-47.3
	44287	79725038	2/18/80	22: 8:45														
1682	44287	79729964	2/18/80	22: 8:49	30	-39.6	-74.1	62.0	14.5	0.23	-81.1	30	-41.4	94.5	36.2	8.2	0.23	-40.6
	44287	85289323	2/18/80	23:41:29														
1683	44287	85294249	2/18/80	23:41:34	33	-67.8	-97.3	67.5	14.6	0.22	-82.2	33	-38.5	71.3	39.0	4.3	0.11	-38.7
	44288	44548436	2/19/80	1:14:14														
1684	44288	44597061	2/19/80	1:14:19	33	-72.6	-120.5	59.5	12.0	0.20	-82.2	33	-43.2	48.1	47.9	7.2	0.15	-54.3
	44288	10019123	2/19/80	2:46:59														

PASS	MJD	MSEC	DATE	H:MN:SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
1685	44288	10024046	2/19/80	2:47: 4	43	-74.9	-143.7	64.7	10.6	0.16	-71.6	43	-31.1	24.9	39.1	3.9	0.10	-34.3
	44288	15583405	2/19/80	4:19:43														
1686	44288	15586330	2/19/80	4:19:48	43	-66.0	-166.9	68.1	19.8	0.29	-83.8	43	-9.2	1.7	36.4	11.4	0.31	-44.1
	44288	21147630	2/19/80	5:52:27														
1687	44288	21152614	2/19/80	5:52:32	27	-36.2	169.9	52.9	8.1	0.15	-60.0	27	-19.4	-21.5	45.7	5.7	0.12	-43.8
	44288	26716889	2/19/80	7:25:16														
1688	44288	26721814	2/19/80	7:25:21	27	-35.6	146.7	53.1	10.5	0.20	-66.1	27	-19.7	-44.7	41.5	4.6	0.11	-43.3
	44288	32281174	2/19/80	8:58: 1														
1689	44288	32286099	2/19/80	8:58: 6	7	-26.5	123.5	45.4	11.0	0.24	-57.9	7	-12.8	-67.9	34.3	9.9	0.29	-45.1
	44288	37845458	2/19/80	10:30:45														
1690	44288	37850363	2/19/80	10:30:50	7	-26.6	100.3	39.9	7.8	0.20	-52.5	7	-13.9	-91.1	39.5	8.2	0.21	-46.9
	44288	43409743	2/19/80	12: 3:29														
1691	44288	43414668	2/19/80	12: 3:34	10	-39.9	77.2	42.1	12.0	0.29	-51.8	10	-34.5	-114.3	31.3	5.6	0.18	-35.6
	44288	48974027	2/19/80	13:36:14														
1692	44288	48978952	2/19/80	13:36:18	10	-39.5	54.0	46.4	10.7	0.23	-58.5	10	-36.0	-137.4	32.9	5.8	0.18	-36.5
	44288	54538312	2/19/80	15: 8:58														
1693	44288	54543236	2/19/80	15: 9: 3	3	-15.5	30.8	40.0	9.6	0.24	-45.9	3	-28.7	-160.6	27.0	3.7	0.14	-28.8
	44288	60107511	2/19/80	16:41:47														
1694	44288	60112437	2/19/80	16:41:52	3	5.5	7.6	37.1	8.5	0.23	-44.6	3	-25.5	176.2	27.8	5.0	0.18	-31.6
	44288	65667866	2/19/80	18:14:27														
1695	44288	65672789	2/19/80	18:14:32	3	19.1	-15.6	39.0	7.8	0.20	-44.4	3	-15.6	153.0	26.6	2.6	0.10	-26.3
	44288	71237063	2/19/80	19:47:17														
1696	44288	71241988	2/19/80	19:47:21	3	21.0	-38.8	39.9	6.2	0.16	-37.5	3	-9.5	129.8	24.7	1.1	0.04	-26.2
	44288	76801348	2/19/80	21:20: 1														
1697	44288	76806272	2/19/80	21:20: 6	10	9.7	-62.0	37.7	6.6	0.17	-45.6	10	-9.0	113.2	-1.0	-14.7	14.03	-45.8
	44288	82363667	2/19/80	22:52:43														
1698	44288	82368591	2/19/80	22:52:48	10	-20.5	-85.2	41.6	8.4	0.20	-52.3	20	-25.9	83.4	27.1	3.9	0.03	-48.5
	44289	1531868	2/20/80	0:25:31														
1699	44289	1536808	2/20/80	0:25:36	20	-43.1	-108.4	53.0	10.3	0.19	-61.7	20	-30.6	60.2	36.4	2.9	0.08	-39.7
	44289	7092980	2/20/80	1:58:12														
1700	44289	7097897	2/20/80	1:58:17	20	-45.0	-131.5	47.0	6.2	0.13	-53.1	10	-15.6	37.0	36.4	5.1	0.14	-38.0
	44289	12657258	2/20/80	3:30:57														
1701	44289	12662182	2/20/80	3:31: 2	10	-39.8	-154.7	33.0	5.3	0.16	-53.1	10	-6.0	13.9	34.7	1.8	0.05	-27.2
	44289	18223508	2/20/80	5: 3:43														
1702	44289	18228433	2/20/80	5: 3:48	10	-18.0	-177.9	33.2	3.4	0.10	-37.5	17	0.8	-9.3	25.3	0.5	0.02	-36.8
	44289	23786813	2/20/80	6:36:26														
1703	44289	23791734	2/20/80	6:36:31	17	-4.8	158.9	34.9	5.9	0.17	-40.1	17	-2.8	-32.5	25.1	-0.5	-0.02	-18.6
	44289	29351093	2/20/80	8: 9:11														
1704	44289	29356018	2/20/80	8: 9:16	17	2.5	135.7	30.8	4.0	0.13	-37.1	20	10.2	-55.7	20.9	-1.7	-0.08	-22.5
	44289	34915378	2/20/80	9:41:55														
1705	44289	34920302	2/20/80	9:42: 0	20	-3.8	112.5	27.9	6.9	0.25	-36.8	20	13.7	-78.9	15.4	4.6	0.30	-18.4
	44289	40479663	2/20/80	11:14:39														
1706	44289	40484587	2/20/80	11:14:44	20	-11.4	89.3	*****	*****	*****	-36.8	13	-6.2	-102.1	23.7	4.2	0.18	-30.8
	44289	46045910	2/20/80	12:47:25														
1707	44289	46050839	2/20/80	12:47:30	13	-16.5	66.1	34.4	6.4	0.19	-40.9	13	-17.4	-125.3	18.3	0.5	0.03	-17.8
	44289	51610197	2/20/80	14:20:10														
1708	44289	51615122	2/20/80	14:20:15	13	-9.2	43.0	30.2	6.9	0.23	-38.4	20	-16.6	-148.5	14.1	0.9	0.07	-10.9
	44289	57174482	2/20/80	15:52:54														
1709	44289	57179407	2/20/80	15:52:59	20	4.9	19.8	35.0	9.1	0.26	-36.5	20	-4.4	-171.6	21.5	2.6	0.12	-37.4
	44289	62736767	2/20/80	17:25:38														
1710	44289	62743691	2/20/80	17:25:43	20	14.9	-3.4	26.6	4.0	0.15	-38.9	10	-1.4	165.2	17.3	2.3	0.13	-17.6
	44289	68311329	2/20/80	18:58:21														
1711	44289	68316255	2/20/80	18:58:26	10	21.9	-26.6	33.8	6.2	0.13	-32.6	10	-3.0	142.0	22.8	2.2	0.09	-26.2
	44289	73869545	2/20/80	20:31: 9														
1712	44289	73874472	2/20/80	20:31:14	10	16.3	-49.8	28.6	9.0	0.32	-39.4	13	-7.0	118.8	23.0	-1.6	-0.07	-21.7
	44289	79429899	2/20/80	22: 3:49														
1713	44289	79434823	2/20/80	22: 3:54	13	-3.3	-73.0	33.8	4.9	0.15	-45.9	13	-18.0	95.6	16.0	-0.8	-0.05	-12.1
	44289	84994134	2/20/80	23:36:34														
1714	44289	84999108	2/20/80	23:36:39	17	-19.0	-96.2	44.7	6.3	0.14	-53.0	17	-21.1	72.4	29.3	-0.5	-0.02	-25.2
	44290	4158468	2/21/80	1: 9:18														
1715	44290	4163393	2/21/80	1: 9:23	17	-30.1	-119.3	44.8	6.1	0.14	-48.9	17	-15.6	49.2	28.0	2.0	0.07	-31.0
	44290	9722752	2/21/80	2:42: 2														
1716	44290	9727677	2/21/80	2:42: 7	7	-36.2	-142.5	43.1	3.6	0.08	-41.6	7	-6.2	26.1	19.7	2.7	0.14	-17.9
	44290	15287037	2/21/80	4:14:47														
1717	44290	15291962	2/21/80	4:14:51	7	-23.4	-165.7	30.5	3.4	0.11	-32.8	7	12.7	2.9	20.7	-0.2	-0.01	-17.6
	44290	20851321	2/21/80	5:47:31														
1718	44290	20856246	2/21/80	5:47:36	10	-4.5	171.1	27.9	2.0	0.07	-28.9	10	15.7	-20.3	26.5	-2.3	-0.09	-21.0
	44290	26415636	2/21/80	7:20:15														
1719	44290	26420530	2/21/80	7:20:20	10	3.5	147.9	30.9	3.0	0.10	-38.8	10	7.0	-43.5	21.2	-0.8	-0.04	-18.9
	44290	31976669	2/21/80	8:52:58														
1720	44290	31983586	2/21/80	8:53: 3	10	9.6	124.7	23.7	3.4	0.14	-30.0	10	20.1	-66.7	14.4	4.4	0.31	-20.8
	44290	37542946	2/21/80	10:25:42														
1721	44290	37547871	2/21/80	10:25:47	10	12.5	101.5	15.4	-1.1	-0.07	-16.5	10	25.2	-89.9	15.0	1.2	0.08	-16.9
	44290	43107230	2/21/80	11:58:27														
1722	44290	43112156	2/21/80	11:58:32	10	-6.3	78.4	17.6	2.7	0.15	-20.0	10	6.1	-113.1	11.6	-0.5	-0.04	*******
	44290	48671515	2/21/80	13:31:11														
1723	44290	48676440	2/21/80	13:31:16	10	-8.7	55.2	23.8	1.9	0.08	-25.8	10	-2.2	-136.2	16.6	0.2	0.01	-21.8
	44290	54235804	2/21/80	15: 3:55														
1724	44290	54240724	2/21/80	15: 4: 0	10	5.8	32.0	20.4	1.3	0.07	-19.2	10	-2.5	-159.4	7.8	-2.1	-0.27	-4.3
	44290	59803834	2/21/80	16:36:40														

PASS	MJD	MSEC	DATE	HR: MN: SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	EQL	E	I	I/E	DELTA B
1725	44290	59805008	2/21/80	16: 36: 45	10	28.0	8.8	19.5	0.7	0.04	-18.2	10	2.5	177.4	9.5	-1.3	-0.14 -8.2
	44290	65364368	2/21/80	18: 9: 24													
1726	44290	65369293	2/21/80	18: 9: 29	10	32.7	-14.4	24.3	2.3	0.10	-22.7	10	9.4	154.2	13.0	-4.1	-0.31******
1727	44290	70923737	2/21/80	19: 42: 3	10	35.0	-37.6	27.0	-1.8	-0.07	-20.3	10	9.9	131.0	11.6	-4.4	-0.38 -8.4
	44290	70928662	2/21/80	19: 42: 8													
	44290	76488021	2/21/80	21: 14: 48													
1728	44290	76492946	2/21/80	21: 14: 52	17	25.7	-60.7	24.8	5.5	0.22	-33.4	17	13.3	107.8	5.8	-8.2	-1.40 4.7
	44290	82052306	2/21/80	22: 47: 32													
1729	44290	82057230	2/21/80	22: 47: 37	17	5.0	-83.9	24.4	0.9	0.04	-28.9	17	5.3	84.7	7.5	-5.3	-0.70 -0.2
	44291	1215853	2/22/80	0: 20: 15													
1730	44291	1220778	2/22/80	0: 20: 20	10	-10.0	-107.1	25.7	0.9	0.04	-29.2	10	-2.9	61.5	13.7	-7.0	-0.51 -7.9
	44291	6780137	2/22/80	1: 53: 0													
1731	44291	6785062	2/22/80	1: 53: 5	10	-10.1	-130.3	15.8	-5.7	-0.36	-12.5	10	11.8	38.3	10.6	-5.9	-0.56 -3.5
	44291	12344422	2/22/80	3: 25: 44													
1732	44291	12349346	2/22/80	3: 25: 49	10	-13.7	-153.5	12.7	-6.6	-0.52	-6.5	10	18.2	15.1	13.9	-5.8	-0.41 -0.1
	44291	17908706	2/22/80	4: 58: 28													
1733	44291	17913631	2/22/80	4: 58: 33	10	5.3	-176.7	16.7	-1.4	-0.08	-19.3	3	28.7	-8.1	10.1	-5.9	-0.59 -5.5
	44291	23468072	2/22/80	6: 31: 8													
1734	44291	23473000	2/22/80	6: 31: 13	3	8.9	160.2	17.3	-0.0	-0.00	-16.8	3	23.8	-31.3	8.9	-2.5	-0.28 -4.1
	44291	29032359	2/22/80	8: 3: 52													
1735	44291	29037285	2/22/80	8: 3: 57	3	18.4	137.0	19.1	-0.2	-0.01	-25.2	13	26.8	-54.4	9.2	-2.9	-0.32 -10.5
	44291	34596644	2/22/80	9: 36: 36													
1736	44291	34601569	2/22/80	9: 36: 41	13	19.7	113.8	7.9	0.3	0.04	-13.5	13	26.2	-77.6	5.6	4.0	0.71 -8.6
	44291	40160928	2/22/80	11: 9: 20													
1737	44291	40165853	2/22/80	11: 9: 25	13	5.6	90.6	14.0	-1.9	-0.13	-17.7	7	14.4	-100.8	14.2	1.2	0.08 -18.7
	44291	45725213	2/22/80	12: 42: 5													
1738	44291	45730137	2/22/80	12: 42: 10	7	-5.1	67.4	21.2	1.1	0.05	-27.3	7	5.5	-124.0	10.3	-1.1	-0.11 -8.7
	44291	51284583	2/22/80	14: 14: 44													
1739	44291	51289507	2/22/80	14: 14: 49	7	-2.0	44.2	19.4	1.6	0.08	-23.6	17	-5.4	-147.2	9.9	0.5	0.05 -7.7
	44291	56846905	2/22/80	15: 47: 26													
1740	44291	56851825	2/22/80	15: 47: 31	17	16.5	21.1	22.3	4.5	0.20	-20.0	17	0.6	-170.4	9.6	-0.7	-0.08 -8.8
	44291	62411184	2/22/80	17: 20: 11													
1741	44291	62416110	2/22/80	17: 20: 16	17	29.0	-2.1	22.8	1.8	0.08	-22.4	7	11.9	166.5	7.1	-1.1	-0.16 -6.5
	44291	67975469	2/22/80	18: 52: 55													
1742	44291	67980394	2/22/80	18: 53: 0	7	37.0	-25.3	21.2	-0.1	-0.01	-18.1	7	16.5	143.3	5.7	-3.9	-0.69 -3.9
	44291	73539754	2/22/80	20: 25: 39													
1743	44291	73544679	2/22/80	20: 25: 44	7	35.0	-48.5	15.5	5.0	0.32	-20.2	17	17.1	120.1	6.6	-3.1	-1.37 -0.4
	44291	79099123	2/22/80	21: 58: 19													
1744	44291	79104047	2/22/80	21: 58: 24	17	25.9	-71.7	13.6	0.3	0.02	-20.6	17	13.9	96.9	-4.1	-11.1	2.70 13.9
	44291	84663407	2/22/80	23: 31: 3													
1745	44291	84668332	2/22/80	23: 31: 8	17	16.8	-94.8	13.9	-3.1	-0.23	-16.9	10	13.2	73.7	4.1	-10.2	-3.98 12.0
	44292	3824502	2/23/80	1: 3: 44													
1746	44292	3829422	2/23/80	1: 3: 49	10	10.1	-118.0	11.4	-5.8	-0.51	-16.9	10	4.4	50.6	9.3	-5.2	-0.56 -5.0
	44292	9389772	2/23/80	2: 36: 29													
1747	44292	9394689	2/23/80	2: 36: 34	10	-4.7	-141.2	21.8	-5.2	-0.24	-17.8	3	15.8	27.4	3.7	-3.6	-1.00******
	44292	14954049	2/23/80	4: 9: 14													
1748	44292	14958973	2/23/80	4: 9: 18	3	-0.7	-164.4	14.6	-0.9	-0.06	-14.2	3	30.4	4.2	12.8	-2.8	-0.22 -11.3
	44292	20513418	2/23/80	5: 41: 53													
1749	44292	20518343	2/23/80	5: 41: 58	13	12.2	172.4	18.5	1.2	0.07	-21.7	13	38.2	-19.0	19.1	-4.2	-0.22 -14.8
	44292	26077702	2/23/80	7: 14: 37													
1750	44292	26082627	2/23/80	7: 14: 42	13	20.5	149.3	22.3	1.0	0.05	-28.5	13	36.0	-42.2	8.3	-1.8	-0.21 -6.1
	44292	31641987	2/23/80	8: 47: 21													
1751	44292	31646911	2/23/80	8: 47: 26	20	15.5	126.1	15.6	0.9	0.06	-21.0	20	29.2	-65.3	8.0	5.4	0.68 -17.4
	44292	37202343	2/23/80	10: 20: 2													
1752	44292	37207263	2/23/80	10: 20: 7	20	-4.5	102.9	27.3	8.4	0.31	-38.0	20	7.1	-88.5	17.1	7.6	0.44 -25.1
	44292	42766622	2/23/80	11: 52: 46													
1753	44292	42771548	2/23/80	11: 52: 51	27	-19.1	79.7	21.0	7.8	0.37	-28.6	27	-15.7	-111.7	22.8	5.8	0.25 -28.2
	44292	48325992	2/23/80	13: 25: 25													
1754	44292	48330917	2/23/80	13: 25: 30	27	-20.0	56.5	35.7	7.1	0.20	-47.6	27	-14.6	-134.9	19.2	-1.4	-0.07 -17.5
	44292	53890527	2/23/80	14: 58: 10													
1755	44292	53895447	2/23/80	14: 58: 15	33	-15.6	33.4	25.2	8.4	0.33	-47.6	33	-19.8	-158.1	17.2	-3.2	-0.19 -13.3
	44292	59454567	2/23/80	16: 34: 54													
1756	44292	59459485	2/23/80	16: 30: 59	33	-19.7	10.2	45.8	16.5	0.36	-60.6	33	-23.0	178.8	28.2	4.3	0.15 -31.9
	44292	65013930	2/23/80	18: 3: 33													
1757	44292	65018854	2/23/80	18: 3: 38	33	1.7	-13.0	49.9	18.3	0.37	-67.7	33	-23.5	155.6	23.8	5.0	0.25 -28.5
	44292	70578214	2/23/80	19: 36: 18													
1758	44292	70583138	2/23/80	19: 36: 23	33	-4.1	-36.2	50.8	15.9	0.31	-56.8	33	-24.3	132.4	29.8	9.2	0.31 -40.8
	44292	76137586	2/23/80	21: 8: 57													
1759	44292	76142507	2/23/80	21: 9: 2	23	-12.0	-59.3	44.9	19.3	0.43	-70.8	23	-22.5	109.2	28.9	2.9	0.10 -31.4
	44292	81701867	2/23/80	22: 41: 41													
1760	44292	81706792	2/23/80	22: 41: 46	23	-31.9	-82.5	42.4	12.7	0.30	-61.2	23	-25.1	86.1	27.1	2.5	0.09 -29.4
	44293	865415	2/24/80	0: 14: 25													
1761	44293	870339	2/24/80	0: 14: 30	23	-54.4	-105.7	45.6	12.9	0.28	-61.2	23	-30.9	62.9	37.1	3.1	0.08 -38.8
	44293	6424791	2/24/80	1: 47: 4													
1762	44293	6429708	2/24/80	1: 47: 9	23	-52.2	-128.9	44.7	5.8	0.13	-50.0	23	-30.3	39.7	37.0	5.7	0.15 -39.4
	44293	11989068	2/24/80	3: 19: 49													
1763	44293	11993994	2/24/80	3: 19: 53	23	-51.6	-152.1	40.3	7.1	0.18	-40.1	23	-10.6	16.5	37.2	5.6	0.15 -41.0
	44293	17548437	2/24/80	4: 52: 28													
1764	44293	17553361	2/24/80	4: 52: 33	23	-29.7	-175.2	45.7	10.6	0.23	-49.6	13	4.6	-6.7	28.0	3.5	0.12 -30.7
	44293	23112721	2/24/80	6: 25: 12													

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
1765	44293	23117646	2/24/80	6:25:17	13	-21.4	161.6	37.9	8.1	0.21	-43.2	13	9.0	-29.8	29.9	2.2	0.07	-26.5
	44293	28672091	2/24/80	7:57:52														
1766	44293	28677015	2/24/80	7:57:57	13	-6.1	138.4	36.3	5.0	0.14	-50.9	20	8.0	-53.0	27.2	2.1	0.08	******
	44293	34234410	2/24/80	9:30:34														
1767	44293	34239333	2/24/80	9:30:39	20	-5.8	115.2	26.2	4.9	0.19	-38.7	20	5.7	-76.2	21.4	3.9	0.42	-28.3
	44293	39798693	2/24/80	11: 3:18														
1768	44293	39803618	2/24/80	11: 3:23	20	-12.9	92.1	28.9	2.0	0.07	-34.0	23	6.3	-99.4	20.8	2.3	0.11	-26.2
	44293	45358062	2/24/80	12:35:58														
1769	44293	45362987	2/24/80	12:36: 2	23	-15.1	68.9	27.6	3.5	0.13	-36.6	23		-122.5	18.8	1.0	0.05	-19.4
1770	44293	50922346	2/24/80	14: 8:42	23	-16.8	45.7	34.0	9.3	0.27	-46.0	2		-145.7	14.8	-1.0	-0.07	-30.6
	44293	50927271	2/24/80	14: 8:47														
1771	44293	56482702	2/24/80	15:41:22														
	44293	56487623	2/24/80	15:41:27	23	3.1	22.5	25.9	7.8	0.30	-31.7	23	-1.6	-168.9	15.7	1.6	0.10	-18.6
1772	44293	62046982	2/24/80	17:14: 6														
	44293	62051908	2/24/80	17:14:11	23	17.5	-0.6	27.1	3.9	0.14	-30.8	3	-2.9	167.9	13.4	-0.7	-0.05	-12.3
	44293	67606352	2/24/80	18:46:46														
1773	44293	67611277	2/24/80	18:46:51	3	30.1	-23.8	26.2	3.1	0.12	9.9	3	2.5	144.3	11.2	-2.1	-0.19	-11.9
	44293	73165721	2/24/80	20:19:25														
1774	44293	73170646	2/24/80	20:19:30	3	31.0	-47.0	19.3	5.2	0.27	-26.2	3	5.3	121.6	12.3	-0.3	-0.51	-7.5
	44293	78730749	2/24/80	21:52:10														
1775	44293	78735608	2/24/80	21:52:15	3	13.0	-70.2	18.0	5.5	0.30	******	3	-1.4	98.4	9.1	-4.5	-0.49	-5.5
	44293	84290112	2/24/80	23:24:50														
1776	44293	84295036	2/24/80	23:24:55	3	1.9	-93.3	23.5	2.6	0.11	-29.7	10	-8.4	75.2	17.3	-3.7	-0.21	-10.7
	44294	34543396	2/25/80	9:57:34														
1777	44294	34593321	2/25/80	9:57:39	10	-21.5	-116.5	31.2	0.3	0.01	-28.7	10	-7.1	52.1	16.7	-3.3	-0.20	-15.3
	44294	90137651	2/25/80	25:30:13														
1778	44294	90166689	2/25/80	25:30:18	10	-25.3	-139.7	25.2	-3.1	-0.12	******	3	0.4	28.9	13.0	-0.0	-0.00	-10.9
1779	44294	14577313	2/25/80	4: 2:57														
	44294	14582237	2/25/80	4: 3: 2	3	-8.2	-162.9	*****	*****	*****	******	3	19.7	5.7	15.7	-3.8	-0.24	-13.1
	44294	20136681	2/25/80	5:35:36														
1780	44294	20141606	2/25/80	5:35:41	3	4.2	174.0	17.0	-0.4	-0.02	-21.0	13	20.0	-17.5	17.5	-3.8	-0.22	-20.3
	44294	25697276	2/25/80	7: 8:17														
1781	44294	25702204	2/25/80	7: 8:22	13	12.3	150.8	21.7	2.5	0.12	-31.9	13	20.7	-40.6	12.4	-3.8	-0.31	-6.6
	44294	31256649	2/25/80	8:40:56														
1782	44294	31261573	2/25/80	8:41: 1	23	6.4	127.6	22.8	3.3	0.14	-33.2	23	18.3	-63.8	16.6	3.7	0.22	-24.0
	44294	36820925	2/25/80	10:13:40														
1783	44294	36825857	2/25/80	10:13:45	23	2.3	104.4	15.2	-0.3	-0.02	-22.9	23	0.1	-87.0	13.2	3.1	0.23	-15.1
1784	44294	42380304	2/25/80	11:46:20														
	44294	42385227	2/25/80	11:46:25	27	-1.4	81.3	11.6	2.1	0.18	-15.8	27	-9.8	-110.2	11.2	-0.2	-0.02	-12.4
1785	44294	47944586	2/25/80	13:19: 4														
	44294	47949511	2/25/80	13:19: 9	27	0.1	58.1	20.0	2.6	0.13	-31.2	27	-5.4	-133.3	9.5	-5.6	-0.59	-7.3
1786	44294	53503955	2/25/80	14:51:43														
	44294	53508880	2/25/80	14:51:48	30	15.1	34.9	10.7	2.5	0.24	-14.5	30	-3.6	-156.5	7.2	-4.3	-0.60	-1.5
1787	44294	59063324	2/25/80	16:24:23														
	44294	59068248	2/25/80	16:24:28	30	13.9	11.7	13.9	4.0	0.29	-20.0	30	-4.0	-179.7	10.3	-3.3	-0.32	-7.1
1788	44294	64627609	2/25/80	17:57: 7														
	44294	64632533	2/25/80	17:57:12	40	17.0	-11.4	31.7	15.4	0.49	-52.2	40	-2.4	157.1	1.5	-7.6	-5.22	4.9
1789	44294	70186978	2/25/80	19:29:46														
	44294	70191903	2/25/80	19:29:51	40	11.3	-34.6	54.6	15.2	0.28	******	40	-16.1	134.0	19.6	9.2	0.47	-34.9
1790	44294	75746347	2/25/80	21: 2:26														
	44294	75751271	2/25/80	21: 2:31	43	-10.3	-57.8	*****	*****	*****	******	43	-15.1	110.8	21.0	5.6	0.27	-30.3
1791	44294	81307682	2/25/80	22:35: 7														
	44294	81312607	2/25/80	22:35:12	43	-22.9	-80.9	33.7	10.4	0.31	******	43	-14.8	87.6	18.3	0.9	0.05	-22.7
1792	44295	469755	2/26/80	0: 7:49														
	44295	474679	2/26/80	0: 7:54	37	-69.5	-104.1	59.5	15.4	0.26	-74.9	37	-46.5	64.5	48.3	10.7	0.22	-56.7
1793	44295	6028140	2/26/80	1:40:28														
	44295	6033065	2/26/80	1:40:33	37	-54.5	-127.3	52.9	10.0	0.19	-61.7	37	-29.9	41.3	36.5	5.9	0.16	-40.1
1794	44295	11592424	2/26/80	3:13:12														
	44295	11597350	2/26/80	3:13:17	30	-50.0	-150.5	43.7	7.9	0.18	-45.0	30	-8.0	18.1	34.9	4.5	0.13	-42.6
1795	44295	17151794	2/26/80	4:45:51														
	44295	17156718	2/26/80	4:45:56	30	-22.6	-173.6	35.0	6.6	0.19	-40.2	30	3.0	-5.1	30.4	4.0	0.13	-31.9
1796	44295	22712152	2/26/80	6:18:32														
	44295	22717070	2/26/80	6:18:37	13	-16.0	163.2	37.3	8.2	0.22	-43.2	13	-5.8	-28.2	38.8	1.0	0.03	-33.1
1797	44295	28274224	2/26/80	7:51:14														
	44295	28279143	2/26/80	7:51:19	13	-6.9	140.0	37.2	4.7	0.13	-51.7	30	1.3	-51.4	26.9	1.5	0.06	-32.9
1798	44295	33833587	2/26/80	9:23:53														
	44295	33838512	2/26/80	9:23:58	30	-6.6	116.9	23.6	3.9	0.16	-34.6	30	-2.8	-74.6	17.9	8.7	0.48	-27.4
1799	44295	39392956	2/26/80	10:56:32														
	44295	39397891	2/26/80	10:56:37	30	-32.2	93.7	33.3	4.4	0.13	-39.5	33	-36.1	-97.7	26.0	6.4	0.24	-34.4
1800	44295	44956257	2/26/80	12:29:16														
	44295	44961182	2/26/80	12:29:21	33	-37.8	70.5	55.2	13.6	0.25	-68.4	33	-39.1	-120.9	24.2	7.7	0.32	-31.5
1801	44295	50515627	2/26/80	14: 1:55														
	44295	50520551	2/26/80	14: 2: 0	33	-25.1	47.3	39.9	12.3	0.32	-56.4	30	-23.7	-144.1	23.3	4.8	0.21	-25.7
1802	44295	56074996	2/26/80	15:34:34														
	44295	56079920	2/26/80	15:34:39	30	-21.3	24.2	31.2	11.3	0.36	-43.2	30	-20.6	-167.3	25.5	4.0	0.16	-30.1
1803	44295	61634365	2/26/80	17: 7:14														
	44295	61639290	2/26/80	17: 7:19	30	-8.2	1.0	33.5	10.0	0.30	-43.2	27	-11.2	169.6	5.2	2.8	0.11	-29.2
1804	44295	67193046	2/26/80	18:39:53														
	44295	67197921	2/26/80	18:39:57	27	-3.7	-22.2	50.5	14.1	0.28	-61.8	27	-8.3	146.4	23.1	5.1	0.22	-30.1
	44295	72756298	2/26/80	20:12:36														

PASS	MJD	MSEC	DATE	GMT	ASCENDING KP	D ECL	ECL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA B
1805	44295	72761224	2/26/80	20:12:41	27	-6.3	-45.3	40.1	10.5	0.26	-53.2	20	-22.4	123.2	25.3	1.4	0.05	-28.1
	44295	78315467	2/26/80	21:45:15														
1806	44295	78320591	2/26/80	21:45:20	20	-7.5	-68.5	33.9	10.9	0.32	-57.1	20	-13.6	100.1	19.9	0.3	0.01	-35.5
	44295	83873811	2/26/80	23:17:53														
1807	44295	83878731	2/26/80	23:17:58	20	-16.1	-91.7	36.1	7.7	0.21	-52.5	13	-20.9	76.9	23.8	-0.6	-0.02	-42.7
	44296	30351143	2/27/80	8:50:35														
1808	44296	30400666	2/27/80	8:50:40	13	-29.9	-114.8	35.6	2.6	0.07	-40.9	13	-24.0	53.7	**********		******	-40.0
	44296	85935313	2/27/80	23:43:13														
1809	44296	85984553	2/27/80	23:23:18	13	-28.2	-138.0	*****	*****	*****	-40.9	30	-3.7	30.6	20.9	3.4	0.16	-40.0
	44296	141558488	2/27/80	3:55:55														
1810	44296	141607713	2/27/80	3:56:0	30	-24.5	-161.2	37.7	9.5	0.25	-40.9	30	-11.4	7.4	33.1	5.6	0.17	-32.9
	44296	197171853	2/27/80	5:28:37														
1811	44296	197221063	2/27/80	5:28:42	30	-26.7	175.7	40.3	9.3	0.23	-49.9	33	-2.9	-15.8	26.5	1.4	0.05	-27.7
	44296	252765513	2/27/80	7:1:16														
1812	44296	252814753	2/27/80	7:1:21	33	-8.8	152.5	37.2	6.0	0.16	-43.4	33	-8.2	-38.9	30.6	-1.8	-0.06	-23.7
	44296	308359193	2/27/80	8:33:55														
1813	44296	308408443	2/27/80	8:34:0	33	-14.9	129.3	43.9	8.8	0.20	-54.3	33	1.0	-62.1	21.2	3.3	0.16	-27.8
	44296	363952883	2/27/80	10:6:35														
1814	44296	364002133	2/27/80	10:6:40	33	-25.9	106.2	41.5	8.3	0.20	-51.2	33	-6.9	-85.3	21.3	6.0	0.28	-27.9
	44296	419556403	2/27/80	11:39:15														
1815	44296	419605643	2/27/80	11:39:20	33	-44.6	83.0	41.9	7.5	0.18	-46.2	33	-2.0	-108.4	23.6	3.7	0.16	******
	44296	475150113	2/27/80	13:11:55														
1816	44296	475199333	2/27/80	13:11:59	33	-60.3	59.8	71.1	20.2	0.28	-89.6	33	-25.7	-131.6	25.8	8.9	0.35	-36.1
	44296	530743723	2/27/80	14:45:34														
1817	44296	530793033	2/27/80	14:45:39	27	-23.7	36.7	40.9	12.0	0.29	-51.8	27	-31.9	-154.8	23.5	7.1	0.30	-27.4
	44296	586337473	2/27/80	16:17:13														
1818	44296	586387573	2/27/80	16:17:18	27	-10.4	13.5	36.0	11.8	0.33	-46.6	27	-18.5	-177.9	22.7	5.5	0.15	-24.5
	44296	641731163	2/27/80	17:49:53														
1819	44296	641780413	2/27/80	17:49:58	30	-2.3	-9.7	37.6	11.5	0.31	-56.1	30	-13.7	158.9	20.8	-0.3	-0.01	-19.6
	44296	697524853	2/27/80	19:22:32														
1820	44296	697574103	2/27/80	19:22:37	30	-2.8	-32.8	53.4	10.2	0.19	-56.1	30	-19.1	135.7	23.5	5.3	0.23	-32.5
	44296	753118543	2/27/80	20:55:17														
1821	44296	753167783	2/27/80	20:55:16	30	-7.9	-56.0	49.1	18.0	0.37	-74.4	30	-18.6	112.6	17.6	1.5	0.08	-22.8
	44296	808712233	2/27/80	22:27:51														
1822	44296	808761473	2/27/80	22:27:56	30	-14.2	-79.2	45.6	8.4	0.18	-63.0	30	-25.9	89.4	25.5	8.3	0.32	-34.4
	44296	863422123	2/27/80	23:59:2														
1823	44296	6270	2/28/80	0:0:6	27	-43.2	-102.3	52.5	12.7	0.24	-68.2	27	-34.4	66.2	37.1	6.3	0.17	-42.1
	44297	55902043	2/28/80	1:33:10														
1824	44297	55951323	2/28/80	1:33:15	27	-43.6	-125.5	44.5	10.1	0.23	7.5	27	-27.5	43.1	29.1	4.4	0.15	-31.0
	44297	111495763	2/28/80	3:5:49														
1825	44297	111545003	2/28/80	3:5:54	27	-43.0	-148.7	30.8	10.2	0.33	-36.0	27	-0.2	19.9	20.4	2.3	0.09	-29.2
	44297	167040303	2/28/80	4:38:24														
1826	44297	167089533	2/28/80	4:38:28	27	-13.5	-171.8	38.9	13.0	0.34	-43.0	27	19.9	-3.3	25.9	3.1	0.12	-25.9
	44297	222633983	2/28/80	6:11:3														
1827	44297	222683223	2/28/80	6:11:8	27	1.5	165.0	30.2	6.5	0.22	-33.3	27	18.6	-26.4	30.9	0.8	0.03	-25.7
	44297	278235133	2/28/80	7:43:43														
1828	44297	278284493	2/28/80	7:43:48	27	-15.7	141.8	40.4	7.2	0.18	-54.6	27	3.6	-49.6	26.4	-1.8	-0.07	-27.2
	44297	333383853	2/28/80	9:16:23														
1829	44297	333388793	2/28/80	9:16:28	27	-30.9	118.7	45.2	15.3	0.34	-65.0	27	3.7	-72.8	19.5	8.1	0.41	-29.7
	44297	389032303	2/28/80	10:49:3														
1830	44297	389081503	2/28/80	10:49:8	27	-41.3	95.5	42.6	4.9	0.11	-49.8	27	-14.3	-95.9	27.8	7.4	0.26	******
	44297	445025953	2/28/80	12:21:42														
1831	44297	445075193	2/28/80	12:21:47	17	-38.7	72.3	36.0	10.6	0.30	-49.5	17	-25.3	-119.1	28.9	7.1	0.24	-34.6
	44297	500580303	2/28/80	13:56:18														
1832	44297	500629563	2/28/80	13:56:22	17	-21.2	47.2	33.2	5.5	0.17	-48.2	10	-25.9	-142.3	25.8	5.4	0.21	-30.1
	44297	556174003	2/28/80	15:26:57														
1833	44297	556223253	2/28/80	15:27:2	10	-14.2	26.0	32.6	7.2	0.22	-39.5	10	-22.1	-165.4	20.4	1.0	0.05	-22.5
	44297	611767693	2/28/80	16:59:36														
1834	44297	611816943	2/28/80	16:59:41	10	2.3	2.9	34.0	9.1	0.27	-43.1	17	-13.3	171.4	22.3	1.5	0.07	-22.1
	44297	667361383	2/28/80	18:32:16														
1835	44297	667411063	2/28/80	18:32:21	17	11.7	-20.3	33.6	9.6	0.29	-39.9	17	-8.3	148.3	21.4	1.7	0.08	-23.3
	44297	722955083	2/28/80	20:4:55														
1836	44297	723004313	2/28/80	20:5:0	17	16.4	-43.5	38.0	8.8	0.23	-42.2	30	3.5	125.1	15.3	-2.3	-0.15	-14.3
	44297	778499623	2/28/80	21:37:29														
1837	44297	778548853	2/28/80	21:37:34	30	-6.1	-66.6	36.3	13.6	0.37	-55.3	30	1.5	101.9	9.8	-4.0	-0.41	-8.6
	44297	834093303	2/28/80	23:10:9														
1838	44297	834142543	2/28/80	23:10:14	30	-16.2	-89.8	31.5	9.6	0.31	-46.6	23	-17.5	78.8	21.3	-0.3	-0.02	******
	44298	25689453	2/29/80	0:42:48														
1839	44298	25738693	2/29/80	0:42:53	23	-41.6	-113.0	47.1	10.9	0.23	-57.3	23	-20.4	55.6	26.6	2.9	0.11	-29.9
	44298	81283143	2/29/80	2:15:28														
1840	44298	81332383	2/29/80	2:15:33	23	-42.8	-136.1	39.7	8.3	0.21	-47.3	20	-12.1	32.4	24.7	6.1	0.25	-27.5
	44298	136876833	2/29/80	3:48:7														
1841	44298	136926073	2/29/80	3:48:12	20	-26.1	-159.3	29.3	7.0	0.24	-34.1	20	-4.1	9.3	27.2	2.8	0.10	-24.8
	44298	192421363	2/29/80	5:20:42														
1842	44298	192470603	2/29/80	5:20:47	20	-14.1	177.6	33.3	5.4	0.16	-39.9	10	9.6	-13.9	27.5	3.4	0.12	-31.6
	44298	248015053	2/29/80	6:53:21														
1843	44298	248064303	2/29/80	6:53:26	10	0.0	154.4	32.2	5.0	0.15	-36.0	10	4.4	-37.0	26.2	2.9	0.11	-23.4
	44298	303606343	2/29/80	8:26:0														
1844	44298	303655533	2/29/80	8:26:5	10	-2.9	131.2	38.3	4.8	0.12	-45.8	20	3.7	-60.2	20.5	4.3	0.20	-26.3
	44298	359165573	2/29/80	9:58:36														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQI	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
1845	44298	35921481	2/29/80	9:58:41	20	-12.6	108.1	26.7	5.4	0.20	-38.8	20	-0.4	-83.4	23.8	9.2	0.39	-32.9
	44298	41475926	2/29/80	11:31:15														
1846	44298	41480650	2/29/80	11:31:20	20	-16.2	84.9	23.2	5.5	0.24	-31.5	23	-8.1	-106.5	23.7	3.6	0.15	-28.5
	44298	47035295	2/29/80	13: 3:55														
1847	44298	47040219	2/29/80	13: 4: 0	23	-19.5	61.8	27.2	7.4	0.27	-31.5	23	-18.3	-129.7	22.3	1.7	0.08	-23.0
	44298	52590244	2/29/80	14:36:30														
1848	44298	52595164	2/29/80	14:36:35	23	-14.5	38.6	26.7	5.1	0.19	-30.6	20	-17.3	-152.3	16.1	2.4	0.15	-15.5
	44298	58149609	2/29/80	16: 9: 9														
1849	44298	58154533	2/29/80	16: 9:14	20	3.7	15.4	28.1	7.7	0.27	-32.4	20	-10.7	-176.0	19.9	2.5	0.13	-21.1
	44298	63708978	2/29/80	17:41:48														
1850	44298	63713902	2/29/80	17:41:53	13	11.3	-7.7	37.4	13.5	0.36	-53.4	13	-6.2	160.8	18.8	-1.1	-0.06	-15.5
	44298	69265891	2/29/80	19:14:25														
1851	44298	69270814	2/29/80	19:14:30	13	16.4	-30.9	35.9	8.4	0.23	-38.1	13	-6.3	137.7	18.0	1.4	0.08	-22.1
	44298	74820343	2/29/80	20:47: 0														
1852	44298	74825267	2/29/80	20:47: 5	13	6.4	-54.0	36.5	10.8	0.30	******	13	-8.3	114.5	18.4	-2.1	-0.12	-16.3
	44298	80379225	2/29/80	22:19:39														
1853	44298	80384144	2/29/80	22:19:44	13	1.7	-77.2	36.8	6.5	0.18	-48.9	13	-13.5	91.4	13.6	0.8	0.06	-14.3
	44298	85938589	2/29/80	23:52:18														
1854	44298	85943514	2/29/80	23:52:23	13	-14.9	-100.3	35.2	6.4	0.18	-48.8	13	-17.0	68.2	24.9	-0.2	-0.01	-21.7
	44299	5097223	3/ 1/80	1:24:57														
1855	44299	5100179	3/ 1/80	1:25: 0	13	-19.0	-123.5	28.4	4.2	0.15	-31.2	13	-9.4	45.0	20.4	-0.2	-0.01	-19.2
	44299	10654623	3/ 1/80	2:57:34														
1856	44299	10659547	3/ 1/80	2:57:39	13	-5.1	-146.7	36.2	5.1	0.14	-31.2	13	14.0	21.9	19.2	1.1	0.06	-15.9
	44299	16209819	3/ 1/80	4:30: 9														
1857	44299	16214739	3/ 1/80	4:30:14	13	-3.8	-169.8	25.5	7.2	0.28	-29.7	13	32.3	-1.3	20.1	2.7	0.13	-26.1
	44299	21769183	3/ 1/80	6: 2:49														
1858	44299	21774109	3/ 1/80	6: 2:54	7	11.4	167.0	23.8	4.0	0.17	-2.0	7	37.0	-24.4	22.5	0.6	0.03	-18.7
	44299	27323638	3/ 1/80	7:35:23														
1859	44299	27328561	3/ 1/80	7:35:28	7	11.4	143.9	28.0	1.1	0.04	-34.0	7	29.4	-47.6	19.7	0.9	0.05	-21.0
	44299	32883006	3/ 1/80	9: 8: 3														
1860	44299	32887930	3/ 1/80	9: 8: 7	3	7.4	120.7	18.3	3.9	0.21	-27.5	3	10.7	-70.7	16.1	0.3	0.39	-22.3
	44299	38437460	3/ 1/80	10:40:37														
1861	44299	38442384	3/ 1/80	10:40:42	3	-5.5	97.5	18.1	0.2	0.01	-21.9	3	0.8	-93.9	19.3	1.8	0.10	******
	44299	43995850	3/ 1/80	12:13:15														
1862	44299	44000770	3/ 1/80	12:13:20	10	-10.7	74.4	21.5	7.2	0.34	-28.0	10	-7.4	-117.1	17.2	1.6	0.09	-24.6
	44299	49552267	3/ 1/80	13:45:52														
1863	44299	49557190	3/ 1/80	13:45:57	10	-11.4	51.2	19.7	6.5	0.33	-34.5	10	-11.4	-148.2	18.6	2.6	0.14	-19.4
	44299	55116344	3/ 1/80	15:18:31														
1864	44299	55116558	3/ 1/80	15:18:36	10	-3.3	28.1	23.6	6.6	0.28	-27.6	10	1.1	-163.4	15.3	1.1	0.07	-16.2
	44299	60666991	3/ 1/80	16:51: 6														
1865	44299	60671011	3/ 1/80	16:51:11	10	10.1	4.9	23.9	7.1	0.30	-32.5	3	12.3	173.5	15.9	0.4	0.03	-15.2
	44299	66225457	3/ 1/80	18:23:45														
1866	44299	66230381	3/ 1/80	18:23:50	3	13.5	-18.2	23.0	6.6	0.29	-33.8	3	12.3	150.3	15.5	-0.4	-0.03	-14.2
	44299	71779911	3/ 1/80	19:56:19														
1867	44299	71784834	3/ 1/80	19:56:24	3	15.5	-41.4	23.0	4.7	0.21	-26.0	3	1.1	127.2	14.8	-3.3	-0.23	-10.9
	44299	77339279	3/ 1/80	21:28:59														
1868	44299	77344203	3/ 1/80	21:29: 4	3	15.9	-64.5	23.0	8.7	0.38	-33.6	3	-2.7	104.0	12.3	-5.0	-0.41	-7.7
	44299	82893733	3/ 1/80	23: 1:33														
1869	44299	82898657	3/ 1/80	23: 1:38	3	8.8	-87.7	25.8	8.1	0.31	-35.8	3	-11.3	80.9	13.8	-2.9	-0.21	-10.4
	44300	2053101	3/ 2/80	0:34:13														
1870	44300	2058026	3/ 2/80	0:34:18	3	2.7	-110.8	30.7	4.0	0.13	-35.7	3	-12.6	57.7	20.6	0.0	0.00	******
	44300	7609524	3/ 2/80	2: 6:49														
1871	44300	7614446	3/ 2/80	2: 6:54	3	-17.8	-134.0	29.2	4.5	0.16	-32.6	7	-5.5	34.5	19.3	0.1	0.01	-17.0
	44300	13162015	3/ 2/80	3:39:22														
1872	44300	13166933	3/ 2/80	3:39:26	7	-0.1	-157.2	19.8	5.3	0.27	-20.0	7	9.8	11.4	21.0	-0.4	-0.02	-22.0
	44300	18721378	3/ 2/80	5:12: 1														
1873	44300	18726302	3/ 2/80	5:12: 6	7	9.7	179.7	27.8	5.4	0.19	-31.0	3	24.0	-11.8	19.7	-0.4	-0.02	-22.1
	44300	24275835	3/ 2/80	6:44:35														
1874	44300	24280755	3/ 2/80	6:44:40	3	10.0	156.5	24.9	4.7	0.19	-26.0	3	23.9	-34.9	19.0	1.0	0.05	-14.6
	44300	29835230	3/ 2/80	8:17:15														
1875	44300	29840124	3/ 2/80	8:17:20	3	11.9	133.4	22.8	1.9	0.08	-26.4	3	21.0	-56.1	16.6	2.2	0.13	-20.4
	44300	35489655	3/ 2/80	9:49:49														
1876	44300	35494579	3/ 2/80	9:49:54	3	-1.7	110.2	32.9	1.1	0.03	-17.3	3	11.1	-81.2	11.6	4.5	0.39	-14.9
	44300	40944108	3/ 2/80	11:22:24														
1877	44300	40949032	3/ 2/80	11:22:29	3	-9.0	87.1	*****	*****	*****	-17.3	7	-3.4	-104.4	15.4	0.5	0.03	-18.0
	44300	46501515	3/ 2/80	12:55: 1														
1878	44300	46504434	3/ 2/80	12:55: 6	7	-4.9	63.9	19.1	4.6	0.24	-29.0	7	-1.0	-127.5	11.1	-1.5	-0.13	-8.8
	44300	52058921	3/ 2/80	14:27:38														
1879	44300	52063837	3/ 2/80	14:27:43	7	-0.1	40.8	17.3	3.8	0.22	-22.6	7	2.0	-150.7	5.0	-0.2	-0.04	******
	44300	57613367	3/ 2/80	16: 0:13														
1880	44300	57618290	3/ 2/80	16: 0:18	7	9.4	17.6	19.0	3.7	0.19	-18.5	7	11.2	-173.8	10.0	-0.1	-0.01	-7.9
	44300	63167820	3/ 2/80	17:32:47														
1881	44300	63172744	3/ 2/80	17:32:52	7	17.5	-5.5	14.2	5.5	0.39	-29.9	10	20.2	163.0	5.8	-4.1	-0.71	-0.6
	44300	68727189	3/ 2/80	19: 5:27														
1882	44300	68732113	3/ 2/80	19: 5:32	10	29.6	-28.7	12.5	1.7	0.13	-18.0	10	20.3	139.9	4.3	-3.9	-0.91	-2.4
	44300	74281642	3/ 2/80	20:38: 1														
1883	44300	74286567	3/ 2/80	20:38: 6	3	31.9	-51.8	12.3	3.8	0.31	-24.8	3	15.9	116.7	5.3	-3.6	-1.63	2.7
	44300	79836996	3/ 2/80	22:10:36														
1884	44300	79841020	3/ 2/80	22:10:41	3	20.8	-75.0	17.9	3.6	0.20	-26.8	3	4.7	93.6	3.4	-4.0	-1.16	-0.5
	44300	85395465	3/ 2/80	23:43:15														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	ECL	E	I	I/E	DELTA P	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA P
1885	44300	85400389	3/ 2/80	23:43:20	7	-17.4	-98.1	23.5	3.2	0.13	-32.3	7	-4.7	70.4	17.1	-3.7	-0.22	-10.1
	44301	4550164	3/ 3/80	1:15:50														
1886	44301	45550088	3/ 3/80	1:15:55	7	-27.8	-121.3	23.1	1.2	0.05	-23.7	7	-5.9	47.3	15.0	-2.6	-0.18	-13.3
	44301	10108618	3/ 3/80	2:48:24														
1887	44301	10109541	3/ 3/80	2:48:29	3	-0.7	-144.4	20.3	1.5	0.07	-16.4	3	5.5	24.1	10.3	-2.3	-0.22	-17.4
	44301	15659072	3/ 3/80	4:20:59														
1888	44301	15663995	3/ 3/80	4:21: 3	3	6.4	-167.6	14.5	3.3	0.23	-15.8	3	37.4	1.0	11.7	-3.9	-0.34	-5.8
	44301	21217218	3/ 3/80	5:53:37														
1889	44301	21221136	3/ 3/80	5:53:42	3	17.0	169.3	11.8	2.7	0.23	-18.6	3	45.4	-22.2	14.8	-4.5	-0.31	-9.3
	44301	26771666	3/ 3/80	7:26:11														
1890	44301	26776590	3/ 3/80	7:26:16	3	17.5	146.1	20.7	-0.9	-0.04	-28.4	3	37.1	-45.4	9.4	-0.8	-0.08	-9.4
1891	44301	32329069	3/ 3/80	8:58:49	7	18.4	123.0	10.2	1.1	0.11	-15.6	7	23.8	-68.5	5.3	2.6	0.49	-8.6
	44301	32333992	3/ 3/80	8:58:53														
1892	44301	37883522	3/ 3/80	10:31:23	7	17.6	99.8	5.6	-2.8	-0.50	-9.5	7	19.2	-91.7	7.5	-1.5	-0.20	-2.3
	44301	37888446	3/ 3/80	10:31:28														
1893	44301	43436994	3/ 3/80	12: 3:56	10	2.6	76.7	7.9	3.6	0.45	-14.6	10	5.9	-114.8	6.4	-3.4	-0.52	-3.2
	44301	43441916	3/ 3/80	12: 4: 1														
1894	44301	48991446	3/ 3/80	13:36:31	10	2.2	53.5	10.4	1.7	0.16	-14.0	10	6.2	-138.0	5.9	-3.4	-0.59	-2.4
	44301	48996369	3/ 3/80	13:36:36														
1895	44301	54555815	3/ 3/80	15: 9:10	27	12.3	30.4	13.0	2.6	0.20	-12.2	27	15.7	-161.1	7.0	-1.9	-0.27	-4.1
	44301	54555738	3/ 3/80	15: 9:15														
1896	44301	60105269	3/ 3/80	16:41:45	27	11.2	7.2	28.2	9.2	0.33	-33.8	27	24.5	175.8	7.7	-1.4	-0.18	-7.0
	44301	60110192	3/ 3/80	16:41:50														
1897	44301	65659722	3/ 3/80	18:14:19	17	19.7	-15.9	19.2	6.8	0.36	-26.1	17	26.5	152.6	4.2	-3.0	-0.71	-15.6
	44301	65664646	3/ 3/80	18:14:24														
1898	44301	71215160	3/ 3/80	19:46:55	17	23.4	-39.1	17.8	6.0	0.34	-23.2	17	22.4	129.5	9.1	-3.6	-0.39	-7.3
	44301	71220063	3/ 3/80	19:47: 3														
1899	44301	76769612	3/ 3/80	21:19:29	13	23.6	-62.2	18.1	9.5	0.52	-30.5	13	11.0	106.3	7.4	-7.0	-0.94	-1.9
	44301	76774536	3/ 3/80	21:19:34														
1900	44301	82324066	3/ 3/80	22:52: 4	13	5.7	-85.4	17.7	7.2	0.41	-33.2	7	-3.3	83.2	7.8	-4.0	-0.51	-5.0
	44301	82328990	3/ 3/80	22:52: 8														
1901	44302	1478519	3/ 4/80	0:24:38	7	-3.9	-108.5	17.6	6.2	0.35	-32.4	7	-7.1	60.0	13.8	-3.2	-0.23	-11.3
	44302	1483443	3/ 4/80	0:24:43														
1902	44302	7032972	3/ 4/80	1:57:12	7	-10.4	-131.7	12.9	1.1	0.09	-20.6	3	4.8	36.9	11.9	-3.0	-0.26	-7.5
	44302	7037897	3/ 4/80	1:57:17														
1903	44302	12587426	3/ 4/80	3:29:47	3	-1.3	-154.8	7.6	1.1	0.14	-3.1	3	19.5	13.7	11.9	-6.3	-0.57	-5.9
	44302	12592350	3/ 4/80	3:29:52														
1904	44302	18141880	3/ 4/80	5: 2:21	3	16.2	-178.0	13.1	-1.2	-0.09	-11.0	13	29.9	-9.4	7.7	-5.0	-0.64	*******
	44302	18146804	3/ 4/80	5: 2:26														
1905	44302	23696333	3/ 4/80	6:34:56	13	16.1	158.9	15.1	-2.5	-0.16	-6.9	13	25.5	-32.6	7.3	-1.3	-0.14	-2.3
	44302	23701258	3/ 4/80	6:35: 1														
1906	44302	29250787	3/ 4/80	8: 7:30	13	12.2	135.7	24.2	0.7	0.03	-28.0	23	23.9	-55.7	17.9	-1.1	-0.06	-18.3
	44302	29255711	3/ 4/80	8: 7:35														
1907	44302	34808194	3/ 4/80	9:40: 8	23	13.3	112.6	19.6	3.1	0.16	-24.1	23	30.7	-78.9	4.6	4.4	0.96	-11.5
	44302	34813113	3/ 4/80	9:40:13														
1908	44302	40360679	3/ 4/80	11:12:40	23	2.6	89.5	20.5	2.2	0.11	-23.1	13	17.8	-102.0	12.7	1.4	0.11	-16.6
	44302	40365601	3/ 4/80	11:12:45														
1909	44302	45917104	3/ 4/80	12:45:17	13	-8.7	66.3	23.0	6.1	0.27	-27.0	13	0.9	-125.2	9.1	-0.8	-0.09	-8.3
	44302	45922021	3/ 4/80	12:45:22														
1910	44302	51471550	3/ 4/80	14:17:51	13	2.4	43.2	13.4	1.4	0.10	******	10	8.7	-148.3	1.3	-1.8	-1.39	2.2
	44302	51476475	3/ 4/80	14:17:56														
1911	44302	57326255	3/ 4/80	15:50:26	10	19.9	20.0	12.5	1.1	0.09	-7.4	10	18.2	-171.5	3.5	-3.4	-0.98	0.4
	44302	57331174	3/ 4/80	15:50:31														
1912	44302	62580703	3/ 4/80	17:23: 0	10	27.1	-3.1	13.7	2.7	0.20	******	10	31.5	165.4	2.9	-3.4	-1.14	0.8
	44302	62585623	3/ 4/80	17:23: 5														
1913	44302	68135157	3/ 4/80	18:55:35	10	27.1	-26.3	12.5	1.7	0.13	-12.2	10	25.3	142.3	4.7	-4.4	-0.94	-1.5
	44302	68140081	3/ 4/80	18:55:40														
1914	44302	73689610	3/ 4/80	20:28: 9	10	27.6	-49.4	12.7	8.0	0.63	-27.6	20	21.1	119.1	6.2	-8.4	-1.36	1.1
	44302	73694534	3/ 4/80	20:28:14														
1915	44302	79244964	3/ 4/80	22: 0:44	20	8.1	-72.6	22.5	9.6	0.43	-36.7	20	28.6	96.0	3.5	-3.2	-0.93	-1.8
	44302	79248968	3/ 4/80	22: 0:48														
1916	44302	84793502	3/ 4/80	23:33:13	20	17.0	-95.7	28.7	4.2	0.15	-38.2	23	-2.1	72.8	16.5	-2.8	-0.17	-10.4
	44302	84798526	3/ 4/80	23:33:18														
1917	44303	3949055	3/ 5/80	1: 5:49	23	-23.7	-118.8	27.1	6.8	0.25	-36.8	23	-8.6	49.7	23.9	0.0	0.00	-24.7
	44303	3953962	3/ 5/80	1: 5:53														
1918	44303	9503492	3/ 5/80	2:38:23	27	-11.7	-142.0	30.0	7.9	0.26	-36.1	27	1.0	26.5	19.4	2.0	0.10	-16.7
	44303	9508416	3/ 5/80	2:38:28														
1919	44303	15057946	3/ 5/80	4:10:57	27	-8.4	-165.1	30.0	12.2	0.41	-39.1	27	21.9	3.4	15.1	0.6	0.04	-13.3
	44303	15062870	3/ 5/80	4:11: 2														
1920	44303	20613385	3/ 5/80	5:43:33	20	14.6	171.7	23.0	5.6	0.24	-27.3	20	26.6	-19.7	22.4	0.0	0.00	-19.7
	44303	20618306	3/ 5/80	5:43:38														
1921	44303	26164888	3/ 5/80	7:16: 4	20	13.6	148.6	22.1	4.0	0.18	-32.8	20	17.7	-42.9	17.9	1.1	0.06	-17.1
	44303	26169811	3/ 5/80	7:16: 9														
1922	44303	31720013	3/ 5/80	8:48:40	27	-1.9	125.4	28.6	7.8	0.27	-39.2	27	12.1	-66.0	18.8	5.0	0.48	-29.6
	44303	31725799	3/ 5/80	8:48:45														
1923	44303	37270353	3/ 5/80	10:21:10	27	-7.4	102.3	28.8	6.1	0.21	-38.9	27	25.3	-89.2	16.2	2.2	0.14	-20.2
	44303	37275277	3/ 5/80	10:21:15														
1924	44303	42826700	3/ 5/80	11:53:46	10	-30.2	79.2	31.5	13.5	0.43	-40.4	10	9.2	-112.3	20.9	3.1	0.15	-24.3
	44303	42831697	3/ 5/80	11:53:51														
	44303	46381227	3/ 5/80	13:26:21														

PASS	MJD	MSEC	DATE	GR: MN: SC	ASCENDING KP	D EQI	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
1925	44303	48386150	3/ 5/80	13: 26: 26	10	-31.9	56.0	29.3	8.6	0.29	-37.1	10	-6.0	-135.5	19.2	1.6	0.08	-20.4
	44303	53930765	3/ 5/80	14: 58: 50														
1926	44303	53935688	3/ 5/80	14: 58: 55	7	-8.3	32.9	21.2	7.4	0.35	-28.0	7	4.3	-158.6	10.6	-0.4	-0.04	-8.9
	44303	59485218	3/ 5/80	16: 31: 25														
1927	44303	59490142	3/ 5/80	16: 31: 30	7	7.4	9.7	21.9	6.5	0.30	-29.0	7	10.6	178.3	11.4	0.2	0.02	-11.5
	44303	65039671	3/ 5/80	18: 3: 59														
1928	44303	65044595	3/ 5/80	18: 4: 4	7	20.7	-13.4	22.8	5.1	0.22	-29.1	7	17.1	155.1	9.6	-4.4	-0.46	-3.1
	44303	70594125	3/ 5/80	19: 36: 34														
1929	44303	70599049	3/ 5/80	19: 36: 39	7	24.1	-36.5	23.4	3.8	0.16	-19.9	7	14.1	132.0	8.0	-3.6	-0.45	-4.5
	44303	76143663	3/ 5/80	21: 9: 3														
1930	44303	76148587	3/ 5/80	21: 9: 8	7	23.5	-59.7	17.0	8.5	0.50	-32.1	7	10.5	108.8	9.1	-7.8	-0.86	-2.1
	44303	81648123	3/ 5/80	22: 41: 38														
1931	44303	81703041	3/ 5/80	22: 41: 43	7	-3.4	-82.8	23.7	4.6	0.19	-32.3	7	0.4	85.7	10.8	-2.6	-0.24	-8.4
	44304	853060	3/ 6/80	0: 14: 13														
1932	44304	857985	3/ 6/80	0: 14: 17	20	-16.1	-106.0	30.8	6.0	0.19	-41.7	20	-3.9	62.6	13.3	-4.3	-0.32	-7.1
	44304	6407515	3/ 6/80	1: 46: 47														
1933	44304	6412439	3/ 6/80	1: 46: 52	20	-7.8	-129.1	13.4	-0.9	-0.07	-20.0	20	-1.1	39.4	14.8	-3.2	-0.22	-9.4
	44304	11957053	3/ 6/80	3: 19: 17														
1934	44304	11961977	3/ 6/80	3: 19: 21	20	2.1	-152.2	12.6	0.1	0.01	******	20	20.1	16.3	15.5	-4.0	-0.26	-5.0
	44304	17511506	3/ 6/80	4: 51: 51														
1935	44304	17516431	3/ 6/80	4: 51: 56	20	11.8	-175.4	27.5	4.7	0.17	-30.2	23	30.8	-6.9	14.2	-1.1	-0.08	-13.3
	44304	23059600	3/ 6/80	6: 24: 25														
1936	44304	23070884	3/ 6/80	6: 24: 30	23	14.8	161.5	16.0	2.3	0.15	-16.5	23	35.1	-30.0	15.0	-0.9	-0.06	-10.5
	44304	28615499	3/ 6/80	7: 56: 55														
1937	44304	28620423	3/ 6/80	7: 57: 0	23	12.8	138.3	19.8	1.9	0.10	-27.1	30	28.2	-53.1	11.7	0.0	0.00	-16.6
	44304	34169552	3/ 6/80	9: 29: 29														
1938	44304	34174875	3/ 6/80	9: 29: 34	30	12.6	115.2	13.3	2.1	0.16	-20.3	30	25.9	-76.3	6.0	2.9	0.48	-6.3
	44304	39724406	3/ 6/80	11: 2: 4														
1939	44304	39729329	3/ 6/80	11: 2: 9	30	6.4	92.1	20.0	3.4	0.17	-22.1	23	24.8	-99.4	15.7	2.8	0.18	-21.4
	44304	45273943	3/ 6/80	12: 34: 33														
1940	44304	45278867	3/ 6/80	12: 34: 38	23	-3.2	68.9	25.5	4.3	0.17	-27.1	23	13.2	-122.6	6.8	-1.6	-0.24	-6.0
	44304	50828397	3/ 6/80	14: 7: 8														
1941	44304	50833321	3/ 6/80	14: 7: 13	23	-11.3	45.8	21.8	5.8	0.26	-31.5	23	2.2	-145.7	9.4	1.2	0.13	-9.2
	44304	56377935	3/ 6/80	15: 39: 37														
1942	44304	56382859	3/ 6/80	15: 39: 42	23	13.9	22.7	17.1	5.7	0.33	-21.1	23	10.7	-168.8	9.6	-0.1	-0.01	-9.4
	44304	61930423	3/ 6/80	17: 12: 10														
1943	44304	61935347	3/ 6/80	17: 12: 15	23	16.1	-0.5	19.6	6.0	0.31	-23.9	20	25.4	168.0	6.6	-1.2	-0.18	-5.2
	44304	67482939	3/ 6/80	18: 44: 42														
1944	44304	67487834	3/ 6/80	18: 44: 47	20	25.8	-23.6	20.6	4.8	0.23	-26.1	20	18.8	144.9	10.9	-0.6	-0.05	-11.0
	44304	73038351	3/ 6/80	20: 17: 18														
1945	44304	73043271	3/ 6/80	20: 17: 23	20	25.8	-46.8	16.7	7.9	0.47	-22.5	17	1.8	121.8	10.3	-5.6	-0.54	-4.6
	44304	78587885	3/ 6/80	21: 49: 47														
1946	44304	78592808	3/ 6/80	21: 49: 52	17	16.5	-69.9	20.7	8.7	0.42	7.5	17	-6.8	98.6	6.2	-5.1	-0.83	-2.9
	44304	84142338	3/ 6/80	23: 22: 22														
1947	44304	84147202	3/ 6/80	23: 22: 27	17	11.3	-93.0	25.0	7.9	0.32	-38.8	23	-10.2	75.5	15.1	-3.0	-0.20	-7.5
	44305	2928064	3/ 7/80	0: 54: 52														
1948	44305	2977783	3/ 7/80	0: 54: 57	23	-6.8	-116.2	24.4	5.8	0.24	-27.4	23	0.4	52.3	13.6	-3.3	-0.24	-10.5
	44305	8847313	3/ 7/80	2: 27: 27														
1949	44305	8852236	3/ 7/80	2: 27: 32	23	-16.0	-139.3	28.5	3.5	0.12	-31.4	23	6.2	29.2	9.9	0.6	0.06	-8.0
	44305	14396852	3/ 7/80	3: 59: 56														
1950	44305	14401774	3/ 7/80	4: 0: 1	23	0.3	-162.4	18.8	3.7	0.20	-20.8	23	29.7	6.1	13.8	-1.8	-0.13	-16.1
	44305	19951305	3/ 7/80	5: 32: 31														
1951	44305	19956228	3/ 7/80	5: 32: 36	23	15.2	174.4	18.8	2.2	0.12	-21.7	10	35.3	-17.1	14.5	-2.0	-0.14	-12.4
	44305	25500843	3/ 7/80	7: 5: 0														
1952	44305	25505767	3/ 7/80	7: 5: 5	10	23.4	151.3	16.9	5.2	0.31	-25.3	10	26.4	-40.2	11.2	-1.3	-0.12	-7.2
	44305	31055296	3/ 7/80	8: 37: 35														
1953	44305	31060220	3/ 7/80	8: 37: 40	17	15.2	128.2	15.6	3.1	0.20	-19.8	17	26.1	-63.3	10.0	4.3	0.43	-16.4
	44305	36602868	3/ 7/80	10: 10: 2														
1954	44305	36607792	3/ 7/80	10: 10: 7	17	5.6	105.0	13.6	2.6	0.19	-21.8	17	20.8	-86.5	11.9	3.9	0.36	-15.1
	44305	42157321	3/ 7/80	11: 42: 37														
1955	44305	42162245	3/ 7/80	11: 42: 42	13	-7.4	81.9	11.9	2.9	0.24	-16.2	13	19.8	-109.6	10.3	-1.1	-0.11	-10.9
	44305	47706800	3/ 7/80	13: 15: 6														
1956	44305	47711784	3/ 7/80	13: 15: 11	13	-10.9	58.8	19.3	1.5	0.08	-25.8	13	2.5	-132.7	10.0	-1.6	-0.16	-8.2
	44305	53261313	3/ 7/80	14: 47: 41														
1957	44305	53266237	3/ 7/80	14: 47: 46	17	5.5	35.6	19.5	3.8	0.19	-20.9	17	4.1	-155.9	5.3	-0.2	-0.05	-2.5
	44305	58810848	3/ 7/80	16: 20: 10														
1958	44305	58815776	3/ 7/80	16: 20: 15	17	20.9	12.5	18.2	5.7	0.31	******	17	19.2	-179.0	6.4	0.2	0.04	-6.3
	44305	64405305	3/ 7/80	17: 52: 45														
1959	44305	64370229	3/ 7/80	17: 52: 50	20	21.2	-10.6	21.6	4.6	0.21	-32.4	20	26.9	157.9	6.4	-4.6	-0.72	0.5
	44305	69914844	3/ 7/80	19: 25: 14														
1960	44305	69919767	3/ 7/80	19: 25: 19	20	19.0	-33.8	28.8	6.7	0.23	-23.2	20	23.4	134.7	6.6	-1.3	-0.19	-9.1
	44305	75464382	3/ 7/80	20: 57: 44														
1961	44305	75469305	3/ 7/80	20: 57: 49	20	16.3	-56.9	23.7	9.9	0.42	-39.4	20	9.3	111.6	8.3	-5.4	-0.64	-4.9
	44305	81018834	3/ 7/80	22: 30: 18														
1962	44305	81023758	3/ 7/80	22: 30: 23	20	22.6	-80.0	26.7	4.3	0.16	-30.9	20	4.3	88.5	7.8	-2.9	-0.37	-6.9
	44306	168373	3/ 8/80	0: 2: 48														
1963	44306	173296	3/ 8/80	0: 2: 53	13	17.9	-103.2	23.7	4.3	0.18	-30.6	13	-8.8	65.3	17.5	-1.8	-0.11	-14.4
	44306	57179111	3/ 8/80	1: 35: 17														
1964	44306	57228035	3/ 8/80	1: 35: 22	13	17.2	-126.3	18.1	2.2	0.12	-19.3	13	-6.4	42.2	15.2	-3.9	-0.06	-13.1
	44306	11272364	3/ 8/80	3: 7: 52														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING NP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING NP	D EQL	EQL	E	I	I/E	DELTA B
1965	44306	11277289	3/ 8/80	3: 7:57	23	0.3	-149.4	20.9	6.1	0.29	-21.8	23	12.8	19.1	13.8	-1.6	-0.11	-7.2
	44306	11821933	3/ 8/80	3:40:21														
1966	44306	16826827	3/ 8/80	4:40:26	23	-1.7	-172.6	24.1	9.0	0.37	-25.8	23	27.4	-4.1	15.4	0.3	0.02	-13.3
	44306	22371441	3/ 8/80	6:12:51														
1967	44306	24376365	3/ 8/80	6:12:56	23	5.9	104.3	23.4	7.2	0.31	42.0	23	39.8	-27.2	12.4	-1.4	-0.11	-7.4
	44306	27925894	3/ 8/80	7:45:25														
1968	44306	27930818	3/ 8/80	7:45:30	23	11.9	141.2	31.4	3.5	0.11	-36.7	23	31.2	-50.3	13.7	0.3	0.02	-20.8
	44306	33475433	3/ 8/80	9:17:55														
1969	44306	33480356	3/ 8/80	9:18: 0	20	3.4	118.0	14.8	4.6	0.31	-23.7	20	18.5	-73.5	11.7	0.0	0.51	-17.4
	44306	39024971	3/ 8/80	10:50:24														
1970	44306	39029894	3/ 8/80	10:50:29	20	-15.4	94.9	23.3	5.5	0.24	-28.0	20	12.4	-96.0	14.0	2.0	0.18	*******
	44306	44578442	3/ 8/80	12:22:58														
1971	44306	44583365	3/ 8/80	12:23: 3	13	-12.1	71.8	22.2	6.0	0.27	-29.9	13	0.4	-119.7	14.1	0.0	0.00	-13.6
	44306	50127979	3/ 8/80	13:55:27														
1972	44306	50132903	3/ 8/80	13:55:32	13	-9.5	48.7	20.0	5.5	0.28	-31.5	17	-1.2	-142.8	10.9	0.4	0.03	-9.8
	44306	55677517	3/ 8/80	15:27:57														
1973	44306	55682441	3/ 8/80	15:28: 2	17	2.2	25.5	21.4	4.1	0.19	-23.7	17	10.5	-166.0	5.9	-2.2	-0.37	-4.3
	44306	61227055	3/ 8/80	17: 0:27														
1974	44306	61231979	3/ 8/80	17: 0:31	17	22.5	2.4	21.0	2.8	0.13	-22.7	13	26.1	170.9	8.3	-0.3	-0.04	-7.9
	44306	66781510	3/ 8/80	18:33: 1														
1975	44306	66786432	3/ 8/80	18:33: 6	13	21.8	-20.7	29.6	5.2	0.18	-32.5	13	20.9	147.8	11.0	0.5	0.04	-12.5
	44306	72331048	3/ 8/80	20: 5:31														
1976	44306	72335970	3/ 8/80	20: 5:35	13	19.1	-43.9	20.9	7.4	0.35	-27.8	13	8.5	124.6	8.8	-4.8	-0.55	-4.9
	44306	77880586	3/ 8/80	21:38: 0														
1977	44306	77885509	3/ 8/80	21:38: 5	13	17.3	-67.0	25.2	1.2	0.05	-32.3	13	0.9	101.5	7.4	-5.1	-0.69	4.3
	44306	83429145	3/ 8/80	23:10:29														
1978	44306	83434064	3/ 8/80	23:10:34	13	7.4	-90.1	27.8	6.8	0.24	-36.1	20	-9.4	78.4	11.5	-5.1	-0.44	-5.1
	44307	2578681	3/ 9/80	0:42:58														
1979	44307	2583601	3/ 9/80	0:43: 3	20	-9.3	-113.2	33.9	3.5	0.10	-34.	20	-8.7	55.3	15.6	-1.1	-0.07	-10.2
	44307	8133131	3/ 9/80	2:15:33														
1980	44307	8138055	3/ 9/80	2:15:38	20	-10.7	-136.4	26.0	1.8	0.07	6.8	17	0.9	32.1	12.3	2.1	0.17	-12.0
	44307	13682670	3/ 9/80	3:48: 2														
1981	44307	13687593	3/ 9/80	3:48: 7	17	2.0	-159.5	15.8	2.8	0.18	-16.5	17	11.6	9.0	15.1	-2.5	-0.17	-9.6
	44307	19232208	3/ 9/80	5:20:32														
1982	44307	19237131	3/ 9/80	5:20:37	17	9.6	177.4	21.7	3.5	0.16	-24.9	30	29.5	-14.1	17.2	-1.9	-0.11	-17.6
	44307	24781746	3/ 9/80	6:53: 1														
1983	44307	24786669	3/ 9/80	6:53: 6	30	8.9	154.2	30.3	8.3	0.27	-37.2	30	29.5	-37.3	12.4	-3.8	-0.31	-4.6
	44307	30331284	3/ 9/80	8:25:31														
1984	44307	30336208	3/ 9/80	8:25:36	30	5.5	131.1	26.2	2.6	0.10	-28.3	13	23.6	-60.4	11.5	3.1	0.45	-19.4
	44307	35880822	3/ 9/80	9:58: 0														
1985	44307	35885746	3/ 9/80	9:58: 5	13	4.2	108.0	11.9	3.5	0.29	-16.2	13	9.1	-83.5	11.0	4.5	0.41	-14.4
	44307	41430360	3/ 9/80	11:30:30														
1986	44307	41435284	3/ 9/80	11:30:35	13	1.2	84.9	10.8	5.6	0.52	-17.6	20	9.5	-106.6	15.0	-0.5	-0.03	-17.2
	44307	46979899	3/ 9/80	13: 2:59														
1987	44307	46984822	3/ 9/80	13: 3: 4	20	-20.5	61.7	29.8	7.8	0.26	-36.2	20	-0.2	-129.8	12.5	-1.7	-0.14	-10.0
	44307	52529437	3/ 9/80	14:35:29														
1988	44307	52534361	3/ 9/80	14:35:34	20	-21.7	38.6	23.3	7.6	0.34	-28.3	23	-0.9	-152.9	7.0	1.1	0.15	-5.6
	44307	58078975	3/ 9/80	16: 7:58														
1989	44307	58083898	3/ 9/80	16: 8: 3	23	7.8	15.5	24.6	9.7	0.40	-31.5	23	18.3	-176.0	10.0	1.8	0.18	-11.7
	44307	63628513	3/ 9/80	17:40:28														
1990	44307	63633436	3/ 9/80	17:40:33	10	23.6	-7.6	17.6	6.4	0.36	-34.2	10	21.3	160.9	11.0	-0.7	-0.06	-7.5
	44307	69178051	3/ 9/80	19:12:58														
1991	44307	69182974	3/ 9/80	19:13: 2	10	24.5	-30.8	21.0	3.8	0.18	-24.4	10	13.5	137.7	8.5	-1.4	-0.17	-9.8
	44307	74727589	3/ 9/80	20:45:27														
1992	44307	74732512	3/ 9/80	20:45:32	13	23.3	-53.9	14.3	8.7	0.61	-32.5	13	11.4	114.6	9.2	-5.8	-0.63	-4.4
	44307	80277127	3/ 9/80	22:17:57														
1993	44307	80282051	3/ 9/80	22:18: 2	13	12.4	-77.0	22.8	4.6	0.20	9.2	13	2.0	91.5	4.0	-3.3	-0.83	-3.0
	44307	85826605	3/ 9/80	23:50:26														
1994	44307	85831589	3/ 9/80	23:50:31	3	6.2	-100.1	26.5	4.0	0.15	-33.6	3	-6.8	68.4	17.0	-2.5	-0.15	-12.7
	44308	4979152	3/10/80	1:22:59														
1995	44308	4984076	3/10/80	1:23: 4	3	8.6	-123.3	18.3	2.6	0.14	-21.0	3	0.9	45.2	12.0	-3.2	-0.02	-12.8
	44308	10528690	3/10/80	2:55:28														
1996	44308	10533614	3/10/80	2:55:33	13	3.4	-146.4	18.6	1.3	0.07	-14.0	13	14.2	22.1	10.6	-0.4	-0.04	-13.1
	44308	16076228	3/10/80	4:27:58														
1997	44308	16083152	3/10/80	4:28: 3	13	5.6	-169.5	17.2	2.5	0.15	-15.7	13	21.9	-1.0	8.9	-2.2	-0.25	-15.2
	44308	21627767	3/10/80	6: 0:27														
1998	44308	21632691	3/10/80	6: 0:32	7	18.2	167.4	16.4	4.5	0.28	-20.5	7	33.7	-24.1	14.8	-2.0	-0.13	-9.1
	44308	27177305	3/10/80	7:32:57														
1999	44308	27182229	3/10/80	7:33: 2	7	25.7	144.2	23.5	-1.2	-0.05	-27.9	7	31.3	-47.3	14.1	-0.6	-0.04	-14.6
	44308	32726843	3/10/80	9: 5:26														
2000	44308	32731766	3/10/80	9: 5:31	20	21.1	121.1	8.8	2.6	0.30	-13.2	20	23.6	-70.4	9.2	5.2	0.56	-14.3
	44308	38271466	3/10/80	10:37:51														
2001	44308	38276389	3/10/80	10:37:56	20	1.4	98.0	13.2	1.4	0.11	-18.9	20	26.6	-93.5	11.8	0.4	0.03	-14.1
	44308	43821004	3/10/80	12:10:21														
2002	44308	43825927	3/10/80	12:10:25	20	-9.5	74.9	21.7	7.9	0.37	-31.6	20	15.2	-116.6	12.9	0.3	0.03	-12.5
	44308	49370542	3/10/80	13:42:50														
2003	44308	49375465	3/10/80	13:42:55	20	-22.3	51.8	23.1	6.8	0.29	-34.9	20	5.7	-139.8	13.4	2.2	0.17	*******
	44308	54920081	3/10/80	15:15:20														
2004	44308	54925003	3/10/80	15:15:25	10	-8.1	28.6	17.7	6.0	0.34	-17.8	***	******	******	**********	******	******	-21.6
	44308	60197302	3/10/80	16:43:17														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
2005	44308	60473313	3/10/80	16:47:53	10	21.7	5.5	19.4	5.0	0.26	-22.9	10	11.6	174.0	8.9	-3.0	-0.00	-9.2
	44308	66017928	3/10/80	18:20:17														
2006	44308	66022851	3/10/80	18:20:22	7	24.8	-17.6	20.8	4.9	0.24	-27.1	7	20.6	150.9	9.6	-1.4	-0.15	-7.7
	44308	71567466	3/10/80	19:52:47														
2007	44308	71572389	3/10/80	19:52:52	7	22.9	-40.7	16.6	4.9	0.30	-20.5	7	11.6	127.7	7.9	-4.0	-0.50	-4.6
	44308	77117044	3/10/80	21:25:17														
2008	44308	77121927	3/10/80	21:25:21	7	19.5	-63.9	14.9	8.6	0.58	6.8	7	4.2	104.6	6.7	-5.7	-0.86	-2.3
	44308	82661628	3/10/80	22:57:41														
2009	44308	82666539	3/10/80	22:57:46	7	10.6	-87.0	26.7	-0.7	-0.03	-33.9	20	-4.7	81.5	10.0	-3.0	-0.50	-6.1
	44309	1810432	3/11/80	0:30:10														
2010	44309	1815351	3/11/80	0:30:15	20	1.9	-110.1	27.3	4.9	0.18	-40.7	20	-8.0	58.4	14.4	-0.6	-0.04	-14.0
	44309	7359965	3/11/80	2:2:39														
2011	44309	7364889	3/11/80	2:2:44	20	-8.6	-133.2	24.0	-1.6	-0.07	-30.2	0	2.2	35.3	11.6	1.1	0.10	-10.4
	44309	12909503	3/11/80	3:35:9														
2012	44309	12914427	3/11/80	3:35:14	0	-2.5	-156.3	12.9	1.7	0.13	-15.2	0	17.5	12.1	14.2	-2.7	-0.19	-4.8
	44309	18459041	3/11/80	5:7:39														
2013	44309	18463965	3/11/80	5:7:43	0	17.8	-179.5	14.8	1.6	0.11	-24.1	3	40.1	-11.0	13.0	-1.9	-0.14	-13.9
	44309	24005880	3/11/80	6:40:8														
2014	44309	24015502	3/11/80	6:40:13	3	28.0	157.4	16.6	0.4	0.02	-16.7	3	43.9	-34.1	11.8	-1.1	-0.09	-6.6
	44309	29553203	3/11/80	8:12:33														
2015	44309	29558125	3/11/80	8:12:38	3	27.0	134.3	17.7	-0.3	-0.02	-23.2	27	34.3	-57.2	9.4	-0.7	-0.07	-10.9
	44309	35102741	3/11/80	9:45:2														
2016	44309	35107663	3/11/80	9:45:7	27	2.0	111.2	15.4	3.5	0.22	-23.7	27	24.8	-80.3	6.0	3.3	0.88	-10.1
	44309	40652279	3/11/80	11:17:32														
2017	44309	40657202	3/11/80	11:17:37	27	-4.7	68.1	15.6	2.1	0.13	-22.2	17	11.9	-103.5	14.7	3.2	0.22	-20.9
	44309	46196901	3/11/80	12:49:56														
2018	44309	46201825	3/11/80	12:50:1	17	-10.6	64.9	23.3	4.5	0.19	-31.7	17	6.7	-126.6	12.3	-3.2	-0.02	-1.5
	44309	51746440	3/11/80	14:22:26														
2019	44309	51751362	3/11/80	14:22:31	17	-9.2	41.8	16.4	5.4	0.33	-24.4	10	2.3	-149.7	5.9	0.2	0.03	-4.3
	44309	57295977	3/11/80	15:54:55														
2020	44309	57300900	3/11/80	15:55:0	10	11.7	18.7	17.1	4.0	0.23	-14.4	10	11.5	-172.8	9.0	0.1	0.01	-7.8
	44309	62840600	3/11/80	17:27:20														
2021	44309	62845523	3/11/80	17:27:25	10	25.5	-4.4	13.3	4.8	0.36	-23.5	3	16.8	164.1	6.3	-1.6	-0.25	-2.7
	44309	68390138	3/11/80	16:59:50														
2022	44309	68395061	3/11/80	18:59:55	3	30.3	-27.5	20.8	3.6	0.17	-23.6	3	18.9	140.9	7.1	-1.9	-0.28	-6.8
	44309	73939676	3/11/80	20:32:19														
2023	44309	73944599	3/11/80	20:32:24	3	31.7	-50.6	13.7	6.9	0.50	-26.4	7	12.5	117.8	7.0	-5.9	-0.85	-1.6
	44309	79484299	3/11/80	22:4:44														
2024	44309	79489222	3/11/80	22:4:49	7	11.3	-73.8	17.9	5.9	0.33	-33.6	7	-3.0	94.7	5.2	-1.2	-0.23	-4.5
	44309	85033837	3/11/80	23:37:13														
2025	44309	85038761	3/11/80	23:37:18	0	-5.6	-96.9	26.6	4.4	0.16	-43.1	0	-6.7	71.6	15.8	-2.9	-0.18	-10.0
	44310	4183375	3/12/80	1:9:43														
2026	44310	4188293	3/12/80	1:9:48	0	-12.0	-120.0	21.6	2.7	0.13	-33.3	0	-7.0	48.5	12.7	-1.1	-0.06	-13.2
	44310	9727998	3/12/80	2:42:7														
2027	44310	9732920	3/12/80	2:42:12	0	-7.2	-143.1	19.5	1.0	0.05	-24.0	0	-1.3	25.4	8.2	1.1	0.14	-5.6
	44310	15275536	3/12/80	4:14:37														
2028	44310	15282459	3/12/80	4:14:42	0	-0.9	-160.2	16.7	4.4	0.27	-26.0	0	23.7	2.2	10.9	0.2	0.02	-14.6
	44310	20822159	3/12/80	5:47:2														
2029	44310	20827081	3/12/80	5:47:7	0	15.0	170.7	12.5	2.9	0.23	-17.7	0	31.5	-20.9	16.1	-1.6	-0.10	-12.5
	44310	26371697	3/12/80	7:19:31														
2030	44310	26376620	3/12/80	7:19:36	0	18.1	147.5	19.5	0.3	0.02	-28.2	0	33.8	-44.0	14.7	-0.2	-0.02	-12.6
	44310	31921235	3/12/80	8:52:1														
2031	44310	31926158	3/12/80	8:52:6	0	10.2	124.4	14.2	1.1	0.08	-20.7	***	******	******	8.8	5.2	0.59	-16.8
	44310	37465857	3/12/80	10:24:25														
2032	44310	37470781	3/12/80	10:24:30	0	4.9	101.3	8.8	-1.9	-0.21	-13.0	0	20.2	-90.2	9.3	1.7	0.18	-12.3
	44310	43013429	3/12/80	11:56:53														
2033	44310	43018353	3/12/80	11:56:58	0	-3.8	78.2	9.5	5.0	0.53	-14.3	0	1.7	-113.3	9.4	0.5	0.05	-10.6
	44310	48502967	3/12/80	13:29:22														
2034	44310	48507891	3/12/80	13:29:27	0	-6.9	55.1	17.6	2.7	0.15	-25.3	0	2.8	-136.5	10.6	-0.7	-0.06	-10.6
	44310	54107590	3/12/80	15:1:47														
2035	44310	54112514	3/12/80	15:1:52	7	2.0	32.0	12.0	4.0	0.34	-16.9	7	9.6	-159.6	3.0	-2.8	-0.93	1.0
	44310	59657128	3/12/80	16:34:17														
2036	44310	59662051	3/12/80	16:34:22	7	10.5	8.9	11.7	2.5	0.22	-13.9	7	17.6	177.3	0.7	-3.9	-5.62	2.5
	44310	65053007	3/12/80	18:4:13														
2037	44310	65059445	3/12/80	18:6:45	13	43.0	-14.3	16.7	1.8	0.11	-22.2	13	28.3	154.2	3.4	-5.7	-1.70	3.6
	44310	70750060	3/12/80	19:39:10														
2038	44310	70754963	3/12/80	19:39:14	13	40.8	-37.4	11.9	3.2	1.27	-11.8	13	27.0	131.1	2.0	-5.6	-2.84	0.6
	44310	76294083	3/12/80	21:11:34														
2039	44310	76299636	3/12/80	21:11:39	3	33.6	-60.5	7.3	6.0	0.82	-21.4	3	18.4	108.0	-1.4	-9.6	7.09	8.9
	44310	81844221	3/12/80	22:44:4														
2040	44310	81849144	3/12/80	22:44:9	3	14.9	-83.6	8.3	3.2	0.39	-23.4	3	11.8	84.9	-1.3	-6.4	4.72	5.4
	44311	9930422	3/13/80	0:16:33														
2041	44311	9937944	3/13/80	0:16:37	10	3.1	-106.7	13.9	1.5	0.11	-23.2	10	2.1	61.7	7.6	-5.9	-0.77	-2.7
	44311	6537645	3/13/80	1:48:57														
2042	44311	6542567	3/13/80	1:49:2	10	-3.6	-129.8	6.6	-1.8	-0.27	-10.2	10	5.4	38.6	4.5	-6.2	-1.38	1.7
	44311	12082207	3/13/80	3:21:22														
2043	44311	12087190	3/13/80	3:21:27	13	4.8	-152.9	3.8	-1.5	-0.39	-3.2	13	26.4	15.5	6.7	-7.0	-1.04	4.5
	44311	17631895	3/13/80	4:53:51														
2044	44311	17636728	3/13/80	4:53:56	13	29.9	-176.1	7.0	-1.8	-0.25	-9.2	30	54.7	-7.6	2.1	-7.2	-3.36	2.0
	44311	23176423	3/13/80	6:26:16														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCEND DISC KP	D ECL	ECL	E	I	I/E	DELTA E	DESCEND DISC KP	D ECL	ECL	E	I	I/E	DELTA E
2045	44311	431011351	3/13/80	6:26:21	30	36.9	160.8	3.2	-1.1	-0.34	11.0						0.05	-7.3
2046	44311	287259966	3/13/80	7:56:45														
2047	44311	287340889	3/13/80	7:58:50	30	20.6	137.7	20.1	1.7	0.08	-26.3	10	28.1	-53.8	11.9	2.9	0.24	-19.6
2048	44311	342705883	3/13/80	9:31:10	10	7.3	114.6	11.3	1.9	0.16	-17.2	10	16.3	-76.3	5.3	7.7	1.44	-12.1
2049	44311	342755512	3/13/80	9:31:15														
2050	44311	396152111	3/13/80	11: 3:35														
2051	44311	396201134	3/13/80	11: 3:40	10	0.1	91.5	14.2	0.2	0.01	-17.0	17	1.6	-100.1	13.4	9.2	0.31	-19.9
2052	44311	451667749	3/13/80	12:36: 4														
2053	44311	451696673	3/13/80	12:36: 9	17	-2.9	68.4	16.5	2.3	0.14	-21.7	17	3.7	-123.2	5.1	-1.6	-0.31	-4.6
2054	44311	509199172	3/13/80	14: 8:29														
2055	44311	509134235	3/13/80	14: 8:34	17	-1.1	85.3	12.0	3.3	0.25	-18.2	7	6.6	-146.3	4.3	-3.3	-0.37	-2.0
2056	44311	566586113	3/13/80	15:40:58														
2057	44311	566638433	3/13/80	15:41: 3	7	15.2	22.2	5.4	3.9	0.47	-10.7	7	10.7	-169.8	4.1	-2.3	-0.49	-2.5
2058	44311	620035333	3/13/80	17:13:23														
2059	44311	620086456	3/13/80	17:13:28	7	27.6	-1.0	14.2	1.8	0.13	-14.4	20	23.2	167.5	4.2	-3.9	-0.92	-0.0
2060	44311	675481156	3/13/80	18:45:48														
2061	44311	675530782	3/13/80	18:45:53	20	25.3	-24.1	20.5	5.0	0.25	-23.6	20	20.2	144.4	5.3	-3.8	-0.71	-3.7
2062	44311	730776934	3/13/80	20:18:17														
2063	44311	731026816	3/13/80	20:18:22	20	23.3	-47.2	16.7	9.3	0.56	-27.9	23	18.1	121.3	2.2	-7.3	-3.37	3.1
2064	44311	786433333	3/13/80	21:50:43														
2065	44311	786482422	3/13/80	21:50:48	23	16.7	-75.3	15.4	5.2	0.34	-34.4	23	7.7	98.2	2.1	-2.4	-1.11	-2.1
2066	44311	841879222	3/13/80	23:23: 7														
2067	44311	841928445	3/13/80	23:23:12	23	-1.6	-93.4	34.5	12.2	0.35	-56.0	20	-10.4	75.1	17.3	2.3	0.14	-15.6
2068	44312	33335534	3/14/80	0:55:33														
2069	44312	33386696	3/14/80	0:55:38	20	-13.2	-116.5	26.3	4.7	0.18	-33.9	20	-3.4	51.9	17.3	1.7	0.10	-19.8
2070	44312	88783596	3/14/80	2:27:58														
2071	44312	88833319	3/14/80	2:28: 3	20	-5.4	-139.6	22.7	4.3	0.19	5.9	23	-2.6	28.8	12.5	2.1	0.17	-11.5
2072	44312	134279334	3/14/80	3: 9:47														
2073	44312	134332857	3/14/80	3: 9:52	23	1.1	-162.7	20.1	7.1	0.35	-26.2	23	31.7	5.7	13.3	0.8	0.06	-21.6
2074	44312	199725556	3/14/80	5:32:52														
2075	44312	199774480	3/14/80	5:32:57	23	13.0	174.2	21.8	3.9	0.18	-26.2	10	54.8	-17.4	17.5	0.6	0.03	-17.3
2076	44312	259171779	3/14/80	7: 5:17														
2077	44312	259221103	3/14/80	7: 5:22	10	23.0	151.1	22.8	2.9	0.13	-26.6	10	49.9	-80.5	16.2	0.9	0.06	-13.9
2078	44312	310618492	3/14/80	8:37:41														
2079	44312	310667725	3/14/80	8:37:46	7	-5.5	127.9	20.0	0.5	0.03	-20.4	7	27.5	-63.6	12.0	2.5	0.20	-16.9
2080	44312	366063425	3/14/80	10:13: 6														
2081	44312	366113448	3/14/80	10:13:11	7	-10.7	104.8	16.1	0.9	0.06	-20.6	7	3.1	-86.7	13.7	5.3	0.39	-19.0
2082	44312	421559625	3/14/80	11:42:55														
2083	44312	421608686	3/14/80	11:43: 0	13	-14.7	81.7	16.3	7.2	0.44	-22.5	13	5.3	-109.8	14.7	1.7	0.12	-16.9
2084	44312	477305866	3/14/80	13:15: 0														
2085	44312	477054509	3/14/80	13:15: 5	13	-16.3	58.6	26.3	6.1	0.23	-36.6	13	-2.7	-132.9	16.8	1.6	0.10	-18.4
2086	44312	532452928	3/14/80	14:47:45														
2087	44312	532501131	3/14/80	14:47:50	17	-10.1	35.5	23.3	8.8	0.38	-32.6	17	-0.9	-156.0	7.4	0.2	0.02	-5.8
2088	44312	587898851	3/14/80	16:19:59														
2089	44312	587947754	3/14/80	16:19:54	17	4.5	12.4	11.4	9.3	0.80	-33.6	17	11.6	-179.2	8.7	-3.7	-0.09	-8.0
2090	44312	643344558	3/14/80	17:52:14														
2091	44312	643393776	3/14/80	17:52:19	7	19.0	-11.7	20.0	8.7	0.42	-38.6	7	15.5	157.7	10.2	-4.1	-0.40	-4.5
2092	44312	698839931	3/14/80	19:24:43														
2093	44312	698886915	3/14/80	19:24:48	7	26.1	-53.8	8.3	5.1	0.21	-26.3	7	16.6	138.6	7.1	-1.7	-0.24	-5.2
2094	44312	754286114	3/14/80	20:57: 8														
2095	44312	754335537	3/14/80	20:57:13	3	22.7	-56.9	16.1	6.2	0.38	-34.1	3	7.5	111.5	7.3	-6.1	-0.84	-3.2
2096	44312	809732237	3/14/80	22:29:33														
2097	44312	809781160	3/14/80	22:29:38	3	13.3	-89.0	23.1	2.9	0.12	-36.1	***	******	******	**********	******	******	-3.2
2098	44313	116382	3/15/80	0: 1:56														
2099	44313	121336	3/15/80	0: 2: 1	0	4.1	-103.1	20.6	5.2	0.25	-35.0	0	-5.8	65.3	15.0	-2.2	-0.15	-11.2
2100	44313	5661048	3/15/80	1:34:21														
2101	44313	5665931	3/15/80	1:34:25	0	7.5	-126.2	12.4	3.5	0.28	******	0	1.5	42.2	11.4	-3.7	-0.36	-9.8
2102	44313	1121054	3/15/80	3: 6:50														
2103	44313	1121546	3/15/80	3: 6:55	0	12.4	-149.3	9.7	3.1	0.32	-19.1	0	16.3	19.1	13.2	-1.9	-0.18	-3.3
2104	44313	1675187	3/15/80	4:39:14														
2105	44313	1675139	3/15/80	4:39:19	0	11.9	-172.5	14.9	1.0	0.07	-9.2	0	24.6	-4.0	8.3	-1.6	-0.20	-4.5
2106	44313	2242808	3/15/80	6:11:38														
2107	44313	2243731	3/15/80	6:11:43	3	16.9	164.4	15.2	2.8	0.19	-14.6	3	36.9	-27.1	9.3	0.3	0.03	-6.1
2108	44313	2784342	3/15/80	7:44: 3														
2109	44313	2784838	3/15/80	7:44: 8	3	18.8	141.3	22.1	-0.8	-0.04	-25.9	3	34.6	-50.2	12.0	-1.3	-0.08	-13.7
2110	44313	3338053	3/15/80	9:16:28														
2111	44313	3339277	3/15/80	9:16:32	3	13.9	118.2	9.3	0.9	0.10	-14.8	3	18.5	-73.3	7.6	5.0	0.74	-13.3
2112	44313	3893276	3/15/80	10:48:52														
2113	44313	3894599	3/15/80	10:48:57	3	0.5	95.1	13.2	-0.2	-0.02	-18.0	3	5.7	-96.4	12.5	1.2	0.10	-6.7
2114	44313	4447299	3/15/80	12:21:17														
2115	44313	4448222	3/15/80	12:21:22	3	-4.7	72.0	19.7	7.2	0.37	-26.2	3	3.4	-119.5	5.3	-1.2	-0.14	-7.4
2116	44313	5002121	3/15/80	13:53:41														
2117	44313	5002688	3/15/80	13:53:46	3	-3.9	48.9	16.8	4.0	0.24	-27.3	3	4.4	-142.6	7.1	-0.8	-0.11	-5.7
2118	44313	5556543	3/15/80	15:26: 6														
2119	44313	5557467	3/15/80	15:26:11	3	2.9	25.8	13.7	3.9	0.28	-16.7	3	8.7	-165.8	2.9	-3.2	-1.13	-1.1
2120	44313	6111107	3/15/80	16:58:31														
2121	44313	6111160	3/15/80	16:58:36	3	21.6	2.7	13.7	3.8	0.28	-18.2	0	16.3	171.1	5.4	-3.1	-0.57	-2.4
2122	44313	6665589	3/15/80	18:30:55														
2123	44313	6666071	3/15/80	18:31: 0	0	31.7	-20.4	14.3	5.3	0.37	-18.3	0	21.4	148.0	4.3	-3.1	-0.72	-2.5
	44313	7220641	3/15/80	20: 3:20														

PASS	MJD	MSEC	DATE	TIME SEC	ASCENDING NODE	D ECL	ECL	E	I	I/E	DELTA_B	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA_B
2085	44413	72245345	3/15/80	20:04:05	0	38.2	-43.5	15.0	4.4	0.29	-18.2	13	22.4	128.9	4.3	-6.7	-1.57	2.1
2086	44413	77745334	3/15/80	21:35:45														
2086	44413	77749958	3/15/80	21:35:49	13	29.2	-66.6	12.1	5.8	0.48	-26.5	13	15.6	101.8	-0.2	-7.0	31.87	5.6
2087	44413	82249657	3/15/80	22:50:49														
2087	44413	82254559	3/15/80	22:50:54	13	13.6	-89.7	13.0	6.3	0.48	-30.0	17	5.3	76.7	1.0	-5.9	-5.75	7.8
2088	44414	2437470	3/16/80	00:40:37														
2088	44414	2442398	3/16/80	00:40:42	17	2.0	-114.8	10.3	2.0	0.20	-18.9	17	8.6	55.6	4.2	-5.7	-1.38*******	
2089	44414	79771342	3/16/80	02:12:57														
2089	44414	79824135	3/16/80	02:13:02	17	8.0	-135.9	8.7	-0.6	-0.07	-14.5	10	19.7	32.5	-1.0	-4.0	4.11*******	
2090	44414	135216955	3/16/80	13:46:41														
2090	44414	135262727	3/16/80	13:46:46	10	22.4	-139.0	-2.0	-1.1	0.54	-1.7	10	25.6	9.4	2.4	-7.1	-2.97	4.1
2091	44414	139224427	3/16/80	15:17:46														
2091	44414	139271352	3/16/80	15:17:51	10	34.1	177.3	1.5	-2.7	-1.75	-0.6	7	46.2	-13.7	3.6	-6.3	-12.37	1.6
2092	44414	246113720	3/16/80	68:50:11														
2092	44414	246159773	3/16/80	68:50:15	7	43.8	154.8	5.2	-2.4	-0.45	1.3	7	53.6	-36.6	0.3	-2.2	-2.56	3.1
2093	44414	301556773	3/16/80	83:22:35														
2093	44414	301603545	3/16/80	83:22:40	7	34.7	131.7	14.3	-1.0	-0.10	-9.9	17	37.6	-59.9	5.2	-3.1	-0.03	-6.3
2094	44414	357902295	3/16/80	99:58:22														
2094	44414	357952135	3/16/80	99:58:27	17	7.1	104.6	11.7	1.2	0.10	-14.4	17	19.2	-83.0	-0.6	-3.1	0.36	3.7
2095	44414	412469196	3/16/80	114:27:49														
2095	44414	412516841	3/16/80	114:27:54	17	3.2	85.5	7.3	2.3	0.30	-7.6	10	15.3	-106.1	2.2	-1.3	-0.69	-3.4
2096	44414	467895443	3/16/80	129:58:15														
2096	44414	467944464	3/16/80	129:58:20	10	5.7	64.4	13.6	2.1	0.15	-19.1	13	6.3	-129.2	1.7	-3.4	-2.24	2.8
2097	44414	523393486	3/16/80	145:32:19														
2097	44414	523441103	3/16/80	145:32:24	10	3.6	39.3	10.9	2.6	0.24	-15.8	10	12.2	-152.3	-3.5	-2.6	0.73	7.9
2098	44414	578787726	3/16/80	160:46:27														
2098	44414	578837709	3/16/80	160:46:33	10	13.2	16.2	8.4	3.2	0.38	-11.6	13	17.7	-175.4	-1.7	-2.0	1.15	3.5
2099	44414	634118433	3/16/80	176:08:38														
2099	44414	634234116	3/16/80	176:10:34	10	23.9	-6.9	8.3	4.3	0.43	-22.3	7	29.2	161.5	-1.5	-3.7	3.89	5.4
2100	44414	689063116	3/16/80	191:31:03														
2100	44414	689068953	3/16/80	191:31:08	7	52.6	-33.0	8.4	-0.0	-0.00	-8.6	7	27.3	138.4	-4.3	-3.7	1.32	6.9
2101	44414	745077738	3/16/80	207:01:17														
2101	44414	745126661	3/16/80	207:01:22	17	40.1	-53.1	6.4	4.9	0.77	-18.1	17	16.6	115.3	1.1	-7.4	-6.86	5.2
2102	44414	800952361	3/16/80	222:15:52														
2102	44414	800972284	3/16/80	222:15:57	17	27.1	-78.2	29.3	-7.3	-0.25	-29.0	17	8.6	92.2	-3.9	-2.8	0.72	5.5
2103	44414	855940438	3/16/80	237:46:34														
2103	44414	855988357	3/16/80	237:46:39	13	33.4	-99.3	15.3	3.5	0.23	-26.4	13	1.8	69.1	8.4	-3.9	-0.46	-0.6
2104	44415	4739643	3/17/80	1:18:59														
2104	44415	4745503	3/17/80	1:19:04	13	29.8	-122.4	4.9	2.6	0.52	-6.4	13	5.6	46.9	7.4	-4.9	-3.54	-4.1
2105	44415	10284203	3/17/80	2:51:24														
2105	44415	10289166	3/17/80	2:51:29	13	17.0	-145.5	7.9	2.4	0.31	-5.3	13	24.6	22.9	2.7	-3.6	-1.11	3.6
2106	44415	15823971	3/17/80	4:23:43														
2106	44415	15828883	3/17/80	4:23:48	13	23.0	-168.6	8.2	3.6	0.44	-9.4	13	32.9	-0.2	2.5	-3.5	-1.39	3.7
2107	44415	21386593	3/17/80	5:59:46														
2107	44415	21373515	3/17/80	5:59:51	13	28.2	168.3	3.7	3.3	1.44	-9.8	13	41.8	-23.3	4.0	-2.7	-0.69	0.7
2108	44415	26913216	3/17/80	7:28:33														
2108	44415	26918138	3/17/80	7:28:38	13	31.6	149.2	12.3	-1.6	-0.13	-17.7	13	49.8	-46.4	4.2	-3.3	-0.78	-3.7
2109	44415	32457853	3/17/80	9:01:57														
2109	44415	32482761	3/17/80	9:02:02	23	29.6	122.1	3.3	1.5	0.47	-11.6	23	27.5	-69.5	1.0	1.6	1.57	-2.6
2110	44415	37337545	3/17/80	10:33:17														
2110	44415	37382466	3/17/80	10:33:22	23	7.5	99.0	9.7	0.3	0.03	-14.1	23	24.6	-92.6	1.5	-2.3	-1.07	0.0
2111	44415	43542167	3/17/80	12:05:42														
2111	44415	43547031	3/17/80	12:05:47	17	1.9	75.3	5.5	2.6	0.50	******	17	9.1	-115.7	2.3	-2.3	-0.98	-0.2
2112	44415	49086793	3/17/80	13:38:06														
2112	44415	49091714	3/17/80	13:38:11	17	9.9	52.8	12.4	2.3	0.18	-20.4	17	4.5	-138.8	3.3	-2.3	-0.51	-0.9
2113	44415	54631413	3/17/80	15:10:31														
2113	44415	54636336	3/17/80	15:10:36	10	3.8	29.7	12.9	4.9	0.38	-20.4	10	17.3	-161.3	-1.4	-2.3	0.02	-0.3
2114	44415	60174071	3/17/80	16:42:54														
2114	44415	60178924	3/17/80	16:42:58	10	24.7	6.8	13.7	3.5	0.26	-20.1	10	18.4	175.0	1.2	-1.3	-1.05	-0.2
2115	44415	65713777	3/17/80	18:15:13														
2115	44415	65718633	3/17/80	18:15:18	10	37.1	-16.5	12.3	0.6	0.05	-22.1	10	21.1	151.9	4.2	-2.3	-0.69	0.1
2116	44415	71260368	3/17/80	19:47:40														
2116	44415	71265238	3/17/80	19:47:45	10	43.5	-39.5	13.2	3.2	0.43	******	10	22.4	128.8	4.0	-3.3	-0.88	-1.1
2117	44415	76530072	3/17/80	21:20:30														
2117	44415	76584975	3/17/80	21:20:35	7	33.1	-62.7	10.3	7.1	0.69	-22.6	7	13.8	105.7	1.1	-3.3	-7.79	4.4
2118	44415	82342749	3/17/80	22:52:22														
2118	44415	82347652	3/17/80	22:52:27	7	6.5	-89.8	14.5	7.3	0.51	-27.4	13	1.9	82.6	3.3	-3.9	-1.36	-0.2
2119	44416	1405361	3/18/80	0:24:49														
2119	44416	1499355	3/18/80	0:24:59	13	3.9	-108.9	14.1	3.4	0.25	-27.9	13	1.6	99.5	10.9	-2.4	-0.22	-4.1
2120	44416	73350[illegible]	3/18/80	20:57:10														
2120	44416	73394931	3/18/80	20:57:14	13	3.0	-132.3	8.0	1.0	0.12	-16.6	10	14.4	36.4	7.3	-3.3	-0.42	-2.9
2121	44416	125746331	3/19/80	34:49:34														
2121	44416	125795[illegible]	3/19/80	34:49:39	10	12.4	-155.1	4.7	0.2	0.04	******	10	15.5	13.3	9.8	-4.9	-0.50	-0.5
2122	44416	18114[illegible]	3/18/80	5:01:54														
2122	44416	18119261	3/18/80	5:01:59	10	14.6	-178.2	14.2	2.6	0.18	-17.9	7	33.7	-9.8	6.9	-3.6	-0.55	-6.9
2123	44416	23603861	3/18/80	6:34:19														
2123	44416	23603883	3/18/80	6:34:23	7	29.8	166.7	15.4	2.1	0.13	19.9	7	36.5	-32.9	1.3	3.3	0.53	0.6
2124	44416	29193603	3/18/80	8:06:38														
2124	44416	29203331	3/18/80	8:06:43	7	20.7	139.0	14.3	3.2	0.21	-19.5	7	33.1	-58.3	0.5	-3.0	-0.44	-7.3
	44416	34743251	3/18/80	9:39:03														

PASS	MJD	MSEC	DATE	HH:MM:SS	ASCENDING RP	P ECL	ECL	E	I	I/E	DELTA P	DESCENDING RP	P ECL	ECL	E	I	I/E	DELTA P
2125	44316 44316	34745213 40263465	3/18/80 3/18/80	9:39: 3 11:11:23	7	19.0	112.5	0.6	-2.9	-4.74	0.3	7	33.4	-79.1	-0.7	1.5	-2.39	1.5
2126	44316 44316	40266974 45528009	3/18/80 3/18/80	11:11:26 12:43:48	7	15.0	89.4	4.1	-2.9	-0.71	-2.3	10	19.8	-102.2	2.6	-3.0	-1.13	-2.1
2127	44316 44316	45533526 51368311	3/18/80 3/18/80	12:43:53 14:16: 8	10	4.8	66.3	14.6	2.0	0.14	-15.7	10	13.3	-125.3	0.5	-4.5	-8.34	4.1
2128	44316 44316	51373334 56912933	3/18/80 3/18/80	14:16:13 15:48:32	10	9.6	43.2	11.7	0.6	0.05	-14.4	10	14.3	-148.4	-4.4	-2.9	0.65	9.2
2129	44316 44316	56917830 62452641	3/18/80 3/18/80	15:48:37 17:20:52	10	26.7	20.1	11.4	2.8	0.24	-7.9	10	18.9	-171.5	-1.2	-3.4	2.72	5.0
2130	44316 44316	62457504 67997203	3/18/80 3/18/80	17:20:57 18:53:17	10	33.3	-3.0	9.0	0.8	0.09	-12.4	7	26.6	165.5	-3.7	-4.0	1.09	6.8
2131	44316 44316	68002137 73536971	3/18/80 3/18/80	18:53:22 20:25:36	7	43.0	-26.1	11.5	1.3	0.11	-13.4	7	29.1	142.4	-1.2	-4.7	3.90	3.5
2132	44316 44316	73541834 79081593	3/18/80 3/18/80	20:25:41 21:58: 1	7	41.1	-49.2	3.4	4.2	1.22	-10.4	7	28.3	119.3	-1.1	-9.4	8.56	8.3
2133	44316 44316	79086517 84621301	3/18/80 3/18/80	21:58: 6 23:30:21	7	24.7	-72.2	9.7	3.2	0.33	-20.3	7	13.1	96.2	-5.3	-6.6	1.25	9.5
2134	44316 44317	84626224 3704941	3/18/80 3/19/80	23:30:26 1: 2:44	7	16.6	-95.3	17.5	-3.8	-0.05	-24.5	3	7.1	73.1	5.4	-5.4	-1.01	3.1
2135	44317 44317	3709363 9304607	3/19/80 3/19/80	1: 2:49 2:35: 4	3	19.5	-118.4	6.3	1.9	0.23	-12.6	3	9.8	50.0	6.7	-4.4	-0.66	-3.1
2136	44317 44317	9309573 14849273	3/19/80 3/19/80	2:35: 9 4: 7:29	3	19.2	-141.5	10.4	-0.4	-0.03	5.8	7	17.5	26.9	2.5	-2.2	-0.91	2.2
2137	44317 44317	14854193 20388977	3/19/80 3/19/80	4: 7:34 5:39:48	7	20.6	-164.6	6.2	3.9	0.62	-9.4	7	26.3	3.8	5.1	-2.7	-0.53	-1.3
2138	44317 44317	20393930 25933033	3/19/80 3/19/80	5:39:53 7:12:13	33	47.3	172.3	6.3	3.4	0.54	-9.4	33	41.6	-19.3	-10.2	-13.4	1.31	19.4
2139	44317 44317	25938522 31473307	3/19/80 3/19/80	7:12:18 8:44:33	33	53.2	149.2	6.3	-5.9	-0.87	-5.9	33	47.7	-42.4	-16.2	-7.7	0.48	19.8
2140	44317 44317	31478230 37013315	3/19/80 3/19/80	8:44:38 10:16:53	30	43.6	126.1	-0.7	-3.9	5.73	7.8	30	58.3	-65.5	-14.9	-5.4	0.43	17.4
2141	44317 44317	37017937 42557657	3/19/80 3/19/80	10:16:57 11:49:17	30	37.7	103.0	-10.9	-5.6	0.52	14.7	30	30.8	-88.6	4.9	0.1	0.02	-4.6
2142	44317 44317	42562560 48097344	3/19/80 3/19/80	11:49:22 13:21:37	30	-0.2	79.9	10.1	8.1	0.80	-14.2	30	29.6	-111.7	-0.9	-3.9	4.15	2.9
2143	44317 44317	48102267 53637051	3/19/80 3/19/80	13:21:42 14:53:57	30	0.1	56.8	15.2	3.1	0.20	-22.1	30	21.6	-134.8	-6.7	-5.8	0.87	11.6
2144	44317 44317	53641974 59181674	3/19/80 3/19/80	14:54: 1 16:26:21	30	22.5	33.7	-3.3	-3.0	0.90	4.1	30	24.2	-157.9	-7.5	-5.1	0.69	12.4
2145	44317 44317	59186597 64721331	3/19/80 3/19/80	16:26:26 17:58:41	30	24.2	10.6	11.9	4.3	0.37	-19.1	30	26.1	179.1	-0.9	-0.7	0.73	1.0
2146	44317 44317	64726304 70261059	3/19/80 3/19/80	17:58:46 19:31: 1	17	33.3	-12.4	14.6	5.9	0.41	-25.2	17	24.8	156.0	6.8	-3.2	-0.48	-0.8
2147	44317 44317	70266011 75805711	3/19/80 3/19/80	19:31: 6 21: 3:25	17	35.2	-35.5	16.9	4.4	0.26	-20.9	17	27.2	132.9	-4.8	-7.2	1.48	9.1
2148	44317 44317	75810634 81345418	3/19/80 3/19/80	21: 3:30 22:35:45	10	36.3	-58.6	6.3	5.0	0.79	-18.5	10	19.8	109.8	-1.3	-10.4	7.90	10.0
2149	44317 44318	81350341 488076	3/19/80 3/20/80	22:35:50 0: 8: 8	10	23.6	-81.7	11.6	3.3	0.29	-17.6	10	10.7	86.7	-1.0	-4.7	4.74	3.9
2150	44318 44318	492997 6027783	3/20/80 3/20/80	0: 8:12 1:40:27	10	12.2	-104.8	16.5	4.7	0.29	-25.5	10	0.8	63.6	10.7	-2.1	-0.20	-6.9
2151	44318 44318	6032705 11567489	3/20/80 3/20/80	1:40:32 3:12:47	10	7.2	-127.9	11.9	1.7	0.14	-17.2	10	5.3	40.5	8.6	-1.3	-0.21	-5.4
2152	44318 44318	11572412 17107136	3/20/80 3/20/80	3:12:52 4:45: 7	10	8.6	-151.0	8.9	1.7	0.19	-7.1	10	15.5	17.4	8.8	-3.0	-0.34	-0.6
2153	44318 44318	17112113 22651815	3/20/80 3/20/80	4:45:12 6:17:31	10	22.2	-174.1	10.8	4.1	0.38	-12.3	10	23.2	-5.7	6.8	-0.9	-0.14	-5.3
2154	44318 44318	22656742 28191526	3/20/80 3/20/80	6:17:36 7:49:51	10	30.2	162.8	10.0	4.5	0.46	-11.0	10	42.4	-28.7	6.1	0.5	0.08	-3.4
2155	44318 44318	28196449 33731234	3/20/80 3/20/80	7:49:56 9:22:11	10	25.0	139.8	19.1	1.8	0.09	-24.9	10	38.9	-51.8	10.4	-2.6	-0.25	-12.7
2156	44318 44318	33736156 39270941	3/20/80 3/20/80	9:22:16 10:54:30	13	22.3	116.7	2.9	1.0	0.34	-9.6	13	36.2	-74.9	7.3	4.0	0.55	-10.5
2157	44318 44318	39275863 44814585	3/20/80 3/20/80	10:54:35 12:26:54	13	13.9	93.6	11.8	-0.5	-0.05	-14.9	7	31.4	-98.0	9.2	0.5	0.06	-11.7
2158	44318 44318	44819503 50354258	3/20/80 3/20/80	12:26:59 13:59:14	7	1.8	70.5	18.6	3.9	0.21	-24.3	7	21.1	-121.1	5.0	-1.7	-0.33	-2.5
2159	44318 44318	50359210 55893995	3/20/80 3/20/80	13:59:19 15:31:33	7	-3.4	47.4	17.3	3.0	0.18	-25.1	13	14.0	-144.2	3.0	0.4	0.14	-1.5
2160	44318 44318	55898917 61433701	3/20/80 3/20/80	15:31:38 17: 3:53	13	8.3	24.3	13.5	3.3	0.25	-15.9	13	20.4	-167.3	-0.9	-2.4	2.62	1.3
2161	44318 44318	61438625 66973409	3/20/80 3/20/80	17: 3:58 18:36:13	13	34.7	1.2	13.1	-0.3	-0.02	-12.2	17	29.5	169.6	-1.6	-1.0	0.59	2.1
2162	44318 44318	66978332 72513116	3/20/80 3/20/80	18:36:18 20: 8:33	17	47.2	-21.9	15.2	1.7	0.11	-12.1	17	35.7	146.6	-3.2	-3.7	1.16	4.1
2163	44318 44318	72518039 78052823	3/20/80 3/20/80	20: 8:38 21:40:52	17	53.2	-44.9	3.2	4.9	1.56	-5.9	13	29.7	123.5	-4.1	-9.4	2.27	10.2
2164	44318 44318	78057746 83592531	3/20/80 3/20/80	21:40:57 23:13:12	13	24.6	-68.0	4.7	7.9	1.70	-19.6	13	15.3	100.4	-1.1	-7.0	6.61	5.4

PASS	MSEC	DATE	ASCENDING NP	D	ECL	E	I	I/E	DELTA B	DESCENDING NP	D	ECL	E	I	I/E	DELTA B
2165	035974[illegible]	3/20/80	13		10.2	-91.1	9.5	6.4	0.68	-23.4	23		5.6	77.3	-0.8	-7.9	10.10	10.6
2166	47[illegible]171	3/21/80	23		-3.3	-114.2	6.7	2.5	0.37	-14.0	23		5.0	58.2	5.1	-2.6	-0.51	-4.0
2166	27[illegible]1043	3/21/80																
2167	0[illegible]7577	3/21/80	23		-10.4	-137.3	18.1	6.3	0.35	-29.3	33		11.2	31.1	7.0	0.4	0.06	-6.4
2168	1381[illegible]554	3/21/80	33		-13.0	-160.4	26.0	10.7	0.41	-38.5	33		4.2	8.0	25.1	3.2	0.13	-25.4
2169	1926[illegible]15	3/21/80	33		-20.8	176.5	47.6	17.7	0.37	-63.9	37		10.9	-15.0	30.1	5.5	0.18	-35.8
2170	2468[illegible]54	3/21/80	37		-27.3	153.5	56.3	20.3	0.36	******	37		16.0	-38.1	18.7	0.3	0.02	-14.7
2171	3043[illegible]706	3/21/80	37		-42.0	130.4	69.8	16.7	0.24	-81.1	27		-2.0	-61.2	36.1	14.5	0.40	-55.7
2172	3597[illegible]553	3/21/80	27		-47.0	107.3	55.2	18.0	0.33	******	27		-18.1	-84.3	35.2	17.0	0.48	-52.2
2173	4151[illegible]135	3/21/80	27		-53.9	84.2	56.2	23.9	0.43	-73.7	30		-16.9	-107.4	36.5	9.9	0.27	-47.6
2174	4730[illegible]804	3/21/80	30		-66.2	61.1	62.7	22.8	0.36	-82.8	30		-26.9	-130.5	29.4	2.4	0.08	-31.4
2175	5259[illegible]5[illegible]	3/21/80	30		-65.8	38.0	59.0	24.5	0.42	-80.3	27		-30.3	-153.6	31.9	3.7	0.27	-37.7
2176	5813[illegible]476	3/21/80	27		-36.1	15.0	57.2	26.1	0.46	-79.7	27		-20.8	-176.6	36.9	11.6	0.31	-47.3
2177	6361[illegible]193	3/21/80	43		-36.9	-8.1	63.0	28.1	0.45	-95.4	43		-15.0	160.3	32.9	9.4	0.28	-41.5
2178	6924[illegible]277	3/21/80	43		-48.5	-31.2	81.5	33.1	0.41	-93.9	43		-16.4	137.2	35.4	13.1	0.37	-51.8
2179	7474[illegible]144	3/21/80	37		-38.7	-54.3	70.4	29.6	0.42	-101.3	37		-4.3	114.1	26.1	5.2	0.20	-32.8
2180	8026[illegible]45	3/21/80	37		-44.4	-77.4	62.2	16.3	0.26	-82.3	37		-29.0	91.0	28.9	8.4	0.29	-38.1
2181	8580[illegible]269	3/21/80	27		-50.0	-100.4	62.7	16.3	0.26	-88.4	27		-28.4	68.0	38.1	6.9	0.18	-41.5
2182	9137[illegible]14	3/22/80	27		-45.1	-123.5	46.9	14.2	0.30	-63.3	27		-21.9	44.9	31.8	6.6	0.21	-35.5
2183	9711[illegible]7	3/22/80	33		-46.0	-146.6	46.2	14.8	0.32	-58.8	33		-8.6	21.8	29.2	7.9	0.27	-33.0
2184	1035[illegible]257	3/22/80	33		-40.6	-169.7	55.0	18.9	0.34	-58.8	33		7.7	-1.3	33.5	8.8	0.26	-37.5
2185	1093[illegible]930	3/22/80	37		-30.2	167.2	57.0	24.5	0.43	-81.4	37		25.7	-24.4	47.9	8.0	0.18	-47.6
2186	1151[illegible]420	3/22/80	37		-17.2	144.1	48.5	10.3	0.21	-62.1	37		41.1	-47.5	31.0	7.5	0.24	-41.1
2187	1209[illegible]326	3/22/80	33		-10.6	121.1	17.4	3.1	0.18	-23.2	33		14.3	-70.5	16.0	3.3	0.21	-21.4
2188	1267[illegible]477	3/22/80	33		-4.5	98.0	32.3	4.0	0.12	-37.6	33		-6.6	-93.6	27.4	5.0	0.20	-35.0
2189	1325[illegible]37	3/22/80	43		-54.5	74.9	63.4	26.1	0.41	-87.3	43		-11.7	-116.7	11.7	0.0	0.00	-15.1
2190	1383[illegible]17	3/22/80	43		-56.7	51.8	55.3	26.5	0.48	******	43		-28.1	-139.8	29.9	10.1	0.34	-38.9
2191	1441[illegible]946	3/22/80	30		-41.2	28.8	50.2	21.2	0.42	-69.3	30		-15.6	-162.9	22.8	6.3	0.28	-30.3
2192	1499[illegible]777	3/22/80	30		-14.4	5.7	42.1	16.1	0.38	-57.9	30		-15.2	174.1	25.1	7.7	0.31	-32.0
2193	1557[illegible]609	3/22/80	17		-6.8	-17.4	43.3	12.6	0.29	-55.6	17		-4.1	151.0	24.9	5.1	0.20	-28.1
2194	1615[illegible]77	3/22/80	17		-11.4	-40.5	43.0	12.2	0.28	-49.4	17		-6.4	127.9	22.2	1.0	0.07	-23.5
2195	7[illegible]6	3/22/80	23		-11.0	-63.6	35.5	16.2	0.45	-60.0	23		-20.9	104.8	20.5	-2.0	-0.10	-19.6
2196	7[illegible]4	3/22/80	23		-12.7	-86.6	47.1	17.3	0.33	-73.1	23		-28.5	81.8	24.8	1.7	0.07	-25.5
2197	1[illegible]1	3/23/80	23		-23.4	-109.7	43.2	10.3	0.24	-58.7	23		-30.7	58.7	32.3	3.7	0.21	-36.3
2198	7[illegible]7	3/23/80	23		-26.4	-132.8	41.7	9.2	0.22	-54.2	30		-13.7	35.6	27.0	5.2	0.15	-29.3
2199	1[illegible]7	3/23/80	30		-30.1	-155.9	34.7	12.1	0.35	-46.4	30		-1.6	12.5	25.3	1.3	0.07******	
2200	1[illegible]7	3/23/80	30		-3.3	-179.9	26.3	4.5	0.33	-41.6	10		20.6	-10.6	24.3	-4.2	0.18	-29.3
2201	1[illegible]7	3/23/80	10		4.7	156.0	27.9	7.0	0.25	9.0	10		19.0	-33.6	25.3	2.4	0.09	-19.5
2202	2[illegible]7	3/23/80	10		-1.8	134.9	36.1	6.4	0.18	-47.7	13		13.0	-56.7	24.6	3.4	0.14	-30.7
2203	2[illegible]7	3/23/80	13		-12.4	111.8	29.3	6.2	0.21	-35.6	13		7.5	-79.8	13.3	0.7	0.05	-23.9
2204	2[illegible]7	3/23/80	13		-14.2	88.8	29.3	5.3	0.18	******	7		-3.3	-102.9	22.3	4.7	0.21	-28.6

PASS	MOD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D_ECL	ECL	E	L	L/E	DELTA B	DESCENDING KP	D_ECL	ECL	E	L	L/E	DELTA B
2205	443321	455954242	3/23/80	12:45:54	7	-23.7	65.7	38.1	7.9	0.21	-47.6	7	-10.7	-125.9	20.1	2.5	0.13	-21.1
	443321	514841155	3/23/80	14:18:41														
2206	443321	514893078	3/23/80	14:18:13	7	-21.7	42.6	31.5	7.3	0.23	-43.0	10	-11.0	-149.0	15.2	4.5	0.29	-16.2
	443321	573246843	3/23/80	15:50:24														
2207	443321	573297965	3/23/80	15:50:19	10	-3.4	19.5	27.7	10.8	0.39	-35.3	10	-6.1	-172.1	17.3	3.6	0.21	-29.7
	443321	625596335	3/23/80	17:24:39														
2208	443321	625646506	3/23/80	17:22:44	10	5.7	-3.5	30.7	10.6	0.34	-44.1	10	10.2	164.8	14.6	2.3	0.16	-15.4
	443321	680999342	3/23/80	18:56:59														
2209	443321	681042644	3/23/80	18:55:14	10	17.8	-26.6	36.7	9.9	0.24	-39.2	10	7.3	141.8	14.4	-0.2	-0.02	-16.5
	443321	736044133	3/23/80	20:27:24														
2210	443321	736390506	3/23/80	20:27:19	10	16.5	-49.7	24.0	9.5	0.40	-35.2	0	-2.7	116.7	13.4	-4.6	-0.33	-9.6
	443321	791738403	3/23/80	21:59:33														
2211	443321	791787603	3/23/80	21:59:38	0	11.7	-72.8	25.3	6.7	0.26	-44.4	0	-14.6	95.6	10.6	-1.2	-0.12	-9.7
	443321	847086332	3/23/80	23:31:48														
2212	443321	847135555	3/23/80	23:31:53	0	7.9	-35.8	30.9	8.9	0.22	-54.1	3	-14.4	72.6	20.8	-2.0	-0.09	-13.4
	443322	38468359	3/24/80	1:45:8														
2213	443322	38942262	3/24/80	1:45:13	3	-8.4	-118.9	25.3	5.2	0.21	-37.8	3	-5.5	49.5	17.2	-0.2	-0.01	-16.0
	443322	93831351	3/24/80	2:36:23														
2214	443322	93880554	3/24/80	2:36:28	3	-10.5	-142.0	26.5	4.0	0.15	-14.5	7	-2.4	26.4	12.7	3.0	0.23	-10.2
	443322	149428838	3/24/80	4:8:42														
2215	443322	149477661	3/24/80	4:8:47	7	1.9	-165.1	18.3	5.7	0.31	-32.6	7	10.9	3.3	13.6	3.1	0.02	-11.0
	443322	204576550	3/24/80	5:40:57														
2216	443322	204625503	3/24/80	5:41:2	17	7.4	171.9	24.5	7.7	0.31	-36.6	17	17.2	-19.7	22.8	[illegible]	0.04	-19.9
	443322	259473137	3/24/80	7:13:17														
2217	443322	260042260	3/24/80	7:13:22	17	10.1	148.9	26.6	6.4	0.24	-34.0	17	26.9	-42.8	22.6	-3.6	-0.02	-17.8
	443322	315321129	3/24/80	8:49:32														
2218	443322	315370332	3/24/80	8:45:37	17	-2.5	125.7	22.7	4.4	0.19	-28.5	17	24.8	-65.9	12.9	1.9	0.15	-18.7
	443322	370069211	3/24/80	10:17:46														
2219	443322	370718443	3/24/80	10:17:51	17	-12.3	102.7	*****	*****	*****	-32.3	17	9.6	-89.0	16.3	6.6	0.40	-24.3
	443322	426056445	3/24/80	11:50:5														
2220	443322	426105607	3/24/80	11:50:10	13	-14.8	79.6	20.3	4.1	0.40	-27.1	13	9.0	-112.0	19.6	-1.1	-0.06	-18.2
	443322	481404437	3/24/80	13:22:20														
2221	443322	481453359	3/24/80	13:22:25	13	-21.3	56.5	29.9	7.3	0.25	-40.1	13	-2.8	-135.1	18.5	-0.2	-0.01	-18.1
	443322	538801148	3/24/80	14:54:42														
2222	443322	538850006	3/24/80	14:54:45	17	-21.4	33.4	26.7	12.8	0.48	-40.3	17	-2.1	-158.2	11.1	1.3	0.12	-10.9
	443322	592149938	3/24/80	16:26:54														
2223	443322	592198608	3/24/80	16:26:59	17	-2.2	10.4	19.0	9.5	0.50	-31.0	17	4.3	178.8	10.9	0.9	0.08	-11.5
	443322	647497728	3/24/80	17:59:9														
2224	443322	647546530	3/24/80	17:59:14	3	26.8	-12.7	17.7	6.3	0.35	-30.3	3	18.5	155.7	8.2	-5.6	-0.67	0.0
	443322	702894435	3/24/80	19:31:29														
2225	443322	702943357	3/24/80	19:31:34	3	32.9	-35.8	24.6	3.3	0.13	-22.7	3	20.1	132.6	4.9	-4.3	-0.98	-3.3
	443322	758424227	3/24/80	21:3:44														
2226	443322	758479140	3/24/80	21:3:49	10	23.1	-58.8	18.7	9.1	0.49	-35.9	10	10.7	109.5	7.0	-4.0	-1.14	-0.2
	443322	813590118	3/24/80	22:35:59														
2227	443322	813639141	3/24/80	22:36:4	10	13.5	-61.9	22.3	5.0	0.23	-36.0	10	5.3	86.5	5.7	-4.0	-0.70	-3.7
	443323	445776	3/25/80	0:8:15														
2228	443323	500699	3/25/80	0:8:20	7	4.4	-105.0	21.9	4.0	0.18	-35.0	7	-2.2	63.4	14.2	-5.0	-0.35	-8.7
	443323	6035401	3/25/80	1:40:45														
2229	443323	6036446	3/25/80	1:40:46	7	0.0	-128.0	14.9	0.9	0.06	-21.6	7	1.0	40.3	10.9	-2.6	-0.24	-6.2
	443323	115720275	3/25/80	5:12:50														
2230	443323	115751193	3/25/80	5:12:55	0	2.2	-151.1	10.4	2.2	0.21	-15.0	0	17.5	17.3	11.8	-3.6	-0.31	-0.1
	443323	171050G7	3/25/80	6:45:5														
2231	443323	171099540	3/25/80	6:45:9	0	21.2	-174.2	15.3	3.9	0.26	-23.7	0	27.0	-5.8	11.2	-1.6	-0.14	-8.8
	443323	226398859	3/25/80	8:17:19														
2232	443323	226447761	3/25/80	8:17:24	3	29.9	162.7	10.5	4.0	0.38	-15.9	3	43.7	-28.9	10.1	-3.6	-0.06	-5.5
	443323	281795068	3/25/80	7:49:59														
2233	443323	281844858	3/25/80	7:49:44	3	20.4	139.7	19.0	-0.4	-0.02	-26.0	3	40.0	-51.9	12.6	-0.8	-0.06	-16.8
	443323	337143558	3/25/80	9:21:54														
2234	443323	337194260	3/25/80	9:21:59	10	15.6	116.6	6.5	-0.3	-0.04	-15.6	10	20.9	-75.0	4.8	4.9	1.02	-5.6
	443323	392449160	3/25/80	10:54:9														
2235	443323	392540371	3/25/80	10:54:14	10	11.3	93.5	10.5	-2.2	-0.21	-13.6	13	14.8	-98.1	11.1	-0.8	-0.07	-0.8
	443323	447839341	3/25/80	12:26:23														
2236	443323	447888643	3/25/80	12:26:28	13	4.7	70.5	15.9	2.8	0.17	-20.7	13	12.8	-121.1	5.4	-5.3	-0.96	-0.6
	443323	502197421	3/25/80	13:58:39														
2237	443323	502246026	3/25/80	13:58:44	13	3.5	47.4	7.0	0.4	0.06	-13.3	17	17.3	-144.2	-0.4	-5.9	16.56	7.1
	443323	558545083	3/25/80	15:30:54														
2238	443323	558594280	3/25/80	15:30:59	17	12.7	24.3	2.6	-0.0	-0.00	-5.6	17	18.3	-167.3	-1.9	-6.9	3.62	5.2
	443323	613892299	3/25/80	17:3:9														
2239	443323	613942222	3/25/80	17:3:14	17	32.6	1.3	1.3	-0.1	-0.10	-4.0	20	29.4	169.7	-7.1	-8.0	1.28	14.7
	443323	669290099	3/25/80	18:35:29														
2240	443323	669339179	3/25/80	18:35:33	20	49.6	-21.8	1.6	-0.2	-0.10	-6.6	20	32.7	148.6	-4.6	-7.0	1.52	9.7
	443324	7440728	3/25/80	20:7:43														
2241	443324	7489721	3/25/80	20:7:48	20	48.7	-44.9	2.2	2.8	1.26	-5.3	37	12.9	123.5	7.5	-7.4	-0.98	0.1
	443324	77998593	3/25/80	21:39:58														
2242	443324	78039313	3/25/80	21:40:3	37	10.3	-67.9	32.5	12.3	0.38	-51.5	37	-1.3	100.5	10.1	-3.2	-0.32	-11.0
	443324	835333[illegible]	3/25/80	23:12:14														
2243	443324	835383[illegible]	3/25/80	23:12:18	37	-18.5	-91.0	57.9	20.0	0.35	-88.1	47	-18.6	77.4	26.8	2.9	0.11	-25.3
	443324	2669647	3/26/80	0:44:29														
2244	443324	2674570	3/26/80	0:44:34	47	-65.2	-114.1	55.0	21.6	0.39	-82.4	47	-26.4	54.3	36.7	6.1	0.17	-43.9
	443324	3204693	3/26/80	2:16:44														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING NP	D ECL	ECL	E	I	I/E	DELTA I	DESCENDING NP	D ECL	ECL	E	I	I/E	DELTA I
2245	44324	82096b8	3/26/80	22:16:49														
	44324	13739473	3/26/80	3:48:59														
2246	44324	13744400	3/26/80	3:49: 4	57	-75.8	-160.2	91.6	37.7	0.41	-131.1	57	-3.7	8.2	54.3	15.6	0.28	-64.9
	44324	19274270	3/26/80	5:21:14														
2247	44324	19279192	3/26/80	5:21:19	57	-45.4	176.8	67.1	24.8	0.37	-92.3	40	27.3	-14.9	44.4	8.3	0.19	-51.7
	44324	24809061	3/26/80	6:53:29														
2248	44324	24813984	3/26/80	6:53:33	40	-48.3	153.7	87.9	26.2	0.30	-107.6	40	-10.0	-37.9	56.3	6.0	0.14	-54.4
	44324	30343853	3/26/80	8:25:43														
2249	44324	30348776	3/26/80	8:25:48	40	-67.2	130.6	101.7	23.2	0.23	-117.1	40	-34.9	-61.0	48.3	22.2	0.46	-75.9
	44324	35878645	3/26/80	9:57:58														
2250	44324	35863507	3/26/80	9:58: 3	40	-77.7	107.6	88.6	20.0	0.23	-105.1	40	-53.0	-84.1	46.6	18.6	0.40	-103.8
	44324	41414458	3/26/80	11:30:12														
2251	44324	41417375	3/26/80	11:30:17	40	-78.3	84.5	84.5	25.1	0.30	-104.8	43	-40.9	-107.1	33.9	5.6	0.28	-48.2
	44324	46945205	3/26/80	13: 2:25														
2252	44324	46950201	3/26/80	13: 2:30	43	-103.0	61.4	*****	*****	*****	-128.8	43	-44.9	-130.2	49.2	16.0	0.34	-65.4
	44324	52483021	3/26/80	14:34:43														
2253	44324	52487942	3/26/80	14:34:47	43	-81.5	38.4	36.2	19.7	0.55	******	23	-48.7	-153.2	41.6	14.3	0.34	-52.5
	44324	58013880	3/26/80	16: 6:53														
2254	44324	58016801	3/26/80	16: 6:58	23	-61.9	15.3	*****	*****	*****	-73.6	23	-39.2	-176.3	39.5	10.7	0.28	-49.0
	44324	63551621	3/26/80	17:39:11														
2255	44324	63556543	3/26/80	17:39:16	30	-34.8	-7.7	51.1	25.4	0.50	-82.0	30	-28.0	160.6	30.7	6.5	0.18	-39.8
	44324	69081498	3/26/80	19:11:21														
2256	44324	69086419	3/26/80	19:11:26	30	-38.7	-30.8	77.3	27.2	0.35	-84.6	30	-25.2	137.6	35.6	10.8	0.30	-48.3
	44324	74616239	3/26/80	20:43:36														
2257	44324	74621211	3/26/80	20:43:41	37	-32.0	-53.9	59.2	20.4	0.34	-80.5	37	-30.1	114.5	36.1	6.9	0.19	-43.4
	44324	80191081	3/26/80	22:15:51														
2258	44324	80156003	3/26/80	22:15:56	37	-37.0	-76.9	74.1	14.2	0.19	-93.8	37	-41.6	91.5	33.5	11.4	0.34	-42.7
	44324	856d5873	3/26/80	23:48: 5														
2259	44324	85690734	3/26/80	23:48:10	30	-44.6	-100.0	73.3	16.2	0.22	-96.7	30	-41.2	68.4	46.4	10.2	0.22	-49.7
	44325	48199927	3/27/80	1:20:19														
2259	44324	7712	3/27/80	0: 0: 7	30	-44.6	-100.0	73.3	16.1	0.22	-96.7	30	-41.2	68.4	46.4	10.2	0.22	-49.7
	44325	48199925	3/27/80	1:20:19														
2260	44325	48246b49	3/27/80	1:20:24	30	-50.9	-123.0	60.1	15.3	0.25	-76.6	30	-44.5	45.3	45.7	15.7	0.34	-58.6
	44325	10354718	3/27/80	2:52:34														
2261	44325	10359641	3/27/80	2:52:39	13	-43.9	-146.1	*****	*****	*****	******	13	-28.7	22.3	38.9	13.9	0.36	-47.0
	44325	15889510	3/27/80	4:24:49														
2262	44325	15894433	3/27/80	4:24:54	13	-38.7	-169.2	51.7	16.1	0.31	-69.0	13	-16.3	-0.8	37.6	13.0	0.34	-46.0
	44325	21419307	3/27/80	5:56:59														
2263	44325	21424309	3/27/80	5:57: 4	17	-18.3	167.8	47.7	13.9	0.29	-65.0	17	6.7	-23.8	47.3	10.7	0.23	-46.2
	44325	26954178	3/27/80	7:29:14														
2264	44325	26959101	3/27/80	7:29:19	17	-14.9	144.7	51.6	8.6	0.17	-64.4	17	4.0	-86.9	38.4	6.3	0.16	-41.8
	44325	32486970	3/27/80	9: 1:28														
2265	44325	32493b93	3/27/80	9: 1:33	17	-21.8	121.7	44.5	9.9	0.22	-55.5	17	-10.4	-70.0	29.2	10.8	0.37	-39.2
	44325	38023702	3/27/80	10:33:43														
2266	44325	38028083	3/27/80	10:33:48	17	-24.2	98.6	44.4	7.2	0.16	-52.8	17	-20.0	-93.0	37.3	3.0	0.21	-46.8
	44325	43553039	3/27/80	12: 5:53														
2267	44325	43558500	3/27/80	12: 5:58	20	-30.0	75.5	40.6	13.9	0.34	******	20	-19.2	-116.1	33.5	4.4	0.13	-37.5
	44325	49086430	3/27/80	13:38: 8														
2268	44325	49093352	3/27/80	13:38:13	20	-44.1	52.5	39.7	12.1	0.30	-57.9	20	-22.1	-139.1	31.9	3.2	0.10	-33.9
	44325	54623242	3/27/80	15:10:23														
2269	44325	54628143	3/27/80	15:10:28	13	-41.5	29.4	37.0	14.3	0.39	-49.5	13	-22.8	-162.2	24.1	2.1	0.09	-26.0
	44325	60153093	3/27/80	16:42:33														
2270	44325	60158020	3/27/80	16:42:38	13	-8.1	6.4	37.3	13.8	0.37	-52.1	13	-19.1	174.8	26.6	3.7	0.14	-29.9
	44325	65687650	3/27/80	18:14:47														
2271	44325	65692566	3/27/80	18:14:52	10	8.4	-16.7	41.3	14.5	0.35	11.7	10	-6.6	151.7	26.4	2.3	0.09	-25.5
	44325	71222435	3/27/80	19:47: 2														
2272	44325	71227358	3/27/80	19:47: 7	10	6.4	-39.7	42.9	12.3	0.29	-47.1	10	-5.6	128.6	25.9	1.4	0.05	-25.6
	44325	76722312	3/27/80	21:19:12														
2273	44325	76757234	3/27/80	21:19:17	17	2.4	-62.8	39.6	13.5	0.34	-50.2	17	-15.6	105.6	21.8	-1.3	-0.06	-19.0
	44325	82287104	3/27/80	22:51:27														
2274	44325	82292046	3/27/80	22:51:32	17	-20.3	-85.8	46.4	10.3	0.35	-72.0	17	-27.3	82.6	22.7	3.5	0.15	-23.6
	44326	1420178	3/28/80	0:23:40														
2275	44326	1425398	3/28/80	0:23:45	17	-24.8	-104.9	43.3	8.9	0.21	-59.3	17	-24.5	59.5	23.4	3.6	0.15	-31.0
	44326	6954967	3/28/80	1:55:54														
2276	44326	6959889	3/28/80	1:55:59	17	-35.1	-132.0	44.3	7.8	0.18	-58.0	27	-14.5	36.4	25.8	5.2	0.20	-27.2
	44326	12448444	3/28/80	3:28: 4														
2277	44326	12489706	3/28/80	3:28: 9	27	-38.4	-155.0	39.4	10.9	0.28	-48.6	27	-5.4	13.4	23.1	3.6	0.15	-23.2
	44326	18019635	3/28/80	5: 0:19														
2278	44326	18024557	3/28/80	5: 0:24	27	-3.5	-178.1	35.3	10.1	0.29	-49.1	23	15.8	-9.7	25.1	3.8	0.15	-29.4
	44326	23549512	3/28/80	6:32:29														
2279	44326	23554433	3/28/80	6:32:34	23	1.1	156.9	*****	*****	*****	-49.1	23	22.4	-32.7	18.9	2.3	0.12	-14.9
	44326	28726212	3/28/80	7:56:46														
2280	44326	28729954	3/28/80	7:56:49	23	11.5	135.8	*****	*****	*****	-49.1	13	15.9	-55.8	21.4	0.3	0.01	-25.3
	44326	34617601	3/28/80	9:36:57														
2281	44326	34622789	3/28/80	9:37: 2	13	10.9	112.8	19.0	0.6	0.04	-23.0	13	10.3	-78.9	16.7	5.3	0.32	-20.2
	44326	40147743	3/28/80	11: 9: 7														
2282	44326	40152665	3/28/80	11: 9:12	13	3.6	89.7	28.2	5.0	0.18	-30.5	17	2.1	-111.9	24.8	2.7	0.11	-29.4
	44326	45682534	3/28/80	12:41:22														
2283	44326	45687457	3/28/80	12:41:27	17	-20.1	66.7	35.6	9.7	0.27	-44.6	17	1.6	-125.3	15.0	-2.9	-0.19	-11.6
	44326	51212411	3/28/80	14:13:32														

PASS	MJD	MSEC	DATE	GMT HH:MM:SS	ASCENDING KE	D DCI	LAT	E	I	I/E	DELTA B	DESCENDING KE	D DCI	LAT	E	I	I/E	DELTA B
2284	44326	51217333	3/28/80	14:13:37	17	-17.6	43.6	23.7	4.8	0.20	-32.6	10	2.0	-148.0	10.2	-2.0	-0.19	-6.4
	44326	56747252	3/28/80	15:45:47														
2285	44326	56752145	3/28/80	15:45:52	10	-3.9	20.6	19.2	7.9	0.41	-23.6	10	0.7	-171.1	9.6	-2.1	-0.22	-6.8
	44326	62277079	3/28/80	17:17:57														
2286	44326	62282092	3/28/80	17:18: 2	10	5.3	-2.5	20.4	9.4	0.46	-29.6	10	9.7	165.9	7.9	-3.7	-0.47	-3.3
	44326	67806955	3/28/80	18:50: 6														
2287	44326	67811877	3/28/80	18:50:11	10	23.0	-25.5	24.0	8.6	0.36	-28.2	10	14.4	142.6	9.4	-4.0	-0.43	-5.7
	44326	73341747	3/28/80	20:22:21														
2288	44326	73346669	3/28/80	20:22:26	10	30.5	-48.6	17.6	6.2	0.35	-24.1	23	6.7	119.8	5.6	-3.2	-1.65	2.8
	44326	78071624	3/28/80	21:54:31														
2289	44326	78076546	3/28/80	21:54:36	23	25.5	-71.6	16.7	4.4	0.26	-29.4	23	-8.6	96.7	3.2	-3.3	-1.05	0.4
	44326	84406415	3/28/80	23:26:46														
2290	44326	84411337	3/28/80	23:26:51	23	22.6	-94.7	26.2	2.7	0.10	-39.2	23	-13.3	73.7	15.3	-2.3	-0.19	-5.4
	44327	3536541	3/29/80	0:58:56														
2291	44327	3541459	3/29/80	0:59: 1	23	-1.7	-117.7	27.6	5.7	0.21	-40.2	23	-16.3	50.6	23.6	1.7	0.08	-22.2
	44327	9067147	3/29/80	2:31: 7														
2292	44327	9072073	3/29/80	2:31:12	23	-9.2	-140.8	30.6	5.4	0.18	-40.6	23	-7.4	27.6	16.1	5.4	0.33	-16.6
	44327	14597027	3/29/80	4: 3:17														
2293	44327	14601949	3/29/80	4: 3:21	23	-2.9	-163.9	*****	*****	*****	-40.6	23	2.7	4.5	19.0	4.1	0.22	-19.2
	44327	20131819	3/29/80	5:35:31														
2294	44327	20136741	3/29/80	5:35:36	23	-8.6	173.1	42.1	15.4	0.36	-58.0	27	9.4	-18.5	27.8	3.4	0.12	-27.5
	44327	25661095	3/29/80	7: 7:41														
2295	44327	25666617	3/29/80	7: 7:46	27	-0.5	150.1	35.9	9.4	0.26	-43.8	27	20.9	-41.6	25.6	3.9	0.15	-25.8
	44327	31191571	3/29/80	8:39:51														
2296	44327	31196494	3/29/80	8:39:56	10	5.1	127.0	29.4	5.6	0.19	-31.5	10	13.2	-64.6	17.6	4.5	0.25	-25.4
	44327	36726363	3/29/80	10:12: 6														
2297	44327	36731265	3/29/80	10:12:11	10	6.7	104.0	20.4	2.1	0.10	-24.6	10	5.3	-87.7	18.7	3.0	0.16	-21.3
	44327	42256240	3/29/80	11:44:16														
2298	44327	42261162	3/29/80	11:44:21	10	-10.5	80.9	23.6	11.0	0.47	-33.3	10	4.3	-110.7	20.6	1.8	0.09	-22.4
	44327	47786116	3/29/80	13:16:26														
2299	44327	47791038	3/29/80	13:16:31	10	-21.5	57.5	31.4	8.3	0.26	-41.1	10	-6.5	-133.8	20.3	-0.9	-0.03	-16.1
	44327	53315992	3/29/80	14:48:35														
2300	44327	53320914	3/29/80	14:48:40	20	-18.3	34.8	29.8	10.8	0.36	-39.5	20	-5.8	-156.8	11.8	-0.2	-0.02	-8.6
	44327	58650784	3/29/80	16:20:50														
2301	44327	58655706	3/29/80	16:20:55	20	-2.6	11.8	21.5	13.5	0.49	-31.6	20	6.9	-179.9	10.3	-0.5	-0.05	-10.5
	44327	64377901	3/29/80	17:52:57														
2302	44327	64382878	3/29/80	17:53: 2	20	16.5	-11.3	23.6	14.8	0.63	-43.3	20	11.0	157.1	15.1	-3.5	-0.23	-7.4
	44327	69912749	3/29/80	19:25:12														
2303	44327	69917670	3/29/80	19:25:17	20	25.6	-34.3	39.4	11.6	0.29	-39.8	20	4.9	134.0	18.1	0.9	0.05	-19.9
	44327	75442625	3/29/80	20:57:22														
2304	44327	75447546	3/29/80	20:57:27	23	3.1	-57.4	38.4	12.3	0.32	-53.9	23	-16.5	111.0	16.1	-3.4	-0.21	-13.9
	44327	80972502	3/29/80	22:29:32														
2305	44327	80977423	3/29/80	22:29:37	23	-0.3	-80.4	44.7	10.7	0.24	-61.4	23	-21.1	88.0	18.3	3.5	0.19	-21.9
	44328	102378	3/30/80	0: 1:42														
2306	44328	107300	3/30/80	0: 1:47	30	-18.0	-103.5	45.4	14.1	0.31	-66.3	30	-14.8	64.9	27.9	1.5	0.05	-27.1
	44328	5632254	3/30/80	1:33:52														
2307	44328	5637176	3/30/80	1:33:57	30	-33.2	-126.5	52.7	18.8	0.36	-74.9	30	-14.6	41.9	23.6	1.2	0.05	-22.3
	44328	11102130	3/30/80	3: 6: 2														
2308	44328	11107051	3/30/80	3: 6: 7	37	-50.9	-149.6	60.2	20.6	0.34	-80.1	37	3.5	18.8	29.1	5.0	0.17	-28.3
	44328	16696922	3/30/80	4:38:16														
2309	44328	16701843	3/30/80	4:38:21	37	-38.4	-172.6	69.8	25.7	0.37	-94.2	37	-2.2	-4.2	31.1	10.4	0.33	-37.6
	44328	22226798	3/30/80	6:10:26														
2310	44328	22231720	3/30/80	6:10:31	33	-37.1	164.3	64.6	19.8	0.31	-81.5	33	-5.9	-27.3	43.1	6.7	0.16	-40.2
	44328	27756675	3/30/80	7:42:36														
2311	44328	27761596	3/30/80	7:42:41	33	-32.9	141.3	69.0	13.6	0.20	-81.5	33	-7.2	-50.3	47.6	3.1	0.17	-58.3
	44328	33286551	3/30/80	9:14:46														
2312	44328	33291472	3/30/80	9:14:51	17	-23.6	118.3	42.3	10.9	0.26	-53.9	17	-16.0	-73.4	33.1	12.7	0.33	-45.2
	44328	38816427	3/30/80	10:46:56														
2313	44328	38821348	3/30/80	10:47: 1	17	-19.0	95.2	40.9	9.9	0.24	-50.3	17	-15.7	-96.4	41.1	0.4	0.16	-48.3
	44328	44346304	3/30/80	12:19: 6														
2314	44328	44351225	3/30/80	12:19:11	20	-37.4	72.2	49.9	18.7	0.37	-64.9	20	-17.7	-119.5	31.6	2.5	0.08	-32.9
	44328	49876180	3/30/80	13:51:16														
2315	44328	49881101	3/30/80	13:51:21	20	-40.8	49.1	39.9	13.3	0.33	-57.2	10	-20.1	-142.5	32.7	4.4	0.14	-35.0
	44328	55406056	3/30/80	15:23:26														
2316	44328	55410977	3/30/80	15:23:30	10	-33.2	26.1	34.7	13.8	0.40	-46.1	10	-17.3	-165.5	25.9	2.1	0.08	-28.4
	44328	60935932	3/30/80	16:55:35														
2317	44328	60940854	3/30/80	16:55:40	10	-14.0	3.0	36.4	15.0	0.41	- 6.5	7	-5.1	171.4	24.0	2.3	0.09	-26.7
	44328	66465838	3/30/80	18:27:45														
2318	44328	66470730	3/30/80	18:27:50	7	-3.5	-20.0	41.9	16.2	0.39	-49.5	7	-0.9	148.4	23.3	3.9	0.17	-26.6
	44328	71955685	3/30/80	19:59:55														
2319	44328	72000607	3/30/80	20: 0: 0	7	-2.1	-43.0	43.3	11.1	0.26	-46.0	30	-9.7	125.3	20.8	-1.5	-0.07	-18.2
	44328	77525562	3/30/80	21:32: 5														
2320	44328	77530483	3/30/80	21:32:10	30	1.1	-66.1	34.9	9.6	0.27	-48.8	30	-17.6	102.3	18.3	-2.3	-0.13	-15.4
	44328	83055437	3/30/80	23: 4:15														
2321	44328	83060359	3/30/80	23: 4:20	30	6.3	-89.1	34.6	9.5	0.27	-51.1	37	-2.9	79.3	5.3	-3.4	-1.59	6.0
	44329	2182365	3/31/80	0:36:22														
2322	44329	2187287	3/31/80	0:36:27	37	10.2	-112.2	20.8	-0.5	-0.02	-26.7	37	-2.4	56.2	13.7	-5.9	-0.43	-8.0
	44329	7712241	3/31/80	2: 8:32														
2323	44329	7717103	3/31/80	2: 8:37	37	-13.6	-135.2	29.6	5.0	0.17	-42.5	40	-4.4	33.2	24.9	0.8	0.24	-30.4
	44329	13242118	3/31/80	3:40:42														

PASS	MJD	MSEC	DATE	HR: MN: SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA B
2324	44329	1324705 9	3/31/80	3: 40: 47	40	-22.2	-158.2	*****	*****	*****	******	40	10.7	10.1	22.4	0.5	0.02	-16.2
	44329	16771994	3/31/80	5: 12: 51														
2325	44329	16776915	3/31/80	5: 12: 56	40	-11.1	178.7	39.6	11.5	0.29	-56.4	40	16.8	-12.3	23.6	0.4	0.02	-27.7
	44329	24301870	3/31/80	6: 45: 1														
2326	44329	24306731	3/31/80	6: 45: 6	40	-29.6	155.7	58.9	17.4	0.30	50.0	40	18.7	-35.9	33.1	-1.9	-0.06	-24.6
	44329	29826831	3/31/80	8: 17: 6														
2327	44329	29831753	3/31/80	8: 17: 11	40	-39.5	132.6	69.3	14.2	0.20	-77.0	40	8.6	-59.0	34.7	4.2	0.12	-42.8
	44329	35356707	3/31/80	9: 49: 16														
2328	44329	35361628	3/31/80	9: 49: 21	40	-30.8	109.6	42.4	8.8	0.21	-51.8	40	2.3	-82.0	35.0	10.4	0.30	-45.3
	44329	40886584	3/31/80	11: 21: 26														
2329	44329	40891505	3/31/80	11: 21: 31	40	-38.6	86.6	58.4	21.3	0.36	-75.5	37	-7.4	-105.1	30.2	10.7	0.35	-44.4
	44329	46413515	3/31/80	12: 53: 33														
2330	44329	46418432	3/31/80	12: 53: 38	37	-43.7	63.5	52.6	17.3	0.33	-65.4	37	-26.6	-128.1	37.8	6.6	0.17	-43.0
	44329	51943366	3/31/80	14: 25: 43														
2331	44329	51948338	3/31/80	14: 25: 48	37	-45.4	40.5	50.9	19.1	0.38	-67.0	30	-24.8	-151.1	25.9	5.9	0.23	-26.9
	44329	57473263	3/31/80	15: 57: 53														
2332	44329	57478185	3/31/80	15: 57: 58	30	-22.4	17.4	38.1	16.4	0.43	-47.7	30	-14.1	-174.2	24.3	5.6	0.23	-43.3
	44329	63003139	3/31/80	17: 30: 3														
2333	44329	63008001	3/31/80	17: 30: 8	30	-9.4	-5.6	26.6	14.8	0.56	-41.5	20	-7.3	162.8	16.9	-0.0	-0.00	-12.3
	44329	68531044	3/31/80	19: 2: 11														
2334	44329	68535971	3/31/80	19: 2: 15	20	14.4	-28.6	39.5	9.0	0.23	-38.6	20	-0.3	139.7	21.6	0.9	0.04	-23.8
	44329	74056010	3/31/80	20: 34: 16														
2335	44329	74060932	3/31/80	20: 34: 20	20	15.6	-51.7	38.7	10.0	0.26	-47.7	33	-7.5	116.7	25.3	0.3	0.01	-23.3
	44329	79585846	3/31/80	22: 6: 25														
2336	44329	79590803	3/31/80	22: 6: 30	33	-5.8	-74.7	48.4	10.0	0.21	-64.0	33	-26.3	93.7	24.1	7.8	0.33	-30.6
	44329	85115702	3/31/80	23: 38: 35														
2337	44329	85120644	3/31/80	23: 38: 40	20	-66.6	-97.7	52.2	12.1	0.23	-71.5	20	-31.2	70.6	37.7	8.0	0.21	-38.9
	44330	4243674	4/ 1/80	1: 10: 43														
2338	44330	4246594	4/ 1/80	1: 10: 48	20	-70.5	-120.8	45.7	11.4	0.25	-63.0	20	-33.8	47.6	29.9	5.3	0.18	-35.0
	44330	9773543	4/ 1/80	2: 42: 53														
2339	44330	9778471	4/ 1/80	2: 42: 58	7	-45.3	-143.8	39.1	5.9	0.15	6.0	7	-24.8	24.6	25.4	9.3	0.37	-29.6
	44330	15299494	4/ 1/80	4: 14: 59														
2340	44330	15304415	4/ 1/80	4: 15: 4	7	-27.4	-166.8	36.7	6.5	0.18	-46.6	7	-6.5	1.5	25.1	8.3	0.33	-29.3
	44330	20829370	4/ 1/80	5: 47: 9														
2341	44330	20834292	4/ 1/80	5: 47: 14	7	-15.5	170.1	31.3	8.7	0.28	-41.3	7	-6.6	-21.5	35.1	4.6	0.13******	
	44330	26543431	4/ 1/80	7: 19: 14														
2342	44330	26549253	4/ 1/80	7: 19: 19	7	-9.7	147.1	35.5	5.8	0.16	-47.5	7	-2.7	-44.5	29.7	1.5	0.05	-27.7
	44330	31884207	4/ 1/80	8: 51: 24														
2343	44330	31889128	4/ 1/80	8: 51: 29	3	-5.8	124.1	27.3	5.5	0.20	******	3	-13.5	-67.6	21.1	7.1	0.34******	
	44330	37412660	4/ 1/80	10: 23: 32														
2344	44330	37417776	4/ 1/80	10: 23: 37	3	-15.1	101.0	28.9	4.2	0.15	-37.0	3	-19.9	-90.6	27.6	6.3	0.22	-33.5
	44330	42937615	4/ 1/80	11: 55: 37														
2345	44330	42942737	4/ 1/80	11: 55: 42	13	-22.7	78.0	31.7	12.2	0.39	-39.8	13	-30.1	-113.6	29.3	3.9	0.13	-32.3
	44330	48467691	4/ 1/80	13: 27: 47														
2346	44330	48472613	4/ 1/80	13: 27: 52	13	-27.6	54.9	45.3	13.6	0.30	-60.5	13	-25.6	-136.7	24.6	1.3	0.05	-24.3
	44330	53992653	4/ 1/80	14: 59: 52														
2347	44330	53997574	4/ 1/80	14: 59: 57	13	-27.4	31.9	40.9	17.2	0.42	-56.0	13	-14.7	-159.7	23.2	3.2	0.14	-25.1
	44330	59522529	4/ 1/80	16: 32: 2														
2348	44330	59527451	4/ 1/80	16: 32: 7	13	-18.2	8.9	44.2	13.5	0.42	-60.8	13	-9.8	177.3	27.6	7.3	0.26	-34.9
	44330	65047490	4/ 1/80	18: 4: 7														
2349	44330	65052411	4/ 1/80	18: 4: 12	10	-7.2	-14.1	45.3	22.2	0.49	-60.1	10	-4.5	154.2	30.9	4.4	0.14	-31.6
	44330	70576383	4/ 1/80	19: 36: 16														
2350	44330	70581405	4/ 1/80	19: 36: 21	10	-1.5	-57.2	54.4	13.9	0.26	-51.0	10	-5.3	131.2	25.7	4.2	0.16	-31.5
	44330	76101344	4/ 1/80	21: 8: 21														
2351	44330	76106265	4/ 1/80	21: 8: 26	0	-10.1	-60.2	43.5	11.5	0.27	-57.2	0	-16.3	106.2	24.5	-0.9	-0.04	-23.9
	44330	81631240	4/ 1/80	22: 40: 31														
2352	44330	81636142	4/ 1/80	22: 40: 36	0	-32.8	-83.2	40.9	10.0	0.24	9.3	0	-23.0	85.1	24.1	3.4	0.14******	
	44331	756181	4/ 2/80	0: 12: 36														
2353	44331	761102	4/ 2/80	0: 12: 41	7	-45.2	-106.3	45.8	11.0	0.24	-62.8	7	-35.6	62.1	35.8	5.3	0.16	-38.3
	44331	6266057	4/ 2/80	1: 44: 46														
2354	44331	6290979	4/ 2/80	1: 44: 50	7	-44.8	-129.3	43.9	10.9	0.25	-58.4	7	-35.5	39.1	32.7	7.1	0.22	-34.9
	44331	11811019	4/ 2/80	3: 16: 51														
2355	44331	11815939	4/ 2/80	3: 16: 55	7	-39.2	-152.3	44.8	11.1	0.25	-52.0	7	-13.0	16.0	32.0	7.0	0.22	-26.9
	44331	17356930	4/ 2/80	4: 48: 55														
2356	44331	17340 00	4/ 2/80	4: 49: 0	7	-22.8	-179.4	39.5	8.3	0.21	-47.6	7	-5.0	-7.0	27.4	8.2	0.30	-33.2
	44331	22863656	4/ 2/80	6: 21: 5														
2357	44331	22870777	4/ 2/80	6: 21: 12	3	-15.0	161.6	36.3	8.5	0.23	-41.2	3	8.0	-30.0	30.2	5.7	0.22	-26.7
	44331	28390816	4/ 2/80	7: 53: 10														
2358	44331	28395738	4/ 2/80	7: 53: 15	3	-3.9	138.8	37.3	6.5	0.17	-47.9	7	-4.6	-52.0	30.8	2.1	0.07	-37.1
	44331	33920693	4/ 2/80	9: 25: 20														
2359	44331	33925614	4/ 2/80	9: 25: 25	7	-14.4	115.5	25.5	6.4	0.25	-37.6	7	-14.8	-76.1	24.8	7.9	0.32	-29.4
	44331	39445655	4/ 2/80	10: 57: 25														
2360	44331	39450575	4/ 2/80	10: 57: 30	7	-30.4	92.5	32.3	6.1	0.19	-39.9	7	-27.7	-99.1	28.2	5.2	0.19	-34.6
	44331	44972842	4/ 2/80	12: 29: 32														
2361	44331	44977747	4/ 2/80	12: 29: 37	7	-28.9	69.5	39.3	11.0	0.28	-50.8	7	-27.9	-122.1	23.8	1.6	0.07	-24.4
	44331	50497867	4/ 2/80	14: 1: 37														
2362	44331	50502703	4/ 2/80	14: 1: 42	7	-15.7	46.5	37.0	8.7	0.24	-48.9	7	-20.0	-145.2	21.6	3.8	0.18	-22.1
	44331	56042748	4/ 2/80	15: 33: 42														
2363	44331	56047669	4/ 2/80	15: 33: 47	7	-4.9	23.4	31.5	10.7	0.34	-49.0	7	-10.2	-168.2	13.2	1.5	0.08	-21.8
	44331	61552626	4/ 2/80	17: 5: 52														

PASS	MJD	dSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA B
2364	44331	61557547	4/ 2/80	17: 5:57	7	17.2	0.4	32.1	8.0	0.25	-38.2	3	6.1	168.8	13.0	-0.4	-0.03	-12.6
	44331	67077585	4/ 2/80	18:37:57														
2365	44331	67082507	4/ 2/80	18:38: 2	3	33.5	-22.6	29.4	7.7	0.26	-29.9	3	12.3	145.7	12.3	-1.7	-0.14	-11.7
	44331	72602546	4/ 2/80	20:10: 2														
2366	44331	72607467	4/ 2/80	20:10: 7	3	30.7	-45.7	27.4	6.6	0.24	-25.6	17	16.1	122.7	5.0	-9.5	-1.91	5.6
	44331	78127507	4/ 2/80	21:42: 7														
2367	44331	78132428	4/ 2/80	21:42:12	17	9.9	-68.7	14.4	5.3	0.37	-24.8	17	12.1	99.7	0.5	-3.3	-19.09	7.7
	44331	83657383	4/ 2/80	23:14:17														
2368	44331	83662305	4/ 2/80	23:14:22	17	-5.5	-91.7	19.0	4.3	0.23	-31.1	13	-5.2	76.7	9.0	-0.2	-0.69	2.5
	44332	2781362	4/ 3/80	0:46:21														
2369	44332	2786283	4/ 3/80	0:46:26	13	-32.5	-114.7	24.6	4.6	0.19	-34.2	13	-11.4	53.6	15.7	-1.3	-0.08	-14.7
	44332	8306322	4/ 3/80	2:18:26														
2370	44332	8311284	4/ 3/80	2:18:31	13	-24.5	-137.8	25.3	1.5	0.06	-33.5	27	-2.8	30.6	10.1	1.7	0.17	-8.0
	44332	13833741	4/ 3/80	3:50:33														
2371	44332	13838602	4/ 3/80	3:50:38	27	-1.3	-160.8	21.4	5.5	0.26	-33.1	27	8.1	7.6	12.2	-2.6	-0.21	-5.9
	44332	19358701	4/ 3/80	5:22:38														
2372	44332	19363623	4/ 3/80	5:22:43	27	4.2	176.2	16.6	2.8	0.17	-23.4	17	29.0	-15.4	14.3	-1.3	-0.07	-15.4
	44332	24883662	4/ 3/80	6:54:43														
2373	44332	24888584	4/ 3/80	6:54:48	17	15.8	153.2	16.8	2.3	0.14	-21.9	17	24.9	-38.5	14.2	-1.4	-0.10	-7.7
	44332	30408623	4/ 3/80	8:26:48														
2374	44332	30413545	4/ 3/80	8:26:53	17	9.5	130.1	21.8	0.2	0.01	******	23	13.2	-61.5	15.8	-0.8	-0.05	-18.6
	44332	35937517	4/ 3/80	9:58:57														
2375	44332	35942438	4/ 3/80	9:59: 2	23	-0.7	107.1	*****	*****	*****	******	23	-2.6	-84.5	13.5	2.6	0.19	-15.8
	44332	41315021	4/ 3/80	11:28:35														
2376	44332	41467399	4/ 3/80	11:31: 7	23	-9.3	84.1	16.9	4.5	0.26	-23.8	17	-8.1	-107.5	18.4	-1.0	-0.06	-18.3
	44332	46987438	4/ 3/80	13: 3: 7														
2377	44332	46992360	4/ 3/80	13: 3:12	17	-10.4	61.1	29.7	5.8	0.20	-37.1	17	-7.7	-130.6	12.1	-4.1	-0.34	-8.2
	44332	52512399	4/ 3/80	14:35:12														
2378	44332	52517321	4/ 3/80	14:35:17	17	1.1	38.0	20.6	2.8	0.14	-22.8	23	4.7	-153.6	0.0	-2.9	-61.33	5.5
	44332	58037360	4/ 3/80	16: 7:17														
2379	44332	58042281	4/ 3/80	16: 7:22	23	22.5	15.0	16.7	5.7	0.34	-20.2	23	16.2	-176.6	2.9	-0.7	-0.23	-2.3
	44332	63564764	4/ 3/80	17:39:24														
2380	44332	63569699	4/ 3/80	17:39:29	20	20.4	-8.0	26.8	11.7	0.44	-42.2	20	20.0	160.4	6.2	-3.9	-0.63	0.8
	44332	69089739	4/ 3/80	19:11:29														
2381	44332	69094661	4/ 3/80	19:11:34	20	32.0	-31.0	24.9	4.9	0.20	-22.4	20	23.2	137.3	6.7	-1.6	-0.24	-9.2
	44332	74614700	4/ 3/80	20:43:34														
2382	44332	74619622	4/ 3/80	20:43:39	7	22.8	-54.1	18.0	4.0	0.22	-27.6	7	22.4	114.3	5.6	-8.4	-1.50	3.7
	44332	80139656	4/ 3/80	22:15:39														
2383	44332	80144583	4/ 3/80	22:15:44	7	4.3	-77.1	22.6	3.6	0.03	-29.3	7	-3.0	91.3	3.2	-3.6	-1.10	-0.8
	44332	85664622	4/ 3/80	23:47:44														
2384	44332	85669543	4/ 3/80	23:47:49	3	-19.4	-100.1	28.0	4.4	0.16	-41.4	3	-5.4	68.3	18.3	-2.2	-0.12	-12.8
	44333	4788600	4/ 4/80	1:19:48														
2385	44333	4793521	4/ 4/80	1:19:53	3	-21.2	-123.1	18.9	2.8	0.15	-27.4	3	-7.9	45.3	12.1	-0.6	-0.05	-10.5
	44333	10313560	4/ 4/80	2:51:53														
2386	44333	10318462	4/ 4/80	2:51:58	13	-6.7	-146.1	19.3	1.3	0.07	-19.1	13	12.5	22.2	8.5	-0.8	-0.09	-3.8
	44333	15838521	4/ 4/80	4:23:59														
2387	44333	15843443	4/ 4/80	4:24: 3	13	5.6	-169.2	17.5	3.4	0.19	-22.3	13	21.4	-0.8	8.1	-1.1	-0.14	-4.8
	44333	21363482	4/ 4/80	5:56: 3														
2388	44333	21368404	4/ 4/80	5:56: 8	30	18.2	167.8	15.3	6.9	0.45	-21.1	30	30.4	-23.8	14.2	-3.4	-0.03	-8.3
	44333	26888443	4/ 4/80	7:28: 8														
2389	44333	26893365	4/ 4/80	7:28:13	30	14.9	144.8	37.3	3.9	0.10	-43.9	30	20.9	-46.8	20.7	-3.7	-0.18	-16.5
	44333	32413004	4/ 4/80	9: 0:13														
2390	44333	32418326	4/ 4/80	9: 0:18	30	-15.9	121.8	27.7	7.8	0.28	-36.3	30	-4.7	-69.9	16.5	9.0	0.54	-26.0
	44333	37936605	4/ 4/80	10:32:18														
2391	44333	37943286	4/ 4/80	10:32:23	30	-20.9	98.7	30.2	4.2	0.14	-39.6	30	-0.4	-92.9	17.6	1.5	0.08	-20.3
	44333	43463326	4/ 4/80	12: 4:23														
2392	44333	43468247	4/ 4/80	12: 4:28	27	-22.6	75.7	29.6	9.7	0.33	-40.1	27	-6.6	-115.9	20.5	1.9	0.09	-21.8
	44333	48988287	4/ 4/80	13:36:28														
2393	44333	48993208	4/ 4/80	13:36:33	27	-20.9	52.7	30.3	6.8	0.22	-42.0	27	-7.8	-138.9	18.2	1.1	0.06	-18.6
	44333	54513248	4/ 4/80	15: 8:33														
2394	44333	54518169	4/ 4/80	15: 8:38	33	-18.0	29.7	30.9	9.8	0.32	-40.2	33	-4.0	-161.9	11.6	-1.5	-0.13	-11.6
	44333	60038209	4/ 4/80	16:40:38														
2395	44333	60043130	4/ 4/80	16:40:43	33	14.6	6.7	35.6	10.0	0.28	-44.0	33	-1.0	175.0	16.0	3.3	0.21	-21.0
	44333	65558254	4/ 4/80	18:12:38														
2396	44333	65563175	4/ 4/80	18:12:43	30	29.4	-16.4	42.1	12.2	0.29	-47.1	30	18.5	152.0	16.0	-0.1	-0.01	-14.1
	44333	71083215	4/ 4/80	19:44:43														
2397	44333	71088136	4/ 4/80	19:44:48	30	19.0	-39.4	43.8	11.7	0.27	-12.8	30	16.7	129.0	11.0	-1.6	-0.15	-11.3
	44333	76608175	4/ 4/80	21:16:48														
2398	44333	76613097	4/ 4/80	21:16:53	10	9.2	-62.4	26.2	7.4	0.28	-35.7	10	-1.8	106.0	14.0	-5.0	-0.36	-10.4
	44333	82133136	4/ 4/80	22:48:53														
2399	44333	82138058	4/ 4/80	22:48:58	10	-13.3	-85.4	28.9	7.8	0.27	-40.3	10	-13.7	83.0	15.8	-0.9	-0.06	-14.3
	44334	1256135	4/ 5/80	0:20:56														
2400	44334	1261052	4/ 5/80	0:21: 1	10	-20.7	-108.4	33.2	7.6	0.23	-47.8	10	-16.0	60.0	21.7	3.6	0.17	-23.9
	44334	6778147	4/ 5/80	1:52:58														
2401	44334	6783064	4/ 5/80	1:53: 3	10	-22.5	-131.4	28.2	6.0	0.21	-41.6	17	-6.7	36.9	20.5	1.8	0.09	-18.5
	44334	12303104	4/ 5/80	3:25: 3														
2402	44334	12308025	4/ 5/80	3:25: 8	17	-20.4	-154.5	29.7	5.7	0.19	-35.4	17	1.0	13.9	**********		**********	
	44334	16684240	4/ 5/80	4:38: 4														
2403	44334	17972586	4/ 5/80	4:59:32	17	-2.3	-177.5	*****	*****	*****	-35.4	10	19.7	-9.1	**********		**********	
	44334	22470707	4/ 5/80	6:14:30														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KEP	D ECL	ECL	E	I	I/E	DELTA B	DESCENDING KEP	D ECL	ECL	E	I	I/E	DELTA B
2404	44334	23269508	4/ 5/80	6:32:49	10	5.6	159.5	*****	*****	*****	-35.4	10	22.1	-32.1	**********	**********		
2405	44334	28179038	4/ 5/80	7:49:39														
	44334	29114180	4/ 5/80	8: 5:14	10	1.1	136.5	*****	*****	*****	******	10	11.8	-55.1	**********	**********		
2406	44334	33752628	4/ 5/80	9:22:32														
	44334	34564181	4/ 5/80	9:36: 4	10	-0.2	113.5	*****	*****	*****	******	10	-1.5	-78.1	**********	**********		
2407	44334	39224264	4/ 5/80	10:53:44														
	44334	39906533	4/ 5/80	11: 5: 6	10	-11.0	90.4	*****	*****	*****	******	23	0.2	-101.2	**********	**********		
2408	44334	45445501	4/ 5/80	12:37:25														
	44334	45450418	4/ 5/80	12:37:30	23	-9.4	67.4	*****	*****	*****	******	23	1.7	-124.2	**********	******	-3.2	
2409	44334	50970492	4/ 5/80	14: 9:30														
	44334	50975378	4/ 5/80	14: 9:35	23	-6.8	44.4	20.9	2.0	0.10	-26.6	33	2.2	-147.2	1.7	-1.8	-1.00	3.1
2410	44334	56490502	4/ 5/80	15:41:30														
	44334	56495424	4/ 5/80	15:41:35	33	0.7	21.4	28.2	7.1	0.25	******	33	2.9	-170.2	8.7	-2.4	-0.28	-4.8
2411	44334	62015403	4/ 5/80	17:13:35														
	44334	62020384	4/ 5/80	17:13:40	33	3.1	-1.6	34.4	14.7	0.43	-45.4	20	19.0	166.8	3.6	-0.7	-0.20	-2.7
2412	44334	67540424	4/ 5/80	18:45:40														
	44334	67545345	4/ 5/80	18:45:45	20	25.6	-24.6	32.2	8.0	0.25	-30.9	20	20.4	143.8	10.9	-3.4	-0.04	-12.7
2413	44334	73060470	4/ 5/80	20:17:40														
	44334	73065391	4/ 5/80	20:17:45	20	22.7	-47.6	20.2	8.1	0.40	-27.1	7	15.3	120.7	8.8	-7.5	-0.85	-2.0
2414	44334	78585430	4/ 5/80	21:49:45														
	44334	78590352	4/ 5/80	21:49:50	7	5.3	-70.7	18.4	5.5	0.30	-32.6	7	9.6	97.7	2.0	-5.7	-2.90	******
2415	44334	84106459	4/ 5/80	23:21:46														
	44334	84111380	4/ 5/80	23:21:51	7	-4.7	-93.7	26.2	4.5	0.17	-39.2	3	-4.6	74.7	14.8	-3.7	-0.25	-5.5
2416	44335	32328 34	4/ 6/80	0:53:52														
	44335	32378 16	4/ 6/80	0:53:57	3	-15.6	-116.7	26.2	5.0	0.19	-38.2	3	-13.5	51.7	14.8	-1.8	-0.12	-14.8
2417	44335	87529 40	4/ 6/80	2:25:52														
	44335	87576 41	4/ 6/80	2:25:57	3	-21.6	-139.7	34.0	3.0	0.13	******	23	-6.3	28.7	7.7	0.8	0.10	-5.4
2418	44335	14277930	4/ 6/80	3:57:57														
	44335	14282822	4/ 6/80	3:58: 2	23	-6.4	-162.7	21.1	9.2	0.44	-40.9	23	27.0	5.7	12.4	1.0	0.08	-10.5
2419	44335	19800899	4/ 6/80	5:30: 0														
	44335	19805816	4/ 6/80	5:30: 5	23	13.1	174.3	22.5	3.7	0.16	-31.0	13	36.1	-17.3	17.6	1.9	0.11	-17.2
2420	44335	25320941	4/ 6/80	7: 2: 0														
	44335	25325862	4/ 6/80	7: 2: 5	13	18.9	151.3	25.8	6.7	0.26	-33.7	13	24.0	-40.4	17.8	1.5	0.08	-15.7
2421	44335	30845901	4/ 6/80	8:34: 5														
	44335	30850823	4/ 6/80	8:34:10	13	13.4	128.3	23.0	2.3	0.10	-27.5	47	12.0	-63.4	13.0	3.1	0.24	-20.2
2422	44335	36365947	4/ 6/80	10: 6: 5														
	44335	36370868	4/ 6/80	10: 6:10	47	-3.6	105.2	13.6	-0.2	-0.01	-18.4	47	23.6	-86.4	-7.6	-9.2	1.20	18.7
2423	44335	41890907	4/ 6/80	11:38:10														
	44335	41895829	4/ 6/80	11:38:15	50	5.5	82.2	5.9	-1.9	-0.33	-7.8	50	23.8	-109.4	2.7	-8.0	-2.94	1.2
2424	44335	47410953	4/ 6/80	13:10:10														
	44335	47415874	4/ 6/80	13:10:15	50	-15.0	59.2	29.0	7.8	0.26	-39.8	50	12.0	-132.4	6.3	-5.9	-0.93	-0.7
2425	44335	52935914	4/ 6/80	14:42:15														
	44335	52940835	4/ 6/80	14:42:20	50	-33.5	36.2	45.3	16.4	0.36	-60.4	50	7.6	-155.4	3.8	-7.9	-2.12	4.0
2426	44335	58455960	4/ 6/80	16:14:15														
	44335	58460881	4/ 6/80	16:14:20	50	-38.2	13.2	70.5	29.9	0.42	-96.6	50	-13.0	-176.4	22.1	16.0	0.72	-40.8
2427	44335	63980940	4/ 6/80	17:46:20														
	44335	63985841	4/ 6/80	17:46:25	53	-14.9	-9.8	53.0	24.4	0.46	-75.5	53	-5.4	158.6	24.1	7.2	0.30	-30.0
2428	44335	69500966	4/ 6/80	19:18:20														
	44335	69505887	4/ 6/80	19:18:25	53	0.1	-32.8	52.1	18.0	0.34	-53.1	53	-2.3	135.6	17.2	5.9	0.34	-29.7
2429	44335	75021011	4/ 6/80	20:50:21														
	44335	75025932	4/ 6/80	20:50:25	33	-7.0	-55.8	37.4	12.4	0.33	-57.3	33	-8.6	112.5	31.5	2.2	0.07	-34.6
2430	44335	80545972	4/ 6/80	22:22:25														
	44335	80550893	4/ 6/80	22:22:30	33	-24.3	-78.8	45.7	11.1	0.24	-62.9	33	-25.0	89.5	23.3	1.0	0.04	-24.8
2431	44335	86066017	4/ 6/80	23:54:26														
	44335	86070939	4/ 6/80	23:54:30	33	-57.5	-101.9	47.0	13.6	0.29	-69.1	33	-43.2	66.5	39.5	5.7	0.14	-42.5
2432	44336	5167047	4/ 7/80	1:26:27														
	44336	5191968	4/ 7/80	1:26:31	33	-55.9	-124.9	44.5	13.0	0.29	-65.1	33	-45.0	43.5	30.9	8.9	0.29	-37.1
2433	44336	10712007	4/ 7/80	2:58:32														
	44336	10716929	4/ 7/80	2:58:36	27	-33.7	-147.9	37.1	8.8	0.24	-49.7	27	-14.2	20.5	30.3	3.3	0.27	-30.2
2434	44336	16232053	4/ 7/80	4:30:32														
	44336	16236974	4/ 7/80	4:30:36	27	-23.1	-170.9	41.2	15.2	0.37	-57.2	27	3.8	-2.5	26.8	6.7	0.25	-48.3
2435	44336	21755790	4/ 7/80	6: 2:35														
	44336	21760706	4/ 7/80	6: 2:40	33	-2.1	166.1	30.3	6.8	0.22	-39.7	33	16.8	-25.5	32.6	4.4	0.14	-27.1
2436	44336	27275831	4/ 7/80	7:34:35														
	44336	27280751	4/ 7/80	7:34:40	33	-4.9	143.1	60.3	14.6	0.24	-77.2	33	8.3	-48.5	35.9	1.4	0.04	-39.6
2437	44336	32795876	4/ 7/80	9: 6:35														
	44336	32800796	4/ 7/80	9: 6:40	17	-18.6	120.1	30.6	8.2	0.27	-39.0	17	-13.1	-71.5	24.7	9.7	0.39	-34.4
2438	44336	36315921	4/ 7/80	10:38:35														
	44336	36320842	4/ 7/80	10:38:40	17	-23.2	97.1	30.4	5.2	0.17	-38.1	17	-13.5	-98.5	31.6	4.3	0.13	-38.2
2439	44336	43840881	4/ 7/80	12:10:40														
	44336	43845803	4/ 7/80	12:10:45	27	-15.2	74.1	27.8	5.9	0.21	-30.5	27	-11.3	-117.5	23.7	-1.5	-0.06	-22.5
2440	44336	49360928	4/ 7/80	13:42:40														
	44336	49365848	4/ 7/80	13:42:45	27	-30.9	51.1	35.8	10.2	0.28	-51.5	27	-9.1	-140.5	19.5	1.5	0.08	-20.1
2441	44336	54879007	4/ 7/80	15:14:39														
	44336	54883927	4/ 7/80	15:14:43	27	-17.3	28.1	27.7	8.2	0.30	-36.0	27	-6.2	-163.5	15.9	1.7	0.11	-18.9
2442	44336	60403907	4/ 7/80	16:46:43														
	44336	60408808	4/ 7/80	16:46:48	27	17.1	5.1	30.6	8.2	0.27	-39.0	27	2.6	173.4	8.1	-2.0	-0.24	-5.6
2443	44336	65924813	4/ 7/80	18:18:44														
	44336	65928934	4/ 7/80	18:18:48	47	22.5	-17.9	49.8	12.1	0.30	2.6	47	12.7	150.4	12.5	1.2	0.10	-12.5
	44336	71444059	4/ 7/80	19:50:44														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING REV	D ECL	ECL	E	I	I/E	DELTA E	DESCENDING REV	D ECL	ECL	E	I	I/E	DELTA E
2444	44336	71446979	4/ 7/80	19:50:48	47	3.8	-41.0	48.3	16.7	0.35	-51.5	40	1.4	127.4	16.3	2.5	0.14	-19.2
	44336	7696o103	4/ 7/80	21:22:44														
2445	44336	7o969o24	4/ 7/80	21:22:49	40	-1.6	-64.0	38.6	17.0	0.44	-55.9	40	-0.4	104.4	5.0	-5.1	-1.02	-3.3
	44336	82485135	4/ 7/80	22:54:45														
2446	44336	82490053	4/ 7/80	22:54:50	40	-34.2	-87.0	49.2	14.5	0.29	-o9.3	33	-18.2	81.4	19.3	-2.1	-0.11	-61.1
	44337	1o061o9	4/ 8/80	0:26:46														
2447	44337	1o11o92	4/ 8/80	0:26:51	33	-51.1	-110.0	47.1	13.7	0.23	-69.3	33	-26.5	58.4	29.2	2.6	0.09	-33.0
	44337	7128175	4/ 8/80	1:58:48														
2448	44337	7133094	4/ 8/80	1:58:53	33	-50.3	-133.0	30.7	5.4	0.17	-39.6	37	15.7	35.4	19.1	4.2	0.22	-38.9
	44337	12648216	4/ 8/80	3:30:48														
2449	44337	12653139	4/ 8/80	3:30:53	37	-41.8	-156.0	24.6	4.3	0.17	-32.4	37	-1.1	12.4	23.1	3.5	0.12	-23.9
	44337	18170232	4/ 8/80	5: 2:50														
2450	44337	18175151	4/ 8/80	5: 2:55	37	3.1	-179.0	17.9	0.3	0.02	-32.4	27	26.6	-10.6	25.5	2.4	0.09	-32.1
	44337	23689292	4/ 8/80	6:34:49														
2451	44337	23694213	4/ 8/80	6:34:54	27	13.9	158.0	19.4	4.6	0.24	-32.4	27	23.1	-33.6	27.3	5.1	0.19	-23.1
	44337	29211305	4/ 8/80	8: 6:51														
2452	44337	29216224	4/ 8/80	8: 6:56	27	15.9	135.0	18.3	-1.9	-0.10	-32.4	40	13.6	-56.6	8.1	1.7	0.21	-12.4
	44337	34727419	4/ 8/80	9:38:47														
2453	44337	34732337	4/ 8/80	9:38:52	40	-8.6	112.0	18.6	2.6	0.15	-32.4	40	2.0	-79.6	5.2	4.1	0.80	-7.0
	44337	40248447	4/ 8/80	11:10:48														
2454	44337	40253365	4/ 8/80	11:10:53	40	-30.4	89.0	35.8	8.9	0.25	-32.4	40	-22.1	-102.6	25.9	5.7	0.22	-34.7
	44337	45769476	4/ 8/80	12:42:49														
2455	44337	45774394	4/ 8/80	12:42:54	40	-34.9	66.0	45.4	14.7	0.32	-32.4	40	-12.4	-125.6	22.5	6.9	0.31	-28.4
	44337	51290505	4/ 8/80	14:14:50														
2456	44337	51295423	4/ 8/80	14:14:55	40	-19.6	43.0	33.1	9.7		-42.5	27	-18.0	-148.6	25.5	6.8	0.27	-37.9
	44337	56807598	4/ 8/80	15:46:47														
2457	44337	56812519	4/ 8/80	15:46:52	27	-8.5	20.0	22.8	10.6	0.46	-28.7	27	-14.5	-171.6	20.2	2.4	0.12	-25.3
	44337	62326647	4/ 8/80	17:18:48														
2458	44337	62333547	4/ 8/80	17:18:53	27	-3.5	-3.0	32.4	13.0	0.40	-42.4	17	-2.8	165.4	19.4	3.5	0.18	-20.8
	44337	67848672	4/ 8/80	18:50:48														
2459	44337	67d53593	4/ 8/80	18:50:53	17	20.2	-26.0	36.3	8.1	0.22	-42.4	17	5.1	142.4	18.3	1.3	0.07	-20.8
	44337	73369703	4/ 8/80	20:22:49														
2460	44337	7337o621	4/ 8/80	20:22:54	17	13.7	-49.0	28.6	9.9	0.35	-38.2	27	3.1	119.4	18.9	-3.2	-0.17	-27.8
	44337	78886797	4/ 8/80	21:54:46														
2461	44337	78891718	4/ 8/80	21:54:51	27	-8.1	-92.0	41.6	-7.3	-0.18	-39.3	27	-10.4	96.4	13.3	-1.5	-0.11	-12.9
	44337	84406844	4/ 8/80	23:26:46														
2462	44337	84411763	4/ 8/80	23:26:51	27	-13.6	-95.0	30.3	1.3	0.04	-39.3	30	-19.5	73.4	26.7	0.7	0.02	-19.3
	44338	3379o76	4/ 9/80	0:58:19														
2463	44338	3532054	4/ 9/80	0:58:52	30	-35.0	-118.0	39.3	10.4	0.26	-52.7	30	-26.6	50.4	27.0	3.3	0.12	-43.1
	44338	9047914	4/ 9/80	2:30:47														
2464	44338	9052837	4/ 9/80	2:30:52	30	-37.6	-141.0	46.2	12.2	0.26	-52.7	43	-13.5	27.4	17.0	5.5	0.33	-16.4
	44338	14560515	4/ 9/80	4: 2:45														
2465	44338	14569933	4/ 9/80	4: 2:49	43	-22.9	-164.0	37.9	15.9	0.42	-52.7	43	52.7	4.4	16.1	-8.6	-0.53	0.6
	44338	20085000	4/ 9/80	5:34:45														
2466	44338	20089978	4/ 9/80	5:34:49	43	-1.1	173.0	36.2	11.0	0.30	-52.7	37	63.1	-18.0	9.0	-6.0	-0.67	-2.9
	44338	25o06089	4/ 9/80	7: 6:46														
2467	44338	25o11007	4/ 9/80	7: 6:51	37	2.8	150.0	33.7	5.1	0.15	-52.7	37	49.6	-41.6	16.7	-4.5	-0.27	-16.4
	44338	31122202	4/ 9/80	8:38:42														
2468	44338	31127120	4/ 9/80	8:38:47	47	-29.0	127.0	33.7	4.7	0.14	-52.7	47	11.3	-64.6	28.1	8.2	0.29	-42.3
	44338	36642246	4/ 9/80	10:10:42														
2469	44338	366471o5	4/ 9/80	10:10:47	47	-86.2	104.0	9o.9	30.8	0.32	-52.7	47	-27.1	-87.6	18.9	21.9	1.16	-48.8
	44338	42163275	4/ 9/80	11:42:43														
2470	44338	42168194	4/ 9/80	11:42:48	40	-99.8	81.0	87.8	39.0	0.44	-52.7	40	-43.4	-110.6	20.1	15.5	0.77	-42.7
	44338	47679388	4/ 9/80	13:14:39														
2471	44338	47684307	4/ 9/80	13:14:44	40	-78.3	58.0	67.7	22.0	0.32	-52.7	40	-49.2	-133.6	46.4	16.4	0.35	-62.4
	44338	53200417	4/ 9/80	14:46:40														
2472	44338	53205336	4/ 9/80	14:46:45	33	-40.3	35.0	50.6	20.0	0.40	-52.7	33	-41.5	-156.6	38.2	4.6	0.12	-42.2
	44338	58718492	4/ 9/80	16:18:38														
2473	44338	58723417	4/ 9/80	16:18:43	33	-33.5	12.0	43.1	15.7	0.36	-52.7	***	******	******	**********		******	-42.2
	44338	6o664020	4/ 9/80	16:51: 4														
2474	44338	64450647	4/ 9/80	17:54:10	17	-1.0	-11.0	44.1	12.4	0.28	19.8	17	-15.3	157.4	39.5	3.6	0.09	-40.1
	44338	69754410	4/ 9/80	19:22:34														
2475	44338	69759328	4/ 9/80	19:22:39	17	-1.6	-34.0	58.7	15.9	0.27	19.8	17	-7.2	134.4	33.3	5.5	0.17	-41.7
	44338	75274701	4/ 9/80	20:54:34														
2476	44338	752796 19	4/ 9/80	20:54:39	13	-21.5	-57.0	44.7	12.8	0.29	-64.6	13	-12.7	111.4	38.0	-5.6	-0.15	-41.7
	44338	80794258	4/ 9/80	22:26:34														
2477	44338	80799173	4/ 9/80	22:26:39	13	-37.5	-80.0	*****	*****	*****	-64.6	13	-23.5	88.5	28.3	4.5	0.16	-41.7
	44338	86257774	4/ 9/80	23:57:37														
2478	44338	16298	4/10/80	0: 0:16	40	-62.6	-102.9	50.5	11.8	0.23	-67.6	40	-30.2	65.5	40.4	4.2	0.10	-41.0
	44339	5428194	4/10/80	1:30:28														
2479	44339	5433611	4/10/80	1:30:33	40	-64.8	-125.9	44.6	10.2	0.23	-67.6	40	-35.9	42.5	41.5	3.3	0.20	-43.9
	44339	10948934	4/10/80	3: 2:28														
2480	44339	10953902	4/10/80	3: 2:33	50	-85.3	-148.9	72.1	26.8	0.37	-97.3	50	1.6	19.5	27.2	4.1	0.15	-23.7
	44339	16464112	4/10/80	4:34:24														
2481	44339	16469032	4/10/80	4:34:29	50	-66.4	-171.9	62.6	26.0	0.42	-97.3	50	5.8	-3.5	29.7	7.3	0.25	-33.3
	44339	21985142	4/10/80	6: 6:25														
2482	44339	219900o0	4/10/80	6: 6:30	40	-32.9	165.1	68.2	19.5	0.29	-84.7	40	26.3	-26.5	41.1	5.7	0.14	-37.6
	44339	27500270	4/10/80	7:38:20														
2483	44339	27505190	4/10/80	7:38:25	40	-64.7	142.1	93.9	19.3	0.21	-84.7	40	9.2	-49.5	46.2	4.3	0.09	-58.3
	44339	33016385	4/10/80	9:10:16														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING NP	D ECL	ECL	E	I	I/E	DELTA B	DESCENDING NP	D ECL	ECL	E	I	I/E	DLTA B
2484	44339	33021333	4/10/80	9:10:21	47	-77.0	119.1	69.8	17.8	0.25	-84.8	47	-37.5	-72.5	27.2	11.6	0.43	-35.7
	44339	38536428	4/10/80	10:42:16														
2485	44339	38541349	4/10/80	10:42:21	47	-78.6	96.1	74.5	19.5	0.26	-84.8	47	-49.8	-95.5	42.4	15.4	0.36	-61.9
	44339	44053527	4/10/80	12:14:13														
2486	44339	44058445	4/10/80	12:14:18	27	-52.9	73.1	53.6	13.4	0.25	-62.3	27	-46.1	-118.5	43.5	6.3	0.14	-48.2
	44339	49573569	4/10/80	13:46:13														
2487	44339	49578490	4/10/80	13:46:18	27	-39.8	50.1	*****	*****	*****	62.3	27	-41.3	-141.5	40.9	5.5	0.13	-44.5
	44339	55090662	4/10/80	15:18:10														
2488	44339	55095587	4/10/80	15:18:15	23	-35.8	27.1	38.1	17.3	0.45	-62.3	23	-32.5	-164.5	38.5	5.5	0.14	-44.3
	44339	60603835	4/10/80	16:50:3														
2489	44339	60608751	4/10/80	16:50:8	23	-13.4	4.1	40.2	16.1	0.40	******	23	-22.4	172.5	28.7	1.8	0.06	-44.4
	44339	66122692	4/10/80	18:22:2														
2490	44339	66127813	4/10/80	18:22:7	20	1.8	-18.9	41.5	11.8	0.28	20.3	20	-7.4	149.6	32.1	4.2	0.13	-35.4
	44339	71638022	4/10/80	19:53:58														
2491	44339	71642943	4/10/80	19:54:2	20	-1.5	-41.6	55.0	13.0	0.24	20.3	23	-6.7	126.6	29.2	0.3	0.01	-27.6
	44339	77159054	4/10/80	21:25:59														
2492	44339	77163977	4/10/80	21:26:3	23	-11.6	-64.8	36.8	13.9	0.38	-52.2	23	-9.4	103.6	23.1	-2.3	-0.10	-20.5
	44339	82674181	4/10/80	22:57:54														
2493	44339	82679102	4/10/80	22:57:59	23	-44.4	-87.8	41.8	9.1	0.22	-59.0	30	-26.3	80.6	33.9	-2.1	-0.06	-28.3
	44340	1792510	4/11/80	0:29:52														
2494	44340	1797426	4/11/80	0:29:57	30	-64.1	-110.8	57.2	13.6	0.24	-74.8	30	-29.2	57.6	38.6	8.8	0.23	-71.1
	44340	7306406	4/11/80	2:1:46														
2495	44340	7311327	4/11/80	2:1:51	30	-50.2	-133.8	48.3	8.8	0.18	-60.6	27	-27.1	34.6	29.5	10.4	0.35	-35.7
	44340	12826452	4/11/80	3:33:46														
2496	44340	12831372	4/11/80	3:33:51	27	-37.1	-156.8	*****	*****	*****	******	27	-23.8	11.6	37.7	8.1	0.21	-36.5
	44340	18342560	4/11/80	5:5:42														
2497	44340	18347485	4/11/80	5:5:47	27	-19.5	-179.8	37.3	6.1	0.16	-48.0	43	-11.0	-11.4	34.3	6.5	0.19	-44.2
	44340	23857696	4/11/80	6:37:37														
2498	44340	23862615	4/11/80	6:37:42	43	-28.3	157.2	66.4	10.8	0.16	-48.0	43	1.1	-34.4	38.7	-1.0	-0.03	-26.0
	44340	29374794	4/11/80	8:9:34														
2499	44340	29379712	4/11/80	8:9:39	43	-15.9	134.3	46.1	5.6	0.12	-55.6	30	-10.5	-57.3	33.7	0.2	0.00	-40.6
	44340	34889922	4/11/80	9:41:29														
2500	44340	34894842	4/11/80	9:41:34	30	-28.3	111.3	*****	*****	*****	-55.6	30	-23.2	-80.3	18.6	8.7	0.47	-27.8
	44340	40407021	4/11/80	11:13:27														
2501	44340	40411938	4/11/80	11:13:31	30	-31.4	88.3	44.1	9.6	0.22	-50.1	30	-26.8	-103.3	28.7	7.2	0.25	-41.4
	44340	45922148	4/11/80	12:45:22														
2502	44340	45927068	4/11/80	12:45:27	30	-41.1	65.3	49.0	12.9	0.26	-50.1	30	-36.7	-126.3	33.9	4.7	0.14	-39.3
	44340	51443179	4/11/80	14:17:23														
2503	44340	51448097	4/11/80	14:17:28	30	-38.8	42.3	42.8	13.7	0.32	-57.6	43	-22.5	-149.3	20.4	2.7	0.10	-26.3
	44340	56956306	4/11/80	15:49:18														
2504	44340	56963227	4/11/80	15:49:23	43	-27.4	19.3	42.1	19.3	0.46	-57.6	43	-20.1	-172.3	30.0	5.6	0.19	-34.4
	44340	62471713	4/11/80	17:21:11														
2505	44340	62476636	4/11/80	17:21:16	43	-47.9	-3.7	75.2	35.4	0.47	-105.9	57	-15.9	164.7	36.3	1.9	0.05	-40.3
	44340	67986845	4/11/80	18:53:6														
2506	44340	67991766	4/11/80	18:53:11	57	-54.0	-26.7	123.8	52.5	0.42	-105.9	57	-33.3	141.8	43.9	27.3	0.62	-75.6
	44340	73506649	4/11/80	20:25:0														
2507	44340	73511566	4/11/80	20:25:11	57	-73.2	-49.6	130.2	44.5	0.34	-154.5	50	-41.3	118.8	32.9	27.6	0.84	-66.7
	44340	79021777	4/11/80	21:57:1														
2508	44340	79026696	4/11/80	21:57:6	50	-87.4	-72.6	94.6	17.5	0.19	-114.5	50	-58.1	95.8	33.2	20.3	0.61	-57.0
	44340	84536907	4/11/80	23:28:56														
2509	44340	84541826	4/11/80	23:29:1	50	-83.0	-95.6	*****	*****	*****	-107.9	50	-62.9	72.8	59.1	16.3	0.27	-67.5
	44341	365404	4/12/80	0:0:54														
2510	44341	369922	4/12/80	0:0:58	50	-115.5	-118.6	*****	*****	*****	-107.9	50	-63.3	49.8	44.6	10.7	0.24	-57.0
	44341	9168149	4/12/80	2:32:48														
2511	44341	9173068	4/12/80	2:32:53	50	-116.1	-141.6	74.1	16.8	0.23	-107.9	37	-45.6	26.8	43.9	18.4	0.42	-57.0
	44341	14684263	4/12/80	4:4:44														
2512	44341	14689182	4/12/80	4:4:49	37	-67.8	-164.6	80.7	24.5	0.30	-105.7	37	-15.8	3.9	53.8	18.4	0.34	-67.2
	44341	20200367	4/12/80	5:36:40														
2513	44341	20205295	4/12/80	5:36:45	37	-51.4	172.5	*****	*****	*****	-105.7	30	-5.1	-19.1	59.3	12.9	0.22	-62.0
	44341	25715506	4/12/80	7:8:35														
2514	44341	25720455	4/12/80	7:8:40	30	-36.2	149.5	73.0	17.0	0.23	-92.3	30	-21.8	-42.1	66.2	13.4	0.20	-73.0
	44341	31230935	4/12/80	8:40:30														
2515	44341	31235554	4/12/80	8:40:35	33	-54.4	126.5	58.1	11.1	0.19	-92.3	33	-40.1	-65.1	50.1	13.6	0.27	-68.5
	44341	36743800	4/12/80	10:12:23														
2516	44341	36748718	4/12/90	10:12:28	33	-63.5	103.5	55.8	10.9	0.20	-66.4	33	-65.2	-88.1	45.2	11.3	0.25	-57.1
	44341	42259823	4/12/80	11:44:18														
2517	44341	42263848	4/12/80	11:44:23	33	-62.3	80.5	58.1	18.9	0.33	-66.4	33	-61.5	-111.0	41.9	10.0	0.24	-52.5
	44341	47774000	4/12/80	13:16:14														
2518	44341	47778978	4/12/80	13:16:18	33	-53.2	57.6	60.3	12.5	0.21	-72.2	33	-40.5	-134.3	41.8	5.8	0.14	-46.7
	44341	53289133	4/12/80	14:48:9														
2519	44341	53294108	4/12/80	14:48:14	43	-47.8	34.6	51.1	19.0	0.37	-72.2	43	-35.8	-157.0	37.6	3.5	0.09	-37.9
	44341	58655877	4/12/80	16:17:35														
2520	44341	58682256	4/12/80	16:20:8	43	-39.5	11.6	57.8	26.4	0.46	-82.9	43	-23.3	-180.0	31.0	3.9	0.13	-35.6
	44341	64315510	4/12/80	17:51:55														
2521	44341	64320436	4/12/80	17:52:0	33	-20.0	-11.4	58.1	23.7	0.41	-82.9	33	-20.4	157.0	42.6	7.5	0.18	-45.0
	44341	69832615	4/12/80	19:23:52														
2522	44341	69837533	4/12/80	19:23:57	33	-13.7	-34.4	67.3	9.4	0.14	-62.7	33	-18.7	134.1	32.5	5.3	0.18	-42.1
	44341	75347742	4/12/80	20:55:47														
2523	44341	75352663	4/12/80	20:55:52	53	-20.9	-57.3	80.2	4.3	0.07	-66.1	53	-37.8	111.1	28.9	-3.9	-0.14	-25.3
	44341	80859926	4/12/80	22:27:39														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	EQL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	EQL	E	I	I/E	DELTA B
2524	44341	80864843	4/12/80	22:27:44	53	-17.9	-80.3	79.8	16.7	0.21	2.9	53	-33.9	88.1	11.9	0.8	0.07	-85.5
	44341	86375052	4/12/80	23:59:35														
2525	44341	86379973	4/12/80	23:59:39	47	-97.1	-103.3	111.1	32.8	0.30	-146.8	47	-46.1	65.1	39.8	9.5	0.24	-45.1
	44342	5490183	4/13/80	1:31:30														
2526	44342	5495102	4/13/80	1:31:35	47	-119.0	-126.3	92.1	26.7	0.29	-118.7	47	-55.4	42.2	47.7	17.4	0.36	-118.3
	44342	11302367	4/13/80	3: 3:22														
2527	44342	11007284	4/13/80	3: 3:27	33	-79.6	-149.2	72.9	15.8	0.22	-118.7	33	-41.1	19.2	47.7	16.2	0.34	-54.4
	44342	16518473	4/13/80	4:35:18														
2528	44342	16523396	4/13/80	4:35:23	33	-65.1	-172.2	66.0	18.8	0.29	-118.7	33	-28.6	-3.8	41.8	11.6	0.28	-48.6
	44342	22032626	4/13/80	6: 7:12														
2529	44342	22037544	4/13/80	6: 7:17	37	-61.2	164.8	81.9	23.9	0.29	-103.2	37	-16.2	-26.8	54.9	13.7	0.25	-54.6
	44342	27547753	4/13/80	7:39: 7														
2530	44342	27552674	4/13/80	7:39:12	37	-48.7	141.8	75.6	12.7	0.17	-103.2	37	-18.3	-49.7	56.0	7.8	0.14	-67.9
	44342	33058954	4/13/80	9:10:58														
2531	44342	33063872	4/13/80	9:11: 3	30	-55.9	118.9	69.0	16.9	0.25	-82.6	30	-59.2	-72.7	48.3	17.2	0.36	-65.7
	44342	38571136	4/13/80	10:42:51														
2532	44342	38576052	4/13/80	10:42:56	30	-45.5	95.9	54.6	4.8	0.09	-82.6	30	-61.5	-95.7	59.3	3.6	0.06	-65.0
	44342	44087249	4/13/80	12:14:47														
2533	44342	44092165	4/13/80	12:14:52	27	-43.6	72.9	53.7	17.2	0.32	-64.0	27	-51.5	-118.7	52.0	0.1	0.00	-49.3
	44342	49602378	4/13/80	13:46:42														
2534	44342	49607295	4/13/80	13:46:47	27	-49.3	49.9	45.1	14.5	0.32	-64.0	27	-45.9	-141.6	46.0	6.6	0.14	-48.8
	44342	55112594	4/13/80	15:18:32														
2535	44342	55117510	4/13/80	15:18:37	33	-38.6	27.0	*****	*****	*****	-64.0	33	-34.0	-164.6	40.4	5.2	0.13	-45.6
	44342	60628706	4/13/80	16:50:28														
2536	44342	60633623	4/13/80	16:50:33	33	-28.9	4.0	52.2	19.5	0.37	-68.6	33	-25.0	172.4	36.3	2.3	0.06	-36.0
	44342	66138917	4/13/80	18:22:18														
2537	44342	66143837	4/13/80	18:22:23	27	-35.7	-19.0	62.6	25.3	0.40	-68.6	27	-13.6	149.4	32.5	5.7	0.18	-36.8
	44342	71653066	4/13/80	19:54:13														
2538	44342	71657984	4/13/80	19:54:17	27	-21.2	-42.0	66.8	11.4	0.17	-65.9	17	-18.6	126.5	34.7	2.7	0.08	-34.7
	44342	77165248	4/13/80	21:26: 5														
2539	44342	77170165	4/13/80	21:26:10	17	-23.6	-64.9	51.9	10.6	0.20	3.1	17	-28.2	103.5	27.5	1.1	0.04	-34.7
	44342	82680378	4/13/80	22:58: 0														
2540	44342	82685295	4/13/80	22:58: 5	17	-36.4	-87.9	50.0	10.3	0.21	-66.4	10	-39.0	80.5	33.1	5.4	0.16	-56.8
	44343	1791821	4/14/80	0:29:51														
2541	44343	1796738	4/14/80	0:29:56	10	-47.1	-110.9	52.5	7.5	0.14	-66.4	10	-44.0	57.6	42.2	6.4	0.15	-46.8
	44343	7304730	4/14/80	2: 1:44														
2542	44343	7309657	4/14/80	2: 1:49	10	-72.3	-133.9	52.9	8.4	0.16	-66.7	20	-35.4	34.6	29.5	8.8	0.30	-66.1
	44343	12816915	4/14/80	3:33:36														
2543	44343	12821837	4/14/80	3:33:41	20	-53.0	-156.8	40.2	11.8	0.29	-54.4	20	-17.1	11.6	34.8	5.7	0.16	-32.7
	44343	18332046	4/14/80	5: 5:32														
2544	44343	18336967	4/14/80	5: 5:36	20	-24.3	-179.8	44.4	12.3	0.28	-54.4	17	6.0	-11.4	33.5	7.5	0.22	-32.7
	44343	2843247	4/14/80	6:37:23														
2545	44343	2848165	4/14/80	6:37:28	17	-14.0	157.2	52.7	11.4	0.22	-62.6	17	9.9	-38.3	39.4	5.4	0.14	-33.5
	44343	29355422	4/14/80	8: 9:15														
2546	44343	29360345	4/14/80	8: 9:20	17	-15.5	134.3	44.9	6.7	0.15	-62.6	3	-13.5	-57.3	37.3	3.5	0.09	-41.9
	44343	34869574	4/14/80	9:41: 9														
2547	44343	34874492	4/14/80	9:41:14	3	-27.2	111.3	33.4	6.3	0.19	-41.4	3	-26.5	-80.3	29.3	8.5	0.29	-35.7
	44343	40379787	4/14/80	11:12:59														
2548	44343	40384706	4/14/80	11:13: 4	3	-30.6	88.3	36.8	8.0	0.22	-41.4	13	-33.4	-103.2	34.3	4.4	0.13	-41.6
	44343	45890987	4/14/80	12:44:50														
2549	44343	45895994	4/14/80	12:44:55	13	-35.6	65.4	45.4	11.3	0.25	-55.1	13	-26.9	-126.2	31.1	2.2	0.07	-31.0
	44343	51406114	4/14/80	14:16:46														
2550	44343	51411034	4/14/80	14:16:51	13	-35.7	42.4	40.7	11.3	0.28	-55.1	27	-21.5	-149.2	24.0	1.9	0.08	-22.0
	44343	56917315	4/14/80	15:48:37														
2551	44343	56922232	4/14/80	15:48:42	27	-17.7	19.4	37.8	14.6	0.39	-48.9	27	-11.0	-172.1	18.2	-3.3	-0.18	-12.7
	44343	62427527	4/14/80	17:20:27														
2552	44343	62432447	4/14/80	17:20:32	27	-1.9	-3.5	*****	*****	*****	-48.9	30	3.3	164.9	14.7	-3.3	-0.22	-10.2
	44343	67938727	4/14/80	18:52:18														
2553	44343	67943644	4/14/80	18:52:23	30	-0.7	-26.5	56.5	13.3	0.23	******	30	9.9	141.9	17.5	3.4	0.02	-20.9
	44343	73453853	4/14/80	20:24:13														
2554	44343	73458774	4/14/80	20:24:18	30	7.3	-49.5	44.2	12.2	0.28	******	40	7.7	119.0	17.5	-3.6	-0.21	-16.3
	44343	78961122	4/14/80	21:56: 1														
2555	44343	78966039	4/14/80	21:56: 6	40	-27.9	-72.4	46.1	12.3	0.27	-62.8	40	-25.5	96.0	13.3	5.5	0.41	-19.4
	44343	84476249	4/14/80	23:27:56														
2556	44343	84481170	4/14/80	23:28: 1	40	-43.9	-95.4	64.9	11.8	0.18	-62.8	47	-29.6	73.0	37.6	7.3	0.20	-37.6
	44344	3588673	4/15/80	0:59:48														
2557	44344	3593595	4/15/80	0:59:53	47	-60.8	-118.4	66.0	21.1	0.32	-62.8	47	-21.8	59.1	16.4	-5.7	-0.35	-37.6
	44344	9096678	4/15/80	2:31:36														
2558	44344	9101598	4/15/80	2:31:41	47	-77.4	-141.3	79.9	25.7	0.32	-105.7	40	-28.9	27.1	30.3	12.3	0.41	-36.9
	44344	14607671	4/15/80	4: 3:27														
2559	44344	14612796	4/15/80	4: 3:32	40	-56.8	-164.3	62.0	20.4	0.33	-82.2	40	-12.7	4.1	32.5	14.7	0.45	-70.6
	44344	20123005	4/15/80	5:35:23														
2560	44344	20127946	4/15/80	5:35:27	40	-38.0	172.7	56.8	13.7	0.24	-71.8	33	-8.7	-18.8	49.2	3.5	0.19	-52.1
	44344	25634207	4/15/80	7: 7:14														
2561	44344	25639124	4/15/80	7: 7:19	33	-38.2	149.8	59.7	18.2	0.30	-77.1	33	-5.0	-41.8	42.1	3.4	0.08	-65.4
	44344	31144418	4/15/80	8:39: 4														
2562	44344	31149339	4/15/80	8:39: 9	23	-19.5	126.8	40.0	6.4	0.16	-46.3	23	-13.3	-64.8	32.7	8.9	0.27	-47.5
	44344	36654633	4/15/80	10:10:54														
2563	44344	36659552	4/15/80	10:10:59	23	-23.2	103.8	36.2	5.8	0.16	-46.3	23	-28.6	-87.7	34.3	8.0	0.23	-44.1
	44344	42164850	4/15/80	11:42:44														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	ECL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA B
2564	44344	42169767	4/15/80	11:42:49	23	-30.5	80.9	34.8	13.1	0.38	-42.5	23	-29.6	-110.7	32.5	2.0	0.06	*******
	44344	47076044	4/15/80	13:14:36														
2565	44344	47680965	4/15/80	13:14:40	23	-33.1	57.9	42.9	12.0	0.28	-53.7	23	-28.7	-133.7	34.6	2.0	0.06	-36.1
	44344	53185276	4/15/80	14:46:25														
2566	44344	53190196	4/15/80	14:46:30	33	-27.9	34.9	34.9	11.1	0.32	-53.7	33	-24.0	-156.6	25.1	-1.6	-0.02	-20.4
	44344	58697461	4/15/80	16:18:17														
2567	44344	58702377	4/15/80	16:18:22	33	-32.3	12.0	52.8	22.2	0.42	-72.8	33	-19.0	-179.6	28.2	3.7	0.13	-33.5
	44344	64207671	4/15/80	17:50:7														
2568	44344	64212591	4/15/80	17:50:12	37	-38.2	-11.0	51.7	30.2	0.58	-72.8	37	-16.4	157.5	31.3	3.5	0.11	-28.8
	44344	69716905	4/15/80	19:21:56														
2569	44344	69721823	4/15/80	19:22:1	37	-21.2	-33.9	79.3	18.7	0.24	-75.4	37	-2.4	134.5	19.6	7.4	0.38	-31.5
	44344	75227356	4/15/80	20:53:47														
2570	44344	75232283	4/15/80	20:53:52	40	-25.6	-56.9	63.2	12.7	0.20	******	40	-13.4	111.5	22.1	0.7	0.03	-26.4
	44344	80739301	4/15/80	22:25:39														
2571	44344	80744218	4/15/80	22:25:44	40	-48.9	-79.9	69.4	17.1	0.25	-46.4	40	-34.5	88.6	26.7	11.4	0.43	-39.9
	44344	86185634	4/15/80	23:56:25														
2572	44344	10990	4/16/80	0:0:10	30	-50.7	-102.8	53.3	11.4	0.21	-46.4	30	-33.3	65.6	38.8	6.9	0.18	-40.6
	44345	5359730	4/16/80	1:29:19														
2573	44345	5364647	4/16/80	1:29:24	30	-50.6	-125.8	45.2	12.3	0.27	-61.0	30	-33.4	42.7	33.3	8.5	0.26	-38.1
	44345	10869942	4/16/80	3:1:9														
2574	44345	10874862	4/16/80	3:1:14	30	-44.3	-148.7	58.6	12.0	0.20	-61.0	30	-27.7	19.7	34.5	11.1	0.32	-38.0
	44345	16381142	4/16/80	4:33:1														
2575	44345	16386060	4/16/80	4:33:6	30	-41.3	-171.7	59.3	18.7	0.32	-79.7	30	-18.3	-3.3	53.5	9.9	0.30	-39.6
	44345	21886439	4/16/80	6:4:46														
2576	44345	21891359	4/16/80	6:4:51	27	-22.2	165.3	51.3	14.6	0.28	-79.7	27	-1.4	-26.2	38.8	6.2	0.16	-35.2
	44345	27398619	4/16/80	7:36:38														
2577	44345	27403539	4/16/80	7:36:43	27	-19.2	142.4	49.3	5.5	0.11	-56.3	27	-6.4	-49.2	41.6	0.0	0.14	-50.9
	44345	32938834	4/16/80	9:8:28														
2578	44345	32913754	4/16/80	9:8:33	13	-10.0	119.4	31.3	5.2	0.17	-56.3	13	-23.4	-72.1	29.8	8.6	0.29	-35.1
	44345	38418068	4/16/80	10:40:18														
2579	44345	38422985	4/16/80	10:40:22	13	-25.3	96.5	34.0	3.5	0.10	-37.6	13	-34.6	-95.1	**********		**********	
	44345	43138858	4/16/80	11:58:58														
2580	44345	43927548	4/16/80	12:12:7	23	-29.9	73.5	*****	*****	*****	-37.6	23	-35.3	-118.8	**********		**********	
	44345	49435541	4/16/80	13:43:55														
2581	44345	49440467	4/16/80	13:44:0	23	-33.1	50.5	*****	*****	*****	-37.6	23	-32.9	-141.0	**********		**********	
	44345	53999037	4/16/80	14:59:59														
2583	44345	60619172	4/16/80	16:50:19	30	-10.9	4.6	*****	*****	*****	-37.6	30	-10.4	173.1	**********		**********	
	44345	60894620	4/16/80	18:1:34														
2584	44345	66148956	4/16/80	18:22:28	20	-8.0	-18.3	*****	*****	*****	-37.6	20	-1.9	150.1	**********		**********	
	44345	70437539	4/16/80	19:33:27														
2586	44345	77185638	4/16/80	21:26:25	30	-1.5	-64.2	*****	*****	*****	******	30	-17.3	104.2	**********		**********	
	44345	81973832	4/16/80	22:46:13														
2587	44345	82731795	4/16/80	22:58:51	30	-21.5	-87.2	*****	*****	*****	******	37	-20.3	81.3	**********		**********	
	44346	1015407	4/17/80	0:16:55														
2588	44346	1888461	4/17/80	0:31:28	37	-39.1	-110.1	*****	*****	*****	******	37	-17.4	58.3	**********		**********	
	44346	6600405	4/17/80	1:50:0														
2589	44346	7415880	4/17/80	2:3:35	37	-49.9	-133.1	*****	*****	*****	******	40	-24.2	35.4	**********		******	-36.5
	44346	12024835	4/17/80	3:20:24														
2590	44346	12847692	4/17/80	3:34:7	***	******	******	*****	*****	*****	******	40	-12.8	12.4	26.9	7.2	0.27	-36.5
	44346	17674652	4/17/80	4:54:34														
2594	44346	38250382	4/17/80	10:37:30	***	******	******	*****	*****	*****	******	7	-9.8	-79.4	**********		******	-31.5
	44346	39406248	4/17/80	10:56:46														
2595	44346	40531149	4/17/80	11:15:31	7	-18.0	89.2	30.5	5.2	0.17	******	20	-24.4	-102.4	30.6	0.1	0.20	-39.6
	44346	44847635	4/17/80	12:27:27														
2596	44346	45928063	4/17/80	12:45:28	20	-25.8	66.2	38.9	11.5	0.29	-49.4	20	-28.0	-125.3	**********		******	-43.1
	44346	50416842	4/17/80	14:0:16														
2597	44346	51460650	4/17/80	14:17:46	20	-21.4	43.3	31.7	10.5	0.33	-43.4	23	-16.8	-148.3	25.8	3.9	0.15	-31.4
	44346	55937871	4/17/80	15:32:17														
2598	44346	56977985	4/17/80	15:49:37	23	-11.9	20.3	30.9	12.2	0.39	-38.0	23	-13.3	-171.2	25.0	0.0	0.00	-21.7
	44346	61377297	4/17/80	17:2:57														
2599	44346	62522607	4/17/80	17:22:2	23	-2.9	-2.6	30.7	11.9	0.39	-38.0	23	1.0	165.8	22.8	-0.9	-0.04	-17.9
	44346	66851145	4/17/80	18:34:11														
2600	44346	67980718	4/17/80	18:53:0	23	14.5	-25.6	43.5	9.4	0.22	-41.0	23	3.0	142.9	33.2	-4.6	-0.14	-39.4
	44346	72455589	4/17/80	20:6:45														
2601	44346	73501746	4/17/80	20:25:1	23	12.9	-48.5	40.1	10.8	0.27	-47.1	20	-2.5	119.9	21.0	-3.9	-0.19	-16.3
	44346	77901059	4/17/80	21:38:41														
2602	44346	79030640	4/17/80	21:57:10	20	-9.0	-71.5	53.3	-7.9	-0.15	-48.7	***	******	******	**********		******	-16.3
	44346	80347967	4/17/80	22:19:7														
2603	44346	7986	4/18/80	0:0:7	***	******	******	*****	*****	*****	-48.7	10	-23.7	74.1	**********		******	-47.9
	44347	2551954	4/18/80	0:42:31														
2604	44347	3696291	4/18/80	1:1:36	10	-38.8	-117.4	37.6	10.1	0.27	4.7	10	-26.0	51.1	27.4	3.3	0.12	-27.0
	44347	7993369	4/18/80	2:13:13														
2605	44347	9177936	4/18/80	2:32:57	10	-35.4	-140.3	45.5	6.1	0.13	******	20	-16.8	28.2	13.3	0.4	0.48	-52.4
	44347	13547814	4/18/80	3:45:47														
2606	44347	14643971	4/18/80	4:4:3	20	-7.0	-163.3	31.1	7.0	0.22	-43.8	20	7.8	5.2	19.2	0.6	0.34	-20.3
	44347	19019636	4/18/80	5:16:59														
2607	44347	20133541	4/18/80	5:35:33	20	5.7	173.8	29.0	5.0	0.17	-39.8	7	12.6	-17.7	24.9	4.0	0.16	-39.4
	44347	24558412	4/18/80	6:49:18														
2608	44347	25654509	4/18/80	7:7:34	7	10.7	150.8	30.7	7.2	0.24	-42.7	7	8.6	-40.7	28.7	-1.3	-0.05	-22.0
	44347	29994902	4/18/80	8:19:54														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D EQL	E/L	E	I	A/E	DELTA E	DESCENDING KP	D EQL	EQL	E	I	I/E	DELTA E
2609	44347	31191327	4/18/80	8:39:21	7	4.9	127.9	26.4	3.1	0.12	-42.7	10	0.1	-63.6	18.5	3.1	0.17	-23.2
	44347	35603397	4/18/80	9:54:23														
2610	44347	36712356	4/18/80	10:11:52	10	-12.7	195.0	24.1	0.3	0.01	-21.8	10	-16.3	-80.6	18.2	3.4	0.30	-23.5
	44347	41251739	4/18/80	11:24:11														
2611	44347	42201925	4/18/80	11:43:21	10	-23.3	82.0	26.6	3.1	0.31	-21.8	10	-21.3	-109.5	24.3	1.8	0.07	-27.1
2612	44347	46546192	4/18/80	12:55:46														
	44347	47699360	4/18/80	13:14:59	10	-19.0	59.1	36.1	3.8	0.24	-44.8	10	-15.2	-132.3	23.0	1.1	0.05	-23.2
2613	44347	51975797	4/18/80	14:26:15														
	44347	53173937	4/18/80	14:46:13	7	-12.5	36.1	28.6	3.8	0.31	-44.8	7	-11.1	-155.4	15.5	3.1	0.01	-9.4
2614	44347	57556790	4/18/80	15:59:16														
	44347	58725688	4/18/80	16:18:45	7	-3.7	13.2	*****	*****	*****	-35.4	7	0.9	-178.4	15.3	-0.3	-0.02	-13.8
2615	44347	63191861	4/18/80	17:33:11														
	44347	64199528	4/18/80	17:49:59	7	17.4	-9.8	30.9	11.0	0.36	-41.0	7	5.5	158.7	17.7	-2.5	-0.14	-27.8
2616	44347	68662741	4/18/80	19:: 4:22														
	44347	69973368	4/18/80	19:21:13	7	23.3	-32.7	46.3	6.8	0.15	-41.0	7	10.0	135.8	16.6	-3.2	-0.19	-13.5
2617	44347	74416220	4/18/80	20:36:56														
	44347	75562938	4/18/80	20:52:42	17	1.7	-55.7	31.1	7.5	0.24	-43.3	17	7.5	112.8	17.5	-7.2	-0.41	-36.6
2618	44347	79691041	4/18/80	22: 8:11														
	44347	80059696	4/18/80	22:24:59	17	-0.7	-73.6	32.7	3.1	0.09	-38.3	17	-7.4	89.9	8.7	-5.4	-0.62	-2.6
2619	44347	85211068	4/18/80	23:40:11														
	44347	86157816	4/18/80	23:55:57	10	-19.7	-101.5	36.2	6.7	0.18	-49.8	10	-9.7	66.9	27.3	0.2	0.01	-50.5
2620	44348	430 1639	4/19/80	1:11:41														
	44348	5310294	4/19/80	1:28:30	10	-17.7	-124.5	27.4	7.2	0.26	-42.9	10	-3.0	44.0	17.9	2.6	0.14	-17.6
2621	44348	9775515	4/19/80	2:42:53														
	44348	10784134	4/19/80	2:59:44	3	0.6	-147.4	26.6	3.1	0.12	-32.4	3	6.5	21.0	8.9	0.7	0.07	-24.2
2622	44348	15312237	4/19/80	4:15:12														
	44348	16320852	4/19/80	4:32: 0	3	11.3	-170.4	18.3	6.2	0.34	-26.5	3	13.4	-1.9	13.2	2.4	0.18	-11.9
	44348	20801808	4/19/80	5:46:41														
2623	44346	21811462	4/19/80	6: 3:30	10	21.4	166.7	24.0	5.8	0.24	-29.8	10	25.2	-24.8	21.3	0.2	0.01	******
	44348	26322835	4/19/80	7:18:42														
2624	44348	27321490	4/19/80	7:35:21	10	20.8	143.7	31.6	1.6	0.05	-35.4	10	23.8	-47.8	18.3	-2.3	-0.12	-18.4
	44348	31794711	4/19/80	8:49:54														
2625	44348	32805330	4/19/80	9: 6:45	10	9.2	120.8	20.1	2.1	0.10	-21.4	10	13.1	-70.7	8.3	3.4	0.41	-8.7
	44348	37300007	4/19/80	10:21:40														
2626	44348	38310630	4/19/80	10:38:30	10	5.3	97.9	20.3	-1.0	-0.05	-21.4	10	13.7	-93.7	18.7	-1.6	-0.08	-19.0
	44348	42789574	4/19/80	11:53: 9														
2627	44348	43800199	4/19/80	12:10: 0	13	-0.9	74.9	23.7	7.5	0.31	-28.1	13	-2.5	-116.6	18.6	-2.2	-0.12	-27.0
	44348	48344032	4/19/80	13:25:44														
2628	44348	49289769	4/19/80	13:41:29	13	-9.6	52.0	24.9	7.9	0.32	-36.8	13	-2.4	-139.5	18.9	-1.9	-0.10	-36.0
	44348	53816885	4/19/80	14:56:56														
2629	44348	54836527	4/19/80	15:13:40	17	-3.2	29.0	18.4	7.5	0.41	-36.8	17	4.4	-162.5	12.6	-3.3	-0.27	-9.7
	44348	59305471	4/19/80	16:28:25														
2630	44348	60316097	4/19/80	16:45:16	17	10.5	6.1	23.9	7.1	0.30	-29.9	17	8.6	174.6	**********		******	-29.6
	44348	64859929	4/19/80	18: 0:59														
2631	44348	65805666	4/19/80	18:16:45	17	20.7	-16.6	28.4	7.9	0.28	-33.9	17	14.9	151.6	15.1	-3.9	-0.26	-6.7
	44348	70332783	4/19/80	19:32:12														
2632	44348	71342424	4/19/80	19:49: 2	17	14.8	-39.8	26.4	7.2	0.18	-33.9	17	10.6	128.7	12.9	-6.4	-0.49	-3.3
	44348	75823340	4/19/80	21: 3:43														
2633	44348	76831994	4/19/80	21:20:31	***	******	******	*****	*****	*****	-33.9	***	******	******	**********		******	-3.3
	44348	79959443	4/19/80	22:12:39														
2634	44348	84492479	4/19/80	23:28:12	***	******	******	*****	*****	*****	-33.9	23	5.1	******	**********		******	-3.3
	44349	4489 22	4/20/80	0: 7:28														
2635	44349	1458507	4/20/80	0:24:18	23	7.4	-108.6	35.6	9.0	0.25	-52.9	23	-14.2	59.9	21.6	0.3	0.01	-20.5
	44349	5985683	4/20/80	1:39:45														
2636	44349	6932407	4/20/80	1:55:32	23	-13.8	-131.5	36.0	12.1	0.34	-53.5	20	-10.4	37.0	7.3	2.1	0.28	-44.5
	44349	11427816	4/20/80	3:10:27														
2637	44349	12437461	4/20/80	3:27:17	20	-18.3	-154.5	28.1	9.1	0.32	-37.6	20	0.7	14.0	22.7	1.4	0.06	******
	44349	16919302	4/20/80	4:41:59														
2638	44349	17927031	4/20/80	4:58:47	20	10.9	-177.4	28.7	6.2	0.22	-36.4	7	16.3	-8.9	17.8	4.1	0.23	-24.6
	44349	22454147	4/20/80	6:14:14														
2639	44349	23463789	4/20/80	6:31: 3	7	10.1	159.7	29.0	5.5	0.19	-36.4	7	16.1	-31.8	21.6	3.9	0.18	-16.1
	44349	27958402	4/20/80	7:45:58														
2640	44349	28969038	4/20/80	8: 2:49	7	11.3	136.7	26.6	2.3	0.09	-33.6	10	9.3	-54.8	20.4	2.4	0.12	-26.1
	44349	33432309	4/20/80	9:17:12														
2641	44349	34442928	4/20/80	9:34: 2	10	5.5	113.8	19.0	1.3	0.07	-33.6	10	-2.9	-77.7	13.4	7.5	0.56	-15.3
	44349	38960960	4/20/80	10:49:29														
2642	44349	39979686	4/20/80	11: 6:19	10	-6.8	90.9	21.3	1.2	0.06	-24.4	13	-12.3	-100.6	20.5	2.9	0.14	-26.4
	44349	44442907	4/20/80	12:20:42														
2643	44349	45453525	4/20/80	12:37:33	13	-12.6	67.9	29.6	6.6	0.22	-24.4	13	-12.0	-123.6	16.0	0.3	0.02	-16.0
	44349	49979653	4/20/80	13:52:59														
2644	44349	50990234	4/20/80	14: 9:50	13	-9.0	45.0	23.9	8.1	0.26	-30.7	10	-1.0	-146.5	10.3	-1.3	-0.13	-6.3
	44349	55453505	4/20/80	15:24:13														
2645	44349	56464124	4/20/80	15:41: 4	10	8.4	22.1	34.4	5.9	0.41	-30.7	10	5.2	-169.4	9.6	-4.9	-0.51	-4.5
	44349	60990256	4/20/80	16:56:30														
2646	44349	62009882	4/20/80	17:13:20	10	14.5	-0.9	25.1	6.2	0.25	-29.5	20	13.6	167.6	12.7	-3.9	-0.30	-6.9
	44349	66466193	4/20/80	18:27:44														
2647	44349	67474722	4/20/80	18:44:34	20	15.9	-23.8	37.6	11.2	0.30	-29.5	20	13.8	144.7	22.6	-2.8	-0.12	-17.6
	44349	72000855	4/20/80	20: 0:														
2648	44349	73011480	4/20/80	20:16:51	20	8.7	-46.7	38.7	13.6	0.35	-44.3	17	5.0	121.8	18.0	-7.3	-0.41	-9.2
	44349	77474702	4/20/80	21:31:14														

PASS	REV	SIZE	DATE	TIME	ASCENDING NODE	D ECL	ECL	E	I	I/E	DELTA E	DESCENDING NODE	D ECL	ECL	E	I	I/E	DELTA E
2649	44349	78485361	4/20/80	21:48: 5	17	-5.7	-69.7	34.0	11.9	0.35	-50.7	17	-3.0	98.3	13.2	-7.3	-0.55	-5.8
	44349	83311452	4/20/80	23: 3:31														
2650	44349	83959161	4/20/80	23:19:19	17	-6.4	-92.6	32.2	6.3	0.20	******	17	-12.6	75.9	20.0	-4.4	-0.21	-7.9
	44350	20886277	4/21/80	00:34:46														
2651	44350	20961164	4/21/80	00:51:36	17	-20.0	-115.5	37.6	9.0	0.24	-52.4	17	-12.9	63.9	18.9	1.3	0.07	-40.8
	44351	79515772	4/21/80	02:08:31														
2652	44350	80311219	4/21/80	02:23:21	17	-16.1	-136.5	29.8	9.4	0.32	-45.2	17	-3.3	39.3	11.1	3.7	0.51	-13.3
	44350	13063634	4/21/80	03:37:43														
2653	44350	14375303	4/21/80	03:54:35	17	-2.0	-101.4	23.0	6.6	0.29	-37.4	17	7.7	7.1	14.8	-0.2	-0.02	-21.7
	44350	15506441	4/21/80	05:11:46														
2654	44350	19596096	4/21/80	05:26:36	17	0.1	175.7	27.0	4.4	0.16	-36.1	10	13.7	-15.5	16.0	1.6	0.10	-23.2
	44350	20123203	4/21/80	06:42:53														
2655	44350	25132644	4/21/80	06:58:52	10	13.1	152.8	27.9	6.4	0.23	-34.3	10	12.0	-36.7	16.4	2.0	0.15	-16.2
	44350	29627517	4/21/80	08:13:47														
2656	44350	30036143	4/21/80	08:30:38	10	17.9	129.8	23.3	1.1	0.05	-34.3	10	12.5	-61.7	14.1	3.3	0.23	-18.0
	44351	35117967	4/21/80	09:45:17														
2657	44350	36127713	4/21/80	10:02: 7	10	11.9	130.9	11.5	-1.7	-0.14	-4.6	10	3.3	-84.6	8.9	1.6	0.20	-9.6
	44350	40907038	4/21/80	11:19:47														
2658	44350	41617203	4/21/80	11:33:37	10	4.9	84.0	17.1	3.5	0.20	-15.9	7	1.0	-137.5	15.0	-1.0	-0.07	-15.7
	44350	46112936	4/21/80	12:49:32														
2659	44350	47142534	4/21/80	13:05:22	7	-0.6	61.0	27.4	5.3	0.19	-32.0	7	0.7	-130.5	14.9	-4.7	-0.25	-31.8
	44350	51015235	4/21/80	14:20:15														
2660	44350	51627561	4/21/80	14:37: 7	7	-4.7	36.1	23.8	8.2	0.37	-29.2	10	9.3	-153.4	12.0	-2.2	-0.18	-26.4
	44350	57059041	4/21/80	15:50:59														
2661	44350	58109631	4/21/80	16: 8:29	10	11.2	15.2	16.7	9.9	0.53	-28.2	10	29.2	-176.3	15.0	-3.0	-0.34	-8.0
	44350	62573053	4/21/80	17:22:53														
2662	44350	63035347	4/21/80	17:43:55	10	14.2	-7.7	20.2	8.7	0.43	-28.2	13	22.6	160.4	9.5	-2.1	-0.22	-3.3
	44350	68069227	4/21/80	18:54:29														
2663	44350	69332531	4/21/80	19:15:52	13	16.3	-33.7	30.6	6.4	0.21	-31.3	13	17.6	137.4	17.5	-3.7	-0.21	-27.9
	44350	73460143	4/21/80	20:29:40														
2664	44350	74806371	4/21/80	20:46:40	13	13.3	-53.6	19.7	5.3	0.27	-25.1	13	13.6	114.9	3.2	-12.3	-3.79	8.4
	44350	79062839	4/21/80	21:59: 2														
2665	44350	80345129	4/21/80	22:16:53	13	13.3	-76.5	19.3	1.0	0.05	-28.5	13	3.1	92.0	**********		******	-15.6
	44350	84702542	4/21/80	23:32: 2														
2666	44350	85864198	4/21/80	23:51: 4	33	13.4	-99.4	19.5	-9.6	-0.49	-30.8	33	11.3	69.1	**********		******	26.6
	44351	37260922	4/22/80	11:41: 6														
2667	44351	43225514	4/22/80	11:58: 2	33	14.3	-122.4	8.6	-3.8	-0.44	-15.3	33	11.7	36.2	-1.4	-7.4	5.30	-1.9
	44351	47213440	4/22/80	13:13:33														
2668	44351	10411838	4/22/80	13:53:31	27	20.5	-145.3	2.3	-6.3	-2.72	-5.4	27	25.4	23.2	-5.9	-3.9	0.66	14.8
	44351	14658276	4/22/80	15: 8:48														
2669	44351	15946536	4/22/80	15:23:48	27	30.7	-168.2	12.3	3.3	0.27	-22.6	27	33.1	9.3	6.4	-1.3	-0.20	-1.3
	44351	20225034	4/22/80	16:37: 5														
2670	44351	21422437	4/22/80	16:57: 2	10	41.6	168.9	6.3	2.9	0.46	-22.6	10	31.6	-22.0	16.0	-3.0	-0.19	-7.4
	44351	25726357	4/22/80	18: 2:46														
2671	44351	26924736	4/22/80	18:21:47	10	36.0	140.0	14.4	-2.6	-0.18	-19.9	10	28.4	-45.5	16.3	-3.3	-0.20	-12.3
	44351	31204173	4/22/80	19:43: 4														
2672	44351	32484494	4/22/80	20: 1: 4	13	22.1	123.0	7.9	-1.9	-0.27	-9.9	10	10.0	-68.0	1.1	3.1	2.36	-4.5
	44351	36724236	4/22/80	21:22: 4														
2673	44351	37965944	4/22/80	21:38: 5	13	12.8	100.1	8.0	-3.4	-0.43	-6.5	13	9.3	-91.4	3.3	-3.3	-0.67	-5.4
	44351	42261959	4/22/80	23:00:21														
2674	44351	43459360	4/22/80	23:19:19	27	0.4	77.2	10.1	4.3	0.43	-6.5	27	-4.0	-114.3	5.8	-4.0	-0.69	-6.3
	44351	47749503	4/22/80	24:35:49														
2675	44351	48294332	4/22/80	24:50:48	27	-7.8	54.3	25.3	8.2	0.33	-36.9	27	-3.7	-137.2	15.9	-3.3	-0.21	-26.9
	44351	53224374	4/22/80	26:04:47														
2676	44351	54465033	4/22/80	26:20: 9	20	0.2	31.3	15.6	6.6	0.43	-22.9	20	8.7	-165.1	8.4	-3.3	-0.40	-17.1
	44351	58729873	4/22/80	27:34:49														
2677	44351	59999999	4/22/80	27:49:50	20	4.7	8.4	23.3	5.2	0.23	-26.9	20	9.2	176.3	11.9	-2.3	-0.20	-7.3
	44351	64139624	4/22/80	29: 4:39														
2678	44351	65406829	4/22/80	29:20:38	17	16.8	-14.5	26.2	6.5	0.24	-26.9	17	19.7	154.3	12.1	-3.4	-0.28	1.9
	44351	69755315	4/22/80	30:33:35														
2679	44351	70994377	4/22/80	30:48:34	17	.3	-37.4	26.3	4.8	0.17	-25.2	17	15.1	131.1	11.6	-7.3	-0.62	-10.6
	44351	75229841	4/22/80	32: 3:49														
2680	44351	76491107	4/22/80	32:14:51			-69.3	25.0	7.1	0.28	-37.1	17	4.3	109.2	11.9	-14.4	-1.21	3.3
	44351	80705293	4/22/80	33:28:46														
2681	44351	82611655	4/22/80	33:46:54	17	-10.7	-93.2	27.2	9.1	0.33	-36.9	17	-1.4	85.3	4.4	-3.3	-0.36	-35.9
	44351	86224473	4/22/80	35: 5:53														
2682	44352	1386271	4/23/80	00:18: 8	27	-32.6	-166.2	28.4	8.8	0.31	-46.0	27	7.4	62.4	9.0	-9.0	-1.07	2.6
	44352	5297761	4/23/80	1:26:19														
2683	44352	6623547	4/23/80	1:59:23	27	-14.8	-129.1	15.7	2.6	0.16	-43.0	27	8.1	39.8	6.4	-2.0	-0.32	-0.3
	44352	10845144	4/23/80	3: 2:45														
2684	44352	12104856	4/23/80	3:21:44	23	1.8	-152.3	5.3	0.2	0.02	-14.7	23	30.6	16.5	7.6	-3.0	-0.39	******
	44352	16317217	4/23/80	4:37:57														
2685	44352	17378329	4/23/80	4:53:56	23	32.7	-174.9	6.4	0.3	0.05	-14.7	23	35.3	-6.4	4.7	-3.4	-0.72	-3.6
	44352	21197222	4/23/80	6:11: 7														
2686	44352	22044326	4/23/80	6:27:26	7	41.5	162.4	2.5	0.5	1.52	-7.1	7	44.4	-29.3	0.4	-2.7	-0.43	1.1
	44352	27303033	4/23/80	7:39:23														
2687	44352	28041022	4/23/80	7:56:21	7	22.3	143.3	10.3	-3.3	-0.33	-7.1	7	32.4	-42.3	10.2	-3.3	-0.32	-21.7
	44352	32255524	4/23/80	9: 7:22														
2688	44352	34117843	4/23/80	9:24:37	10	9.6	114.3	9.3	-1.7	-0.18	-12.5	10	15.3	-75.1	2.7	4.1	1.77	-7.4
	44352	38430344	4/23/80	10:36:34														

PASS	MJD	MSEC	DATE	TIME HR:MN:SC	ASCENDING NODE	ZGL	B	I	I/B	DELTA B	DESCENDING NODE	ZGL	B	I	I/B	DELTA B
2689	44352	39591600	4/23/80	11: 0:51	10	1.2	93.4	12.4	-2.5	-0.20	-12.5	17	6.4	-98.1	11.2	-0.6	-0.07	-7.4
	44352	43835643	4/23/80	12: 2:35														
2690	44352	45036959	4/23/80	12:31:36	17	-6.0	70.5	*****	*****	*****	-12.5	17	2.4	-121.0	**********		******	-7.4
	44352	49277047	4/23/80	13:41:17														
2691	44352	50602258	4/23/80	14: 3:22	17	-1.0	47.6	20.1	7.5	0.37	3.7	17	3.6	-143.9	**********		******	-18.0
	44352	54830512	4/23/80	15:13:50														
2692	44352	56154746	4/23/80	15:35:54	17	7.5	24.7	14.9	9.8	0.66	-25.8	17	1.3	-166.8	14.4	-3.1	-0.21	-11.5
	44352	60239471	4/23/80	16:43:59														
2693	44352	61628586	4/23/80	17: 7: 8	17	18.4	1.8	21.3	3.4	0.49	-29.0	7	11.5	170.3	12.7	-4.8	-0.38	-3.5
	44352	65777220	4/23/80	18:16:17														
2694	44352	67165344	4/23/80	18:39:25	7	28.1	-21.1	21.9	5.8	0.27	-29.0	7	17.3	147.4	13.3	-2.0	-0.15	-11.0
	44352	71238270	4/23/80	19:47:18														
2695	44352	72023455	4/23/80	20:10:23	7	30.0	-44.1	24.1	6.2	0.26	-26.2	20	11.1	124.5	13.0	-7.4	-0.57	-18.9
	44352	76899887	4/23/80	21:21:39														
2696	44352	78160213	4/23/80	21:42:40	20	24.6	-67.0	*****	*****	*****	******	20	-0.5	101.6	6.7	-5.4	-0.81	-2.8
	44352	82120091	4/23/80	22:48:40														
2697	44352	83634053	4/23/80	23:13:54	20	-10.6	-89.9	29.8	8.9	0.30	-45.4	27	-8.9	78.7	7.1	-2.3	-0.29	-2.2
	44353	1256139	4/24/80	0:20:56														
2698	44353	2708139	4/24/80	0:45: 8	27	-32.1	-112.8	38.8	10.6	0.27	-58.0	27	-20.6	55.7	18.6	0.4	0.34	-46.9
	44353	6733634	4/24/80	1:52:13														
2699	44353	8246651	4/24/80	2:17:24	27	-39.5	-135.7	34.4	10.1	0.29	-50.0	27	-3.5	32.8	8.1	4.1	0.51	-10.0
	44353	12205516	4/24/80	3:23:25														
2700	44353	13718491	4/24/80	3:48:38	27	-14.5	-156.6	30.0	9.9	0.32	-44.0	27	10.4	9.9	17.4	-1.7	-0.10	-42.3
	44353	17728502	4/24/80	4:55:28														
2701	44353	19176032	4/24/80	5:19:36	27	12.9	178.5	27.7	8.6	0.31	-40.3	10	39.4	-13.0	17.0	4.2	0.25	-28.8
	44353	23402347	4/24/80	6:26:42														
2702	44353	24713300	4/24/80	6:51:53	10	23.0	155.6	23.7	7.9	0.33	-40.3	10	32.7	-35.9	23.9	3.8	0.03	-16.4
	44353	28669955	4/24/80	7:58: 9														
2703	44353	30202930	4/24/80	8:23:22	10	12.4	132.7	25.7	-0.6	-0.02	-29.2	10	10.3	-58.8	17.1	3.2	0.19	-19.9
	44353	34226670	4/24/80	9:30:26														
2704	44353	35676770	4/24/80	9:54:36	10	-4.4	109.8	16.1	0.7	0.05	-21.0	10	-4.3	-81.7	15.3	7.9	0.51	-18.5
	44353	39702515	4/24/80	11: 1:42														
2705	44353	41213528	4/24/80	11:26:53	10	-8.6	88.8	17.8	8.9	0.50	-21.0	10	-20.2	-104.6	27.5	-3.4	-0.12	-26.2
	44353	45190122	4/24/80	12:33:10														
2706	44353	46703098	4/24/80	12:58:24	10	-16.8	63.9	33.5	9.6	0.29	-42.2	10	-22.4	-127.5	22.8	1.4	0.06	-39.9
	44353	50728838	4/24/80	14: 5:28														
2707	44353	52176936	4/24/80	14:29:36	10	-17.4	41.0	30.9	11.1	0.36	-40.5	20	-11.2	-150.4	16.3	3.4	0.02	-13.8
	44353	56200954	4/24/80	15:36:40														
2708	44353	57652007	4/24/80	16: 0:52	20	-5.0	18.1	28.9	14.5	0.50	-38.3	20	4.7	-173.3	**********		******	-33.2
	44353	61059812	4/24/80	17: 7:39														
2709	44353	63171807	4/24/80	17:32:51	20	4.3	-4.8	31.9	13.1	0.41	-42.5	10	7.0	163.8	13.5	3.0	0.00	-9.4
	44353	67197552	4/24/80	18:39:57														
2710	44353	68645047	4/24/80	19: 4: 5	10	16.5	-27.7	39.9	7.8	0.20	-37.4	10	17.3	140.8	15.6	-4.7	-0.30	-31.5
	44353	72087117	4/24/80	20:11:27														
2711	44353	74135217	4/24/80	20:35:35	10	16.7	-50.6	25.5	6.7	0.26	-33.5	20	10.0	117.9	6.6	-7.9	-1.20	1.4
	44353	78160962	4/24/80	21:42:40														
2712	44353	79671975	4/24/80	22: 7:51	20	3.6	-73.5	22.5	3.3	0.15	-30.9	20	-6.6	95.3	9.6	-3.3	-5.07	3.8
	44353	83697720	4/24/80	23:14:57														
2713	44353	85145815	4/24/80	23:39: 5	20	-3.6	-96.4	36.3	3.8	0.02	-43.6	27	-6.8	72.1	11.8	-3.2	-0.02	-36.0
	44354	2787285	4/25/80	0:46:27														
2714	44354	4235368	4/25/80	1:10:35	27	-27.8	-119.3	29.3	7.8	0.27	-40.9	27	0.5	49.2	14.1	-4.4	-0.31	-10.2
	44354	8249437	4/25/80	2:17:23														
2715	44354	9756613	4/25/80	2:42:36	27	-21.6	-142.2	28.4	4.5	0.16	-38.2	23	2.0	26.3	3.0	2.8	90.45	-30.9
	44354	13782103	4/25/80	3:49:42														
2716	44354	15230253	4/25/80	4:13:50	23	-2.0	-169.1	26.8	5.8	0.22	-38.1	23	16.6	3.4	16.5	4.0	0.28	-17.4
	44354	19255998	4/25/80	5:20:55														
2717	44354	20704093	4/25/80	5:45: 4	20	19.3	172.0	28.1	7.5	0.27	-36.5	20	35.3	-19.5	17.2	3.7	0.22	-36.0
	44354	24713127	4/25/80	6:51:53														
2718	44354	26225122	4/25/80	7:17: 5	20	24.0	149.1	23.5	2.3	0.10	-33.1	20	33.2	-42.4	13.7	-1.7	-0.13	-11.9
	44354	30250807	4/25/80	8:24:10														
2719	44354	31998952	4/25/80	8:46:18	27	8.9	126.2	13.1	-2.2	-0.17	-11.2	27	16.8	-65.3	10.5	1.7	0.16	-16.5
	44354	35771891	4/25/80	9:56:11														
2720	44354	37219991	4/25/80	10:20:19	27	-12.7	103.3	22.5	4.1	0.18	-27.4	27	-2.0	-88.2	8.0	3.4	0.42	-13.3
	44354	41245736	4/25/80	11:27:25														
2721	44354	42693831	4/25/80	11:51:33	33	-29.8	80.4	32.8	17.4	0.53	-44.8	33	9.0	-111.1	6.2	7.0	1.12	-36.9
	44354	46702895	4/25/80	12:58:22														
2722	44354	48214859	4/25/80	13:23:34	33	-24.5	57.5	29.1	6.1	0.23	-38.1	33	-3.6	-134.0	21.4	1.0	0.05	-25.7
	44354	52256326	4/25/80	14:30:56														
2723	44354	53734429	4/25/80	14:55: 4	17	-11.9	34.6	17.4	10.9	0.63	-26.4	17	-7.0	-156.9	15.1	-1.6	-0.11	-11.4
	44354	57730178	4/25/80	16: 2:10														
2724	44354	59178263	4/25/80	16:26:18	17	-3.4	11.7	14.0	9.3	0.66	-26.4	17	6.9	-179.8	14.4	3.1	0.01	-12.8
	44354	63217751	4/25/80	17:33:37														
2725	44354	64667839	4/25/80	17:57:47	7	20.7	-11.2	25.4	10.0	0.39	-26.4	7	12.7	157.3	15.0	-4.0	-0.27	-12.8
	44354	68707352	4/25/80	19: 5: 7														
2726	44354	70157499	4/25/80	19:29:17	7	27.9	-34.1	36.5	7.0	0.19	-33.4	7	14.6	134.4	16.4	-5.4	-0.32	-10.2
	44354	74183154	4/25/80	20:36:23														
2727	44354	75694167	4/25/80	21: 1:34	10	11.5	-57.0	28.3	3.8	0.14	-35.6	10	0.9	111.5	6.8	-3.2	-1.21	-9.0
	44354	79653305	4/25/80	22: 7:33														
2728	44354	81104329	4/25/80	22:32:44	10	0.2	-79.9	24.6	3.0	0.20	-1.9	10	-8.4	88.6	4.3	-1.0	-0.23	-3.4
	44354	85126157	4/25/80	23:38:46														

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OF POOR QUALITY

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	ECL	E	I	A/B	DELTA E	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA E
2729	44354	4378822	4/26/80	0: 1:17	7	-17.0	-102.8	27.1	5.8	0.21	-42.9	7	-10.9	65.7	14.1	3.2	0.23	-3.4
	44355	4202702	4/26/80	1: 1: 2														
2730	44355	57786J5	4/26/80	1:36:18	7	-22.8	-125.7	23.7	4.8	0.20	-30.6	7	-15.7	42.8	15.0	3.4	0.22	-16.2
	44355	9676547	4/26/80	2:41:16														
2731	44355	11252445	4/26/80	3: 7:32	20	-21.2	-148.6	30.4	5.1	0.17	-40.2	20	6.7	19.9	17.6	-3.9	-0.05	-8.6
	44355	15130388	4/26/80	4:12:30														
2732	44355	16726286	4/26/80	4:38:46	20	-12.9	-171.5	35.0	9.8	0.28	-48.6	20	25.8	-3.0	14.9	2.3	0.15	-6.6
	44355	20667141	4/26/80	5:44:47														
2733	44355	22200126	4/26/80	6:10: 0	13	8.1	165.6	27.6	8.2	0.30	-38.4	13	30.5	-25.9	29.2	2.0	0.07	-23.2
	44355	26143293	4/26/80	7:15:43														
2734	44355	27721154	4/26/80	7:42: 1	13	11.7	142.7	30.4	0.5	0.02	-36.1	13	21.9	-48.8	25.9	2.4	0.09	-23.2
	44355	31616114	4/26/80	8:46:56														
2735	44355	33194935	4/26/80	9:13:14	3	-7.9	119.8	17.9	2.5	0.14	-22.7	3	-7.5	-71.6	17.4	3.1	0.35	-24.8
	44355	37138162	4/26/80	10:18:58														
2736	44355	38653136	4/26/80	10:44:13	3	-14.6	96.9	18.5	3.6	0.03	-22.5	3	-10.9	-94.5	18.9	-1.2	-0.08	-20.1
	44355	42612983	4/26/80	11:50:12														
2737	44355	44166940	4/26/80	12:15:26	20	-14.1	74.0	21.0	3.4	0.40	-25.9	20	0.2	-117.4	14.0	-4.3	-0.30	-21.0
	44355	48088783	4/26/80	13:21:28														
2738	44355	49663704	4/26/80	13:47:44	20	-19.2	51.1	27.5	10.1	0.37	-40.5	***	******	******	**********		******	-25.6
	44355	53247059	4/26/80	14:47:27														
2739	44355	55126815	4/26/80	15:18:41	13	-10.5	28.2	18.3	8.2	0.45	7.0	13	7.3	-163.2	12.2	-6.3	-0.37	-14.9
	44355	59083632	4/26/80	16:24:43														
2740	44355	60595655	4/26/80	16:49:55	13	10.6	5.3	18.9	5.4	0.29	7.0	13	14.6	173.9	19.6	-5.7	-0.44	-11.4
	44355	64558477	4/26/80	17:55:58														
2741	44355	66132413	4/26/80	18:22:12	10	20.6	-17.6	30.7	6.1	0.20	-31.5	***	******	******	**********		******	-11.4
	44355	69717730	4/26/80	19:21:57														
2742	44355	71590524	4/26/80	19:53:10	10	27.5	-40.5	27.5	4.0	0.15	-24.8	10	22.5	128.1	4.5	-4.1	-0.92	3.9
	44355	75537615	4/26/80	20:58:57														
2743	44355	77048635	4/26/80	21:24: 8	13	19.1	-63.4	19.4	7.5	0.39	-28.8	***	******	******	**********		******	3.9
	44355	80695805	4/26/80	22:24:55														
2744	44355	82569603	4/26/80	22:56: 9	13	-2.4	-86.2	19.6	5.2	0.26	-32.0	13	-3.5	82.3	3.9	0.5	0.13	-3.4
	44356	1307604	4/27/80	0: 2:10														
2745	44356	1643749	4/27/80	0:27:23	3	-6.5	-109.1	21.0	6.2	0.29	-36.0	***	******	******	**********		******	-3.4
	44356	5290999	4/27/80	1:28:10														
2746	44356	7164532	4/27/80	1:59:24	3	-15.4	-132.0	22.2	3.5	0.16	-32.6	13	-3.6	36.5	8.1	2.6	0.33	-8.2
	44356	11062474	4/27/80	3: 4:22														
2747	44356	12638372	4/27/80	3:30:38	13	-9.6	-154.9	19.9	-0.5	-0.02	-22.9	***	******	******	**********		******	-8.2
	44356	16285622	4/27/8	4:31:25														
2748	44356	16980753	4/27/80	5: 1:20	13	23.8	-177.8	14.9	0.4	0.03	-19.1	3	42.0	-9.2	6.0	3.5	0.54	-15.5
	44356	22042531	4/27/80	6: 7:22														
2749	44356	23617511	4/27/80	6:33:37	3	31.4	159.3	18.0	-0.3	-0.02	-16.6	3	42.2	-32.1	6.1	-0.9	-0.15	-3.3
	44356	27515453	4/27/80	7:38:35														
2750	44356	29091351	4/27/80	8: 4:51	3	23.8	136.4	15.2	-3.8	-0.25	-16.6	10	22.4	-55.0	13.0	-4.1	-0.31	-3.3
	44356	33021737	4/27/80	9:10:21														
2751	44356	34596650	4/27/80	9:36:36	10	13.0	113.5	8.3	-1.9	-0.23	-9.2	10	11.6	-77.9	11.3	0.3	0.56	-3.3
	44356	38493610	4/27/80	10:41:33														
2752	44356	40070491	4/27/80	11: 7:50	10	-1.5	90.6	15.4	1.3	0.08	-17.8	17	9.8	-100.8	9.9	-3.5	-0.05	-11.8
	44356	43968433	4/27/80	12:12:48														
2753	44356	45544331	4/27/80	12:39: 4	17	-6.5	67.7	20.5	4.2	0.21	-17.8	17	9.6	-123.7	9.7	-3.4	-0.35	-13.5
	44356	49442266	4/27/80	13:44: 2														
2754	44356	51016171	4/27/80	14:10:18	17	-9.5	44.9	20.9	5.0	0.24	-27.6	13	4.9	-146.6	6.5	-3.4	-0.53	-10.5
	44356	54503008	4/27/80	15:16:20														
2755	44356	56492011	4/27/80	15:41:32	13	12.4	22.0	14.7	5.7	0.39	-18.6	13	10.5	-169.5	2.8	-6.3	-2.25	-17.5
	44356	60721257	4/27/80	16:52: 1														
2756	44356	62296169	4/27/80	17:18:16	13	30.8	-3.9	17.4	2.9	0.17	-20.3	7	20.5	167.7	4.2	-3.6	-0.84	2.4
	44356	66194112	4/27/80	18:23:14														
2757	44356	67770010	4/27/80	18:49:30	7	42.9	-23.8	25.5	3.8	0.15	-26.4	7	29.0	144.8	8.1	-3.7	-0.70	-2.3
	44356	71731847	4/27/80	19:55:31														
2758	44356	73243850	4/27/80	20:20:43	7	35.7	-46.7	14.5	3.8	0.26	-18.4	27	13.8	121.9	0.8	-11.6	-1.69	-11.3
	44356	77189960	4/27/80	21:26:29														
2759	44356	78768878	4/27/80	21:52:44	27	3.9	-69.6	18.3	5.5	0.30	-31.2	27	0.5	99.0	3.7	-3.6	-0.96	-0.6
	44356	82680755	4/27/80	22:58: 0														
2760	44356	84207505	4/27/80	23:23:27	27	-15.2	-92.5	29.3	10.6	0.36	-49.1	17	-4.4	76.1	8.4	2.9	0.34	-2.7
	44357	1769342	4/28/80	0:29:29														
2761	44357	3281346	4/28/80	0:54:41	17	-32.5	-115.3	24.7	4.8	0.20	-37.1	17	-13.2	53.2	14.6	3.9	0.06	-32.8
	44357	7256675	4/28/80	2: 0:58														
2762	44357	8770670	4/28/80	2:26:10	17	-22.6	-138.2	23.7	1.4	0.06	-33.6	10	-3.3	30.3	4.4	4.9	1.13	-7.6
	44357	12732537	4/28/80	3:32:12														
2763	44357	14307420	4/28/80	3:56:27	10	-1.0	-161.1	16.7	3.3	0.20	-26.8	10	8.2	7.5	16.3	-3.0	-0.00	-11.4
	44357	18205370	4/28/80	5: 3:25														
2764	44357	19761268	4/28/80	5:29:41	10	11.3	176.0	18.1	0.4	0.02	-24.1	3	31.8	-15.4	6.4	5.2	0.82	-15.9
	44357	23743114	4/28/80	6:35:43														
2765	44357	25295108	4/28/80	7: 0:55	3	22.8	153.1	21.7	0.9	0.04	11.9	3	27.9	-38.3	15.4	-3.9	-0.25	-9.2
	44357	29216945	4/28/80	8: 6:56														
2766	44357	30728948	4/28/80	8:32: 8	3	20.2	130.2	18.8	-2.8	-0.15	-17.1	13	16.0	-61.2	14.9	0.3	0.02	-9.2
	44357	34690786	4/28/80	9:38:10														
2767	44357	36204769	4/28/80	10: 3:22	13	13.3	107.4	11.7	-1.8	-0.15	-17.1	13	11.9	-84.1	9.9	-1.0	-0.10	-8.4
	44357	40178393	4/28/80	11: 9:38														
2768	44357	41692358	4/28/80	11:34:52	13	7.5	84.5	21.1	6.5	0.31	-23.0	***	******	******	**********		******	-8.4
	44357	45276088	4/28/80	12:34:36														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING AP	D EVT	TOL	E	I	I/A	DELTA B	DESCENDING AP	D EVT	TOL	E	I	I/A	DELTA B
2769	44357	48520403	4/28/80	13:28:40	***	******	******	*****	*****	*****	-23.0	***	******	******	**********		******	-8.4
	44357	50511050	4/28/80	14: 1:51														
2771	44357	51126706	4/28/80	14:25:26	***	******	******	*****	*****	*****	-23.1	20	3.0	-175.6	12.4	-8.3	-0.67	-1.1
	44357	52144768	4/28/80	14:45:44														
2772	44357	53056781	4/28/80	15:40:56	20	20.6	-7.1	19.3	5.8	0.30	-23.1	7	14.4	161.5	6.7	-5.8	-0.87	3.5
	44357	53757807	4/28/80	15:46:18														
2773	44357	54155936	4/28/80	15:12:35	7	42.9	-29.9	27.3	3.5	0.13	-23.6	7	22.1	138.6	8.7	-5.4	-0.62	-2.9
	44357	54859983	4/28/80	15:16:29														
2774	44357	55818529	4/28/80	15:46:58	7	36.5	-52.8	13.3	5.0	0.38	******	7	11.7	115.8	2.5	-10.3	-4.13	7.0
	44357	56541466	4/28/80	15:49: 1														
2775	44357	57071017	4/28/80	15:19:31	7	13.2	-75.7	14.7	0.9	0.06	-21.2	***	******	******	**********		******	7.0
	44357	57752252	4/28/80	15:42:32														
2776	44357	58603814	4/28/80	15:50: 3	13	-7.1	-98.6	21.1	0.2	0.29	******	13	-4.6	70.0	14.3	1.5	0.10	-8.6
2777	44358	30903?7	4/29/80	0:51:30														
	44358	49189?3	4/29/80	1:21:58	13	-14.4	-121.4	17.6	9.8	0.53	-31.6	13	-11.3	47.1	11.5	-0.7	-0.06	-12.5
2778	44358	8506193	4/29/80	2:22:46														
	44358	10392783	4/29/80	2:53:12	17	-8.4	-144.3	19.2	3.6	0.03	-31.6	17	-3.6	24.3	5.6	3.2	0.03	2.4
2779	44358	14040771	4/29/80	3:54: 0														
	44358	15866378	4/29/80	4:24:26	17	7.7	-167.2	16.0	1.8	0.11	-23.9	17	31.5	1.4	8.0	-1.2	-0.15	-3.5
2780	44358	19574580	4/29/80	5:26:14														
	44358	21403135	4/29/80	5:56:43	17	21.9	169.9	14.2	2.8	0.20	-23.9	17	43.4	-21.5	12.8	-2.0	-0.16	-5.6
2781	44358	25015919	4/29/80	6:56:59														
	44358	26845517	4/29/80	7:27:25	17	23.1	147.0	20.3	0.7	0.04	-24.9	17	42.2	-44.4	5.0	-2.3	-0.46	-5.6
2782	44358	30553724	4/29/80	8:29:13														
	44358	32319357	4/29/80	8:58:39	13	12.1	124.2	10.4	-0.9	-0.09	-11.2	***	******	******	**********		******	-21.2
2783	44358	35712980	4/29/80	9:55:12														
	44358	38202102	4/29/80	10:36:42	13	9.6	101.3	2.6	-2.1	-0.78	-6.8	13	-0.3	-90.1	10.5	-2.1	-0.20	-9.5
2784	44358	41470931	4/29/80	11:31:10														
	44358	43298496	4/29/80	12: 1:36	20	-1.9	78.4	*****	*****	*****	-6.8	20	13.7	-113.0	17.0	-11.3	-0.67	-4.9
2785	44358	46593917	4/29/80	13: 3:13														
	44358	48819525	4/29/80	13:33:39	20	-7.4	55.5	19.4	5.2	0.27	6.7	20	12.1	-135.9	5.0	-4.3	-0.86	-4.9
2786	44358	52466775	4/29/80	14:34:26														
	44358	54233365	4/29/80	15: 4:53	17	-7.4	32.7	11.9	5.4	0.46	6.7	17	7.4	-158.7	1.7	-9.0	-5.25	2.3
2787	44358	57901502	4/29/80	16: 5: 9														
	44358	59735746	4/29/80	16:35:35	17	13.4	9.8	13.6	4.7	0.35	-19.4	***	******	******	**********		******	2.3
	44358	63191296	4/29/80	17:33:11														
2788	44358	65209586	4/29/80	18: 6:49	10	49.6	-13.1	18.4	3.1	0.17	-23.6	10	31.2	155.5	1.1	-5.8	-8.22	10.1
	44358	68856837	4/29/80	19: 7:36														
2789	44358	70683427	4/29/80	19:38: 3	10	50.6	-36.0	24.3	1.8	0.07	-23.6	10	33.1	132.6	3.1	-10.7	-3.41	7.7
	44358	74377071	4/29/80	20:39:37														
2790	44358	76141537	4/29/80	21: 9: 1	13	28.1	-58.8	7.8	4.2	0.53	-25.1	13	13.9	109.8	-4.6	-11.1	2.42	16.4
	44358	79007441	4/29/80	22:11: 7														
2791	44358	81694025	4/29/80	22:41:34	13	12.8	-81.3	12.6	4.1	0.32	-21.5	***	******	******	**********		******	16.4
	44358	85118358	4/29/80	23:38:38														
2792	44359	768111	4/30/80	0:12:48	17	-3.0	-104.3	15.6	4.6	0.29	-27.0	17	-2.4	64.0	9.9	-1.3	-0.13	-4.9
	44359	4415361	4/30/80	1:13:35														
2793	44359	6241951	4/30/80	1:44: 1	17	-14.9	-127.4	10.4	1.7	0.16	-19.4	***	******	******	**********		******	-4.9
	44359	9697503	4/30/80	2:41:37														
2794	44359	11731275	4/30/80	3:15:31	23	-12.1	-150.3	21.6	3.9	0.18	-28.2	23	8.4	18.3	15.5	-3.2	-0.20	-1.1
	44359	15378526	4/30/80	4:16:18														
2795	44359	17235115	4/30/80	4:46:45	23	12.3	-173.2	17.0	2.9	0.17	-19.7	***	******	******	**********		******	-1.1
	44359	20600608	4/30/80	5:44:23														
2796	44359	22710415	4/30/80	6:18:30	10	21.8	103.9	14.6	2.9	0.20	-18.4	10	25.8	-27.5	6.2	0.3	0.04	-6.7
	44359	26357605	4/30/80	7:19:17														
2797	44359	28184255	4/30/80	7:49:44	10	23.0	141.1	17.6	-1.5	-0.08	-22.2	***	******	******	**********		******	-6.7
	44359	31639817	4/30/80	8:47:19														
2798	44359	33649554	4/30/80	9:21:29	27	15.0	118.2	7.9	0.7	0.09	-12.1	27	10.5	-73.2	12.8	3.5	0.27	-18.6
	44359	37336804	4/30/80	10:22:16														
2799	44359	39163394	4/30/80	10:52:43	27	-3.5	95.3	13.1	-1.2	-0.09	-13.4	***	******	******	**********		******	-12.5
	44359	42618947	4/30/80	11:50:18														
2800	44359	44605776	4/30/80	12:23:25	30	-12.3	72.5	24.1	10.5	0.44	-29.3	***	******	******	**********		******	-13
	44359	48125223	4/30/80	13:22: 5														
2801	44359	50158263	4/30/80	13:55:58	30	-22.3	49.6	26.8	11.7	0.44	-40.2	***	******	******	**********		******	-2
	44359	53020115	4/30/80	14:53:22														
2802	44359	55584915	4/30/80	15:26:24	23	-9.9	26.7	22.8	9.1	0.40	-28.1	23	1.5	-164.7	7.0	-4.7	-0.67	-11.9
	44359	59296074	4/30/80	16:28:16														
2803	44359	61121673	4/30/80	16:58:41	23	27.8	3.9	20.3	5.6	0.28	-24.6	***	******	******	**********		******	-11.9
	44359	64580169	4/30/80	17:56:20														
2804	44359	66564054	4/30/80	18:29:24	17	34.9	-19.0	25.8	6.1	0.23	-29.4	17	23.1	149.6	10.6	-5.0	-0.47	-4.6
	44359	70275213	4/30/80	19:31:15														
2805	44359	72100812	4/30/80	20: 1:40	17	31.7	-41.9	24.7	8.7	0.35	-29.5	***	******	******	**********		******	-4.6
	44359	75563605	4/30/80	20:59:16														
2806	44359	77543194	4/30/80	21:32:23	17	20.3	-64.7	14.3	6.6	0.46	-26.0	17	11.4	103.9	1.5	-5.7	-3.93	4.7
	44359	81234353	4/30/80	22:34:14														
2807	44359	83017034	4/30/80	23: 3:37	17	-5.4	-87.6	17.3	8.7	0.50	-0.0	***	******	******	**********		******	4.7
	44360	137711	5/ 1/80	0: 2:17														
2808	44360	2109522	5/ 1/80	0:36: 9	30	-13.7	-110.5	23.4	8.6	0.37	-38.5	30	-4.3	58.1	18.6	1.1	0.06	-19.6
	44360	5816772	5/ 1/80	1:36:56														
2809	44360	7709197	5/ 1/80	2: 9:29	30	-29.7	-133.3	30.8	8.4	0.27	-45.7	***	******	******	**********		******	-19.6
	44360	11101861	5/ 1/80	3: 5: 1														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KEP	D EQI	EQL	E	I	I/E	DELTA B	DESCENDING KEP	D EQL	EQL	E	I	I/E	DELTA E
2810	44360	13132931	5/ 1/80	3:38:52	20	-13.5	-156.2	18.7	3.5	0.03	-21.4	20	13.7	12.4	12.4	-1.0	-0.08	-1.4
	44360	16780182	5/ 1/80	4:39:40														
2811	44360	18606772	5/ 1/80	5:10: 6	20	10.3	-179.0	22.0	4.0	0.18	-27.0	***	******	******	**********		******	-1.4
	44360	22165552	5/ 1/80	6: 9:25														
2812	44360	24049154	5/ 1/80	6:40:49	7	19.0	158.1	18.1	0.8	0.04	-17.3	7	17.1	-33.3	5.0	-0.3	-0.17	-4.1
2813	44360	27760312	5/ 1/80	7:42:40	7	29.7	135.2	17.5	-1.5	-0.09	-17.8	***	******	******	**********		******	-4.1
	44360	29585911	5/ 1/80	8:13: 5														
2814	44360	33041463	5/ 1/80	9:10:41	13	28.2	112.4	9.2	0.7	0.08	-13.0	13	21.1	-79.0	10.4	2.9	0.28	-15.4
	44360	35928292	5/ 1/80	9:43:48														
2815	44360	38735451	5/ 1/80	10:45:39	13	9.9	89.5	17.7	3.5	0.20	-13.0	27	11.0	-101.9	15.3	-4.5	-0.30	-15.5
	44360	40565050	5/ 1/80	11:16: 5														
2816	44360	44211315	5/ 1/80	12:16:51	27	-11.5	66.6	26.1	8.3	0.32	-31.4	***	******	******	**********		******	-15.5
	44360	46038830	5/ 1/80	12:47:18														
2817	44360	49494443	5/ 1/80	13:44:54	27	-6.5	43.8	18.9	3.7	0.19	-23.0	27	-3.1	-147.6	5.3	-1.5	-0.29	-8.0
	44360	51497001	5/ 1/80	14:18:17														
2818	44360	55208160	5/ 1/80	15:20: 8	27	16.0	20.9	12.3	4.5	0.37	-23.0	27	3.0	-170.5	26.6	-23.1	-1.09	-0.3
	44360	57033759	5/ 1/80	15:50:33														
2819	44360	60614294	5/ 1/80	16:51: 4	27	24.8	-1.9	26.0	6.9	0.27	******	***	******	******	**********		******	-0.3
	44360	62639579	5/ 1/80	17:23:59														
2820	44360	65972243	5/ 1/80	18:19:32	23	38.3	-24.8	24.6	4.3	0.18	-19.2	23	23.7	143.8	5.4	-3.1	-0.57	-4.0
	44360	67977753	5/ 1/80	18:52:57														
2821	44360	71689620	5/ 1/80	19:54:49	23	38.1	-47.7	17.8	6.5	0.37	-24.6	***	******	******	**********		******	-4.0
	44360	73581115	5/ 1/80	20:26:21														
2822	44360	76913779	5/ 1/80	21:21:53	10	17.4	-70.5	13.6	4.0	0.29	-23.7	10	2.7	98.1	-3.8	-2.6	0.45	6.0
	44360	79102144	5/ 1/80	21:58:22														
2823	44360	82664517	5/ 1/80	22:58: 4	10	15.6	-93.4	22.5	3.0	0.13	-32.0	***	******	******	**********		******	8.0
	44360	84575984	5/ 1/80	23:29:35														
2824	44361	1525610	5/ 2/80	0:25:25	13	13.5	-116.2	19.2	4.7	0.24	-28.3	13	-2.5	52.4	26.4	-10.8	-0.41	-15.2
	44361	3665554	5/ 2/80	1: 1: 5														
2825	44361	7248909	5/ 2/80	2: 0:48	13	4.4	-139.1	19.7	3.9	0.20	-26.7	***	******	******	**********		******	-15.2
	44361	9139394	5/ 2/80	2:32:19														
2826	44361	12472058	5/ 2/80	3:27:52	10	9.6	-161.9	14.5	4.3	0.29	-21.8	10	26.7	6.7	13.6	-3.3	-0.24	-4.6
	44361	14644693	5/ 2/80	4: 4: 4														
2827	44361	18228048	5/ 2/80	5: 3:48	10	13.5	175.2	20.4	2.4	0.12	-27.2	***	******	******	**********		******	-4.6
	44361	20118533	5/ 2/80	5:45:18														
2828	44361	23451197	5/ 2/80	6:30:51	13	14.7	152.3	28.7	5.6	0.19	-36.4	13	34.9	-39.0	10.8	-3.5	-0.32	-8.6
	44361	25623832	5/ 2/80	7: 7: 3														
2829	44361	29207188	5/ 2/80	8: 6:47	13	15.2	129.5	21.5	-1.1	-0.05	-20.8	***	******	******	**********		******	-8.6
	44361	31097672	5/ 2/80	8:38:17														
2830	44361	34430336	5/ 2/80	9:33:50	10	2.6	106.6	9.0	0.4	0.04	-14.0	10	2.8	-84.7	9.3	0.3	0.09	-20.3
	44361	36587242	5/ 2/80	10: 9:47														
2831	44361	40170598	5/ 2/80	11: 9:30	10	-3.6	83.8	9.3	2.7	0.29	-14.0	10	-6.7	-107.6	25.4	-16.1	-0.63	-11.0
	44361	42061062	5/ 2/80	11:41: 1														
2832	44361	45642475	5/ 2/80	12:40:42	10	-6.2	60.9	24.5	5.1	0.21	-33.0	***	******	******	**********		******	-11.0
	44361	47534923	5/ 2/80	13:12:14														
2833	44361	50867586	5/ 2/80	14: 7:47	10	-2.1	38.1	20.9	6.7	0.32	-27.0	13	-0.5	-153.3	2.5	-1.8	-0.71	1.3
	44361	53055951	5/ 2/80	14:44:15														
2834	44361	56639306	5/ 2/80	15:43:59	13	17.8	15.2	16.6	6.7	0.40	-20.8	***	******	******	**********		******	1.3
	44361	58529791	5/ 2/80	16:15:29														
2835	44361	61862455	5/ 2/80	17:11: 2	13	29.1	-7.6	18.8	6.0	0.32	-27.1	10	15.3	161.0	5.9	-7.8	-1.31	5.1
	44361	64019301	5/ 2/80	17:46:59														
2836	44361	67602716	5/ 2/80	18:46:42	10	50.0	-30.5	29.1	6.0	0.21	-27.1	10	25.0	138.1	9.4	-6.9	-0.74	-1.9
	44361	69493241	5/ 2/80	19:18:13														
2837	44361	73006810	5/ 2/80	20:17:41	7	29.3	-53.3	15.3	5.6	0.36	-26.2	***	******	******	**********		******	-1.9
	44361	75014250	5/ 2/80	20:50:14														
2838	44361	78282999	5/ 2/80	21:44:42	7	17.2	-76.2	16.3	3.4	0.21	-23.3	7	3.6	92.4	-4.7	-1.9	0.40	7.3
	44361	80426611	5/ 2/80	22:20:26														
2839	44361	84039966	5/ 2/80	23:20:39	3	-8.3	-90.0	19.7	5.2	0.27	-31.0	***	******	******	**********		******	7.3
	44361	85933309	5/ 2/80	23:52:13														
2840	44362	2836542	5/ 3/80	0:48:16	3	-16.9	-121.9	17.0	5.7	0.33	-27.4	3	-4.8	46.7	10.1	1.4	0.13	-11.4
	44362	5057531	5/ 3/80	1:23:55														
2841	44362	8619098	5/ 3/80	2:23:39	7	3.6	-144.7	18.4	0.3	0.02	-23.7	***	******	******	**********		******	-11.4
	44362	10572508	5/ 3/80	2:56:12														
2842	44362	13641277	5/ 3/80	3:50:41	7	11.9	-167.6	12.4	3.2	0.26	-20.1	7	31.4	1.0	10.3	-3.0	-0.35	-1.8
	44362	15993165	5/ 3/80	4:26:39														
2843	44362	19046411	5/ 3/80	5:27:26	10	22.6	169.6	13.2	3.3	0.25	-18.5	***	******	******	**********		******	-1.8
	44362	21473001	5/ 3/80	5:57:53														
2844	44362	24491078	5/ 3/80	6:48:11	10	25.2	146.7	18.2	-1.8	-0.10	-23.7	10	31.3	-44.6	10.0	-2.1	-0.22	-12.5
	44362	27625488	5/ 3/80	7:30:25														
2845	44362	30544935	5/ 3/80	8:29: 4	10	15.8	123.9	13.0	1.1	0.08	-14.5	10	21.2	-67.5	1.6	3.4	2.13	-16.1
	44362	32439325	5/ 3/80	9: 1:39														
2846	44362	36037422	5/ 3/80	10: 1:37	10	5.7	101.0	6.8	-3.4	-0.50	-9.1	***	******	******	**********		******	-10.5
	44362	37988848	5/ 3/80	10:33: 8														
2847	44362	41257057	5/ 3/80	11:27:37	7	-8.9	78.2	15.8	6.9	0.43	-17.6	7	1.1	-113.2	24.0	-12.3	-0.53	-5.7
	44362	43478467	5/ 3/80	12: 4:38														
2848	44362	47076588	5/ 3/80	13: 4:36	7	-7.0	55.3	19.5	5.1	0.26	-27.7	7	-0.8	-136.0	7.9	-2.0	-0.25	-8.1
	44362	48926037	5/ 3/80	13:36: 8														
2849	44362	52551333	5/ 3/80	14:35:51	7	7.8	32.5	15.1	0.1	0.00	-19.6	7	6.5	-158.9	-0.2	-3.2	13.52	-8.1
	44362	54441877	5/ 3/80	15: 7:21														
	44362	56039973	5/ 3/80	16: 7:19														

PASS	MJD	MSEC	DATE	GMT	ASCENDING KEP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING KEP	D EQL	EQL	E	I	I/E	DELTA B
2850	44362	59331447	5/ 3/80	16:38:51	7	19.4	9.6	17.6	6.6	0.37	-23.5	7	11.0	178.3	**********		******	-19.5
	44362	63529551	5/ 3/80	17:38:49														
2851	44362	65421017	5/ 3/80	18:10:21	3	40.8	-13.2	19.7	8.2	0.42	-29.3	3	23.4	155.4	6.7	-5.2	-0.78	4.6
	44362	69004372	5/ 3/80	19:10: 4														
2852	44362	70894857	5/ 3/80	19:41:34	3	46.3	-36.0	25.4	6.0	0.24	-29.3	3	22.5	132.6	5.3	-7.9	-1.26	3.9
	44362	74464443	5/ 3/80	20:41: 4														
2853	44362	76352968	5/ 3/80	21:12:32	10	27.7	-58.9	12.3	5.3	0.43	******	10	9.4	109.7	1.6	-11.0	-7.43	9.0
	44362	79954013	5/ 3/80	22:12:34														
2854	44362	81842537	5/ 3/80	22:44: 2	10	14.7	-81.7	17.2	3.9	0.23	-22.9	10	2.2	86.9	1.9	-2.9	-1.50	9.0
	44362	85440638	5/ 3/80	23:44: 0														
2855	44363	948082	5/ 4/80	0:15:48	3	-14.5	-104.6	19.7	6.6	0.34	-32.0	3	-11.0	64.1	14.4	4.1	0.28	-16.0
	44363	4531438	5/ 4/80	1:15:31														
2856	44363	6421922	5/ 4/80	1:47: 1	3	11.1	******	17.3	6.0	0.35	-32.0	3	-5.1	41.2	13.1	2.0	0.20	-9.9
	44363	10034527	5/ 4/80	2:47:14														
2857	44363	11926976	5/ 4/80	3:18:46	17	-2.8	-159.3	15.3	2.0	0.13	-17.7	17	18.9	18.4	3.1	3.0	0.02	-9.9
	44363	15493618	5/ 4/80	4:18:13														
2858	44363	17385087	5/ 4/80	4:49:45	17	20.6	-173.1	14.4	5.3	0.37	-19.1	17	26.6	-4.5	3.3	3.7	0.21	3.2
	44363	20968442	5/ 4/80	5:49:28														
2859	44363	22921845	5/ 4/80	6:22: 1	7	29.3	164.1	13.3	2.1	0.16	-13.3	7	33.9	-27.3	6.9	3.7	0.54	0.2
	44363	26520923	5/ 4/80	7:22: 0														
2860	44363	28348496	5/ 4/80	7:54:28	7	26.0	141.2	19.4	-1.7	-0.09	-24.8	7	27.3	-50.1	15.1	3.4	0.03	-12.2
	44363	31946597	5/ 4/80	8:52:26														
2861	44363	33900984	5/ 4/80	9:25: 0	13	18.6	118.4	9.6	-0.8	-0.08	-13.5	13	13.3	-73.0	8.3	7.1	0.86	-14.8
	44363	37420437	5/ 4/80	10:23:40														
2862	44363	39374624	5/ 4/80	10:56:14	13	4.7	95.5	11.9	-1.2	-0.10	16.8	13	9.7	-95.8	16.7	-6.2	-0.37	-13.6
	44363	42973902	5/ 4/80	11:56:13														
2863	44363	44864394	5/ 4/80	12:27:44	20	-4.6	72.7	21.6	8.6	0.40	-26.9	20	-3.8	-118.7	11.9	-3.4	-0.29	*******
	44363	48447749	5/ 4/80	13:27:27														
2864	44363	50338234	5/ 4/80	13:58:58	20	-13.7	49.9	24.5	9.5	0.39	-37.3	20	1.0	-141.5	11.8	-8.4	-0.37	*******
	44363	53937312	5/ 4/80	14:58:57														
2865	44363	55827803	5/ 4/80	15:30:27	17	-1.1	27.0	17.2	6.6	0.38	-19.6	17	4.6	-164.3	1.8	-3.2	-0.13	-35.4
	44363	59426882	5/ 4/80	16:30:26														
2866	44363	61317373	5/ 4/80	17: 1:57	17	27.3	4.2	16.9	6.1	0.36	-2.3	17	9.3	172.8	2.1	-3.3	-1.41	-16.1
	44363	64900722	5/ 4/80	18: 1:40														
2867	44363	67042884	5/ 4/80	18:37:22	7	35.9	-18.6	20.3	11.4	0.56	-27.6	7	20.7	150.0	7.1	3.7	0.10	-2.3
	44363	70376531	5/ 4/80	19:32:56														
2868	44363	72265053	5/ 4/80	20: 4:25	7	42.9	-41.5	21.9	8.1	0.37	-11.7	7	23.8	127.2	3.1	-6.1	-1.95	6.2
	44363	75830715	5/ 4/80	21: 3:50														
2869	44363	77786082	5/ 4/80	21:36:26	3	33.2	-64.3	10.7	8.8	0.82	-21.4	3	13.0	104.3	-3.0	-3.4	3.18	12.0
	44363	81384180	5/ 4/80	22:36:24														
2870	44363	83338509	5/ 4/80	23: 8:58	3	2.9	-87.2	13.1	7.5	0.57	-24.6	3	-0.3	81.5	3.1	-2.2	-15.71	12.0
	44364	411812	5/ 5/80	0: 6:51														
2871	44364	2365221	5/ 5/80	0:39:25	3	-8.4	-110.0	17.8	5.2	0.29	-25.5	3	-5.0	58.7	11.1	3.3	0.02	-11.4
	44364	5887619	5/ 5/80	1:38: 7														
2872	44364	7839061	5/ 5/80	2:10:39	3	-8.9	-132.8	13.4	5.0	0.38	-25.5	7	12.9	35.8	3.6	2.4	0.67	-5.0
	44364	11405701	5/ 5/80	3:10: 5														
2873	44364	13297172	5/ 5/80	3:41:37	7	-0.2	-155.7	18.0	-3.1	-0.22	-12.7	7	22.5	13.0	2.8	-4.8	-1.71	-9.3
	44364	16912970	5/ 5/80	4:41:52														
2874	44364	18802471	5/ 5/80	5:13:22	7	33.6	-178.5	6.7	-0.3	-0.05	-8.1	17	30.1	-9.8	3.5	-4.9	-10.54	-1.2
	44364	22385827	5/ 5/80	6:13: 5														
2875	44364	24304084	5/ 5/80	6:45: 4	17	44.0	156.7	5.1	-4.4	-0.87	-8.1	17	34.8	-32.7	-1.0	-6.1	6.06	11.9
	44364	27842951	5/ 5/80	7:44: 2														
2876	44364	29797340	5/ 5/80	8:16:37	17	52.6	135.8	-4.7	-10.5	2.24	-8.1	17	43.3	-55.5	0.1	-6.6	******	2.9
	44364	33365950	5/ 5/80	9:16: 5														
2877	44364	35255451	5/ 5/80	9:47:35	17	49.3	113.0	-9.8	-9.7	0.99	17.7	17	34.6	-78.3	-9.7	2.2	-0.23	10.7
	44364	38838836	5/ 5/80	10:47:18														
2878	44364	40729291	5/ 5/80	11:18:49	17	27.5	90.2	-0.2	-5.8	32.00	4.7	23	13.4	-101.2	3.2	-8.3	-2.58	6.9
	44364	44329300	5/ 5/80	12:18:49														
2879	44364	46218801	5/ 5/80	12:50:18	23	15.3	67.3	7.0	1.6	0.23	-7.9	23	7.9	-124.0	0.6	-6.0	-9.26	-3.5
	44364	49863200	5/ 5/80	13:50: 3														
2880	44364	51692701	5/ 5/80	14:21:32	23	10.8	44.5	7.4	4.9	0.67	-17.2	23	14.9	-146.8	-7.1	-4.7	0.66	16.3
	44364	55276057	5/ 5/80	15:21:16														
2881	44364	57229459	5/ 5/80	15:53:49	23	31.4	21.7	3.3	6.6	2.02	-17.2	23	22.8	-169.7	15.7	-32.0	-2.08	13.7
	44364	60464462	5/ 5/80	16:48: 4														
2882	44364	62435899	5/ 5/80	17:20:35	23	41.6	-1.1	3.9	-1.8	-0.45	-17.2	***	******	******	**********		******	13.7
	44364	65785274	5/ 5/80	18:16:25														
2883	44364	67956928	5/ 5/80	18:52:36	20	39.6	-24.0	12.3	1.3	0.10	-10.3	20	28.4	144.7	-7.1	-1.2	0.18	7.8
	44364	71412483	5/ 5/80	19:50:12														
2884	44364	73430768	5/ 5/80	20:23:50	20	34.9	-46.6	17.2	1.9	0.11	-15.6	***	******	******	**********		******	7.8
	44364	76763432	5/ 5/80	21:19:23														
2885	44364	78861598	5/ 5/80	21:54:21	27	13.1	-69.6	22.4	7.8	0.35	-35.7	27	14.6	99.0	-5.7	-5.0	0.98	10.9
	44364	82381059	5/ 5/80	22:53: 1														
2886	44364	84335438	5/ 5/80	23:25:35	27	-5.3	-92.5	39.2	11.7	0.30	-55.1	***	******	******	**********		******	10.9
	44365	1264174	5/ 6/80	0:21: 4														
2887	44365	3452269	5/ 6/80	0:57:32	27	-26.7	-115.3	43.0	12.3	0.29	-55.1	27	-15.2	53.4	25.7	2.7	0.11	-29.4
	44365	6977144	5/ 6/80	1:56:11														
2888	44365	8926149	5/ 6/80	2:28:46	27	-26.8	-134.1	43.3	10.7	0.25	-55.9	***	******	******	**********		******	-29.4
	44365	12458793	5/ 6/80	3:24:18														
2889	44365	14714558	5/ 6/80	4: 5:14	27	-4.9	-160.9	34.4	8.7	0.25	-45.0	***	******	******	19.3	-1.7	-0.09	-50.5
	44365	17732635	5/ 6/80	4:55:32														

PASS	MOD	MSEC	DATE	HR:MN:SC	ASCENDING NODE	ASCENDING D EQI	ASCENDING EQL	ASCENDING E	ASCENDING I	ASCENDING I/E	ASCENDING DELTA B	DESCENDING NODE	DESCENDING D EQL	DESCENDING E/I	DESCENDING E	DESCENDING I	DESCENDING I/E	DESCENDING DELTA B
2890	44365	19889539	5/ 6/80	5:31:29	27	9.8	176.2	27.1	6.1	0.23	-37.1	***	******	******	**********	******	-39.0
	44365	23195907	5/ 6/80	6:26:35													
2891	44365	25363379	5/ 6/80	7: 2:43	***	******	******	*****	*****	*****	-37.1	***	******	******	**********	******	-39.6
	44365	28674667	5/ 6/80	7:57:54													
2892	44365	30837219	5/ 6/80	8:33:57	27	3.2	130.6	38.1	7.2	0.19	-46.2	***	******	******	**********	******	-24.9
	44365	34169853	5/ 6/80	9:29:29													
2893	44365	36311059	5/ 6/80	10: 5:11	27	0.5	107.8	18.4	2.8	0.15	-25.3	***	******	******	**********	******	-43.7
	44365	39628976	5/ 6/80	11: 0:28													
2894	44365	41800629	5/ 6/80	11:36:40	27	-16.1	64.9	36.8	14.0	0.38	-47.0	***	******	******	**********	******	-24.8
	44365	45134279	5/ 6/80	12:32:14													
2895	44365	47274469	5/ 6/80	13: 7:54	30	-36.6	62.1	46.6	16.5	0.35	-60.6	***	******	******	**********	******	-45.0
	44365	50572732	5/ 6/80	14: 2:52													
2896	44365	52736580	5/ 6/80	14:38:52	30	-30.4	33.3	36.9	15.2	0.41	-49.9	***	******	******	**********	******	-57.6
	44365	56065244	5/ 6/80	15:34:25													
2897	44365	58222150	5/ 6/80	16:10:22	23	-6.7	16.5	31.6	14.5	0.46	-40.1	***	******	******	**********	******	-48.9
	44365	61554814	5/ 6/80	17: 5:54													
2898	44365	63695940	5/ 6/80	17:41:35	23	-3.5	-6.3	37.2	17.0	0.46	-53.3	***	******	******	**********	******	-39.8
	44365	67028654	5/ 6/80	18:37: 8													
2899	44365	69198830	5/ 6/80	19:12:49	27	-3.2	-29.2	50.1	17.0	0.34	-48.0	***	******	******	**********	******	-50.9
	44365	72502494	5/ 6/80	20: 8:22													
2900	44365	74643670	5/ 6/80	20:44: 3	27	-1.9	-52.0	39.5	13.1	0.33	-28.6	***	******	******	**********	******	-42.8
	44365	77976354	5/ 6/80	21:39:30													
2901	44365	80117511	5/ 6/80	22:15:17	27	1.2	-74.8	30.4	4.1	0.13	-38.2	***	******	******	**********	******	-33.2
	44365	83450174	5/ 6/80	23:10:50													
2906	44366	21136109	5/ 7/80	5:52:16	20	5.8	171.1	21.2	7.5	0.35	-29.5	***	******	******	**********	******	-37.0
	44366	24408773	5/ 7/80	6:47:48													
2907	44366	26609949	5/ 7/80	7:23:29	20	14.9	148.3	23.6	3.8	0.16	-35.2	***	******	******	**********	******	-18.6
	44366	29942613	5/ 7/80	8:19: 2													
2908	44366	32083769	5/ 7/80	8:54:43	17	31.7	125.5	5.0	-2.9	-0.58	-6.4	***	******	******	**********	******	-27.6
	44366	35416453	5/ 7/80	9:50:16													
2909	44366	37557630	5/ 7/80	10:25:57	17	26.4	102.7	-0.9	-5.8	6.50	0.1	***	******	******	**********	******	-0.9
	44366	40844087	5/ 7/80	11:20:44													
2910	44366	43031470	5/ 7/80	11:57:11	17	18.5	79.9	-4.3	-1.1	0.25	8.3	***	******	******	**********	******	3.1
	44366	46361434	5/ 7/80	12:52:44													
2911	44366	48521039	5/ 7/80	13:28:41	17	6.6	57.1	8.7	0.4	0.04	-12.3	***	******	******	**********	******	10.5
	44366	51790731	5/ 7/80	14:23:10													
2912	44366	54002007	5/ 7/80	15: 0: 2	27	16.7	34.2	6.4	4.0	0.63	-12.2	***	******	******	**********	******	-5.3
	44366	57265608	5/ 7/80	15:54:25													
2913	44366	59437261	5/ 7/80	16:30:37	27	23.6	11.4	11.7	6.0	0.51	-16.7	***	******	******	**********	******	-5.9
	44366	62769928	5/ 7/80	17:26: 9													
2914	44366	64911101	5/ 7/80	18: 1:51	40	16.5	-11.4	27.1	15.0	0.55	-38.9	40	20.2	157.3	12.3	-5.8	-0.47	-4.6
	44366	68430548	5/ 7/80	19: 0:30														
2915	44366	70384941	5/ 7/80	19:33: 4	40	8.4	-34.2	45.3	16.5	0.36	-43.1	***	******	******	**********	******	-4.6
	44366	73717605	5/ 7/80	20:28:37													
2916	44366	75858761	5/ 7/80	21: 4:18	20	6.7	-57.0	28.9	13.3	0.46	-43.4	***	******	******	**********	******	-42.8
	44366	79191445	5/ 7/80	21:59:51													
2917	44366	81332621	5/ 7/80	22:35:32	20	-6.6	-79.8	30.2	11.8	0.39	-44.1	***	******	******	**********	******	-43.6
	44366	82399273	5/ 7/80	22:53:19													
2918	44366	45396	5/ 8/80	0: 7:33	30	-48.4	-102.6	48.3	12.6	0.26	-66.1	***	******	******	**********	******	-41.8
	44367	3722604	5/ 8/80	1: 2: 2													
2919	44367	5943229	5/ 8/80	1:33: 3	30	-61.7	-125.4	53.5	24.1	0.45	-29.1	30	-25.2	43.2	25.1	4.2	0.17	-66.0
	44367	9462607	5/ 8/80	2:37:42														
2920	44367	11417060	5/ 8/80	3:10:17	30	-42.2	-148.2	49.8	14.9	0.30	-29.1	30	-3.9	20.4	30.4	2.7	0.09	-28.4
	44367	14922751	5/ 8/80	4: 8:42														
2921	44367	17001046	5/ 8/80	4:43:21	30	-29.7	-171.0	41.5	21.9	0.53	-64.1	***	******	******	**********	******	-28.4
	44367	20139265	5/ 8/80	5:35:39														
2922	44367	22380470	5/ 8/80	6:13: 0	17	-14.9	166.2	39.9	14.7	0.37	-57.0	***	******	******	**********	******	-61.0
	44367	25651198	5/ 8/80	7: 7:31														
2923	44367	27854310	5/ 8/80	7:44:14	17	2.3	143.4	35.3	5.0	0.14	-51.5	***	******	******	**********	******	-57.6
	44367	31124051	5/ 8/80	8:38:44														
2924	44367	33326150	5/ 8/80	9:15:28	7	6.7	120.5	18.0	1.8	0.10	-25.1	***	******	******	**********	******	-30.7
	44367	36596919	5/ 8/80	10: 9:56														
2925	44367	38801992	5/ 8/80	10:46:41	7	4.0	97.7	15.5	0.5	0.03	-19.5	***	******	******	**********	******	-20.8
	44367	42105159	5/ 8/80	11:41:45														
2926	44367	44275831	5/ 8/80	12:17:55	13	-12.7	74.9	22.9	10.5	0.46	-30.8	***	******	******	**********	******	-9.6
	44367	47544800	5/ 8/80	13:12:24														
2927	44367	49749671	5/ 8/80	13:49: 9	13	-19.0	52.1	25.7	9.9	0.38	-41.0	***	******	******	**********	******	-25.0
	44367	53017457	5/ 8/80	14:43:37														
2928	44367	55223511	5/ 8/80	15:20:23	7	-1.5	29.3	22.5	9.9	0.44	-29.5	***	******	******	**********	******	-25.4
	44367	58431322	5/ 9/80	16:13:51														
2929	44367	60728810	5/ 8/80	16:52: 8	7	15.3	6.5	25.4	8.2	0.33	-30.0	***	******	******	**********	******	-23.8
	44367	63933671	5/ 8/80	17:45:33														
2930	44367	66202650	5/ 9/80	18:23:22	10	22.6	-16.3	25.9	7.5	0.29	-29.3	***	******	******	**********	******	-22.5
	44367	69407511	5/ 8/80	19:16:47														
2931	44367	71676491	5/ 8/80	19:54:36	10	23.3	-39.1	31.8	7.1	0.22	-30.0	10	14.6	129.6	8.6	-0.8	-0.09	-30.7
	44367	75195944	5/ 8/80	20:53:15														
2932	44367	77150351	5/ 8/80	21:25:50	17	17.8	-61.9	19.3	10.5	0.54	-33.6	***	******	******	**********	******	-29.6
	44367	80355141	5/ 8/80	22:19:15														
2933	44367	82624171	5/ 8/80	22:57: 4	17	-21.7	-84.7	23.3	9.7	0.41	******	***	******	******	**********	******	-34.3
	44367	85829032	5/ 8/80	23:50:29														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING NP	ASCENDING D ECL	ASCENDING ECL	E	I	I/E	DELTA B	DESCENDING NP	DESCENDING D ECL	DESCENDING ECL	E	I	I/E	DELTA B
2934	44368	1713987	5/ 9/80	0:28:33	30	-42.8	-107.5	31.1	11.9	0.34	-51.9	30	-21.3	61.2	17.6	7.1	0.40	-39.4
	44368	5217405	5/ 9/80	1:26:57														
2935	44368	7178552	5/ 9/80	1:59:31	30	-32.2	-130.3	26.2	7.6	0.29	-40.7	30	-10.5	38.4	7.2	7.7	1.08	-40.2
	44368	10621306	5/ 9/80	2:58:11														
2936	44368	12645692	5/ 9/80	3:30:45	30	-27.9	-153.1	34.3	12.6	0.37	-46.1	30	15.0	15.6	6.9	0.3	0.04	-34.5
	44368	16149416	5/ 9/80	4:29: 9														
2937	44368	16103603	5/ 9/80	5: 1:43	30	-11.0	-175.9	46.5	16.7	0.36	-62.9	30	22.6	-7.2	12.9	9.5	0.76	-45.3
	44368	21623257	5/ 9/80	6: 0:23														
2938	44368	23577643	5/ 9/80	6:32:57	23	-6.8	161.3	44.6	13.6	0.31	-55.7	23	9.5	-30.0	30.2	10.3	0.34	-52.7
2939	44368	27166992	5/ 9/80	7:32:40														
	44368	29351483	5/ 9/80	8: 4:11	23	1.2	138.5	35.0	6.0	0.17	-47.2	23	6.0	-52.8	32.3	13.2	0.32	-53.6
2940	44368	32634832	5/ 9/80	9: 3:54														
	44368	34588241	5/ 9/80	9:36:28	33	-0.8	115.8	20.4	1.0	0.05	-26.5	***	******	******	**********		******	-45.9
2941	44368	37777379	5/ 9/80	10:29:37														
	44368	39936246	5/ 9/80	11: 5:56	33	-25.4	93.0	35.7	12.6	0.35	-51.6	***	******	******	**********		******	-21.2
2942	44368	43206981	5/ 9/80	12: 0: 6														
	44368	45410086	5/ 9/80	12:36:50	30	-35.9	73.2	43.4	17.9	0.41	-62.5	***	******	******	**********		******	-40.7
2943	44368	48649356	5/ 9/80	13:30:49														
	44368	50883927	5/ 9/80	14: 8: 3	30	-31.4	47.4	41.9	19.2	0.46	-66.3	***	******	******	**********		******	-45.8
2944	44368	54150730	5/ 9/80	15: 2:30														
	44368	56357707	5/ 9/80	15:39:17	23	-29.7	24.6	30.7	16.6	0.54	-47.0	23	-21.4	-166.7	12.0	9.5	0.79	-47.0
2945	44368	59908679	5/ 9/80	16:38:28														
	44368	61863066	5/ 9/80	17:11: 3	23	-21.7	1.8	34.7	15.4	0.44	-47.0	47	-13.5	170.5	10.3	12.9	1.25	-37.0
2946	44368	65386506	5/ 9/80	18: 9:42														
	44368	67336906	5/ 9/80	18:42:16	47	-17.2	-21.0	43.9	16.8	0.38	-50.7	47	-1.0	147.7	13.3	8.2	0.60	-33.5
2947	44368	70856360	5/ 9/80	19:40:56														
	44368	72810746	5/ 9/80	20:13:30	47	-8.1	-43.8	44.8	8.4	0.19	-43.5	40	-14.0	124.9	16.5	3.0	0.18	-47.1
2948	44368	76330200	5/ 9/80	21:12:10														
	44368	78284587	5/ 9/80	21:44:44	40	-8.	-66.6	41.4	12.0	0.29	-54.7	40	-18.6	102.1	10.1	1.8	0.18	-14.8
2949	44368	81803052	5/ 9/80	22:43:23														
	44368	83947100	5/ 9/80	23:19: 7	40	-21.1	-89.4	46.5	13.4	0.29	-51.2	33	-22.2	79.3	18.7	1.1	0.06	-18.0
	44369	896799	5/10/80	0:14:56														
2950	44369	2848242	5/10/80	0:47:28	33	-37.5	-112.2	40.5	23.6	0.58	-50.4	33	-20.0	56.5	17.9	9.6	0.55	-28.1
	44369	4366467	5/10/80	1:46: 6														
2951	44369	8321637	5/10/80	2:18:41	33	-30.0	-135.0	33.1	-2.6	-0.08	-13.5	13	-5.9	33.7	7.7	8.9	1.15	-28.1
	44369	11809832	5/10/80	3:16:49														
2952	44369	13827136	5/10/80	3:50:27	13	-12.9	-157.7	15.8	-1.8	-0.12	-18.0	13	13.3	11.0	10.8	-2.3	-0.22	-26.1
	44369	17283672	5/10/80	4:48: 3														
2953	44369	19300976	5/10/80	5:21:40	13	13.7	179.5	13.1	2.3	0.17	-22.4	13	33.2	-11.8	10.5	2.9	0.28	-11.0
	44369	22821407	5/10/80	6:20:21														
2954	44369	24774816	5/10/80	6:52:54	13	22.9	156.7	23.2	1.6	0.07	-25.8	13	38.6	-34.6	18.9	-0.2	-0.01	-21.1
	44369	28279518	5/10/80	7:51:19														
2955	44369	30232927	5/10/80	8:23:52	13	22.1	133.9	14.9	-7.0	-0.47	-12.4	17	31.8	-57.4	9.2	-1.9	-0.20	-16.0
	44369	33753358	5/10/80	9:22:33														
2956	44369	35706768	5/10/80	9:55:56	17	1.9	111.1	-0.7	-6.2	8.71	0.7	***	******	******	**********		******	-4.6
	44369	38849702	5/10/80	10:47:29														
2957	44369	40991855	5/10/80	11:23:11	17	-1.4	88.3	10.7	0.9	0.08	-11.5	***	******	******	**********		******	1.1
	44369	44293064	5/10/80	12:18:13														
2958	44369	46465695	5/10/80	12:54:25	13	0.6	65.5	21.8	5.0	0.23	-26.7	13	-7.5	-125.8	2.4	-1.4	-0.58	-9.5
	44369	49922231	5/10/80	13:52:2														
2959	44369	52002453	5/10/80	14:26:42	13	2.5	42.8	18.4	6.0	0.32	-28.7	***	******	******	**********		******	-22.2
	44369	55207313	5/10/80	15:20: 7														
2960	44369	57466564	5/10/80	15:57:40	13	9.6	20.0	22.1	8.7	0.39	-26.6	***	******	******	**********		******	-12.2
	44369	60665429	5/10/80	16:51: 5														
2961	44369	62918674	5/10/80	17:28:38	13	20.2	-2.8	22.5	9.6	0.43	-30.7	***	******	******	**********		******	-22.4
	44369	66187443	5/10/80	18:23: 7														
2962	44369	68395215	5/10/80	18:59:52	23	27.0	-25.6	18.8	3.0	0.16	-16.3	***	******	******	**********		******	-21.2
	44369	71597375	5/10/80	19:53:17														
2963	44369	73913543	5/10/80	20:31:53	23	21.5	-48.4	13.2	3.7	0.28	-20.9	23	13.3	120.3	-8.9	-15.9	1.79	22.0
	44369	77370061	5/10/80	21:29:30														
2964	44369	79387383	5/10/80	22: 3: 7	23	32.0	-71.1	2.1	0.2	0.09	-8.7	23	6.8	97.6	-16.8	-12.6	0.75	26.3
	44369	82878322	5/10/80	23: 1:18														
2965	44369	84829705	5/10/80	23:33:49	23	41.6	-93.9	-3.2	-5.7	1.79	-0.2	37	14.4	74.8	-7.7	-5.7	0.86	26.3
	44370	1964948	5/11/80	0:32:44														
2966	44370	3919334	5/11/80	1: 5:19	37	16.3	-116.7	1.2	-2.2	-1.80	-3.9	37	8.6	52.0	-7.0	-3.4	1.20	6.7
	44370	7438788	5/11/80	2: 3:58														
2967	44370	9581928	5/11/80	2:39:41	37	8.6	-139.5	9.2	4.4	0.47	-15.8	20	12.1	29.2	1.8	1.8	1.01	-1.1
	44370	12914592	5/11/80	3:39:14														
2968	44370	14867015	5/11/80	4: 7:47	20	18.5	-162.2	3.7	1.9	0.51	-5.7	20	28.9	6.5	3.5	-3.6	-1.03	-1.1
	44370	18370739	5/11/80	5: 6:10														
2969	44370	20388043	5/11/80	5:39:48	20	25.9	175.0	9.7	3.7	0.38	-19.3	37	30.4	-16.3	7.8	3.1	0.40	3.4
	44370	23844579	5/11/80	6:37:24														
2970	44370	25661884	5/11/80	7:11: 1	37	14.0	152.2	37.4	8.7	0.23	-47.9	37	38.8	-39.1	9.2	-7.0	-0.76	-17.5
	44370	29318425	5/11/80	8: 8:38														
2971	44370	31357524	5/11/80	8:42:15	37	-13.1	129.4	65.8	17.0	0.26	-78.4	40	13.9	-61.9	9.2	22.1	2.41	-36.5
	44370	34884025	5/11/80	9:40:40														
2972	44370	36793835	5/11/80	10:13:13		-6.5	106.7	59.4	25.2	0.42	-78.4	***	******	******	**********		******	-68.1
	44370	39907269	5/11/80	11: 5: 7														
2973	44370	42076922	5/11/80	11:41:18			83.9	54.0	28.2	0.52	-71.2	***	******	******	**********		******	-68.1
	44370	45409620	5/11/80	12:36:49														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D ECL	ECL	E	I	I/E	DELTA B	DESCENDING KP	D ECL	ECL	E	I	I/E	DELTA B
2974	44370	47352702	5/11/80	13:12:32	43	-74.2	61.1	71.1	30.0	0.42	-94.4	***	******	******	**********	******		-65.8
	44370	50821531	5/11/80	14: 7: 1														
2975	44370	53373791	5/11/80	14:44:33	43	-62.9	38.3	53.4	22.6	0.42	-73.8	***	******	******	**********	******		-83.2
	44370	56313060	5/11/80	15:33:33														
2976	44370	58847631	5/11/80	16:15:47	43	-25.0	15.6	33.0	13.5	0.56	-73.8	43	-20.3	-175.7	33.9	-2.9	-0.09	-29.5
	44370	62034645	5/11/80	17:13:54														
2977	44370	63990012	5/11/80	17:46:30	43	-34.5	******	48.6	29.8	0.61	-73.8	***	******	******	**********	******		-29.5
	44370	67245011	5/11/80	18:40:45														
2978	44370	69479582	5/11/80	19:17:59	60	-32.6	-30.0	62.2	31.8	0.65	-98.1	***	******	******	**********	******		-32.3
	44370	72748351	5/11/80	20:12:28														
2979	44370	75205093	5/11/80	20:53:25	60	-18.9	-52.7	70.3	20.0	0.28	-87.1	60	-46.3	116.1	35.5	11.3	0.32	-46.1
	44370	78346038	5/11/80	21:45:46														
2980	44370	80427262	5/11/80	22:20:27	60	-52.6	-75.5	86.1	19.7	0.23	-103.2	60	-36.4	93.2	20.0	11.0	0.54	-46.1
	44370	83946716	5/11/80	23:19: 6														
2981	44370	85901103	5/11/80	23:51:41	47	-91.8	-98.3	98.4	29.2	0.30	-103.2	47	-46.0	70.4	43.1	22.2	0.46	-62.7
	44371	305101	5/12/80	0:50:51														
2982	44371	530[illegible]	5/12/80	1:23:26	47	-103.8	-121.1	88.1	30.8	0.35	-120.1	47	-42.4	47.7	36.9	20.8	0.56	-62.7
	44371	647[illegible]	5/12/80	2:21:18														
2983	44371	10495972	5/12/80	2:54:55	50	-100.9	-143.8	87.8	28.8	0.33	-116.4	50	-35.5	24.9	31.6	16.3	0.52	-104.1
	44371	13984944	5/12/80	3:53: 4														
2984	44371	15938353	5/12/80	4:25:38	50	-93.0	-166.6	94.5	28.0	0.30	-122.7	50	-26.8	2.1	4.4	33.6	0.98	-97.5
	44371	19458784	5/12/80	5:24:18														
2985	44371	21475111	5/12/80	5:57:55	37	-37.5	170.6	58.4	23.1	0.40	-79.5	37	-25.3	-20.6	.1	17.9	0.28	-113.7
	44371	24853000	5/12/80	6:54:13														
2986	44371	26807346	5/12/80	7:26:47	37	-33.3	147.9	64.3	13.9	0.22	-83.4	37	-26.4	-43.4	.1	16.7	0.29	-77.6
	44371	30311111	5/12/80	8:25:11														
2987	44371	32265437	5/12/80	8:57:45	33	-40.3	125.1	57.2	10.8	0.19	-73.3	33	-32.4	-66.2	53.3	16.0	0.30	-83.3
	44371	35784951	5/12/80	9:56:24														
2988	44371	37739337	5/12/80	10:28:59	33	-47.4	102.4	46.3	13.5	0.29	-62.6	33	-46.1	-88.9	57.1	11.6	0.20	-61.1
	44371	41243062	5/12/80	11:27:23														
2989	44371	43260366	5/12/80	12: 1: 0	27	-56.8	79.6	54.0	25.2	0.47	-62.6	27	-48.8	-111.7	42.7	10.7	0.25	-63.3
	44371	46780797	5/12/80	12:59:40														
2990	44371	48734206	5/12/80	13:32:14	27	-56.1	56.8	58.6	23.1	0.39	-80.4	27	-55.5	-134.5	62.0	2.1	0.03	-63.3
	44371	52238908	5/12/80	14:30:38														
2991	44371	54192317	5/12/80	15: 3:12	27	-46.9	34.1	51.8	26.0	0.50	-75.6	***	******	******	**********	******		-68.8
	44371	57270368	5/12/80	15:54:30														
2992	44371	59776203	5/12/80	16:36:16	27	-34.4	11.3	46.5	21.9	0.47	-65.0	***	******	******	**********	******		-69.4
	44371	62730445	5/12/80	17:25:30														
2993	44371	65234374	5/12/80	18: 7:14	30	-25.3	-11.5	55.0	22.3	0.41	-77.2	***	******	******	**********	******		-64.4
	44371	68188536	5/12/80	18:56:28														
2994	44371	70092485	5/12/80	19:38:12	30	-19.6	-34.2	64.9	9.8	0.15	-61.7	***	******	******	**********	******		-70.7
	44371	73708597	5/12/80	20:28:28														
2995	44371	76166325	5/12/80	21: 9:26	30	-16.2	-57.0	56.2	11.4	0.20	-73.0	***	******	******	**********	******		-59.8
	44371	79121432	5/12/80	21:58:41														
2996	44371	81124436	5/12/80	22:40:24	30	-27.6	-79.7	51.0	7.7	0.15	-59.2	30	-36.9	89.0	22.0	10.2	0.46	-30.8
	44371	84765433	5/12/80	23:32:45														
2997	44371	636604	5/13/80	0:10:35	23	-45.3	-102.5	46.4	6.4	0.14	-59.2	***	******	******	**********	******		-30.8
	44372	3670146	5/13/80	1: 1:10														
2998	44372	6093409	5/13/80	1:41:33	23	-52.9	-125.2	43.3	10.7	0.25	-61.3	***	******	******	**********	******		-30.8
	44372	9111546	5/13/80	2:31:51														
2999	44372	11551590	5/13/80	3:12:31	27	-48.5	-148.0	37.6	13.9	0.37	-52.1	***	******	******	**********	******		-55.6
	44372	14567693	5/13/80	4: 2:47														
3000	44372	17009691	5/13/80	4:43:29	27	-24.1	-170.8	42.1	9.0	0.21	-53.8	***	******	******	**********	******		-52.5
	44372	20027703	5/13/80	5:33:47														
3001	44372	22467891	5/13/80	6:14:27	27	-1.4	166.5	35.9	11.3	0.31	-49.2	***	******	******	**********	******		-40.4
	44372	25485879	5/13/80	7: 4:45														
3002	44372	27862934	5/13/80	7:44:22	27	-0.3	143.7	46.0	3.0	0.07	-56.4	***	******	******	**********	******		-47.6
	44372	30944907	5/13/80	8:35:44														
3003	44372	33384023	5/13/80	9:16:24	17	-10.1	121.0	26.4	1.0	0.04	-39.2	***	******	******	**********	******		-46.7
	44372	36402100	5/13/80	10: 6:42														
3004	44372	38794946	5/13/80	10:46:34	17	-5.1	96.2	19.2	1.3	0.07	-25.1	***	******	******	**********	******		-24.1
	44372	42023653	5/13/80	11:49:23														
3005	44372	44253059	5/13/80	12:17:53	7	-15.6	75.5	25.3	14.1	0.56	-34.9	***	******	******	**********	******		-20.6
	44372	47350429	5/13/80	13: 8:55														
3006	44372	49711107	5/13/80	13:48:31	7	-22.9	52.7	29.5	13.6	0.46	-46.6	***	******	******	**********	******		-33.1
	44372	52793140	5/13/80	14:39:53														
3007	44372	55169278	5/13/80	15:19:29	20	-11.0	30.0	25.4	12.2	0.48	-35.6	***	******	******	**********	******		-38.3
	44372	58251250	5/13/80	16:10:51														
3008	44372	60627383	5/13/80	16:50:27	20	0.8	7.2	30.9	11.5	0.37	-35.6	***	******	******	**********	******		-32.2
	44372	63740823	5/13/80	17:42:20														
3009	44372	66101229	5/13/80	18:21:41	30	11.6	-15.5	*****	*****	*****	-43.4	***	******	******	**********	******		-32.2
	44372	69183201	5/13/80	19:13: 3														
3010	44372	71496422	5/13/80	19:51:36	30	3.0	-38.3	54.2	15.3	0.28	-53.9	***	******	******	**********	******		-37.6
	44372	74763216	5/13/80	20:46: 3														
3011	44372	76970262	5/13/80	21:24:50	50	-13.5	-61.0	60.8	23.2	0.38	-84.7	***	******	******	**********	******		-52.0
	44372	80112211	5/13/80	22:15:12														
3012	44372	82428373	5/13/80	22:53:48	50	-53.6	-93.8	84.9	25.2	0.30	-110.0	***	******	******	**********	******		-80.9
	44372	85570113	5/13/80	23:46:10														
3013	44373	1455271	5/14/80	0:24:15	43	-76.6	-106.5	74.7	21.8	0.29	-102.9	***	******	******	**********	**********		
	44373	4724040	5/14/80	1:13:44														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING NP	D EQL	EQL	E	I	I/E	DELTA B	DESCENDING NP	D EQL	EQL	E	I	I/E	DELTA B
3014	44373	69291111	5/14/80	1:55:29	***	******	******	*****	*****	*****	-51.8	***	******	******	**********	******	******	-39.1
3015	44373	101661222	5/14/80	2:49:26														
	44373	123712447	5/14/80	3:26:11	37	-81.9	-152.0	*****	*****	*****	-53.8	***	******	******	**********	******	******	-39.1
3016	44373	155633229	5/14/80	4:19:23														
	44373	178608816	5/14/80	4:57:40	37	-34.3	-174.7	52.3	11.6	0.22	-68.2	***	******	******	**********	******	******	-63.4
3017	44373	207719485	5/14/80	5:46:11														
	44373	232621504	5/14/80	6:27:42	23	-25.1	162.5	52.0	10.0	0.19	-65.2	***	******	******	**********	******	******	-43.5
3018	44373	264670114	5/14/80	7:21:7														
	44373	287770398	5/14/80	7:59:37	23	-24.8	139.8	47.2	9.1	0.19	-4.8	***	******	******	**********	******	******	-65.0
3019	44373	311953391	5/14/80	8:52:33														
	44373	342351499	5/14/80	9:30:35	20	-32.4	117.0	33.6	5.9	0.18	-43.3	***	******	******	**********	******	******	-42.1
3020	44373	373957711	5/14/80	10:23:15														
	44373	396303442	5/14/80	11:0:30	20	-49.9	94.3	37.6	8.5	0.23	-45.7	***	******	******	**********	******	******	-42.2
3021	44373	428352027	5/14/80	11:53:55														
	44373	450884533	5/14/80	12:31:28	***	******	******	*****	*****	*****	-45.7	***	******	******	**********	******	******	-39.4
3022	44373	483277227	5/14/80	13:25:27														
	44373	505465637	5/14/80	14:2:26	23	-35.3	48.8	43.9	16.6	0.38	-65.2	***	******	******	**********	******	******	-39.4
3023	44373	537504447	5/14/80	14:55:50														
	44373	560204047	5/14/80	15:33:40	30	-27.1	26.1	38.5	17.0	0.44	-53.9	***	******	******	**********	******	******	-46.4
3024	44373	592252084	5/14/80	16:27:5														
	44373	611301857	5/14/80	17:8:50	30	-12.9	3.3	44.4	18.1	0.41	******	***	******	******	**********	******	******	-43.5
3025	44373	629216807	5/14/80	17:28:41														
	44373	699687177	5/14/80	19:26:8	***	******	******	*****	*****	*****	******	***	******	******	**********	******	******	-43.5
3027	44373	700915927	5/14/80	19:28:11														
	44373	807627907	5/14/80	22:26:2	***	******	******	*****	*****	*****	******	23	-26.2	103.8	**********	******	******	-25.6
3028	44373	813280557	5/14/80	22:35:28														
	44373	836570057	5/14/80	23:14:17	23	-31.0	-87.6	42.2	8.5	0.20	*****	13	-38.5	81.1	27.7	7.3	0.26	-32.2
3029	44374	384204	5/15/80	0:6:24														
	44374	25895425	5/15/80	0:43:9	13	-31.5	-119.4	45.9	6.7	0.15	******	***	******	******	**********	******	******	-32.2
3030	44374	55768886	5/15/80	1:32:56														
	44374	81732466	5/15/80	2:16:13	13	-28.8	-133.1	37.5	11.2	0.30	-56.2	***	******	******	**********	******	******	-32.2
3031	44374	109996605	5/15/80	3:3:19														
	44374	135055025	5/15/80	3:45:5	20	-32.5	-155.8	33.0	7.6	0.23	-42.6	***	******	******	**********	******	******	-26.9
3032	44374	164616504	5/15/80	4:34:21														
	44374	189636134	5/15/80	5:16:3	20	-21.7	-178.6	27.8	11.3	0.41	-41.2	***	******	******	**********	******	******	-26.9
3033	44374	219177954	5/15/80	6:5:17														
	44374	244217244	5/15/80	6:47:1	***	******	******	*****	*****	*****	-41.2	***	******	******	**********	******	******	-41.2
3034	44374	274053442	5/15/80	7:36:45														
	44374	298798835	5/15/80	8:17:59	27	-7.7	136.0	42.9	1.0	0.02	-47.1	***	******	******	**********	******	******	-41.2
3035	44374	328517034	5/15/80	9:7:31														
	44374	353379346	5/15/80	9:48:57	10	-13.9	123.2	36.6	-2.6	-0.07	-47.1	***	******	******	**********	******	******	-38.3
3036	44374	383216114	5/15/80	10:39:41														
	44374	425577527	5/15/80	11:49:17	***	******	******	*****	*****	*****	-47.1	***	******	******	**********	******	******	-38.3
3037	44374	437521966	5/15/80	12:9:12														
	44374	462384438	5/15/80	12:50:38	13	-37.0	67.8	42.1	15.8	0.38	-56.6	***	******	******	**********	******	******	-38.3
3038	44374	491906655	5/15/80	13:39:50														
	44374	518423885	5/15/80	14:23:42	13	-28.0	45.0	37.4	8.1	0.22	-50.0	***	******	******	19.8	7.8	0.40	-50.2
3039	44374	546004523	5/15/80	15:10:4														
	44374	591837566	5/15/80	16:26:23	***	******	******	*****	*****	*****	-50.0	***	******	******	**********	******	******	-50.2
3040	44374	600036008	5/15/80	16:41:3														
	44374	628487137	5/15/80	17:27:28	7	3.1	-0.4	33.0	12.2	0.37	-42.3	***	******	******	**********	******	******	-44.1
3041	44374	653772137	5/15/80	18:9:37														
	44374	699426844	5/15/80	19:25:42	***	******	******	*****	*****	*****	-42.3	***	******	******	**********	******	******	-44.1
3042	44374	710093322	5/15/80	19:43:29														
	44374	754322554	5/15/80	20:57:12	***	******	******	*****	*****	*****	-42.3	***	******	******	**********	******	******	-44.1
3043	44374	764989022	5/15/80	21:14:58														
	44374	790972710	5/15/80	21:58:17	17	-9.7	-68.6	34.7	11.3	0.33	-42.3	***	******	******	14.5	3.5	0.03	-44.1
3044	44374	819235899	5/15/80	22:45:23														
	44374	844294877	5/15/80	23:27:9	17	-20.0	-91.3	39.5	10.8	0.27	-56.0	***	******	******	**********	******	******	-29.9
3045	44375	1015374	5/16/80	0:16:55														
	44375	34876000	5/16/80	0:58:7	10	-31.4	-114.0	43.9	7.5	0.17	-46.2	***	******	******	**********	******	******	-29.9
3046	44375	64417777	5/16/80	1:47:21														
	44375	88827888	5/16/80	2:28:2	10	-33.4	-130.8	36.2	7.9	0.22	-49.6	***	******	******	**********	******	******	-39.5
3047	44375	119000865	5/16/80	3:18:20														
	44375	143880857	5/16/80	3:59:48	13	-22.5	-159.5	32.0	5.6	0.18	-42.1	***	******	******	**********	******	******	-23.2
3048	44375	173422269	5/16/80	4:49:2														
	44375	198461988	5/16/80	5:30:46	13	-10.7	177.8	37.2	3.4	0.09	-47.0	***	******	******	**********	******	******	-23.2
3049	44375	228160599	5/16/80	6:20:16														
	44375	25241391	5/16/80	7:0:41	***	******	******	*****	*****	*****	-47.0	***	******	******	**********	******	******	-46.5
3050	44375	28258468	5/16/80	7:50:58														
	44375	30899502	5/16/80	8:31:39	***	******	******	*****	*****	*****	-47.0	***	******	******	**********	******	******	-46.5
3051	44375	33734288	5/16/80	9:22:14														
	44375	36157612	5/16/80	10:2:37	10	-16.6	109.6	19.1	3.8	0.20	-27.3	***	******	******	**********	******	******	-46.5
3052	44375	39172746	5/16/80	10:52:52														
	44375	41615723	5/16/80	11:33:35	10	-22.0	86.9	*****	*****	*****	-27.3	***	******	******	**********	******	******	-28.1
3053	44375	44650513	5/16/80	12:24:10														
	44375	49071471	5/16/80	13:37:51	***	******	******	*****	*****	*****	-27.3	***	******	******	**********	******	******	-28.1
3054	44375	50101010	5/16/80	13:55:1														
	44375	52543988	5/16/80	14:36:43	3	-13.7	41.5	15.5	13.2	0.85	-27.3	***	******	******	**********	******	******	-28.1
	44375	55499886	5/16/80	15:24:59														

PASS	MJD	MSEC	DATE	GR:MN:SC	ASCENDING KE	D EQI	EQL			I/E	DELTA B	DESCENDING KP	D ECL	ECL	B	I	I/E	DELTA B
3055	44375	58037244	5/16/80	16: 7:17	***	******	*****			****	-27.3	***	******	******	**********		******	-28.1
	44375	60974709	5/16/80	16:56:14														
3056	44375	65304239	5/16/80	18: 8:24	***	******	*****			*****	-27.3	***	******	******	**********		******	-28.1
3057	44375	66434782	5/16/80	18:27:14														
	44375	68922007	5/16/80	19: 8:42	3	12.7	-26..	16.9	26.3	1.56	-27.3	***	******	******	**********		******	-28.1
	44375	71953851	5/16/80	19:59:13														
3058	44375	74304388	5/16/80	20:39:24	3	12.4	-49.4	47.1	-1.8	-0.04	-44.7	***	******	******	**********		******	-28.1
	44375	77351985	5/16/80	21:29:11														
3059	44375	79759581	5/16/80	22: 9:19	0	-3.0	-72.1	29.4	9.5	0.32	-42.1	0	-17.8	96.6	17.6	-8.7	-0.50	-6.8
	44375	83029330	5/16/80	23: 3:49														
3060	44375	6838 41	5/17/80	0:11:23	***	******	******	*****	*****	*****	-42.1	***	******	******	**********		**********	
	44376	1878293	5/17/80	0:31:18														
3061	44376	4244344	5/17/80	1:10:44	***	******	******	*****	*****	*****	-42.1	***	******	******	**********		**********	
	44376	7257504	5/17/80	2: 0:57														
3062	44376	9749643	5/17/80	2:42:29	0	-7.4	-140.2	23.1	9.9	0.43	-42.1	3	-1.8	28.5	12.5	2.2	0.18	******
	44376	12985907	5/17/80	3:36:25														
3063	44376	15192025	5/17/80	4:13:12	3	-8.5	-163.0	13.6	17.0	1.24	-30.0	3	14.3	5.8	19.9	-0.4	-0.02	******
	44376	18428349	5/17/80	5: 7: 8														
3064	44376	22396102	5/17/80	6:13:16	***	******	******	*****	*****	*****	-30.0	3	20.0	-16.9	**********		**********	
	44376	23870730	5/17/80	6:37:50														
3065	44376	26076787	5/17/80	7:14:36	3	16.0	151.6	33.8	1.3	0.04	-37.1	***	******	******	**********		******	-27.3
	44376	29094865	5/17/80	8: 4:54														
3066	44376	31534898	5/17/80	8:45:34	***	******	******	*****	*****	*****	-37.1	***	******	******	**********		******	-36.6
	44376	34553956	5/17/80	9:35:53														
3067	44376	36977279	5/17/80	10:16:17	7	-6.4	106.2	16.7	-3.1	-0.19	-37.1	***	******	******	**********		******	-36.6
	44376	40011089	5/17/80	11: 6:51														
3068	44376	42419661	5/17/80	11:46:59	7	-11.2	83.5	22.5	3.8	0.17	-37.1	***	******	******	**********		******	-36.6
	44376	45467226	5/17/80	12:37:47														
3069	44376	47862042	5/17/80	13:17:42	***	******	******	*****	*****	*****	-37.1	***	******	******	**********		******	-36.6
	44376	50848603	5/17/80	14: 7:28														
3070	44376	53383071	5/17/80	14:49:43	***	******	******	*****	*****	*****	-37.1	***	******	******	-1.5	5.8	-3.85	-36.6
	44376	56369686	5/17/80	15:39:29														
3071	44376	58746835	5/17/80	16:19: 6	***	******	******	*****	*****	*****	-37.1	***	******	******	**********		******	-36.6
	44376	61085247	5/17/80	17: 0: 5														
3072	44376	64283563	5/17/80	17:51:23	10	8.2	-37.4	*****	*****	*****	-37.1	***	******	******	**********		******	-36.6
	44376	67270184	5/17/80	18:41:10														
3073	44376	72541511	5/17/80	20: 9: 1	***	******	******	*****	*****	*****	-37.1	***	******	******	**********		******	-36.6
	44376	72664386	5/17/80	20:11: 4														
3074	44376	77763691	5/17/80	21:36: 3	***	******	******	*****	*****	*****	-37.1	***	******	******	**********		******	2.5
	44376	78201143	5/17/80	21:43:21														
3076	44376	1941965	5/18/80	0:32:21	***	******	******	*****	*****	*****	******	***	******	******	**********		******	2.5
	44377	2128749	5/18/80	0:35:28														
3077	44377	7659366	5/18/80	2: 7:39	***	******	******	*****	*****	*****	******	***	******	******	**********		**********	
	44377	8098828	5/18/80	2:14:56														
3078	44377	13117477	5/18/80	3:38:37	***	******	******	*****	*****	*****	******	3	4.8	25.2	**********		******	-5.9
	44377	13821363	5/18/80	3:50:21														
3079	44377	18481211	5/18/80	5: 8: 1	***	******	******	*****	*****	*****	******	***	******	******	**********		******	-5.9
	44377	18982561	5/18/80	5:16:22														
3080	44377	24128075	5/18/80	6:42: 8	***	******	******	*****	*****	*****	******	***	******	******	**********		******	-5.9
	44377	24437747	5/18/80	6:47:17														
3081	44377	29444621	5/18/80	8:10:44	***	******	******	*****	*****	*****	******	7	18.1	-42.9	**********		******	-5.9
	44377	30179906	5/18/80	8:22:59														
3082	44377	35091485	5/18/80	9:44:51	***	******	******	*****	*****	*****	******	***	******	******	**********		******	-5.9
	44377	35342163	5/18/80	9:49: 2														
3083	44377	40297925	5/18/80	11:11:37	***	******	******	*****	*****	*****	******	***	******	******	**********		******	-5.9
	44377	40799295	5/18/80	11:19:59														
3085	44377	51367170	5/18/80	14:16:27	***	******	******	*****	*****	*****	******	***	******	******	**********		******	-5.9
	44377	51696842	5/18/80	14:21:36														
3086	44377	56955387	5/18/80	15:49:15	***	******	******	*****	*****	*****	******	***	******	******	**********		******	-5.9
	44377	57142170	5/18/80	15:52:22														
3087	44377	62287602	5/18/80	17:18: 7	***	******	******	*****	*****	*****	******	20	7.7	-179.1	**********		******	-5.9
	44377	62897172	5/18/80	17:28:17														
3088	44377	67745773	5/18/80	18:49: 5	***	******	******	*****	*****	*****	******	13	16.5	158.2	**********		******	-5.9
	44377	68339554	5/18/80	18:58:59														
3089	44377	73125237	5/18/80	20:18:45	***	******	******	*****	*****	*****	******	13	16.1	135.5	**********		******	-5.9
	44377	73781936	5/18/80	20:29:41														
3090	44377	78441783	5/18/80	21:47:21	***	******	******	*****	*****	*****	******	***	******	******	**********		******	-5.9
	44377	78879245	5/18/80	21:54:39														
3091	44377	83836976	5/18/80	23:17:16	***	******	******	*****	*****	*****	******	***	******	******	**********		******	-5.9
	44377	84338346	5/18/80	23:25:38														
3092	44377	31352Jo	5/19/80	0:52:15	***	******	******	*****	*****	*****	******	***	******	******	**********		******	-5.9
	44378	3385ao5	5/19/80	0:56:25														
3093	44378	8510492	5/19/80	2:21:50	***	******	******	*****	*****	*****	******	3	9.5	44.8	**********		******	-5.9
	44378	9167190	5/19/80	2:32:47														
3094	44378	14078709	5/19/80	3:54:38	***	******	******	*****	*****	*****	******	7	22.7	22.1	**********		******	-5.9
	44378	14609572	5/19/80	4: 3:29														
3095	44378	19485945	5/19/80	5:24:45	***	******	******	*****	*****	*****	******	7	33.3	-0.6	**********		******	-5.9
	44378	20006602	5/19/80	5:34:27														
3096	44378	24475859	5/19/80	6:47:55	***	******	******	*****	*****	*****	******	17	41.1	-23.3	**********		******	-5.9
	44378	25510064	5/19/80	7: 5:10														

PASS	MJD	MSEC	DATE	HR:MN:SC	ASCENDING KP	D	EQL	E	I	I/E	DELTA B	DESCENDING KP	D	EQL	E	I	I/E	DELTA B
3097	44378	30311476	5/19/80	8:25:11	***	******	******	*****	*****	*****	******	17	30.4	-46.0	**********	******	-5.9	
	44378	30952445	5/19/80	8:35:52														
3098	44378	35816775	5/19/80	9:56:56	***	******	******	*****	*****	*****	******	***	******	******	**********	******	-5.9	
	44378	35939650	5/19/80	9:58:59														
3099	44378	40881651	5/19/80	11:21:21	***	******	******	*****	*****	*****	******	***	******	******	**********	******	-5.9	
	44378	41479609	5/19/80	11:31:19														
3100	44378	46512785	5/19/80	12:55:12	***	******	******	*****	*****	*****	******	30	-7.1	-114.0	**********	******	-5.9	
	44378	47295319	5/19/80	13: 8:15														
3101	44378	52269755	5/19/80	14:31: 9	***	******	******	*****	*****	*****	******	30	-6.0	-136.7	**********	******	-5.9	
	44378	52801595	5/19/80	14:40: 1														
3102	44378	57460465	5/19/80	15:57:40	***	******	******	*****	*****	*****	******	27	-5.7	-159.4	**********	******	-5.9	
	44378	58243976	5/19/80	16:10:43														
3103	44378	62556799	5/19/80	17:22:36	***	******	******	*****	*****	*****	******	27	-1.9	177.9	**********	******	-5.9	
	44378	63702089	5/19/80	17:41:42														

***** END OF JOB *****

APPENDIX 2

MAGNETIC ACTIVITY INDICES Kp AND Dst

DURING THE MAGSAT OPERATION

Masahisa Sugiura

Laboratory for Extraterrestrial Physics
Goddard Space Flight Center

OCTOBER 1981

1. Kp Index

The following tables give three-hourly Kp, daily Ap and Cp indices for the months October 1979 through June 1980 (pages 2-3 through 2-7). A Kp graph is also provided (page 2-8). These tables and the graph are reproductions of those supplied by the Geophysikalisches Institut, Gottingen.

International quiet and disturbed days:

Quietest Days 1- 5:	18	17	19	30	27
Quietest Days 6-10:	31	5	14	23	20
Most Disturbed Days 1-5:	8	6	7	9	10*

GEOMAGNETIC PLANETARY INDICES

Three-hourly: Kp; Daily: Ap and Cp

October 1979

	1 2 3 4	5 6 7 8	Sum	Ap	Cp
1	4-3-1+2+	3o3-1-1o	17+	10	0.6
2	0+0+0+2-	2o2+3-3o	13-	7	0.3
3	4o4-2+1o	2o3+3-1+	20+	13	0.7
4	3o2-3+4o	0+1-0+0o	13+	9	0.5
5	0o0+1-1-	2+2o3-2+	11o	6	0.3
6	3+4-4-5o	6-6o3o3-	33o	36	1.4
7	4-4+4o3+	5o4+5-5-	34o	32	1.3
8	6-4+4+5-	4o5-4-5-	36o	37	1.4
9	4+4-4+5-	3o3o3+3-	29o	23	1.1
10	4o4o3o3o	3+2o4-2o	25o	17	0.9
11	1-1o3-3-	3+3o2o2-	17o	10	0.5
12	1-1+1o2o	2o2o3-4-	15+	8	0.5
13	3o3-3o3-	2-2+3o3o	21+	12	0.7
14	2+1-3-2o	1o2o1o1-	12+	6	0.3
15	0+0+1o2o	3o3o2+2o	14o	8	0.4
16	3o3-2-2o	2+1o1+1o	15o	8	0.4
17	1o2-1o1o	1+1-1-2-	9o	4	0.2
18	1o1o1o0o	0+0o1-1+	5+	3	0.0
19	1o0+1-1+	2+2-1o2-	10o	5	0.2
20	3-0+2o2o	1o2+1+2-	13+	6	0.3
21	2-3-1+2+	2o3-2+4-	19-	10	0.6
22	3+3+4-3-	2o3+2o2-	22o	14	0.8
23	1+2o1+2o	2-2-2o2o	14o	6	0.3
24	2o3o3o3+	3o3o2o1o	20+	12	0.7
25	2o3o4+2+	3-2+3o3-	22+	14	0.8
26	2-3+1+2-	2o2-2-2+	16-	8	0.4
27	3+2-2+2-	1-2-2o2-	12o	6	0.3
28	2-3-2-3-	3-1+1o3+	17o	9	0.5
29	4-3+1+2-	1+2+3-2+	19-	11	0.6
30	3-2o1+1+	1o0+0+0+	9+	5	0.2
31	1-0o1-2o	1+2+2o2+	11+	5	0.2
			Mean	12	0.56

Preliminary ssc: 06 d 11 h 20 m

International quiet and disturbed days:

Quietest Days 1- 5:	28	5	22	6	15
Quietest Days 6-10:	23	26	29	18	27
Most Disturbed Days 1-5:	13	24	9*	8*	7*

GEOMAGNETIC PLANETARY INDICES

Three-hourly: Kp; Daily: Ap and Cp

November 1979

	1 2 3 4	5 6 7 8	Sum	Ap	Cp
1	3o3o2+3o	3o3+4-3o	24+	16	0.9
2	3+4-3-3-	3o2+2-1o	20+	12	0.7
3	1-0+1o3-	2+3+3+3+	17o	10	0.6
4	3+3o2+3-	2o2-2o1o	18o	10	0.5
5	0+0o0+1-	1o1-1o0+	4+	2	0.0
6	1-1o1-1+	1o0+0+0+	6-	3	0.1
7	1o2o2-2+	2+4-4o2+	19+	12	0.7
8	3-2o5-4-	3o2+2-2-	22-	14	0.8
9	2+2+3-1+	4o5-4+3+	25o	19	1.0
10	1+2o2-1+	1+1+2-3-	13+	6	0.3
11	3o3+2-2o	2o3o2o2-	19-	10	0.6
12	1c1+2+2+	2+2+2o2-	15+	7	0.4
13	4o5-4-4+	4o5o5+4+	35+	35	1.4
14	5o4+3-1o	1-1o0+0o	15o	13	0.8
15	0o1o1-1+	1+1-0+1o	6+	3	0.1
16	2+3+4-2o	2o3-3-2o	21-	12	0.7
17	3+2+3-2o	1o1-2o1o	15o	8	0.4
18	3-1-1o1+	1o1o0+0+	8+	4	0.2
19	0+1-1+2o	2o2o2o3o	13+	7	0.3
20	2o1+2+3-	3o3+2-1+	18-	10	0.5
21	3-2o2o1o	1o1+2-0+	12o	6	0.3
22	0o0o1+1+	1-1-0+0o	4+	2	0.0
23	0+0o0+2-	1o1o2-2o	8o	4	0.1
24	3o4-4o4o	4-4-4o4o	30o	24	1.1
25	4+5o2+2o	2-1o1+2-	19+	15	0.8
26	1o0o0o0+	1+1+2+2-	8o	4	0.1
27	2o1o2+1-	1o1-1-0+	9-	4	0.2
28	0+0o1o0o	0+0+1-0+	3o	2	0.0
29	0+0o1-1-	1-2+2+1o	8o	4	0.1
30	1o2-5o3+	3+3-2o2o	21o	15	0.8
			Mean	10	0.48

Preliminary ssc: 07 d 13 h 47 m
09 d 12 h 02 m 30 d 07 h 39 m

International quiet and disturbed days:

Quietest Days 1- 5:	25	13	23	7	12
Quietest Days 6-10:	14	21	20	11	10
Most Disturbed Days 1-5:	29	30	4*	28*	22*

GEOMAGNETIC PLANETARY INDICES

Three-hourly: Kp; Daily: Ap and Cp

December 1979

	1 2 3 4	5 6 7 8	Sum	Ap	Cp
1	2-1o3-3-	2+3-2+2o	17+	9	0.5
2	3+3o3-3o	2+2-2-1+	19o	11	0.6
3	2+3+3+2+	2-1o1o0+	15+	9	0.5
4	2o3+4o3o	3+4o3-2o	24+	16	0.9
5	2o1+2+2o	2+2+1o2-	15o	7	0.4
6	2+2o2+2-	1-0+1o1o	11+	6	0.2
7	1+1o1-1o	1-1-2-1+	8+	4	0.1
8	1+3-2o2o	3o2+3-2+	18+	10	0.5
9	2o2o2o2+	2o1+2-2-	15o	7	0.3
10	1o1+1o1o	1-3-2-1-	11-	5	0.2
11	2+1+1-1-	1-1-2+1+	10o	5	0.2
12	1-1-0+1o	1o1+2-2-	8+	4	0.1
13	0+1-1+1-	1+1-1o1o	7o	4	0.1
14	0+2-1o1o	1o1+2-1+	9+	4	0.2
15	1o3o2-3-	2o2+3-2-	17o	9	0.5
16	3-3o2+2-	2o2o2o3+	19o	10	0.6
17	4-2+3o2o	3-3o2+3-	22-	13	0.7
18	3-1o1+2+	2o2-2-2-	14+	7	0.3
19	2-2o2-1+	1o1+2-2+	13o	6	0.3
20	0o1+1-1o	2o2-1+1o	9o	4	0.1
21	0+0o0+1-	1-1+2+2o	8-	4	0.1
22	2+3o2+4o	3o3+4-1+	23o	15	0.8
23	1-0+1-1-	0o1o1o2o	6+	3	0.1
24	2+2-1+2+	1o3-1o1+	14-	7	0.3
25	0o0o0o0o	1+0+1o1+	4o	2	0.0
26	2o1+1o2-	2o3+4-3-	18-	10	0.6
27	1+3o3o3o	3o3+2-1o	19+	12	0.7
28	1o3-2-4+	4o3+2-4o	23-	16	0.9
29	4o5o4o4-	4o4-5o4+	34-	32	1.3
30	5-4+3+3+	3-3o3+3-	27+	20	1.0
31	2+2+1+1o	1+2-2+4-	16o	9	0.5
		Mean		9	0.44

Preliminary ssc: none

International quiet and disturbed days:

Quietest Days 1- 5:	9	10	18	19	12
Quietest Days 6-10:	23	7	31	24	21
Most Disturbed Days 1-5:	28	29	27	1	13

GEOMAGNETIC PLANETARY INDICES

Three-hourly: Kp; Daily: Ap and Cp

January 1980

	1 2 3 4	5 6 7 8	Sum	Ap	Cp
1	2+2+2+3+	3+4+5o5o	28o	24	1.2
2	4+3o2o2+	3+2o1o2o	20o	12	0.7
3	3-4+2-3+	4-3-3+4-	25+	18	1.0
4	3o3+3o3o	2+4o3+3o	25o	16	0.9
5	3-2o2o3-	3o3-3o3o	21o	12	0.7
6	3-3+2o1+	2o2o1+1+	16o	8	0.4
7	0+0o1-1o	1o1+2+3-	9+	5	0.2
8	3-2+2o2+	1-0+1o1-	12o	6	0.3
9	1+1-1-1-	1-1-0+0+	5+	3	0.1
10	0+0+0o1-	1+1o1-1+	6-	3	0.1
11	1-2-3o3-	3-3-3o3-	19o	11	0.6
12	1-1o1+2-	1+1o1o1o	9o	4	0.2
13	0o3-3+4+	4+4o5-4-	27o	23	1.1
14	4-3o2o2o	2-2o1+2-	17+	9	0.5
15	1-0+1o2-	2o2+2+1+	12-	6	0.3
16	4+3o2+1o	1+0+0+0+	13o	9	0.5
17	1o2o4+3o	3+3o2o1+	20o	13	0.7
18	1+1-1o1-	1+0+1+2-	8+	4	0.1
19	2-0o0+1o	1-2-2-1o	8o	4	0.1
20	3-2+1-1-	1o1-2o2+	12+	6	0.3
21	3-1o1o1o	2o1o1-2-	11o	6	0.2
22	0+0o1o1+	1o2-3o2-	10o	5	0.2
23	2-1o2o2-	1+1-1o0+	10-	5	0.2
24	0+0o1-2-	2-2+2+1o	10o	5	0.2
25	0+0o1-2+	2+2o3-3-	13o	7	0.3
26	1+2+1o1o	2-1-2o2+	12+	6	0.3
27	2+3o3-2+	4+4+5-5o	29-	24	1.2
28	3o4-2+2+	4-5o5+4+	30-	27	1.2
29	5+4+2-3-	4-4+4-4-	29+	26	1.2
30	3+2+2o3+	2o2o1+2-	16o	10	0.5
31	2-0+1-2-	1+1o2-2+	11-	5	0.2
		Mean		10	0.51

Preliminary ssc: 13 d 05 h 10 m
17 d 06 h 12 m, 25 d 11 h 09 m
28 d 15 h 43 m

International quiet and disturbed days:

Quietest Days 1- 5:	13	3	12	5	10
Quietest Days 6-10:	22	21	11	4	17
Most Disturbed Days 1-5:	16	15	6	14*	8*

GEOMAGNETIC PLANETARY INDICES

Three-hourly: Kp; Daily: Ap and Cp

F e b r u a r y 1980

	1 2 3 4	5 6 7 8	Sum	Ap	Cp
1	2o1+2-2+	2-2-4-3+	18-	10	0.6
2	2+3+3o2+	2+1+1-1-	16o	9	0.5
3	1-1o1o1-	0+1-0+1o	6-	3	0.1
4	1-1o2+2o	1-0+0+0+	8-	4	0.1
5	0o0o1-1+	1o1o1o1-	6-	3	0.1
6	0o4-4+5-	5o5+5+2+	31-	33	1.3
7	2o2o3+2-	3+2o3+3+	21o	12	0.7
8	3+4-3+3o	4-3+2-3o	25o	17	0.9
9	2-3o3o2+	3-3-3o2o	20+	11	0.7
10	1o2-1+1-	0+1-1-1-	7o	4	0.1
11	0+2+1+1o	1o1o1o0+	8+	4	0.1
12	1-0o0+1o	1+0+0+1o	5o	3	0.0
13	0+0o0o1-	1-1-1o1o	4+	2	0.0
14	1+3+3o5-	3+4o3-2-	24o	18	1.0
15	2+3-2o2o	3-3o6-7o	27+	33	1.3
16	6o6-6-4+	4+3o3o2+	34+	40	1.4
17	2o2-2-1-	2o1+1+1+	12o	6	0.2
18	3o2-3-2o	2o2o3-3o	19o	10	0.6
19	3+4+3-1-	1o0+0+1o	14-	10	0.5
20	2o1o2-2o	1+2o1o1+	12+	6	0.3
21	2-1-1o1o	1o1o1o2-	9o	4	0.2
22	1o1o0+1+	1-2-1-2-	8+	4	0.1
23	1o0+1+2o	3-3+3+2+	16+	9	0.5
24	2+2+1+2o	2+2+0+0+	13+	6	0.3
25	1o0+1+2+	3-3o4o4+	19o	13	0.8
26	4-3o1+3o	3+3o3-2o	22o	14	0.8
27	1+3o3+3+	3+3-3o3o	23o	14	0.8
28	3-3-3-3-	2-1o2-3o	18o	10	0.6
29	2+2o1o2o	2+2o[illegible]-1+	14+	7	0.3
			Mean	11	0.51

Preliminary ssc: 06 d 03 h 20 m
14 d 03 h 09 m 15 d 12 h 34 m
25 d 14 h 29 m

International quiet and disturbed days:

Quietest Days 1- 5:	15	12	2	1	18
Quietest Days 6-10:	20	24	16	10	3
Most Disturbed Days 1-5:	26	31	21*	22*	30*

GEOMAGNETIC PLANETARY INDICES

Three-hourly: Kp; Daily: Ap and Cp

M a r c h 1980

	1 2 3 4	5 6 7 8	Sum	Ap	Cp
1	1+1+1-0+	1o1o0+0+	6+	3	0.1
2	0+1-0+0+	1-1-1o0+	4+	3	0.0
3	1-0+0+1-	1o3-2-1+	9-	5	0.2
4	1-0+1+2+	1+1o1o2o	10o	5	0.2
5	2+3-2o3-	1o1-1-1-	13-	7	0.3
6	2o2o2+3o	2+2+2o2-	18-	9	0.5
7	2+2+1o2-	1+2-2o2o	14+	7	0.3
8	1+2+2+2o	1+2-1+1+	14-	6	0.3
9	2o2-3o1+	2o2+1o1+	15-	7	0.4
10	0+1+1-2o	2o1o1-1-	9-	4	0.1
11	2o0o0+3-	2-1o0+1-	9-	4	0.2
12	0o0o0o0o	0o1-1+0+	2+	1	0.0
13	1o1+3o1o	2-1-2o2+	13o	7	0.3
14	2o2+1o1-	1+2-1-0+	10o	5	0.2
15	0o0o0+0+	0+0+0o1+	3-	2	0.0
16	2-1o1-2-	1o1o1-2-	9+	4	0.2
17	1+1+1+2+	2-1o1o1-	11-	5	0.2
18	1+1o1-1-	1o1o1-1-	7o	4	0.1
19	0+1-3+3o	3o3o2-1o	16o	10	0.5
20	1o1o1o1+	1-1+2-1+	9+	4	0.2
21	2+3+4-3-	3o3-4+4-	26-	18	1.0
22	3-3+4-3+	4+3o2-2+	24+	16	0.9
23	2+3o1o1+	1-1o1o0o	10+	6	0.2
24	0+1-2-2-	1+2-0+1o	9-	4	0.1
25	1-0o0+1o	1+2-2o4-	11-	6	0.3
26	5-6-4o4o	4+2+3o4-	32-	30	1.3
27	3o1+2-2-	2o1+1o2-	14-	7	0.3
28	2-3-2+1+	2-1o1o2+	14o	7	0.3
29	2+2+3-1o	1o2o2o2+	16-	8	0.4
30	3o4-3+2-	2o1o1-3o	18+	11	0.6
31	4-4o4o4o	4-3o2o3+	28-	21	1.1
			Mean	8	0.35

Preliminary ssc: 19 d 06 h 17 m
30 d 23 h 54 m 31 d 17 h 50 m

International quiet and disturbed days:

Quietest Days 1- 5:	2	1	18	21	19
Quietest Days 6-10:	28	26	27	29	20
Most Disturbed Days 1-5:	11	12	6	10	15

GEOMAGNETIC PLANETARY INDICES

Three-hourly: Kp; Daily: Ap and Cp

A p r i l 1980

	1 2 3 4	5 6 7 8	Sum	Ap	Cp
1	2o1-1-0+	1+1+1o0o	7+	4	0.1
2	1-1-0+1-	1-1-0+2-	6-	3	0.1
3	1+3-2-2+	2-2+2o1-	15-	7	0.4
4	0+1+3o3o	3-3+3o1o	18-	11	0.6
5	1o2-1o1o	2+3+2o1-	13o	7	0.3
6	0+2+1+5-	5o5o5+3+	27+	28	1.2
7	3+3-3+2-	3-3-5-4o	25o	18	1.0
8	3+4-3-4o	4o3-2-3-	25-	17	0.9
9	3o4+4-5-	4o3+2-1+	26o	20	1.0
10	4o5o1o0-	3-2+2o2+	27o	22	1.1
11	3o3-4+3o	3o4+6-5o	31o	30	1.3
12	5o4-3o3+	3+4+3+5+	31+	28	1.2
13	5-3+4-3o	3-3+3-2-	25o	18	1.0
14	1o2o2-0+	1+3-3o4o	16o	10	0.5
15	5-4o3+2+	2+3+4-4o	28-	21	1.1
16	3o3o3-1+	2+3o2o3o	20+	12	0.7
17	4-4o2o1-	2o2+2+2o	19o	11	0.7
18	1o2o1-1o	1o1-1-2-	9-	4	0.1
19	1o0+1o1o	1+2-2-2-	10-	5	0.2
20	2+2o1-1o	1+1o2o2-	12o	6	0.3
21	2-2-1o1o	1-1o1+1+	10-	5	0.2
22	3-3-1o1+	3-2o2-2-	16+	9	0.5
23	3-2+1-1o	2-2-1-2o	13-	6	0.3
24	3-3-1o1o	1o2o1o2o	13+	7	0.3
25	3-2+2o3-	3-2-1-1o	16+	9	0.5
26	1-2o1+0+	2o1+1o1+	10o	5	0.2
27	0+1+0+1o	2-1+1-3-	9+	5	0.2
28	2-1o0+1+	2-2o1-1-	9+	4	0.2
29	1+2-2-1+	2o2-1o1+	12o	6	0.2
30	2-2+1o3-	3o2+2-2-	16+	8	0.5
		Mean	11		0.56

Preliminary ssc: 05 d 13 h 33 m
06 d 10 h 59 m 08 d 23 h 36 m
09 d 05 h 07 m 22 d 00 h 38 m

International quiet and disturbed days:

Quietest Days 1- 5:	3	17	27	16	2
Quietest Days 6-10:	21	18	28	4	20
Most Disturbed Days 1-5:	11	25	12	9*	14*

GEOMAGNETIC PLANETARY INDICES

Three-hourly: Kp; Daily: Ap and Cp

M a y 1980

	1 2 3 4	5 6 7 8	Sum	Ap	Cp
1	3o2o1-1+	3-3-2+1o	16-	8	0.5
2	1+1o1+1o	1o1+1o1-	9-	4	0.1
3	0+1-1o1o	1-1-0+1o	6-	3	0.1
4	0+2-1-1+	2o2-1-0+	9-	4	0.1
5	0+1-2-2-	2+2+2o3-	14-	7	0.3
6	3-3-3-3-	3o2+3-3-	21+	12	0.7
7	0+1-2o2-	2-3-4o2o	15o	9	0.5
8	3o3o2-1-	1+1-1o2-	13o	7	0.4
9	3o3o2+3+	3o2+5-4o	26-	18	1.0
10	3+1+1+2-	1+1+2+2+	15o	8	0.4
11	4-2o4-4o	4+4+6o6o	34o	38	1.4
12	5-5o4-3+	3-3-3o3o	28o	23	1.1
13	2+3-3-2-	1-2o3o5o	20o	14	0.8
14	4+4-2+2o	2+3o4+2+	24+	17	0.9
15	1+2o3-1o	1+1-1-2-	11+	6	0.3
16	1o1+1+1o	0+0+0+0o	6-	3	0.1
17	0o0+0+1-	1-1-1o2-	5+	3	0.1
18	0o0+1-2-	1o2o1+1-	8-	4	0.1
19	0+1-2-2o	3o3-2+2-	14+	8	0.4
20	2o1+2-1o	1+1o1o0+	10-	5	0.2
21	0+0o1o1o	1o1o1+2o	8-	4	0.1
22	1o2-2o2-	2+2+1+1o	13+	6	0.3
23	2+2o1o2-	4+3o2o2-	18o	11	0.6
24	2o1o1o2+	3-3o4o4-	20-	12	0.7
25	3o3o5o6+	6-4-1+2+	30+	34	1.4
26	3-1o2-3-	1o1-1+3-	14-	7	0.4
27	1o1+1-1-	1-1o1-0o	6o	3	0.1
28	1+1+1-2-	1+1+1-0+	9-	4	0.1
29	0+1-1o1-	1o1+3+2-	10o	6	0.3
30	3-2o3o2o	2+3-3-2-	19o	10	0.6
31	3-3-2+2+	3-4-2+5-	23+	16	0.9
		Mean	10		0.48

Preliminary ssc: 29 d 18 h 33 m
31 d 21 h 38 m

International quiet and disturbed days:

Quietest Days 1- 5: 27 17 28 18 5
Quietest Days 6-10: 15 29 4 20 23

Most Disturbed Days 1-5: 11 10 12 7 13

GEOMAGNETIC PLANETARY INDICES

Three-hourly: Kp; Daily: Ap and Cp

J u n e 1980

	1 2 3 4	5 6 7 8	Sum	Ap	Cp
1	3o3+4-5-	3+4-3+4-	29-	22	1.1
2	3+1+1o2o	1+1o1o2o	13o	7	0.3
3	3-1o2-2+	3+2o3-2o	18-	9	0.5
4	1o1-2o2-	1+2o1-2-	11o	5	0.2
5	1-0+1+2-	1-1-1-1o	7o	4	0.1
6	1o1o1o2+	3+4+3+5-	21o	16	0.9
7	4-3+3o4-	4+4+5-5-	32-	27	1.2
8	5+4o4-3+	4+3-3-2-	28-	23	1.1
9	2o1+1+3+	3-2+3o5-	21-	14	0.8
10	4+4-4o4-	4+5o5o4+	34+	33	1.3
11	3+3+6-5o	6+6-6o6o	41+	59	1.7
12	5-4-4-4o	4-4o5-5+	34-	32	1.3
13	4+4o4o3+	3o4o5-4+	32-	27	1.2
14	3+1+2-1+	3-3-2+3-	18o	10	0.6
15	1o2-1-1-	1+2-2-1o	10-	5	0.2
16	1o1+1+2-	3o4-2+2o	16+	9	0.5
17	1-1+0+1-	0+0+0+1o	5o	3	0.1
18	0+1-1-1-	1-1o1-1+	6o	3	0.1
19	0+2-2-1o	2-3-4-2o	15-	8	0.4
20	1-1+1+1+	2o2+2o1o	12o	6	0.3
21	1+1+1o2o	2-3-1+1+	13-	6	0.3
22	2o1+1o1o	2-2o2o2+	13+	6	0.3
23	2o1+1o1o	2+2-2-1+	12+	6	0.3
24	4-3-3o3-	3-2o2+3o	22o	13	0.7
25	3-2+2o1o	2-1+3-3-	16+	8	0.5
26	3+2-2-2o	4o3+4+2+	23-	15	0.9
27	1+0+1-0+	1-0+0+1-	5-	3	0.0
28	1+1-1-1-	1o1-0+1-	6o	3	0.1
29	1o1o1o1+	1o1o1o2+	10-	5	0.2
30	3-1+1+2o	3-2+2-2o	16o	8	0.4
			Mean	13	0.59

Preliminary ssc: 06 d 22 h 37 m
10 d 16 h 27 m 24 d 02 h 47 m
26 d 01 h 29 m

2. Dst Index

The following tables are provided:

a. Monthly tabulations of hourly Dst index for October 1979 through June 1980 (pages 2-10 through 2-18)

b. Daily mean Dst for the years 1979 and 1980 (pages 2-19 and 2-20)

c. Graphs of the hourly Dst index covering the period from October 1979 through September 1980 (pages 2-21 and 2-22)

Hourly Equatorial DsT Values

OCTOBER 1979

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	G.M.T. 24
1	-20	-24	-24	-24	-21	-17	-14	-15	-16	-14	-16	-17	-14	-15	-17	-22	-22	-20	-19	-20	-19	-18	-10	-10
2	-9	-6	-3	-4	-6	-10	-9	-6	-4	-4	-10	-11	-14	-14	-10	-12	-15	-20	-25	-23	-18	-13	-15	-18
3	-17	-20	-17	-21	-29	-32	-30	-21	-16	-14	-13	-11	-5	0	6	2	-6	-19	-19	-11	-7	-7	-6	-9
4	-4	-6	0	0	-3	0	1	-5	-8	-5	-8	-9	-6	-8	-9	-9	-8	-7	-6	-7	-8	-8	-6	-5
5	-1	1	3	4	3	3	4	3	3	3	1	1	6	7	2	-6	-11	-14	-13	-13	-15	-17	-16	-12
6	-11	-12	-12	-18	-26	-33	-30	-17	-12	-12	-14	-8	-28	-34	-37	-43	-35	-35	-32	-31	-43	-47	-42	-40
7	-39	-39	-42	-46	-45	-41	-53	-43	-33	-33	-34	-25	-22	-27	-29	-45	-41	-34	-35	-26	-41	-52	-58	-60
8	-71	-72	-67	-63	-69	-64	-61	-60	-66	-72	-79	-70	-59	-58	-57	-56	-54	-53	-46	-46	-46	-57	-73	-68
9	-61	-70	-72	-70	-74	-76	-66	-60	-59	-58	-55	-57	-53	-46	-43	-44	-48	-48	-43	-43	-42	-48	-49	-43
10	-37	-38	-44	-45	-46	-43	-47	-45	-33	-31	-31	-34	-34	-29	-27	-26	-23	-24	-23	-25	-24	-21	-23	-24
11	-23	-21	-19	-17	-15	-12	-12	-11	-15	-19	-22	-21	-31	-26	-25	-26	-36	-37	-34	-29	-32	-31	-29	-27
12	-27	-25	-25	-21	-19	-13	-10	-6	-3	-1	-1	-10	-13	-16	-15	-18	-26	-27	-29	-22	-19	-13	-16	-25
13	-24	-24	-24	-25	-25	-19	-11	-7	-6	1	1	-6	-14	-15	-19	-18	-19	-9	-7	-11	-22	-19	-17	-19
14	-13	-18	-17	-19	-18	-16	-13	-8	-1	5	2	0	-2	-6	-5	-3	-2	0	-1	-3	-4	-4	-4	-5
15	-5	-5	-8	-10	-11	-7	-2	2	-1	-3	-4	-1	-9	-14	-22	-23	-28	-29	-26	-26	-31	-32	-25	-19
16	-19	-20	-21	-19	-28	-26	-19	-12	-10	-11	-11	-10	-13	-14	-13	-10	-10	-12	-13	-19	-22	-19	-18	-15
17	-15	-10	-8	-9	-10	-9	-8	-6	-5	-3	-2	1	-2	-2	-3	-7	-7	-8	-9	-7	-6	-8	-9	-5
18	-2	0	-4	-5	-6	-7	-9	-8	-4	-4	-4	-3	-3	-6	-7	-7	-6	-7	-7	-6	-5	-7	-8	-8
19	-5	-2	-1	-2	-2	3	2	5	6	9	7	3	1	0	5	7	3	7	4	6	10	11	9	1
20	-3	-4	2	3	4	6	9	7	3	0	-5	-2	-4	-1	1	-1	1	4	3	0	2	-6	-10	-7
21	0	0	-3	-5	-10	-11	-15	-15	-12	-9	-8	-8	-5	-8	-7	-5	-9	-11	-10	-12	-18	-28	-30	-43
22	-44	-35	-34	-40	-39	-38	-47	-46	-38	-34	-26	-25	-25	-27	-26	-22	-17	-18	-17	-19	-27	-30	-25	-30
23	-26	-23	-25	-24	-23	-21	-22	-22	-22	-23	-23	-18	-20	-27	-27	-23	-20	-15	-7	-4	-10	-17	-23	-27
24	-28	-31	-28	-25	-28	-31	-26	-21	-18	-14	-17	-23	-19	-15	-26	-27	-25	-26	-22	-20	-19	-19	-20	-21
25	-21	-20	-23	-29	-36	-42	-40	-37	-38	-32	-23	-22	-29	-36	-37	-38	-34	-30	-25	-32	-40	-45	-43	-39
26	-37	-32	-26	-24	-23	-19	-16	-14	-14	-13	-11	-10	-20	-24	-21	-17	-16	-18	-16	-17	-19	-19	-18	-16
27	-14	-14	-16	-15	-15	-14	-13	-13	-13	-13	-16	-16	-15	-10	-7	-5	-4	-5	-3	-4	-8	-8	-6	-6
28	-8	-10	-11	-6	0	2	0	-10	-15	-21	-29	-36	-41	-41	-36	-29	-29	-29	-24	-23	-26	-30	-37	-43
29	-46	-42	-44	-45	-40	-34	-32	-27	-24	-22	-19	-14	-15	-15	-15	-12	-9	-15	-23	-25	-25	-27	-24	-25
30	-26	-29	-36	-32	-27	-27	-27	-25	-21	-17	-14	-10	-10	-11	-13	-12	-8	-6	-4	-3	-1	-1	-1	-5
	-10	-12	-13	-10	-9	-5	-2	0	0	3	1	-1	-1	-2	-2	-7	-12	-15	-17	-16	-10	-11	-14	-17

Hourly Equatorial DsT Values

NOVEMBER 1979

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	G.M.T. 24
1	-22	-24	-25	-29	-31	-28	-23	-17	-7	-1	1	-2	-1	3	3	0	-10	-15	-24	-19	-13	-19	-20	-27
2	-26	-32	-33	-30	-30	-27	-29	-28	-26	-30	-24	-17	-14	-16	-22	-24	-26	-25	-28	-27	-23	-23	-19	-15
3	-11	-9	-11	-11	-14	-14	-14	-11	-10	-8	-7	-11	-15	-12	-6	-4	-13	-21	-23	-21	-22	-25	-22	-23
4	-20	-23	-28	-22	-15	-14	-21	-22	-16	-11	-15	-20	-17	-14	-10	-8	-9	-10	-9	-6	-4	-4	-4	-6
5	-6	-5	-4	-4	-2	-1	-1	-1	3	5	2	1	0	3	6	9	8	6	6	4	4	2	0	-2
6	-3	-3	-2	0	5	10	6	7	7	4	4	5	7	9	10	10	10	10	9	8	6	6	6	3
7	0	1	4	4	1	4	6	8	-1	-6	-13	-11	-4	-3	5	3	-4	-22	-31	-31	-29	-30	-26	-26
8	-26	-26	-26	-26	-26	-22	-24	-28	-39	-45	-47	-34	-44	-42	-37	-31	-25	-19	-13	-9	-8	-11	-11	-8
9	-8	-16	-14	-14	-16	-19	-21	-21	-15	-12	-9	-7	-2	-18	-22	-30	-33	-38	-27	-19	-41	-35	-30	-29
10	-31	-33	-31	-24	-21	-19	-23	-26	-21	-21	-22	-24	-25	-25	-24	-21	-23	-22	-29	-23	-21	-26	-34	-30
11	-31	-35	-24	-14	-12	-7	-6	-7	-8	-5	-4	0	0	6	12	15	19	24	25	19	13	13	10	7
12	7	2	2	0	3	8	9	0	0	-1	-1	4	5	4	0	-2	-4	-4	0	3	3	0	-9	-9
13	-6	-17	-29	-46	-51	-60	-61	-59	-61	-62	-63	-67	-70	-70	-78	-84	-92	-89	-82	-81	-74	-71	-73	-73
14	-81	-90	-83	-81	-78	-75	-66	-65	-61	-60	-57	-55	-56	-57	-59	-56	-54	-52	-50	-45	-41	-37	-34	-32
15	-33	-34	-33	-29	-25	-23	-21	-22	-21	-23	-25	-25	-23	-24	-26	-24	-23	-22	-19	-15	-14	-5	-2	0
16	3	9	20	6	-8	-18	-25	-33	-31	-23	-16	-18	-19	-22	-24	-26	-26	-26	-25	-24	-21	-14	-9	-12
17	-15	-10	-9	-9	-12	-15	-16	-9	-8	-15	-13	-12	-13	-12	-11	-10	-8	-9	-8	-7	-5	-2	0	2
18	2	1	10	9	8	9	8	5	5	2	-2	-2	-1	1	2	1	-3	-3	-2	0	4	2	3	5
19	3	1	2	4	9	7	1	-5	-9	-9	-7	-6	-3	0	3	7	5	6	4	0	2	1	3	0
20	1	-3	-3	0	4	4	1	0	-6	-7	-1	-4	0	-2	1	0	-2	-1	0	2	3	3	4	6
21	6	3	0	-3	-2	-3	-6	-7	-11	-13	-12	-9	-10	-8	-5	-6	-9	-9	-11	-10	-9	-8	-5	-1
22	1	1	1	1	0	-1	1	1	-1	-1	2	4	5	1	-1	-1	-1	-1	-1	-2	-4	-4	-5	-5
23	-5	-3	1	1	0	0	0	-2	-3	-2	0	6	10	10	8	7	2	0	0	2	-1	-2	-3	-7
24	-10	-9	-13	-19	-26	-33	-39	-46	-45	-45	-32	-30	-49	-47	-31	-30	-28	-29	-38	-33	-30	-38	-41	-37
25	-44	-52	-58	-61	-55	-47	-47	-42	-41	-36	-34	-32	-32	-30	-29	-27	-27	-25	-22	-18	-14	-15	-15	-11
26	-10	-9	-10	-10	-7	-6	-6	-3	1	3	4	3	4	3	4	-2	-8	-7	-5	-10	-9	-10	-9	-8
27	-10	-10	-4	-2	-3	-8	-13	-9	-6	-4	-5	-3	-2	-1	-3	-4	-6	-5	-4	-4	-4	-4	-4	-3
28	-1	0	0	-2	-5	-5	-2	1	4	7	7	9	10	9	7	5	4	7	9	10	10	6	8	11
29	13	15	15	11	14	17	17	15	13	13	14	16	20	18	13	11	14	25	28	21	21	24	18	20
30	22	19	17	15	16	18	17	31	31	7	7	17	27	19	26	27	15	14	14	15	12	10	9	8

Hourly Equatorial DsT Values

DECEMBER 1979

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	G.M.T. 24
1	6	8	7	5	3	1	-5	-6	-8	-3	-2	-1	-4	-9	-11	-12	-13	-12	-12	-9	-3	-3	2	5
2	6	4	-1	-4	-7	-11	-13	-13	-11	-8	-3	-4	-2	-5	-9	-3	-1	-4	-5	2	6	7	7	9
3	7	0	-7	-16	-23	-29	-30	-31	-27	-25	-20	-14	-11	-13	-11	-8	-3	-3	-3	0	3	5	7	9
4	11	7	0	-11	-21	-28	-28	-31	-36	-29	-28	-28	-32	-38	-42	-44	-45	-39	-35	-30	-37	-35	-33	-27
5	-24	-22	-21	-21	-21	-21	-25	-32	-35	-36	-34	-29	-23	-21	-17	-16	-18	-15	-13	-12	-10	-13	-9	-9
6	-12	-17	-13	-8	-8	-7	-6	-6	-2	-4	-3	-3	-1	-2	-3	-4	-4	-5	-5	-5	-5	-8	-8	-7
7	-5	-4	-6	-7	-3	4	5	7	8	8	6	5	7	7	9	12	14	15	16	16	16	16	18	19
8	21	21	19	17	20	29	26	24	26	20	19	18	13	6	2	-3	1	4	4	6	-5	-6	-5	-7
9	-7	-7	-6	-6	-3	1	2	0	1	-1	1	2	-1	0	1	3	3	4	3	2	2	3	2	-4
10	-1	2	2	0	1	5	8	8	11	10	12	14	13	10	4	1	-3	1	3	3	5	8	1	1
11	3	4	6	5	1	2	4	11	15	15	13	14	13	14	13	10	6	1	-2	2	2	7	7	5
12	6	8	4	2	2	5	5	4	2	3	5	5	4	4	3	1	1	3	6	6	5	8	9	7
13	8	10	13	12	9	9	9	14	15	12	9	7	7	5	5	7	7	11	15	12	9	8	10	11
14	3	0	2	4	7	12	12	12	11	14	18	18	19	18	19	18	20	16	11	10	7	8	6	6
15	6	7	4	1	-2	0	3	-1	-5	-5	-6	-1	1	2	2	2	3	1	-3	-8	-11	-10	-9	-9
16	-15	-14	-11	-9	-14	-16	-17	-10	-7	-5	-3	1	9	10	5	1	3	7	5	5	4	4	1	-6
17	-9	-11	-12	-14	-12	-9	-8	-5	-3	-1	1	4	3	-2	-3	-3	-1	-7	-12	-10	-7	-9	-12	-11
18	-7	-4	-7	-9	-10	-10	-9	-13	-10	-8	-6	2	2	-1	-6	-5	-3	-2	1	4	4	-1	-3	-3
19	-3	-1	-4	-8	-9	-8	-6	-8	-12	-11	-8	-2	1	1	2	0	-1	-2	-1	1	0	-2	-4	-2
20	0	2	-1	-4	-5	-3	0	-2	-3	-2	0	2	1	-1	2	1	0	-1	-2	-8	-12	-11	-12	-9
21	-7	-5	-7	-8	-6	-4	-4	-4	-3	-3	-2	1	0	-2	-3	-2	-5	-10	-11	-11	-8	-8	-10	-8
22	-5	-1	-2	-3	6	10	10	11	12	11	8	4	14	8	3	4	4	-6	-13	-6	-1	2	4	5
23	4	6	7	6	5	3	-1	-2	-1	1	3	6	4	0	0	3	5	5	8	11	14	12	12	10
24	5	-3	3	2	3	5	10	13	16	16	15	13	14	10	7	4	*	2	7	9	9	8	6	5
25	9	11	8	7	9	11	15	19	19	19	20	19	23	27	29	32	33	26	19	16	19	19	15	12
26	15	15	11	15	20	20	23	24	23	23	23	18	16	18	20	22	17	8	2	-6	-12	-12	-10	-6
27	-1	2	1	2	9	-1	-1	1	-1	2	2	3	0	-2	-7	-13	-12	-8	-6	-9	-10	-8	-10	-12
28	-9	-4	-6	-12	-18	-19	-16	-11	-6	-6	-6	-6	-8	-8	-1	-3	-9	-10	-8	-11	-11	-15	-19	-25
29	-32	-30	-32	-36	-34	-34	-39	-41	-32	-32	-29	-23	-16	-24	-32	-37	-37	-40	-41	-36	-28	-27	-31	-32
30	-33	-32	-30	-33	-36	-36	-35	-37	-33	-32	-32	-24	-15	-18	-22	-16	-15	-18	-17	-12	-13	-10	-10	-7
31	-4	-4	-6	-7	-2	-5	-13	-14	-17	-19	-16	-10	-9	-12	-8	-4	-3	-5	-8	-18	-27	-35	-44	-38

POLARLY EQUATORIAL DST VALUES

JANUARY 1960

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	G.M.T. 23	24
1	-27	-20	-23	-28	-32	-32	-32	-31	-33	-37	-42	-39	-40	-44	-46	-47	-48	-58	-60	-65	-71	-52	-100	-87
2	-75	-64	-58	-54	-51	-51	-54	-60	-61	-61	-58	-53	-53	-52	-44	-39	-37	-35	-33	-33	-30	-28	-23	-24
3	-12	-5	-10	-27	-24	-18	-15	-15	-22	-23	-26	-23	-22	-21	-15	-12	-8	-9	-14	-16	-15	-23	-20	-12
4	-5	-5	-5	-8	-11	-14	-16	-13	-16	-13	-20	-15	-12	-11	-10	-11	-2	-8	-11	-15	-15	-16	-13	-12
5	-9	-6	-7	-7	-7	-10	-11	-11	-13	-17	-21	-22	-22	-27	-16	-16	-13	-10	-10	-5	-5	-6	-6	-5
6	-5	-6	-8	-15	-14	-9	-9	-12	-12	-11	-14	-18	-17	-16	-12	-9	-8	-8	-9	-5	-6	-6	-6	-7
7	-7	-4	-4	-7	-8	-6	-7	-1	2	-2	-5	-9	-16	-17	-12	-9	-3	-3	-1	-1	1	0	0	-8
8	-8	-5	-10	-9	-9	-12	-11	-14	-12	-11	-11	-13	-9	-10	-8	-6	-5	-2	-1	0	-4	-4	-3	-1
9	3	5	4	1	0	-4	-7	-6	-3	1	0	-4	-5	-6	-5	-5	-6	-7	-8	-5	-10	-5	-11	-12
10	-10	-10	-8	-7	-5	-1	1	1	-1	-2	-4	-7	-8	-7	-6	-2	0	3	6	6	3	-1	-6	-10
11	-9	-8	-7	-6	-5	-2	-1	1	5	-1	-7	-3	-5	-5	-8	-10	-13	-13	-15	-16	-16	-20	-20	-14
12	-14	-18	-16	-11	-13	-14	-14	-11	-7	-5	-5	-2	-4	-8	-11	-11	-8	-5	-1	2	1	1	-1	-4
13	-5	-5	-1	1	0	9	14	8	-4	0	-3	-11	-26	-38	-38	-40	-42	-51	-57	-50	-53	-61	-65	-61
14	-54	-47	-43	-43	-45	-46	-47	-47	-42	-33	-28	-26	-24	-27	-27	-30	-28	-26	-24	-21	-18	-15	-17	-17
15	-14	-15	-16	-18	-19	-18	-17	-19	-18	-16	-13	-10	-12	-18	-20	-16	-14	-14	-15	-15	-13	-10	-8	-5
16	-8	-19	-20	-19	-25	-30	-35	-41	-31	-27	-26	-24	-24	-25	-21	-16	-19	-20	-19	-16	-13	-11	-9	-8
17	-3	-3	-3	-7	-11	-8	-9	-16	-12	-8	-7	-1	0	1	-6	-4	-4	-11	-10	-5	-12	-14	-13	-6
18	-1	-1	-1	-3	-10	-10	-10	-13	-13	-11	-11	-9	-7	-5	-3	-4	-7	-10	-8	-6	-4	0	1	0
19	0	-1	-2	-3	-1	0	2	2	3	4	-1	5	8	6	7	5	3	3	-1	-4	-4	-1	3	6
20	8	5	4	4	4	2	1	2	4	7	4	4	3	3	3	4	2	1	-2	-1	-2	3	4	3
21	2	2	0	-1	1	0	1	1	5	6	8	6	7	3	2	-1	-6	-5	-3	0	4	5	10	10
22	19	19	16	13	12	13	14	12	11	10	10	10	9	10	9	9	8	8	7	4	4	0	1	3
23	3	4	3	2	1	-4	-7	-4	-3	-3	-6	-2	3	6	4	9	12	13	9	6	3	1	2	2
24	3	4	5	7	8	9	8	9	9	7	2	6	7	8	4	-2	-3	-5	-7	-10	-7	-2	-2	-3
25	-5	-1	1	1	1	3	8	9	11	13	14	25	25	21	19	13	12	6	0	-3	0	5	3	3
26	2	6	6	5	2	7	6	7	9	12	11	11	11	8	6	8	9	8	10	11	12	11	6	2
27	2	2	-4	-13	-17	-14	-11	-11	-11	-11	-11	-7	4	6	-2	-15	-21	-34	-47	-53	-56	-53	-47	-46
28	-44	-46	-50	-55	-54	-51	-47	-42	-37	-33	-31	-28	-27	-30	-27	-20	-27	-39	-36	-42	-28	-22	-18	-31
29	-55	-67	-68	-59	-63	-69	-66	-61	-56	-49	-46	-39	-34	-32	-41	-40	-40	-39	-36	-47	-56	-55	-43	-41
30	-38	-32	-29	-30	-29	-31	-34	-34	-34	-33	-40	-33	-24	-24	-27	-32	-33	-29	-28	-25	-30	-27	-25	-26
31	-27	-25	-26	-26	-27	-28	-30	-28	-24	-23	-18	-12	-7	-8	-9	-11	-13	-14	-15	-16	-16	-20	-20	-17

HOURLY EQUATORIAL DST VALUES

FEBRUARY 1980

UNIT=GAMMAS

G.M.T.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-21	-24	-24	-23	-21	-20	-22	-22	-15	-10	-7	-9	-5	-4	-2	1	-1	-3	-1	-12	-14	-13	-9	-4
2	-11	-7	-5	-7	-14	-19	-18	-19	-18	-14	-13	-8	-2	-5	-7	-8	-8	-10	-14	-12	-11	-6	-8	-10
3	-14	-15	-14	-6	-3	-1	-3	-5	-6	-7	-9	-8	-6	-4	-1	0	-1	0	-2	-2	-3	-4	-8	-10
4	-10	-8	-5	-2	-1	0	2	-5	-7	-5	-7	-6	-2	-1	2	5	2	-3	-6	-6	-6	-6	-5	-7
5	-5	-3	-2	-1	-1	1	1	2	2	4	1	0	-1	-2	-5	3	-8	-7	-8	-7	-6	-10	-10	-10
6	-6	-9	-8	-9	-18	-18	-17	-1	-25	-37	-28	-31	-31	-30	-34	-56	-64	-67	-64	-63	-77	-65	-63	-64
7	-61	-56	-58	-56	-59	-60	-63	-63	-70	-63	-62	-57	-44	-41	-36	-33	-38	-40	-39	-42	-42	-38	-32	-31
8	-32	-32	-43	-37	-39	-35	-41	-45	-45	-47	-49	-44	-35	-41	-42	-41	-36	-35	-34	-35	-35	-34	-35	-36
9	-31	-28	-28	-28	-22	-21	-27	-27	-24	-22	-22	-19	-17	-17	-20	-26	-27	-29	-34	-32	-28	-26	-25	-23
10	-20	-19	-22	-24	-24	-24	-18	-15	-13	-7	-6	-7	-6	-10	-14	-14	-10	-5	-6	-11	-10	-10	-9	-7
11	-3	-4	-6	-9	-11	-10	-16	-8	-3	-1	1	2	0	-2	-3	-3	-4	-5	-6	-5	-5	-2	-1	-2
12	-2	-1	-2	-7	-12	-13	-10	-10	-8	-7	-5	-3	-1	-3	-1	-3	0	0	0	0	1	2	-1	-2
13	0	3	1	-3	-6	-6	-5	-3	2	6	5	5	6	5	9	11	10	11	12	13	12	16	15	12
14	8	8	3	11	6	-1	-3	-1	4	-1	-22	-37	-35	-27	-25	-33	-38	-43	-37	-36	-36	-31	-27	-25
15	-19	-18	-23	-25	-31	-34	-37	-40	-38	-32	-24	-17	-6	4	5	0	-9	-4	-5	-3	-33	-58	-68	-60
16	-58	-65	-77	-98	-115	-122	-129	-132	-132	-120	-105	-93	-92	-83	-80	-78	-78	-74	-74	-67	-65	-64	-59	-59
17	-59	-56	-5[illegible]	-51	-52	-53	-52	-52	-45	-45	-40	-32	-25	-31	-34	-34	-33	-33	-35	-36	-37	-34	-32	-33
18	-39	-42	-4[illegible]	-41	-43	-44	-46	-45	-52	-54	-52	-45	-36	-34	-36	-34	-38	-34	-40	-40	-45	-46	-48	-48
19	-37	-36	-35	-38	-44	-44	-44	-46	-45	-38	-32	-28	-23	-18	-15	-21	-19	-19	-20	-23	-24	-21	-14	-14
20	-17	-18	-19	-20	-20	-15	-21	-23	-17	-13	-15	-14	-5	-4	0	-3	-11	-9	-7	-16	-12	-12	-10	-10
21	-9	-10	-12	-13	-11	-10	-12	-12	-12	-10	-7	-5	-1	6	8	6	6	5	0	0	0	0	5	7
22	11	14	16	11	6	6	4	1	4	5	9	9	4	8	10	7	5	2	3	4	4	6	13	20
23	26	24	14	13	8	4	3	7	8	8	-2	-5	2	-1	-1	-1	-10	-18	-22	-20	-21	-22	-28	-21
24	-18	-18	-19	-23	-28	-30	-27	-23	-18	-15	-11	-4	1	1	-4	-4	-5	-5	-6	-7	-6	-6	-2	2
25	3	4	2	0	0	0	-3	-7	-2	-3	0	5	8	7	14	12	6	5	-4	-12	-28	-37	-33	-31
26	-31	-31	-26	-28	-25	-23	-27	-29	-23	-17	-13	-10	-12	-22	-17	-20	-22	-23	-20	-27	-26	-23	-11	-8
27	-4	0	0	-3	-14	-27	-22	-22	-26	-22	-18	-18	-15	-24	-23	-19	-17	-20	-23	-26	-25	-22	-19	-18
28	-18	-19	-17	-14	-16	-16	-15	-19	-23	-25	-25	-18	-16	-13	-12	-15	-14	-15	-16	-17	-17	-16	-10	-7
29	-7	-11	-11	-13	-15	-16	-18	-17	-16	-18	-19	-16	-12	-11	-8	-7	-9	-14	-14	-14	-16	-14	-9	-6

HOURLY EQUATORIAL DST VALUES

MARCH 1980

UNIT=GAMMAS

G.M.T.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0	2	3	0	-4	-3	-3	-3	-2	1	-1	-2	-3	-4	-5	-8	-10	-10	-9	-6	-4	1	3	4
2	5	5	6	3	2	-1	-5	-6	-3	0	4	7	11	10	9	7	3	-1	0	2	3	5	7	4
3	6	9	11	10	5	4	3	4	5	5	3	4	6	10	12	11	2	-3	1	3	4	2	2	4
4	8	11	13	13	11	8	5	1	-3	-5	-6	-4	-4	1	6	6	5	6	7	8	5	3	6	14
5	18	15	4	1	-6	-7	-6	-6	-11	-16	-20	-21	-14	-9	-3	-3	-1	-3	-2	0	-2	0	0	3
6	4	9	11	14	10	2	2	2	3	4	-4	-12	-3	2	2	0	1	-1	4	3	4	0	-5	-5
7	-9	-7	-6	-5	-1	3	2	0	2	2	-2	-4	-2	3	7	6	6	4	3	4	0	-2	-4	-4
8	-5	-5	-5	-6	-6	-8	-4	-3	-4	-3	-1	-5	-3	0	2	3	3	1	1	2	2	3	0	-4
9	-5	-5	-4	-2	2	3	0	-3	-4	0	-1	-1	-2	-5	-6	-2	-2	-1	1	2	5	7	3	3
10	3	1	0	-1	4	5	3	6	6	7	1	1	1	-2	0	2	2	0	-1	1	4	7	8	11
11	10	6	5	5	6	6	7	9	12	13	9	8	8	9	7	7	5	5	4	1	1	1	-1	-1
12	1	2	2	2	0	0	2	3	9	6	6	10	8	6	7	9	10	13	15	13	13	13	15	16
13	17	19	18	18	17	17	17	15	11	10	9	6	5	7	8	9	10	8	9	9	3	5	5	-1
14	-5	-2	0	1	0	1	4	6	9	5	0	-4	-4	-3	-3	0	2	3	0	0	0	1	2	3
15	4	4	5	6	7	7	6	7	9	8	4	0	-1	1	5	7	8	7	7	6	4	5	7	11
16	15	17	17	20	23	24	25	25	22	18	10	4	6	11	12	12	13	13	16	20	23	17	12	13
17	18	22	20	19	18	15	12	13	14	13	9	9	13	15	13	10	10	11	9	6	3	0	2	4
18	6	3	6	8	8	8	11	13	12	9	11	14	15	16	17	17	16	16	16	15	15	14	12	14
19	14	13	12	15	17	18	29	32	22	26	24	11	6	16	22	26	20	18	15	12	14	13	15	14
20	10	6	7	9	11	11	12	13	12	9	6	5	6	11	15	18	19	19	21	22	21	17	8	6
21	5	1	-7	-6	-12	-21	-25	-29	-38	-44	-49	-52	-44	-37	-32	-34	-34	-37	-40	-46	-45	-35	-42	-37
22	-36	-36	-38	-39	-38	-41	-42	-32	-21	-10	-10	-20	-21	-37	-31	-26	-24	-26	-21	-23	-21	-23	-22	-22
23	-24	-26	-28	-27	-21	-17	-13	-11	-12	-12	-14	-14	-14	-12	-8	-7	-8	-6	-4	-3	-3	-5	-8	-9
24	-10	-9	-9	-8	-3	-3	-6	-7	-4	-2	-6	-9	-2	-1	-2	-2	0	3	4	5	6	5	3	7
25	6	7	5	6	8	9	10	11	10	9	4	3	4	10	16	22	22	22	25	25	22	10	-5	-10
26	-19	-23	-30	-52	-61	-50	-50	-57	-66	-70	-73	-67	-63	-63	-56	-49	-48	-46	-45	-45	-44	-38	-40	-34
27	-31	-36	-38	-39	-38	-37	-34	-25	-24	-24	-28	-32	-32	-31	-26	-24	-19	-16	-16	-18	-20	-22	-24	-27
28	-28	-24	-22	-22	-16	-11	-13	-7	-2	-4	-9	-13	-13	-6	1	5	3	2	4	4	7	5	2	-2
29	-3	-4	-6	-5	-5	-12	-17	-11	-5	-6	-10	-13	-14	-11	-8	-5	-2	0	-3	-4	-5	-10	-13	-15
30	-13	-18	-20	-26	-35	-41	-46	-47	-41	-38	-38	-38	-37	-32	-27	-24	-22	-20	-19	-18	-18	-14	-13	-18
31	7	8	1	-20	-17	-23	-23	-32	-38	-35	-26	-29	-35	-30	-27	-24	-21	-21	-18	-20	-21	-20	-20	-21

HOURLY EQUATORIAL DST VALUES

APRIL 1980

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	G.M.T. 24
1	-34	-31	-29	-26	-23	-22	-22	-20	-15	-15	-19	-22	-22	-23	-22	-23	-24	-25	-24	-24	-23	-25	-25	-25
2	-26	-30	-32	-31	-29	-25	-21	-18	-14	-13	-14	-15	-15	-13	-11	-8	-7	-5	-1	1	0	3	3	1
3	-2	-3	-1	2	0	-1	4	6	3	1	0	2	2	2	7	11	10	8	6	2	4	3	0	-3
4	-5	-2	-1	2	7	6	6	5	-7	-8	-3	-7	-3	1	5	8	9	5	5	0	-4	-7	-8	-11
5	-13	-12	-12	-11	-10	-7	-6	-6	-2	-1	-2	1	3	7	9	11	4	1	7	7	6	3	2	1
6	0	-2	-3	-2	0	3	5	4	4	5	7	30	29	23	23	9	-8	-27	-20	-19	-14	-21	-26	-22
7	-28	-32	-26	-23	-24	-22	-15	-17	-22	-15	-14	-14	-7	-5	-5	-4	-2	1	0	-14	-11	-11	-11	-13
8	-16	-15	-11	-19	-14	-5	-1	-5	2	3	3	-5	-6	-9	-4	-6	-4	-8	-8	-6	-10	-11	-10	-6
9	-12	-17	-14	-12	-15	3	-7	-1	7	-9	-35	-56	-46	-33	-30	-30	-31	-31	-30	-36	-35	-37	-34	-29
10	-31	-29	-40	-43	-47	-40	-41	-47	-50	-5	-42	-45	-3[illegible]	-30	-27	-27	-29	-26	-18	-26	-27	-26	-27	-25
11	-28	-31	-28	-26	-27	-25	-23	-29	-22	-[illegible]	-21	-25	-25	-33	-22	-19	-19	-35	-49	-64	-77	-87	-72	-67
12	-66	-68	-68	-57	-60	-61	-53	-55	-45	-45	-45	-42	-46	-40	-37	-36	-33	-31	-33	-32	-27	-25	-23	-29
13	-59	-63	-62	-57	-57	-55	-61	-52	-48	-48	-50	-47	-44	-42	-41	-37	-40	-38	-41	-41	-36	-31	-30	-32
14	-31	-34	-33	-29	-27	-28	-28	-25	-23	-22	-22	-24	-23	-21	-20	-16	-13	-5	-10	-19	-13	-16	-21	-28
15	-35	-32	-42	-43	-45	-42	-42	-41	-30	-25	-23	-21	-20	-19	-18	-18	-24	-31	-35	-34	-33	-36	-41	-36
16	-31	-2[illegible]	-25	-26	-33	-32	-30	-33	-28	-24	-25	-25	-22	-20	-22	-23	-23	-21	-22	-23	-22	-18	-19	-21
17	-18	-19	-21	-28	-33	-28	-23	-22	-21	-18	-15	-14	-14	-13	-11	-10	-10	-8	-8	-5	-11	-14	-16	-17
18	-16	-11	-9	-9	-5	-4	-6	-7	-9	-11	-10	-10	-9	-9	-8	-7	-6	-3	-3	-7	-7	-5	-4	-2
19	-4	-3	2	8	10	7	6	5	4	4	4	4	6	7	8	6	5	3	3	3	8	5	11	9
20	8	6	3	-3	-4	-3	-6	-6	-5	-3	-5	-6	-6	-4	-3	0	3	6	2	-2	-5	-6	-6	0
21	-2	-3	0	-3	-2	-2	0	0	-1	2	6	8	8	8	9	7	8	8	7	7	10	11	11	16
22	31	42	41	40	27	20	12	13	11	13	11	14	12	10	7	6	7	4	3	5	1	-3	-4	0
23	8	16	18	20	18	18	15	15	5	7	9	10	11	11	11	10	[illegible]	1	3	6	7	4	0	-1
24	1	[illegible]	4	3	-8	-2	-1	-2	-3	-1	-2	-3	-6	-9	-10	-10	-8	-6	-5	-3	-1	-1	-2	-2
25	-2	[illegible]	2	1	1	-6	-1	2	6	7	1	-3	0	1	7	4	2	-2	-2	-1	-1	-1	-2	-1
26	2	4	5	3	-2	-5	-11	-6	-5	-5	-3	-4	1	3	1	0	1	2	0	2	3	3	-1	2
27	4	7	10	10	9	12	10	11	11	11	8	10	10	11	12	11	12	14	11	12	12	5	0	1
28	2	7	8	7	4	5	7	7	5	9	10	9	11	13	14	14	11	9	7	7	6	3	3	4
29	5	7	5	9	10	12	10	10	13	14	15	13	13	14	17	20	24	21	19	11	8	5	6	6
30	7	10	13	8	4	6	6	8	7	10	11	15	16	6	3	7	9	9	5	3	2	1	-1	-3

HOURLY EQUATORIAL DST VALUES

MAY 1980

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	G.M.T. 24
1	2	2	2	6	8	3	3	6	6	5	6	6	11	12	10	9	12	11	9	16	16	14	9	9
2	9	9	9	10	8	6	6	4	6	7	8	11	13	13	11	11	12	14	13	9	9	11	11	10
3	10	11	13	13	11	9	10	12	10	7	8	9	10	11	10	12	11	13	12	12	12	10	8	9
4	12	13	14	14	13	11	11	10	8	9	7	6	7	7	4	7	10	11	9	7	7	6	6	9
5	13	16	16	16	19	24	26	27	29	28	24	24	22	22	19	17	21	24	23	19	15	22	11	2
6	-4	-3	0	-4	-2	-1	-1	-11	-13	-11	-9	-12	-15	-15	-15	-16	-17	-18	-19	-20	-15	-7	-2	1
7	3	5	4	3	0	-3	-2	-1	14	14	13	13	25	24	22	20	15	9	1	-7	-8	-8	-8	0
8	-3	-12	-19	-22	-21	-25	-23	-17	-14	-9	-5	-4	-4	-6	-2	-4	-6	-6	-2	-2	-3	-1	3	5
9	10	7	8	3	-10	-17	-21	-19	-15	-8	-9	-11	-15	-17	-20	-24	-27	-31	-31	-19	-17	-25	-16	-12
10	-5	-1	5	6	5	2	1	5	14	19	18	16	12	11	8	3	-1	-3	6	13	17	23	21	33
11	31	34	27	18	19	18	13	3	-6	-29	-35	-32	-34	-39	-41	-35	-30	-37	-49	-44	-36	-41	-53	-58
12	-48	-45	-50	-53	-62	-62	-54	-49	-47	-42	-42	-43	-42	-42	-44	-43	-45	-47	-47	-43	-37	-36	-34	-32
13	-25	-23	-23	-24	-19	-21	-18	-16	-20	-18	-14	-15	-13	-12	-12	-13	-14	-15	-15	-19	-22	-26	-41	-46
14	-39	-36	-37	-46	-48	-42	-40	-38	-34	-30	-27	-28	-32	-34	-32	-31	-30	-32	-29	-30	-28	-30	-30	-27
15	-26	-25	-26	-26	-26	-23	-25	-20	-18	-18	-17	-15	-15	-17	-16	-17	-19	-20	-18	-19	-13	-14	-17	-21
16	-22	-22	-19	-18	-16	-13	-10	-11	-9	-8	-9	-6	-5	-7	-8	-9	-10	-10	-11	-10	-8	-10	-9	-6
17	-4	-5	-5	-5	-4	-4	-4	-4	-2	-2	-2	-2	-5	-6	-4	-5	-7	-7	-7	-1	0	0	0	3
18	7	6	7	6	5	5	5	5	4	2	1	0	3	4	3	3	2	-3	0	4	7	5	4	7
19	8	7	10	14	16	17	18	15	8	3	2	4	6	7	10	3	1	-8	-16	-19	-5	-5	-8	-6
20	-8	-13	-11	-9	-5	1	3	-1	-1	-1	2	4	4	3	2	-1	-3	-1	1	2	7	8	7	10
21	14	17	15	14	15	14	10	5	11	12	15	14	15	18	21	22	22	24	24	23	24	24	21	23
22	21	22	21	22	24	30	27	26	28	31	27	24	21	18	18	21	18	17	16	18	20	28	20	23
23	24	19	13	12	13	13	14	12	11	11	11	5	13	7	6	2	-6	-10	-13	-18	-7	-5	-10	-6
24	1	0	-3	-5	-4	-4	-2	2	3	1	-4	-5	0	1	-1	-3	-10	-18	-29	-28	-26	-28	-33	-34
25	-25	-11	-9	-4	-16	-31	-40	-38	-52	-68	-86	-84	-101	-126	-108	-99	-98	-94	-93	-58	-66	-83	-78	-71
26	-69	-72	-66	-65	-64	-61	-60	-53	-45	-49	-47	-45	-42	-39	-36	-34	-33	-32	-29	-26	-29	-31	-29	-33
27	-23	-25	-27	-31	-29	-27	-27	-26	-24	-22	-20	-22	-22	-21	-20	-17	-15	-13	-13	-13	-13	-14	-13	-8
28	-8	-7	-5	-2	-1	0	1	1	1	0	0	1	-2	-3	0	3	-2	-3	-2	1	2	2	5	7
29	7	8	6	5	5	3	0	-1	1	0	1	0	-2	-2	-1	0	-1	-2	0	6	12	14	16	18
30	17	13	0	-2	-1	2	3	3	3	3	7	4	5	6	4	5	5	6	3	3	6	5	9	1
31	8	5	-5	-9	-14	-12	-14	-11	-7	-6	-6	-9	-14	-18	-22	-18	-25	-24	-20	-18	-16	-10	-20	-23

HOURLY EQUATORIAL DST VALUES

JUNE 1960

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	G.M.T. 24
1	-20	-17	-17	-21	-23	-22	-25	-29	-37	-47	-57	-54	-51	-56	-57	-58	-56	-55	-53	-53	-54	-51	-49	-42
2	-38	-37	-41	-40	-38	-33	-26	-25	-21	-15	-10	-8	-8	-7	-7	-7	-6	-8	-9	-8	-8	-8	-7	-9
3	-10	-9	-11	-14	-13	-17	-18	-19	-18	-14	-17	-19	-17	-8	-6	-3	4	0	8	7	3	1	-2	-3
4	-3	1	-1	2	4	6	11	15	17	17	13	7	5	12	14	14	15	16	16	18	17	13	6	3
5	4	3	-1	-4	-4	-4	-3	-2	-2	-6	-7	-7	-7	-5	-4	-4	-2	-1	-2	-2	-2	-3	-3	-6
6	-3	-5	-6	-4	-3	0	2	1	3	2	-2	-3	1	5	17	23	14	18	10	13	21	21	29	39
7	19	18	24	11	-9	-10	-4	-5	-2	6	7	-2	0	4	-1	1	9	7	0	-12	-13	-17	-23	-33
8	-39	-39	-48	-46	-37	-30	-29	-31	-28	-24	-20	-25	-35	-27	-22	-21	-23	-23	-19	-20	-17	-22	-18	-15
9	-15	-17	-20	-22	-14	-9	-5	-2	1	-5	-13	-15	-13	-13	-12	-12	-9	-9	-10	-5	-14	-20	-28	-33
10	-33	-36	-29	-27	-26	-28	-29	-28	-25	-26	-32	-35	-31	-31	-27	-30	-30	-19	-29	-34	-32	-30	-34	-38
11	-31	-25	-22	-26	-25	-27	-25	-24	-28	-31	-41	-60	-59	-58	-68	-75	-75	-71	-73	-71	-65	-65	-69	-63
12	-67	-60	-63	-65	-60	-55	-46	-46	-41	-45	-50	-56	-57	-60	-56	-59	-60	-50	-47	-53	-51	-54	-58	-56
13	-64	-61	-58	-56	-57	-57	-51	-54	-49	-48	-59	-65	-60	-54	-55	-53	-48	-45	-48	-49	-47	-49	-55	-47
14	-42	-42	-43	-41	-38	-35	-28	-18	-15	-19	-19	-21	-21	-21	-20	-17	-15	-15	-16	-15	-15	-21	-18	-16
15	-18	-23	-23	-25	-24	-21	-21	-15	-10	-8	-7	-6	-5	-1	1	1	4	3	2	2	-1	-4	-9	-11
16	-12	-1.	-9	-10	-11	-13	-12	-13	-12	-12	-11	-10	-12	-11	-13	-14	-13	-12	-15	-20	-21	-21	-21	-19
17	-19	-22	-21	-17	-15	-12	-12	-13	-13	-11	-8	-7	-7	-5	-6	-6	-4	-4	-6	-6	-4	-4	-2	-1
18	-1	-3	-5	-7	-6	-4	0	2	3	5	4	5	5	0	2	3	6	11	11	12	12	11	11	14
19	14	10	9	11	9	7	4	1	-1	2	3	6	6	7	10	11	9	3	1	-1	2	6	9	9
20	1	-1	-1	3	5	5	5	4	5	7	9	9	7	9	9	7	8	8	11	13	15	16	19	16
21	13	12	9	7	7	6	4	2	2	2	4	-1	-2	0	5	6	2	3	8	12	14	15	14	14
22	7	-1	-4	-5	-5	-4	-1	3	4	5	6	5	4	6	9	12	17	20	17	14	7	5	3	-2
23	-10	-15	-11	-6	-3	0	-2	-4	-3	-2	-1	-2	-4	-6	-7	-3	1	3	1	1	3	3	2	1
24	0	-2	6	29	29	29	30	35	25	18	12	11	7	5	5	4	2	-	0	-1	2	-5	-9	-13
25	-18	-16	-11	-5	-10	-11	-13	-6	-4	-2	1	2	-1	-1	1	-1	-1	2	7	15	14	16	14	6
26	4	8	3	-4	-2	-2	-1	-3	-1	1	-3	-5	-4	-10	-10	-14	-19	-28	-37	-47	-52	-47	-38	-32
27	-31	-24	-21	-20	-20	-20	-19	-21	-20	-20	-20	-19	-15	-20	-18	-16	-12	-10	-8	-7	-7	-8	-9	-13
28	-13	-10	-5	-4	-5	-6	-10	-10	-10	-9	-8	-7	-8	-6	-7	-10	-11	-12	-13	-12	-5	-6	-5	-4
29	-4	-3	2	2	4	4	3	-1	-3	-2	-2	-3	-2	0	-1	-3	-5	-2	-1	0	1	4	1	-5
30	-15	-23	-17	-9	-6	-6	-1	1	2	4	4	0	-6	-5	-11	-16	-11	-14	-11	-8	-8	-8	-10	-15

DAILY MEANS OF EQUATORIAL DST FOR 1979

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	-24	-23	-37	-49	-29	-2	7	4	-19	-18	-15	-3
2	-23	-29	-37	-63	-38	1	17	5	-15	-12	-25	-2
3	-35	-17	-30	-53	-20	10	23	-7	-15	-13	-14	-10
4	-69	-24	-45	-128	-19	4	-8	-13	-8	-6	-14	-26
5	-58	-37	-36	-29	-9	20	4	-2	-17	-3	1	-21
6	-31	-31	-53	-36	-1	23	5	-5	-20	-29	6	-6
7	-37	-14	-41	-20	-6	-19	-2	-11	-10	-40	-8	8
8	-54	-20	-29	-11	3	-12	-5	-5	-9	-62	-26	11
9	-22	-20	-21	-14	2	-9	-2	2	-10	-55	-21	0
10	-13	-17	-38	-12	4	-11	5	8	-14	-32	-25	5
11	-10	-14	-76	-1	-8	-8	10	12	-27	-24	0	7
12	-6	-38	-31	-4	-2	-4	17	9	-1	-17	1	5
13	-9	-13	-19	-8	7	0	-5	-20	2	-15	-63	10
14	-14	-5	-5	-2	2	3	2	-38	7	-6	-59	11
15	-20	-16	10	-16	-1	2	-10	-16	-1	-14	-21	-2
16	-23	-15	-3	-24	1	-15	-3	-7	3	-16	-16	-3
17	-13	0	-12	-13	2	-12	5	4	12	-7	-9	-6
18	-16	5	-10	-4	11	-2	-8	10	-93	-5	3	-4
19	-30	-13	-10	-2	-29	-8	4	-32	-52	4	1	-4
20	-24	-16	-2	4	-26	1	-2	-6	-37	0	0	-3
21	-15	-52	7	-6	-19	-11	-5	-30	-38	-12	-6	-5
22	-15	-60	-17	-64	-48	-21	3	-8	-15	-30	0	3
23	-46	-36	-29	-48	-31	-24	6	0	-17	-21	1	5
24	-50	-43	-28	-32	-35	-16	5	7	-19	-23	-32	8
25	-46	-35	-29	-101	-35	-5	12	0	-38	-33	-34	18
26	-45	-49	-44	-59	-29	-6	6	-15	-27	-19	-4	12
27	-46	-55	-43	-47	-27	-19	-29	-11	-27	-10	-5	-3
28	-30	-44	-43	-62	-13	-3	-5	-3	-26	-22	5	-10
29	-24		-33	-55	-2	8	20	-77	-26	-26	17	-32
30	-22		-68	-85	1	4	-5	-62	-23	-15	17	-24
31	-21		-40		2		-7	-25		-8		-14
MEAN	-29	-26	-30	-33	-13	-4	2	-11	-19	-19	-12	-2

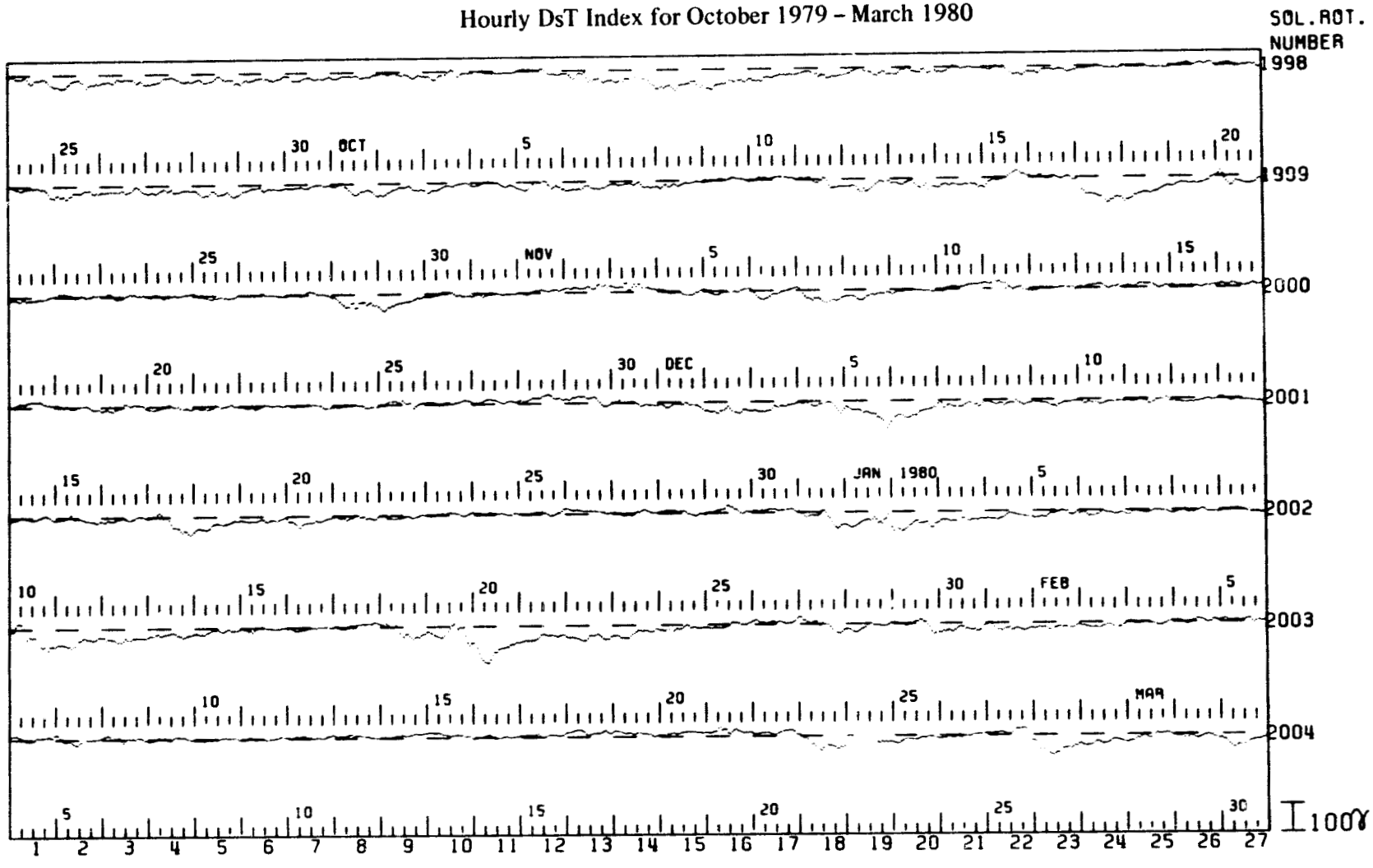
ANNUAL MEAN -16

DAILY MEANS OF EQUATORIAL DST FOR 1960

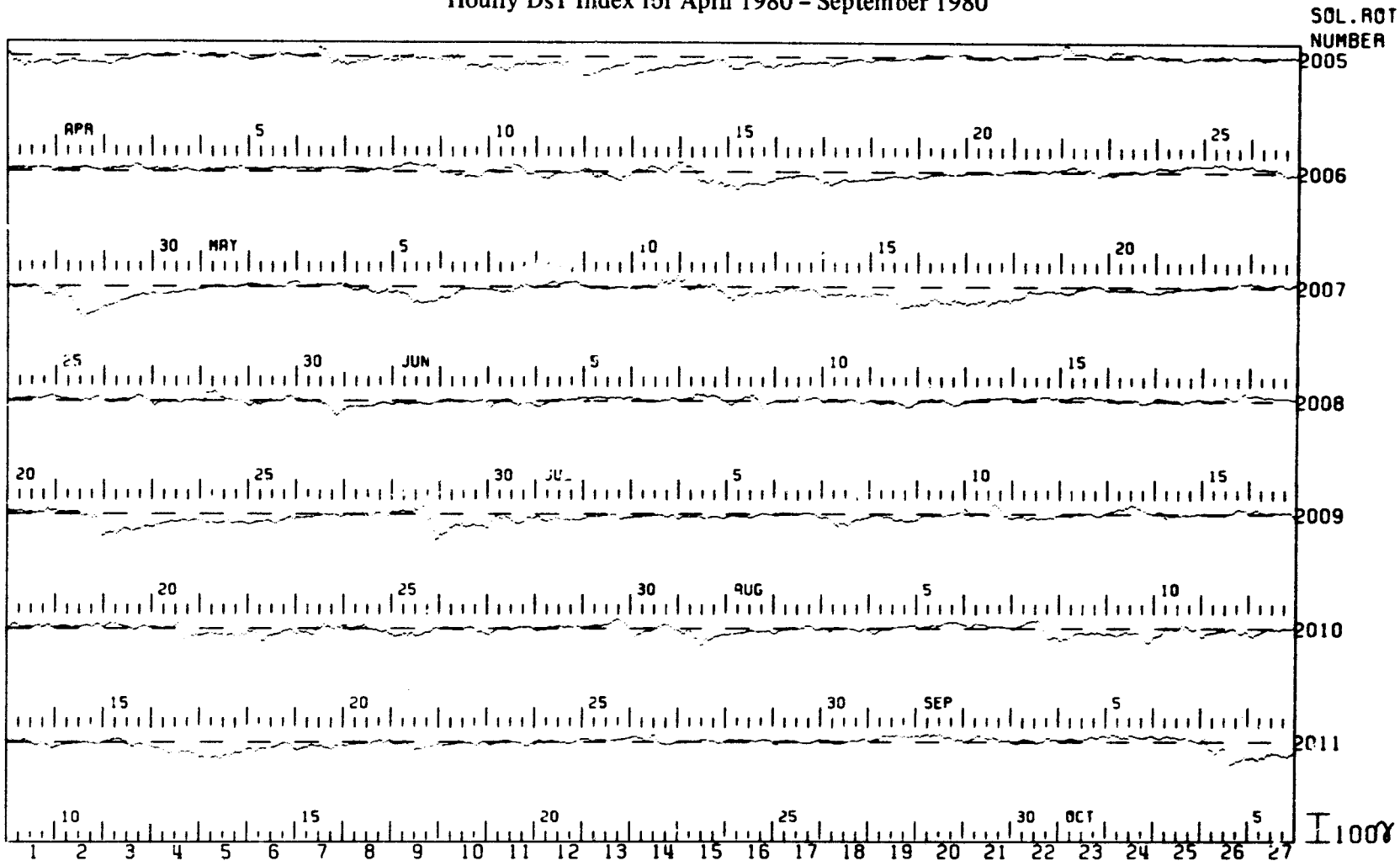
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	-47	-12	-3	-23	6	-42	-1	-6	12	10	-42	-28
2	-47	-11	4	-13	10	-18	11	-1	8	17	-27	-10
3	-17	-6	5	2	11	-8	3	-25	0	11	-23	-26
4	-11	-4	5	0	5	10	12	-15	-24	-40	-23	-24
5	-12	-3	-4	-1	20	-3	-1	-4	-26	-51	-11	-17
6	-10	-32	2	-1	-10	8	4	5	-7	-29	0	-1
7	-5	-49	0	-14	6	-1	0	-14	-13	-12	-2	-1
8	-7	-39	-2	-7	-8	-27	-9	-3	-9	-7	-3	-4
9	-4	-25	-1	-24	-14	-13	-3	14	-3	-9	-1	-7
10	-3	-13	3	-35	10	-30	6	-3	-5	-11	-14	-13
11	-8	-4	6	-37	-16	-49	8	3	-2	-71	-18	-2
12	-8	-4	7	-45	-45	-55	10	4	-32	-41	-24	-15
13	-24	6	10	-46	-20	-54	-1	8	-46	-20	-11	-12
14	-32	-18	1	-22	-34	-24	1	8	-18	-4	-10	-9
15	-15	-24	6	-32	-15	-9	8	8	-18	-24	-36	-16
16	-21	-88	16	-25	-11	-14	13	-9	-4	-13	-39	-21
17	-7	-42	12	-17	-3	-9	8	-22	-12	-10	-22	-22
18	-6	-43	12	-8	4	4	-8	-19	-5	-21	-22	-26
19	2	-29	18	5	3	6	-56	-5	-3	-33	-26	-89
20	3	-13	12	-2	0	8	-29	-2	0	-27	-17	-103
21	3	-3	-31	5	18	[illegible]	-29	-18	7	-14	-12	-48
22	10	8	-28	14	22	5	-25	-3	5	-20	-10	-31
23	2	-4	-13	10	5	-3	-7	-2	1	-66	-9	-12
24	2	-11	-2	-3	-10	9	-3	3	4	-46	-17	-3
25	8	-4	10	0	-66	-1	-4	14	-1	-34	6	10
26	8	-21	-50	-1	-45	-14	-46	-6	2	-34	-12	-6
27	-20	-18	-28	10	-20	-17	-21	-28	16	-23	-29	-13
28	-35	-16	-7	8	-1	-8	-18	-13	17	-11	-36	-9
29	-50	-13	-8	12	4	-1	-9	-2	9	-6	-27	-7
30	-30		-27	7	5	-8	-7	-3	2	-15	-25	-25
31	-19		-22		-13		-11	-1		-32		-29
MEAN	-13	-18	-3	-9	-7	-12	-7	-4	-5	-22	-18	-20

ANNUAL MEAN -12

FSUM = -100924.000 YEARLY AVE.= -11



Hourly DsT Index for April 1980 - September 1980



ORIGINAL PAGE IS
OF POOR QUALITY

Appendix 3

A SPECIAL Dst INDEX

Dr. M. Sugiura of GSFC has kindly supplied the MAGSAT project office with an extended Dst calibration.

The following function was computed:

$$D(T) = A_o(T) + \sum_{n=1}^{2} A_n(T) \sin\{nt + \alpha_n(T)\}$$

where T is universal time and t is local time. A_o and A_n are in nanotesla (nT) and α_n in degrees. $A_o(T)$ is equivalent to the traditional Dst while $\sum_{n=1}^{2} A_n(T) \sin\{nT + \alpha_n(T)\}$ should be an approximation to the traditional DS. For these calculations data from the five observatories Honolulu, San Juan, Hermanus, Alibay and Kakioka were utilized. As of this writing the secular variation has not yet been accounted for, which can result in a baseline shift of a few nT. Table A3 gives the values of $A_o(T)$ (= Dst), $A_1(t)$ (= DS1), $A_2(t)$ (= DS2), $\alpha_1(t)$ and $\alpha_2(t)$ over the interval October 1, 1979 through June 30, 1980.

Table A-3. Equatorial Disturbance (DsT, DS) from Five Observations (pages 3-2 through 3-28)

DST 79 10 1

DST	DS1	DS2	ALPHA1	ALPHA2
-25	17	12	64.7	104.5
-28	30	13	56.0	84.5
-30	24	16	37.9	60.1
-33	21	24	30.1	7.3
-31	14	24	16.4	3.7
-24	10	26	-33.6	-20.5
-18	[illegible]	23	-59.0	-46.1
-17	9	26	-70.1	-74.5
-16	[illegible]	13	-85.5	-116.7
-14	11	15	-77.2	-165.7
-17	10	16	-46.6	155.5
-20	6	17	-60.0	135.3
-18	5	13	-71.3	105.8
-22	10	17	-75.5	82.2
-25	5	16	-56.6	54.2
-28	9	14	-34.7	19.4
-25	5	11	-38.6	-4.5
-21	[illegible]	13	-179.5	-43.5
-20	[illegible]	11	135.0	-72.7
-22	13	16	112.0	-92.1
-21	17	1[illegible]	37.2	-112.2
-19	21	20	81.6	-137.0
-18	15	21	74.6	-174.5
-17	14	16	64.6	149.3

AVERAGE DST VALUE : -22.0

DST 79 10 2

DST	DS1	DS2	ALPHA1	ALPHA2
-15	11	11	79.7	106.5
-12	11	10	62.3	60.7
-11	13	15	37.3	50.0
-12	11	20	44.3	26.3
-14	6	24	19.4	6.7
-17	5	23	-13.3	-17.6
-14	5	22	-33.3	-47.5
-9	9	26	-50.2	-83.7
-6	14	24	-64.0	-134.1
-6	16	24	-70.7	-169.6
-11	7	15	-67.2	166.4
-12	11	17	-119.7	130.3
-17	9	16	-104.8	95.6
-19	10	16	-90.5	73.1
-17	11	16	-112.3	49.3
-17	10	17	-106.6	21.8
-21	13	16	-86.6	-0.2
-26	12	14	-103.6	-21.6
-32	10	18	-96.6	-42.3
-28	4	15	-107.7	-57.9
-22	12	19	130.9	-93.5
-20	14	16	111.3	-144.8
-23	13	15	99.6	162.1
-23	23	12	75.9	103.7

AVERAGE DST VALUE : -16.6

DST 79 10 3

DST	DS1	DS2	ALPHA1	ALPHA2
-19	24	10	68.3	75.1
-22	24	10	47.6	52.5
-24	30	19	52.1	53.5
-26	31	23	24.2	16.2
-30	26	34	2.7	-5.8
-30	22	31	[illegible]	-26.2
-35	17	27	-12.4	-51.6
-28	15	25	-32.6	-88.2
-16	16	22	-54.8	-130.9
-15	13	18	-77.0	-164.2
-13	9	16	-96.4	163.0
-11	9	15	-133.7	137.4
-7	9	16	-131.0	109.0
-3	12	16	-122.9	89.6
1	13	15	-119.5	73.3
-1	15	15	-113.4	50.5
-6	13	16	-140.3	26.5
-13	9	16	144.0	12.1
-17	17	16	129.5	-25.1
-12	21	21	132.6	-61.3
-10	22	25	126.2	-95.7
-12	21	24	103.3	-123.6
-13	21	21	71.8	-167.3
-15	16	14	61.9	151.0

AVERAGE DST VALUE : -16.[illegible]

DST 79 10 4

DST	DS1	DS2	ALPHA1	ALPHA2
-10	21	16	54.2	110.2
-12	19	17	62.9	83.9
-9	20	26	51.6	62.9
-9	17	26	42.7	26.3
-11	12	25	21.6	1.0
-3	11	17	-27.7	-14.4
0	15	16	-43.5	-51.5
-6	17	26	-44.2	-96.1
-10	18	23	-52.0	-143.5
-9	12	16	-60.6	-179.2
-11	15	21	-90.5	151.5
-11	12	20	-101.9	131.3
-9	17	23	-129.4	109.5
-11	13	17	-142.3	73.7
-13	10	14	-147.3	53.2
-10	10	12	-162.6	26.9
-8	12	12	-169.3	3.3
-8	12	12	175.5	-24.0
-7	14	15	159.6	-46.3
-10	16	15	138.3	-71.2
-11	18	20	116.5	-104.7
-13	15	16	111.8	-145.0
-13	14	11	103.5	169.6
-10	12	6	103.9	114.6

AVERAGE DST VALUE : -9.3

DST 79 10 5

DST	DS1	DS2	ALPHA1	ALPHA2
-8	11	3	104.7	74.3
-8	11	10	97.6	52.3
-5	14	16	81.0	51.7
-3	13	22	37.1	25.8
-3	9	22	7.2	6.7
-2	6	22	-34.1	-17.8
2	9	21	-57.1	-44.3
1	7	20	-76.9	-73.9
1	7	17	-67.6	-120.4
1	5	15	-105.2	-156.6
0	5	16	-121.6	155.5
0	10	16	-139.9	134.0
4	12	16	-153.3	102.3
4	13	15	-158.3	70.7
-3	11	20	-166.6	47.7
-10	5	16	-171.1	17.0
-16	5	13	-124.2	-6.3
-18	7	13	-111.5	-29.5
-17	7	11	-121.5	-53.6
-18	4	13	-126.7	-93.2
-18	10	14	127.4	-118.0
-21	15	16	86.8	-147.8
-22	14	13	62.2	177.3
-16	20	19	45.6	134.9

AVERAGE DST VALUE : -7.0

DST 79 10 6

DST	DS1	DS2	ALPHA1	ALPHA2
-13	17	15	19.6	110.7
-18	11	20	31.6	75.5
-20	12	23	33.5	53.7
-21	21	35	8.1	23.3
-32	24	3	-7.5	-3.0
-37	26	34	-31.2	-31.6
-34	21	32	-32.5	-64.5
-23	15	31	-31.2	-102.2
-15	25	27	-56.7	-135.1
-14	23	24	-75.9	-170.9
-15	21	23	-33.2	160.2
-10	25	26	-109.7	124.7
-36	21	36	-63.5	86.4
-56	35	25	-58.0	63.0
-54	33	42	-75.5	42.0
-56	40	27	-61.0	23.2
-45	21	15	-53.4	20.5
-43	28	9	-63.5	1.2
-38	15	11	-30.3	-40.3
-37	7	16	-160.7	-60.6
-47	15	21	122.3	-114.2
-50	20	21	80.6	-157.1
-46	25	24	59.7	173.3
-45	23	24	47.9	135.6

AVERAGE DST VALUE : -33.9

DST 79 10 7

DST	DS1	DS2	ALPHA1	ALPHA2
-43	24	24	54.5	106.3
-44	21	25	42.1	74.3
-49	20	27	46.7	51.7
-53	26	23	36.0	21.0
-49	21	29	-1.8	-7.5
-41	24	22	-36.6	-13.2
-60	22	22	-22.0	-32.0
-44	17	16	-45.7	-73.3
-34	24	15	-53.1	-129.7
-35	22	18	-60.4	-166.5
-36	25	17	-66.2	161.1
-29	[illegible]	21	-32.2	127.0
-25	15	15	-93.6	104.4
-33	20	25	-94.8	71.2
-45	26	27	-2.9	36.3
-54	27	12	-29.9	4.5
-45	10	10	-93.4	-8.2
-36	6	10	-131.3	-27.4
-38	9	14	169.2	-45.8
-30	12	19	141.0	-73.8
-42	16	21	37.1	-95.4
-49	37	21	56.9	-124.6
-61	35	28	57.1	-165.9
-60	40	27	43.2	154.5

AVERAGE DST VALUE : -43.1

DST 79 10 8

DST	DS1	DS2	ALPHA1	ALPHA2
-68	42	21	26.9	113.3
-71	42	23	21.6	71.6
-68	54	33	26.2	48.4
-64	49	30	20.5	26.6
-74	31	34	11.6	-3.1
-68	17	26	-15.5	-21.1
-61	15	10	-54.1	-30.8
-59	13	14	-49.9	-42.9
-67	25	15	-15.1	-75.6
-76	32	21	-23.4	-131.4
-88	41	24	-25.7	-174.2
-78	16	25	-32.9	148.4
-65	11	17	-31.3	107.4
-63	13	16	-92.2	75.4
-60	9	13	-116.0	68.4
-58	7	12	-130.4	40.3
-57	6	13	-149.0	14.7
-50	19	11	78.1	7.6
-47	13	13	52.5	-60.2
-50	6	14	47.9	-77.5
-49	11	12	79.2	-103.4
-56	34	21	45.5	-135.7
-71	45	24	37.0	-170.7
-68	36	25	27.3	151.3

AVERAGE DST VALUE : -64.0

DST 79 10 9

DST	DS1	DS2	ALPHA1	ALPHA2
-57	39	20	36.0	112.6
-65	35	11	20.7	56.4
-68	32	[illegible]	19.2	36.2
-68	29	11	11.5	11.3
-73	29	12	0.4	-5.0
-74	30	20	-19.2	-21.5
-65	23	13	-26.5	-42.6
-62	15	17	-0.4	-70.3
-61	22	11	-2.2	-95.4
-59	22	[illegible]	-32.6	-130.6
-59	12	14	-1.1	155.9
-58	8	[illegible]	31.2	147.4
-53	9	11	-169.9	102.6
-47	10	15	-156.6	83.2
-47	5	17	-125.9	67.9
-47	3	16	-29.6	40.7
-53	7	14	-50.3	5.8
-51	4	13	-76.0	-26.5
-44	[illegible]	11	151.1	-60.3
-43	10	11	64.3	-69.6
-43	12	17	69.7	-106.0
-20	17	15	26.6	-140.5
-51	21	21	38.0	-167.4
-44	16	17	56.9	162.4

AVERAGE DST VALUE : -55.9

DST 79 10 10

DST	DS1	DS2	ALPHA1	ALPHA2
-38	15	14	60.7	121.2
-40	17	14	57.6	72.8
-48	31	23	36.2	43.1
-48	32	32	24.7	14.9
-53	21	37	19.1	-8.0
-49	16	34	-4.2	-31.0
-51	17	27	-16.2	-56.7
-47	13	20	-30.0	-85.1
-35	11	20	-61.6	-124.5
-34	10	17	-48.0	-163.6
-36	10	15	-25.5	155.4
-38	11	13	-60.2	130.4
-37	10	[illegible]	-30.1	106.0
-34	6	16	-46.1	73.4
-32	6	11	-4.7	72.5
-28	9	10	-36.7	62.1
-26	11	11	-134.4	33.2
-27	9	10	-110.4	-7.7
-25	5	10	-140.3	-51.3
-24	13	6	54.9	-70.3
-25	10	13	50.6	-117.4
-25	5	13	46.0	-161.2
-26	6	12	46.5	155.0
-27	4	11	69.8	118.5

AVERAGE DST VALUE : -35.5

DST 79 10 11

DST	DS1	DS2	ALPHA1	ALPHA2
-24	6	3	121.6	58.3
-24	11	9	116.8	21.6
-24	14	16	64.3	34.8
-23	14	27	59.9	16.5
-27	10	35	24.4	-0.8

-19	13	38	-7.9	-31.5
-16	15	35	-17.8	-63.5
-17	20	35	-30.6	-99.0
-22	26	32	-27.7	-133.0
-25	30	27	-33.1	-164.3
-26	17	17	-48.7	175.5
-26	22	22	-73.7	123.6
-34	19	14	-77.3	98.5
-30	17	19	-69.5	75.5
-31	10	14	-65.6	43.7
-30	8	13	-74.9	11.1
-42	10	12	-56.6	-3.9
-38	5	10	165.3	-25.7
-38	13	12	137.4	-53.7
-31	14	16	127.2	-73.2
-33	13	20	106.8	-102.2
-32	19	17	59.7	-136.8
-30	17	15	79.5	-173.3
-28	14	16	36.8	145.3

AVERAGE DST VALUE : -27.6

DST 79 10 12

DST	DS1	DS2	ALPHA1	ALPHA2
-26	12	6	66.1	91.2
-25	11	5	60.1	44.2
-26	14	[illegible]	51.2	43.7
-22	13	11	38.0	15.4
-21	10	16	20.0	3.4
-15	12	[illegible]	-16.1	-29.5
-11	15	23	-34.1	-63.6
-10	16	27	-40.4	-97.7
-6	21	22	-55.5	-136.5
-5	25	27	-68.6	-171.9
-5	27	32	-73.3	153.6
-15	25	27	-63.9	113.5
-16	26	24	-23.6	88.8
-20	20	21	-90.8	73.3
-30	15	20	-103.0	52.0
-33	12	13	-101.7	13.4
-31	9	12	-84.5	-5.9
-31	5	13	-71.4	-36.4
-31	1	10	-25.5	-67.1
-25	4	14	31.2	-98.3
-26	9	15	71.3	-104.2
-16	6	17	44.5	-155.0
-20	7	17	21.3	151.0
-22	23	17	41.9	101.8

AVERAGE DST VALUE : -13.3

DST 79 10 13

DST	DS1	DS2	ALPHA1	ALPHA2
-22	17	11	45.6	65.5
-23	16	9	41.3	63.7
-23	20	14	27.5	55.1
-22	20	14	5.4	35.7
-23	17	14	-5.6	4.2
-19	17	15	-24.9	-23.0
-12	13	23	-38.5	-61.1
-10	24	29	-44.8	-95.5
-11	25	30	-46.5	-131.5
-3	26	33	-69.9	-171.7
-2	27	31	-59.2	155.3
-3	24	27	-119.2	125.7
-15	21	25	-143.1	91.6
-16	19	23	-152.5	62.5
-19	19	16	176.7	41.5
-18	11	15	153.7	20.4
-20	11	15	162.3	5.0
-10	10	15	165.7	-17.5
-9	7	13	-170.7	-42.5
-14	3	18	135.7	-67.7
-25	5	14	90.7	-107.7
-20	13	11	56.8	-143.5
-15	16	17	53.1	173.5
-13	14	16	49.6	153.0

AVERAGE DST VALUE : -16.0

DST 79 10 14

DST	DS1	DS2	ALPHA1	ALPHA2
-13	12	14	51.3	118.4
-18	12	12	42.6	93.3
-17	16	15	36.3	60.6
-19	16	14	24.2	27.1
-17	14	11	-1.1	8.0
-14	14	9	-34.5	-12.4
-10	14	7	-57.0	-33.0
-1	16	8	-78.4	-71.9
1	16	11	-68.9	-132.4
6	20	12	-99.3	-173.7
3	17	14	-116.2	152.4
0	20	13	-130.8	123.3
-1	19	19	-152.3	97.7
-5	14	16	-167.5	72.0
-6	11	15	-172.1	49.3
-5	8	13	-159.3	17.7
-6	6	12	-136.0	-10.1
-2	6	10	-156.7	-42.1
-3	7	12	166.0	-73.0
-6	8	14	130.9	-94.0
-5	12	16	112.3	-121.9
-6	13	17	97.5	-153.0
-6	14	18	80.4	177.7
-6	14	16	71.3	145.1

AVERAGE DST VALUE : -6.5

DST 79 10 15

DST	DS1	DS2	ALPHA1	ALPHA2
-5	13	11	80.2	99.5
-8	11	8	64.6	43.5
-8	15	12	38.7	62.4
-9	13	13	20.6	31.4
-9	13	15	-6.1	13.3
-7	11	16	-34.0	-18.5
-1	15	15	-49.3	-51.7
2	20	19	-57.4	-93.1
-1	19	19	-56.6	-134.3
-6	21	17	-58.2	-163.5
-7	21	19	-67.5	161.1
-7	15	22	-74.4	126.7
8	24	38	-167.3	-66.9
-19	6	21	-36.5	64.2
-27	11	15	-56.4	36.0
-28	6	16	-97.7	10.0
-34	6	11	-34.7	-19.3
-32	2	9	-171.5	-47.3
-27	4	10	121.3	-85.3
-28	8	16	61.4	-123.2
-31	17	13	52.4	-139.0
-33	16	17	56.3	-156.5
-26	16	22	51.2	-175.3
-20	13	23	45.0	152.2

AVERAGE DST VALUE : ,-15.0

DST 79 10 16

DST	DS1	DS2	ALPHA1	ALPHA2
-20	10	20	46.6	111.2
-22	13	21	31.5	76.4
-23	17	23	22.3	55.9
-22	15	31	36.5	30.9
-25	20	33	7.0	0.5
-21	22	37	-17.5	-33.1
-23	21	31	-23.3	-62.8
-15	21	27	-44.6	-93.5
-12	13	21	-68.3	-134.9
-14	13	17	-82.4	-162.5
-14	8	16	-99.5	169.9
-12	16	21	-115.4	130.1
-14	16	19	-147.1	113.3
-15	5	16	-151.8	81.0
-15	9	16	-162.3	53.6
-11	13	15	-168.0	24.0
-12	12	14	-176.5	0.3
-14	12	13	177.2	-16.7
-14	13	14	155.3	-45.6
-19	15	14	112.2	-74.4
-21	18	16	102.1	-111.9
-19	19	17	94.6	-145.3
-18	18	19	80.7	-173.7
-16	13	17	75.7	151.3

AVERAGE DST VALUE : -17.7

DST 79 10 17

DST	DS1	DS2	ALPHA1	ALPHA2
-15	12	17	62.5	121.3
-11	11	17	42.3	87.6
-9	15	21	26.1	64.9
-10	15	25	12.5	29.3
-13	14	28	4.6	-1.2
-13	14	23	-3.6	-35.1
-12	17	28	-12.6	-68.7
-10	19	27	-35.6	-100.9
-9	14	25	-54.6	-132.6
-7	12	23	-76.3	-164.1
-5	12	20	-95.6	163.4
-2	13	18	-112.2	141.7
-3	16	18	-123.2	106.7
-2	17	20	-138.6	72.2
-4	12	20	-150.9	44.0
-7	17	17	-177.4	10.1
-8	16	16	166.7	-17.2
-9	15	14	148.6	-45.7
-10	14	14	130.1	-71.9
-8	13	15	111.7	-101.7
-7	13	16	108.1	-129.3
-9	15	18	90.0	-150.7
-9	16	23	65.9	-172.9
-6	15	25	48.4	159.0

AVERAGE DST VALUE : -8.3

DST 79 10 18

DST	DS1	DS2	ALPHA1	ALPHA2
-3	13	26	30.2	127.3
-3	9	25	26.0	94.4
-5	15	27	12.0	67.4
-5	15	27	-6.0	39.4
-5	13	24	-24.7	12.1
-7	15	21	-42.3	-17.9
-7	16	20	-53.9	-52.4
-6	14	19	-54.4	-90.2
-6	11	17	-62.8	-127.2
-6	6	14	-89.9	-161.1
-6	7	14	-111.0	169.7
-5	9	14	-129.9	144.3
-4	10	14	-145.5	113.3
-5	10	15	-153.8	77.1
-7	14	15	-175.9	40.3
-7	15	18	174.5	7.1
-7	16	19	167.3	-15.5
-8	14	13	150.3	-41.2
-8	13	13	145.5	-64.1
-7	14	14	130.6	-89.3
-6	16	16	114.4	-116.0
-8	16	17	102.2	-144.9
-8	15	15	86.9	-179.9
-7	13	15	69.6	152.2

AVERAGE DST VALUE : -6.1

DST 79 10 19

DST	DS1	DS2	ALPHA1	ALPHA2
-5	11	18	54.0	125.6
-3	9	20	32.1	95.2
-2	12	21	20.3	65.3
-2	11	20	6.3	35.1
-1	16	21	-15.9	8.7
3	17	23	-40.4	-22.3
2	15	20	-49.6	-53.7
4	15	19	-59.3	-92.4
5	16	18	-75.0	-135.2
7	16	18	-90.2	-169.5
5	16	21	-107.3	159.6
0	16	22	-127.8	126.5
9	16	21	-142.2	93.1
1	14	17	-155.5	63.6
4	14	16	-162.6	44.3
7	14	14	-162.5	23.9
7	13	12	-170.2	3.9
5	13	12	177.6	-26.0
3	14	14	149.5	-61.6
5	15	16	131.0	-87.0
9	15	18	114.9	-117.1
10	12	18	101.5	-150.7
8	10	16	38.4	172.3
1	10	15	77.7	132.7

AVERAGE DST VALUE : 3.0

DST 79 10 20

DST	DS1	DS2	ALPHA1	ALPHA2
-1	11	13	50.9	93.3
-3	13	14	30.6	85.2
5	4	[illegible]	6.5	41.4
3	[illegible]		4.3	29.4
4	[illegible]	[illegible]	[illegible]	0.3
5	16	21	-27.9	-29.6
6	19	22	-35.6	-61.3
3	22	25	-36.0	-96.5
-3	31	28	-36.2	-130.0
-6	40	32	-49.5	-172.0
-12	39	34	-60.6	153.1
-9	27	31	-70.3	105.7
-6	33	32	-104.8	90.4
-3	27	27	-119.5	64.2
-2	21	21	-133.4	44.7
-4	12	16	-134.7	19.2
-3	10	13	-158.2	-7.5
2	12	13	-174.6	-39.1
0	11	13	163.9	-61.3
-3	9	15	146.7	-90.5
1	10	15	114.1	-115.5
-6	16	20	90.1	-138.5
-9	22	24	76.6	-161.7
-6	16	21	65.5	161.5

AVERAGE DST VALUE : -2.0

DST 79 10 21

DST	DS1	DS2	ALPHA1	ALPHA2
0	14	17	54.7	119.9
0	12	16	39.2	84.9
-4	16	25	21.0	62.2
-8	25	36	15.1	23.7
-15	16	36	8.6	3.4
-16	13	31	-2.5	-25.6
-19	14	27	-16.9	-52.5
-20	16	26	-29.1	-82.3
-16	13	21	-44.3	-119.8
-14	11	15	-51.4	-156.9
-13	16	23	-66.0	165.9
-11	14	21	-86.6	130.7
-8	17	23	-118.5	96.2
-10	15	20	-115.3	69.9
-10	14	13	-119.5	49.1
-8	9	16	-135.5	24.1
-15	11	15	-93.7	-2.4

-16	10	11	-112.7	-27.2
-14	7	11	-124.7	-71.1
-17	3	14	-121.3	-103.6
-22	1	17	35.7	-137.7
-30	13	23	68.4	-175.6
-28	22	12	27.5	161.0
-41	26	22	19.5	131.7

AVERAGE DST VALUE : -15.2

DST 79 10 22

DST	DS1	DS2	ALPHA1	ALPHA2
-42	26	25	11.7	112.1
-34	27	26	14.1	86.1
-30	33	23	-0.4	37.3
-35	29	17	-7.6	13.0
-37	20	15	-9.7	6.7
-37	17	13	-16.6	-2.8
-45	15	15	-27.2	-16.3
-49	10	16	-6.6	-51.3
-42	16	14	11.5	-95.3
-38	3	12	1.3	-133.0
-29	13	13	-79.5	168.5
-27	13	16	-112.0	135.7
-26	12	16	-133.7	106.3
-28	7	13	-144.5	77.7
-29	3	15	-179.0	53.4
-24	4	14	-152.5	26.3
-22	9	15	-156.3	-2.8
-21	3	14	121.9	-29.7
-20	4	10	-123.1	-67.9
-21	2	13	99.9	-114.8
-28	3	15	46.9	-145.1
-30	9	14	47.5	-172.3
-26	9	16	69.6	153.5
-29	10	13	75.7	117.4

AVERAGE DST VALUE : -31.2

DST 79 10 23

DST	DS1	DS2	ALPHA1	ALPHA2
-25	11	12	75.7	87.3
-22	13	12	43.4	72.8
-22	20	12	23.0	55.9
-21	13	11	14.4	23.4
-20	15	8	-4.1	22.5
-19	13	6	-28.4	8.3
-19	17	7	-33.5	-27.4
-22	18	14	-46.8	-75.6
-25	17	17	-47.2	-122.3
-27	17	13	-55.3	-159.0
-25	16	15	-75.2	169.5
-20	18	16	-97.8	134.5
-23	13	17	-103.6	104.9
-29	8	16	-110.6	71.7
-31	7	16	-109.0	42.7
-27	7	16	-124.2	9.7
-25	8	16	-143.4	-18.1
-18	6	13	164.8	-49.2
-10	1	12	-165.5	-91.4
-8	5	13	-57.6	-151.1
-14	7	16	-40.2	-170.7
-20	12	19	-20.6	171.7
-24	15	20	10.5	154.5
-25	16	19	15.7	132.7

AVERAGE DST VALUE : -21.7

DST 79 10 24

DST	DS1	DS2	ALPHA1	ALPHA2
-26	16	17	27.5	102.3
-30	17	15	34.1	73.4
-27	21	16	31.1	54.7
-22	19	13	16.4	19.5
-24	19	[illegible]	-7.6	-3.4
-30	19	11	-10.2	-23.2
-25	18	13	-30.3	-43.7
-23	13	13	-26.9	-74.2
-21	7	11	-33.7	-99.4
-17	10	15	-51.8	-151.7
-21	17	16	-55.6	172.7
-28	23	14	-51.9	165.7
-23	21	17	-62.5	133.5
-21	12	15	-41.2	91.6
-33	16	16	-54.5	43.7
-34	11	21	-84.4	12.7
-33	7	17	-16.6	-13.3
-32	7	15	-24.9	-63.5
-26	2	14	-50.2	-65.3
-24	0	12	-83.3	-107.3
-21	5	12	106.1	-139.7
-20	7	14	109.1	-163.0
-20	10	15	55.6	160.5
-20	11	13	76.7	125.0

AVERAGE DST VALUE : -25.0

DST 79 10 25

DST	DS1	DS2	ALPHA1	ALPHA2
-20	15	12	73.2	97.1
-20	17	13	50.8	69.1
-22	23	17	29.2	45.1
-28	24	20	17.5	3.6
-30	27	21	2.4	-18.1
-40	32	16	-22.3	-44.1
-39	33	19	-39.9	-66.6
-28	20	16	-42.4	-104.0
-40	25	16	-49.2	-121.5
-34	21	16	-67.0	-166.4
-25	25	22	-86.4	161.4
-24	21	23	-104.6	126.6
-32	18	22	-106.7	97.6
-40	12	22	-33.4	64.7
-43	10	21	-106.5	31.7
-40	9	26	-160.3	2.8
-29	6	21	156.1	-29.0
-33	10	16	126.3	-54.0
-28	4	15	34.6	-93.4
-35	8	17	50.6	-107.8
-41	17	26	43.2	-118.1
-44	22	24	44.4	-148.4
-42	28	26	43.9	-172.0
-37	27	27	40.6	155.7

AVERAGE DST VALUE : -34.2

DST 79 10 26

DST	DS1	DS2	ALPHA1	ALPHA2
-36	27	26	35.9	124.8
-32	22	21	25.0	93.3
-26	23	26	9.5	65.0
-25	21	27	5.6	24.8
-26	23	28	1.2	-7.0
-24	21	27	-12.9	-39.9
-20	19	24	-24.0	-65.0
-17	17	23	-50.1	-87.3
-16	13	16	-78.3	-117.7
-15	11	14	-87.4	-155.0
-13	8	13	-94.4	170.0
-14	10	18	-93.7	132.7
-24	10	16	-64.8	102.6
-27	16	17	-75.8	72.0
-25	13	17	-101.6	46.5
-21	15	17	-142.2	15.1
-21	11	17	-168.5	-19.1
-20	8	14	124.6	-43.0
-16	6	13	126.7	-75.9
-19	10	15	125.1	-100.9
-20	15	17	104.1	-119.2
-20	17	21	94.2	-152.4
-17	22	16	77.6	163.4
-14	17	15	70.1	138.3

AVERAGE DST VALUE : -21.3

DST 79 10 27

DST	DS1	DS2	ALPHA1	ALPHA2
-13	14	11	69.6	108.5
-13	13	8	60.0	69.5
-15	17	10	43.1	51.5
-13	15	8	25.3	3.4
-15	16	9	6.3	-28.5
-14	21	12	-3.9	-40.5
-13	23	15	-27.8	-65.0
-14	18	13	-46.2	-98.1
-12	14	13	-59.2	-129.2
-16	14	12	-59.5	-155.5
-17	12	13	-73.6	178.3
-18	6	5	-83.1	147.4
-16	6	6	-92.1	127.4
-13	11	13	-125.4	108.8
-9	10	12	-116.0	73.6
-9	10	14	-132.4	33.0
-9	8	15	-157.5	-3.3
-9	12	16	174.3	-44.3
-6	13	16	153.6	-71.5
-7	15	20	141.9	-95.3
-9	16	26	96.0	-111.0
-8	21	22	34.8	-143.1
-4	20	20	63.0	-164.6
-5	20	15	32.5	156.8

AVERAGE DST VALUE : -11.6

DST 79 10 28

DST	DS1	DS2	ALPHA1	ALPHA2
-7	20	11	79.8	114.9
-5	15	8	67.3	62.2
-12	22	15	45.3	37.9
-7	22	22	32.2	11.3
-4	19	22	17.0	-12.9
-2	19	22	-4.0	-51.7
-2	17	17	-32.6	-61.2
-13	13	19	-40.4	-81.9
-19	17	13	-31.3	-105.2
-29	24	15	-17.9	-133.4
-35	34	14	-23.9	-169.3
-43	39	12	-32.7	172.7
-49	36	12	-36.5	137.1
-47	33	12	-51.2	108.7
-41	20	12	-81.3	63.7
-34	17	12	-106.2	40.8
-36	12	13	-136.8	3.1
-32	6	13	173.0	-42.0
-27	8	13	171.2	-72.9
-26	8	15	139.5	-165.5
-28	11	20	77.7	-151.4
-34	22	20	68.1	-163.7
-36	15	15	45.2	143.8
-40	16	11	46.8	106.7

AVERAGE DST VALUE : -25.4

DST 79 10 29

DST	DS1	DS2	ALPHA1	ALPHA2
-44	16	3	48.2	80.7
-41	16	5	52.5	63.3
-43	26	11	37.2	39.2
-45	28	17	31.9	-2.5
-43	19	22	26.0	-32.5
-40	15	21	8.5	-50.6
-37	14	23	-5.8	-67.4
-33	12	25	-34.3	-91.6
-29	11	23	-52.5	-125.9
-28	7	18	-47.7	-157.6
-23	9	16	-71.5	179.1
-17	12	17	-57.0	142.7
-16	10	15	-131.1	122.7
-17	8	14	-101.8	103.4
-18	2	12	-98.0	73.1
-18	3	13	-33.9	41.1
-16	3	15	-117.0	10.5
-23	5	13	-44.7	-11.0
-26	8	16	0.0	-62.0
-28	7	15	25.1	-104.1
-26	10	19	49.4	-140.1
-26	16	16	44.1	-170.0
-25	9	17	47.4	157.5
-25	13	15	67.2	128.0

AVERAGE DST VALUE : -26.7

DST 79 10 30

DST	DS1	DS2	ALPHA1	ALPHA2
-25	17	12	49.1	103.3
-28	16	11	47.6	63.7
-33	21	9	16.9	35.4
-30	15	8	8.4	-6.3
-26	16	5	-8.7	-28.6
-27	14	3	-18.4	-41.0
-26	12	5	-43.1	-11.1
-25	9	8	-68.1	-29.1
-22	5	6	-66.3	-72.2
-18	6	9	-76.8	-131.6
-15	7	9	-67.9	-176.8
-12	12	11	-74.3	149.7
-12	11	13	-89.8	117.9
-13	9	12	-91.4	84.5
-16	6	11	-107.6	61.4
-15	6	10	-137.5	32.8
-13	4	12	-172.3	-5.6
-10	5	13	179.4	-38.9
-7	9	13	163.2	-70.0
-6	9	15	141.5	-103.5
-4	8	15	114.0	-139.1
-3	5	16	84.5	-172.7
-3	5	16	71.7	156.7
-6	8	12	93.6	122.3

AVERAGE DST VALUE : -16.5

DST 79 10 31

DST	DS1	DS2	ALPHA1	ALPHA2
-10	15	7	89.6	89.4
-11	16	4	76.0	-0.7
-11	19	3	57.5	-32.1
-9	16	4	46.0	-56.5
-9	13	4	24.9	-34.1
-6	11	4	-17.0	-17.0
-2	12	5	-50.9	-38.6
-1	11	11	-63.7	-72.0
0	8	8	-97.2	-107.6
1	8	11	-69.8	-160.5
-1	8	14	-73.9	163.6
-3	14	12	-69.3	153.6
-4	15	15	-77.4	117.7
-5	12	16	-81.0	85.7
-9	11	17	-36.3	46.1
-13	11	17	-99.5	9.4
-20	8	18	-91.0	-19.8
-22	6	16	-96.2	-40.5
-21	5	15	-171.1	-56.6
-17	9	16	135.5	-87.3
-13	12	13	115.7	-127.8
-13	13	18	99.0	-162.1
-16	15	13	86.7	165.4
-18	14	17	70.7	129.1

AVERAGE DST VALUE : -9.7

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IST 79 11 1

DST	DS1	DS2	ALPHA1	ALPHA2
-22	16	14	61.5	97.9
-25	19	17	37.8	92.9
-25	24	21	18.4	52.1
-27	27	16	2.2	13.4
-27	21	11	-18.3	-15.8
-23	19	7	-37.9	-23.3
-20	14	4	-49.0	-11.2
-14	11	2	-56.6	-50.7
-6	10	1	-67.0	-88.7
-1	11	6	-79.3	-145.7
1	9	6	-67.6	-148.4
-5	12	8	-23.2	-155.2
-6	17	9	-13.6	170.7
0	17	13	-56.7	103.5
0	17	15	-64.9	66.3
-4	13	16	-103.3	32.0
-16	6	20	-67.1	-7.0
-19	7	21	72.4	-30.6
-29	7	23	41.5	-74.1
-21	6	16	100.0	-110.9
-15	7	28	109.1	-145.9
-17	12	16	59.7	176.3
-19	20	15	79.3	150.4
-26	17	17	70.0	137.5

AVERAGE DST VALUE : -15.3

IST 79 11 2

DST	DS1	DS2	ALPHA1	ALPHA2
-27	21	20	61.3	113.3
-32	23	21	43.3	79.5
-35	25	24	19.7	55.1
-30	25	22	2.7	25.5
-31	19	21	6.3	-4.1
-29	18	23	-3.8	-37.7
-31	16	19	-21.9	-65.0
-30	10	13	-32.6	-89.8
-28	10	13	-46.0	-122.9
-33	11	10	-17.9	-140.0
-28	9	12	-15.2	178.2
-22	15	12	-36.5	141.1
-21	22	17	-57.7	114.0
-22	16	21	-53.2	85.3
-23	20	15	-49.2	57.
-30	15	14	-64.9	29.
-32	13	15	-73.6	-7.5
-28	2	13	-76.3	-22.3
-33	3	14	-80.7	-53.9
-30	4	13	-173.0	-100.7
-25	6	15	149.3	-134.3
-24	12	16	124.6	-160.0
-20	13	16	108.0	175.8
-17	11	15	90.2	147.6

AVERAGE DST VALUE : -27.7

IST 79 11 3

DST	DS1	DS2	ALPHA1	ALPHA2
-15	9	20	31.2	115.4
-12	10	13	48.9	87.3
-13	11	16	16.2	61.6
-11	9	12	-3.4	39.1
-14	9	10	-14.6	2.8
-15	10	11	-10.6	-34.3
-15	10	11	-11.8	-66.2
-13	6	12	-26.2	-93.4
-14	6	13	-32.4	-126.6
-11	6	15	-34.3	-153.3
-10	4	13	-52.1	175.7
-15	1	14	-143.1	135.3
-19	2	13	8.2	94.7
-15	6	15	-98.5	68.0
-7	13	17	-135.1	45.1
-7	15	18	-131.1	21.8
-17	2	22	143.4	-1.3
-26	4	19	-2.6	-28.8
-26	4	16	153.3	-54.1
-24	10	21	116.9	-91.7
-24	12	24	95.0	-124.7
-24	22	25	62.3	-149.1
-22	16	20	73.2	177.7
-24	15	16	83.2	148.6

AVERAGE DST VALUE : -16.4

IST 79 11 4

DST	DS1	DS2	ALPHA1	ALPHA2
-23	15	19	87.0	111.3
-25	20	20	47.8	75.7
-29	26	22	19.0	48.3
-24	21	24	7.7	20.1
-18	18	24	4.1	-16.0
-15	16	19	-22.7	-45.1
-18	19	7	-47.1	-68.3
-21	12	5	-54.1	-83.2
-18	10	11	-50.5	-128.5
-15	8	13	-47.1	-151.1
-19	10	14	-36.7	-173.3
-25	10	11	-10.3	152.2
-22	10	11	-35.7	115.5
-18	11	14	-58.8	79.3
-14	12	15	-84.0	54.0
-12	12	16	-110.6	24.0
-13	11	17	-115.0	-1.9
-15	10	15	-107.1	-22.3
12	10	14	-129.5	-48.8
-9	8	12	178.6	-83.4
-7	8	16	128.9	-127.0
-6	10	20	109.1	-157.6
-6	13	20	99.2	176.3
-8	15	19	89.6	144.2

AVERAGE DST VALUE : -16.3

IST 79 11 5

DST	DS1	DS2	ALPHA1	ALPHA2
-9	18	18	82.3	118.1
-9	19	17	73.7	86.7
-9	18	19	59.2	57.2
-8	12	19	47.9	27.3
-6	7	17	27.4	-0.4
-2	5	11	-21.7	-29.8
-1	7	7	-56.8	-50.1
-2	4	7	-60.0	-82.6
0	6	10	-45.3	-123.4
2	6	12	-59.2	-154.5
-1	7	13	-56.6	-178.0
-2	8	13	-56.2	159.3
-3	9	10	-50.6	137.5
1	12	12	-71.0	103.1
4	15	14	-89.0	71.3
5	18	15	-106.9	41.5
4	14	15	-118.8	6.4
2	11	14	-138.2	-28.7
2	9	15	-158.6	-66.8
0	8	16	173.1	-99.6
1	8	16	153.2	-134.1
-1	5	15	152.3	-164.7
-2	15	12	142.7	154.2
-4	15	9	130.5	106.1

AVERAGE DST VALUE : -1.6

IST 79 11 6

DST	DS1	DS2	ALPHA1	ALPHA2
-5	17	9	114.3	63.8
-5	17	7	91.6	43.9
-4	14	6	61.4	28.9
1	10	3	34.2	-10.6
7	9	2	-0.4	-29.7
11	10	1	-30.4	-43.4
7	6	1	-49.8	-46.0
7	5	3	-67.5	-100.9
6	4	3	-100.9	-100.9
4	4	5	-93.2	-129.6
5	6	6	-88.9	-162.9
4	3	7	-90.4	171.1
5	3	9	-82.0	136.2
7	7	12	-107.3	93.3
9	11	14	-113.9	62.5
8	12	14	-131.5	27.3
8	11	15	-154.2	-6.8
7	12	16	-175.4	-36.4
6	12	17	166.3	-67.0
4	12	19	150.0	-96.9
3	12	19	136.7	-128.5
4	12	16	126.7	-159.8
5	15	11	129.6	161.7
2	18	7	123.1	94.8

AVERAGE DST VALUE : 4.4

IST 79 11 7

DST	DS1	DS2	ALPHA1	ALPHA2
-1	14	6	108.1	51.2
-1	16	7	89.[illegible]	35.5
4	13	2	41.[illegible]	-29.3
5	11	3	[illegible]	-6.6
2	13	3	[illegible]	-28.2
5	18	7	-12.[illegible]	-57.9
6	12	2	-43.5	-119.6
10	15	4	-63.2	-120.5
1	13	5	-70.9	-115.7
-6	11	8	-77.2	-140.7
-14	10	9	-50.1	-157.8
-13	16	8	-33.6	-134.3
-8	18	12	-51.3	164.6
-7	16	13	-55.7	125.4
0	24	13	-72.5	78.1
-3	25	14	-84.4	57.6
-13	28	20	-59.0	3.3
-34	28	24	-89.0	-35.0
-41	19	22	-73.6	-67.3
-38	14	13	-79.9	-106.0
-34	6	21	-179.3	-134.7
-32	8	19	104.9	-163.1
-29	9	15	102.3	163.5
-30	13	22	78.8	133.4

AVERAGE DST VALUE : -11.2

IST 79 11 8

DST	DS1	DS2	ALPHA1	ALPHA2
-28	15	18	52.6	111.2
-28	16	19	35.9	84.5
-27	18	14	20.8	51.9
-28	21	13	8.6	14.3
-26	23	15	-5.8	-23.8
-23	21	15	-20.7	-52.6
-23	22	12	-36.7	-84.2
-26	27	11	-46.6	-113.3
-40	24	9	-28.1	-141.3
-50	37	21	-38.5	-150.1
-52	26	21	-47.4	167.5
-42	25	27	-50.3	123.8
-50	24	14	-46.3	121.0
-45	12	12	-72.4	93.5
-40	11	14	-97.4	65.6
-36	11	17	-109.7	26.5
-29	7	17	-131.4	-19.9
-22	7	16	-166.0	-55.4
-17	7	13	-153.6	-83.4
-14	10	14	-132.8	-121.9
-13	13	15	-142.5	-161.9
-15	7	16	-157.2	166.3
-15	6	15	167.2	140.0
-13	4	17	145.1	116.2

AVERAGE DST VALUE : -29.2

IST 79 11 9

DST	DS1	DS2	ALPHA1	ALPHA2
-13	3	22	34.3	97.5
-20	12	25	7.3	76.3
-18	17	25	-6.6	56.9
-17	16	21	-14.4	27.3
-20	16	23	-15.1	-10.9
-22	17	21	-21.9	-46.4
-23	17	16	-27.7	-76.7
-22	16	12	-27.9	-104.4
-18	15	13	-43.4	-133.8
-15	17	19	-69.5	-163.2
-10	18	20	-84.5	168.3
-10	16	17	-88.3	151.2
-7	19	18	-94.5	120.3
-28	24	17	-65.7	92.2
-31	22	23	-46.1	69.3
-43	37	19	-51.3	18.4
-46	33	23	-63.2	1.9
-47	24	17	-57.2	-5.3
-34	18	14	-110.6	-47.7
-29	21	19	-130.0	-102.5
-45	13	15	174.6	-137.8
-37	19	21	111.1	-173.8
-32	15	19	92.3	172.4
-33	17	23	86.0	148.0

AVERAGE DST VALUE : -25.7

IST 79 11 10

DST	DS1	DS2	ALPHA1	ALPHA2
-36	17	23	76.9	111.6
-35	18	21	64.0	75.2
-37	19	25	46.5	46.1
-32	16	29	32.6	18.6
-29	16	30	11.5	-12.9
-28	16	35	-3.9	-44.6
-28	15	24	-24.8	-77.2
-30	12	21	-37.7	-109.3
-25	13	21	-54.8	-139.9
-25	19	23	-67.3	-167.7
-24	18	20	-85.1	163.5
-25	10	11	-116.7	139.4
-27	5	9	-133.3	129.7
-27	7	9	-129.6	110.6
-26	4	5	-86.4	50.0
-24	9	10	-112.0	50.0
-26	9	13	-141.9	9.6
-24	13	17	-175.4	-20.2
-24	16	17	177.3	-50.4
-24	14	18	160.3	-83.8
-25	11	17	155.7	-125.4
-30	10	21	129.3	-167.5
-37	12	16	37.4	166.8
-35	12	17	103.1	140.0

AVERAGE DST VALUE : -26.7

IST 79 11 11

DST	DS1	DS2	ALPHA1	ALPHA2
-35	17	17	83.8	107.5
-41	23	22	72.5	68.7
-27	25	17	36.5	33.2
-16	26	21	13.5	-1.7
-16	28	28	-0.3	-23.2

DST	DS1	DS2	ALPHA1	ALPHA2
-14	31	33	-8.1	-53.2
-11	32	31	-25.3	-81.4
-10	26	25	-42.1	-111.1
-11	23	24	-50.6	-140.2
-6	21	20	-64.4	-166.5
-5	15	15	-61.5	174.4
-1	13	16	-93.6	153.6
-2	11	10	-92.6	125.9
3	15	14	-98.1	95.7
9	18	13	-102.7	68.6
9	20	14	-105.3	37.2
13	21	16	-110.3	2.0
17	21	17	-122.3	-27.1
18	19	21	-146.5	-57.1
13	14	19	-165.0	-92.6
8	12	15	179.9	-131.1
8	11	16	163.6	-172.6
5	13	14	143.7	154.9
3	15	16	114.0	123.7

AVERAGE DST VALUE : -3.8

DST 79 11 12

DST	DS1	DS2	ALPHA1	ALPHA2
2	15	17	93.0	101.6
-3	13	16	76.1	70.1
-4	17	13	61.5	39.5
-8	18	23	56.0	3.4
-6	16	27	41.4	-22.8
-1	13	31	19.3	-52.8
2	20	23	-7.3	-81.3
-6	17	24	-15.3	-108.1
-6	21	23	-17.6	-137.1
-7	22	23	-36.6	-169.9
-6	21	23	-55.0	150.3
-1	21	21	-69.4	123.9
-1	20	20	-72.3	100.0
-2	19	19	-83.5	73.5
-5	16	16	-53.3	55.7
-8	14	16	-89.7	28.4
-9	3	16	-105.0	-9.5
-9	1	20	-157.8	-46.3
-5	6	20	148.4	-83.0
-1	10	22	117.8	-102.3
0	12	22	110.8	-130.9
-3	14	20	100.3	-156.3
-11	23	25	88.4	-154.6
-11	27	24	75.0	166.9

AVERAGE DST VALUE : -4.5

DST 79 11 13

DST	DS1	DS2	ALPHA1	ALPHA2
-11	12	23	53.5	114.4
-19	19	26	24.4	82.7
-32	31	25	10.5	50.2
-48	35	27	7.9	19.3
-55	32	24	9.6	-4.2
-62	31	22	-11.6	-29.2
-64	24	17	-11.4	-67.4
-63	28	19	-11.6	-80.0
-66	30	20	-24.5	-127.4
-69	36	16	-11.1	-171.4
-72	49	14	-11.2	170.0
-76	51	12	-16.4	150.0
-82	36	15	-24.2	124.2
-80	30	13	-28.5	73.0
-90	28	13	-19.8	33.4
-97	33	17	-15.6	-2.7
-102	41	9	-13.6	-50.3
-94	29	14	6.9	-62.5
-89	27	17	-9.2	-48.9
-87	16	22	2.5	-110.6
-73	28	22	42.2	-149.3
-72	26	27	34.3	-162.6
-75	26	31	45.5	178.9
-72	47	34	54.3	153.5

AVERAGE DST VALUE : -63.6

DST 79 11 14

DST	DS1	DS2	ALPHA1	ALPHA2
-81	43	46	20.9	124.5
-69	44	36	7.6	95.2
-66	40	36	17.4	71.7
-63	31	23	0.7	33.8
-79	33	25	-16.4	-11.6
-79	26	25	-15.3	-49.9
-71	16	22	-12.2	-71.6
-69	12	13	-30.5	-101.2
-65	13	23	-53.2	-133.9
-64	5	20	-71.5	-159.0
-59	7	17	-93.9	170.5
-58	7	15	-114.1	142.3
-58	8	13	-156.3	111.5
-59	11	13	166.3	75.3
-55	11	13	146.3	41.6
-57	13	13	128.1	2.9
-55	12	15	121.6	-32.0
-53	14	17	115.3	-63.3
-51	13	16	109.3	-91.3
-42	11	17	116.2	-112.0
-44	10	16	137.1	-133.0
-40	10	15	140.9	-162.5
-39	9	16	125.5	169.2
-38	6	17	111.2	141.6

AVERAGE DST VALUE : -61.6

DST 79 11 15

DST	DS1	DS2	ALPHA1	ALPHA2
-37	10	16	95.8	113.5
-38	12	15	66.0	85.7
-36	15	17	45.9	59.2
-34	13	17	33.8	31.2
-31	11	17	26.7	-3.7
-29	9	16	12.4	-38.1
-26	9	13	1.5	-71.6
-25	6	11	-7.1	-102.3
-24	5	12	-31.3	-128.0
-26	3	12	-49.6	-150.3
-27	5	14	-83.9	171.0
-26	9	16	-128.5	128.9
-25	13	17	-151.8	96.1
-27	13	18	-166.7	68.7
-28	11	16	-177.1	37.7
-26	9	13	172.0	13.3
-24	8	12	167.4	-14.1
-23	10	14	158.1	-38.1
-21	11	16	150.6	-67.0
-19	11	18	155.7	-98.4
-16	9	18	154.6	-133.8
-11	7	19	131.5	-166.6
-9	5	19	135.9	163.1
-7	4	21	99.9	139.2

AVERAGE DST VALUE : -25.0

DST 79 11 16

DST	DS1	DS2	ALPHA1	ALPHA2
-2	7	22	61.1	113.7
5	14	23	21.9	89.3
17	25	25	-6.7	62.0
4	21	20	-23.4	32.7
-8	15	9	-43.9	35.3
-18	15	5	-16.3	9.0
-25	20	8	-26.5	-51.1
-33	25	12	-31.5	-92.6
-33	23	15	-40.5	-133.6
-26	17	16	-54.7	-166.0
-19	19	13	-70.0	162.6
-20	13	11	-63.9	143.8
-24	12	11	-48.1	121.6
-28	14	11	-42.6	90.1
-32	17	12	-56.4	53.7
-34	16	12	-65.2	21.9
-32	15	12	-76.0	0.2
-31	4	14	-53.2	-30.0
-29	4	17	27.6	-64.6
-25	3	16	-146.4	-101.9
-26	4	18	170.1	-134.1
-21	7	24	127.6	-164.1
-17	5	29	94.9	164.9
-20	7	30	48.0	135.4

AVERAGE DST VALUE : -20.0

DST 79 11 17

DST	DS1	DS2	ALPHA1	ALPHA2
-22	9	23	9.2	106.2
-17	13	23	18.4	85.0
-15	17	23	-5.6	63.2
-14	17	23	-16.7	31.4
-15	19	20	-26.2	-4.9
-17	21	16	-28.1	-39.3
-18	24	17	-29.5	-77.5
-10	25	20	-41.0	-115.1
-11	26	23	-48.1	-150.2
-13	16	16	-35.0	-170.9
-15	16	17	-68.9	161.0
-14	12	16	-92.8	130.5
-17	10	17	-130.7	105.5
-15	10	16	-150.0	73.9
-14	9	15	-160.7	43.2
-15	11	16	166.1	4.2
-10	10	16	-174.2	-8.3
-11	10	16	-176.3	-29.6
-12	14	17	176.9	-55.3
-12	15	22	161.2	-92.6
-9	12	20	125.1	-120.0
-6	12	23	116.8	-155.1
-5	13	24	88.3	-173.0
-4	12	24	77.9	151.4

AVERAGE DST VALUE : -13.2

DST 79 11 18

DST	DS1	DS2	ALPHA1	ALPHA2
-4	9	25	79.[illegible]	116.0
-4	10	15	50.[illegible]	86.3
6	15	17	20.1	61.9
7	18	17	6.8	33.3
6	15	14	1.8	-5.3
6	16	13	-10.6	-49.1
5	19	18	-21.0	-80.9
2	16	19	-29.7	-114.9
1	19	24	-40.4	-145.8
-2	16	21	-51.7	-170.3
-4	10	15	-59.0	164.6
-6	8	12	-46.6	143.5
-5	6	14	-82.2	116.3
-3	10	15	-103.6	82.9
-2	11	14	-111.4	55.0
-4	10	13	-113.0	37.0
-5	8	12	-139.5	1.6
-5	11	15	177.5	-31.2
-5	8	15	159.6	-70.4
-4	8	17	155.7	-103.3
-1	9	17	174.7	-143.[illegible]
-3	6	16	170.9	-177.[illegible]
-2	5	16	128.7	162.7
-1	6	16	104.7	141.5

AVERAGE DST VALUE : -1.1

DST 79 11 19

DST	DS1	DS2	ALPHA1	ALPHA2
-2	6	15	73.5	115.6
-3	11	13	47.7	91.8
-2	15	21	16.1	65.5
1	16	21	4.7	41.2
5	14	16	3.6	0.5
3	14	17	6.9	-36.6
-2	13	15	-3.9	-71.4
-7	9	11	-9.8	-98.1
-11	4	[illegible]	-20.1	-112.5
-11	3	[illegible]	-30.1	-144.1
-9	4	9	-4.2	-174.6
-10	6	13	-33.9	151.9
-10	11	24	-72.8	114.3
-6	14	19	-96.7	82.2
-2	3	16	-124.1	51.4
1	11	16	-117.9	20.5
1	12	13	-118.6	0.0
3	13	13	-140.5	-25.9
0	11	18	-162.2	-55.4
-3	11	16	167.0	-91.6
-1	15	16	[illegible]	-132.6
-3	8	[illegible]	[illegible]	-162.0
-1	12	23	49.3	165.3
-5	10	24	36.1	142.6

AVERAGE DST VALUE : -3.1

DST 79 11 20

DST	DS1	DS2	ALPHA1	ALPHA2
-4	9	24	37.6	110.3
-6	10	24	21.8	84.6
-8	15	25	3.3	64.6
-5	15	25	-11.3	32.3
-1	15	25	-11.9	-8.3
-1	15	21	-20.5	-32.8
-3	14	19	-16.1	-58.4
-2	15	15	-34.9	-97.2
-8	14	11	-35.0	-127.4
-10	11	11	-35.2	-150.2
-4	16	13	-47.1	168.7
-8	20	6	-30.6	153.8
-6	21	12	-55.7	110.1
-10	21	16	-60.6	70.0
-6	16	17	-82.2	43.3
-9	20	20	-88.0	14.6
-9	15	16	-90.2	-3.6
-6	9	15	-92.6	-25.6
-4	11	11	-137.2	-65.5
-3	12	14	-168.4	-101.2
-2	11	17	178.2	-138.2
-3	9	26	149.3	-173.5
-2	8	19	108.5	156.4
0	5	23	65.9	131.4

AVERAGE DST VALUE : -5.1

DST 79 11 21

DST	DS1	DS2	ALPHA1	ALPHA2
0	9	26	7.3	105.5
-2	13	29	-1.5	81.5
-6	22	30	5.1	52.6
-8	24	29	-1.1	20.2
-8	26	33	-4.4	-18.0
-9	30	37	-16.4	-51.7
-11	30	34	-29.4	-83.7
-11	22	25	-33.0	-116.3
-14	17	16	-35.3	-141.5
-16	17	16	-51.0	-165.5
-14	15	14	-57.9	167.3
-13	16	15	-67.2	145.8
-14	14	15	-85.2	117.3
-13	9	17	-105.1	85.7
-11	6	15	-107.5	58.2
-11	7	12	-89.1	34.5
-12	8	11	-105.9	7.2

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-12	9	15	-160.0	-36.6
-14	9	15	170.1	-66.5
-14	11	14	170.2	-24.2
-13	10	14	141.1	-133.3
-12	11	16	127.8	-101.0
-10	11	19	97.7	175.5
-7	10	23	69.9	149.4

AVERAGE DST VALUE : -10.6

IST 79 11 22

IST	DS1	DS2	ALPHA1	ALPHA2
-4	9	25	41.0	120.3
-5	11	26	24.0	93.1
-5	14	27	21.5	66.6
-4	15	26	18.7	32.9
-6	15	25	17.0	-3.7
-9	17	27	19.7	-33.1
-7	19	30	5.6	-73.7
-6	19	27	-11.9	-107.4
-6	18	22	-24.1	-137.8
-4	17	19	-40.0	-165.1
-2	12	15	-56.4	162.0
0	14	12	-75.2	132.4
-1	13	23	-101.9	103.4
-1	7	17	-120.3	76.5
-1	6	10	-163.1	46.1
-4	7	14	-169.7	14.6
-6	7	18	-163.4	-4.1
-6	11	15	-176.4	-27.3
-6	13	15	164.7	-54.0
-5	14	17	155.5	-87.1
-6	15	17	140.6	-117.1
-7	15	16	116.7	-157.2
-5	16	17	102.5	-174.3
-5	15	16	92.7	158.6

AVERAGE DST VALUE : -5.0

IST 79 11 23

IST	DS1	DS2	ALPHA1	ALPHA2
-6	13	19	66.6	148.5
-6	13	21	51.3	98.1
-7	13	21	42.1	63.3
-5	12	21	44.7	33.5
-7	12	20	39.6	-4.4
-6	10	20	25.5	-32.2
-5	10	21	8.3	-66.8
-7	13	21	4.7	-96.4
-4	10	17	4.2	-123.4
-4	11	12	-31.5	-162.7
-4	15	20	-58.2	180.0
-1	20	22	-74.4	151.4
1	20	26	-91.3	96.7
3	21	27	-112.3	66.3
3	17	24	-134.0	36.2
1	16	23	-150.2	-4.1
-1	11	20	-170.6	-42.3
-2	11	15	146.2	-58.3
-2	11	13	127.8	-74.9
-2	11	10	122.4	-119.3
-5	12	21	112.3	-132.5
-6	17	20	101.3	-154.2
-7	20	20	71.5	-176.3
-10	22	20	44.0	155.3

AVERAGE DST VALUE : -3.7

IST 79 11 24

IST	DS1	DS2	ALPHA1	ALPHA2
-14	20	32	22.9	128.7
-12	20	30	12.5	99.2
-11	20	30	5.3	63.9
-11	20	30	-4.4	27.9

-31	30	37	-9.6	-12.6
-38	34	36	-23.5	-44.3
-44	35	36	-31.7	-74.0
-50	40	42	-36.1	-106.6
-51	45	34	-32.7	-140.3
-49	42	33	-42.4	-168.8
-37	31	21	-50.5	147.3
-26	30	11	-17.4	115.5
-29	38	5	-23.3	124.5
-35	34	11	-33.0	93.3
-41	21	16	-54.3	63.2
-37	13	16	-103.0	20.0
-38	30	20	-135.5	-16.5
-38	15	25	39.6	-43.9
-33	15	19	3.5	-80.6
-37	9	17	78.7	-113.6
-36	4	23	142.6	-137.6
-40	20	25	68.7	-167.2
-45	27	32	46.5	178.7
-41	26	37	32.8	150.2

AVERAGE DST VALUE : -37.9

IST 79 11 25

IST	DS1	DS2	ALPHA1	ALPHA2
-46	42	36	17.0	115.0
-55	44	34	10.3	86.2
-61	44	41	9.3	54.1
-64	45	43	3.0	17.6
-60	36	52	-1.2	-21.0
-56	24	34	-25.9	-60.1
-52	32	31	-41.7	-111.3
-48	19	39	-46.1	-144.7
-42	18	41	-62.0	-173.9
-40	14	27	-76.2	162.3
-37	14	25	-94.3	133.2
-37	15	24	-113.5	106.4
-36	14	25	-116.6	73.5
-33	13	19	-129.6	41.7
-33	13	17	-152.0	11.7
-32	11	15	-152.2	-16.7
-31	11	14	-168.2	-43.6
-30	12	13	-172.5	-66.3
-28	13	13	170.0	-90.1
-26	15	16	154.3	-118.3
-25	15	20	142.4	-147.3
-24	17	22	95.7	-175.3
-16	16	31	62.4	157.1

AVERAGE DST VALUE : -36.3

IST 79 11 26

IST	DS1	DS2	ALPHA1	ALPHA2
-14	16	30	30.8	125.9
-14	15	34	24.1	93.5
-15	17	33	12.9	66.3
-16	15	36	10.8	28.7
-15	15	32	10.6	-8.3
-14	14	30	11.7	-44.6
-14	14	30	1.7	-75.7
-10	20	32	-11.4	-109.3
	20	32	-23.8	-141.3
	16	31	-46.9	-172.1
	14	24	-65.7	159.1
	14	20	-93.3	127.3
-1	14	22	-113.0	96.9
1	13	19	-134.9	68.1
	11	17	-152.7	33.3
	11	17	-163.7	1.2
-10	11	17	-147.3	-26.5
-9	11	19	-127.9	-51.1
-9	13	21	-100.2	-74.2
-10	11	21	-113.4	-100.9
-10	10	21	-105.4	-134.7
-12	10	24	-94.7	-172.6

-11	20	27	60.1	134.4

AVERAGE DST VALUE : -9.6

IST 79 11 27

IST	DS1	DS2	ALPHA1	ALPHA2
-13	22	26	48.1	147.2
-13	22	26	36.1	98.2
-8	18	23	28.8	67.1
-8	18	22	34.8	26.4
-8	18	22	31.0	-10.2
-13	17	19	28.0	-26.2
-17	18	19	36.5	-53.9
-16	12	18	42.2	-87.6
-13	14	23	6.0	-132.1
-12	13	23	-19.6	-161.5
-11	13	19	-42.5	146.5
-9	15	22	-66.6	133.1
-8	15	20	-85.9	102.1
-7	11	23	-101.7	68.3
-8	10	16	-117.6	35.8
-4	8	15	-156.6	1.8
-5	7	13	166.0	-31.3
-5	7	13	156.6	-53.9
-7	11	19	154.5	-73.5
-8	13	21	147.5	-95.9
-8	15	19	139.5	-123.2
-8	17	18	116.1	-154.1
-6	16	16	99.4	178.8
-6	14	21	76.3	151.7

AVERAGE DST VALUE : -9.7

IST 79 11 28

IST	DS1	DS2	ALPHA1	ALPHA2
-4	13	22	52.1	125.6
-3	13	26	36.9	98.3
-4	14	28	27.8	67.5
-6	16	22	33.7	23.4
-10	16	22	33.0	-6.8
-12	16	25	46.1	-39.2
-10	15	29	31.3	-70.3
-6	14	27	24.1	-104.2
-4	15	25	-6.1	-133.2
-2	15	22	-31.9	-171.1
0	15	27	-46.7	161.8
2	19	24	-63.2	130.9
2	17	22	-80.2	100.3
3	15	19	-96.4	80.4
3	13	16	-125.7	48.4
1	12	17	-143.2	10.3
0	11	13	-179.4	-17.5
0	10	16	179.7	-43.3
0	11	15	169.6	-71.1
0	12	17	153.4	-96.2
0	10	17	146.8	-117.3
0	12	20	115.-	-143.4
0	23	25	87.2	-165.5
0	16	29	63.2	180.2

AVERAGE DST VALUE : -0.5

IST 79 11 29

IST	DS1	DS2	ALPHA1	ALPHA2
9	10	20	-52.4	160.5
11	12	22	-60.1	127.7
10	10	26	-106.9	99.7
13	17	24	-130.5	67.0
9	16	24	-153.6	30.6
7	14	21	-172.4	-1.7
2	2	16	172.8	-33.7
1	11	18	-173.9	-72.6
3	12	20	-170.9	-76.8
6	5	19	169.2	-98.8
7	7	25	151.6	-125.8
8	8	29	131.3	-155.2
12	10	28	82.1	170.8
15	14	28	69.6	146.1

AVERAGE DST VALUE : 11.7

IST 79 11 30

IST	DS1	DS2	ALPHA1	ALPHA2
18	16	34	42.0	115.6
16	21	33	4.8	98.2
15	25	31	-3.9	66.0
15	25	29	-4.4	26.2
18	23	26	-4.8	-16.9
15	26	30	-12.6	-52.9
14	25	32	-26.4	-81.2
10	31	25	-39.6	-143.2
8	32	22	-32.7	-151.9
2	41	17	-37.6	-160.0
4	32	16	-60.5	165.0
3	36	20	-60.6	123.5
1	33	24	-90.4	101.1
1	18	16	-92.7	75.3
1	18	17	-117.3	44.3
0	17	14	-101.7	13.3
0	15	13	-100.9	-8.5
0	11	14	-118.7	-40.7
0	7	12	-135.6	-75.2
0	8	14	-131.6	-103.3
0	7	17	-176.1	-144.2
0	7	20	126.4	-167.3
3	11	25	71.2	173.1
4	15	31	57.1	152.5

AVERAGE DST VALUE : 13.2

END OF TOPIC I.1c

EST 1

EST	DS1	DS2	ALPHA1	ALPHA2
-2	10	24	43.9	109.6
-4	11	22	36.1	92.0
-1	11	25	27.3	66.6
-1	11	24	16.3	36.2
-1	[illegible]	23	1.7	11.3
-1	[illegible]	23	1.5	-26.2
-1	[illegible]	23	7.[illegible]	-96.7
-15	23	27	3.4	-104.1
-14	25	35	-15.9	-1.[illegible]
-12	23	37	-33.7	-122.9
-11	21	35	-44.[illegible]	15[illegible].7
-3	[illegible]	[illegible]	-64.9	124.3
-12	23	[illegible]	-96.7	86.7
-16	[illegible]	[illegible]	-63.[illegible]	37.9
-18	5	21	-57.5	30.1
-17	6	19	-78.[illegible]	3.4
-16	2	19	121.7	-28.3
-14	3	20	37.8	-92.6
-12	11	24	22.3	-117.2
-14	6	21	87.4	-150.5
-17	6	21	80.[illegible]	178.1
-8	2	20	42.[illegible]	149.3
0	4	22	-2.2	120.9

AVERAGE DST VALUE : -3.[illegible]

EST 79 12 2

EST	DS1	DS2	ALPHA1	ALPHA2
-1	[illegible]	21	-24.3	33.9
-4	[illegible]	22	43.7	77.2
-6	[illegible]	21	23.4	55.0
-10	15	18	30.1	30.7
-14	17	17	26.5	7.6
-14	18	14	13.0	-27.4
-17	18	24	-9.1	-66.1
-18	23	22	-17.1	-100.0
-19	25	25	-24.[illegible]	-135.2
-11	[illegible]	30	-42.[illegible]	-169.3
-11	21	29	-47.[illegible]	162.6
-11	22	24	-55.0	129.7
-7	18	24	-89.3	97.0
-9	[illegible]	18	-97.2	63.3
-7	[illegible]	17	-118.8	34.1
-5	[illegible]	17	-152.[illegible]	-7.1
-3	[illegible]	20	-172.2	-27.7
-6	[illegible]	21	173.6	-47.9
-7	[illegible]	20	160.7	-69.3
-3	[illegible]	20	159.3	-103.5
0	6	18	119.5	-140.9
1	2	22	105.[illegible]	-178.3
1	3	25	29.4	150.9
2	6	27	-0.1	123.0

AVERAGE DST VALUE : -6.[illegible]

EST 79 12 3

EST	DS1	DS2	ALPHA1	ALPHA2
2	8	28	-13.0	57.0
-4	15	26	-2.8	78.7
-9	18	25	-8.9	57.2
-16	21	24	-13.2	30.2
-23	27	23	-19.[illegible]	2.8
-26	26	16	-23.5	-30.8
-30	28	16	-23.0	-66.5
-28	20	17	-21.2	-97.2
-18	18	16	-10.5	-125.0
-10	12	11	16.3	-143.4
-15	12	13	11.[illegible]	-175.[illegible]
-18	7	18	-64.7	180.1

-14	11	21	-109.[illegible]	97.3
-12	11	1[illegible]	-101.[illegible]	74.2
-14	10	23	-107.[illegible]	23.[illegible]
-11	[illegible]	1[illegible]	-106.[illegible]	3.3
-7	[illegible]	19	-105.[illegible]	-17.[illegible]
-4	[illegible]	19	174.7	-47.[illegible]
-4	[illegible]	20	143.5	-73.3
-5	[illegible]	21	133.7	-105.5
-2	[illegible]	20	123.2	-140.[illegible]
-1	[illegible]	21	21.[illegible]	-174.[illegible]
-1	1	24	115.[illegible]	154.7
4	3	24	10[illegible].[illegible]	121.7

AVERAGE DST VALUE : -15.1

EST 79 12 4

EST	DS1	DS2	ALPHA1	ALPHA2
5	6	26	4.4	100.5
[illegible]	[illegible]	25	2.3	84.4
-3	10	26	0.3	63.2
-11	22	25	-7.2	34.3
-21	27	22	-8.3	7.3
-31	25	17	-8.[illegible]	-37.[illegible]
-41	25	21	-5.3	-77.5
-42	25	[illegible]	0.2	-104.2
-42	25	22	-6.7	-123.[illegible]
-46	26	[illegible]	-15.7	-156.7
-47	28	[illegible]	-10.[illegible]	175.7
-41	30	18	-33.2	133.3
-50	35	19	-37.4	83.2
-55	31	18	-37.[illegible]	101.4
-48	31	19	-36.4	30.4
-46	32	15	-44.2	10.[illegible]
-41	27	12	-51.8	-12.5
-34	15	12	-[illegible].8	-51.[illegible]
-41	10	14	-34.0	-71.2
-43	[illegible]	19	-103.0	-116.3
-42	[illegible]	23	-11.7	-153.[illegible]
-34	[illegible]	23	-33.[illegible]	168.5
-34	[illegible]	23	-26.2	141.3
-34	6	26	-44.0	116.7

AVERAGE DST VALUE : -34.0

EST 79 12 5

EST	DS1	DS2	ALPHA1	ALPHA2
-31	3	26	-40.[illegible]	96.0
-27	[illegible]	25	11.7	79.[illegible]
-27	10	32	-7.8	52.9
-25	15	34	-11.4	24.5
-26	19	34	-11.7	-5.0
-27	15	34	-24.2	-30.3
-30	12	26	-26.7	-70.0
-35	[illegible]	18	-10.6	-96.0
-38	[illegible]	13	-18.[illegible]	-113.1
-36	[illegible]	[illegible]	-14.[illegible]	-124.[illegible]
-36	[illegible]	[illegible]	-32.3	-152.1
-36	[illegible]	9	-35.2	167.9
-36	6	10	-[illegible].6	128.1
-36	8	13	-59.4	82.9
-36	9	17	-49.5	51.3
-33	17	16	-76.[illegible]	30.4
-28	15	13	-[illegible].6	-[illegible].0
-19	11	14	-108.0	-2[illegible].[illegible]
-16	10	15	-157.[illegible]	-61.[illegible]
-18	10	20	-176.5	-105.[illegible]
-20	5	22	146.0	-140.3
-19	1	20	135.2	172.2
-14	8	21	116.1	134.5
-14	7	18	121.3	101.1

AVERAGE DST VALUE : -25.7

EST 79 12 6

EST	DS1	DS2	ALPHA1	ALPHA2
-16	10	1[illegible]	114.[illegible]	66.7
-20	[illegible]	15	7[illegible].[illegible]	30.6
-15	[illegible]	16	34.0	31.1
-[illegible]	[illegible]	17	15.[illegible]	2[illegible].[illegible]
-5	[illegible]	21	2.7	-19.[illegible]
-10	[illegible]	20	-6.[illegible]	-43.[illegible]
-10	[illegible]	20	-14.[illegible]	-82.7
-10	[illegible]	25	-22.[illegible]	-114.9
-8	[illegible]	24	-26.[illegible]	-139.7
-9	[illegible]	21	-47.3	-160.[illegible]
-7	[illegible]	21	-65.[illegible]	169.[illegible]
-7	[illegible]	19	-64.1	146.2
-8	[illegible]	14	-71.7	121.[illegible]
-5	7	11	-63.[illegible]	92.0
-6	8	13	-113.[illegible]	57.[illegible]
-7	15	15	-133.7	31.4
-7	[illegible]	14	-145.[illegible]	-1.2
-9	12	17	-169.9	-26.8
-7	15	17	-183.[illegible]	-53.1
-9	17	19	-159.[illegible]	-85.[illegible]
-9	16	20	-135.1	-121.3
-11	13	18	-110.6	-164.1
-12	12	16	-107.[illegible]	-154.3
-10	12	15	-111.0	-110.0

AVERAGE DST VALUE : -9.3

EST 79 12 7

EST	DS1	DS2	ALPHA1	ALPHA2
-9	12	16	-96.[illegible]	87.9
-5	15	15	-75.1	66.0
-9	16	21	-63.1	42.5
-9	17	19	-45.1	11.2
-6	17	20	-26.1	-13.3
-1	15	[illegible]	-1[illegible].[illegible]	-48.3
[illegible]	13	[illegible]	-11.5	-76.[illegible]
[illegible]	13	[illegible]	-32.[illegible]	-113.1
[illegible]	14	21	-49.[illegible]	-143.3
[illegible]	14	[illegible]	-66.[illegible]	-173.9
[illegible]	11	[illegible]	-65.[illegible]	160.0
[illegible]	[illegible]	[illegible]	-96.[illegible]	144.5
[illegible]	[illegible]	[illegible]	-96.7	125.1
7	8	11	-122.[illegible]	90.[illegible]
[illegible]	8	13	-132.0	50.8
9	11	16	-143.7	22.4
11	13	15	-148.7	-8.2
12	11	16	-[illegible].5	-41.4
13	10	18	-143.[illegible]	-[illegible].1
11	9	21	-144.6	-115.1
10	5	23	-135.2	-154.3
11	[illegible]	19	-165.[illegible]	169.2
12	3	20	164.1	131.9
14	4	22	113.6	114.7

AVERAGE DST VALUE : -.0

EST 79 12 8

EST	DS1	DS2	ALPHA1	ALPHA2
16	5	24	84.0	87.2
16	8	23	69.[illegible]	55.1
15	10	26	55.1	33.5
14	12	28	2[illegible].[illegible]	10.4
18	19	27	-8.[illegible]	-13.[illegible]
21	22	26	-20.7	-54.0
24	25	25	-26.5	-85.3
25	25	24	-37.1	-114.[illegible]
26	26	24	-60.3	-141.2
25	[illegible]	[illegible]	-66.0	-165.3
18	[illegible]	17	-80.[illegible]	167.2
9	[illegible]	15	-91.3	143.7
9	[illegible]	[illegible]	-58.0	103.3
[illegible]	13	[illegible]	-39.[illegible]	72.7
[illegible]	18	11	-37.5	55.9
-10	15	14	-64.[illegible]	27.0
-5	13	[illegible]	-93.[illegible]	4.7
0	7	[illegible]	-110.0	-22.9

-1	[illegible]	[illegible]	-102.[illegible]	-55.3
-1	12	23	-177.9	-107.1
-11	[illegible]	24	117.4	-137.1
-11	[illegible]	21	100.3	-172.[illegible]
-5	[illegible]	21	67.9	154.9
-11	[illegible]	23	65.9	130.1

AVERAGE DST VALUE : [illegible].[illegible]

EST 79 12 9

EST	DS1	DS2	ALPHA1	ALPHA2
-11	10	25	73.7	102.8
-13	13	24	[illegible].4	78.[illegible]
-11	14	25	58.5	50.3
-9	18	22	46.1	14.7
-6	19	21	32.[illegible]	-21.9
-3	16	24	1[illegible].[illegible]	-53.4
-1	16	21	-9.4	-90.6
-2	17	17	-36.3	-120.1
-2	17	17	-59.3	-145.9
-2	13	11	-81.1	-173.1
-2	10	14	-94.[illegible]	162.2
-2	12	18	-[illegible].4	131.1
-5	12	20	-119.1	100.2
-4	8	15	-133.2	73.[illegible]
-1	6	14	-146.[illegible]	46.4
0	6	15	-145.5	20.9
0	7	15	-164.[illegible]	-13.3
-1	5	17	174.[illegible]	-38.8
-1	10	16	136.2	-75.[illegible]
-2	18	22	120.4	-106.1
-2	15	24	11[illegible].[illegible]	-136.[illegible]
0	15	21	101.3	-165.5
-1	16	20	96.9	166.4
-1	20	21	7[illegible].[illegible]	143.0

AVERAGE DST VALUE : -3.[illegible]

EST 79 12 10

EST	DS1	DS2	ALPHA1	ALPHA2
-4	17	21	90.2	110.6
-1	15	20	62.1	82.2
-1	14	22	54.8	51.7
-1	14	21	41.4	22.2
-1	14	21	38.2	-5.6
-1	12	22	24.[illegible]	-41.2
-1	12	22	9.2	-80.[illegible]
-3	9	16	-10.3	-113.4
-1	12	20	-52.[illegible]	-141.[illegible]
-1	11	15	-69.[illegible]	-169.[illegible]
-1	11	16	-89.7	153.9
10	14	19	-102.7	130.3
-1	11	19	-114.[illegible]	102.4
-1	10	21	-124.2	64.7
-1	7	21	-124.1	36.0
-1	6	22	-131.6	11.2
-1	7	19	-10[illegible].[illegible]	-15.7
-1	8	15	133.0	-43.4
-1	13	20	113.6	-71.4
-1	10	22	124.7	-103.[illegible]
-2	7	22	130.5	-142.3
-2	5	18	148.0	-179.7
-2	12	23	35.1	124.4

AVERAGE DST VALUE : 1.2

EST 79 12 11

EST	DS1	DS2	ALPHA1	ALPHA2
-1	9	22	[illegible]0.9	106.8
4	12	22	33.5	34.[illegible]
4	10	21	8.5	62.3
6	11	19	-5.[illegible]	33.4
2	13	12	-7.6	0.6

5	13	10	-31.4	-98.4
9	18	18	-40.3	-120.9
12	25	26	-54.6	-147.2
10	22	27	-69.0	-175.6
8	19	26	-81.9	158.1
10	16	25	-98.9	120.3
9	16	23	-107.4	98.8
10	16	24	-123.3	65.7
10	21	28	-151.3	32.3
7	17	26	-175.3	3.4
3	12	21	168.2	-27.4
1	6	19	150.5	-50.8
5	9	19	126.4	-76.9
1	16	23	107.6	-98.4
-2	12	21	110.5	-132.5
2	7	18	123.9	-173.1
1	8	18	141.1	146.3
	9	16	119.3	116.7

AVERAGE DST VALUE : 4.3

IST 79 12 12

IST	DS1	DS2	ALPHA1	ALPHA2
2	9	14	111.9	89.4
4	12	14	99.4	67.2
1	11	16	75.7	40.0
0	11	22	38.5	12.3
3	16	25	5.0	-15.7
3	16	24	-19.0	-47.2
1	12	20	-31.3	-76.5
1	6	15	-42.7	-104.2
1	5	15	-52.5	-127.9
1	6	15	-64.1	-153.8
1	12	20	-75.9	168.6
1	12	20	-99.1	132.7
2	13	21	-125.0	98.2
2	15	23	-145.8	61.0
0	14	23	-173.4	29.0
1	25	24	149.0	29.0
1	23	23	137.7	29.0
1	19	24	119.5	29.0
1	16	23	110.5	29.0
1	16	23	107.2	29.0
1	15	23	81.6	29.0
1	13	23	75.9	29.0
2	14	23	64.1	29.0
2	13	23	61.3	29.0

AVERAGE DST VALUE : 0.6

IST 79 12 13

IST	DS1	DS2	ALPHA1	ALPHA2
3	15	23	59.2	29.0
5	18	23	54.9	29.0
8	7	24	44.4	29.0
10	18	23	339.2	29.0
7	18	25	331.2	29.0
7	17	23	326.3	29.0
7	21	23	309.5	29.0
10	25	25	292.9	29.0
10	20	23	277.0	29.0
10	6	23	249.7	29.0
5	9	25	209.3	29.0
2	12	23	202.0	29.0
1	11	24	201.2	29.0
4	14	24	176.7	29.0
4	25	25	154.8	29.0
6	24	25	139.7	29.0
6	24	25	122.2	29.0
10	17	24	110.9	29.0
9	20	24	101.7	29.0
7	20	24	79.6	29.0
7	20	24	66.8	29.0
3	19	24	58.1	29.0
3	20	24	46.8	29.0

AVERAGE DST VALUE : 5.6

IST 79 12 14

IST	DS1	DS2	ALPHA1	ALPHA2
0	14	18	81.1	96.1
-3	16	16	73.0	67.7
1	15	17	48.4	41.7
4	17	18	26.5	14.8
6	18	19	14.5	-10.6
6	16	22	7.3	-54.0
7	15	25	-6.7	-81.2
6	11	22	-14.3	-110.6
6	12	20	-26.5	-139.4
9	13	21	-53.1	-171.3
13	16	22	-72.9	156.8
12	19	25	-89.5	127.6
13	20	26	-98.9	98.6
14	16	22	-115.3	66.8
15	14	18	-123.7	44.4
13	11	17	-128.1	22.5
14	10	16	-136.2	-8.9
11	10	16	-150.5	-34.4
2	2	18	181.0	-34.4
0	1	18	165.6	-34.4
1	9	20	153.6	-133.0
3	7	20	136.6	-179.6
2	10	19	96.3	160.2
3	12	19	81.1	135.9

AVERAGE DST VALUE : 6.7

IST 79 12 15

IST	DS1	DS2	ALPHA1	ALPHA2
3	12	19	67.3	107.7
4	15	17	55.5	88.0
4	17	18	53.7	65.3
3	13	15	13.0	30.0
3	16	15	11.6	-5.2
-2	16	17	6.2	-46.2
-2	15	20	-1.0	-82.8
-7	16	25	-10.2	-112.8
-13	20	29	-25.9	-139.2
-13	21	31	-40.4	-173.2
-15	24	28	-27.6	161.0
-8	20	22	-65.3	132.9
-4	20	20	-80.6	103.3
-3	17	15	-86.5	76.3
-3	16	14	-89.8	56.4
-3	13	14	-94.8	36.4
-5	12	14	-109.7	-6.5
-11	3	17	-72.3	-38.7
-11	9	20	-44.1	-83.3
-17	12	22	-52.2	-126.6
-18	9	22	-65.2	-152.1
-16	7	20	-69.0	159.8
-15	1	22	-82.7	130.7
-14	1	22	-82.2	112.9

AVERAGE DST VALUE : -6.8

IST 79 12 16

IST	DS1	DS2	ALPHA1	ALPHA2
-19	6	23	29.1	97.4
-18	9	20	18.8	79.1
-14	7	13	34.7	55.0
-11	14	21	16.4	21.5
-17	21	29	3.1	-13.1
-19	21	26	-15.4	-43.6
-22	15	25	-10.1	-78.5
-17	11	24	-11.0	-106.3
-14	13	27	-34.1	-138.3
-12	17	26	-53.7	-170.3
-10	19	27	-64.0	158.0
-6	19	24	-68.0	128.4
-3	13	20	-71.5	103.0
-4	20	19	-80.4	76.1
-1	19	18	-82.9	47.3
-7	21	15	-79.0	24.5
-4	18	11	-87.4	-5.3
-1	6	11	-97.4	-5.3
-1	10	16	-170.5	-68.9
-1	9	21	148.9	-98.1
-1	8	23	126.8	-134.4
-1	9	25	102.7	-167.5
-4	16	30	74.8	167.6
-8	20	27	52.0	132.0

AVERAGE DST VALUE : -8.4

IST 79 12 17

IST	DS1	DS2	ALPHA1	ALPHA2
-10	21	24	30.0	101.0
-12	21	19	35.8	88.5
-12	19	15	27.7	59.9
-11	16	11	12.8	10.5
-11	19	12	3.7	-29.1
-10	17	10	-11.0	-61.5
-11	20	23	-12.6	-93.2
-12	24	27	-6.8	-126.1
-12	24	26	-10.6	-147.2
-9	18	25	-27.7	-177.3
-5	15	23	-61.2	155.3
-1	17	19	-80.0	133.9
-2	16	16	-76.8	107.1
-6	13	16	-65.5	72.2
-8	14	16	-75.0	44.4
-8	5	17	-86.8	27.9
-8	7	15	-84.9	-2.6
-15	14	15	-77.7	-26.9
-19	11	14	-68.4	-61.3
-17	8	16	-119.9	-105.3
-18	5	23	159.4	-134.0
-15	4	27	69.1	-177.8
-16	10	25	19.3	145.8
-15	6	24	0.8	117.3

AVERAGE DST VALUE : -11.0

IST 79 12 18

IST	DS1	DS2	ALPHA1	ALPHA2
-12	3	23	43.3	69.1
-10	7	21	60.8	54.5
-11	8	18	37.3	38.5
-11	13	20	23.5	12.0
-12	21	24	11.1	-15.6
-14	18	22	0.2	-44.3
-13	12	21	-8.5	-61.8
-17	6	12	50.4	-85.1
-15	3	15	6.2	-118.3
-12	4	13	-40.6	-155.9
-11	6	12	-13.1	166.4
-5	12	20	-33.1	129.2
-4	11	20	-52.0	96.8
-5	6	21	-138.6	67.9
-9	2	14	-156.7	41.5
-8	1	12	-140.4	15.3
-8	3	12	-141.7	-12.2
-7	4	15	-134.1	-38.9
-4	7	17	174.2	-67.4
-2	10	19	175.3	-103.5
-1	6	21	130.5	-145.4
-1	7	22	65.6	-177.9
-6	8	21	59.9	143.9
-6	11	22	60.6	129.8

AVERAGE DST VALUE : -8.7

IST 79 12 19

IST	DS1	DS2	ALPHA1	ALPHA2
-7	11	22	62.5	102.1
-6	18	20	62.5	76.3
-7	17	19	50.1	45.3
-9	16	18	27.8	16.7
-11	14	17	12.6	-10.0
-11	9	18	6.8	-38.1
-9	9	15	-12.9	-65.9
-9	5	10	9.2	-113.3
-7	6	11	58.0	-122.6
-5	3	10	45.6	-148.6
-12	5	14	-66.8	175.8
-6	9	16	-96.2	156.9
-3	10	15	-97.2	131.3
-3	10	15	-99.5	97.5
-3	9	16	-111.7	59.1
-5	5	16	-88.4	28.4
-7	5	15	-85.1	-0.6
-7	6	16	-174.2	-36.8
-8	12	17	127.9	-66.1
-4	12	21	128.1	-101.9
-4	15	24	107.8	-138.1
-5	15	22	98.4	177.0
-7	10	20	56.6	153.2
-6	7	19	59.9	132.2

AVERAGE DST VALUE : -7.4

IST 79 12 20

IST	DS1	DS2	ALPHA1	ALPHA2
-4	5	16	73.6	97.7
-3	5	16	80.8	71.4
-5	8	15	48.7	45.3
-5	11	11	26.9	25.7
-5	11	9	10.2	7.2
-2	12	8	-7.6	-44.9
-2	12	15	-22.1	-80.7
-7	8	16	-7.0	-100.5
-9	10	19	-14.3	-137.5
-8	14	23	-36.3	-173.3
-7	15	26	-52.3	151.4
-6	23	25	-58.8	123.0
-8	23	23	-63.0	98.3
-9	23	16	-62.7	70.6
-6	20	20	-81.2	51.7
-7	21	19	-81.3	37.1
-9	21	14	-83.6	18.8
-9	19	13	-90.1	-19.3
-10	16	13	-94.2	-72.2
-17	12	16	-93.2	-116.9
-19	8	18	-82.3	-101.5
-17	5	20	-65.4	166.3
-16	5	22	4.5	145.3
-14	6	24	12.6	128.3

AVERAGE DST VALUE : -8.5

IST 79 12 21

IST	DS1	DS2	ALPHA1	ALPHA2
-12	2	23	59.3	102.5
-10	5	19	84.3	76.2
-12	7	18	65.4	53.1
-10	10	18	47.3	23.4
-10	11	19	27.3	5.0
-8	12	19	8.6	-44.8
-8	12	20	-15.2	-71.3
-8	6	17	-14.2	-104.1
-5	6	20	-30.5	-131.5
-8	6	20	-51.7	161.8
-8	5	19	-22.4	166.8
-6	13	22	-56.0	142.7
-8	14	18	-55.1	108.0
-8	14	19	-76.7	75.8
-9	12	18	-88.4	47.5
-9	12	17	-91.7	19.3
-10	9	17	-102.9	19.3

-17	3	26	-117.5	-43.3
-17	1	15	-142.5	-82.4
-16	[illegible]	21	-147.6	-115.2
-15		25	70.7	-145.3
-16		27	-13.7	179.1
-15		29	-1.5	151.1
-13		29	-3.9	120.8

AVERAGE DST VALUE : -11.1

DST 79 12 22

DST	DS1	DS2	ALPHA1	ALPHA2
-10	6	26	0.	85.1
-7	8	26	-21.6	50.1
-5	2	15	57.6	11.1
-4	4	16	12.9	-3.9
4	29	20	-0.5	-4.4
5	25	15	-11.5	-45.5
8	29	25	-23.6	-76.3
8	25	22	-37.0	-103.7
5	27	21	-59.2	-135.2
7	30	23	-53.2	-170.4
1	33	25	-42.7	159.5
-2	28	13	-36.6	139.0
7	29	23	-73.0	103.9
1	25	23	-84.9	66.2
-4	20	23	-89.6	41.2
-4	22	18	-96.0	21.8
-7	26	19	-92.2	-2.1
-10	15	22	-65.1	-44.1
-23	24	11	-52.1	-85.7
-15	16	15	-88.0	-129.6
-6	10	21	-116.2	-167.7
-6	6	26	-110.1	165.5
-3	6	23	-56.4	138.5
-1	7	26	-33.1	121.5

AVERAGE DST VALUE : -2.6

DST 79 12 23

DST	DS1	DS2	ALPHA1	ALPHA2
-2	6	27	-19.5	103.2
-1	9	23	5.4	83.3
2	9	26	-5.9	51.3
2	12	26	-11.9	22.2
0	13	27	-11.9	-6.5
-2	6	21	-13.5	-33.7
-5	4	14	-4.4	-73.9
-6	4	11	69.7	-111.1
-3	0	6	130.6	-155.0
-3	6	16	-44.5	-177.5
-2	10	21	-71.7	153.1
-2	10	22	-89.4	115.2
1	10	20	-116.1	89.5
-2	9	19	-145.3	60.4
-3	9	19	-164.0	32.3
-1	16	19	178.0	3.3
0	9	16	163.3	-25.3
1	13	20	140.0	-50.8
4	13	20	127.1	-78.0
7	16	21	135.0	-109.7
10	11	22	123.7	-135.2
8	11	22	107.7	-167.0
9	12	24	79.2	151.3
8	12	24	72.7	123.3

AVERAGE DST VALUE : 0.9

DST 79 12 24

DST	DS1	DS2	ALPHA1	ALPHA2
1	9	22	49.5	94.2
-4	6	22	39.9	57.4
-2	6	22	31.7	33.3
-3	8	19	51.5	7.2
-2	[illegible]	13	32.0	-15.[illegible]
1	5	15	29.3	-54.[illegible]
4	16	17	5.5	-82.3
7	15	22	-14.4	-117.7
9	15	29	-37.5	-145.2
10	23	34	-56.7	-174.3
10	21	27	-80.9	149.1
7	12	2[illegible]	-76.7	123.1
6	21	2[illegible]	-84.9	85.5
5	17	25	-71.2	45.4
-1	16	23	-66.8	14.2
-6	15	24	-54.0	-13.1
-5	12	21	-1.1	-35.3
-5	7	17	-26.2	-73.3
2	3	17	178.3	-92.7
4	6	15	-173.0	-114.7
4	4	24	167.5	-153.3
3	3	21	-35.3	166.3
1	3	21	-8.1	182.9
1	5	23	47.3	127.3

AVERAGE DST VALUE : 1.6

DST 79 12 25

DST	DS1	DS2	ALPHA1	ALPHA2
4	3	23	49.2	95.2
4	4	13	121.6	57.7
3	6	15	109.7	18.9
2	10	14	113.6	-24.6
3	10	11	117.9	-52.9
4	12	14	110.3	-73.7
7	5	13	35.7	-94.7
11	6	23	31.2	-123.3
10	11	25	1.2	-151.5
12	11	25	-22.3	177.3
13	13	25	-44.3	145.3
14	15	26	-74.4	124.0
16	15	23	-92.0	95.1
23	17	26	-107.4	70.9
25	17	17	-112.8	51.3
26	17	16	-125.5	29.5
23	17	15	-150.6	-6.8
21	15	21	176.8	-35.3
16	14	22	153.3	-65.3
12	16	24	135.1	-92.3
16	26	25	119.7	-112.3
18	32	31	131.6	-137.7
14	31	30	95.4	-171.1
10	26	25	72.3	154.3

AVERAGE DST VALUE : 12.8

DST 79 12 26

DST	DS1	DS2	ALPHA1	ALPHA2
12	26	30	58.6	126.3
10	26	27	51.8	91.3
5	25	25	44.0	49.9
11	22	24	35.4	20.2
10	21	25	28.1	-3.7
14	27	30	-1.6	-30.2
17	29	35	-20.8	-63.1
19	33	36	-33.1	-90.0
19	34	35	-52.6	-122.9
19	34	33	-71.2	-154.4
20	35	33	-90.1	172.5
15	27	29	-99.5	140.3
13	15	15	-91.9	113.2
15	18	15	-117.7	85.2
17	23	22	-141.9	58.3
17	20	23	-149.6	31.3
9	19	24	-147.8	5.2
-1	14	23	-132.8	-28.9
-6	8	23	-146.4	-63.1
-13	5	23	-177.5	-98.6
-14	11	13	64.9	-133.5
-15	5	22	58.5	-165.2
-13	8	18	74.2	156.1
-10	8	23	56.0	154.3

AVERAGE DST VALUE : 7.3

DST 79 12 27

DST	DS1	DS2	ALPHA1	ALPHA2
-7	6	22	53.4	144.3
-5	11	13	94.1	72.3
-5	11	13	57.4	31.7
-2	14	13	25.6	23.3
7	20	27	-8.6	1.8
-5	13	13	-11.3	-31.3
-4	13	15	-21.3	-74.6
-5	15	16	-15.6	-115.2
-7	18	17	0.3	-143.9
-3	17	19	-42.3	-177.3
-1	13	16	-57.6	157.7
-1	11	15	-44.7	112.5
-5	9	12	-3.4	70.3
-8	13	26	-77.3	61.7
-12	5	19	-135.7	34.7
-22	1	25	28.3	7.3
-23	9	20	51.9	-12.5
-15	3	26	133.7	-44.7
-11	7	16	141.4	-77.1
-12	3	23	136.3	-103.1
-13	13	21	131.9	-137.7
-10	11	20	56.4	-163.3
-12	17	21	84.3	173.7
-14	23	20	79.2	134.0

AVERAGE DST VALUE : -8.9

DST 79 12 28

DST	DS1	DS2	ALPHA1	ALPHA2
-13	24	29	57.0	125.[illegible]
-10	22	26	48.7	93.3
-12	23	27	34.4	65.3
-16	28	31	21.3	46.4
-22	26	25	9.7	23.0
-25	25	31	-3.6	-16.9
-23	33	41	-25.0	-45.1
-16	33	42	-36.7	-85.1
-12	34	42	-32.0	-120.3
-10	23	32	-64.6	-152.3
-10	17	24	-89.2	173.1
-11	17	32	-97.0	151.4
-14	12	26	-79.3	130.3
-13	11	16	-92.6	83.4
-6	15	20	-116.0	31.3
-11	11	23	-111.4	21.3
-16	9	21	104.1	-2.2
-15	11	21	138.0	-43.7
-11	17	21	129.8	-65.3
-13	25	26	124.6	-83.1
-12	25	26	114.9	-122.1
-16	25	26	34.1	-154.3
-19	37	30	73.4	176.7
-21	53	34	44.7	146.7

AVERAGE DST VALUE : -14.5

DST 79 12 29

DST	DS1	DS2	ALPHA1	ALPHA2
-30	52	35	33.4	125.8
-33	45	41	25.0	104.1
-35	41	35	14.3	61.6
-40	36	32	15.4	28.1
-40	34	29	14.5	1.7
-39	35	23	-7.9	-32.9
-44	30	26	-12.0	-73.6
-47	22	24	-20.5	-93.2
-39	26	26	-19.4	-133.7
-38	23	24	-32.4	-154.7
-33	17	22	-44.7	-161.7
-26	11	13	-34.8	166.9
-20	15	14	-69.7	113.7
-32	16	24	-68.0	63.2
-37	3	24	131.5	37.3
-45	15	33	55.0	-3.2
-48	15	33	47.6	-33.2
-50	16	30	13.6	-63.9
-49	16	23	7.6	-58.7
-37	32	24	30.9	-134.1
-30	25	34	35.4	-159.5
-36	32	32	-1.2	162.5
-33	34	35	-16.2	122.5
-35	36	35	-33.6	94.5

AVERAGE DST VALUE : -37.1

DST 79 12 30

DST	DS1	DS2	ALPHA1	ALPHA2
-38	27	37	-45.8	65.3
-40	14	33	-59.2	41.3
-27	7	27	-57.9	7.3
-39	7	27	-70.5	-35.5
-43	8	23	177.7	-71.7
-44	12	21	138.4	-102.4
-43	11	19	107.2	-124.7
-45	16	15	94.5	-153.3
-40	16	14	65.5	-175.7
-36	17	11	46.4	134.3
-36	20	15	24.0	113.7
-31	16	19	3.5	101.5
-23	26	14	-35.8	69.1
-26	22	14	-36.5	33.1
-30	15	15	-32.0	11.6
-25	7	23	-19.4	4.5
-25	6	20	-25.0	-24.3
-25	2	21	-41.2	-67.6
-21	11	23	137.6	-101.7
-15	13	24	116.5	-121.6
-15	13	25	113.1	-136.4
-18	15	25	104.5	-163.2
-13	23	31	76.0	171.5
-10	30	33	59.1	145.3

AVERAGE DST VALUE : -29.8

DST 79 12 31

DST	DS1	DS2	ALPHA1	ALPHA2
-9	24	34	43.5	117.0
-11	15	27	36.5	82.3
-13	13	22	34.0	54.6
-12	13	26	17.5	23.6
-6	24	22	-4.7	7.7
-10	20	13	-16.0	-22.3
-20	14	22	-5.9	-55.7
-20	14	23	-29.5	-92.4
-20	18	25	-52.6	-103.5
-19	23	26	-77.7	-127.2
-16	20	25	-90.3	-167.3
-11	19	15	-103.9	166.3
-11	17	18	-119.7	137.3
-12	17	16	-138.3	106.5
-10	19	19	-159.5	61.7
-8	22	22	-168.4	34.6
-9	20	22	-173.0	2.9
-12	20	27	175.2	-21.0
-12	22	26	137.9	-44.7
-21	27	35	127.6	-81.3
-28	33	38	110.5	-109.7
-34	41	39	82.4	-135.5
-41	52	43	58.2	-163.4
-34	62	45	45.7	165.2

AVERAGE DST VALUE : -16.6

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-4	17	20	59.3	-31.7
-1	17	20	25.9	-61.4
0	21	33	4.7	-95.6
-7	25	37	-17.4	-130.0
-2	24	30	-23.4	-157.9
-2	30	26	-33.8	172.3
-2	32	25	-34.2	141.4
-2	32	25	-37.9	117.4
-1	31	26	-34.7	93.2
-1	29	27	-29.3	74.7
-1	21	19	-29.3	62.6
-1	21	17	-23.1	50.1
-1	20	16	-23.3	40.1
-1	18	16	-22.4	-30.5
-1	15	15	-22.4	-54.7
-1	15	20	-112.4	-74.7
-1	11	23	-157.3	-94.7
-1	9	27	177.5	-122.2
-1	3	25	130.9	-152.3
-1	6	22	151.3	173.9
-1	11	19	162.6	143.2

AVERAGE DST VALUE : -7.1

DST -0 I 14

DST	DS1	DS2	ALPHA1	ALPHA2
-16	15	15	151.0	106.8
-17	16	17	130.1	79.9
-17	19	23	107.6	56.1
-18	20	30	84.5	29.3
-15	24	30	67.1	-4.6
-15	20	24	56.4	-31.0
-10	15	21	49.4	-51.4
-10	14	24	36.1	-85.9
-7	16	24	6.7	-119.7
-6	18	25	-15.7	-154.4
-4	18	27	-39.6	175.9
-2	20	27	-60.3	144.0
-2	16	23	-76.6	119.6
-1	11	20	-71.6	87.4
-1	6	13	-110.9	59.3
-1	7	16	-157.6	15.1
-1	7	19	-152.5	-8.3
-1	10	19	-145.6	-34.3
-1	12	19	-135.5	-64.7
-1	13	19	-128.3	-99.8
-1	12	17	-145.0	-134.6
-1	12	16	-157.2	-167.4
-1	14	14	-170.6	165.9
-1	17	10	162.6	127.1

AVERAGE DST VALUE : -6.0

DST 80 I 13

DS1	DS1	DS2	ALPHA1	ALPHA2
-2	19	7	146.9	95.7
-1	17	10	116.1	80.0
1	15	16	98.2	61.3
2	13	21	71.7	34.1
1	13	26	49.3	2.6
12	16	25	10.9	-26.6
15	19	26	-9.9	-62.3
10	23	27	-14.9	-97.3
2	25	14	-26.7	-134.9
-1	28	29	-37.1	-153.2
-3	30	33	-45.6	170.4
-14	32	34	-42.3	134.2
-31	40	26	-36.3	108.7
-39	33	20	-47.6	87.4
-41	33	21	-53.8	57.7
-44	31	26	-71.2	15.3
-46	30	23	-58.7	-10.2
-53	21	23	-69.5	-32.4
-50	16	24	-56.6	-71.3
-50	10	31	-9.1	-110.0
-52	9	33	40.2	-135.6
-59	13	34	32.3	-103.2
-62	12	33	41.1	166.3
-57	16	29	32.2	131.3

AVERAGE DST VALUE : -23.7

DST 80 I 14

DST	DS1	DS2	ALPHA1	ALPHA2
-53	7	21	46.9	10.3
-46	9	32	45.2	81.7
-46	11	41	3.7	55.3
-45	11	43	19.9	32.7
-45	11	37	11.3	9.1
-45	7	30	9.4	-20.7
-46	5	26	32.4	-45.5
-43	5	28	8.2	-70.9
-43	10	26	-13.3	-101.3
-41	13	21	-30.4	-131.3
-41	21	24	-46.5	179.0
-38	23	24	-57.3	149.6
-24	23	24	-69.5	120.9
-23	25	22	-78.5	93.7
-23	26	24	-78.8	65.5
-25	24	24	-90.8	38.4
-26	22	20	-96.8	10.3
-26	18	22	-102.9	-21.3
-23	17	20	-115.6	-49.1
-22	16	19	-135.9	-76.2
-19	12	20	-149.3	-103.3
-16	11	21	-162.0	-140.2
-16	12	20	-163.4	-173.3
-16	12	19	179.7	154.9
-15	14	17	149.4	124.9

AVERAGE DST VALUE : -30.7

DST 80 I 15

DST	DS1	DS2	ALPHA1	ALPHA2
-14	14	13	140.6	102.2
-12	10	9	138.3	80.0
-13	15	5	115.1	36.0
-13	13	7	92.4	29.3
-15	12	14	53.6	0.7
-14	11	20	28.2	-13.1
-15	11	22	24.3	-48.0
-17	10	21	20.5	-73.4
-15	9	29	-4.4	-109.4
-14	10	19	-28.6	-143.7
-10	10	23	-46.0	177.1
-9	12	23	-61.9	144.3
-12	12	25	-56.5	119.9
-16	11	19	-46.2	90.7
-15	1	15	-72.9	63.7
-11	3	16	-144.1	33.9
-9	6	17	-125.6	7.8
-10	10	21	-127.0	-27.0
-13	8	23	-105.4	-52.3
-16	8	19	-157.6	-98.4
-11	10	19	-164.6	-106.3
-8	15	20	176.1	-142.9
-6	12	21	158.5	-170.8
-3	12	21	153.1	168.2

AVERAGE DST VALUE : -12.0

DST 80 I 16

DS1	DS1	DS2	ALPHA1	ALPHA2
-7	10	24	126.7	116.2
-15	5	28	99.1	91.0
-17	10	25	71.7	72.3
-15	16	26	22.8	42.0
-20	11	23	6.4	13.9
-25	12	15	-13.3	-14.5
-32	12	18	-14.7	-36.4
-35	12	17	-4.5	-66.2
-28	18	21	-21.4	-114.5
-25	18	21	-26.3	-147.5
-23	17	21	-36.8	-178.5

-23	15	20	-33.1	134.5
-23	11	16	-22.8	113.4
-21	11	15	-30.6	107.5
-18	12	15	-30.1	94.1
-12	10	17	-31.6	67.1
-14	10	15	-11.3	41.1
-15	9	17	-37.6	-2.5
-14	9	17	-163.5	-55.3
-13	12	16	-154.7	-84.8
-10	14	17	-161.5	-107.4
-9	15	16	-165.4	-141.9
-8	11	15	173.6	-171.4
-6	9	21	156.6	159.1

AVERAGE DST VALUE : -17.8

DST 80 I 17

DST	DS1	DS2	ALPHA1	ALPHA2
-2	5	7	130.7	122.3
-1	4	9	7.7	104.3
-1	6	20	65.5	76.6
-3	6	24	46.0	43.1
-7	6	21	53.6	20.4
-3	4	22	41.7	-3.4
-5	5	20	15.3	-23.3
-10	4	24	4.8	-51.4
-12	18	23	-5.2	-112.5
-10	24		1.1	-152.7
-8	21		.7	174.2
-2	23		.6	150.1
1	21		.3	137.2
2	25		-66.7	101.3
-7	21	23	-61.0	69.3
-3	18	19	-78.8	41.2
-2	17	17	-100.6	8.5
-7	9	17	-106.3	-33.3
-6	6	16	-159.6	-51.3
-5	12	21	-166.2	-82.4
-9	15	22	174.8	-109.3
-11	15	22	153.9	-136.2
-9	15	23	129.5	-164.3
-4	10	21	132.3	155.7

AVERAGE DST VALUE : -5.4

DST 80 I 18

DST	DS1	DS2	ALPHA1	ALPHA2
0	6	23	140.1	120.8
1	5	22	119.8	92.4
2	6	15	92.1	63.2
-4	7	13	77.2	37.5
-5	7	10	68.5	19.3
-7	5	13	44.4	0.6
-6	9	16	12.1	-36.7
-9	9	14	19.1	-59.2
-6	8	12	48.5	-79.3
-5	11	13	45.3	-100.5
-7	9	12	3.9	-153.3
-7	10	16	-38.7	159.9
-6	12	21	-59.5	116.2
-8	13	23	-90.0	85.4
-2	14	24	-107.5	54.4
-2	15	24	-117.4	27.1
-3	13	21	-126.4	1.7
-6	9	15	-140.4	-30.4
-8	10	17	-137.3	-59.7
-2	12	16	-141.5	-88.5
0	13	15	-159.8	-114.9
3	14	15	-177.4	-152.8
4	14	15	174.9	167.4
2	15	14	167.6	133.3

AVERAGE DST VALUE : -2.8

DST 80 I 19

DST	DS1	DS2	ALPHA1	ALPHA2
4	16	13	153.6	94.2
2	17	11	138.6	69.0
1	15	11	116.6	45.6
1	11	13	91.2	32.0
3	7	20	66.9	17.3
4	9	20	29.6	-14.4
6	7	23	1.6	-40.3
6	5	21	0.7	-75.2
5	10	21	-0.6	-112.2
4	11	22	-20.5	-138.3
1	11	20	-11.7	-171.3
0	12	20	-39.1	154.0
1	16	23	-63.4	122.1
1	17	23	-75.4	92.3
0	18	22	-89.4	66.9
1	20	19	-92.4	40.3
1	20	19	-102.6	22.1
1	17	20	-124.5	-3.6
1	11	19	-166.3	-41.3
1	10	19	-177.3	-72.1
0	12	21	-178.7	-103.5
1	12	20	172.9	-134.2
2	10	21	167.0	-174.4
0	9	22	161.8	152.2

AVERAGE DST VALUE : 4.2

DST 80 I 20

DST	DS1	DS2	ALPHA1	ALPHA2
9	6	28	112.8	123.5
6	7	32	73.2	94.6
5	11	32	55.4	61.0
4	10	33	39.4	23.4
3	12	35	45.7	-1.0
3	13	35	19.1	-30.8
-1	15	37	16.7	-62.9
-1	17	41	10.9	-92.1
1	17	38	3.1	-122.3
4	16	34	-7.9	-154.2
3	15	27	-10.3	-177.3
2	14	23	-27.4	151.7
2	13	23	-31.8	117.3
5	10	24	-34.7	82.6
5	10	21	-139.9	53.1
7	11	22	-129.5	21.4
6	9	22	-153.4	-11.7
6	8	21	-134.6	-34.0
3	8	19	-154.5	-64.8
3	7	17	171.7	-93.6
3	10	19	171.8	-107.7
7	13	18	174.4	-133.3
6	13	19	166.8	-173.3
6	13	17	158.2	132.3

AVERAGE DST VALUE : 4.2

DST 80 I 21

DST	DS1	DS2	ALPHA1	ALPHA2
5	10	15	125.4	100.4
6	7	19	101.1	80.7
4	9	17	79.0	63.2
4	10	19	55.3	42.5
6	7	20	40.2	15.2
4	7	23	26.7	-14.3
5	10	21	14.6	-41.5
5	12	19	7.8	-78.6
9	16	16	-16.4	-115.3
9	17	17	-29.2	-143.1
7	20	21	-49.5	174.5
5	19	20	-44.3	151.7
6	20	21	-57.7	122.6
2	19	23	-64.8	91.3
3	10	20	-66.6	62.8
-1	11	19	-91.7	31.3
-1	5	17	-129.1	-2.6

1	6	20	178.9	-39.0
2	8	20	178.6	-62.4
3	10	19	174.7	-89.9
4	15	21	171.7	-101.8
5	14	20	165.3	-120.3
15	9	21	161.3	-171.4
21	7	22	165.4	142.7

AVERAGE DST VALUE : 5.8

IST 30 I 22

EST	DS1	DS2	ALPHA1	ALPHA2
21	9	23	152.2	121.7
21	7	22	151.6	99.0
18	12	20	125.1	54.4
14	11	22	102.3	23.1
14	11	20	75.4	-5.5
14	10	22	34.4	-23.3
15	11	20	24.2	-61.5
13	13	23	13.6	-86.2
10	13	23	12.1	-116.3
9	13	23	-6.4	-142.9
10	17	25	-23.9	-175.7
9	16	21	-29.3	160.1
9	14	20	-58.2	124.8
10	11	20	-66.3	83.0
11	7	21	-108.9	45.2
12	7	18	-108.5	26.0
12	8	19	-129.2	-4.7
12	10	20	-134.4	-34.9
11	14	18	-130.5	-51.6
10	9	17	-147.1	-83.0
9	10	19	-162.3	-100.9
7	13	19	-172.0	-134.3
5	11	19	-179.3	-172.3
5	12	18	176.6	145.5

AVERAGE DST VALUE : 11.4

IST 30 I 23

EST	DS1	DS2	ALPHA1	ALPHA2
5	9	21	143.4	120.0
7	9	23	119.6	91.7
6	8	21	111.0	62.6
5	8	17	101.5	34.9
-2	8	17	70.1	13.8
-1	8	18	17.6	-9.5
-1	11	17	-21.4	-24.0
-1	13	16	-22.6	-72.1
2	11	18	-104.6	-103.4
3	12	17	-139.1	-125.1
-4	10	16	-174.5	-174.5
-1	13	13	-30.7	175.0
4	12	14	-37.0	143.3
7	13	17	-62.0	103.5
5	12	17	-82.5	73.3
12	10	16	-90.8	44.3
16	20	19	-112.9	19.4
17	22	22	-128.7	-12.7
13	20	23	-150.8	-47.4
10	19	25	-177.3	-73.8
9	22	22	163.4	-96.3
7	21	20	142.7	-124.9
6	18	23	146.3	-162.7
6	16	23	113.7	142.9

AVERAGE DST VALUE : 5.8

IST 30 I 24

EST	DS1	DS2	ALPHA1	ALPHA2
6	15	23	134.2	125.5
5	13	22	97.5	95.0
9	14	22	83.2	66.8
10	14	23	75.6	45.3
10	10	27	65.4	6.3
10	9	23	45.0	-22.7
6	11	24	22.5	-55.6
9	13	23	16.5	-80.0
6	12	21	12.7	-129.4
6	11	25	12.3	-143.6
3	12	20	10.0	-166.5
6	12	16	-10.4	179.5
7	11	18	-46.2	127.8
9	10	21	-36.3	87.9
6	8	19	-38.1	57.9
1	9	17	-35.6	26.3
1	9	19	-116.1	-10.9
-1	6	21	-133.4	-41.7
-2	0	22	108.9	-69.5
-5	2	20	-156.3	-92.6
-4	12	23	154.3	-119.2
2	17	19	153.6	-153.3
2	17	16	159.7	174.8
1	16	15	146.2	142.3

AVERAGE DST VALUE : 4.0

IST 30 I 25

EST	DS1	DS2	ALPHA1	ALPHA2
9	19	14	120.1	126.0
4	16	11	119.6	92.0
5	16	12	107.3	63.4
5	13	9	92.9	23.3
7	10	9	76.4	-8.2
10	17	14	53.1	-27.1
12	15	13	30.4	-55.3
13	11	20	23.4	-83.0
15	9	16	14.0	-101.1
16	7	15	25.6	-121.3
16	9	16	-4.5	-151.4
24	16	20	-52.3	156.3
21	15	20	-69.1	122.7
21	14	16	-66.3	96.3
19	15	15	-71.0	62.7
15	17	16	-83.5	36.0
10	14	17	-108.0	6.0
11	8	20	-126.7	-30.8
4	8	23	-133.2	-55.2
1	6	20	-139.2	-83.3
6	14	19	176.4	-104.6
6	17	22	156.2	-135.3
6	16	25	136.8	-176.7
8	19	22	111.3	156.1

AVERAGE DST VALUE : 11.1

IST 30 I 26

EST	DS1	DS2	ALPHA1	ALPHA2
7	16	15	134.0	123.0
11	15	17	106.1	92.5
10	16	22	91.0	52.0
8	15	24	77.1	27.3
8	17	27	63.4	-2.5
8	15	24	36.7	-36.4
7	15	23	22.6	-59.9
7	15	23	20.2	-84.4
7	12	23	8.4	-123.0
11	13	27	-2.3	-148.5
10	14	24	-20.3	-174.2
9	16	22	-36.6	153.4
3	17	20	-57.6	120.3
7	14	17	-82.1	84.0
8	12	20	-115.7	51.3
11	10	18	-114.9	26.2
14	12	17	-113.7	0.3
15	12	21	-140.1	-31.2
15	14	21	-146.0	-56.4
19	11	20	-145.0	-86.7
17	13	18	-153.7	-111.1
14	11	20	-177.2	-155.1
9	9	21	157.3	166.7
8	9	17	117.7	136.8

AVERAGE DST VALUE : 10.0

IST 30 I 27

EST	DS1	DS2	ALPHA1	ALPHA2
7	9	15	104.1	118.3
8	9	23	95.0	83.5
2	14	21	89.0	52.3
-8	12	18	26.0	13.6
-10	16	13	50.9	-11.7
-10	18	20	58.1	-39.8
-9	16	25	41.8	-57.4
-8	16	22	23.9	-85.5
-8	16	20	14.2	-112.1
-11	17	13	4.1	-131.4
-12	12	23	-22.4	-171.3
-11	12	22	-35.5	156.2
1	10	19	-50.9	142.5
2	19	24	-67.6	103.1
-6	12	24	-50.4	66.0
-22	13	13	-48.3	22.6
-28	14	20	-54.9	15.9
-36	12	23	-68.1	-41.8
-50	13	23	-79.4	-63.6
-52	12	20	-112.9	-91.4
-64	7	30	-16.6	-124.0
-60	17	36	21.4	-157.3
-38	22	29	45.8	161.3
-40	9	29	31.3	135.9

AVERAGE DST VALUE : -13.3

IST 30 I 28

EST	DS1	DS2	ALPHA1	ALPHA2
-39	7	27	24.3	106.9
-40	5	29	5.3	84.3
-43	10	27	-1.9	50.4
-46	20	24	-7.6	13.8
-44	27	30	-20.5	-8.3
-45	25	41	-24.8	-34.3
-46	20	43	-10.3	-63.0
-41	15	37	-5.6	-93.1
-35	12	32	-23.7	-125.2
-31	14	24	-26.3	-141.3
-29	14	21	-42.1	-175.2
-30	10	24	-48.0	156.1
-32	20	22	-27.3	127.0
-36	38	16	-29.3	104.2
-45	40	16	-56.1	73.1
-24	36	22	-74.6	26.2
-33	59	22	-76.5	7.2
-43	48	22	-72.7	-6.7
-38	30	19	-31.3	-23.4
-41	27	16	-36.9	-56.3
-25	24	17	-136.7	-130.5
-22	20	21	-145.1	177.5
-5	16	26	-108.9	139.1
-20	10	25	-171.8	112.6

AVERAGE DST VALUE : -34.4

IST 30 I 29

EST	DS1	DS2	ALPHA1	ALPHA2
-49	9	30	1.0	88.7
-57	34	39	-14.2	63.1
-61	33	44	-19.2	47.9
-62	22	40	-16.2	21.3
-60	19	42	3.8	-6.4
-66	15	43	1.4	-37.7
-63	15	31	-6.2	-67.3
-57	10	25	-1.5	-92.9
-48	10	25	-13.3	-149.8
-46	12	27	-25.5	173.8
-41	18	24	-27.8	152.9
-36	17	22	-50.9	131.8
-33	18	20	-65.1	103.3
-46	27	19	-32.1	72.6
-43	34	15	-45.7	63.7
-41	27	20	-58.1	33.2
-36	27	15	-68.5	10.9
-31	16	20	-129.5	-33.4
-42	11	25	-148.2	-79.2
-46	11	23	126.6	-104.1
-47	13	22	102.5	-141.3
-37	10	22	104.6	169.5
-30	8	23	-28.6	138.4

AVERAGE DST VALUE : -47.2

IST 30 I 30

EST	DS1	DS2	ALPHA1	ALPHA2
-35	9	27	-148.1	139.6
-29	2	30	93.3	86.0
-25	6	31	-2.6	56.2
-25	7	27	5.1	17.2
-24	12	25	46.8	1.5
-25	11	23	29.7	-29.3
-28	10	19	25.1	-57.4
-28	8	17	15.0	-75.4
-28	9	15	-4.6	-100.4
-29	15	17	-16.2	-130.3
-30	19	22	-16.7	-144.4
-36	20	17	1.2	157.1
-25	18	21	-25.3	117.9
-28	16	24	-39.8	89.4
-26	12	21	-35.6	62.0
-30	7	19	-71.4	41.9
-29	10	16	-90.0	17.9
-24	15	16	-117.3	-8.4
-22	17	19	-147.0	-40.2
-23	15	20	-153.9	-77.5
-24	14	21	174.3	-103.0
-21	11	18	177.0	-130.2
-21	13	17	-172.8	160.3
-22	10	15	176.2	128.1

AVERAGE DST VALUE : -26.6

IST 30 I 31

EST	DS1	DS2	ALPHA1	ALPHA2
-22	14	16	145.2	110.4
-20	13	15	129.7	94.6
-19	12	21	74.2	78.6
-18	9	20	66.4	52.3
-18	7	16	56.4	31.6
-19	7	14	49.4	9.3
-21	7	12	50.7	-3.4
-20	9	12	58.4	-27.0
-19	8	13	56.5	-41.2
-19	10	14	64.9	-103.5
-17	5	17	24.2	-159.4
-14	14	24	-29.6	155.7
-10	14	23	-55.6	123.0
-9	19	22	-75.0	97.9
-9	16	20	-88.9	71.5
-9	16	19	-97.2	41.7
-9	17	17	-107.2	27.1
-9	17	18	-125.4	-9.3
-9	18	19	-141.4	-40.9
-9	14	20	-153.0	-76.2
-11	13	21	176.9	-109.3
-15	12	20	171.3	-131.3
-15	14	19	163.9	173.3
-11	12	17	149.7	130.2

AVERAGE DST VALUE : -14.6

END OF YOUR FILE

DST 80 2 1

DST	DS1	DS2	ALPHA1	ALPHA2
-19	16	20	109.7	123.0
-22	20	14	93.6	104.0
-20	21	20	72.2	73.3
-20	22	22	51.9	43.3
-18	22	21	40.9	14.7
-15	17	16	24.7	-3.3
-16	9	11	11.6	-19.9
-14	7	13	16.1	-23.0
-7	5	10	48.7	-61.7
-4	5	9	20.6	-95.2
-2	6	11	-3.5	-151.2
-1	9	13	-7.7	169.9
-3	3	14	-19.3	132.3
0	9	15	-83.4	91.1
2	16	19	-96.2	64.5
2	17	22	-120.6	31.6
2	13	20	-123.3	10.7
-2	14	17	-125.7	-13.3
-1	15	15	-141.1	-45.1
-11	12	26	-155.6	-76.0
-11	13	21	125.7	-105.8
-13	11	21	100.5	-137.4
-2	11	21	164.4	169.3
-2	6	22	113.5	141.5

AVERAGE DST VALUE : -8.7

DST 80 2 2

DST	DS1	DS2	ALPHA1	ALPHA2
-5	15	30	70.1	122.9
-4	12	19	58.5	92.9
-1	10	20	70.9	75.9
-4	13	25	15.8	51.9
-3	19	25	4.4	22.9
-10	20	21	-15.6	-5.3
-9	16	14	-38.0	-11.6
-8	14	10	-31.0	-13.5
-9	13	4	4.3	-62.8
-7	11	7	-17.3	-103.7
-6	13	10	-35.0	-153.8
-5	15	15	-34.6	163.3
-1	17	19	-53.9	129.3
-3	18	20	-68.5	95.4
-5	16	13	-76.9	78.4
-6	11	21	-111.3	34.2
-4	12	21	-139.0	3.2
-8	5	13	-178.0	-23.9
-10	14	21	150.5	-54.3
-9	16	24	142.1	-77.9
-8	16	25	142.4	-102.6
-7	16	22	149.6	-134.3
-6	16	21	137.8	-169.3
-7	16	24	113.0	162.2

AVERAGE DST VALUE : -6.4

DST 80 2 3

DST	DS1	DS2	ALPHA1	ALPHA2
-11	20	21	97.8	134.0
-11	24	17	94.0	105.3
-10	22	17	78.0	78.4
-5	16	26	44.4	53.2
-1	14	37	13.0	17.2
0	14	36	3.5	-14.4
-3	14	35	3.7	-47.3
-4	13	31	17.2	-78.1
-4	13	23	25.0	-112.4
-5	12	17	18.2	-134.0
-6	11	15	16.0	-156.5
-5	10	15	-10.8	167.4
-4	10	15	-54.6	124.5
-1	12	21	-54.2	94.1
3	14	21	-91.6	63.4
2	12	22	-124.6	30.7
2	12	20	-139.1	3.6
2	10	18	-151.3	-25.3
0	10	13	-156.4	-57.3
0	11	17	-166.4	-83.4
-1	14	13	165.9	-111.7
-2	17	20	145.6	-139.9
-5	13	15	131.5	-166.5
-5	16	14	125.0	153.7

AVERAGE DST VALUE : -3.1

DST 80 2 4

DST	DS1	DS2	ALPHA1	ALPHA2
-6	19	13	118.3	126.4
-5	21	13	111.1	101.3
-2	20	16	91.7	76.1
1	18	21	59.5	43.3
2	18	25	43.2	13.4
2	15	26	28.6	-13.3
7	15	20	1.5	-34.0
1	13	17	3.2	-62.9
0	13	18	23.5	-86.2
1	11	13	23.4	-94.6
-1	11	12	11.9	-131.4
-2	14	13	-10.1	-171.3
0	17	15	-21.6	167.0
2	26	17	-35.1	142.4
6	22	16	-54.3	117.7
6	20	15	-77.6	72.6
5	16	18	-111.7	24.7
0	11	20	-162.7	-24.5
-2	13	21	160.4	-59.3
-2	15	22	151.6	-82.5
-2	18	24	138.5	-104.0
-3	25	24	129.5	-129.6
-1	20	22	125.8	-155.5
-2	20	16	124.4	168.4

AVERAGE DST VALUE : 0.2

DST 80 2 5

DST	DS1	DS2	ALPHA1	ALPHA2
-1	22	11	118.2	130.3
1	26	9	111.7	96.7
2	25	15	91.2	65.1
1	22	15	64.8	43.1
3	21	21	51.7	13.0
5	18	21	32.0	-13.4
7	11	11	5.5	-26.3
10	8	16	-16.1	-49.3
11	5	11	13.6	-70.2
10	9	10	0.4	-112.1
6	14	12	-6.0	-157.4
0	14	13	-32.0	159.0
0	12	17	-54.7	126.3
0	12	19	-54.1	87.6
-2	13	19	-51.1	53.4
-2	23	19	-33.2	47.5
-5	6	21	-138.2	-12.3
-5	6	22	-178.1	-39.9
-5	10	21	169.4	-65.6
-3	12	20	162.1	-83.4
-5	15	22	143.3	-110.4
-6	20	22	131.1	-131.0
-4	22	18	126.1	-158.2
-4	22	16	117.2	173.1

AVERAGE DST VALUE : 0.9

DST 80 2 6

DST	DS1	DS2	ALPHA1	ALPHA2
-1	20	17	105.4	141.5
-4	14	11	86.7	84.2
-1	14	9	84.6	27.8
14	19	[illegible]	65.5	35.7
22	23	21	35.6	0.0
23	25	27	3.6	-23.3
20	24	30	-7.1	-55.9
6	26	28	-19.6	-89.1
-22	49	26	-12.6	-110.9
-34	35	23	-30.5	-145.3
-25	35	24	-46.9	173.8
-30	36	26	-57.1	139.5
-30	25	13	-47.4	135.7
-30	30	23	-62.5	84.0
-36	16	31	-33.8	55.9
-64	24	30	-18.4	3.7
-69	33	25	1.6	-21.4
-71	26	21	-32.3	-63.9
-66	17	21	-55.1	-77.6
-80	20	12	-6.6	-71.3
-75	6	19	-134.7	-116.2
-64	11	22	169.5	-135.2
-61	14	16	153.8	-171.5
-60	13	26	122.9	153.0

AVERAGE DST VALUE : -30.5

DST 80 2 7

DST	DS1	DS2	ALPHA1	ALPHA2
-57	15	23	66.7	122.7
-52	19	22	76.3	104.5
-54	19	26	57.4	75.3
-53	22	32	25.6	44.6
-56	25	36	10.3	11.6
-56	25	40	-5.5	-15.3
-60	27	39	-11.3	-43.0
-57	17	25	-21.6	-62.5
-64	8	23	25.2	-79.6
-57	6	17	0.2	-107.5
-54	4	14	-47.7	-134.3
-50	6	13	-66.7	-163.1
-40	11	17	-77.5	145.5
-37	13	16	-91.9	119.0
-32	18	21	-102.6	89.8
-30	19	22	-118.7	57.4
-34	18	22	-130.4	31.3
-37	12	20	-155.1	-10.0
-36	4	15	37.7	-54.0
-35	7	22	67.6	-83.0
-38	6	15	148.8	-112.0
-33	6	16	36.5	-133.5
-29	8	21	139.3	-176.3
-27	6	23	92.5	146.5

AVERAGE DST VALUE : -45.1

DST 80 2 8

DST	DS1	DS2	ALPHA1	ALPHA2
-28	14	27	64.9	114.1
-27	17	25	50.8	95.6
-36	29	33	33.8	65.1
-33	28	25	41.7	38.7
-33	39	27	23.7	3.7
-34	40	32	10.2	-26.6
-38	38	32	-2.2	-57.7
-41	34	25	-10.8	-85.4
-41	26	15	-19.3	-134.3
-40	26	11	-27.1	-98.5
-41	23	10	-24.7	-160.7
-40	22	13	-32.5	-167.1
-34	19	15	-38.4	137.1
-41	26	16	-34.8	105.4
-43	29	16	-46.0	73.7
-43	27	13	-67.2	42.7
-36	21	20	-90.9	24.0
-35	21	15	-98.5	-3.4
-34	21	15	-116.2	-23.3
-33	20	18	-143.5	-58.5
-32	20	13	-177.4	-93.7
-30	19	20	152.0	-127.0
-30	15	20	112.6	-173.6
-29	17	21	65.6	150.3

AVERAGE DST VALUE : -35.1

DST 80 2 9

DST	DS1	DS2	ALPHA1	ALPHA2
-26	15	22	76.4	121.1
-23	17	22	73.4	107.8
-22	21	24	57.7	78.5
-25	24	27	47.9	44.0
-19	28	32	34.5	10.4
-18	25	33	14.9	-22.3
-25	26	33	3.6	-51.7
-25	31	31	2.7	-80.5
-19	25	26	-15.6	-123.3
-19	31	26	-38.4	-158.6
-17	30	25	-56.0	167.0
-17	30	28	-63.6	133.9
-15	24	27	-74.7	112.5
-16	26	23	-72.3	82.0
-20	24	15	-61.0	64.1
-27	24	14	-61.9	41.3
-26	22	16	-62.6	20.5
-26	12	15	-106.6	-12.5
-29	6	13	148.0	-44.3
-27	5	20	149.4	-73.1
-23	14	20	149.6	-103.7
-22	19	22	126.3	-111.1
-19	20	23	135.5	-165.4
-17	17	23	65.2	157.5

AVERAGE DST VALUE : -21.8

DST 80 2 10

DST	DS1	DS2	ALPHA1	ALPHA2
-15	15	25	70.4	133.1
-14	16	25	66.4	110.5
-16	20	23	65.5	80.8
-20	23	20	52.4	44.6
-18	24	20	35.9	11.2
-18	21	22	17.1	-17.0
-14	20	25	5.4	-87.9
-11	19	26	-7.5	-84.5
-9	18	27	-10.1	-125.6
-5	20	29	-35.5	-159.2
-2	21	27	-60.1	168.8
-2	20	24	-72.1	141.4
-3	16	21	-80.4	119.6
-4	11	17	-99.9	98.0
-7	7	14	-116.7	77.0
-5	6	13	-136.5	43.6
-5	14	16	-123.6	24.2
-2	21	13	-133.7	3.5
-3	25	22	-153.6	-22.5
-6	24	24	179.7	-52.3
-5	21	24	155.2	-66.0
-5	17	23	131.4	-121.7
-4	15	22	115.4	-156.9
-1	13	23	59.4	169.0

AVERAGE DST VALUE : -3.[illegible]

DST 80 2 11

DST	DS1	DS2	ALPHA1	ALPHA2
2	12	25	79.6	136.0
1	13	26	69.4	110.0
0	16	23	56.5	80.9
-3	21	19	41.6	46.2
-4	26	15	35.7	10.6

DST	DS1	DS2	ALPHA1	ALPHA2
-4	25	16	28.8	-24.4
-9	11	12	44.6	4.9
0	16	13	-10.5	-66.3
4	18	12	-39.5	-81.7
8	11	8	-40.0	-107.7
10	15	9	-64.7	-174.2
8	16	15	-69.8	147.9
6	15	17	-89.7	120.7
4	13	17	-97.7	97.7
3	11	17	-98.7	75.3
2	7	15	-124.2	43.5
2	6	15	-142.4	11.8
2	6	15	-173.9	-25.3
-2	10	17	174.6	-55.6
0	9	15	171.9	-84.0
1	7	14	174.8	-114.1
2	6	13	168.1	-140.7
3	7	15	170.0	-173.7
3	7	15	152.0	160.1

AVERAGE DST VALUE : 1.8

DST 80 2 12

DST	DS1	DS2	ALPHA1	ALPHA2
3	8	23	51.1	137.2
4	11	28	62.9	114.1
4	12	27	47.8	86.2
-2	13	25	37.1	55.9
-6	17	22	42.7	23.7
-8	16	22	34.9	-11.0
-7	20	25	18.7	-50.3
-7	13	24	14.9	-63.6
-4	16	20	23.0	-116.5
-4	14	18	20.6	-137.3
-1	12	17	-3.8	-163.3
2	12	15	-33.5	170.3
4	13	15	-49.7	146.4
2	15	15	-64.5	118.6
4	16	17	-58.2	75.6
2	12	17	-133.7	33.9
5	17	17	-120.6	26.6
4	15	16	-142.5	-5.2
4	13	14	-154.9	-43.0
4	12	14	-162.6	-73.7
6	12	13	-163.7	-109.9
6	10	14	173.1	-145.0
5	9	14	153.0	-171.3
4	9	16	127.7	164.7

AVERAGE DST VALUE : 1.0

DST 80 2 13

DST	DS1	DS2	ALPHA1	ALPHA2
5	10	15	101.4	135.4
8	10	23	76.1	115.4
5	12	25	43.9	90.3
5	15	21	17.7	65.9
6	15	14	5.7	57.0
6	16	10	0.3	45.4
6	16	8	-5.8	25.4
9	16	5	-15.9	-3.6
14	12	4	-31.6	-99.4
14	13	9	-46.7	-140.5
13	11	12	-57.4	-173.5
13	9	11	-52.1	167.7
14	9	13	-70.9	139.3
15	10	15	-83.5	119.7
15	11	15	-12.4	84.3
15	13	16	-116.1	50.3
15	13	16	-119.8	23.4
14	11	15	-140.2	-14.1
15	11	17	-151.7	-52.9
15	8	15	-154.7	-89.7
17	8	14	-161.0	-118.7
20	10	13	-154.6	-154.6
19	7	13	-174.6	-171.2
17	6	15	125.5	162.6

AVERAGE DST VALUE : 12.4

DST 80 2 14

DST	DS1	DS2	ALPHA1	ALPHA2
14	9	23	78.1	136.6
12	11	28	50.6	112.9
11	12	24	35.9	86.9
20	15	18	6.9	63.6
18	20	13	-7.6	35.6
8	19	15	-2.4	-3.9
5	18	19	-13.8	-23.2
6	18	13	-19.9	-67.0
12	23	15	-24.3	-113.6
3	34	20	-22.9	-141.7
-18	51	13	-26.7	-156.8
-33	52	14	-42.3	-179.9
-33	41	16	-55.2	133.9
-27	43	24	-69.7	88.0
-23	30	21	-88.6	64.4
-35	24	23	-75.2	24.5
-41	30	13	-52.7	2.7
-45	45	14	-60.6	-36.4
-34	10	15	-62.6	-63.0
-33	6	13	-85.0	-93.9
-22	1	16	-73.2	-113.1
-26	5	13	135.4	-146.9
-21	5	20	128.9	-174.4
-19	5	22	92.4	156.2

AVERAGE DST VALUE : -13.6

DST 80 2 15

DST	DS1	DS2	ALPHA1	ALPHA2
-13	6	27	49.8	133.0
-12	9	23	31.7	103.3
-14	14	25	17.2	73.1
-16	19	20	6.3	43.6
-21	21	15	2.9	18.2
-25	22	22	-6.8	-12.3
-30	13	23	-21.0	-42.5
-31	11	14	-21.3	-53.7
-22	7	12	-16.1	-85.6
-26	13	16	-42.1	-135.1
-16	17	23	-59.3	176.6
-12	21	27	-77.2	149.5
-3	24	23	-36.5	125.6
10	26	23	-102.8	86.4
14	26	13	-103.7	75.3
4	17	17	-111.7	44.6
-2	14	15	-124.8	24.3
3	10	14	-162.8	-11.3
2	12	15	-177.7	-40.5
3	15	16	-136.0	-73.0
-26	13	23	30.8	-103.3
-53	32	42	23.9	-133.7
-64	21	33	18.4	174.2
-50	49	47	33.0	144.4

AVERAGE DST VALUE : -17.0

DST 80 2 16

DST	DS1	DS2	ALPHA1	ALPHA2
-53	23	40	5.7	129.1
-60	15	34	-9.6	91.7
-66	33	26	23.7	72.4
-87	48	33	0.4	31.0
-105	56	33	-7.0	-6.4
-114	47	35	-4.6	-22.2
-123	39	27	-4.4	-46.1
-126	34	16	16.5	-40.9
-124	39	21	20.2	-25.3
-116	41	17	30.3	-35.7
-101	36	12	3.0	-107.3
-52	44	17	-33.5	152.6
-53	51	12	-35.6	121.0
-94	23	28	-63.5	57.5
-81	31	22	-58.2	63.0
-76	17	18	-64.7	26.7
-74	6	19	-96.5	-3.0
-71	1	22	-138.5	-35.4
-71	6	25	139.7	-59.7
-61	11	27	89.5	-82.2
-57	13	27	72.1	-99.2
-58	17	29	93.8	-132.6
-51	20	31	81.6	-164.1
-51	22	32	64.1	167.8

AVERAGE DST VALUE : -63.7

DST 80 2 17

DST	DS1	DS2	ALPHA1	ALPHA2
-52	25	35	46.8	141.1
-48	24	37	38.6	119.2
-45	20	31	25.3	94.5
-42	20	25	13.7	69.0
-43	17	15	18.0	45.6
-44	14	19	20.6	21.7
-44	8	15	36.7	7.2
-44	10	15	74.3	-9.3
-41	14	15	79.9	-37.2
-39	14	15	73.0	-68.2
-32	5	12	37.4	-115.1
-24	8	11	-24.0	-168.4
-22	11	13	-40.2	178.2
-23	11	14	-34.1	142.4
-27	12	14	-62.4	113.3
-28	7	13	-108.2	56.6
-26	12	14	-121.2	32.3
-28	11	15	-152.2	-5.8
-30	12	17	-176.9	-39.2
-32	15	19	163.1	-63.6
-30	16	21	152.0	-89.3
-28	15	23	137.9	-121.3
-25	13	20	125.2	-153.6
-27	14	21	103.2	166.5

AVERAGE DST VALUE : -34.3

DST 80 2 18

DST	DS1	DS2	ALPHA1	ALPHA2
-31	21	24	58.2	134.2
-32	20	26	35.6	112.7
-32	19	25	18.1	84.9
-33	13	23	8.5	53.2
-35	15	23	17.7	28.0
-36	13	19	8.5	12.3
-36	14	17	6.4	-6.6
-40	14	17	23.7	-12.8
-45	16	16	30.4	-35.4
-49	23	15	23.1	-65.6
-45	25	12	-8.7	-121.2
-40	28	13	-37.5	164.5
-34	30	22	-53.6	120.4
-32	29	22	-65.0	92.1
-32	20	18	-78.1	76.4
-30	11	16	-99.1	47.7
-35	15	17	-110.6	22.4
-30	12	17	-128.6	-9.3
-36	4	22	-139.7	-34.0
-42	2	23	-130.3	-55.7
-43	5	21	126.4	-37.6
-41	11	22	89.7	-131.3
-39	8	15	52.3	-152.3
-33	13	22	72.4	153.9

AVERAGE DST VALUE : -36.4

DST 80 2 19

DST	DS1	DS2	ALPHA1	ALPHA2
-30	18	25	41.7	124.2
-29	15	30	30.2	107.4
-29	19	35	27.1	77.9
-34	22	38	11.6	42.1
-38	31	36	2.7	10.6
-39	18	29	9.6	-12.0
-40	14	24	6.6	-37.9
-41	11	16	48.7	-45.4
-38	16	13	73.5	-56.9
-33	11	13	64.1	-95.7
-25	7	13	14.6	-143.7
-21	13	15	-27.4	177.6
-18	17	17	-51.7	143.1
-14	21	23	-77.0	100.7
-14	15	20	-96.8	74.6
-16	15	19	-122.6	40.0
-12	18	18	-131.0	23.6
-13	17	16	-149.6	2.5
-14	20	21	-171.6	-26.4
-16	21	22	166.9	-55.0
-17	20	23	145.8	-86.2
-14	14	21	134.5	-122.1
-9	8	21	126.6	-164.2
-9	6	22	100.5	155.1

AVERAGE DST VALUE : -23.5

DST 80 2 20

DST	DS1	DS2	ALPHA1	ALPHA2
-11	11	26	44.6	127.4
-12	10	26	26.6	105.9
-11	10	27	20.8	76.6
-14	12	24	10.8	47.3
-12	11	22	0.2	25.3
-11	11	21	-13.9	3.1
-14	7	20	-29.1	-14.9
-14	2	17	66.1	-24.6
-7	5	14	34.4	-31.9
-8	4	11	32.2	-61.6
-5	9	10	20.4	-92.9
-5	11	16	-23.8	-143.4
-2	15	14	-60.7	146.1
3	19	20	-35.2	107.0
5	21	21	-96.4	75.3
1	17	21	-115.9	36.4
-5	15	19	-120.7	9.4
-4	11	18	-145.0	-18.7
-2	13	15	-156.5	-45.0
-4	12	14	-168.2	-77.7
-6	10	15	171.2	-110.1
-7	7	15	156.7	-143.8
-5	6	16	163.1	172.6
-4	4	15	146.2	145.5

AVERAGE DST VALUE : -6.3

DST 80 2 21

DST	DS1	DS2	ALPHA1	ALPHA2
-4	3	17	116.0	121.5
-3	6	22	37.4	102.5
-4	11	24	23.3	79.1
-5	15	23	10.2	57.1
-2	14	23	0.8	34.3
-1	13	17	-11.4	8.0
-4	12	16	-26.5	-29.0
-4	5	15	-17.2	-41.4
-4	7	12	91.8	-48.4
-2	8	13	65.3	-63.3
3	7	14	63.0	-95.7
5	11	16	20.5	-131.3
7	13	17	-19.9	-173.0
13	17	18	-37.9	133.7
14	21	18	-78.9	102.5
11	16	18	-110.9	55.2
11	16	17	-124.2	29.3

11	14	17	-149.4	-2.2
7	13	17	-174.9	-166.2
7	13	16	179.7	-60.6
7	13	15	170.8	-92.7
6	13	14	155.7	-113.1
10	3	22	123.4	-155.4
13	2	25	92.0	173.4

AVERAGE DST VALUE : 3.9

DST 80 Z 24

DST	DS1	DS2	ALPHA1	ALPHA2
15	5	27	44.4	141.2
20	6	30	43.5	114.9
23	7	27	30.4	85.5
17	13	25	17.8	65.2
12	14	21	4.4	24.4
13	10	20	10.4	6.2
11	10	18	-2.0	-19.7
10	6	13	-3.4	-29.7
13	10	10	60.7	-31.8
14	14	11	61.1	-61.3
18	15	7	-43.3	-134.6
17	14	13	-43.5	171.4
12	15	14	-39.1	161.7
15	15	15	-65.1	124.5
16	20	17	-80.7	90.7
11	17	16	-79.2	56.8
11	16	17	-113.6	20.3
8	13	17	-156.9	-17.7
14	13	17	173.0	-54.6
11	11	18	161.6	-73.3
11	11	18	153.6	-100.5
14	10	18	144.4	-131.3
19	9	19	128.6	-161.5
25	6	19	110.1	162.0

AVERAGE DST VALUE : 14.4

DST 80 Z 23

DST	DS1	DS2	ALPHA1	ALPHA2
31	5	19	103.1	127.3
21	6	20	89.4	105.2
18	10	23	69.1	79.1
18	14	26	33.8	45.7
13	13	26	32.8	17.0
9	13	25	20.4	-11.0
7	13	24	5.6	-43.8
12	12	20	-10.7	-75.7
14	8	16	0.0	-106.4
13	5	16	-34.2	-131.7
15	15	16	-49.1	-170.3
25	20	15	-51.2	166.1
26	26	21	-85.7	133.4
27	27	23	-79.0	109.3
31	31	20	-79.6	93.2
32	32	20	-85.2	74.1
36	36	20	-83.4	48.5
27	27	18	-91.3	23.9
29	29	19	-109.3	-29.7
25	25	17	-106.6	-51.2
19	19	15	-124.0	-79.1
4	4	16	-149.4	-122.4
3	3	19	117.5	-165.6
5	5	23	93.7	156.5

AVERAGE DST VALUE : 1.2

DST 80 Z 24

DST	DS1	DS2	ALPHA1	ALPHA2
-13	15	31	25.5	131.2
-11	13	32	5.4	107.5
-12	11	32	2.6	78.5
-18	16	31	4.8	47.2
-23	14	28	8.3	19.7
-23	14	26	16.0	-5.7
-15	13	21	7.9	-31.4
-17	10	17	-0.2	-58.3
-10	7	11	-4.3	-83.1
-7	8	8	-23.8	-103.4
-2	12	8	-49.8	-130.7
7	14	9	-62.4	-166.3
4	13	14	-74.0	124.1
0	10	14	-66.5	93.4
0	7	13	-68.4	72.2
-2	17	22	-54.2	42.3
1	25	25	-106.5	33.7
1	17	18	-140.3	4.1
0	15	17	-104.9	-32.1
1	18	17	176.6	-61.5
1	15	15	153.2	-91.9
2	12	17	136.3	-126.4
5	10	16	130.9	-156.1
8	7	16	110.0	167.0

AVERAGE DST VALUE : -5.3

DST 80 Z 25

DST	DS1	DS2	ALPHA1	ALPHA2
8	7	22	79.1	135.6
10	10	22	60.5	112.0
9	11	20	40.6	81.6
5	10	20	12.8	47.5
6	8	20	-8.6	19.6
5	6	20	-24.4	-24.4
5	12	24	-60.2	-23.7
2	4	18	53.1	-60.2
6	16	18	13.6	-74.9
6	11	20	-49.2	-114.7
13	19	20	-78.4	-169.3
16	22	24	-94.7	145.6
15	24	23	-102.6	113.6
11	23	21	-110.0	85.7
11	24	19	-105.2	63.3
9	24	19	-105.0	37.1
4	24	19	-117.8	11.3
-2	25	23	-103.4	-20.3
-10	20	19	-101.0	-37.0
-20	21	20	-112.0	-71.1
-23	12	17	-128.4	-110.3
-20	5	21	-32.3	-147.3
-14	3	21	10.7	165.0

AVERAGE DST VALUE : 2.0

DST 80 Z 26

DST	DS1	DS2	ALPHA1	ALPHA2
-25	17	29	6.1	120.9
-25	9	30	25.8	103.3
-18	13	28	25.0	72.3
-22	14	25	15.3	47.3
-19	14	23	11.8	20.1
-17	13	21	-3.8	-7.3
-23	10	22	-10.5	-30.1
-23	3	19	-28.1	-51.8
-10	8	13	85.2	-63.3
-12	5	12	48.1	-115.9
-7	14	14	-49.2	-176.7
-4	23	28	-69.8	159.1
-8	25	29	-81.7	106.9
-16	19	24	-66.6	78.7
-12	12	23	-106.6	63.5
-15	12	17	-92.5	38.3
-15	12	15	-93.4	25.2
-16	11	13	-121.5	8.0
-13	8	14	-152.2	-20.5
-19	5	13	132.1	-76.1
-22	5	14	108.2	-112.3
-16	4	15	176.7	-164.1
-5	4	15	-133.2	171.1
-4	1	15	-115.3	150.9

AVERAGE DST VALUE : -15.3

DST 80 Z 27

DST	DS1	DS2	ALPHA1	ALPHA2
0	1	24	-57.1	122.9
[illegible]	[illegible]	32	-7.6	106.2
[illegible]	[illegible]	32	-16.3	81.2
[illegible]	[illegible]	27	-14.7	53.3
[illegible]	[illegible]	24	-27.9	35.9
[illegible]	[illegible]	20	-25.5	10.0
[illegible]	[illegible]	15	-26.1	-10.8
[illegible]	[illegible]	10	-9.1	-25.8
[illegible]	[illegible]	[illegible]	54.5	-32.8
[illegible]	[illegible]	[illegible]	42.5	-52.7
[illegible]	13	13	-22.5	-166.9
[illegible]	28	28	-33.8	154.7
[illegible]	24	24	-52.5	116.5
[illegible]	25	21	-43.6	85.2
[illegible]	21	18	-60.4	61.1
[illegible]	21	16	-94.5	42.8
[illegible]	16	17	-114.1	47.0
[illegible]	[illegible]	15	-126.9	16.6
[illegible]	[illegible]	13	-156.4	-23.2
[illegible]	[illegible]	11	-148.1	-60.0
[illegible]	[illegible]	[illegible]	-166.3	-109.3
[illegible]	13	10	36.1	-136.4
[illegible]	[illegible]	[illegible]	142.7	-179.5
[illegible]	[illegible]	10	-116.3	150.0

AVERAGE DST VALUE : -11.7

DST 80 Z 28

DST	DS1	DS2	ALPHA1	ALPHA2
-13	8	24	30.4	120.8
-13	[illegible]	26	46.4	98.0
-10	[illegible]	[illegible]	30.1	75.5
-14	[illegible]	35	4.4	47.7
-12	16	36	-6.7	18.5
-14	17	37	-3.7	-14.9
-14	15	34	-12.3	-48.2
-14	10	25	-8.1	-74.2
-19	16	13	59.3	-71.2
-24	22	14	33.0	-100.9
-22	23	17	6.5	-157.9
-15	18	24	-55.3	160.8
-10	20	28	-45.2	125.2
-6	22	26	-61.3	104.3
-5	25	19	-59.1	81.3
-5	16	16	-105.1	61.3
-7	17	17	-114.3	42.3
-10	14	19	-133.1	18.1
-10	13	17	-157.3	-12.3
-10	15	13	-176.5	-55.4
-11	12	17	164.3	-94.2
-7	11	16	89.4	-132.8
-2	7	13	93.8	-166.1
-1	5	20	36.0	159.7

AVERAGE DST VALUE : -11.0

DST 80 Z 29

DST	DS1	DS2	ALPHA1	ALPHA2
-2	7	24	23.5	125.3
-3	11	28	22.1	101.1
-2	12	31	4.3	81.2
-6	14	32	1.2	58.6
-9	11	25	6.8	26.9
-12	10	26	4.4	-4.3
-15	8	24	6.5	-30.9
-14	5	19	19.7	-60.3
-12	10	14	25.0	-87.0
-15	13	13	60.1	-96.1
-13	14	14	43.4	-134.2
-11	12	14	-3.6	-160.4
-11	11	15	-49.0	146.4
-11	11	16	-72.4	117.3
-15	15	17	-90.7	87.7
-9	14	16	-115.2	53.3
-11	15	15	-121.9	30.3
-6	15	15	-140.4	-2.2
-7	9	15	-160.6	-26.7
-9	11	14	-166.7	-60.3
-9	12	12	-177.0	-90.6
-3	8	14	163.5	-139.8
-3	13	14	167.4	-175.6
0	4	14	156.0	167.1

AVERAGE DST VALUE : -6.6

END OF YOUR FILE

DST 80 3 1

DST	DS1	DS2	ALPHA1	ALPHA2
4	1	21	-86.7	128.3
5	1	23	4.6	102.3
6	2	18	95.9	71.7
4	5	16	71.9	38.8
4	1	18	42.5	3.0
5	1	21	21.2	-31.7
6	1	21	5.0	-63.0
6	3	19	-4.9	-94.1
8	1	18	-25.4	-124.2
10	1	18	-45.2	-151.9
4	5	15	-51.9	-174.9
4	5	13	-44.0	163.7
3	5	13	-37.9	141.5
2	5	12	-29.3	111.1
-1	2	13	-102.5	66.1
-2	2	14	140.3	24.2
-3	1	13	120.4	-5.0
-4	1	14	159.1	-39.1
0	1	17	-124.5	-69.5
3	4	11	-93.3	-96.0
4	7	11	-117.8	-123.8
7	12	9	-141.5	-157.2
9	11	11	-132.7	175.1
9	10	12	-146.0	144.1

AVERAGE DST VALUE : 4.0

DST 80 3 2

DST	DS1	DS2	ALPHA1	ALPHA2
9	7	14	-171.4	121.0
8	2	20	148.6	100.3
8	2	27	20.0	75.3
7	5	28	-3.7	17.4
4	5	22	18.5	-14.3
4	7	16	20.7	-42.4
4	7	13	12.9	-71.6
4	7	14	-0.6	-109.2
5	9	16	-38.6	-146.3
11	13	20	-53.6	174.7
12	15	22	-69.1	143.5
13	17	22	-71.6	121.0
13	18	19	-82.6	96.2
13	12	16	-55.5	80.9
11	10	14	-87.4	43.4
9	7	13	-97.2	19.5
7	4	13	-115.6	-21.4
10	4	14	-150.6	-46.0
12	5	15	-151.1	-73.0
16	7	13	-147.2	-112.3
16	6	15	-170.7	-135.1
13	7	20	144.7	-159.6
11	10	26	33.7	174.0

AVERAGE DST VALUE : 10.0

DST 80 3 3

DST	DS1	DS2	ALPHA1	ALPHA2
11	9	29	91.3	141.6
13	7	32	7.9	110.2
14	4	27	7.2	75.4
13	4	23	45.7	40.5
11	10	19	91.1	9.4
10	15	20	49.1	-35.9
10	16	24	20.6	-84.6
11	16	21	12.3	-98.2
14	9	17	0.2	-110.3
15	9	11	17.6	-117.8
13	9	10	56.3	-110.6
12	7	10	53.1	-152.8
13	5	10	13.0	160.5
16	4	12	-56.0	101.2
17	6	15	-74.1	65.0
16	5	15	-89.9	29.7
9	1	17	127.4	-12.1
4	7	16	-12.1	-47.0
9	4	14	-29.2	-74.5
13	3	13	-53.5	-99.0
11	2	16	-98.8	-118.8
9	4	20	145.5	-131.6
9	5	19	123.8	-153.9
11	5	19	112.1	172.7

AVERAGE DST VALUE : 11.8

DST 80 3 4

DST	DS1	DS2	ALPHA1	ALPHA2
13	4	21	92.1	140.3
15	4	25	51.8	107.5
15	4	28	61.8	75.9
16	4	27	46.5	45.0
16	4	24	47.7	15.7
15	6	17	43.1	-16.5
14	9	12	46.3	-45.5
10	11	11	62.0	-48.4
7	11	12	65.1	-52.8
5	11	12	57.2	-70.0
5	15	17	61.1	-74.3
4	16	14	42.1	-110.7
3	13	12	12.0	-158.1
7	4	11	-40.3	109.5
11	2	13	-109.0	60.9
14	2	14	153.5	19.7
12	2	18	120.6	-17.6
14	1	15	41.1	-55.4
15	3	14	-19.4	-87.0
16	3	14	-57.6	-104.0
16	2	16	-118.4	-126.2
14	1	16	-71.8	-144.1
13	7	22	-10.7	-162.2
19	24	22	-74.3	-162.2

AVERAGE DST VALUE : 12.0

DST 80 3 5

DST	DS1	DS2	ALPHA1	ALPHA2
20	11	34	-44.5	134.7
17	12	35	-54.6	101.6
8	10	29	-46.4	67.0
0	10	25	-43.9	40.2
0	9	25	-2.6	14.4
-1	6	27	11.8	-17.8
-1	6	23	9.6	-45.1
-4	6	18	8.0	-63.6
-1	7	14	22.2	-93.4
-7	7	13	6.1	-96.4
-11	11	12	57.1	-104.4
-14	25	13	29.2	-102.4
-9	29	15	4.9	-142.4
-4	24	16	-24.5	170.5
-1	15	16	-56.6	113.7
5	11	14	-62.7	59.9
5	9	12	-93.3	2.4
5	4	13	-123.5	-55.9
7	2	13	-143.4	-99.1
6	5	15	-146.2	-91.3
6	5	18	175.4	-112.1
7	7	21	130.3	-129.7
7	9	25	102.9	-156.4
9	5	26	78.1	169.5

AVERAGE DST VALUE : 2.8

DST 80 3 6

DST	DS1	DS2	ALPHA1	ALPHA2
8	6	28	56.1	136.1
13	7	23	30.0	100.0
15	8	22	39.3	75.2
19	8	20	-1.8	49.3
19	8	17	-42.2	23.0
18	8	14	-36.4	-6.2
18	9	13	-20.4	-35.7
13	12	11	-15.1	-73.6
12	10	12	-12.0	-108.1
14	11	10	-38.1	-146.7
7	9	10	12.3	-83.7
-1	15	20	43.6	-91.3
5	15	18	27.5	-142.1
8	13	12	-5.8	154.9
7	11	12	-44.2	83.9
5	5	14	-56.1	38.7
7	5	16	-101.6	-6.0
7	5	13	-66.9	-40.9
11	7	13	-71.4	-77.2
12	10	11	-103.8	-97.7
10	9	11	-137.0	-115.5
7	11	11	-175.6	-135.0
3	13	7	159.9	-151.3
3	15	6	141.9	170.2

AVERAGE DST VALUE : 9.6

DST 80 3 7

DST	DS1	DS2	ALPHA1	ALPHA2
-1	15	3	126.9	169.3
1	16	7	94.2	99.3
0	20	10	72.5	68.4
0	18	13	62.7	30.8
5	12	16	54.1	2.3
9	8	22	31.8	-28.4
9	8	23	14.9	-48.6
8	8	19	45.1	-63.7
11	8	13	73.1	-77.7
10	8	12	53.9	-103.9
5	11	12	50.4	-121.2
3	14	13	48.6	-132.2
7	14	13	20.5	-170.3
9	11	12	-11.9	141.6
12	9	14	-58.4	86.1
11	8	16	-38.6	35.2
12	7	17	-120.4	-2.4
11	6	16	-121.7	-34.9
12	5	16	-16.2	-34.9
14	5	16	-30.5	-34.9
7	5	16	-20.5	-34.9
5	5	16	-75.3	-34.9
4	7	16	-156.3	-34.9
5	14	16	161.1	-34.9

AVERAGE DST VALUE : 6.5

DST 80 3 8

DST	DS1	DS2	ALPHA1	ALPHA2
2	19	2	147.6	-22.7
1	21	4	134.5	-31.2
0	23	5	121.5	-27.4
-1	21	7	92.7	-11.3
-2	18	14	71.3	-17.1
-2	16	21	41.2	-31.7
2	15	20	15.7	-54.1
2	14	24	16.5	-76.5
2	10	21	22.9	-95.0
3	10	17	2.9	-124.1
5	14	17	-17.4	-134.2
6	14	15	-1.4	-173.2
3	10	13	-8.0	168.7
6	9	15	-36.4	124.6
7	8	14	-60.0	85.9
8	6	16	-95.6	41.3
9	4	17	-121.2	-0.9
8	6	17	-155.8	-43.3
8	3	16	-37.2	-80.5
9	6	15	-71.2	-111.3
8	6	11	-120.8	-124.1
10	8	11	-174.7	-139.0
7	10	13	151.9	-157.2
4	14	11	127.7	173.2

AVERAGE DST VALUE : 4.1

DST 80 3 9

DST	DS1	DS2	ALPHA1	ALPHA2
2	17	9	111.8	143.0
2	15	11	95.6	106.8
4	13	12	87.7	76.0
4	11	13	79.5	50.7
5	7	13	73.8	23.2
12	7	14	70.6	-4.1
10	10	16	-20.4	-31.6
6	13	16	-5.6	-64.8
8	12	14	7.8	-91.9
6	8	15	9.3	-126.7
7	6	15	7.9	-154.2
5	6	13	11.7	-170.2
5	8	12	14.5	177.1
-1	11	11	10.5	150.6
-1	11	10	-0.0	97.1
3	8	10	-44.4	32.5
3	8	10	-25.1	-4.9
6	8	10	-51.5	-31.3
9	8	14	-99.9	-59.7
10	6	12	-111.0	-88.9
11	7	11	-151.1	-122.3
12	8	14	-166.3	-144.1
10	8	15	142.2	-164.4
11	5	14	132.4	167.7

AVERAGE DST VALUE : 6.3

DST 80 3 10

DST	DS1	DS2	ALPHA1	ALPHA2
8	9	10	142.9	137.8
8	11	6	133.4	100.4
7	13	3	113.0	73.0
6	12	4	93.5	42.7
11	9	10	80.2	19.8
14	5	15	25.3	-0.5
11	5	16	3.5	-36.2
15	5	15	-39.0	-64.3
16	3	13	-15.0	-91.1
15	4	13	-7.5	-116.5
9	5	12	49.3	-130.3
8	14	12	32.0	-136.4
7	16	13	8.6	-169.8
3	17	14	-4.7	166.5
5	17	14	-27.9	121.0
7	17	14	-50.1	64.1
9	5	14	-107.6	11.8
8	7	15	-129.1	-21.7
7	4	15	-162.8	-53.6
9	3	15	-158.7	-80.5
11	3	14	-154.1	-126.1
13	4	14	-162.3	-155.8
14	5	14	-159.5	173.1
16	6	15	-156.0	145.3

AVERAGE DST VALUE : 5.9

DST 80 3 11

DST	DS1	DS2	ALPHA1	ALPHA2
14	4	16	151.9	113.3
11	4	20	54.1	98.2
9	6	20	92.1	71.3
8	11	22	38.3	35.8
9	12	23	75.9	1.0

DST	DS1	DS2	ALPHA1	ALPHA2
10	10	22	59.1	-22.7
11	3	25	29.6	-51.1
15	3	21	11.8	-30.4
13	7	15	-9.6	-111.5
20	11	17	-30.4	-147.3
12	12	14	-11.2	-166.7
13	15	16	-37.0	156.3
12	17	16	-40.3	148.3
13	14	16	-45.2	124.5
12	14	16	-66.9	96.2
12	14	16	-76.2	55.3
12	11	15	-99.1	26.4
12	13	16	-127.5	-10.2
12	10	17	-153.3	-40.3
9	9	19	165.1	-71.9
8	9	19	142.2	-100.9
8	8	16	137.6	-133.8
6	3	15	134.4	-164.3
6	7	18	124.6	163.5

AVERAGE DST VALUE : 11.4

DST 80 3 12

DST	DS1	DS2	ALPHA1	ALPHA2
7	6	17	101.3	142.6
9	6	19	75.1	112.7
8	8	15	78.1	81.4
6	10	20	73.6	44.5
4	15	21	71.2	5.4
4	14	21	66.0	-22.9
6	12	19	53.3	-51.3
8	10	19	35.8	-83.7
11	9	13	18.7	-115.4
11	3	18	-7.0	-143.6
12	8	16	-26.6	-167.8
15	12	15	-28.4	176.0
13	9	14	-35.6	144.4
12	9	15	-54.6	117.6
13	9	19	-59.5	93.3
14	11	15	-79.0	62.2
17	12	15	-99.6	29.0
20	11	14	-118.0	-2.5
21	11	17	-132.7	-37.4
19	9	17	-139.7	-63.3
15	7	16	-163.3	-97.4
19	5	16	156.4	-130.8
21	4	16	156.3	-163.3
22	3	13	127.2	165.9

AVERAGE DST VALUE : 13.0

DST 80 3 13

DST	DS1	DS2	ALPHA1	ALPHA2
22	2	22	57.3	140.3
24	4	26	19.6	113.0
24	5	25	32.5	31.3
23	6	24	34.5	46.1
21	6	23	51.2	10.9
21	6	24	36.7	-22.0
22	9	26	15.4	-52.5
18	12	26	10.9	-87.5
15	13	27	-9.7	-124.4
13	12	25	-23.1	-155.4
15	11	21	-43.3	177.8
12	7	16	-62.7	157.4
11	6	14	-61.1	137.1
13	8	13	-56.5	112.6
14	9	13	-65.5	86.0
16	9	14	-80.6	57.3
16	11	14	-94.9	26.2
15	11	15	-121.9	-8.4
16	8	13	-117.6	-50.6
12	4	11	-122.9	-89.1
10	2	12	105.2	-109.9
13	4	14	127.4	-135.5
12	6	12	146.6	-165.2
7	4	14	65.4	155.7

AVERAGE DST VALUE : 16.0

DST 80 3 14

DST	DS1	DS2	ALPHA1	ALPHA2
2	2	16	55.1	134.9
6	4	16	33.4	108.5
7	5	15	114.1	82.0
6	5	16	31.6	48.2
4	9	23	60.7	7.8
4	11	30	38.7	-24.0
4	17	36	25.6	-61.0
6	18	37	13.9	-95.4
9	20	36	-2.3	-132.2
7	15	36	-16.5	-153.5
4	12	20	-13.3	-176.1
1	8	13	6.3	156.7
1	10	11	9.6	162.5
3	10	12	-16.4	136.2
3	10	13	-36.1	100.8
6	10	15	-55.6	63.8
9	9	17	-79.7	30.5
10	9	14	-95.9	-1.0
7	8	13	-137.5	-27.9
7	6	14	-144.8	-67.2
7	6	16	153.4	-100.5
8	7	18	126.1	-128.3
9	5	17	132.2	-161.4
10	6	15	140.0	165.6

AVERAGE DST VALUE : 5.5

DST 80 3 15

DST	DS1	DS2	ALPHA1	ALPHA2
10	4	13	136.3	135.3
11	11	10	132.7	98.3
12	13	6	126.6	58.5
13	12	6	104.5	16.0
15	9	6	77.2	26.3
16	7	11	31.1	2.1
15	7	12	16.4	-33.2
15	8	14	15.5	-71.0
15	8	14	7.2	-108.8
15	6	15	-4.6	-139.3
11	6	13	10.0	-159.5
7	4	10	57.1	171.9
6	5	5	50.6	141.7
6	5	10	5.2	119.5
12	6	13	-56.6	91.3
14	9	14	-78.1	61.6
15	10	13	-92.6	34.7
14	11	14	-110.8	3.3
14	9	16	-142.5	-24.5
13	5	18	175.1	-55.3
11	10	21	140.6	-91.1
11	8	22	122.0	-123.3
14	7	21	118.3	-154.6
17	6	21	110.6	172.1

AVERAGE DST VALUE : 12.7

DST 80 3 16

DST	DS1	DS2	ALPHA1	ALPHA2
21	5	20	96.1	142.3
24	5	21	81.6	113.1
25	4	16	75.6	90.0
28	5	13	23.3	73.1
33	5	14	-63.2	54.5
36	9	14	-81.3	20.5
35	9	15	-71.4	-21.9
34	6	16	-53.7	-65.4
30	10	15	-36.1	-114.4
25	12	17	-39.9	-151.2
16	7	13	-6.0	-175.4
11	9	6	34.6	-164.2
16	5	6	62.6	157.0
16	1	12	-58.1	95.9
19	4	15	-108.1	61.4
18	4	14	-89.2	36.4
20	6	15	-87.1	19.5
13	10	14	-101.1	6.7
23	15	15	-120.6	-13.2
26	16	16	-135.3	-45.3
28	21	19	-151.5	-68.8
21	11	15	[illegible]	-126.0
18	11	[illegible]	[illegible]	-174.1
20	12	[illegible]	[illegible]	127.6

AVERAGE DST VALUE : 23.5

DST 80 3 17

DST	DS1	DS2	ALPHA1	ALPHA2
23	15	7	-154.2	57.4
27	15	11	-162.2	73.4
25	9	15	175.7	58.1
24	2	18	159.5	41.7
24	3	20	42.6	13.5
21	4	21	16.0	-3.2
18	5	20	27.2	-34.2
19	6	13	38.5	-65.2
20	7	16	40.9	-96.3
19	8	14	27.1	-125.4
15	10	14	10.8	-155.3
14	12	11	11.6	-173.1
19	6	14	-35.6	140.3
20	7	14	-56.7	103.2
19	6	17	-58.2	66.3
15	7	16	-80.2	34.7
16	7	13	-75.3	12.6
17	9	14	-103.5	-5.0
15	11	16	-143.6	-30.0
14	12	20	-165.1	-53.6
19	12	22	136.0	-89.2
8	14	23	116.6	-118.9
10	13	21	103.8	-151.2
12	9	13	102.3	173.5

AVERAGE DST VALUE : 17.7

DST 80 3 18

DST	DS1	DS2	ALPHA1	ALPHA2
14	8	13	106.2	161.8
13	9	12	107.4	135.5
15	9	7	103.2	95.1
18	7	5	98.7	90.2
18	4	7	53.5	56.3
18	4	11	24.5	12.0
20	4	13	-2.5	-26.5
21	2	13	19.6	-54.8
18	6	12	64.0	-63.7
17	8	12	63.3	-89.7
18	9	12	43.7	-122.9
20	7	12	15.5	-166.2
22	6	12	-14.3	154.0
22	6	13	-37.9	109.5
23	6	15	-76.4	73.7
23	7	16	-95.8	38.5
22	9	15	-130.5	11.1
22	9	15	-118.1	-10.1
21	9	16	-131.6	-37.4
21	8	15	-147.2	-65.9
20	6	16	-168.0	-95.5
20	5	19	145.0	-126.6
19	4	19	117.3	-152.8
21	4	16	139.9	175.3

AVERAGE DST VALUE : 19.4

DST 80 3 19

DST	DS1	DS2	ALPHA1	ALPHA2
21	6	11	164.5	144.3
22	6	[illegible]	150.3	109.[illegible]
21	7	7	139.4	81.6
25	1	7	155.0	71.6
27	2	11	-60.0	45.4
29	7	15	-59.5	21.5
43	13	15	-95.0	5.2
47	12	14	-79.0	-15.9
35	6	15	-48.4	-24.1
37	10	14	-35.6	-74.3
34	10	13	-38.5	-110.5
18	10	12	-15.1	-147.0
14	15	10	6.7	-161.0
21	13	16	-7.0	137.1
27	11	13	-39.0	94.2
26	13	14	-64.0	55.6
24	13	15	-33.0	13.5
23	13	14	-96.5	-11.7
19	12	13	-99.6	-42.4
17	5	13	-118.4	-74.6
20	6	14	-149.0	-103.9
19	6	13	165.4	-123.2
21	5	16	159.1	-135.0
21	5	16	158.7	172.6

AVERAGE DST VALUE : 25.[illegible]

DST 80 3 20

DST	DS1	DS2	ALPHA1	ALPHA2
17	7	13	145.4	143.5
15	7	12	116.6	113.7
16	7	16	104.9	81.1
17	6	12	94.4	56.3
18	4	15	93.4	39.9
19	1	16	66.1	3.3
20	3	13	-16.1	-31.9
21	5	17	-6.1	-62.7
20	7	12	13.6	-51.7
18	8	11	40.5	-75.3
15	12	13	52.2	-97.5
13	14	15	43.0	-113.5
14	15	15	16.7	-154.3
16	15	15	-11.6	145.7
20	16	15	-45.5	94.0
22	15	17	-71.9	54.0
25	13	16	-94.6	21.1
24	13	16	-111.1	-2.2
26	12	17	-136.3	-32.5
27	10	15	-144.0	-62.3
26	9	19	-167.4	-91.5
22	9	20	146.4	-122.0
15	11	17	122.0	-149.0
15	14	14	113.2	-176.7

AVERAGE DST VALUE : 19.2

DST 80 3 21

DST	DS1	DS2	ALPHA1	ALPHA2
14	14	13	96.4	135.7
12	14	12	60.6	120.1
6	13	8	57.0	103.6
6	11	7	15.5	63.0
-1	9	9	-10.3	33.3
-10	16	14	-20.9	9.4
-19	15	19	-29.7	-36.3
-22	21	17	3.2	-52.5
-33	29	20	8.5	-79.3
-38	20	18	2.0	-102.3
-42	19	17	1.6	-110.3
-46	18	16	0.6	-127.3
-39	21	14	-13.8	-162.3
-35	27	15	-34.3	133.4
-32	33	15	-46.6	67.4
-33	29	17	-60.3	44.5
-33	27	17	-65.9	9.7

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-36	27	16	-67.4	-21.5
-40	24	16	-55.6	-37.1
-44	26	14	-53.3	-57.9
-39	15	12	-31.1	-100.3
-31	18	16	-10.6	-125.4
-34	16	16	-16.4	-169.5
-27	14	20	38.2	145.8

AVERAGE DST VALUE : -24.2

DST 80 3 22

DST	DS1	DS2	ALPHA1	ALPHA2
-25	12	16	33.1	131.6
-24	10	13	45.2	107.3
-25	12	8	32.4	93.7
-26	15	10	12.6	58.8
-28	19	15	10.5	13.3
-32	25	24	-6.2	-25.6
-36	30	34	-17.2	-62.3
-29	25	33	-23.6	-93.7
-17	22	22	-22.5	-123.0
-4	20	18	-33.7	-138.3
0	15	11	-44.1	-135.4
-13	10	9	-11.3	-146.7
-28	21	7	7.7	142.5
-37	35	7	-15.5	97.3
-30	26	16	-46.7	71.1
-23	19	14	-55.5	46.3
-19	10	14	-49.7	23.3
-20	4	14	-59.0	1.1
-16	8	11	-67.3	-43.7
-17	5	10	-56.6	-90.1
-15	5	11	-52.7	-132.2
-17	2	12	-142.6	-149.3
-14	9	12	114.7	173.8
-12	8	11	96.7	150.2

AVERAGE DST VALUE : -21.1

DST 80 3 23

DST	DS1	DS2	ALPHA1	ALPHA2
-16	8	11	122.4	123.2
-16	7	13	110.4	104.3
-16	11	9	85.9	81.4
-18	15	[illegible]	64.6	33.1
-14	13	12	58.6	-3.5
-10	13	16	46.1	-28.1
-7	10	13	22.5	-51.3
-5	8	17	16.2	-76.1
-6	10	1[illegible]	18.3	-104.4
-6	13	14	[illegible].2	-130.3
-7	10	11	13.5	-141.4
-8	[illegible]	16	47.4	-161.4
-8	6	13	25.6	171.5
-6	7	12	-13.5	123.4
-2	10	15	-32.2	90.7
-2	12	15	-74.6	52.4
-2	12	14	-35.2	25.6
-1	11	13	-32.6	-7.3
1	5	13	-100.6	-48.1
2	5	13	-117.1	-74.2
2	6	12	-133.2	-105.3
2	[illegible]	11	-136.6	-133.1
-1	12	7	-178.4	-155.2
-1	12	6	166.6	171.4

AVERAGE DST VALUE : -6.2

DST 80 3 24

DST	DS1	DS2	ALPHA1	ALPHA2
-1	10	[illegible]	143.4	153.3
2	7	12	103.6	123.2
3	6	11	72.2	104.3
3	8	11	46.5	83.3

7	1	13	41.8	33.5
6	2	15	-10.3	2.3
-2	5	15	17.5	-34.3
-1	6	13	15.6	-71.2
1	11	16	7.6	-110.0
3	14	17	-5.7	-137.0
-1	15	16	-6.8	-154.2
-8	12	13	2.0	-158.4
3	13	15	-16.5	171.1
4	16	16	-31.2	141.7
3	17	17	-41.6	105.3
2	20	15	-53.6	78.3
5	16	14	-62.6	45.3
8	12	15	-106.4	13.1
9	10	16	-128.2	-27.4
10	6	16	-146.5	-63.8
11	6	16	-144.4	-101.4
9	5	16	-153.6	-134.3
9	2	16	-127.3	-155.3
14	[illegible]	17	-141.6	173.3

AVERAGE DST VALUE : 4.3

DST 80 3 25

DST	DS1	DS2	ALPHA1	ALPHA2
14	3	17	-172.7	146.4
16	1	14	123.7	113.5
16	1	16	69.2	85.3
16	3	14	25.3	57.5
17	3	16	12.2	23.3
16	5	15	16.5	-12.3
16	5	21	6.8	-43.7
16	5	15	4.3	-65.5
17	10	13	-4.5	-119.3
15	7	16	-11.7	-133.3
12	5	12	54.4	-136.3
11	7	11	69.2	-146.6
12	6	13	40.2	-176.6
17	6	11	-11.5	131.3
23	10	14	-49.3	102.1
26	14	16	-73.5	68.6
27	15	16	-90.6	38.3
27	16	15	-103.0	11.5
29	15	17	-125.1	-23.3
29	16	15	-131.5	-57.3
24	15	15	-126.7	-93.3
13	14	14	-122.3	-126.1
1	11	10	-114.6	-145.1
-9	10	13	-61.4	167.3

AVERAGE DST VALUE : 10.6

DST 80 3 26

DST	DS1	DS2	ALPHA1	ALPHA2
-10	11	20	-24.9	131.1
-32	22	34	-20.6	93.7
-20	23	36	-3.0	66.3
-40	40	41	-6.7	30.3
-51	41	44	-21.3	-0.3
-43	32	40	-16.2	-27.5
-44	37	41	-24.6	-62.3
-51	42	37	-31.6	-82.5
-59	35	24	-35.6	-123.7
-63	31	26	-44.9	-135.1
-65	22	14	-42.1	-158.3
-62	16	12	-35.1	170.8
-61	26	[illegible]	2.4	154.2
-62	37	11	-5.6	167.5
-51	23	14	-29.5	133.9
-44	25	16	-45.2	94.6
-42	17	14	-31.6	67.4
-41	10	13	-64.7	20.1
-41	6	14	-48.3	-29.3
-42	3	12	-6.2	-65.2
-37	[illegible]	[illegible]	-43.4	-106.4
-35	[illegible]	13	-75.5	-151.5
-34	6	[illegible]	-134.2	155.2
-36	4	15	119.4	124.6

AVERAGE DST VALUE : -43.1

DST 80 3 27

DST	DS1	DS2	ALPHA1	ALPHA2
-23	2	21	38.7	122.9
-26	3	23	-42.3	106.6
-27	4	19	-67.6	91.3
-26	4	16	-35.5	73.2
-27	5	17	10.3	37.9
-26	6	15	-2.4	-3.1
-27	8	23	-4.7	-41.2
-23	11	15	-5.5	-81.3
-16	10	13	0.6	-114.5
-17	10	12	-0.2	-140.0
-20	7	11	16.0	-151.2
-25	9	9	62.3	-147.3
-25	13	16	72.3	-162.9
-23	13	13	51.4	165.4
-20	11	15	9.6	134.3
-17	12	16	-35.5	94.2
-13	13	17	-72.1	60.5
-11	15	17	-134.1	23.4
-11	14	13	-129.5	-15.5
-12	11	17	-152.6	-52.8
-14	7	16	-171.7	-91.3
-16	6	16	150.5	-116.6
-16	10	16	124.1	-147.7
-17	13	14	102.6	175.5

AVERAGE DST VALUE : -20.1

DST 80 3 28

DST	DS1	DS2	ALPHA1	ALPHA2
-17	10	13	134.4	150.6
-12	10	16	90.7	121.3
-10	9	15	43.3	96.2
-11	12	21	2.3	67.1
-4	10	21	-43.0	38.5
2	14	17	-38.6	10.2
-1	12	16	-44.5	-21.5
5	11	11	-32.5	-39.5
10	11	7	-32.5	-78.5
7	6	7	-57.7	-99.2
3	4	6	132.4	-130.3
-3	5	11	38.7	-117.3
-6	12	13	52.9	-166.7
0	11	14	17.6	153.3
8	13	16	-31.4	119.6
10	16	15	-60.4	83.3
9	15	14	-73.5	57.7
7	12	14	-66.7	22.6
5	10	14	-116.5	-16.4
9	10	15	-129.7	-53.6
11	[illegible]	1[illegible]	-135.3	-93.2
10	11	16	-150.6	-121.7
9	16	5	-169.5	-155.0
7	16	6	174.1	153.3

AVERAGE DST VALUE : 2.1

DST 80 3 29

DST	DS1	DS2	ALPHA1	ALPHA2
6	16	[illegible]	166.1	119.1
5	6	13	148.7	92.5
5	4	17	160.3	82.6
5	6	13	-175.2	55.3
7	3	14	-43.2	52.2
3	1[illegible]	11	-48.2	47.2
-4	14	10	-33.7	-1.3
[illegible]	11	[illegible]	-34.5	-81.5
7	13	[illegible]	-46.2	-114.3
[illegible]	10	16	-58.[illegible]	-141.3
1	0	7	59.6	-116.4
-4	10	11	93.6	-113.5
-6	13	12	61.3	-149.3
-8	12	12	28.2	169.8
-1	9	14	-12.5	110.3
1	7	17	-19.1	64.3
2	5	15	-51.2	30.1
4	7	14	-89.3	-0.7
1	6	16	-119.0	-33.4
1	6	13	-141.7	-66.3
-5	7	17	-124.5	-106.5
-6	6	14	-106.1	-137.4
-8	10	13	-136.5	-167.5
-7	8	11	-158.9	[illegible].4

AVERAGE DST VALUE : 0.4

DST 80 3 30

DST	DS1	DS2	ALPHA1	ALPHA2
-3	6	16	58.9	123.7
-5	11	19	32.3	104.1
-9	17	29	15.5	65.3
-16	23	31	-9.6	33.4
-22	28	27	-24.3	11.1
-29	22	21	-27.2	-3.7
-34	17	19	-25.5	-21.2
-37	19	16	-6.1	-37.3
-30	14	10	-16.0	-72.5
-27	5	[illegible]	-16.7	-79.3
-26	4	10	93.1	-85.7
-29	13	12	90.1	-109.2
-30	13	12	54.9	-156.7
-25	14	11	32.2	165.1
-19	10	12	10.9	115.5
-17	7	11	-13.5	76.2
-16	3	11	-23.4	33.9
-15	4	12	-71.6	6.1
-14	5	14	-98.1	-28.3
-13	3	13	-96.7	-65.3
-12	4	11	-84.9	-102.7
-9	7	[illegible]	-132.7	-133.3
-7	11	6	-159.9	-164.0
-2	12	5	-167.6	167.3

AVERAGE DST VALUE : -15.6

DST 80 3 31

DST	DS1	DS2	ALPHA1	ALPHA2
15	7	14	-152.1	140.5
19	2	21	-96.5	112.2
13	4	21	-36.4	87.3
-7	16	15	-23.0	50.7
-1	24	17	-29.3	31.0
-7	23	16	-64.4	-3.2
-10	21	15	-22.7	-20.3
-21	27	17	-19.6	-51.4
-29	27	16	-3.7	-73.6
-26	27	12	-14.5	-112.1
-18	20	12	-20.8	-142.3
-24	14	16	-14.6	-175.5
-33	21	14	14.3	-142.1
-24	11	12	2.6	147.9
-21	12	15	-31.3	105.5
-18	11	16	-43.2	74.3
-15	5	15	-63.0	37.4
-15	3	14	-124.2	1.3
-12	7	13	175.3	-25.2
-13	6	21	159.3	-53.4
-14	10	22	149.5	-85.2
-14	12	20	151.4	-105.1
-20	13	16	127.7	-140.1
-20	12	16	123.0	-169.2

AVERAGE DST VALUE : -13.1

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DST 80 4 1

DST	DS1	DS2	ALPHA1	ALPHA2
-29	22	25	43.7	142.0
-26	21	26	44.3	113.4
-25	19	26	44.9	81.4
-24	14	20	50.5	43.3
-23	12	16	57.8	2.3
-22	10	13	59.9	-31.7
-23	8	13	63.0	-52.3
-22	6	14	81.5	-70.3
-17	5	14	76.9	-99.7
-15	4	14	91.7	-121.3
-17	5	14	88.0	-154.2
-18	5	11	85.2	173.3
-16	3	9	138.3	141.5
-18	5	11	111.7	95.6
-20	6	11	70.9	64.0
-21	4	12	16.5	26.7
-23	1	15	-23.5	-9.4
-24	1	17	10.4	-36.2
-23	2	17	69.3	-55.3
-21	6	16	112.1	-78.2
-20	10	15	109.7	-102.3
-22	14	21	96.1	-129.7
-22	15	21	84.3	-158.9
-21	15	19	78.4	173.5

AVERAGE DST VALUE : -21.3

DST 80 4 2

DST	DS1	DS2	ALPHA1	ALPHA2
-22	16	19	71.3	136.7
-25	17	17	75.3	96.2
-30	19	17	63.3	51.6
-32	21	17	78.2	15.3
-31	22	17	73.9	-18.0
-28	18	17	67.6	-41.3
-26	14	20	60.3	-61.9
-22	11	22	44.4	-90.1
-19	8	28	25.4	-121.1
-16	5	25	-4.5	-143.7
-15	5	20	-21.4	-177.2
-14	5	19	-36.7	152.5
-12	4	17	-73.7	121.4
-10	5	16	-111.6	90.5
-9	7	15	-136.4	58.1
-7	8	15	-152.9	21.6
-5	8	19	-156.2	7.3
-4	10	20	-168.0	-19.2
0	11	20	179.6	-43.1
2	12	21	159.5	-69.4
2	13	22	138.3	-96.3
6	13	22	120.4	-122.7
6	14	23	92.6	-152.6
5	15	21	78.5	173.4

AVERAGE DST VALUE : -12.6

DST 80 4 3

DST	DS1	DS2	ALPHA1	ALPHA2
3	16	22	60.5	144.2
1	16	23	46.7	108.7
1	10	23	61.2	73.5
2	8	24	56.9	39.4
0	8	16	61.6	3.9
-3	13	20	55.5	-37.3
1	11	20	47.3	-63.2
2	8	18	50.3	-86.5
-1	8	25	23.0	-118.3
-1	6	22	-1.3	-143.1
0	6	16	-22.5	-169.9
4	5	17	-40.5	153.9
5	6	16	-65.5	126.3
5	5	17	-94.4	93.3
6	5	16	-144.2	54.0
13	5	17	-169.5	26.3
12	5	1	-178.2	-2.0
7	5	21	169.9	[illegible]
1	6	23	99.0	-41.5
5	12	23	117.0	-72.5
7	14	23	115.9	-101.1
7	15	25	98.2	-126.5
3	14	24	97.1	-156.0
1	14	19	36.3	174.3

AVERAGE DST VALUE : 3.5

DST 80 4 4

DST	DS1	DS2	ALPHA1	ALPHA2
1	14	17	67.6	142.9
3	12	17	60.2	108.3
2	12	17	76.1	72.3
4	10	17	73.6	37.9
6	8	15	72.0	5.1
5	7	15	61.4	-25.2
4	6	20	50.7	-52.9
1	8	22	21.6	-85.1
-12	17	21	24.8	-112.5
-10	14	22	-11.9	-145.6
-4	13	26	-44.0	175.1
-7	15	17	-16.7	159.7
-1	15	15	-43.3	141.0
3	17	17	-57.6	114.8
4	18	16	-63.6	93.0
7	22	20	-63.3	77.3
6	24	22	-37.4	56.2
2	20	20	-105.6	1.1
3	14	21	-133.2	-32.7
2	3	20	174.5	-60.3
-2	5	22	108.5	-100.4
-4	10	22	98.3	-126.7
-5	12	15	90.9	-159.4
-7	11	13	98.5	164.8

AVERAGE DST VALUE : 0.0

DST 80 4 5

DST	DS1	DS2	ALPHA1	ALPHA2
-8	12	14	89.6	128.4
-7	11	13	77.5	94.3
-8	13	14	76.8	59.3
-10	14	16	68.3	27.8
-10	13	17	71.0	-2.3
-11	15	20	69.5	-36.3
-11	14	24	67.3	-65.6
-12	13	27	57.9	-92.0
-8	11	29	30.4	-123.4
-4	3	26	4.1	-149.8
-3	5	21	-19.1	-175.6
3	7	17	-36.5	162.5
6	10	16	-44.0	146.1
10	11	15	-52.2	127.3
10	10	14	-65.5	98.4
12	8	16	-78.0	54.9
4	6	13	-71.7	21.7
0	6	17	-47.1	-7.6
7	6	14	-84.5	-45.8
8	3	15	-142.3	-78.9
7	2	16	-176.2	-106.2
5	5	19	109.3	-128.5
5	6	20	76.6	-157.9
4	6	13	78.9	172.7

AVERAGE DST VALUE : -[illegible]

DST 80 4 6

DST	DS1	DS2	ALPHA1	ALPHA2
4	6	15	56.5	142.4
3	7	15	66.7	107.5
-1	11	15	76.1	75.6
-2	11	22	64.1	43.1
-1	11	23	44.7	9.9
1	9	27	46.7	-29.5
1	9	27	23.7	-63.3
1	7	26	2.1	-91.4
1	6	27	-20.0	-124.0
4	9	27	-58.2	-155.3
7	9	24	-61.0	177.3
31	13	22	-56.0	155.4
30	19	21	-53.7	143.2
22	25	22	-42.2	124.1
19	30	23	-50.5	139.3
4	32	14	-42.5	73.4
-16	36	19	-48.3	21.3
-35	34	16	-50.4	-20.0
-22	14	16	-52.5	-32.7
-18	4	14	-94.1	-70.5
-14	3	17	-134.0	-109.0
-18	2	15	120.2	-132.5
-23	8	21	73.2	-153.6
-13	3	20	67.8	165.1

AVERAGE DST VALUE : -1.7

DST 80 4 7

DST	DS1	DS2	ALPHA1	ALPHA2
-23	13	23	49.7	123.2
-26	14	22	70.7	93.4
-27	14	26	101.2	56.1
-27	15	31	95.4	25.4
-26	14	25	79.1	-4.4
-28	22	27	66.8	-34.3
-21	15	30	55.6	-62.5
-22	13	29	41.0	-90.2
-27	16	27	17.1	-116.6
-17	10	27	-34.3	-152.3
-14	8	22	-36.0	-177.8
-11	7	15	-36.6	165.3
-3	8	14	-62.3	152.5
-3	12	17	-46.7	130.6
-5	16	15	-39.6	109.1
-4	13	15	-71.9	81.3
-2	11	17	-111.3	11.5
1	9	16	-135.9	-18.4
0	7	19	-150.9	-42.0
-9	11	18	72.4	-56.1
-7	7	20	76.2	-94.1
-6	4	16	75.1	-135.4
-6	17	17	62.2	-179.5
-10	17	21	46.9	162.0

AVERAGE DST VALUE : -13.7

DST 80 4 8

DST	DS1	DS2	ALPHA1	ALPHA2
-11	17	27	21.9	134.0
-11	18	33	21.5	101.3
-5	15	33	29.2	71.2
-19	14	30	28.7	34.0
-14	8	25	24.7	3.0
-5	7	23	4.3	-25.3
-1	7	22	-16.0	-55.8
-6	5	26	-31.3	-89.1
0	7	27	-51.9	-119.3
4	10	26	-69.7	-143.3
3	11	24	-53.7	179.9
-6	16	27	-62.9	150.4
-8	11	25	-26.0	126.5
-5	19	15	-46.0	117.6
-4	16	16	-80.5	85.9
-5	15	15	-86.6	67.5
-4	14	18	-94.7	33.8
-8	9	15	-37.2	6.6
-6	6	16	-162.4	-33.7
-5	10	17	152.4	-73.9
-7	12	15	118.6	-105.0
-7	13	22	109.5	-129.4
-7	11	23	83.7	-161.0
-5	6	15	82.5	165.1

AVERAGE DST VALUE : -5.3

DST 80 4 9

DST	DS1	DS2	ALPHA1	ALPHA2
-8	7	15	78.6	123.1
-13	12	15	77.2	96.1
-13	23	22	33.7	75.5
-13	21	24	69.0	41.2
-17	20	26	51.7	-2.5
3	27	29	3.7	-36.7
-9	37	37	-9.2	-67.8
-4	34	36	-26.5	-99.1
6	35	35	-41.8	-131.5
-11	34	30	-46.0	-161.4
-41	44	25	-18.3	-177.8
-61	49	19	-23.3	169.9
-51	41	21	-38.9	116.3
-38	40	22	-53.9	88.3
-31	23	21	-62.1	70.5
-31	11	21	-65.4	83.3
-32	6	13	-42.0	7.4
-30	2	15	-156.2	-27.3
-28	13	21	130.9	-55.6
-31	21	25	110.1	-81.8
-34	27	25	94.0	-105.0
-32	26	31	81.6	-126.6
-29	25	30	65.0	-157.4
-26	15	30	53.2	174.1

AVERAGE DST VALUE : -24.0

DST 80 4 10

DST	DS1	DS2	ALPHA1	ALPHA2
-25	20	26	43.2	145.5
-22	19	26	32.3	116.5
-34	23	25	35.9	77.8
-39	40	25	34.2	36.5
-44	34	33	6.8	-7.5
-43	39	32	32.6	-27.4
-48	27	42	15.2	-66.3
-54	35	45	1.9	-99.6
-56	40	42	-15.0	-122.5
-53	35	36	-34.2	-161.4
-57	32	31	-25.5	161.2
-46	27	23	-50.1	142.9
-35	13	20	-90.4	114.9
-27	8	17	-98.1	102.2
-26	9	15	-87.3	91.3
-25	7	15	-56.5	63.9
-27	6	16	-121.9	21.2
-25	5	15	-147.6	-13.0
-17	8	17	174.8	-34.2
-23	9	20	126.3	-73.1
-28	13	23	106.8	-102.0
-24	15	25	38.8	-123.3
-22	16	25	67.8	-154.5
-21	17	27	52.4	170.3

AVERAGE DST VALUE : -33.6

DST 80 4 11

DST	DS1	DS2	ALPHA1	ALPHA2
-23	21	27	39.1	143.6
-24	19	24	18.4	113.3
-23	10	19	14.4	80.3
-22	5	17	14.2	51.7
-23	2	14	34.0	26.1

EST	ES1	DS2	ALPHA1	ALPHA2
-1	5	18	-.5	142.6
1	4	15	6.6	117.3
7	4	12	-53.0	99.1
13	8	15	-84.2	71.5
15	9	15	-97.8	39.5
11	7	15	-36.0	-0.2
10	5	15	-74.0	-38.1
9	6	14	-45.1	-73.3
8	6	14	-[illegible]	-110.7
8	5	13	-[illegible]	-138.4
7	4	11	-3.0	-152.9
8	6	11	-7.4	-164.8
8	8	13	-32.9	152.5
8	11	16	-53.6	112.3
8	11	15	-63.3	84.3
8	9	15	-73.3	56.3
7	5	14	-97.0	20.3
6	5	13	-132.4	-14.9
5	5	14	-129.5	-43.6
6	10	16	-88.6	-77.7
9	16	6	-39.6	-126.7
10	22	8	-102.5	179.5
12	17	7	-109.1	129.7
9	19	8	-119.9	110.9

AVERAGE DST VALUE : 8.0

IST 80 4 20

EST	ES1	DS2	ALPHA1	ALPHA2
7	15	11	-131.1	21.2
5	3	13	-171.7	75.6
3	4	21	58.4	63.1
-4	4	28	19.0	37.2
-6	4	30	57.5	7.7
-6	5	29	33.8	-23.2
-8	6	26	97.1	-52.9
-6	3	22	95.4	-78.1
-4	3	22	42.1	-110.6
-1	2	20	26.3	-133.5
-2	1	17	100.0	-160.7
-3	3	13	114.4	174.4
-3	4	14	95.2	141.0
-1	4	12	40.5	116.0
0	2	11	125.6	80.2
4	1	11	96.9	42.8
7	3	13	-115.2	16.4
8	7	12	-92.[illegible]	-10.4
4	4	12	-87.8	-44.8
2	4	13	-97.3	-82.0
-1	4	14	16.3	-114.7
-3	3	15	-38.8	-141.2
-4	6	14	-46.1	-174.5
2	7	15	-80.0	152.9

AVERAGE DST VALUE : -5.4

IST 80 4 21

EST	ES1	DS2	ALPHA1	ALPHA2
-1	5	15	-55.0	127.8
0	6	16	-41.0	105.5
3	7	16	-43.[illegible]	80.5
2	6	15	-44.7	54.0
2	8	15	-45.4	22.7
4	8	12	-25.[illegible]	-8.5
4	7	11	-20.6	-38.3
5	3	9	-151.1	-44.0
7	3	9	-162.0	-53.1
8	5	11	-157.[illegible]	-116.5
11	5	11	-99.5	-127.7
14	3	11	-[illegible]	158.4
11	3	13	-53.[illegible]	135.4
10	5	13	-31.6	117.1
10	7	13	-25.7	[illegible]
9	8	12	-38.1	41.4
10	8	15	-45.5	12.4

EST	ES1	DS2	ALPHA1	ALPHA2
-21	5	13	106.7	152.1
-19	4	14	143.1	117.2
-17	3	16	-164.1	89.4
-21	2	15	-80.1	63.6
-22	4	14	-32.1	37.8
-22	4	14	-40.1	6.6
-18	2	14	90.5	-16.1
-18	5	15	86.1	-31.9
-19	4	18	105.6	-63.6
-12	4	17	124.2	-96.7
-14	3	14	151.5	-127.[illegible]
-16	4	11	137.5	-15[illegible]
-18	12	10	114.4	151.1

AVERAGE DST VALUE : -21.5

IST 80 4 17

EST	DS1	DS2	ALPHA1	ALPHA2
-13	27	17	77.3	116.6
-14	26	18	51.3	99.1
-18	16	22	39.6	71.9
-27	17	26	35.2	41.5
-32	15	27	14.0	6.3
-28	9	25	30.2	-19.3
-24	8	24	43.7	-47.3
-22	5	22	68.3	-72.1
-19	5	18	37.8	-96.7
-14	0	15	81.1	-126.2
-11	1	14	-107.6	-157.8
-11	2	14	-83.8	168.5
-11	5	15	-81.1	131.2
-11	4	16	-98.0	100.2
-9	4	15	-101.0	61.5
-8	6	14	-78.8	57.6
-6	7	15	-87.4	33.3
-6	7	15	-39.5	11.4
-6	6	16	-132.1	-11.1
-8	7	15	-137.1	-44.5
-8	6	16	-163.5	-93.2
-10	4	15	143.2	-120.7
-11	4	16	112.0	-161.0
-13	4	16	70.5	169.5

AVERAGE DST VALUE : -14.2

IST 80 4 18

EST	DS1	DS2	ALPHA1	ALPHA2
-13	6	19	31.4	140.1
-9	7	22	-0.9	110.3
-8	5	20	-11.2	80.6
-8	5	20	6.0	49.1
-6	2	22	-31.4	17.3
-4	3	19	-92.0	-5.9
-1	2	17	-54.9	-31.4
-6	1	16	-41.3	-74.3
-8	2	15	21.3	-109.3
-8	3	15	56.3	-140.4
-8	2	15	41.1	-162.9
-8	2	16	7.7	155.5
-7	1	16	-52.3	122.6
-6	1	14	-76.7	98.7
-5	1	12	-53.5	70.9
-1	1	13	-39.7	52.5
-1	5	14	-12[illegible]	26.7
-1	8	16	-105.[illegible]	-35.5
-1	9	15	103.[illegible]	-67.8
0	10	21	127.1	-108.4
-5	5	20	78.7	-135.8
-1	5	19	91.3	-159.2
0	3	17	87.7	167.7

AVERAGE DST VALUE : -5.0

IST 80 4 16

AVERAGE DST VALUE : -43.3

IST 80 4 14

EST	ES1	DS2	ALPHA1	ALPHA2
-27	9	19	70.9	137.6
-30	17	21	42.4	114.9
-31	17	31	48.[illegible]	81.4
-30	15	31	61.9	42.6
-29	13	29	51.8	10.2
-29	11	26	24.6	-18.0
-26	12	24	19.1	-52.7
-27	12	26	5.2	-91.0
-24	9	26	-16.6	-124.6
-21	6	24	-49.8	-157.1
-21	5	19	-78.8	177.4
-22	2	16	-162.2	154.1
-21	0	14	-42.2	133.2
-18	5	14	-20.9	124.3
-18	8	14	-43.2	101.1
-15	8	15	-5.9	70.6
-11	8	15	-24.7	28.2
-5	12	16	-95.1	13.9
-9	2	16	-80.1	-28.2
-10	5	19	31.9	-69.9
-14	5	21	-86.[illegible]	-85.9
-7	5	20	-86.1	-116.1
-16	12	17	49.3	-174.6
-23	15	16	59.6	148.4

AVERAGE DST VALUE : -20.4

IST 80 4 15

EST	ES1	DS2	ALPHA1	ALPHA2
-29	13	19	36.5	147.6
-33	19	20	42.4	81.0
-36	29	22	24.2	53.6
-41	21	26	41.3	34.0
-45	16	30	10.[illegible]	7.3
-48	14	31	33.[illegible]	-21.7
-45	16	26	39.0	-44.9
-48	20	24	45.[illegible]	-62.9
-30	7	21	24.6	-105.9
-23	7	21	-55.[illegible]	-146.3
-40	7	17	-84.1	-176.3
-18	6	17	-39.6	153.9
-17	2	18	-[illegible]8.3	140.7
-17	2	15	-45.[illegible]	110.9
-16	2	14	-79.[illegible]	81.2
-17	2	17	-4.[illegible]	47.2
-24	1	16	-17.1	15.7
-30	11	11	-21.5	17.4
-32	11	13	-0.3	-5.6
-39	12	16	50.7	-60.9
-33	11	20	52.0	-35.2
-31	8	19	33.[illegible]	-123.0
-33	20	16	45.[illegible]	-157.9
-32	8	20	50.1	170.5

AVERAGE DST VALUE : -29.5

IST 80 4 16

EST	DS1	DS2	ALPHA1	ALPHA2
-27	13	21	63.0	144.4
-32	13	23	33.6	108.0
-22	2	22	26.1	80.5
-23	7	23	[illegible]	53.8
-30	7	20	21.8	23.3
-30	5	20	23.4	-3.2
-30	10	21	50.0	-31.1
-26	4	22	15.3	-64.7
-20	4	19	-48.3	-105.4
-20	4	17	-111.4	-136.2
-21	2	14	-160.[illegible]	-168.1

EST	ES1	DS2	ALPHA1	ALPHA2
-32	1	12	39.1	-9.8
-41	3	11	34.3	-26.3
-28	15	15	18.9	-56.6
-40	14	21	-42.3	-126.2
-39	15	23	-53.5	-161.9
-21	4	16	57.9	172.8
-32	5	11	13.5	171.3
-25	7	12	-16.9	152.2
-29	6	10	-50.1	112.9
-21	11	13	-56.4	106.4
-30	15	14	-56.0	86.4
-22	16	18	-69.4	20.7
-35	18	21	-27.9	10.3
-32	13	30	0.7	-35.4
-32	16	24	-4.8	-65.0
-30	24	18	41.6	-96.2
-39	30	24	33.0	-135.0
-65	24	16	60.2	166.1
-60	24	14	66.5	146.4

AVERAGE DST VALUE : -33.7

IST 80 4 12

EST	DS1	DS2	ALPHA1	ALPHA2
-60	19	19	61.2	124.1
-60	33	25	42.6	84.3
-60	28	33	47.1	60.4
-60	21	34	5.8	35.2
-60	20	39	-10.9	-1.6
-63	16	41	-0.9	-30.6
-60	16	36	12.8	-60.8
-60	14	37	-5.2	-91.4
-55	11	35	-17.6	-127.4
-48	9	32	-29.5	-193.4
-47	5	26	-17.1	165.7
-42	5	24	-104.4	132.3
-48	5	16	91.9	112.1
-37	4	14	48.1	103.2
-35	6	11	-15.6	96.4
-41	7	12	-23.6	64.8
-31	6	17	48.3	29.8
-29	3	16	8.6	5.5
-32	5	15	-94.6	-30.4
-49	4	12	-138.3	-78.7
-44	3	12	-125.3	-131.2
-44	3	13	-118.7	-167.9
-20	11	10	162.7	143.5
-11	14	9	87.9	111.6

AVERAGE DST VALUE : -43.2

IST 80 :

EST	DS1	DS2	ALP	ALPHA2
-47	40	15	45.6	93.2
-55	37	5[illegible]	17.7	62.0
-55	27	34	25.3	36.0
-55	15	30	43.[illegible]	3.1
-55	12	21	12.1	10.1
-53	17	17	64.2	-14.7
-51	18	19	20.[illegible]	-30.3
-55	16	26	38.5	-66.5
-48	16	27	25.[illegible]	-101.4
-48	12	27	-22.[illegible]	-[illegible]
-46	3	15	-160.[illegible]	168.4
-42	4	14	-176.5	140.2
-42	4	12	89.7	117.[illegible]
-42	4	12	119.[illegible]	102.8
-42	4	10	63.5	88.9
-43	3	12	104.7	60.0
-47	3	13	124.0	-9.7
-45	7	13	61.[illegible]	-26.9
-45	10	15	53.1	-47.5
-45	9	15	41.[illegible]	-77.3
-45	7	15	60.4	-111.3
-45	10	15	83.[illegible]	-146.8
-45	6	15	93.[illegible]	-174.1
-49	6	14	105.[illegible]	159.9

10	10	11	-64.7	[illegible]
9	11	9	-37.2	-73.
10	10	11	-56.9	-113.6
12	7	12	-79.7	-135.4
14	4	12	-117.9	-155.1
13	4	13	-129.8	-175.0
16	2	17	-143.0	154.5

AVERAGE DST VALUE : 7.9

DST 80 4 22

DST	DS1	DS2	ALPHA1	ALPHA2
31	4	22	-75.3	129.3
41	11	28	-67.9	105.5
38	14	37	-64.0	71.6
39	15	36	-71.5	41.7
46	9	31	-94.3	19.3
19	5	27	-115.0	-17.7
13	10	25	-112.3	-56.6
15	2	20	-111.3	-72.7
15	2	16	-83.9	-106.1
17	6	15	-76.5	-143.8
15	6	16	-91.9	-175.9
16	7	17	-112.6	145.6
15	5	18	-115.9	121.2
11	5	17	-59.3	93.4
8	4	14	-75.2	73.9
10	4	13	-39.5	49.5
9	5	14	-65.5	25.0
6	10	13	-30.4	-8.2
6	7	14	-36.9	-36.4
9	6	13	-104.8	-74.4
4	2	15	-123.6	-105.5
1	3	17	101.2	-128.1
6	5	17	80.0	-155.1
3	7	23	55.7	172.5

AVERAGE DST VALUE : 13.3

DST 80 4 23

DST	DS1	DS2	ALPHA1	ALPHA2
11	19	29	14.9	136.9
19	19	30	-1.9	105.1
19	11	26	-23.1	85.0
22	9	25	-53.7	55.0
19	5	26	-69.6	18.6
18	3	27	-55.6	-20.7
18	3	28	-22.7	-53.1
14	4	27	24.0	-84.5
10	5	24	26.1	-116.5
8	6	20	12.2	-141.6
10	6	16	13.2	-166.7
12	5	14	-0.5	170.7
12	7	15	-19.7	143.9
13	6	15	-58.0	115.5
12	6	15	-62.2	75.7
12	6	16	-101.2	39.4
7	9	17	-112.7	13.5
4	12	17	-129.7	-3.5
6	10	17	-137.9	-38.6
10	6	15	-155.5	-75.6
10	7	16	-166.9	-105.7
7	7	18	173.0	-127.3
2	5	17	135.9	-156.5
1	6	20	82.9	165.5

AVERAGE DST VALUE : 11.5

DST 80 4 24

DST	DS1	DS2	ALPHA1	ALPHA2
2	12	26	22.7	135.9
1	13	34	-12.7	106.7
2	10	36	-1.5	77.0
1	14	38	-1.7	44.4
-8	14	22	35.5	[illegible]
-5	6	35	-2.2	-27.3
-4	8	37	1.5	-57.6
-4	5	33	-6.1	-85.3
-1	5	25	-20.0	-120.0
-2	6	20	-54.4	-151.2
1	8	15	-31.6	173.4
0	7	16	-113.1	145.7
-3	4	14	-140.2	117.0
-6	3	14	160.7	91.8
-7	1	12	62.6	73.3
-7	2	13	0.1	43.9
-3	1	13	39.4	20.4
-2	7	12	-72.2	-11.7
-1	8	16	-83.1	-37.0
2	2	13	-140.6	-64.0
3	5	18	34.0	-113.2
3	5	16	39.7	-137.6
2	5	15	116.4	-164.2
0	7	13	116.5	167.6

AVERAGE DST VALUE : -1.3

DST 80 4 25

DST	DS1	DS2	ALPHA1	ALPHA2
0	16	15	73.4	131.9
-2	14	15	47.5	107.0
-5	12	17	30.8	82.2
3	9	15	12.7	47.4
2	5	23	8.3	13.2
-8	6	28	29.5	-22.7
-4	8	33	13.2	-55.8
-1	6	34	14.6	-88.3
5	7	31	0.6	-121.1
7	6	27	-26.7	-149.7
0	6	25	-28.5	-178.9
-6	19	19	-6.9	147.5
-1	26	18	-33.9	153.4
1	21	16	-47.6	137.7
7	20	18	-61.1	114.5
5	16	16	-73.2	80.3
5	10	14	-74.3	45.3
3	5	13	-92.4	-5.3
3	4	16	-171.8	-43.2
4	7	17	176.1	-74.0
2	7	20	122.5	-113.2
2	6	15	115.5	-137.7
1	6	17	94.4	-163.8
1	5	17	75.6	173.4

AVERAGE DST VALUE : 1.4

DST 80 4 26

DST	DS1	DS2	ALPHA1	ALPHA2
3	7	19	42.1	144.3
4	6	21	16.7	112.1
3	5	26	25.0	80.1
1	7	29	29.6	48.4
-6	12	33	33.7	3.9
-13	14	36	27.0	-29.5
-14	12	34	29.3	-62.3
-9	10	32	27.8	-91.0
-7	9	32	8.2	-125.8
-6	7	25	-10.6	-154.5
-4	4	23	-21.8	178.0
-3	2	16	26.1	158.2
2	6	14	7.4	143.7
5	9	14	-17.0	127.4
2	9	13	-16.4	103.0
3	6	12	-28.2	62.0
5	3	13	-55.9	11.4
7	3	14	-95.8	-20.5
5	1	18	-170.4	-43.8
7	6	19	120.1	-60.9
7	6	21	116.1	-105.5
7	7	19	117.6	-133.5
2	6	17	100.5	-160.5
3	6	14	103.4	170.5

AVERAGE DST VALUE : 0.2

DST 80 4 27

DST	DS1	DS2	ALPHA1	ALPHA2
5	7	13	68.1	143.1
6	5	13	61.1	107.2
6	3	24	51.0	77.5
6	3	27	13.7	46.5
7	3	27	32.3	11.9
9	5	30	50.1	-24.0
8	5	30	35.7	-57.5
11	5	27	12.1	-83.2
13	5	23	-19.8	-115.7
13	6	20	-30.5	-150.8
10	5	18	-28.7	-176.0
11	8	14	-31.1	151.9
11	9	13	-17.0	149.8
12	12	14	-26.0	133.6
13	12	15	-43.2	111.2
13	11	16	-51.4	74.9
16	10	17	-87.6	31.3
18	11	18	-120.3	-3.1
16	9	17	-142.6	-30.5
17	7	15	-177.3	-70.7
15	7	13	148.1	-106.1
12	5	17	149.1	-136.8
3	6	16	114.0	-167.1
3	11	16	59.2	156.9

AVERAGE DST VALUE : 10.8

DST 80 4 28

DST	DS1	DS2	ALPHA1	ALPHA2
3	13	24	16.3	133.3
6	10	29	-7.4	111.0
7	5	27	1.4	81.5
6	5	24	8.4	52.3
4	5	19	31.5	17.0
6	5	16	30.8	-17.5
9	5	13	11.7	-53.9
10	5	12	-8.9	-86.5
13	6	16	-42.1	-123.4
14	6	13	-76.7	-147.8
14	4	9	-96.2	-174.7
13	4	9	-48.6	174.2
12	17	14	-17.3	173.2
12	23	18	-30.5	153.5
14	23	15	-49.6	125.4
15	20	19	-68.7	84.9
14	17	20	-57.5	45.5
13	14	18	-109.4	11.2
12	11	20	-152.5	-23.9
13	10	21	166.4	-63.1
10	12	21	134.7	-97.7
8	11	16	127.6	-123.5
7	10	10	132.8	-151.5
6	10	10	124.0	166.7

AVERAGE DST VALUE : 10.0

DST 80 4 29

DST	DS1	DS2	ALPHA1	ALPHA2
5	8	13	66.9	138.9
6	7	17	68.9	108.0
6	7	23	75.1	76.4
6	8	26	80.4	43.3
6	9	26	83.6	7.0
8	9	28	65.3	-26.0
7	13	27	42.0	-56.3
9	13	28	9.7	-89.2
13	14	29	-25.5	-127.2
15	13	27	-58.4	-159.2
16	10	22	-31.3	155.1
14	7	15	-63.8	154.4
14	5	14	-24.9	139.1
15	12	14	-20.8	137.3
18	15	16	-45.1	113.4
24	30	24	-67.1	96.2
25	30	23	-87.9	53.1
24	28	23	-106.6	23.5
22	20	25	-134.3	-5.3
18	12	24	152.0	-57.5
13	16	26	115.3	-90.7
11	16	22	103.4	-113.3
10	12	16	35.2	-152.2
8	10	12	106.2	179.0

AVERAGE DST VALUE : 13.1

DST 80 4 30

DST	DS1	DS2	ALPHA1	ALPHA2
8	12	12	35.4	151.3
10	10	13	58.9	116.7
11	9	25	44.7	84.3
8	7	21	22.1	55.0
7	5	14	-6.7	30.1
13	4	12	-55.1	10.6
13	3	13	-70.4	-30.3
12	2	14	-86.0	-63.7
12	1	13	-64.9	-103.7
13	4	15	-40.9	-146.4
12	7	19	-40.4	177.0
15	9	18	-44.0	149.8
14	13	15	-38.9	125.3
4	20	17	-28.9	126.3
5	18	15	-47.1	103.0
8	16	17	-66.0	63.7
11	19	19	-92.0	34.9
13	18	21	-118.4	4.4
11	13	21	-140.1	-19.3
9	12	25	155.5	-60.1
7	15	25	101.3	-92.0
7	17	26	86.0	-123.9
3	14	22	80.2	-153.2
0	14	15	91.9	-179.6

AVERAGE DST VALUE : 9.3

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EST	DS1	DS2	ALPHA1	ALPHA2
8	11	20	71.0	130.8
9	13	26	-2.5	111.9
7	15	24	-5.9	81.5
12	13	22	-31.6	64.4
16	11	15	-57.2	41.4
10	7	19	-74.6	11.1
13	5	18	-115.3	-11.4
14	8	14	-159.4	-24.2
14	8	12	172.1	-40.3
14	4	11	156.3	-63.8
14	2	9	133.0	-77.2
11	7	10	33.6	-132.5
14	8	14	-36.6	157.7
14	17	14	-47.0	135.2
13	11	14	-72.6	93.4
11	11	14	-97.6	59.3
13	11	20	-118.5	25.9
10	6	21	-137.3	-7.4
11	6	17	-111.5	-34.3
15	14	13	-113.7	-73.1
20	14	12	-120.7	-113.1
18	14	11	-130.0	-143.4
14	13	11	-149.4	-174.7
14	13	9	-174.5	177.0

AVERAGE DST VALUE : 12.8

IST 80 5 2

EST	DS1	DS2	ALPHA1	ALPHA2
14	7	18	177.5	76.3
13	9	18	150.7	64.6
10	9	19	119.9	32.7
11	8	21	90.7	32.3
9	8	22	67.7	8.3
10	8	20	41.9	-17.0
8	9	17	4.6	-40.3
10	13	17	-13.1	-72.5
12	12	17	-32.6	-111.9
11	10	17	-48.3	-146.0
12	11	17	-50.4	-174.9
12	11	16	-65.3	152.2
15	13	24	-83.7	120.8
14	13	21	-85.0	99.8
13	13	19	-96.1	75.2
16	13	17	-91.6	56.4
14	13	15	-112.6	24.5
14	13	14	-124.7	-1.4
15	14	13	-143.7	-28.5
15	14	12	-175.1	-58.0
16	14	12	167.5	-95.7
16	15	13	159.4	-134.5
15	15	21	130.4	-166.2

AVERAGE DST VALUE : 12.5

IST 80 5 3

EST	DS1	DS2	ALPHA1	ALPHA2
14	5	23	79.5	132.5
15	6	24	55.3	93.6
15	6	23	28.7	66.3
13	6	23	73.2	34.3
12	7	23	46.7	4.7
12	7	20	-3.4	-23.3
13	7	19	10.0	-51.1
15	7	17	-8.4	-77.5
14	8	16	-23.0	-104.0
11	9	16	-19.0	-134.1
11	9	16	-36.7	-170.0
10	9	16	-19.1	166.0
12	10	17	-4.1	134.6
13	11	16	-60.5	109.9
13	11	16	-77.7	82.2
14	11	16	-97.4	46.2
13	12	16	-114.7	15.9
14	11	15	-133.1	-9.8
14	11	15	-142.2	-24.5
15	12	20	-154.6	-69.2
15	9	19	-177.3	-104.3
15	8	16	156.5	-139.1
14	8	17	139.4	-170.9
14	5	22	91.1	161.4

AVERAGE DST VALUE : 13.3

IST 80 5 4

EST	DS1	DS2	ALPHA1	ALPHA2
15	5	28	32.6	132.9
15	6	32	2.5	104.3
15	6	31	-.2	73.0
15	5	28	-11.4	43.9
16	4	23	-2.6	18.4
15	3	21	13.2	-3.3
13	1	21	-1.7	-35.4
13	3	19	-8.1	-64.7
12	4	19	-39.2	-97.3
13	4	18	-41.1	-131.1
11	3	18	-65.1	-166.3
10	3	12	-24.8	172.5
10	7	14	-42.6	154.5
9	8	17	-51.7	113.1
7	8	14	-44.4	83.5
10	8	16	-76.4	56.5
12	10	17	-100.4	23.9
12	12	17	-120.7	-7.0
11	11	19	-148.1	-39.6
11	11	21	-173.5	-66.5
11	11	24	145.2	-95.7
11	10	24	119.5	-126.0
14	6	23	91.1	164.6

AVERAGE DST VALUE : 12.1

IST 80 5 5

EST	DS1	DS2	ALPHA1	ALPHA2
17	5	25	44.3	137.1
18	5	28	10.3	106.5
19	6	29	-16.7	80.2
21	10	21	-41.4	60.1
16	11	17	-69.5	30.1
15	13	14	-74.5	2.2
13	13	12	-114.4	-8.2
9	9	12	-132.3	-12.4
7	6	11	-157.4	-47.3
5	5	12	-163.4	-94.0
3	3	12	-166.1	-138.6
0	0	12	-113.1	-168.7
1	1	14	-150.6	133.7
3	3	16	-131.7	97.5
4	4	17	-107.1	67.1
6	7	16	-119.0	34.7
5	5	15	-88.5	3.9
4	4	14	-129.0	-23.3
11	11	14	-110.1	-47.2
12	13	12	-107.4	-73.0
11	12	14	-111.6	-99.4
25	14	16	-151.6	-118.8
15	5	14	-77.5	-161.8
6	6	16	-70.3	159.9

AVERAGE DST VALUE : 24.6

IS. 80 5 6

EST	DS1	DS2	ALPHA1	ALPHA2
0	11	19	-49.7	129.4
1	11	22	-50.5	104.4
4	14	24	-31.3	72.3
2	21	24	-31.3	35.8
4	19	19	-50.2	12.5
6	13	15	-72.5	-7.4
6	13	15	-78.4	-29.8
-4	7	15	-49.1	-42.6
-6	3	14	-17.0	-78.4
-5	2	13	-46.2	-111.7
-4	1	13	-13.9	-139.4
-10	4	14	17.1	-173.1
-16	10	14	-7.9	164.5
-13	9	17	-22.3	117.5
-13	7	16	-44.2	70.8
-14	6	17	-37.8	30.2
-14	5	19	-126.1	-2.6
-15	3	15	-119.2	-24.6
-16	6	13	-65.6	-59.4
-18	4	14	-67.9	-83.5
-9	5	12	13.9	-107.1
5	6	18	47.7	-145.6
0	0	17	4.9	-170.2
5	2	14	-133.6	164.2

AVERAGE DST VALUE : -5.4

IST 80 5 7

EST	DS1	DS2	ALPHA1	ALPHA2
6	0	16	-139.3	134.3
6	1	16	-0.4	109.2
6	2	16	-10.3	81.2
6	2	15	3.6	50.3
6	2	11	43.3	15.3
6	2	8	53.3	-13.3
6	2	6	11.2	-20.7
5	2	12	-45.8	-52.1
4	2	12	-99.2	-75.2
2	3	13	-96.4	-114.1
1	3	13	161.1	-123.6
1	3	12	89.0	-145.4
2	4	16	-80.2	155.5
3	5	16	-77.3	117.1
3	5	16	-97.4	80.7
4	5	20	-111.5	41.9
7	8	18	-109.3	8.5
10	9	19	-138.9	-30.6
12	10	15	-124.1	-57.1
10	10	15	-49.6	-83.9
5	6	20	-99.4	-111.5
4	5	27	33.7	-131.6
7	7	34	35.1	-157.6
2	5	37	6.5	168.4

AVERAGE DST VALUE : 10.0

IST 80 5 8

EST	DS1	DS2	ALPHA1	ALPHA2
-2	14	40	-9.5	135.9
-9	17	36	-21.3	109.7
-17	18	33	-8.5	66.5
-20	13	29	-0.8	34.7
-21	14	27	14.1	6.1
-21	11	25	10.3	-25.5
-15	4	21	-13.9	-70.3
-12	0	19	-19.6	-93.3
-11	1	17	67.9	-121.7
-11	4	15	42.7	-143.4
-11	4	13	32.5	-173.7
-11	4	15	-51.4	147.9
-3	4	17	-30.5	101.6
0	0	21	-132.5	64.1
-1	2	21	-164.8	33.1
-3	2	21	165.4	4.9
-3	2	20	130.6	-25.1

2	6	18	135.7	-55.3
5	8	18	157.1	-89.3
1	8	22	130.8	-109.3
2	8	27	101.7	-132.1
6	8	33	60.1	-169.6
6	10	40	17.8	166.1

AVERAGE DST VALUE : -5.6

IST 80 5 9

EST	DS1	DS2	ALPHA1	ALPHA2
10	15	44	0.3	136.2
8	14	41	-25.5	106.6
8	14	37	-20.9	76.8
4	15	34	8.2	45.7
-9	15	34	-1.3	17.0
-16	17	33	-0.6	-6.5
-19	15	27	-22.0	-32.3
-15	10	19	-46.7	-76.5
-11	6	17	-58.6	-105.1
-5	5	15	-70.4	-145.7
-7	6	18	-56.4	-178.1
-11	6	15	12.6	161.5
-14	6	13	-24.7	126.4
-16	5	10	-66.1	94.3
-18	6	21	-26.7	61.3
-12	4	13	-41.9	33.1
-12	4	12	-81.6	12.2
-7	4	10	-61.7	-14.5
-5	2	10	29.5	-58.3
-14	1	14	36.7	-98.1
-13	1	11	-56.5	-112.8
-15	3	15	-150.5	-127.1
-12	5	15	153.7	-164.1
-8	6	21	73.1	165.7

AVERAGE DST VALUE : -11.4

IST 80 5 10

EST	DS1	DS2	ALPHA1	ALPHA2
-3	11	29	54.0	128.9
1	11	32	18.1	100.2
4	8	33	-8.4	78.8
5	5	31	-24.7	42.8
5	7	29	-13.0	5.4
5	7	27	15.7	-27.3
5	8	25	19.1	-60.7
5	8	27	-3.6	-91.6
13	11	29	-21.4	-124.1
16	13	30	-36.8	-155.4
18	14	28	-35.7	175.2
17	12	22	-70.0	143.7
14	12	19	-87.1	120.9
11	11	16	-101.7	91.5
6	11	16	-106.2	62.9
2	9	17	-108.6	36.3
-1	6	18	-132.0	11.2
10	9	15	171.9	-25.0
7	8	15	172.9	-61.8
10	8	14	-95.1	-112.3
13	8	14	-95.6	-166.8
14	8	13	-157.9	160.9
16	10	10	-172.2	167.8

AVERAGE DST VALUE : 11.2

IST 80 5 11

EST	DS1	DS2	ALPHA1	ALPHA2
33	5	17	166.6	141.4
36	1	20	102.0	114.6
30	0	21	27.2	77.3
31	2	21	3.9	52.4
33	3	19	-17.0	22.6

22	2	13	-33.8	-55.5
17	6	15	-46.2	-38.5
5	9	16	27.4	-61.0
-6	26	20	5.6	-33.6
-31	35	26	-15.2	-137.9
-38	31	28	-41.1	-177.4
-35	30	24	-29.6	170.2
-38	30	27	-67.3	136.6
-40	19	23	-45.7	110.7
-39	12	19	-47.7	83.3
-32	3	13	-52.6	49.0
-37	4	16	-65.8	4.6
-35	7	14	-30.3	-25.0
-44	13	13	-12.0	-23.2
-36	12	11	60.6	-60.3
-34	0	16	117.7	-93.3
-36	11	14	141.8	-152.6
-45	20	15	95.6	-177.1
-43	16	20	10.1	161.0

AVERAGE DST VALUE : -15.6

IST 60 5 12

IST	DS1	DS2	ALPHA1	ALPHA2
-43	23	23	3.1	129.3
-42	25	30	21.0	93.9
-42	26	30	13.5	67.2
-39	32	36	-0.2	40.3
-38	35	35	-2.9	16.5
-35	19	27	-24.7	-20.2
-32	7	24	-21.8	-53.7
-47	8	21	-22.9	-85.6
-46	7	18	14.7	-115.9
-41	6	22	-41.1	-151.3
-41	7	21	-68.1	-177.0
-41	3	17	-22.0	160.1
-41	4	16	8.5	148.5
-39	5	15	-22.8	114.8
-41	2	17	-64.8	76.5
-40	2	19	127.5	40.4
-42	5	19	134.6	5.0
-42	12	20	112.8	-24.8
-41	11	19	80.8	-58.0
-37	8	19	97.0	-76.5
-33	6	19	102.4	-101.9
-30	15	21	106.1	-130.3
-26	21	24	103.9	-166.9
-22	14	21	98.3	171.2

AVERAGE DST VALUE : -42.0

IST 30 5 13

IST	DS1	DS2	ALPHA1	ALPHA2
-22	10	23	72.0	140.6
-21	9	26	56.6	104.1
-22	10	27	53.4	78.4
-23	14	29	18.4	39.7
-20	12	29	34.4	10.6
-22	10	30	26.6	-24.9
-20	10	29	32.2	-57.1
-18	11	29	26.8	-83.6
-21	7	24	34.4	-114.1
-16	4	17	47.7	-132.1
-10	3	15	105.4	-143.5
-10	6	13	95.9	-137.8
-8	5	13	54.8	177.1
-8	2	14	-47.3	115.5
-9	5	17	-112.6	68.4
-10	6	18	-140.7	35.7
-10	7	19	-169.0	4.2
-11	8	21	156.5	-23.1
-11	6	20	142.4	-51.1
-11	5	19	153.3	-70.3
-18	3	22	97.4	-91.3
-18	16	21	65.2	-126.7
-33	16	19	86.3	-153.4
-35	16	18	27.4	-178.5

AVERAGE DST VALUE : -17.1

IST 60 5 14

IST	DS1	DS2	ALPHA1	ALPHA2
-35	14	26	18.5	138.6
-33	17	22	13.4	98.1
-35	18	25	38.3	77.5
-41	25	26	22.7	41.7
-45	21	24	9.6	-3.2
-41	11	25	3.8	-27.2
-40	7	23	5.8	-56.3
-38	8	22	43.6	-73.4
-36	9	22	50.6	-110.1
-31	9	23	17.5	-148.7
-29	7	27	-12.7	-177.5
-29	6	24	-41.3	150.3
-32	5	22	-75.5	119.6
-31	5	20	177.9	83.7
-28	6	19	159.7	57.4
-27	6	20	155.8	30.3
-26	8	21	151.0	3.9
-26	7	19	136.2	-13.9
-23	4	17	93.0	-44.7
-25	4	16	2.3	-77.5
-25	4	16	0.8	-109.1
-27	5	20	49.4	-136.1
-26	11	21	34.6	-166.5
-24	11	16	109.0	165.5

AVERAGE DST VALUE : -31.9

IST 80 5 15

IST	DS1	DS2	ALPHA1	ALPHA2
-24	11	12	116.6	123.3
-21	10	8	113.0	98.7
-22	11	8	84.7	66.3
-23	14	8	72.2	41.1
-23	13	9	83.4	9.7
-20	11	12	51.3	-15.3
-25	13	17	46.4	-42.0
-19	11	21	31.8	-80.1
-18	7	22	11.5	-112.5
-18	5	20	13.7	-137.2
-16	6	19	-10.3	-169.2
-14	8	18	-14.2	171.1
-15	8	19	-35.4	137.2
-15	6	19	-65.1	104.4
-14	6	16	-92.2	74.8
-13	6	17	-115.5	48.3
-15	8	18	-142.4	16.7
-16	10	19	-172.4	-12.8
-14	10	18	-173.8	-41.8
-11	10	16	-170.0	-70.3
-10	10	18	169.5	-97.3
-11	12	21	136.4	-130.2
-14	14	22	110.9	-161.1
-18	15	19	98.1	170.3

AVERAGE DST VALUE : -17.0

IST 80 5 16

IST	DS1	DS2	ALPHA1	ALPHA2
-19	14	14	98.9	140.1
-18	12	12	92.5	104.2
-15	13	13	67.1	80.9
-14	11	11	53.6	50.0
-12	11	13	32.6	18.0
-10	8	14	18.1	-15.1
-8	9	20	8.4	-51.4
-10	10	24	-10.3	-86.0
-10	10	25	-16.1	-121.2
-8	10	25	-28.1	-150.4
-8	8	21	-34.7	-171.5

-5	12	22	-74.0	151.4
-5	7	19	-95.8	120.5
-5	7	18	-98.3	93.2
-5	7	18	-121.0	62.7
-5	7	17	-149.2	35.9
-6	8	17	-134.0	9.5
-6	5	15	-157.5	-31.7
-7	4	16	174.6	-64.7
-7	4	17	161.5	-92.7
-5	6	18	141.5	-112.0
-6	6	20	128.6	-133.3
-6	6	20	125.8	-160.4
-4	6	19	126.5	158.4

AVERAGE DST VALUE : -3.6

IST 60 5 17

IST	DS1	DS2	ALPHA1	ALPHA2
-2	5	19	136.6	122.2
-1	6	18	124.3	95.7
0	5	17	94.8	63.9
1	5	16	15.7	26.3
1	7	15	-48.8	-26.1
0	5	16	-3.4	-15.9
-2	3	21	2.1	-49.1
-2	3	21	14.5	-77.8
-1	4	21	15.5	-107.8
-1	5	19	10.0	-135.4
-1	5	19	-17.6	-166.8
-1	4	16	-8.9	164.7
-2	1	14	10.4	138.0
-1	0	9	159.5	99.3
-1	4	8	-169.5	60.4
-2	4	10	159.4	29.4
-3	6	13	123.0	-9.2
-3	3	17	105.5	-40.4
-3	3	17	119.0	-71.4
-2	1	17	171.1	-97.7
-2	6	14	-158.9	-116.1
-2	8	11	-179.2	-141.1
-5	5	12	166.1	-172.1
-5	5	10	138.6	160.5

AVERAGE DST VALUE : -0.5

IST 60 5 18

IST	DS1	DS2	ALPHA1	ALPHA2
8	3	21	83.8	134.4
10	4	25	15.7	102.2
10	4	21	2.4	72.2
11	5	16	-16.1	37.7
11	5	12	-34.9	36.5
12	8	9	-52.8	14.2
13	8	9	-36.0	9.9
14	8	9	-36.0	-16.0
12	6	10	-115.6	-50.4
8	2	9	-96.4	-89.7
6	1	12	-81.5	-125.1
5	7	14	-2.4	-134.2
7	11	16	-30.6	172.5
6	10	17	-53.2	120.4
4	9	18	-33.7	75.8
5	9	19	-37.6	43.6
4	8	17	-110.0	13.7
0	5	17	-133.1	-27.2
3	4	17	-137.6	-69.5
6	6	17	-137.5	-87.4
7	8	18	-168.2	-107.5
6	7	21	140.3	-129.0
6	6	21	118.0	-161.2
9	4	20	104.5	167.5

AVERAGE DST VALUE : 7.6

IST 90 5 19

IST	DS1	DS2	ALPHA1	ALPHA2
10	7	21	71.6	136.9
12	9	19	50.4	115.3
10	6	12	41.8	88.2
10	4	3	1.3	61.0
21	5	11	-38.6	17.5
21	5	14	-56.8	-15.3
20	4	20	-79.1	-48.8
17	4	23	-66.2	-77.5
9	4	21	-26.8	-103.9
5	6	18	-31.1	-127.3
4	6	16	-24.5	-150.2
5	13	20	-12.0	-154.5
7	15	29	-28.2	165.6
7	15	24	-56.5	123.3
9	15	23	-56.6	81.5
2	19	19	-66.5	49.6
2	16	20	-110.5	16.1
-7	10	20	-116.6	-18.8
-14	4	20	-102.5	-46.6
-14	0	23	-19.6	-74.3
-7	6	25	104.9	-102.1
-6	12	25	111.8	-128.5
-4	12	19	112.5	-151.5
-3	11	17	109.2	176.1

AVERAGE DST VALUE : 5.5

IST 90 5 20

IST	DS1	DS2	ALPHA1	ALPHA2
-5	11	16	70.7	140.0
-7	12	20	20.9	113.1
-5	11	19	-2.9	86.0
-5	9	16	-21.1	59.0
0	7	15	-36.3	25.6
0	4	15	-45.8	-7.0
0	2	17	-20.9	-38.2
1	6	15	-4.2	-74.3
0	11	14	21.4	-96.7
0	12	17	21.3	-121.0
3	11	17	16.7	-143.7
5	12	17	5.1	-165.7
6	10	17	-22.7	156.7
5	5	17	-37.4	112.5
4	4	15	-102.1	74.3
2	5	20	-172.1	32.9
2	5	21	154.6	-3.2
2	9	21	144.6	-31.7
10	2	22	146.7	-51.3
10	2	24	147.0	-72.3
9	13	25	134.5	-95.0
10	14	24	129.9	-117.6
10	13	24	125.8	-148.1
12	8	25	92.0	177.2

AVERAGE DST VALUE : 3.0

IST 60 5 21

IST	DS1	DS2	ALPHA1	ALPHA2
16	6	27	38.4	141.1
20	5	25	-5.1	114.4
19	5	21	-28.4	84.1
18	4	20	-39.4	50.4
18	3	22	-61.0	13.0
17	3	22	-59.4	-16.1
14	2	17	-129.9	-33.3
13	4	16	-179.7	-85.3
14	5	14	129.6	-71.4
15	5	15	100.0	-96.9
20	6	14	68.7	-118.8
18	10	14	49.1	-137.8
19	9	14	24.5	-173.4
20	8	14	-15.4	129.2
23	10	16	-38.5	99.1
23	13	16	-83.5	60.5
23	13	18	-104.5	22.5

25	12	17	-116.5	-13.2
25	12	16	-126.9	-43.5
25	10	17	-141.1	-81.4
24	10	15	-147.3	-110.0
24	8	15	-147.9	-143.1
22	8	14	-179.4	-168.5
24	7	15	159.7	161.9

AVERAGE DST VALUE : 19.9

IST 80 5 22

DST	DS1	DS2	ALPHA1	ALPHA2
23	5	17	137.7	132.8
25	3	19	109.1	105.9
25	0	18	97.1	76.9
26	1	18	68.7	52.1
30	0	11	69.8	29.4
25	2	13	-67.6	-1.8
31	2	15	-12.7	-34.4
27	6	18	26.9	-70.3
29	4	18	-10.3	-104.0
32	5	18	-22.2	-135.8
30	4	16	-30.7	-158.5
28	3	14	-10.2	-177.3
24	2	10	5.1	139.3
19	2	10	18.8	101.5
19	1	20	6.4	60.3
15	5	22	-67.0	34.3
19	7	22	-102.9	2.9
17	8	24	-122.8	-22.6
18	6	16	-138.0	-51.7
20	1	16	-124.5	-85.0
21	1	18	45.9	-122.4
21	1	16	-19.1	-156.7
22	3	17	139.2	-168.0
25	6	21	107.7	172.2

AVERAGE DST VALUE : 24.5

IST 80 5 23

DST	DS1	DS2	ALPHA1	ALPHA2
26	8	26	56.8	144.0
22	8	28	44.8	112.4
17	7	28	13.1	80.5
16	8	26	6.1	48.8
17	6	24	-18.1	12.4
16	4	20	-26.8	-23.5
16	3	21	-47.2	-52.5
14	1	20	-12.3	-77.1
13	2	17	114.8	-99.7
13	3	16	50.5	-126.2
14	3	15	74.3	-150.3
13	5	13	54.7	-163.7
17	3	14	25.4	168.1
9	5	16	-35.4	121.2
5	5	22	-64.2	75.1
-2	10	20	-44.9	40.1
-6	5	17	-63.5	8.3
-9	5	18	-114.9	-21.6
-10	6	17	-92.6	-56.7
-9	6	19	59.3	-87.8
-7	6	19	93.4	-118.4
-7	6	18	117.0	-151.3
-7	6	18	136.5	-177.2
-5	6	16	139.7	160.8

AVERAGE DST VALUE : 7.1

IST 80 5 24

DST	DS1	DS2	ALPHA1	ALPHA2
3	5	21	53.3	129.0
4	4	20	24.5	97.4
4	3	12	20.7	79.0
3	5	0	22.4	62.4
4	7	8	-0.4	36.0
5	6	6	-14.7	-5.3
5	10	7	-28.1	-40.7
6	8	15	-42.9	-85.7
6	10	16	-44.3	-112.0
3	5	17	-41.5	-136.5
-2	11	18	-31.8	-155.9
-4	13	20	-10.3	-174.7
-1	20	23	-18.3	154.8
-1	20	23	-41.5	119.0
-3	18	23	-59.1	84.0
-4	14	27	-90.3	44.6
-12	12	27	-99.7	9.1
-11	14	25	-88.5	-18.4
-11	16	21	-52.3	-36.4
-9	14	15	-55.7	-76.3
-7	10	21	-43.6	-97.0
-8	10	25	-34.0	-117.8
-12	16	26	-21.0	-155.6
-12	23	35	-9.6	171.9

AVERAGE DST VALUE : -7.6

IST 80 5 25

DST	DS1	DS2	ALPHA1	ALPHA2
-22	21	41	3.9	143.6
-22	24	41	-1.3	116.0
-1	21	35	-18.8	84.3
6	20	27	-31.9	72.2
-3	27	36	-144.6	110.6
-17	46	55	-179.6	94.7
-29	43	52	153.4	65.3
-28	40	47	137.5	29.9
-47	41	52	92.7	-6.1
-63	54	46	57.7	-43.7
-88	30	28	26.1	-106.4
-52	64	25	-27.8	172.2
-106	61	29	-44.9	136.9
-123	47	25	-49.6	105.6
-112	26	26	-61.3	85.9
-101	14	20	-50.3	54.7
-97	9	16	-46.9	16.3
-92	1	15	-148.3	-32.1
-90	8	19	116.6	-73.3
-88	11	21	104.9	-97.1
-85	10	20	108.7	-119.3
-81	11	21	110.5	-136.2
-76	12	23	93.0	-160.0
-69	14	24	87.2	159.2

AVERAGE DST VALUE : -63.4

IST 80 5 26

DST	DS1	DS2	ALPHA1	ALPHA2
-65	12	22	46.3	129.7
-65	9	19	33.6	105.4
-66	7	18	31.1	85.6
-66	8	18	16.7	66.2
-66	9	17	-2.3	29.4
-66	10	19	-5.0	-24.6
-67	10	18	0.3	-58.9
-50	8	15	-6.8	-85.0
-47	8	13	-0.9	-108.2
-47	7	13	0.9	-125.4
-45	10	14	11.3	-142.3
-43	12	17	7.7	-161.8
-36	12	18	-11.5	169.1
-37	13	19	-35.2	130.3
-35	12	19	-63.8	100.2
-33	12	20	-91.4	57.8
-31	10	16	-114.6	19.8
-31	8	20	-146.7	-21.8
-29	9	19	-135.7	-67.1
-27	9	16	-123.7	-102.4
-31	13	12	-135.0	-135.0
-32	13	11	-161.8	-162.1
-29	10	15	172.1	-179.6
-24	6	20	176.4	154.0

AVERAGE DST VALUE : -42.6

IST 80 5 27

DST	DS1	DS2	ALPHA1	ALPHA2
-22	2	27	105.3	129.1
-22	2	29	41.4	101.3
-24	6	29	56.6	72.9
-28	10	27	51.4	39.9
-26	11	20	56.3	8.3
-24	9	19	43.0	-24.1
-25	8	16	22.8	-50.2
-23	7	13	4.1	-73.7
-21	5	11	13.2	-91.7
-19	5	13	-18.7	-129.6
-17	6	17	-47.6	-172.3
-19	8	17	-45.8	160.4
-19	8	19	-57.1	128.4
-19	8	20	-115.5	91.3
-19	8	21	-136.7	60.1
-16	5	21	-136.0	32.4
-14	5	19	-112.9	2.4
-14	6	20	-142.8	-28.9
-13	5	20	-168.1	-65.5
-13	8	20	153.4	-97.2
-13	8	17	139.1	-132.9
-13	8	14	151.0	-161.2
-12	8	15	135.5	-175.7
-8	8	22	106.3	161.0

AVERAGE DST VALUE : -18.5

IST 80 5 28

DST	DS1	DS2	ALPHA1	ALPHA2
-6	3	31	59.6	134.4
-2	11	34	8.3	109.3
2	11	28	-22.1	84.5
7	12	22	-38.9	64.1
7	8	18	-53.6	31.4
7	9	19	-64.4	-2.7
6	9	19	-75.3	-33.7
6	8	17	-74.7	-66.7
4	9	16	-54.8	-107.6
4	9	17	-55.8	-146.2
3	8	17	-61.4	-177.1
2	7	19	-41.1	156.3
-1	7	20	-28.6	132.4
-3	6	19	-23.2	106.5
-5	6	21	-69.1	83.0
-1	6	23	-129.1	49.2
-1	4	21	165.6	-5.2
-2	4	21	89.5	-48.3
-1	6	20	64.0	-77.9
1	6	20	53.4	-102.3
1	4	20	83.9	-127.9
2	3	13	115.2	-154.3
6	4	14	-168.1	174.1
7	7	16	-160.6	148.5

AVERAGE DST VALUE : 2.0

IST 80 5 29

DST	DS1	DS2	ALPHA1	ALPHA2
9	1	22	-134.6	131.4
14	5	24	-24.2	112.3
16	16	27	-33.5	95.0
17	17	20	-53.3	81.2
17	14	16	-69.7	71.0
15	12	13	-88.5	61.3
10	8	11	-86.9	43.1
9	6	11	-122.1	14.3
9	5	9	-133.4	-28.4
8	2	11	-92.9	-96.9
5	8	14	-19.5	-150.1
3	6	16	-1.9	-178.5
0	6	19	-27.2	136.7
0	2	19	-104.9	93.4
1	6	22	175.1	52.8
2	10	26	157.1	12.9
1	11	26	113.7	-19.2
-1	12	25	110.9	-46.7
-1	13	22	107.5	-64.6
0	10	22	123.0	-81.4
11	12	27	140.5	-98.0
14	15	29	131.0	-116.2
16	12	29	106.4	-146.9
18	8	25	81.8	177.7

AVERAGE DST VALUE : 8.3

IST 80 5 30

DST	DS1	DS2	ALPHA1	ALPHA2
19	5	23	55.7	143.1
19	4	26	26.1	115.2
7	6	28	30.2	81.0
5	5	23	15.9	49.7
4	5	28	-0.2	15.2
5	6	25	-11.9	-19.8
3	2	26	-25.3	-47.5
4	4	26	66.5	-74.0
3	7	29	53.7	-101.4
4	8	28	30.6	-128.3
3	9	19	30.8	-151.1
6	11	20	20.2	-178.5
6	7	24	-29.3	132.3
7	7	24	-99.3	89.2
5	3	23	-143.1	52.9
6	8	27	-144.2	24.0
6	7	22	-171.3	-3.1
6	7	23	157.3	-30.3
3	6	24	140.4	-67.7
3	9	24	126.3	-80.6
7	10	24	118.9	-106.4
8	10	24	116.3	-130.6
9	9	24	104.9	-157.9
3	23	37	71.7	-178.7

AVERAGE DST VALUE : 6.5

IST 80 5 31

DST	DS1	DS2	ALPHA1	ALPHA2
11	13	35	33.7	142.1
11	11	40	33.7	123.5
3	16	34	-9.4	84.4
-2	15	32	-12.2	53.0
-6	12	26	3.6	29.6
-8	19	23	26.6	-5.5
-12	16	22	7.4	-46.3
-10	16	21	-4.4	-82.7
-7	19	20	-10.1	-114.1
-5	15	19	-10.5	-138.0
-6	14	21	-11.3	-164.3
-11	19	24	-22.3	160.7
-16	18	30	-47.0	119.3
-22	12	37	-63.8	82.0
-24	9	26	-33.6	57.2
-19	4	26	-127.8	29.5
-24	3	23	-164.4	-3.3
-24	8	21	175.5	-31.1
-20	8	22	153.6	-52.6
-16	7	22	142.2	-80.1
-17	7	20	147.0	-111.2
-11	13	16	171.4	-130.2
-17	7	10	142.6	-122.1
-16	26	16	34.9	163.3

AVERAGE DST VALUE : -11.3

END OF YOUR FILE

EST -0 0 1

EST	DS1	DS2	ALPHA1	ALPHA2
-16	15	2[illegible]	31.5	126.1
-18	11	25	32.4	98.4
-19	12	20	32.6	75.2
-21	15	17	34.7	49.4
-23	17	21	26.5	-4.1
-24	29	28	25.4	-28.7
-26	31	28	3.0	-70.3
-30	27	33	-6.1	-98.0
-42	30	40	-13.4	-125.0
-54	35	41	-11.9	-151.4
-64	32	38	-12.6	177.1
-66	23	37	-23.3	143.3
-56	24	29	-14.1	114.5
-59	18	22	-17.5	87.3
-61	19	19	-29.5	55.4
-60	21	17	-47.1	33.1
-58	19	15	-57.6	11.5
-64	20	16	-69.6	7.2
-66	19	17	-89.2	-16.5
-68	16	20	-106.2	-48.0
-60	9	16	-146.5	-82.4
-45	7	17	142.4	-123.1
-42	7	17	84.1	-159.3
-39	6	19	97.7	163.1

AVERAGE DST VALUE : -42.3

EST -0 0 2

EST	DS1	DS2	ALPHA1	ALPHA2
-37	19	23	65.2	127.2
-36	17	17	30.0	102.3
-40	16	14	09.7	78.3
-39	19	14	56.3	33.3
-38	17	19	56.0	5.6
-35	18	22	47.7	-27.3
-31	16	23	31.2	-63.2
-28	18	27	4.8	-99.9
-25	15	30	-9.6	-129.7
-15	20	32	-31.4	-154.3
-12	17	35	-45.1	174.3
-7	15	36	-75.4	144.1
-5	9	23	-107.8	116.1
-6	5	20	-122.3	90.0
-5	2	13	-122.2	59.6
-4	4	15	-122.7	31.2
-4	6	20	-112.3	10.1
-5	5	20	-122.7	-13.4
-5	3	17	-113.1	-40.1
-4	3	17	-115.6	-75.2
-4	3	17	-108.9	-105.2
-4	3	13	-108.4	-143.5
-8	7	17	-121.5	179.3
-9	9	14	-160.0	151.0

AVERAGE DST VALUE : -16.9

EST 50 0 3

EST	DS1	DS2	ALPHA1	ALPHA2
-10	12	13	136.0	117.1
-9	15	16	120.3	83.0
-11	16	6	101.6	58.3
-12	18	6	85.2	30.3
-11	16	7	86.0	1.7
-13	13	6	46.2	-23.6
-14	15	12	23.5	-64.7
-16	16	13	6.3	-89.7
-17	14	20	-7.2	-114.7
-14	14	22	-9.3	-136.9
-15	12	21	-20.4	-164.7
-17	8	20	-26.3	160.8
-15	7	17	-1.1	144.1
-8	6	16	-29.5	103.3
-4	6	16	-48.6	78.1
-1	6	17	-52.6	45.4
6	13	16	-90.4	25.1
14	27	-130.9		7.9
10	21	11	-83.4	-15.2
6	25	6	-86.7	-47.1
5	29	5	-96.1	-101.5
4	17	11	-102.6	-150.3
1	9	15	-136.3	-177.4
0	5	18	160.8	163.9

AVERAGE DST VALUE : -5.1

EST 50 0 4

EST	DS1	DS2	ALPHA1	ALPHA2
0	7	19	99.5	144.3
3	7	21	70.3	113.1
1	7	19	96.5	83.9
4	7	18	94.9	54.9
6	6	16	44.6	19.3
8	7	17	44.5	-22.4
14	8	17	9.6	-50.8
19	11	20	-19.0	-84.1
20	12	21	-37.0	-116.3
20	12	20	-43.1	-142.5
17	8	18	-39.4	-164.6
11	5	16	-36.4	169.0
12	7	16	-32.9	139.3
14	10	16	-31.5	117.4
18	11	17	-45.8	86.1
15	11	20	-71.0	50.5
15	14	21	-83.0	25.7
10	17	20	-77.4	-9.4
17	16	18	-109.0	-33.6
19	18	16	-144.1	-58.5
18	16	17	-141.2	-86.7
17	15	17	-169.4	-124.1
10	11	16	156.2	-163.3
6	9	15	143.0	163.1

AVERAGE DST VALUE : 12.3

EST 50 0 5

EST	DS1	DS2	ALPHA1	ALPHA2
5	6	17	124.3	132.0
3	6	13	118.7	99.9
0	8	15	94.4	73.3
-2	10	15	75.8	43.7
-1	10	13	68.1	9.4
0	10	12	53.2	-24.0
0	10	13	36.4	-52.8
0	10	15	20.1	-84.0
-6	12	15	8.5	-114.4
-5	10	16	-3.8	-140.4
-4	8	20	-20.4	-175.2
-4	7	18	-27.5	157.3
-2	6	16	-30.7	134.6
-2	4	16	-44.5	109.3
-2	4	16	-57.6	78.7
-1	4	17	-92.9	41.5
0	3	13	-116.7	5.3
2	3	20	-127.6	-27.7
1	6	22	-172.8	-52.4
2	10	25	152.8	-73.9
0	14	26	132.0	-98.2
0	14	29	120.6	-129.8
0	12	28	111.4	-161.3
-3	12	22	106.0	164.4

AVERAGE DST VALUE : -0.6

EST 50 0 6

EST	DS1	DS2	ALPHA1	ALPHA2
-1	12	20	104.7	131.3
-4	13	18	99.9	102.1
-4	13	12	94.5	77.8
-3	13	13	92.4	41.7
0	11	12	71.7	15.6
3	8	13	57.3	-11.6
4	9	15	46.8	-44.6
4	9	15	28.6	-72.5
4	12	17	20.7	-112.9
2	13	22	-1.4	-146.3
-1	13	24	-22.8	-175.4
-1	11	22	-51.3	156.3
4	7	19	-79.2	120.1
13	5	20	-139.7	87.3
20	8	19	101.3	54.3
26	8	15	139.9	20.3
17	9	20	90.2	-3.7
21	7	21	74.5	-40.1
14	4	20	71.0	-68.4
17	4	19	-14.4	-95.6
24	7	13	-76.4	-108.0
24	9	14	-127.0	-131.3
32	17	7	-154.5	-146.0
42	15	6	149.5	145.3

AVERAGE DST VALUE : 13.3

EST 50 0 7

EST	DS1	DS2	ALPHA1	ALPHA2
41	4	4	157.7	149.0
20	10	9	171.9	111.4
25	8	16	172.5	84.2
14	1	13	102.1	44.5
-6	11	24	-29.6	-3.0
-10	10	31	-17.6	-35.7
-5	14	34	11.4	-61.3
-10	10	30	5.7	-92.0
-2	15	31	-16.7	-120.3
4	15	37	-35.2	-157.3
6	16	37	-37.9	174.0
-3	17	38	-59.5	143.1
1	15	27	-76.5	117.8
3	14	25	-56.7	85.7
-4	20	15	-43.3	66.5
0	20	14	-65.1	43.3
5	21	13	-66.6	22.1
8	25	12	-66.6	-1.6
8	27	11	-68.1	-30.9
-9	15	13	-106.4	-36.3
-9	10	16	-172.6	-54.6
-12	5	15	-174.4	-116.3
-15	20	10	99.2	-166.5
-24	28	21	55.6	171.5

AVERAGE DST VALUE : 0.0

EST 50 0 8

EST	DS1	DS2	ALPHA1	ALPHA2
-32	27	24	39.8	145.1
-34	41	31	53.3	108.0
-42	40	26	34.8	70.0
-34	28	29	29.4	40.3
-34	17	26	24.6	14.3
-28	9	22	-13.2	-13.8
-25	14	23	-22.9	-46.8
-20	10	20	32.2	-76.3
-27	13	22	1.2	-115.7
-24	13	30	-26.9	-155.3
-20	10	34	-59.6	169.1
-27	7	33	6.2	131.8
-34	5	24	41.4	103.9
-24	3	22	150.5	75.2
-20	3	21	158.3	49.6
-19	2	19	-177.7	20.2
-21	3	16	29.3	-3.1
-20	4	18	38.1	-28.3
-15	7	15	51.1	-46.3
-14	9	15	102.4	-66.9
-13	5	13	-170.7	-103.4
-17	7	14	168.2	-138.7
-18	9	17	156.5	-170.7
-12	12	18	139.8	164.3

AVERAGE DST VALUE : -24.4

EST 80 0 9

EST	DS1	DS2	ALPHA1	ALPHA2
-13	11	17	118.0	136.8
-12	11	12	96.4	121.7
-14	14	7	72.2	109.1
-15	12	6	69.2	75.1
-7	7	7	40.0	45.7
-2	7	8	4.9	-5.8
1	8	12	-17.0	-46.6
2	9	16	-28.1	-85.7
4	11	22	-30.5	-123.0
-6	15	25	-2.9	-156.7
-15	19	25	-5.0	172.3
-14	16	26	-26.6	142.4
-12	10	27	-46.1	106.2
-11	9	21	-76.1	63.4
-10	5	18	-65.1	60.6
-10	5	15	-71.3	35.5
-7	4	17	-137.1	9.7
-6	7	21	-164.8	-14.9
-5	3	22	174.6	-43.7
-4	8	20	172.3	-61.4
-9	3	19	160.4	-77.6
-16	9	16	164.4	-117.6
-22	15	16	122.2	-15[illegible]
-27	18	18	92.0	157.3

AVERAGE DST VALUE : -3.4

EST 80 0 10

EST	DS1	DS2	ALPHA1	ALPHA2
-27	24	21	70.5	131.6
-31	17	24	35.2	110.5
-34	6	26	24.3	84.1
-34	6	25	20.8	51.3
-31	6	24	24.7	18.3
-34	15	19	28.3	-7.4
-38	21	21	25.4	-48.7
-46	23	26	6.9	-96.3
-27	20	27	11.2	-125.7
-30	22	31	14.4	-159.2
-37	27	29	9.7	172.1
-39	25	26	4.2	140.1
-32	16	23	-7.3	114.2
-29	8	17	-23.6	81.2
-46	7	15	-58.0	65.3
-48	4	17	-47.4	47.3
-27	6	16	27.7	26.1
-16	5	17	13.3	-4.0
-25	11	24	6.6	-28.5
-31	4	22	-122.0	-53.3
-29	13	19	-163.3	-77.1
-26	12	22	148.7	-124.5
-29	18	20	112.4	-160.3
-33	15	27	69.9	173.6

AVERAGE DST VALUE : -28.0

EST 80 0 11

EST	DS1	DS2	ALPHA1	ALPHA2
-27	15	30	45.9	142.1
-41	25	35	40.6	104.4
-39	22	36	27.1	78.2
-44	16	33	7.9	43.4
-22	15	32	5.2	14.9

-26	19	23	20.2	-20.5
-24	27	32	-0.4	-62.3
-25	31	39	-11.8	-94.2
-40	56	44	5.8	-118.7
-40	56	34	6.2	-143.2
-49	59	33	-14.5	-176.9
-65	46	31	-33.2	147.5
-67	41	34	-61.8	105.3
-54	6	29	29.7	80.3
-71	15	25	25.0	38.2
-26	26	19	33.1	-3.1
-74	29	15	37.1	-10.4
-69	15	20	38.6	-24.1
-68	8	21	60.4	-34.2
-65	12	23	37.8	-45.5
-60	7	29	77.6	-89.9
-58	10	17	39.3	-119.7
-61	22	17	96.6	-160.9
-50	27	15	39.5	179.1

AVERAGE DST VALUE : -48.0

IST 00 6 12

IST	DS1	DS2	ALPHA1	ALPHA2
-58	26	21	50.9	145.9
-58	29	24	72.5	111.4
-59	32	21	57.4	71.7
-60	29	19	50.4	43.6
-60	28	18	46.3	17.1
-52	17	24	24.6	-29.4
-47	18	32	-2.0	-68.9
-45	21	42	2.4	-97.3
-48	27	42	17.0	-143.2
-52	36	45	-8.2	-151.4
-56	33	46	-32.9	171.6
-61	21	43	-39.6	137.6
-60	17	31	-49.7	107.3
-58	4	21	-48.4	80.3
-56	1	19	-154.5	56.2
-56	3	17	46.9	28.7
-58	7	15	17.9	9.4
-48	11	16	-1.4	-11.6
-45	15	14	-39.1	-16.9
-49	16	12	-36.9	-35.1
-46	10	15	-26.3	-72.6
-50	5	22	-50.5	-119.4
-52	6	17	-11.9	-154.4
-60	16	20	74.2	135.1

AVERAGE DST VALUE : -53.3

IST 00 6 13

IST	DS1	DS2	ALPHA1	ALPHA2
-59	12	21	66.3	123.2
-57	7	20	34.7	101.3
-55	24	19	72.2	61.9
-54	26	21	46.3	14.3
-54	23	24	34.9	-9.9
-57	24	31	28.1	-52.2
-54	21	34	30.3	-59.1
-58	26	42	-3.0	-93.4
-67	32	46	13.3	-124.1
-66	34	50	-3.3	-159.3
-68	35	45	-15.4	179.9
-69	26	35	-44.3	131.6
-61	5	33	-58.7	107.5
-62	11	19	-34.2	101.1
-53	2	16	-14.2	69.1
-49	3	16	58.4	47.4
-45	11	18	13.6	26.5
-44	20	19	-6.0	-2.4
-47	20	18	-20.8	-13.5
-47	14	17	-42.5	-43.2
-44	7	17	-65.8	-82.2
-44	6	24	-32.7	-113.1
-50	3	31	10.3	-154.6
-44	5	21	61.3	168.7

AVERAGE DST VALUE : -53.2

IST 00 6 14

IST	DS1	DS2	ALPHA1	ALPHA2
-38	8	26	37.5	143.9
-38	7	24	70.4	105.9
-40	10	19	72.4	75.5
-38	13	19	71.3	41.8
-34	9	19	94.8	10.8
-33	10	21	37.7	-22.1
-27	9	25	20.4	-55.5
-17	8	27	-4.5	-83.1
-14	8	26	-14.1	-111.3
-17	10	24	-7.3	-145.3
-17	9	22	-17.0	-178.3
-18	4	22	-37.4	147.8
-17	4	22	-114.5	109.2
-18	4	22	-136.4	76.3
-19	1	21	-102.0	55.5
-15	3	19	-34.0	34.7
-14	6	20	-85.5	16.1
-15	11	20	-32.1	-3.3
-14	12	19	-110.4	-26.5
-12	8	23	-147.6	-57.1
-12	6	20	164.8	-88.1
-16	10	31	70.6	-121.3
-15	10	34	68.6	-155.7
-12	8	36	70.8	172.9

AVERAGE DST VALUE : -21.3

IST 00 6 15

IST	DS1	DS2	ALPHA1	ALPHA2
-44	6	29	130.5	137.8
-19	15	7	130.0	94.3
-19	18	9	112.0	61.4
-22	20	12	100.0	29.7
-23	17	19	78.8	0.4
-21	15	24	51.6	-24.5
-19	10	28	31.6	-51.4
-13	9	24	13.5	-73.2
-8	10	24	-17.6	-112.7
-6	12	26	-32.3	-147.3
-5	14	25	-37.5	-171.9
-6	17	28	-44.0	148.3
-5	17	27	-56.3	122.5
-1	21	23	-62.4	109.2
1	22	21	-70.1	89.2
1	21	22	-82.7	61.0
4	21	21	-59.9	34.4
3	17	23	-109.8	4.5
3	16	22	-123.2	-21.3
4	16	23	-145.3	-52.2
2	13	25	179.2	-85.0
-1	10	29	126.0	-124.2
-2	9	28	104.2	-151.5
-8	8	29	98.2	168.1

AVERAGE DST VALUE : -7.4

IST 00 6 16

IST	DS1	DS2	ALPHA1	ALPHA2
-9	8	23	91.0	135.8
-8	8	25	104.8	101.5
-6	9	25	82.7	73.3
-5	9	25	76.4	39.0
-4	9	23	54.0	3.8
-8	7	15	37.6	-20.8
-6	5	12	1.7	-39.4
-4	1	9	-6.7	-46.3
-5	1	10	115.2	-66.3
-5	4	13	96.4	-110.3
-5	7	15	91.0	-136.8
-6	11	12	51.5	-152.9
-8	10	12	49.9	147.8
-8	7	15	27.4	99.3
-10	10	16	-11.7	72.0
-12	11	18	-42.6	46.6
-12	11	20	-73.3	30.1
-14	16	24	-91.5	-3.6
-16	17	26	-119.2	-25.2
-16	14	28	-155.8	-52.8
-18	10	28	156.1	-91.3
-17	10	29	116.9	-127.7
-18	11	27	91.5	-162.5
-16	6	26	84.5	166.4

AVERAGE DST VALUE : -10.6

IST 00 6 17

IST	DS1	DS2	ALPHA1	ALPHA2
-15	4	21	89.8	136.1
-16	7	19	101.3	111.5
-17	7	19	87.5	82.3
-14	6	26	56.7	48.3
-13	5	28	45.7	15.5
-11	6	28	33.9	-14.8
-11	8	29	41.2	-46.3
-14	10	29	37.7	-73.6
-11	10	22	27.5	-106.7
-8	10	20	5.9	-137.1
-5	11	19	-17.0	-169.5
-4	11	20	-48.6	153.3
-4	11	22	-75.0	121.1
-2	12	22	-92.9	87.0
-2	8	20	-108.4	53.0
-2	7	19	-111.0	36.0
-2	5	19	-124.1	19.2
-2	5	22	-176.3	-17.3
0	7	27	154.8	-47.1
0	8	28	137.7	-74.1
0	8	29	129.0	-101.7
0	8	29	101.1	-132.5
1	8	30	85.3	-164.8
1	8	27	94.5	166.2

AVERAGE DST VALUE : -6.5

IST 00 6 18

IST	DS1	DS2	ALPHA1	ALPHA2
-2	4	25	105.1	135.5
-1	5	23	108.3	105.1
-2	5	20	85.6	79.7
-2	5	14	80.7	45.1
0	5	8	82.6	21.7
0	5	3	91.7	-9.1
0	5	10	39.7	-32.6
0	5	9	28.1	-51.3
0	4	8	20.1	-64.9
0	4	8	-40.7	-104.6
0	5	8	-35.5	-135.5
0	5	11	-63.3	173.3
0	7	14	-68.6	124.5
0	7	16	-69.4	95.0
0	6	15	-69.7	63.9
0	6	15	-105.2	35.4
0	10	21	-130.7	10.3
0	10	23	-136.3	-16.3
0	12	21	-143.2	-37.1
0	10	15	-141.8	-67.7
0	7	15	-133.6	-102.0
0	6	17	-130.0	-136.4
0	7	16	-102.8	169.0
0	7	20	-149.9	168.7

AVERAGE DST VALUE : 8.1

IST 00 6 19

IST	DS1	DS2	ALPHA1	ALPHA2
15	8	19	-164.2	136.7
14	13	11	164.8	98.5
13	16	4	138.0	71.8
16	13	3	118.7	64.6
17	6	7	87.8	66.2
16	4	5	24.8	32.7
12	4	9	-31.4	-14.1
10	3	9	-54.1	-32.1
7	3	10	-6.8	-53.8
9	3	13	-32.9	-103.4
9	4	13	-8.3	-140.1
9	11	15	-5.8	-172.0
9	14	14	-21.2	152.4
9	13	15	-42.4	118.4
12	16	17	-60.9	81.6
14	16	17	-84.2	46.8
12	5	17	-101.2	17.0
5	5	21	-105.8	-7.0
4	6	26	-107.7	-29.6
2	8	26	-105.9	-53.5
2	9	29	-95.8	-87.2
9	9	26	145.6	-129.1
12	4	27	133.9	-151.2
11	1	26	162.2	174.5

AVERAGE DST VALUE : 10.5

IST 00 6 20

IST	DS1	DS2	ALPHA1	ALPHA2
5	5	27	57.1	149.6
5	7	26	41.9	112.2
5	7	19	35.8	85.5
5	5	17	42.7	67.2
13	2	13	16.1	44.3
13	1	10	23.1	23.4
13	5	8	38.3	2.0
11	7	8	40.2	-23.7
11	10	10	31.8	-68.2
10	14	17	19.3	-131.2
12	12	16	7.9	-155.0
11	13	13	-2.1	174.1
9	14	17	-18.0	147.6
12	12	16	-33.6	115.2
12	7	17	-57.5	71.2
10	3	19	-116.5	30.9
12	4	22	173.2	5.9
11	4	24	154.7	-15.3
13	4	21	-155.8	-47.5
16	7	19	-140.8	-73.7
18	9	16	-146.4	-101.9
19	9	20	-139.6	-140.1
20	9	18	-130.0	-174.7
18	8	16	-150.3	156.7

AVERAGE DST VALUE : 12.0

IST 00 6 21

IST	DS1	DS2	ALPHA1	ALPHA2
16	7	16	-173.8	131.3
17	11	7	-175.9	94.5
14	7	6	161.1	94.8
12	6	10	120.2	55.3
13	4	14	81.1	24.4
12	4	11	49.1	2.3
9	7	11	39.6	-34.2
8	8	10	46.7	-70.4
8	11	13	40.7	-95.9
8	11	13	38.2	-119.5
7	11	13	25.7	-153.3
1	10	17	7.7	179.9
2	3	17	-4.0	130.7
5	4	16	-25.2	101.6
3	6	17	-73.2	74.2
10	7	24	-112.3	49.3
4	8	22	-98.1	15.1

5	8	24	-106.0	-3.1
4	13	19	-144.4	-40.7
14	16	19	-137.9	-65.8
16	17	18	-145.1	-93.3
16	14	19	-154.4	-136.2
15	11	19	-155.6	-172.6
15	9	20	-151.0	154.5

AVERAGE DS2 VALUE : 10.0

IST 80 G 24

IST	DS1	DS2	ALPHA1	ALPHA2
9	6	23	161.8	131.6
3	7	24	83.0	106.4
-0	8	20	59.8	79.3
-2	7	20	80.4	43.7
-2	7	20	72.0	13.1
-2	7	22	58.1	-14.3
-2	7	19	47.5	-45.4
-5	6	17	31.4	-77.4
8	7	16	25.2	-102.2
8	8	15	21.9	-134.0
8	7	19	9.4	-167.9
7	4	20	-12.4	150.6
7	5	21	-83.9	119.0
10	7	20	-78.4	91.3
12	11	19	-77.7	70.0
16	16	19	-86.4	57.7
18	22	21	-92.4	36.0
21	23	21	-101.4	8.0
18	22	19	-111.6	-24.3
16	21	16	-126.0	-55.1
10	17	13	-141.8	-86.3
7	14	14	-155.6	-119.3
8	11	16	-153.6	-173.8
8	8	18	-171.9	156.1

AVERAGE DST VALUE : 7.8

IST 80 G 23

IST	DS1	DS2	ALPHA1	ALPHA2
-7	6	18	169.8	129.6
-8	5	19	133.4	116.0
-8	5	19	95.8	115.7
-6	2	14	23.2	79.0
-5	5	17	-58.3	42.2
-4	4	15	-57.6	17.9
-4	4	12	-49.9	-19.0
-3	3	12	5.2	-57.8
-2	3	11	30.1	-83.4
-1	4	14	37.4	-110.1
-0	6	17	14.7	-164.3
1	6	18	55.0	156.2
2	5	20	-24.5	119.5
2	3	14	-29.8	85.1
3	4	18	-45.9	62.1
5	5	15	-60.4	35.0
10	9	16	-94.0	19.1
11	11	19	-99.9	-7.6
14	14	18	-113.4	-30.4
11	11	16	-126.0	-70.7
14	10	15	-135.5	-93.0
6	6	21	-163.7	-132.3
3	7	24	175.4	-163.1
3	7	23	143.8	163.9

AVERAGE DST VALUE : 1.7

IST 80 G 24

IST	DS1	DS2	ALPHA1	ALPHA2
3	9	25	112.0	136.9
2	6	25	101.2	107.1
8	6	23	90.3	81.0
14	8	24	81.8	64.3
15	10	23	55.3	49.2
15	12	22	61.1	40.0
18	12	21	59.7	22.5
18	13	20	54.8	-42.1
18	15	20	50.6	-83.7
16	16	20	39.2	-124.5
16	18	20	14.7	-155.3
14	21	20	14.9	161.5
7	23	20	43.3	126.7
3	21	20	37.0	92.9
3	23	20	32.3	59.9
3	25	20	34.0	31.2
4	21	20	41.3	6.1
3	19	20	49.8	-19.8
3	16	20	58.8	-42.0
4	16	20	148.1	-63.3
6	12	19	178.1	-84.1
10	9	20	160.6	-114.6
-5	3	27	120.6	-145.1
-11	2	26	3.3	171.3

AVERAGE DST VALUE : 13.4

IST 80 G 25

IST	DS1	DS2	ALPHA1	ALPHA2
-14	8	31	4.7	140.3
-11	11	31	7.2	108.2
-7	8	28	-5.8	84.0
-5	8	30	74.3	66.1
-4	5	24	11.8	33.5
-4	11	18	17.8	11.3
-6	12	9	9.9	-23.8
-0	5	13	-3.3	-77.1
1	7	16	11.7	-103.0
2	6	18	32.6	-127.1
2	7	18	22.6	-165.7
3	5	23	-16.6	152.4
3	3	23	-48.6	117.5
4	2	22	-117.5	81.2
4	3	21	-124.5	55.4
4	3	20	-154.4	33.6
3	1	19	-159.9	12.7
2	2	20	-125.7	-17.5
1	7	19	-119.9	-41.6
11	14	17	-133.5	-56.3
18	16	15	-155.8	-85.2
22	16	17	-166.4	-114.7
18	14	18	-172.9	-155.7
8	3	21	164.2	168.0

AVERAGE DST VALUE : 3.3

IST 80 G 26

IST	DS1	DS2	ALPHA1	ALPHA2
15	12	26	49.6	143.1
11	11	24	8.1	116.8
10	9	19	-7.0	91.0
7	6	6	54.2	64.9
3	3	4	48.5	57.3
1	1	4	20.1	17.0
1	1	4	-11.4	-0.9
1	1	4	-11.3	-31.3
1	1	4	-36.1	-61.2
1	1	11	177.6	-123.6
1	5	13	99.4	-149.6
-2	3	15	9.1	173.4
-2	5	23	-37.6	120.7
-7	5	18	-19.2	39.5
-8	6	16	-14.4	66.6
-10	6	15	-23.6	43.3
-17	15	16	-37.6	14.0
-27	17	17	-44.5	-6.6
-40	19	22	-34.3	-26.1
-49	21	21	-37.6	-55.3
-45	16	21	-46.6	-95.7
-30	4	22	-39.6	-131.7
-18	2	23	-35.0	-161.3
-10	2	33	2.1	167.3

AVERAGE DST VALUE : -9.8

IST 80 G 27

IST	DS1	DS2	ALPHA1	ALPHA2
-25	6	35	40.7	140.6
-22	6	31	76.8	107.7
-21	6	26	56.8	75.9
-18	6	22	55.4	47.2
-18	6	22	65.6	7.9
-20	6	20	69.3	-21.3
-19	6	20	55.0	-51.2
-14	7	24	47.2	-81.2
-18	7	24	38.3	-113.7
-17	6	22	22.6	-143.8
-16	6	22	9.9	-174.7
-15	6	19	-8.6	155.8
-15	5	19	-66.6	124.6
-15	5	19	-76.0	92.1
-12	5	18	-82.2	63.8
-11	5	18	-95.7	40.4
-9	7	17	-93.6	21.7
-7	7	18	-95.2	-6.0
-7	7	16	-103.2	-19.3
-6	6	13	-114.6	-71.0
-4	5	15	-134.5	-105.3
-5	5	14	-148.5	-146.3
-7	5	11	-166.7	173.2
-10	5	9	167.9	130.4

AVERAGE DST VALUE : -14.3

IST 80 G 28

IST	DS1	DS2	ALPHA1	ALPHA2
-10	14	11	142.6	111.4
-7	11	10	129.9	90.7
-5	9	24	98.7	68.1
-5	5	26	84.2	40.2
-4	2	25	61.6	14.6
-4	2	23	44.1	-10.4
-3	2	23	27.3	-50.0
-2	2	21	9.6	-84.4
-2	2	22	-6.1	-119.9
-4	2	23	-21.6	-148.7
-6	9	21	-15.9	-177.1
-6	13	19	-10.3	161.7
-5	13	17	-21.3	144.4
-2	15	16	-40.7	122.3
-2	15	17	-53.7	99.3
-5	15	15	-74.8	81.1
-7	11	19	-126.2	62.3
-6	8	22	150.4	-27.3
-7	4	20	113.1	-62.3
-6	1	19	97.6	-99.3
-4	1	16	146.6	-132.7
-2	1	16	-177.0	-154.3
-2	2	17	167.1	-176.3
-2	10	20	137.9	162.4

AVERAGE DST VALUE : -5.1

IST 80 G 29

IST	DS1	DS2	ALPHA1	ALPHA2
-1	3	26	95.4	156.1
-1	6	29	87.0	103.4
3	4	28	47.5	77.4
1	4	35	19.9	48.8
3	4	36	24.0	14.0
3	4	31	24.7	-19.3
5	6	25	24.7	-42.2
6	6	22	15.5	-84.5
5	6	18	6.4	-111.2
5	6	16	-0.1	-136.5
2	4	13	11.5	-167.3
-1	4	15	9.7	157.2
2	4	17	-31.6	124.1
2	4	16	-49.5	97.5
1	4	17	-71.3	60.2
2	4	20	-137.6	27.7
2	4	23	-133.2	5.3
1	4	19	-136.4	-20.3
1	4	16	-107.2	-56.9
2	4	14	-116.4	-88.5
5	5	11	-138.1	-120.4
11	9	9	-137.2	-151.8
15	12	7	-171.7	-176.9
14	14	11	159.1	169.5

AVERAGE DST VALUE : 2.8

IST 80 G 30

IST	DS1	DS2	ALPHA1	ALPHA2
-9	12	15	94.6	137.0
-17	11	17	67.7	107.8
-13	11	19	47.6	80.4
-5	7	19	14.2	61.7
0	7	15	-14.4	35.0
2	6	8	-16.5	7.0
6	5	5	-17.7	-8.7
7	11	10	-16.5	-33.3
5	14	23	-20.6	-126.7
6	14	27	-30.4	-157.6
6	11	27	-54.6	171.5
6	7	29	-67.5	134.2
-5	6	22	-10.9	102.9
-5	2	23	-1.6	72.3
-5	2	24	132.5	38.4
-6	5	22	125.6	7.8
-5	5	22	32.9	-34.3
-5	5	24	98.4	-63.3
-5	5	17	-97.4	-93.1
-6	10	16	-109.1	-79.3
-6	11	15	-126.3	-104.1
-6	11	14	-155.4	-136.5
-6	12	14	176.0	-166.5
-11	12	12	146.6	161.6

AVERAGE DST VALUE : -3.4

END OF YOUR FILE