DATA SET CATALOG #57
OSO-1 GAMMA RAY

62-006A-08A 3 tapes

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1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

http://nssdc.gsfc.nasa.gov/nmc/

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

a. Associated Documents To find associated documents you will need to know the document ID number and then click here.
http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/

b. Core Catalog Materials

OSO 1

GAMMA-RAY FLUX IN COUNTS PER SQ C

62-006A-08A

This data set has been restored. There were originally three 7-track, 556 BPI tapes written in BCD. There is on restored tape written in ASCII. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The original tapes were created on an IBM 7094 computer and the restored tapes were created on an IBM 9021 computer. The DR and DS numbers along with the corresponding D numbers and time spans are as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR004253	DS004253	D000103	1	03/07/62 - 04/02/62
		D000104	2	04/02/62 - 05/03/62
		D000105	3	05/03/62 - 05/15/62

NSSDC AIM FILE 10/20/71 PAGE 007

62-[illegible] DSC-1, 50-MV 5-MV GAMMA-RAY PHT [illegible]
GAMMA-RAY FLUX IN COUNTS PER 20 C PHT [illegible]

DATA SET NAME- OTHER NAMES
NSSDC/COSMOS-RAY AND SOLAR GAMMA-RAY FLUX DATA ON TAPE

DATA SET BRIEF DESCRIPTION
A TOTAL OF 616 HR OF GOOD DATTIME DATA AND 318 HR OF NIGHTTIME DATA ARE AVAILABLE FROM THE FIRST 1039 ORBITS, WHICH COVERED THE TIME PERIOD MARCH 7, 1962, TO MAY 15, 1962. THE DATA ARE ON THREE REELS OF MAGNETIC TAPE IN BCD MODE AT A DENSITY OF 556 BPI WITH 900 CHARACTERS PER RECORD. THE FOLLOWING INFORMATION IS INCLUDED FOR EACH PASS -- (1) PASS NUMBER, (2) UT, (3) LATITUDE, LONGITUDE, ALTITUDE, B, L, (4) COMPUTED TRAPPED RADIATION ENVIRONMENT, (5) DECOMMUTATED DIGITAL DATA, (6) COUNTING RATES AND ID FOR EACH DATA FRAME, AND (7) NECESSARY SPACECRAFT ORIENTATION PARAMETERS. DUE TO BACKGROUND PROBLEMS, DATA CAN BE USED ONLY TO DETERMINE THE UPPER LIMITS OF GAMMA-RAY FLUX.

DATA SET INFORMATION
DATA AT NSSDC READY FOR DISTRIBUTION
ALL DATA RECEIVED / /

PERIOD COVERED FOR DATA SET
MO/DA/YR TO MO/DA/YR
03/07/62 05/15/62

ACCESSION UNITS
[illegible]

ACQUISITION MANAGEMENT INFORMATION
GROUP C AGENT JAF PRIORITY A
TOTAL ACQ. HOURS SPENT 10 SUBMISSION ARRANGEMENTS 8
ACQ. HOURS SPENT LAST MO. 9 CALIBRATION DOC. -
LAST VISIT MAR. 1968 DATA SET DOC. A
LAST CONTACT MAR. 1968 DATA RECEIVED A
NEXT CONTACT PROGRAMMING N
DATE DATA FIRST REC'D / PROCESSING 7
DATE ACQUISITION COMPLETE / PUBLICATIONS 1
DATA FORM/QUANTITY DIGITAL MAG. TAPE 3 REELS ORIG. DATA TAPES
TASK WAIT
ANTICIPATED QUANTITY IN COMPLETE DATA SET
NSSDC CATALOG STATUS- READY FOR PRINTING

DATE OF UPDATE
ALL CATEGORIES, EXCEPT CATEGORY D 06/20/71
CATEGORY D 09/21/71

[illegible]

[illegible]

EXPERIMENT NAME- OTHER NAMES
[illegible]/GAMMA-RAY SCINTILLATION DETECTOR

PRINCIPAL INVESTIGATOR
PROF. L.E. PETERSON
U OF CALIFORNIA, SD
LA JOLLA, CALIF.

EXPERIMENT BRIEF DESCRIPTION
THIS EXPERIMENT WAS DESIGNED TO MONITOR THE INTENSITY AND DIRECTIONAL PROPERTIES OF GAMMA RAYS BETWEEN 50 KEV AND 3 MEV. THE DETECTION SYSTEM CONSISTED OF THREE SCINTILLATION COUNTERS ARRANGED IN VARIOUS LOGICAL AND SHIELDING CONFIGURATIONS TO PROVIDE DIRECTIONAL PROPERTIES OF GAMMA RAYS AND A PLASTIC PHOSWICH COUNTER TO REJECT UNWANTED COSMIC RAYS PRODUCED IN THE BACKGROUND. THE INSTRUMENT WAS MOUNTED IN THE WHEEL SECTION OF THE SPACECRAFT. ALL THREE SCINTILLATION COUNTERS OPERATED DURING THE SUNLIT PORTION OF EACH ORBIT. DURING THE NIGHT PORTION, ONLY THE COSMIC-RAY SINGLES COUNTER OPERATED. THE VARIOUS BACKGROUND EFFECTS ENCOUNTERED DURING FLIGHT PROMPTED THE FLIGHT OF SIMILAR DETECTORS ON A BALLOON TO DETERMINE THE COSMIC-RAY EFFECTS IN THE MATERIALS SURROUNDING THE DETECTORS.

EXPERIMENT DESCRIPTION
STATUS - INOPERABLE
SCIENTIFIC SUCCESS -
INSTRUMENT PERFORMANCE -
CONTRACT PROVISION -
FUNDING AGENCY -
DESIGN LIFETIME - MO
DATE OF LAST USABLE DATA - 05/15/62
DATE LAST DATA RECORDED - / /
WEIGHT OF EXPERIMENT - KG
AVERAGE POWER - WATTS
AVERAGE BIT RATE - BPS

ORIGINAL EXPERIMENT INSTITUTION
U OF MINNESOTA
SIDS DISCIPLINES OF INTEREST FOR EXPERIMENT CODES 11

STP-WDC DISCIPLINE CODES 2.00

62-006A-08A

1962 006A (08)
1962 ZETA 1
OSO 1

OFFICIAL FILE COPY-NSSDC

D00103
D00104
D00105

03/07/62 —
05/15/62

Data and Format Description

University of Minnesota Gamma-Ray Experiment

Orbiting Solar Observatory-1

- - -

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and

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and

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ABSTRACT

This report describes briefly the data obtained from the University of Minnesota γ-ray experiment on the OSO-1 (1962 Zeta). This data includes the first 1039 passes, covering the period from 7 March to 15 May 1962. The format of the magnetic tapes as submitted to the National Space Science Data Center is described, and a sample printout included. A complete summary of the coverage and availability of data is also given.

INTRODUCTION

The University of Minnesota Gamma-ray experiment on the OSO-1 (S-16) was designed to explore for cosmic and solar γ-rays in the energy range of 50 kev to 3 Mev. The satellite, 1962 Zeta, was launched March 7, 1962 into an orbit whose parameters are:

+ Principal Investigator

* Present Institution

Apogee	595 km
Perigee	550 km
Period	96 minutes
Inclination	33 degrees

The instrument consists of three detectors, arranged to look radially outward of the rotating wheel member of the OSO:

(1) A 2.54 cm diameter x 1.27 cm long NaI scintillation counter with an 0.5 cm thick lead collimating shield. This detector operated over the 50-150 kev range.

(2) A 5.1 cm diameter x 5.75 cm long NaI plastic phoswich counter with isotropic response operating in two channels over the 0.3-1.0 Mev and 1.0-3.0 Mev range.

(3) A Compton telescope consisting of a 3.2 x 3.2 cm NaI scintillation counter in coincidence with the phoswich counter.

Each wheel scan was divided into sixteen 22.5° sectors by a set of sun slits placed around the OSO-wheel. Data was obtained from one of the 22.5° sector intervals plus the sun sector, at any given time. The sector interval was periodically advanced. Events were accumulated in 6-9 bit registers which were read out at a 1 bit/second rate in a digital format whose frame period was 78 seconds. The registers accumulated events as follows:

(1) The 50-150 kev lead pipe telescopes during the sun-gate interval;

(2) The 50-150 kev lead pipe telescopes during the sector-gate interval;

(3) Scaled down counts from the 0.3-1.0 Mev isotropic counter continuously;

(4) The 0.3-1.0 Mev Compton telescope during the sector gate interval;

(5) Scaled down counts from the 1.0-3.0 Mev isotropic counter continuously;

(6) The 1.0-3.0 Mev Compton telescope during the sector gate interval.

During satellite night, the digital format was inhibited, and the total integral rate > 1 Mev of the isotropic counter, and the total telescope coincidence rate were accumulated in binary scalers and read in a quasi-digital format. Both day and night data were accumulated in the OSO tape recorder, so nearly continuous information retrieval is obtained.

The reduced data from this experiment are in the form of three reels of 556 bpi magnetic tape. These are available at the National Space Science Data Center covering the first 1039 passes. This is the period from March 7, 1962 to April 15, 1962.

The data include:

(1) Pass, date, and identification information

(2) UT time

(3) Latitude, Longitude, Altitude, B, L

(4) Computed Trapped Radiation Environment

(5) Decommutated Digital Data

(6) Rates for each data frame, for each detector channel

(7) I.D. for each data frame

(8) Spin axis and solar vector, Right Ascension and Declination

(9) Pitch and roll angles, and spin rate

(10) Sector Look Vector, R.A. and Declination and earth tangent plane angle

Some of the above information is not available during satellite night.

DATA TAPE DESCRIPTION

Tapes are in 556 bpi density packed 8 logical records per physical record, one logical record being 120 BCD characters. At the end of each logical record there appears the octal character 32 as the last character (120th). This was used for listing purposes at UCSD. The last physical record in the pass is blank filled so that every pass starts with a new physical record. Pass numbers run consecutively on the three tapes, the last partial pass on a tape being repeated on the next tape. Each logical record corresponds to one line of printed information.

The second character of each logical record is a data type indicator (the first one being a carriage control character: 1, 0, or blank) with following meanings:

0: Proton flux data

1: Pass header information

2: Information title record

3: Day data

4: Night data

These are explained below in detail, and may be understood by referring to the sample printout in the enclosed Appendix I.

0: When there is neither day nor night data available and the instantaneous (40 - 110 Mev omnidirectional) proton flux is nonzero, or zero immediately following a nonzero rate, the following logical record will appear: I1, T1, T2, F1, I2, F2, F3, LON, LAT, HT, B, L, LAM

where

I1 = *b0 for carriage control and proton flux data line indicator

*b means "blank" BCD character.

T1, T2 = Hours and minutes (GMT) of evaluated data point

F1 = Instantaneous proton flux (prot/cm^2 -sec)

I2 = Indicator or flag on F1 (see Data Flags and Indicators Appendix II)

F2 = Trapped proton flux; numerical integration of instantaneous flux from the time of launch (prot/cm^2)

F3 = Decayed trapped proton flux assuming half life of 25 minutes (prot/cm^2)

LON = Geographic longitude (degrees)

LAT = Geographic latitude (degrees)

HT = Altitude (km)

B, L = McIlwain's magnetic coordinates

LAM = Λ (degrees) Invariant latitude = $\cos^{-1}(1/L)^{\frac{1}{2}}$

Proton flux data was obtained from the INJUN-III satellite and for the purposes of OSO-1 the data was stored as a polynomial function of B for each contour of L (intervals of .025 earth radii from L = 1.175 to L = 2.475).

A possible FORTRAN format for decoding purposes is the following: (I2, 1X, 2I2, E11.4, I2, 2E11.4, F8.2, F7.2, F6.1, 2F6.3, F6.2).

1: The pass header information takes up three logical records. Each pass begins with this type of information. The first record has the following form: I1, IP, IND, STA, D, PB, UT, MAR, CM, ST1, ST2, DN1, DN2

where

I1 = 11 for new page and pass header information indicator

IP = Pass number

IND = M or C denoting Minnesota or California respectively as to the location of initial data reduction concerning a given pass

STA = Two letter alphabetic code that stands for the station that received the original data from the satellite:

AO: Antofagasta, Chile

FM: Ft. Myers, Florida

LM: Lima, Peru

QU: Quito, Ecuador

SA: Santiago, Chile

D = Pass date (year, month and day) which is defined to be the date of the universal command time (see below) or the data end

PB = Playback date (year, month and day), or the date on which the analog tape was processed

UT = Universal command time (hours, minutes and seconds of GMT), or the time of the command pulse for readout which actually corresponds to the data end

MAR = Martin command time (hours, minutes and seconds); this should correspond to the length of the pass

CM = CMC command time (seconds); this is a relative command time used in data reduction

ST1, ST2 = Data start in relative time (seconds) and GMT (hours, minutes and seconds) respectively

DN1, DN2 = Observed time of day to night transition in relative time (seconds) and GMT (hours, minutes and seconds) respectively

A possible FORTRAN format for decoding purposes is the following: (I2, 6X, I4, 1X, A1, 5X, A2, 6X, I6, 6X, I6, 4X, I6, 8X, I6, 5X, I4, 7X, I4, 1X, I6, 5X, I4, 1X, I6)

The second record of pass header information has the form: I1, ND1, ND2, DN3, DN4, EN1, EN2, PA, SPD, SUD, SPR, SUR

where

I1 = 01 for carriage control and pass header information indicator

ND1, ND2 = Observed time of night to day transition in relative time (seconds) and GMT (hours, minutes and seconds) respectively

DN3, DN4 = Observed time of day to night transition in relative time (seconds) and GMT (hours, minutes and seconds) respectively; Note: One of the pair DN1, DN2 or DN3, DN4 will always be zero; the reason for the duplication is to preserve the chronological order of the transition times

EN1, EN2 = Data end in relative time (seconds) and GMT (hours, minutes and seconds) respectively, the GMT of the data end corresponds to the universal command time (see UT above)

PA = Pitch angle (degrees); this angle is = 90° + pitch angle given by BBRC

SPD = Spin axis declination (degrees)

SUD = Sun vector declination (degrees)

SPR = Spin axis right ascension (degrees); SUD and SUR were calculated from a polynomial function of time to the time of the first data point in the pass

SUR = Sun vector right ascension (degrees)

A possible FORTRAN format for decoding purposes is the following: (I2, 3(5X, I4, 1X, I6), 7X, F4.1, 10X, F5.1, 9X F4.1, 9X, F5.1, 8X, F5.1)

The third record of pass header information has the following form: I1, PS, DPS, SPR, SPC, SPE, TF

where

I1 = 01 for carriage control and pass header information indicator

PS = Angle between solar meridian plane and spin axis meridian (degrees)

DPS = Difference (degrees) between PS (above) and another evaluation of the same angle; this angle estimates the error in the determination of PS

SPR = Satellite spin rate (revolutions/second) read from the Sanborn chart that was produced at the initial stage of data reduction; this was not done for the passes reduced at Minnesota, consequently, for the passes flagged M (see IHD for the first record of pass header information) this entry will be zero

SPC = Satellite spin rate (revolutions/second) that was calculated from the day data information on the basis of the bit rate; this is an average of all the spin rates in the pass

SPE = RMS error deviation of the spin rates in the pass from SPC (above)

TF = Time flags (see Data Flags and Indicators Appendix II) on the uncertain transitions and command times

A possible FORTRAN format for decoding purposes is the following: (I2, 5X, F4.1, 8X, F4.1, 11X, F5.3, 6X, F5.3, 5X, F5.3, 11X, I4)

2: The information title records help visually to identify the columns of the printed output from the tapes and have no other useful purpose. There are three records preceding the day data, one preceding the night data, and one preceding the flux information.

3: The basic structure of the day data consists of two logical records for each frame of information. (One frame being one 78 second cycle of information.) The first record has the following form: I1, BH, BM, T1, N1, R1, E1, F1, T2, N2, R2, E2, F2, T3, N3, R3, E3, F3, N4, DN4, F4, T5, N5, R5, E5, F5, N6, DN6, F6

where

I1 = 03 for carriage control and first record of day data information

BH, BM = Base time of start of frame denoting hours and minutes of GMT

T1 = Time (seconds) that combined with BH, BM gives the GMT of channel 1 (50-150 kev Sun Telescope)

N1 = Register number of channel 1

R1 = Rate (counts per second) of channel 1

E1 = Statistical error in R1

F1 = Data flag of channel 1 (see Data Flags and Indicators Appendix II)

T2 = Time (seconds) that combined with BH, BM gives the GMT of channel 2 (50-150 kev sector telescope)

N2 = Register number of channel 2

R2 = Rate (counts per second) of channel 2

E2 = Statistical error in R2

F2 = Data flag of channel 2 (see Data Flags and Indicators Appendix II)

T3 = Time (seconds) that combined with BH, BM gives the GMT of channel 3 (0.3-1 Mev Isotropic)

N3 = Register number of channel 3

R3 = Rate (counts per second) of channel 3

E3 = Statistical error in R3

F3 = Data flag of channel 3 (see Data Flags and Indicators Appendix II)

N4 = Register number of channel 4 (0.3-1 Mev Sector Telescope)

DN4 = Difference (number of counts) between N4 above and N4 in the previous good frame

F4 = Data flag on channel 4 (see Data Flags and Indicators Appendix II)

T5 = Time (seconds) that combined with BH, BM gives the GMT of channel 5 (1 - 3 Mev Isotropic)

N5 = Register number of channel 5

R5 = Rate (counts per second) of channel 5

E5 = Statistical error in R5

F5 = Data flag of channel 5 (see Data Flags and Indicators Appendix II)

N6 = Register number of channel 6 (1-3 Mev Sector Telescope)

DN6 = Difference (number of counts) between N6 above and N6 in the previous good frame

F6 = Data flag of channel 6 (see Data Flags and Indicators Appendix II)

The registers mentioned above are accumulating event counters with range modulus 512. The rates were obtained by dividing the register number difference by the time difference and multiplying by an appropriate factor (which is an integral power of 2). In case the register number, rate, and error are all zero, the data flag indicates the reason for it and that channel is omitted in the rate calculations.

A possible FORTRAN format for decoding purposes is the following: (I2, 2I3, 1X, 2(F6.1, I4, F6.1, F5.1, I2), 2(F6.1, I4, F6.1, F5.1, I2, I4, I3, I2)).

The second record contains the orbital parameters and other pertinent coordinates all calculated to the time of channel 1 in the following form:

I1, OR, LON, LAT, HT, B, L, LAM, SIG, F1, I2, F2, F3, E, S1, S2, TP, LRA, LDEC

where

I1 = b3 for carriage control and second record of day data information

OR = Orbit number; this comes from the master orbit tape and may disagree with the pass number

LON = Interpolated geographic longitude (degrees)

LAT = Interpolated geographic latitude (degrees)

HT = Altitude (km)

B, L = McIlwain's magnetic coordinates, interpolated

LAM = Invariant latitude

SIG = A parameter expressed in degrees as a function of HT

$SIG = \cos^{-1}(Ro/(Ro + HT))$ where $R_o = 6370$ km

F1 = Instantaneous 40-110 Mev proton flux. (Prot/cm^2 -sec)

I2 = Indicator on F1 (see Data Flags and Indicators Appendix II)

F2 = Integrated trapped proton flux from time of launch (prot/cm^2)

F3 = Decayed trapped proton flux (Prot/cm^2)

E = Earth sensor expressed in octal (short-hand binary)

S1 = Sector number; if both S1 and E are zero, that means that there was sufficient doubt in the sync information of the frame not to record S1 and E

S2 = Smoothed sector number: this is the smoothing of S1 for the whole section of day data; if S2 = -1, the sector number could not be decided and the calculations for TP, LRA, LDEC could not be made

TP = Tangent plane (degrees)

LRA = Right Ascension of the look vector (degrees)

LDEC = Declination of the look vector (degrees)

A possible FORTRAN format for decoding purposes is the following: (I2, 2X, I4, F8.2, F7.2, F6.2, 2F6.3, 2F6.2, E11.4, I2, 2E11.4, O3, 2I3, 3F7.1)

4: The night data output is arranged in groups of four logical records. Since rate calculations were made typically every 10-12 seconds for both the singles counter and the cosmic-ray telescope, it was decided to calculate the orbital parameters and other coordinates only at every fourth time interval. Thus, the first record contains orbital information as well as data and the subsequent three records contain data only.

The first record of night information has the following form: I1, HS, MS, SS, RS, ES, FS, HT, MT, ST, RT, ET, FT, LON, LAT, HT, B, L, LAM, SIG, F1, I2, F2, F3

where

I1 = O4 for carriage control and first record of night data

HS, MS, SS = GMT (hours, minutes and seconds) of data point for singles counter

RS = Counting rate (counts per second) of singles counter

ES = Statistical error in RS

FS = Data flag of singles counter (see Data Flags and Indicators Appendix II)

HT, MT, ST = GMT (hours, minutes and seconds) of data point for cosmic-ray telescope

RT = Counting rate (counts per second) of cosmic-ray telescope

ET = Statistical error in RT

FT = Data flag of cosmic-ray telescope (See Data Flags, etc.)

The remaining part of the record (LON, LAT, . . . , F2, F3) is the same type of information as described for the day data above, there is, however, some format change (see below).

A possible FORTRAN format for decoding purposes is the following: (I2, 2(I3, I2, F4.1, F6.1, F5.1, I2), F7.1, 2F6.1, 2F6.3, 2F5.1, E10.3, I2, 2E10.3).

The second, third and fourth records of information have the following form:

I1, HS, MS, SS, RS, ES, FS, HT, MT, ST, RT, ET, FT where all except I1 represent the same type of information as described above for the first record and

I1 = b4 for carriage control and subsequent night data record.

The counting rates RS and RT represent the average for that time interval, e.g., RS_i at time T_i is the average over the time interval: $(T_i - T_{i-1})$, consequently the first rate (at T_1) of each interval of night data will always be zero. Any other zero rates will be explained by the data flags.

It is possible to have less than four data points per group of four records in either the singles or the telescope column (occuring mostly in the telescope case) since it was attempted to keep the data points that covered nearly the same time period in a single group. However, there are always four logical records per group even when the data runs out at the end.

The orbital parameters and coordinates were calculated (or interpolated) to the time of the first singles data point in the group.

By using this description of the tape format, together with the Data Flags and Indicators, it would be possible for any interested person to use and interpret the data deposited in the National Space Science Data Center. These tapes may be either printed out for inspection and hand analysis, or they may be used as input for further machine computations and reduction.

DATA AVAILABILITY

The availability of the reduced data from the OSO-1 is summarized in Table 1, and listed pass-by-pass in Appendix III. Table 1 shows the total time interval of various data functions listed for each BCD output tape, the total of all passes 1-1039, and expressed as a percentage.

Elapsed time is the continuous time difference in hours between the first and last data point. Total START-STOP time is the accumulated difference between the playback reduction start and stop. This difference partly reflected the operation of this playback system. Acquired time is the accumulated interval during which recognizable OSO data was obtained. Good data, from which meaningful scientific work could be accomplished is listed separately for satellite Day and Night. The integrated time during which the satellite was in a trapped proton flux, based on the model environments, greater than 20 protons/cm^2-sec over the 40-110 Mev range is also shown.

All these functions will be clarified by referring to the interpretation, given below, of the detailed pass listing in Appendix III.

PLAYBACK STATUS:

NOISE - The received data was too noisy to provide a significant amount of useful information.

NONE - No converted raw data tape was provided by the Martin Company for this pass number. About every 16th number will be automatically missing, to keep Pass numbers and Orbit number roughly in step.

CALIF - The data was played back on the reduction system set up at UCSD.

MINN - The data was played back on the reduction system used initially at the University of Minnesota.

START HR MN SEC -

STOP HR MN SEC - The given U.T. of playback data start and stop for the pass.

ACQUIRED DATA (MIN) - The time interval of the actual data received in minutes. This is always less than the STOP-START difference, and is about 97 minutes for most complete playbacks.

GOOD DATA (MIN)

DAY AND NIGHT - Actual useable, noise and sync error free data recovered. This should be about 36 minutes of night and 60 of day data for a complete, clean pass.

INST PROTON FLUX

GT 20/cm^2-sec - Intervals of time for which the trapped proton flux incident on the satellite exceeded 20 protons/cm^2-sec in the 40-110 Mev region, as computed from the INJUN III model environment.

SECTOR NUMBER

TIME(MIN) - The elapsed time a given sector direction was being searched on each pass. A -1 indicates the sector direction could not be determined reliably.

By referring to these listings one may, without searching the entire data listing, know whether or not information for a particular time interval is likely to be available.

REFERENCES

The following publications pertaining to the University of Minnesota gamma-ray experiment are available:

1. Peterson, L. E. and R. L. Howard, "Gamma-Ray Astronomy in Space in the 50-kev to 3-Mev Region", IRE Trans. on Nuc. Sci., NS-8,4, Oct. 1961.
2. Peterson, L. E. and J. H. Nitardy, "A Simple Circuit for a Phoswich Scintillation Counter", Rev. of Sci. Instr. 32, (12) 1390-1392, Dec. 1961.
3. Peterson, L. E., "Radioactivity Induced in NaI by Trapped Protons" J. Geophys. Res. 70, 1762-1765, 1 April 1965.
4. Peterson, Laurence E., "Upper Limits of the Cosmic Gamma-Ray Flux from OSO-1" Contribution to Sixth COSPAR International Space Science Symposium May 1965, Buenos Aires, Argentina (Space Research VI)
5. Peterson, L. E., "Gamma-Ray Production by Cosmic Rays Observed on OSO-1" (to be submitted to J. Geophys. Res.

In addition, a complete final report is under preparation.

TABLE I - DATA RETRIEVAL SUMMARY

University of Minnesota Gamma-Ray Experiment on the OSO-I

All Times in Hours

Interval	Passes	Elapsed Time	Total Time (Start-Stop)	Acquired Time	Good Data Day	Good Data Night	In Trapped Protons > 20/cm^2-sec
BCD Tape #1	1- 389	622.64	534.91	506.46	253.55	144.03	66.15
BCD Tape #2	390- 857	747.81	619.52	524.16	273.63	124.93	101.94
BCD Tape #3	858-1039	291.49	256.07	247.87	86.72	48.92	29.55
Total Time	1-1039	1661.94	1410.50	1278.49	613.90	317.88	197.64
Percent Time	1-1039	100	85.0	77.0	37.0	19.2	11.9

OSO-1 (1962 ZETA) UNIV. OF MINN. GAMMA-RAY EXPERIMENT DATA FLAGS AND INDICAT

DAY DATA FLAGS (CALIFORNIA PASSES)

0 - OK
1 - MISSING WORD
2 - WRONG SYNC (CORRECTED)
3 - WRONG SYNC (UNCORRECTABLE)
4 - MISSING SYNC
5 - WRONG LENGTH WORD (UNCORRECTABLE)
6 - WRONG LENGTH WORD (CORRECTED)

DAY DATA FLAGS (MINNESOTA PASSES)

SAME AS ORIGINAL - SPLIT BETWEEN CHANNELS 1,2,3,5

NIGHT DATA FLAGS (CALIFORNIA PASSES)

0 - OK
1 - AT LEAST ONE TRANSITION SHORT OF WINDOW
2 - AT LEAST ONE TRANSITION OVERSHOT WINDOW
3 - BOTH 1 AND 2
4 - WRONG TRANSITION SEQUENCE
5 - NO VALID TRANSITION WITHIN TIME INTERVAL
6 - NO TRANSITION WITHIN TIME INTERVAL

NIGHT DATA FLAGS (MINNESOTA PASSES)

SINGLES FLAGS

0 - OK
1 - SINGLES RATE OVER 100
2 - ORIGINAL MINNESOTA FLAG
3 - MINNESOTA SINGLES REGISTER DIFFERENCE NOT 4
4 - BOTH 1 AND 2 OR BOTH 2 AND 3

TELESCOPE FLAGS

0 - OK
1 - TELESCOPE RATE OVER 10
2 - ORIGINAL MINNESOTA FLAG
3 - BOTH 1 AND 2

TIME FLAGS

1 - UNCERTAIN N/D TRANSITION
10 - UNCERTAIN D/N TRANSITION
100 - UNCERTAIN DATA END
1000 - UNCERTAIN U.T.

40-110 MEV OMNIDIRECTIONAL PROTON FLUX INDICATORS (PROT/CM2-SEC

0 - OK ON L-CONTOUR AND FLUX GT 20
1 - ON L-CONTOUR AND FLUX LE 20
2 - EXTRAPOLATED FLUX GT 20
3 - EXTRAPOLATED FLUX LE 20
4 - INTERPOLATED FLUX GT 20
5 - INTERPOLATED FLUX LE 20
6 - B LT .1600 OR B GE .2800

SPIN RMS = -1 - SPIN PERIOD CANNOT BE CALCULATED
NEW SECTOR = -1 - SECTOR NUMBER UNDECIDED, TANGENT PLANE AND LOOK VECTOR CALCULATIONS CANNOT BE MADE

OSO-1 (1962 ZETA) UNIV. OF MINN. GAMMA-RAY EXPERIME

DATE	PASS	PLBK STATUS	START HRMNSEC	STOP HRMNSEC	ACQUIRED DATA (MIN)	GOOD DATA (MIN DAY	NIGHT
620307	1	NOISY	160524	175253	0		
620307	2	NOISY	175842	193611	0		
	3	NONE					
	4	NONE					
620307	5	CALIF	212630	230423	97.1	24.6	20.2
620308	6	CALIF	230748	4533	97.3	1.0	18.7
620308	7	CALIF	4643	22628	99.0	0	18.8
620308	8	CALIF	41402	55205	93.8	0	17.0
620308	9	CALIF	55700	73507	97.6	12.1	24.8
	10	NONE					
620308	11	CALIF	73619	92220	95.3	54.0	30.8
620308	12	CALIF	92038	110405	77.1	39.4	33.9
620308	13	CALIF	110319	124504	93.7	3.6	33.9
620308	14	CALIF	123940	142604	93.6	59.0	34.0
620308	15	CALIF	141744	160803	94.7	59.1	33.9
620308	16	CALIF	160702	175004	94.7	58.9	29.3
620308	17	CALIF	174931	193607	96.9	56.2	32.5
620308	18	CALIF	194429	212304	97.9	61.6	13.1

GAMMA-RAY EXPERIMENT DATA AVAILABILITY

ED (N)	GOOD DATA (MIN) DAY	NIGHT	INST PROT FLUX GT 20 C/CM2-SEC	SECTOR NUMBER	TIME (MIN)
			162900-164600		
			180600-182800		
			194500-201000		
	24.6	20.2	212500-214913	-1	13.4
			230700-231200	0	44.9
				-1	3.5
	1.0	18.7	231200-232836	-1	56.7
	0	18.8	5040- 10749	-1	59.0
			23100- 24700		
			41300- 41600		
	0	17.0	41600- 42315	-1	52.5
	12.1	24.8		0	47.6
	54.0	30.8		3	61.5
	39.4	33.9		5	39.8
	3.6	33.9		-1	2.3
				6	49.2
				7	8.2
	59.0	34.0		7	46.7
				10	12.3
	59.1	33.9	150446-150600	10	41.9
				12	18.5
	58.9	29.3	162744-164613	12	35.5
				15	24.2
	56.2	32.5	180557-182745	15	26.3
				2	35.0
	61.6	18.1	194516-201106	2	17.6
			212500-212600	3	44.0

620308	19	CALIF	212834	230507	97.0	51.5	22.4
620309	20	CALIF	230840	4703	96.7	54.9	19.0
620309	21	CALIF	5848	23806	105.3	42.4	17.8
620309	22	NOISY	23246	41107	0		
620309	23	CALIF	41446	55304	94.1	4.5	21.9
620309	24	CALIF	55709	73601	97.7	0	23.1
	25	NONE					
620309	26	CALIF	74247	92106	97.3	21.3	30.6
620309	27	CALIF	94347	110205	78.3	0	34.4
620309	28	CALIF	110732	124406	96.6	39.2	34.7
620309	29	CALIF	124934	142604	96.5	39.8	34.9
620309	30	CALIF	142942	160803	96.6	55.7	29.3
620309	31	CALIF	160354	175445	108.4	54.4	28.5
620309	32	CALIF	181540	194001	77.3	4.0	17.8
620309	33	CALIF	194440	212304	95.4	47.0	21.3
	34	NONE					
	35	NONE					
	36	NONE					
	37	NONE					
	38	NONE					
	39	NONE					
	40	NONE					
620310	41	CALIF	74447	92105	97.8	17.3	25.0

51.5	22.4	212600-214923	3	9.2
		230700-230800	5	51.9
54.9	19.0	230800-232745	5	4.1
		4900- 5000	0	57.2
42.4	17.8	5000- 10720	2	11.9
		23100- 24700	-1	15.1
		41500- 41700	0	34.4
4.5	21.9	41700- 41951	-1	60.8
0	23.1		-1	60.5
21.3	30.6		-1	12.8
			0	44.8
			-1	3.1
0	34.4		0	42.8
39.2	34.7		0	61.3
39.8	34.9		0	59.0
55.7	29.3	150021-150507	0	55.0
			-1	5.8
54.4	28.5	162646-164609	0	37.5
		180500-182100	3	29.2
4.0	17.8	182100-182851	-1	39.9
		194400-194500		
47.0	21.3	194500-201020	8	11.6
		212500-214900	-1	11.9
		230800-232800	0	34.4
		5000- 10700	-1	2.3
		23100- 24600		
17.3	25.0		0	18.3
			-1	42.4

620310	42	CALIF	92438	110305	96.6	30.4	24.4
620310	43	CALIF	110638	124504	96.6	26.8	28.1
620310	44	CALIF	124838	142704	96.6	35.3	22.3
620310	45	CALIF	142938	160803	95.6	37.0	24.4
620310	46	CALIF	161539	175404	97.9	10.4	24.1
	47	NONE					
620310	48	CALIF	194209	212404	98.0	8.6	25.4
620310	49	CALIF	212739	230603	96.5	3.9	19.1
620311	50	CALIF	230837	4703	95.4	2.6	21.1
620311	51	CALIF	5143	23004	97.3	6.9	19.7
620311	52	CALIF	23339	41205	96.8	48.0	18.8
620311	53	CALIF	41646	55505	97.5	4.9	20.0
	54	NONE					
620311	55	CALIF	60136	74004	97.7	26.0	30.8
620311	56	CALIF	74244	92105	95.6	31.5	23.7
620311	57	CALIF	92435	110304	96.7	43.0	27.1
620311	58	CALIF	110639	124504	96.6	52.6	28.9
620311	59	CALIF	124839	142703	96.6	27.0	24.9
620311	60	CALIF	143039	160904	96.7	32.8	29.0
620311	61	CALIF	161740	175507	97.1	33.0	25.4
620311	62	CALIF	180341	194204	97.9	35.1	26.5
620311	63	CALIF	194519	212339	96.3	17.5	26.1

30.4	24.4		0	58.8
26.8	28.1		8	10.6
			-1	9.9
			0	32.7
			-1	6.2
35.3	22.3		0	60.9
37.0	24.4	145305-145515	0	60.8
		145618-150607		
10.4	24.1	162626-164830	0	34.3
		180500-182800	-1	28.2
		182900-183000		
8.6	25.4	194400-200934	-1	59.5
		212600-212700		
3.9	19.1	212700-214835	-1	58.6
		230800-231200		
2.6	21.1	231200-232713	-1	55.9
6.9	19.7	5000- 10646	-1	57.1
		23200- 23300		
48.0	18.8	23300- 24408	0	59.9
4.9	20.0		-1	59.4
26.0	30.8		0	56.7
31.5	23.7		0	58.6
43.0	27.1		-1	1.1
			0	58.5
52.6	28.9		0	50.1
			-1	10.5
27.0	24.9		0	47.9
			-1	12.8
32.8	29.0	144923-150558	-1	38.6
			0	19.0
33.0	25.4	162616-164727	0	33.1
			-1	1.2
			0	11.3
			-1	14.5
35.1	26.5	180425-182930	0	62.5
		194500-194600		
17.5	26.1	194600-200935	-1	16.9

620311	64	CALIF	212742	230602	96.8	33.7	10.2
620312	65	CALIF	230939	4803	96.7	48.9	21.9
620312	66	CALIF	5253	23119	97.9	46.0	14.5
620312	67	CALIF	23346	41205	95.4	50.0	25.9
	68	NONE					
	69	NONE					
620312	70	CALIF	60327	74004	96.0	31.1	18.4
	71	NONE					
	72	NONE					
620312	73	CALIF	110738	124604	97.7	15.7	31.7
	74	NONE					
	75	NONE					
620312	76	CALIF	161643	175504	95.5	54.0	29.7
620312	77	CALIF	180340	194203	96.7	35.8	20.5
620312	78	CALIF	194638	212503	97.5	59.1	27.6
620312	79	CALIF	213023	230604	95.5	14.7	24.6
620313	80	CALIF	230944	4808	96.4	41.1	21.4
620313	81	CALIF	5243	23105	97.7	24.2	12.9
620313	82	CALIF	22850	34649	71.0	29.2	15.6
620313	83	CALIF	41728	55553	98.0	42.0	20.6
	84	NONE					
620313	85	CALIF	60203	74004	97.7	36.1	20.5
620313	86	CALIF	74337	92203	96.7	19.3	30.3

		212600-212800	0	28.6
			-1	8.6
33.7	10.2	212800-214738	-1	9.1
			0	48.3
48.9	21.9	230900-232714	0	61.0
		5000- 5100		
46.0	14.5	5100- 10632	-1	1.0
		23300- 23400	0	56.9
			-1	2.4
50.0	25.9	23400- 24149	-1	9.4
			0	48.7
			-1	2.4
31.1	18.4		0	50.3
15.7	31.7	132300-132400	-1	55.1
		144700-150600	0	7.3
54.0	29.7	162533-164751	0	60.3
35.8	20.5	180534-183008	-1	21.3
			0	38.4
59.1	27.6	194500-200855	0	61.3
		212700-212800		
14.7	24.6	212800-214744	0	9.6
		230900-231300	-1	50.7
41.1	21.4	231300-232756	0	56.0
		5000- 5100		
24.2	12.9	5100- 10649	0	60.5
29.2	15.6	23548- 23818	0	43.0
42.0	20.6		-1	60.3
36.1	20.5		0	59.0
19.3	30.3		0	60.0

620313	87	CALIF	92524	110404	96.6	45.8	28.3
620313	88	CALIF	110747	124604	96.6	55.0	35.4
620313	89	CALIF	142803	142803	96.7	45.2	35.2
620313	90	CALIF	143547	161404	97.9	47.5	35.0
620313	91	CALIF	161847	175703	97.3	42.4	35.6
620313	92	CALIF	180447	194304	98.0	43.9	.9
620313	93	CALIF	194650	212507	96.6	36.7	27.2
620313	94	CALIF	212846	230702	96.5	51.3	24.3
620314	95	CALIF	231046	4908	96.7	42.7	12.4
620314	96	CALIF	5241	23103	96.2	48.9	19.9
	97	NONE					
	98	NONE					
620314	99	CALIF	42038	55904	97.7	59.6	37.0
620314	100	CALIF	60141	74005	95.4	56.2	34.3
620314	101	CALIF	74338	92204	96.6	52.9	35.9
620314	102	CALIF	92538	110404	96.6	48.4	34.9
620314	103	CALIF	110743	124604	96.6	55.9	35.2
620314	104	CALIF	124938	142804	96.7	48.9	35.4
620314	105	CALIF	143539	161403	97.8	35.9	23.0
620314	106	CALIF	161940	175805	97.4	49.2	35.0

45.8	28.3		0	60.7
55.0	35.4		8	14.4
			-1	1.0
			0	44.4
45.2	35.2	131829-132408	0	46.2
			-1	2.0
			0	13.2
47.5	35.0	144615-150719	-1	4.4
			0	30.8
			-1	3.3
			0	23.5
42.4	35.6	162509-164806	0	31.1
			-1	11.1
			0	6.1
			-1	10.8
43.9	.9	180526-182953	-1	22.3
		194500-194600	0	40.0
36.7	27.2	194600-200803	0	14.4
			4	3.7
			-1	2.0
			0	38.3
51.3	24.3	212600-214714	0	59.4
		230900-231300		
42.7	12.4	231300-232630	0	43.2
		5100- 5200	-1	14.4
48.9	19.9	5200- 10517	0	60.0
59.6	37.0		5	2.4
			-1	3.4
			0	55.0
56.2	34.3		0	58.3
			-1	2.4
52.9	35.9		0	60.1
48.4	34.9		0	59.1
55.9	35.2		0	61.0
48.9	35.4	131232-132430	0	61.0
35.9	23.0	144528-150640	0	38.0
			-1	4.9
			0	16.3
49.2	35.0	162405-164835	0	58.2

620314	107	CALIF	180539	194403	98.0	47.4	33.7
620314	108	CALIF	194648	212509	95.6	46.6	30.3
620314	109	CALIF	212847	230707	96.6	56.2	26.7
620315	110	CALIF	231227	5046	97.9	39.1	17.0
620315	111	CALIF	5242	23105	94.9	55.3	22.6
	112	NONE					
620315	113	CALIF	23644	41505	97.6	39.7	12.5
620315	114	CALIF	42049	55904	71.0	41.3	15.9
620315	115	CALIF	60246	74108	96.7	41.5	35.9
	116	NONE					
620315	117	CALIF	92638	110504	98.0	38.9	34.9
620315	118	CALIF	110838	124704	96.6	44.4	35.4
620315	119	CALIF	124938	142804	95.6	46.7	35.1
620315	120	CALIF	143536	161404	98.0	48.3	35.2
620315	121	CALIF	162236	180104	98.0	46.6	30.3
620315	122	CALIF	180502	194406	97.6	48.0	34.5
620315	123	CALIF	194739	212603	96.5	50.9	29.6
620315	124	CALIF	212841	230703	95.6	53.3	26.9
620316	125	CALIF	231139	5004	98.0	48.4	16.7
620316	126	CALIF	5338	23205	96.7	58.1	26.7
620316	127	CALIF	23651	41503	97.2	55.3	8.2

47.4	33.7	180400-182847	0	21.5
		194600-194700	1	16.7
			-1	4.8
			4	18.9
46.6	30.3	194700-200741	0	14.3
			4	9.6
			-1	24.3
			0	12.1
56.2	26.7	212800-214629	0	60.7
		231000-231100		
39.1	17.0	231100-232655	-1	3.4
		5200- 5400	0	59.4
55.3	22.6	5400- 10314	-1	3.0
			0	56.1
			-1	1.2
39.7	12.5		0	59.2
41.3	15.9		0	51.6
41.5	35.9		0	59.7
38.9	34.9		0	60.8
44.4	35.4		0	52.8
			-1	5.8
46.7	35.1	130808-132559	0	58.7
48.3	35.2	144504-150620	0	62.0
46.6	30.3	162340-165014	0	58.0
48.0	34.5	180400-182817	0	60.0
		194600-194700		
50.9	29.6	194700-200736	0	14.5
		212800-213000	2	8.9
			-1	2.6
			0	33.4
53.3	26.9	213000-214702	0	59.9
48.4	16.7	231000-232603	-1	3.2
			0	58.5
58.1	26.7	5300- 10001	4	27.4
			-1	1.2
			0	31.9
55.3	8.2		0	55.3

	128	NONE					
620316	129	CALIF	42034	55904	97.9	52.8	24.3
620316	130	CALIF	60242	74104	96.6	56.2	29.3
620316	131	CALIF	74439	92304	96.7	57.7	24.9
620316	132	CALIF	92640	110506	97.0	54.5	24.4
620316	133	CALIF	110839	124704	96.5	58.4	35.2
620316	134	CALIF	125437	143303	98.3	46.7	25.2
620316	135	CALIF	143808	161633	97.6	41.2	21.9
620316	136	CALIF	162343	180205	97.4	12.9	17.2
620316	137	CALIF	194408	194408	96.6	36.2	24.3
620316	138	CALIF	194735	212605	96.5	31.3	29.5
620316	139	CALIF	212940	230805	96.7	49.8	25.1
620317	140	CALIF	231206	5004	97.6	23.1	22.3
620317	141	CALIF	5343	23204	96.4	46.4	20.9
620317	142	CALIF	23645	41504	97.5	54.6	27.1
	143	NONE					
620317	144	CALIF	42141	60004	97.9	26.7	29.3
620317	145	CALIF	60249	74104	97.0	4.2	18.3
620317	146	CALIF	74539	92404	97.4	52.6	27.2
620317	147	CALIF	92740	110606	96.7	0	27.5
620317	148	CALIF	110842	124706	95.6	41.8	24.8

52.8	24.3		1	57.3
56.2	29.3		2	21.7
			4	39.0
57.7	24.9		5	60.1
54.5	24.4		0	60.5
58.4	35.2	114157-114310	1	14.8
			-1	3.5
			2	34.8
			8	7.7
46.7	25.2	130631-132627	8	27.8
			-1	1.2
			0	16.5
			4	17.0
41.2	21.9	144502-150813	0	60.5
12.9	17.2	162444-164900	-1	54.3
36.2	24.3	180500-182831	8	19.2
			4	38.7
31.3	29.5	194700-200701	-1	2.3
		212900-213000	4	12.0
			-1	1.2
			6	15.5
			-1	.8
49.8	25.1	213000-214615	-1	8.0
			4	6.4
			-1	1.2
			8	43.9
23.1	22.3	231000-232532	-1	6.1
			4	7.7
			-1	41.3
46.4	20.9	5538- 5624	0	60.2
54.6	27.1		0	60.0
26.7	29.3		0	57.2
4.2	18.3		-1	51.8
52.6	27.2		0	59.5
			-1	1.9
0	27.5			
41.8	24.8	113628-114457	0	52.5
			-1	1.2

620317	149	CALIF	125538	143403	97.6	0	24.8
620317	150	CALIF	143843	161704	97.5	0	25.6
620317	151	CALIF	162334	180206	95.9	17.4	30.9
620317	152	CALIF	180540	194404	96.6	31.1	27.2
620317	153	CALIF	194824	212600	96.3	39.9	29.3
620317	154	CALIF	213038	230904	97.6	57.8	23.7
620318	155	CALIF	231145	5003	95.4	55.3	23.5
620318	156	CALIF	5542	23403	97.9	51.8	14.0
	157	NONE					
620318	158	CALIF	24037	41904	97.9	57.7	30.9
620318	159	CALIF	42143	60007	95.7	56.6	30.3
620318	160	CALIF	60345	74206	95.5	54.0	27.5
620318	161	CALIF	74541	92407	96.9	58.5	23.8
620318	162	CALIF	92839	110611	96.6	57.9	21.1
620318	163	CALIF	110846	124705	95.6	58.8	29.0
620318	164	CALIF	125642	143408	96.9	57.3	19.1
620318	165	CALIF	144242	162105	97.9	60.7	25.3
620318	166	CALIF	162447	180308	96.5	23.0	25.9
620318	167	CALIF	180634	194453	96.4	17.7	28.0
620318	168	CALIF	194807	212606	95.8	34.3	23.4

			2	5.8
0	24.8	131219-133743	-1	52.8
0	25.6	144445-151649	-1	23.0
		162400-162700		
17.4	30.9	162700-164823	0	23.5
			4	2.5
			-1	31.7
31.1	27.2	180500-182855	8	16.2
			10	7.4
			12	32.7
39.9	29.3	194700-200602	12	15.5
			0	45.9
57.8	23.7	212900-214540	0	9.5
		231100-231500	2	52.9
55.3	23.5	231500-232408	0	58.5
51.8	14.0		0	60.9
57.7	30.9		0	61.1
56.6	30.3		0	61.4
54.0	27.5		0	61.5
58.5	23.8		0	60.5
57.9	21.1		2	47.0
			-1	2.7
			0	11.0
58.8	29.0	113036-114406	1	53.1
			9	6.5
57.3	19.1	130519-132609	4	5.3
			-1	1.2
			8	38.0
			0	18.1
60.7	25.3	144321-150853	0	34.1
			2	29.1
23.0	25.9	162400-164921	2	20.6
		180500-180700	-1	39.9
17.7	28.0	180700-182901	0	20.3
			-1	12.7
			0	12.0
			-1	15.5
34.3	23.4	194800-200646	-1	15.1
		212900-214600	0	42.0

620318	169	CALIF	221237	231349	62.7	29.1	4.3
620319	170	CALIF	231240	5104	93.8	54.6	16.7
620319	171	CALIF	5549	23403	97.3	21.9	25.5
	172	NONE					
620319	173	CALIF	24023	41904	98.0	55.8	29.9
620319	174	CALIF	42132	60003	95.6	60.7	29.2
620319	175	CALIF	60341	74203	96.6	59.1	29.4
620319	176	CALIF	74542	92403	96.7	50.1	25.8
620319	177	CALIF	92743	110604	96.5	59.7	32.8
620319	178	CALIF	110940	124803	96.5	59.8	23.7
620319	179	CALIF	125543	143403	97.8	60.1	25.0
620319	180	CALIF	144249	162103	97.8	47.4	19.3
620319	181	CALIF	162443	180300	96.5	48.2	27.4
620319	182	CALIF	180646	194500	96.6	39.3	28.2
620319	183	CALIF	194838	212700	96.5	50.9	27.4
620319	184	CALIF	213110	230917	96.9	59.1	25.8
620320	185	CALIF	231243	5103	96.4	57.9	19.6
620320	186	CALIF	5541	23400	97.9	52.3	23.4
	187	NONE					
620320	188	CALIF	24040	41903	97.9	49.9	27.7

29.1	4.3	231200-231500	0	55.3
54.6	16.7	231500-232204	0	58.7
21.9	25.5		0	60.3
55.8	29.9		-1	.8
			0	60.0
			-1	1.2
60.7	29.2		0	61.9
59.1	29.4		8	38.2
			-1	1.1
			0	22.5
50.1	25.8		-1	7.1
			0	53.7
			-1	1.2
59.7	32.8		-1	2.9
			0	56.1
			-1	1.2
59.8	23.7	112628-114450	4	45.3
			-1	1.0
			0	8.5
			8	7.7
60.1	25.0	130431-132547	8	13.1
			-1	1.1
			0	49.5
47.4	19.3	144321-150821	0	54.8
			-1	2.3
48.2	27.4	162400-164752	0	62.3
39.3	28.2	180600-182654	0	61.3
50.9	27.4	194800-200613 212900-213000	0	61.1
59.1	25.8	213000-214550	0	9.4
			-1	12.9
			0	38.9
			-1	1.2
57.9	19.6	231445-231821	0	3.6
			-1	20.5
			0	33.9
			-1	3.5
52.3	23.4		0	61.3
49.9	27.7		0	60.8

620320	189	CALIF	42208	60027	96.3	61.0	27.6
620320	190	CALIF	60336	74203	96.2	59.8	26.4
620320	191	CALIF	74641	92504	97.6	61.9	27.3
620320	192	CALIF	92739	110603	95.6	59.4	33.8
620320	193	CALIF	111453	125313	97.9	57.9	24.2
620320	194	CALIF	125803	143630	97.8	54.4	25.4
620320	195	CALIF	144247	162115	97.8	61.5	29.7
620320	196	CALIF	162658	180612	97.9	62.0	28.7
620320	197	CALIF	180801	194604	63.6	40.0	18.6
620320	198	CALIF	195017	212836	97.3	59.4	26.5
620320	199	CALIF	213142	231003	95.8	60.6	29.1
	200	NONE					
620321	201	CALIF	232153	5724	95.0	62.2	25.2
	202	NONE					
620321	203	CALIF	24047	41903	97.9	62.1	27.8
620321	204	CALIF	42243	60103	96.6	61.8	28.9
620321	205	CALIF	60444	74303	96.5	60.4	27.9
620321	206	CALIF	74644	92503	96.3	59.6	30.3

61.0	27.6		0	62.4
59.8	26.4		4	61.5
61.9	27.3		4	29.1
			8	32.7
59.4	33.8	100012-100239	1	7.7
			-1	9.4
			0	42.6
57.9	24.2	112500-114407	2	37.3
			-1	.8
			4	13.2
			5	11.0
54.4	25.4	130319-132632	5	28.5
			-1	2.1
			4	13.4
			6	19.3
61.5	29.7	144335-150749	6	27.9
		162500-162600	-1	8.3
			0	28.6
62.0	28.7	162600-164719	0	26.0
		180700-182600	1	8.3
			-1	1.1
			2	28.0
40.0	18.6	194800-194900	6	23.0
			-1	1.1
			8	17.1
59.4	26.5	194900-200553	8	4.7
		212900-213200	-1	1.2
			0	9.7
			4	47.6
60.6	29.1	213200-214409	4	9.3
			6	52.5
62.2	25.2		2	62.2
62.1	27.8		3	62.1
61.8	28.9		5	31.8
			-1	.8
			0	29.2
60.4	27.9		0	62.4
59.6	30.3		1	2.4
			-1	4.8
			0	55.2

620321	207	CALIF	92743	110604	95.7	55.3	27.8
620321	208	CALIF	111442	125301	96.2	57.5	28.2
620321	209	NOISY	130146	143920	0		
620321	210	CALIF	144335	162200	97.2	57.0	27.6
620321	211	CALIF	162706	180408	96.1	56.8	26.7
620321	212	CALIF	180844	194500	95.6	54.9	30.6
620321	213	CALIF	194954	212816	97.7	60.1	25.2
620321	214	CALIF	213148	231003	96.4	52.5	20.8
620322	215	CALIF	231448	5304	97.5	54.7	24.3
	216	NONE					
620322	217	CALIF	5945	23804	97.9	62.1	24.7
620322	218	CALIF	24143	42005	96.6	52.7	28.5
620322	219	CALIF	42144	60003	94.3	49.9	31.5
620322	220	CALIF	60609	74434	97.9	60.9	31.0
620322	221	CALIF	74646	92503	95.0	56.4	26.5
620322	222	CALIF	92746	110604	95.5	60.0	26.6
	223	NONE					
620322	224	CALIF	130157	144022	97.7	59.9	29.7
620322	225	CALIF	144447	162303	97.1	62.4	24.9

55.3	27.6	95627-100253	4	7.3
			-1	3.1
			0	48.2
57.5	26.2	112452-114500	0	62.6
		130300-132600		
57.0	27.6	144300-150735	0	34.6
		162500-162700	1	2.8
			-1	4.3
			0	21.9
56.8	26.7	162700-164632	0	61.3
		180700-180800		
54.9	30.6	180800-182528	0	22.3
			1	4.9
			-1	11.0
			0	23.1
60.1	25.2	195052-200513	0	63.7
52.5	20.8	213100-214229	-1	10.7
			1	15.9
			-1	10.0
			0	25.9
54.7	24.3		0	64.1
62.1	24.7		0	62.1
52.7	28.5		0	62.1
49.9	31.5		0	56.0
			-1	6.3
60.9	31.0		-1	1.8
			0	56.8
			-1	4.5
56.4	26.5		0	62.9
60.0	26.6	94653-100237	0	62.5
		100338-100451		
		112400-114500		
59.9	29.7	130303-132729	0	42.3
			4	4.9
			-1	4.3
			0	12.6
62.4	24.9	144400-150712	0	34.2
		162500-162600	1	15.5
			2	13.1

620322	226	CALIF	162545	180400	95.4	45.1	27.8
620322	227	CALIF	180741	194600	96.5	52.6	32.9
620322	228	CALIF	195012	212832	97.0	57.6	27.1
	229	NONE					
620323	230	NOISY	231446	5300	0		
	231	NONE					
	232	NONE					
620323	233	CALIF	24150	42012	96.5	61.4	31.3
620323	234	CALIF	42444	60303	97.2	61.7	30.7
620323	235	CALIF	60441	74303	97.1	62.9	26.3
620323	236	CALIF	74645	92503	96.3	62.7	27.0
	237	NONE					
620323	238	CALIF	111648	124916	86.3	22.5	24.1
620323	239	CALIF	130242	144100	96.5	16.9	27.6
620323	240	CALIF	144453	162305	96.4	53.7	24.3
620323	241	CALIF	162631	180500	96.3	60.0	26.9
620323	242	CALIF	181003	194715	96.4	61.3	28.5
620323	243	CALIF	195031	212851	96.0	62.2	27.8
620323	244	CALIF	213124	231003	51.2	47.6	0
620324	245	NOISY	231508	5330	0		

45.1	27.8	162600-164515	0	60.8
52.6	32.9	180700-182530	0	62.6
57.6	27.1	194900-200504	0	16.8
		213200-214000	4	29.7
			-1	1.1
			8	15.7
61.4	31.3		2	11.3
			-1	5.8
			0	45.9
61.7	30.7		0	63.3
62.9	26.3		0	62.9
62.7	27.0	82129- 82241	2	46.2
		94500-100300	4	16.9
22.5	24.1	112315-114453	0	46.2
		114539-114638	-1	3.3
16.9	27.6	130200-132716	0	40.4
			-1	11.6
			0	8.0
			-1	2.3
53.7	24.3	144400-150643	0	35.5
			1	2.9
			-1	1.0
			2	24.1
60.0	26.9	162600-164529	0	28.6
		180800-180900	3	2.8
			-1	2.2
			8	29.0
61.3	28.5	180900-182449	8	22.9
		194900-195100	0	39.6
62.2	27.8	195100-200503	0	62.6
		213300-213500		
47.6	0		8	30.0
			-1	6.0
			0	14.4

	246	NONE					
620324	247	CALIF	5941	23804	97.7	63.1	34.1
620324	248	CALIF	24143	42003	96.4	59.5	33.2
620324	249	CALIF	42413	60233	96.9	62.3	33.4
620324	250	CALIF	60613	74433	96.5	62.3	28.2
620324	251	CALIF	74744	92604	95.8	60.9	28.2
	252	NONE					
620324	253	CALIF	111912	125707	96.2	30.4	32.6
620324	254	CALIF	130304	144123	97.6	62.4	32.1
620324	255	CALIF	144443	162303	96.2	52.0	21.2
620324	256	CALIF	162646	180503	96.4	34.1	28.9
620324	257	CALIF	180949	194808	97.5	50.3	27.2
620324	258	CALIF	195042	212903	95.3	58.5	32.7
620324	259	CALIF	213337	231152	97.5	22.6	24.6
	260	NONE					
620325	261	MINN	231641	5700	95.5	63.0	31.0
620325	262	MINN	5941	23800	94.6	49.1	30.1
620325	263	MINN	24143	42000	96.0	62.1	31.5
620325	264	MINN	42441	60300	96.9	62.3	32.5
620325	265	MINN	60641	74500	95.8	62.1	31.4

63.1	34.1		-1	25.2
			0	36.8
			-1	1.2
59.5	33.2		0	62.4
62.3	33.4		2	10.1
			-1	3.4
			0	49.7
62.3	28.2		0	62.7
60.9	28.2	81936- 82201	8	14.4
		94500-100400	-1	1.1
			0	47.7
30.4	32.6	112250-115123	1	49.9
			5	13.2
62.4	32.1	130358-132703	10	35.1
		144400-144500	-1	1.1
			4	7.2
			7	22.0
52.0	21.2	144500-150530	0	36.8
		162600-162700	4	19.6
34.1	28.9	162700-164440	4	28.6
		180800-180900	-1	29.4
50.3	27.2	180900-182438	-1	1.6
		195000-195200	5	21.6
			-1	1.2
			8	18.4
			-1	4.7
58.5	32.7	195200-200330	0	16.7
			2	40.0
			-1	1.0
			0	3.6
22.6	24.6		-1	61.7
63.0	31.0		0	63.0
49.1	30.1		2	41.9
			4	19.2
62.1	31.5		-1	1.2
			0	60.9
62.3	32.5		4	62.3
62.1	31.4		6	45.5

620325	266	MINN	74745	92600	77.1	61.8	13.3
620325	267	MINN	93300	111230	94.7	47.8	29.4
620325	268	MINN	112153	130005	95.6	54.5	31.3
620325	269	MINN	130342	144200	93.1	51.1	31.5
620325	270	MINN	144440	162300	93.7	61.0	31.5
620325	271	MINN	162641	180500	93.5	61.9	31.3
620325	272	MINN	180955	194813	95.2	62.6	30.2
620325	273	MINN	195042	212900	92.3	58.5	30.8
620325	274	CALIF	213446	231303	97.6	16.5	12.3
	275	NONE					
620326	276	MINN	231838	5700	89.7	57.1	31.3
620326	277	MINN	10038	23900	94.7	61.9	30.3
620326	278	MINN	24239	42100	96.3	61.9	31.4
620326	279	MINN	42440	60300	95.8	61.9	30.6
620326	280	MINN	60641	74500	94.7	59.1	30.5
620326	281	MINN	74742	92600	95.1	61.6	31.4
620326	282	MINN	93446	111301	95.3	62.7	31.2

			-1	1.1
			8	15.5
61.8	13.3	81017- 81240	11	35.8
		81353- 82215	-1	10.7
			0	15.3
47.8	29.4	94400-100409	2	15.5
			-1	1.2
			4	37.0
			7	2.4
54.5	31.3	112225-114722	7	7.1
		130300-130400	-1	3.6
			0	34.4
			3	2.3
			4	11.9
51.1	31.5	130400-132735	0	40.2
		144400-144600	4	20.3
61.0	31.5	144600-150451	4	34.7
			8	26.3
61.9	31.3	162700-164446	8	29.9
		180800-180900	9	32.0
62.6	30.2	180900-182428	9	23.9
		195100-195300	13	13.1
			0	25.5
58.5	30.8	195300-200107	0	15.5
			8	43.0
16.5	12.3		-1	23.4
57.1	31.3		3	3.6
			5	8.4
			10	45.1
61.9	30.3		3	30.9
			4	31.0
61.9	31.4		8	61.9
61.9	30.6		10	61.9
59.1	30.5		12	12.0
			0	50.7
61.6	31.4	80508- 82253	8	14.2
			0	47.4
62.7	31.2	94315-100434	1	20.1
			2	39.1
			-1	1.1
			10	2.4

620326	283	MINN	112126	125931	94.5	61.8	30.7
620326	284	MINN	130411	144219	66.0	42.7	21.4
620326	285	MINN	144559	162415	94.5	60.0	30.4
620326	286	CALIF	162851	180712	97.3	59.6	29.1
620326	287	MINN	180934	194748	92.8	60.3	30.7
620326	288	CALIF	195244	212905	94.8	53.6	32.3
620326	289	CALIF	213443	231303	97.9	46.8	21.1
	290	NONE					
620327	291	CALIF	231944	5804	97.5	60.9	32.4
620327	292	MINN	10045	23900	95.3	62.5	30.3
620327	293	MINN	24246	42100	86.0	61.3	25.2
620327	294	MINN	42446	60300	96.2	62.7	32.4
620327	295	MINN	60643	74500	96.0	61.5	31.9
620327	296	MINN	75254	93100	96.8	61.5	32.3
	297	NONE					
620327	298	CALIF	112218	130033	84.9	49.6	32.7
620327	299	MINN	130438	144246	94.1	60.0	31.1
620327	300	MINN	144548	162400	92.8	60.1	31.8

61.8	30.7	112231-114619	10	35.6
			4	14.2
			7	11.9
42.7	21.4	130300-132549	7	21.4
		144500-144600	8	21.3
60.0	30.4	144600-150409	0	60.0
		162700-162800		
59.6	29.1	162800-164435	0	30.8
		180600-181000	-1	5.3
			0	27.6
			-1	1.2
60.3	30.7	181000-182433	-1	1.2
			0	59.1
53.6	32.3	195200-195628	0	56.9
46.8	21.1		-1	5.3
			0	2.4
			-1	57.2
60.9	32.4		0	4.0
			3	11.5
			-1	4.1
			0	44.4
62.5	30.3		0	62.5
61.3	25.2		8	27.0
			0	34.3
62.7	32.4		2	62.7
61.5	31.9	63938- 64049	4	61.5
61.5	32.3	80338- 82229	6	61.5
		94300-100500		
		112200-113300		
49.6	32.7	113300-114658	4	31.4
		130300-130500	-1	.8
			8	5.9
			10	14.6
60.0	31.1	130500-132559	10	10.6
			4	30.5
			6	18.8
60.1	31.8	144600-150353	6	36.6
			2	11.8
			-1	1.0
			4	10.7

620327	301	MINN	162818	180633	94.0	60.2	31.9
620327	302	MINN	181006	194820	93.5	60.7	31.1
620327	303	MINN	195348	213200	95.3	55.5	30.3
620327	304	MINN	213447	231300	93.0	60.2	30.6
	305	NONE					
620328	306	MINN	231946	5800	95.4	62.5	30.3
620328	307	MINN	10050	23900	92.7	62.3	30.9
620328	308	MINN	24347	42200	96.6	61.4	31.9
620328	309	CALIF	42550	60403	96.9	62.4	25.4
620328	310	MINN	60647	74500	95.0	61.2	30.8
620328	311	MINN	75219	93100	65.7	55.2	5.0
620328	312	MINN	93733	111547	95.1	62.2	32.0
620328	313	CALIF	112220	130100	83.1	49.2	21.3
620328	314	CALIF	130428	144303	96.4	61.9	22.1
620328	315	MINN	144600	162400	93.9	60.9	32.3
620328	316	MINN	162832	180645	94.1	43.5	32.1
620328	317	MINN	181047	194900	94.1	61.0	30.4
620328	318	NOISY	205339	223209	0		
	319	NONE					
	320	NONE					

60.2	31.9	162700-164350	4	30.7
		180900-181000	0	29.4
60.7	31.1	181000-182259	0	24.5
			2	22.4
			4	13.7
55.5	30.3		0	18.9
			4	36.6
60.2	30.6		4	10.6
			6	49.5
62.5	30.3		6	4.7
			8	57.7
62.3	30.9		4	29.4
			-1	4.7
			0	28.1
61.4	31.9		0	61.4
62.4	25.4		2	63.6
61.2	30.8	63007- 63117	4	61.2
		63448- 64041		
55.2	5.0	80330- 82331	8	2.4
			0	58.7
62.2	32.0	94215-100435	2	34.1
		112200-113600	-1	10.6
			8	14.0
			4	3.6
49.2	21.3	113600-114603	8	36.2
			11	14.0
61.9	22.1	130400-132510	11	44.3
			8	19.2
60.9	32.3	144600-150407	8	30.5
			0	7.0
			2	23.4
43.5	32.1	162800-164301	2	23.5
			4	21.1
			8	8.2
61.0	30.4	181000-182052	8	25.9
			11	31.6
			8	3.5

	321	NONE					
620329	322	MINN	10143	24000	95.6	60.9	32.0
620329	323	MINN	24344	42200	95.9	62.0	32.3
620329	324	MINN	42548	60400	96.0	60.8	33.0
620329	325	MINN	60652	74500	103.1	61.9	30.5
620329	326	MINN	75419	93300	96.5	61.7	32.8
620329	327	MINN	94106	111913	95.2	52.7	28.1
620329	328	MINN	112259	130100	92.7	58.5	32.1
620329	329	MINN	130454	144300	93.7	61.7	32.0
620329	330	MINN	144757	162500	93.7	45.5	31.0
620329	331	CALIF	162934	180736	97.0	61.4	30.7
620329	332	MINN	181101	194900	91.2	52.1	31.5
	333	NONE					
	334	NONE					
	335	NONE					
620330	336	MINN	3647	5930	21.4	19.6	.6
620330	337	NOISY	10227	24030	0		
620330	338	NOISY	24438	42230	0		
620330	339	MINN	42557	60403	95.6	61.6	32.1
620330	340	MINN	61252	75100	96.6	60.4	30.5
620330	341	MINN	75604	93410	103.8	48.8	31.9

60.9	32.0		10	60.9
62.0	32.3		0	62.0
60.8	33.0		2	5.9
			4	55.0
61.9	30.5	62435- 64059	6	45.6
			-1	4.5
			0	11.7
61.7	32.8	80223- 82326	8	56.1
			0	5.6
52.7	28.1	94217-100541	3	51.5
		112200-112300	-1	1.2
			4	4.7
58.5	32.1	112300-114539	4	48.0
		130400-130500	0	10.6
61.7	32.0	130500-132425	0	44.3
		144600-144700	8	17.5
45.5	31.0	144700-150329	8	12.8
			0	24.4
			4	23.4
61.4	30.7	162800-164313	4	19.6
		181100-181300	-1	1.1
			8	11.6
			4	9.7
			-1	2.2
52.1	31.5	181300-181804	0	23.2
			2	25.5
			-1	1.1
			8	8.1
19.6	.6		8	5.8
			0	13.8
61.6	32.1		0	61.6
60.4	30.5	62555- 64212	2	60.4
48.8	31.9	80224- 82315	4	61.5

620330	342	MINN	93636	111433	102.8	60.4	32.9
620330	343	CALIF	112321	130200	96.8	44.7	23.4
620330	344	MINN	130456	144300	92.0	58.6	32.3
620330	345	MINN	145032	162624	95.2	57.0	28.9
620330	346	MINN	162955	180748	66.1	32.5	32.5
620330	347	MINN	181056	194900	92.8	59.2	32.8
620330	348	MINN	195110	213200	62.9	40.6	22.8
	349	NONE					
620330	350	MINN	213854	231700	95.2	61.5	32.2
620331	351	MINN	232056	5900	94.0	59.1	33.0
620331	352	MINN	10256	24100	96.1	61.3	33.8
620331	353	MINN	24456	42300	96.0	59.9	32.3
620331	354	MINN	42624	60430	95.4	61.1	26.2
620331	355	MINN	61251	75100	97.1	60.0	28.9
620331	356	MINN	75634	93440	92.3	57.8	29.7
	357	NONE					
620331	358	MINN	112356	130200	95.2	56.7	35.9
620331	359	MINN	130425	144400	93.8	59.9	32.5
	360	NONE					
620331	361	CALIF	164349	181140	97.5	35.8	22.1

60.4	32.9	94157-100655	6	56.8
		112301-112520	9	12.4
44.7	23.4	112520-114518	9	12.8
		130500-130700	-1	37.7
			0	12.0
58.6	32.3	130700-132344	0	42.4
			9	3.5
			-1	2.2
			4	10.4
57.0	28.9	144700-150258	4	30.3
		162800-164300	6	23.2
32.5	32.5		6	3.5
			8	29.0
59.2	32.8		8	25.6
			4	33.6
40.6	22.8		6	40.6
61.5	32.2		6	11.6
			8	49.8
59.1	33.0		8	3.5
			10	55.6
61.3	33.8		8	61.3
59.9	32.3		0	59.9
61.1	26.2	45540- 50127	2	19.6
			-1	2.2
			8	39.3
60.0	28.9	62300- 64209	4	57.8
			8	2.3
57.8	29.7	80217- 82412	4	21.9
		94100-100500	-1	6.9
			0	32.2
56.7	35.9	112300-114405	3	49.7
		130500-130600	5	7.0
59.9	32.5	130600-132307	5	43.9
		144700-150300	-1	1.2
		162900-163200	0	14.9
35.8	22.1	163200-164112	0	30.0
			1	2.3
			2	4.6

620331	362	MINN	181220	195030	90.3	56.5	32.9
	363	NONE					
620331	364	MINN	195450	213300	95.1	60.9	33.1
620331	365	MINN	213900	231703	94.9	59.9	32.6
620401	366	MINN	232207	5903	94.6	59.6	33.2
620401	367	MINN	10355	24103	92.6	61.1	32.4
620401	368	MINN	24902	42303	93.8	60.6	30.6
620401	369	MINN	42919	60505	95.6	59.4	24.8
620401	370	CALIF	61109	75107	97.4	57.2	24.1
620401	371	MINN	80123	93901	93.2	43.5	19.9
620401	372	MINN	94313	112103	93.5	60.1	32.6
620401	373	MINN	112402	130200	92.7	59.4	29.0
620401	374	MINN	130632	144400	78.2	40.8	33.1
620401	375	CALIF	144937	162645	95.2	0	18.6
620401	376	CALIF	163042	180803	93.5	2.1	24.0
620401	377	CALIF	181341	195103	95.7	0	17.7
	378	NONE					
620401	379	MINN	195952	213858	83.1	49.2	33.6
	380	NONE					

56.5	32.9		0	20.8
			5	31.1
			10	4.6
60.9	33.1		10	19.6
			12	41.4
59.9	32.6		12	11.6
			4	48.4
59.6	33.2		4	4.7
			0	55.0
61.1	32.4		1	61.1
60.6	30.6		8	10.3
			0	50.3
59.4	24.8	44500- 50133	4	29.9
			-1	7.9
			0	21.7
57.2	24.1	62157- 64304	3	34.3
		80100- 80200	-1	1.1
			4	26.4
43.5	19.9	80200- 82317	9	59.9
		82425- 82534		
		94100- 94300		
60.1	32.6	94300-100510	-1	24.8
		112300-112600	0	28.4
			-1	1.2
			8	4.6
			-1	1.2
59.4	29.0	112600-114414	8	10.2
		130600-130700	0	37.8
			-1	1.2
			0	10.2
40.8	33.1	130700-132251	0	31.7
		144700-145100	-1	3.5
			0	9.1
0	18.6	145100-151510	-1	28.9
		163000-163800		
2.1	24.0		-1	21.9
0	17.7		-1	43.5
49.2	33.6		0	49.2

	381	NONE					
	382	NONE					
	383	NONE					
620402	384	MINN	42758	60447	93.4	59.1	25.6
620402	385	CALIF	61511	75202	95.4	58.2	21.0
620402	386	CALIF	80120	93804	96.2	28.3	1.2
620402	387	CALIF	94632	112257	95.9	12.8	13.7
620402	388	MINN	112502	130200	92.1	53.5	34.0
620402	389	MINN	130705	144400	93.3	60.6	33.6

59.1	25.6	44300- 50201	0	59.1
58.2	21.0	62114- 64322	-1	2.2
			0	57.7
			-1	1.2
28.3	1.2	80151- 82532	0	60.9
		94100- 94600		
12.8	13.7	94600-100513	-1	30.5
		112300-112600	8	3.6
			-1	17.6
58.5	34.0	112600-114310	1	19.4
			2	7.0
			-1	2.2
			8	7.0
			0	22.9
60.6	33.6	130600-132337	0	43.2
		144700-145000	-1	1.2
			4	16.2

TIME SUMMARY (HRS)

TOTAL TIME	534.91
ACQUIRED TIME	506.46
GOOD DATA - DAY	253.55
NIGHT	144.03
TRAPPED PROT. FLUX	66.15

OSO-1 (1962 ZETA) UNIV. OF MINN. GAMMA-RAY EXPERIMENT

DATE	PASS	PLBK STATUS	START HRMNSEC	STOP HRMNSEC	ACQUIRED DATA (MIN)	GOOD DATA (MIN) DAY	NIGHT
620503	858	CALIF	183752	201507	96.2	59.7	20.3
620503	859	CALIF	201927	215633	95.8	59.9	19.0
620503	860	NOISY	220057	233804	0		
620504	861	NOISY	234356	12103	0		
620504	862	CALIF	12612	30304	96.0	46.5	7.0
620504	863	CALIF	30856	44600	95.8	61.3	33.3
	864	NONE					
620504	865	CALIF	45328	63034	96.0	53.0	20.8
620504	866	CALIF	63501	81204	95.8	45.5	21.0
620504	867	CALIF	81702	95403	95.1	42.0	23.4
620504	868	CALIF	95859	113604	95.4	45.9	24.9
620504	869	CALIF	113955	131703	95.4	58.9	19.4
620504	870	CALIF	132713	150422	96.1	57.0	24.0
620504	871	CALIF	151138	164804	95.0	60.7	18.9
620504	872	CALIF	165543	183248	96.0	7.2	16.3
620504	873	CALIF	183802	201508	96.0	40.4	20.7
620504	874	CALIF	201955	215703	96.1	57.6	17.2
620504	875	CALIF	220127	233833	96.0	59.8	8.3

GAMMA-RAY EXPERIMENT DATA AVAILABILITY

ED IN)	GOOD DATA (MIN) DAY	NIGHT	INST PROT FLUX G1 20 C/CM2-SEC	SECTOR NUMBER	TIME (MIN)
	59.7	20.3	183917-185822	11	14.4
			201800-201900	13	46.5
	59.9	19.0	201900-203725	13	8.6
			220000-221800	0	51.5
			234100-235700		
	46.5	7.0	12500- 13016	0	57.7
	61.3	33.3		2	61.3
	53.0	20.8		4	61.4
	45.5	21.0		6	60.9
	42.0	23.4		8	58.8
	45.9	24.9		11	54.0
				14	6.8
	58.9	19.4	121304-121416	14	49.3
				0	12.4
	57.0	24.0	133654-135606	0	38.4
				2	23.2
	60.7	18.9	151619-153643	2	29.4
			165500-165600	4	31.3
	7.2	16.3	165600-171931	-1	60.0
			183600-183900		
	40.4	20.7	183900-185822	-1	12.9
				8	5.3
				-1	7.8
				0	30.5
	57.6	17.2	201900-203741	0	61.4
	59.8	8.3	220000-221625	-1	3.6
			234100-234200	8	13.0
				-1	2.3
				0	42.0

620505	876	CALIF	234334	12041	96.0	59.9	10.4
620505	877	CALIF	12634	30401	96.1	60.5	22.3
620505	878	CALIF	30824	44532	96.0	48.6	17.4
	879	NONE					
620505	880	CALIF	45334	63038	95.3	19.3	24.3
620505	881	CALIF	63523	81223	96.0	46.8	21.2
620505	882	CALIF	81731	95438	95.6	34.8	22.6
620505	883	CALIF	95929	113637	96.1	42.5	20.6
620505	884	CALIF	114100	131804	95.5	54.6	18.2
620505	885	CALIF	132727	150433	96.0	57.1	19.8
620505	886	CALIF	151202	164816	94.5	33.1	19.3
620505	887	CALIF	165601	183309	96.1	56.1	19.0
620505	888	CALIF	183756	201502	96.0	51.0	13.2
620505	889	CALIF	201952	215703	96.1	48.9	14.5
	890	NONE					
	891	NONE					
	892	NONE					
	893	NONE					
620506	894	CALIF	31209	44902	95.3	33.6	17.0
620506	895	CALIF	45339	63034	95.7	2.1	23.7
620506	896	CALIF	63503	81205	95.9	1.8	22.0

59.9	10.4	234200-235700	4	39.7
			-1	2.2
			0	19.2
60.5	22.3		4	39.0
			-1	9.4
			0	13.0
48.6	17.4		2	29.6
			-1	5.9
			0	26.4
19.3	24.3		0	62.0
46.8	21.2		0	59.7
34.8	22.6		0	58.3
42.5	20.6		0	53.3
			-1	7.3
54.6	18.2	120900-121417	0	47.5
			8	6.1
			0	7.2
57.1	19.8	133621-135513	0	35.4
			4	10.4
			-1	1.0
			8	12.0
33.1	19.3	151501-153732	0	29.3
			2	11.1
			8	19.8
56.1	19.0	165500-171913	0	53.2
			-1	1.9
			2	6.5
51.0	13.2	183700-185729	0	62.6
48.9	14.5	201900-203739 220100-221600 234200-235400	0	62.0
33.6	17.0		0	8.1
			-1	53.2
2.1	23.7		0	60.9
1.8	22.0		-1	60.8

620506	897	CALIF	81809	95504	96.0	0	23.5
620506	898	CALIF	95940	113648	96.0	0	23.0
620506	899	CALIF	114101	131805	95.7	1.1	17.6
	900	NONE					
620506	901	CALIF	151608	165311	96.0	0	8.0
	902	NONE					
620506	903	CALIF	183541	201245	96.0	0	18.6
620506	904	CALIF	201955	215702	95.6	0	19.6
620506	905	CALIF	220315	234019	95.9	0	14.4
620507	906	CALIF	234513	12133	95.1	0	17.2
620507	907	CALIF	12925	30629	96.2	0	23.5
	908	NONE					
620507	909	CALIF	31233	44934	96.0	0	12.7
620507	910	CALIF	45358	63104	95.8	0	21.7
620507	911	CALIF	63558	81304	95.9	0	19.5
620507	912	CALIF	81746	95504	96.3	2.0	17.5
620507	913	CALIF	100000	113704	96.0	0	14.3
620507	914	CALIF	114626	132334	96.0	0	22.1
620507	915	CALIF	133228	150808	94.0	0	17.3
620507	916	CALIF	150917	165218	101.1	4.9	18.2
620507	917	CALIF	165719	183425	96.0	0	16.9
620507	918	CALIF	183855	201603	96.0	1.4	22.2
620507	919	CALIF	201958	215703	95.4	0	22.6
620507	920	CALIF	220354	234054	96.0	2.8	14.7
620508	921	CALIF	234458	12200	94.2	0	19.1
620508	922	CALIF	12810	30507	95.5	0	19.4

0	23.5		-1	58.7
0	23.0			
1.1	17.6	115753-121528	0	50.0
		133600-135700	-1	10.7
		151400-153800		
0	8.0	165500-171800		
0	18.6	183657-185714	-1	58.1
0	19.6	201900-203605	-1	60.6
		220100-220500		
0	14.4	220500-221554		
0	17.2	234400-235045	-1	61.9
0	23.5			
0	12.7			
0	21.7			
0	19.5		-1	62.2
2.0	17.5		-1	60.9
0	14.3		-1	60.8
0	22.1	115641-121505	0	42.6
		133500-135600	-1	16.0
0	17.3			
4.9	18.2	151636-153826	-1	66.6
		165500-165600		
0	16.9	165600-171753	-1	61.3
		183800-183900		
1.4	22.2	183900-185637	-1	62.2
		201900-203100		
0	22.6	203100-203543		
		220100-220300		
2.8	14.7	220300-221542	-1	64.5
0	19.1	234500-234748		
0	19.4		-1	64.4

	923	NONE					
620508	924	CALIF	31439	45033	95.8	0	21.8
620508	925	CALIF	45428	63134	95.9	0	22.8
620508	926	CALIF	63644	81350	95.7	1.6	23.6
620508	927	CALIF	81850	95550	96.0	3.2	23.1
620508	928	CALIF	100031	113735	96.0	0	19.5
620508	929	CALIF	114537	132355	95.7	0	8.9
620508	930	CALIF	133206	150807	94.4	0	20.5
620508	931	CALIF	151518	165223	96.0	0	15.6
620508	932	NOISY	171222	183054	0		
620508	933	CALIF	183954	201702	95.8	0	20.9
620508	934	CALIF	202235	215943	96.1	0	17.5
620508	935	CALIF	220359	234040	95.1	0	17.8
620509	936	CALIF	234523	12212	92.8	14.3	17.1
	937	NONE					
620509	938	CALIF	12756	30504	96.0	22.0	20.4
620509	939	CALIF	31306	45003	95.4	25.4	24.6
620509	940	CALIF	45442	63148	95.6	9.4	24.4
620509	941	CALIF	63701	81403	95.9	10.5	23.2
620509	942	CALIF	81728	95606	96.0	24.0	17.7
620509	943	CALIF	100053	113801	95.8	22.4	22.4
	944	NONE					
620509	945	CALIF	132746	150755	94.0	25.0	21.5
620509	946	CALIF	151630	165331	95.9	40.0	14.6
620509	947	CALIF	165817	183523	95.9	20.1	20.3

0	21.8		-1	62.7
0	22.8			
1.6	23.6		-1	63.5
3.2	23.1		-1	59.8
0	19.5	103006-103303	-1	60.2
0	8.9	115628-121420 133500-135700	-1	62.2
0	20.5	151400-153800		
0	15.6	165600-171700 183800-185500		
0	20.9	185500-185748 202000-203100		
0	17.5	203100-203550 220200-220700		
0	17.8	220700-221436		
14.3	17.1		-1	62.3
22.0	20.4		-1	64.7
25.4	24.6		0	64.1
9.4	24.4		0	63.7
10.5	23.2		0	64.9
24.0	17.7		0 -1	62.5 2.5
22.4	22.4	101801-101856 102229-103507 115500-121600	0	63.4
25.0	21.5	133409-135638 151400-151600	-1 0	37.3 26.1
40.0	14.5	151600-153804 165600-165800	0	64.0
20.1	20.3	165800-171612 183800-184200	0 -1	21.9 40.4

620509	948	CALIF	183957	201701	93.0	31.7	23.0
620509	949	CALIF	202215	215917	95.9	18.7	19.5
620509	950	CALIF	220414	234104	96.0	20.4	16.6
620510	951	CALIF	234540	12402	95.8	25.0	17.0
	952	NONE					
620510	953	CALIF	13155	30903	95.6	0	20.5
620510	954	CALIF	31301	45004	95.3	37.5	22.7
620510	955	CALIF	45516	63217	95.5	33.8	20.6
620510	956	CALIF	63733	81437	95.5	35.0	22.4
620510	957	CALIF	82001	95706	95.9	26.0	23.2
620510	958	CALIF	95938	113634	93.7	31.4	24.1
620510	959	CALIF	114718	132423	95.9	47.3	20.4
620510	960	CALIF	133437	151138	95.9	0	10.5
620510	961	CALIF	151634	165342	96.0	44.0	19.0
620510	962	CALIF	165826	183538	96.1	29.8	21.7
620510	963	CALIF	183958	201703	95.7	46.5	18.8
620510	964	CALIF	202224	215930	95.6	50.1	20.0
620510	965	CALIF	220510	234203	94.4	49.4	17.8
	966	NONE					
	967	NONE					

31.7	23.0	184200-185559	0	61.4
		202000-202100		
18.7	19.5	202100-203501	-1	10.8
		220200-220300	0	14.5
			-1	39.5
20.4	16.6	220300-221205	-1	4.3
			0	55.7
25.0	17.0		8	7.0
			-1	55.6
0	20.5		-1	62.5
37.5	22.7		0	65.8
38.8	20.6		-1	3.5
			0	57.1
			-1	4.9
35.0	22.4		0	65.4
26.0	23.2		0	62.0
31.4	24.1	101641-103300	0	56.7
			1	2.0
			-1	4.7
47.3	20.4	115431-121536	0	63.5
		133300-133400		
0	10.5	133400-135918	0	9.4
		151400-151500	-1	25.3
			0	28.3
44.0	19.0	151500-153653	0	67.0
		165600-165800		
29.8	21.7	165800-171601	0	23.9
			-1	12.3
			0	6.2
			-1	21.7
46.5	18.8	183900-185625	0	61.2
		202000-202200		
50.1	20.0	202200-203549	-1	12.7
		220400-220500	8	11.1
			-1	1.7
			0	41.0
49.4	17.8	220500-220854	-1	5.2
			0	59.4

620511	968	CALIF	13142	30903	95.6	49.1	22.5
620511	969	CALIF	31318	45033	95.8	57.4	25.9
620511	970	CALIF	45543	63249	95.9	49.7	21.4
620511	971	CALIF	63757	81504	95.9	54.6	22.5
620511	972	CALIF	81929	95634	95.9	49.5	19.7
620511	973	CALIF	100548	114259	94.5	42.4	22.0
620511	974	CALIF	114917	132623	95.7	36.2	17.9
620511	975	CALIF	133418	151126	95.5	0	17.9
620511	976	CALIF	151657	165402	95.9	48.6	19.4
620511	977	CALIF	165832	183541	95.9	53.9	16.5
620511	978	CALIF	184109	201815	96.0	46.4	14.8
620511	979	CALIF	202240	215943	95.8	44.0	11.7
620511	980	CALIF	220650	234205	94.1	46.6	17.8
620512	981	CALIF	234726	12432	95.9	51.5	21.6
	982	NONE					
620512	983	CALIF	13200	30903	95.1	52.1	23.3
	984	NONE					
	985	NONE					
	986	NONE					
620512	987	CALIF	81959	95703	95.9	54.7	19.6
620512	988	CALIF	100612	114313	95.6	50.4	23.7

49.1	22.5		0	58.7
57.4	25.9		0	61.6
49.7	21.4		1	1.9
			-1	8.2
			0	43.7
54.6	22.5		8	38.7
			-1	1.0
			0	16.5
49.5	19.7	85150- 85259	0	60.6
42.4	22.0	101528-103422	0	65.6
36.2	17.9	115406-121710	0	45.8
		133300-133400	-1	19.9
0	17.9	133400-135843	-1	20.3
		151400-151600	0	9.0
			-1	13.6
			0	22.8
48.6	19.4	151600-153658	0	66.3
53.9	16.5	165700-171518	0	26.7
		183900-184000	8	16.1
			0	19.8
46.4	14.8	184000-185456	0	19.9
		202000-202200	-1	6.0
			0	28.6
			-1	2.1
44.0	11.7	202200-203437	0	53.8
46.6	17.8		-1	7.0
			1	11.7
			-1	9.0
			2	30.0
51.5	21.6		1	17.9
			-1	.7
			0	38.7
52.1	23.3		0	54.1
54.7	19.6	84151- 84248	0	55.1
		84624- 85302		
50.4	23.7	101513-103451	0	55.7

620512	989	CALIF	115001	132702	94.5	42.2	14.1
620512	990	CALIF	133537	151243	96.0	48.6	16.8
620512	991	CALIF	151730	165435	96.0	52.3	17.9
620512	992	CALIF	165856	183602	95.5	53.5	20.1
620512	993	CALIF	184128	201833	95.7	45.9	5.9
620512	994	CALIF	202304	220008	95.9	45.1	13.0
620512	995	CALIF	220556	234302	95.9	45.7	19.1
620513	997	CALIF	235059	12803	95.7	52.8	17.5
620513	998	CALIF	13158	30904	95.2	55.6	14.8
620513	999	CALIF	31401	45103	94.6	53.8	20.9
620513	1000	CALIF	45624	63333	95.6	49.7	22.7
620513	1001	CALIF	63827	81533	95.8	53.8	24.3
620513	1002	CALIF	81958	95704	95.8	52.5	20.4
620513	1003	CALIF	100559	114304	95.7	42.9	18.7

			1	5.0
42.2	14.1	115318-121611	0	47.5
		133300-133500	-1	20.1
48.6	16.8	133500-135713	1	39.2
		151500-151600	5	24.2
52.3	17.9	151600-153544	10	33.4
		165700-165900	13	2.8
			-1	.7
			2	17.3
53.5	20.1	165900-171532	4	27.1
		183900-184000	7	26.8
45.9	5.9	184000-185504	-1	21.4
		202100-202200	4	18.4
			-1	3.3
			0	15.9
45.1	13.0	202200-203252	-1	2.4
			0	7.8
			-1	6.1
			2	6.0
			-1	5.8
45.7	19.1		0	9.7
			2	6.9
			-1	6.7
			0	29.3
52.8	17.5		9	15.8
			-1	.8
			2	39.0
55.6	14.8		4	39.1
			-1	6.2
			0	12.5
53.8	20.9		4	49.5
			-1	.6
			8	4.0
49.7	22.7		11	8.4
			-1	2.2
			0	42.3
53.8	24.3		3	29.0
			-1	.8
			4	24.8
52.5	20.4	83609- 85308	10	3.5
			-1	2.6
			4	47.2
42.9	18.7	101410-103647	0	57.9
			5	2.1
			-1	3.1

620513	1004	CALIF	115403	133110	96.0	54.1	17.8
620513	1005	CALIF	133557	151300	96.0	49.8	18.0
620513	1006	CALIF	151733	165438	96.0	50.6	14.2
620513	1007	CALIF	165906	183613	95.9	52.0	19.4
620513	1008	CALIF	184146	201849	96.0	48.7	13.3
620513	1009	CALIF	202345	220034	95.2	49.1	18.6
620513	1010	CALIF	220628	234332	95.9	45.6	17.6
	1011	NONE					
620514	1012	CALIF	235111	12803	95.6	47.4	23.2
620514	1013	CALIF	13257	31003	95.9	51.3	18.9
620514	1014	CALIF	31458	45203	95.9	53.7	19.8
620514	1015	CALIF	45743	63447	96.0	53.5	22.2
620514	1016	CALIF	63926	81550	95.3	53.0	20.5
620514	1017	CALIF	82505	100203	95.3	48.6	21.8
620514	1018	CALIF	100707	114404	95.7	39.7	6.7
620514	1019	CALIF	115402	133108	95.8	37.7	18.0

54.1	17.8	115300-121641	4	15.9
		133300-133500	-1	7.2
			0	35.4
49.8	18.0	133500-135647	-1	1.4
		151500-151600	0	35.9
			-1	3.1
			0	12.6
50.6	14.2	151600-153552	0	35.2
			1	19.0
52.0	19.4	165800-171423	-1	5.1
		183900-184100	0	23.8
			4	20.6
			-1	.9
			8	4.0
48.7	13.3	184100-185410	0	23.4
		202200-202400	4	30.7
49.1	18.6	202400-202954	-1	16.0
			11	17.2
			-1	33.6
45.6	17.6		4	7.3
			-1	3.8
			10	9.1
			-1	6.1
			0	26.0
47.4	23.2		4	16.8
			-1	.3
			8	49.4
51.3	18.9		0	56.3
53.7	19.8		5	54.0
53.5	22.2		3	37.4
			-1	4.3
			8	12.4
53.0	20.5	71230- 71317	9	25.9
			-1	8.1
			4	20.5
48.6	21.8	84123- 85359	0	65.4
39.7	6.7	101421-103535	0	59.1
		115200-115300	-1	5.0
			8	1.9
			-1	1.2
37.7	18.0	115300-121717	-1	47.0
		133300-135600	3	10.6
			-1	1.2

620514	1020	CALIF	143027	151312	42.1	26.5	9.0
620514	1021	CALIF	151823	165532	95.9	50.1	19.5
620514	1022	CALIF	165942	183605	94.8	49.8	19.9
620514	1023	CALIF	184227	201933	95.9	47.2	5.4
620514	1024	CALIF	202336	220041	95.1	48.8	19.3
620514	1025	CALIF	220637	234345	96.0	50.9	18.9
	1026	NONE					
620515	1027	CALIF	235057	12803	95.6	52.1	17.3
620515	1028	CALIF	13256	31007	95.6	45.5	20.8
620515	1029	CALIF	31504	45206	94.5	42.2	20.7
620515	1030	CALIF	45701	63405	95.5	45.7	22.8
620515	1031	CALIF	63904	81608	95.6	48.7	22.3
620515	1032	CALIF	82509	100210	95.9	44.5	22.9
620515	1033	CALIF	100902	114605	95.9	46.9	18.3
620515	1034	CALIF	115544	133247	96.1	40.8	2.1
620515	1035	CALIF	133714	151334	95.1	51.5	15.5
620515	1036	CALIF	151757	165502	96.0	49.6	11.5
620515	1037	CALIF	165924	183733	97.7	30.9	17.5

26.5	9.0	151500-151700	4	27.2
50.1	19.5	151700-153442	4	15.0
		165800-165900	-1	.7
			8	19.7
			5	18.6
49.8	19.9	165900-171446	10	5.2
		183900-184100	-1	.7
			4	24.5
			8	22.1
47.2	5.4	184100-185349	0	24.3
			9	37.6
48.8	19.3	202400-202605	-1	15.4
			2	2.1
			5	6.4
			-1	.7
			10	30.8
50.9	18.9		-1	12.1
			2	8.8
			-1	3.1
			0	42.5
52.1	17.3		-1	9.4
			0	51.4
45.5	20.8		-1	3.7
			0	54.2
42.2	20.7		-1	4.5
			0	43.8
			-1	6.8
45.7	22.8		1	2.9
			-1	1.9
			0	53.5
48.7	22.3	70733- 71317	-1	5.9
			0	56.6
			-1	1.2
44.5	22.9	83430- 85352	0	55.8
46.9	18.3	101243-103620	0	55.1
		115200-115400		
40.8	2.1	115400-121803	0	47.8
		133400-133600	-1	10.1
51.5	15.5	133600-135631	0	68.5
		151600-151700		
49.6	11.5	151700-153554	0	67.5
30.9	17.5	165800-171422	0	33.5

	1038	NONE					
620515	1039	CALIF	202525	220229	95.8	47.0	17.4

		184000-185300	-1	35.7
47.0	17.4		0	18.7
			-1	4.0
			0	31.4

TIME SUMMARY (HRS)

TOTAL TIME	256.07
ACQUIRED TIME	247.87
GOOD DATA - DAY	86.72
NIGHT	48.92
TRAPPED PROT. FLUX	29.55

OSO-1 (1962 ZETA) UNIV. OF MINN. GAMMA-RAY EXPERIMENT

DATE	PASS	PLBK STATUS	START HRMNSEC	STOP HRMNSEC	ACQUIRED DATA (MIN)	GOOD DATA (MIN) DAY	NIGHT
620402	390	MINN	144954	162645	94.2	60.3	33.8
	391	NONE					
	392	NONE					
	393	NONE					
620402	394	MINN	195816	213600	95.8	61.3	33.7
620402	395	MINN	214037	231730	94.2	59.2	36.1
620403	396	MINN	232305	10000	94.4	59.5	33.8
620403	397	MINN	10504	24200	104.4	60.7	34.0
620403	398	MINN	24708	42400	101.1	59.6	24.5
620403	399	CALIF	43316	61003	95.8	24.4	22.2
620403	400	CALIF	61707	75400	95.7	57.4	8.5
620403	401	CALIF	80208	93903	96.1	52.8	24.5
620403	402	CALIF	94413	112103	96.0	45.8	20.1
620403	403	CALIF	112607	130259	96.1	44.4	22.5
620403	404	MINN	130902	144549	88.1	52.6	33.1

GAMMA-RAY EXPERIMENT DATA AVAILABILITY

ED IN)	GOOD DATA (MIN) DAY	NIGHT	INST PRUT FLUX GT 20 C/CM2-SEC	SECTOR NUMBER	TIME (MIN)
	60.3	33.8	145225-150237	4	6.9
			163100-163500	-1	2.2
				8	28.7
				4	2.2
				-1	2.0
	61.3	33.7		0	15.8
				-1	11.3
				0	33.1
				-1	1.2
	59.2	36.1		0	10.3
				1	18.5
				-1	14.6
				0	15.9
	59.5	33.8		0	3.5
				3	24.8
				4	31.1
	60.7	34.0		6	38.9
				8	21.8
	59.6	24.5	31821- 31932	0	59.6
	24.4	22.2	44224- 50124	0	57.0
	57.4	8.5	62131- 64356	0	61.3
	52.8	24.5	80000- 82550	0	61.0
			94200- 94300		
	45.8	20.1	94300-100424	-1	.8
			112400-112500	0	37.2
				-1	11.9
				0	5.0
	44.4	22.5	112500-114236	0	51.0
			130600-131500	2	10.4
	52.6	33.1	131500-132140	2	35.4
			144800-144900	0	17.2

620403	405	MINN	145019	162711	93.4	53.9	33.8
620403	406	NOISY	165509	181100	0		
620403	407	NOISY	181435	195130	0		
	408	NONE					
620403	409	MINN	195837	213530	93.0	57.1	33.7
620403	410	MINN	214135	231830	103.6	59.5	32.8
620404	411	MINN	232326	10020	90.3	55.9	34.8
620404	412	MINN	10435	24130	91.8	60.1	34.4
620404	413	CALIF	24709	42403	94.8	56.4	15.2
620404	414	CALIF	43413	61102	95.3	54.0	18.4
620404	415	MINN	61715	75412	84.3	60.2	18.9
620404	416	CALIF	80312	94007	96.2	60.5	33.6
620404	417	CALIF	94500	112153	94.8	50.2	35.2
620404	418	CALIF	112644	130334	96.1	57.0	32.8
620404	419	MINN	130946	144640	94.1	59.3	34.1
620404	420	MINN	145008	162700	101.1	56.8	28.6
620404	421	CALIF	163523	181212	96.0	43.4	16.9

53.9	33.8	144900-150216	0	37.0
			-1	1.2
			2	21.8
57.1	33.7		2	14.9
			0	42.2
59.5	32.8		-1	1.1
			0	8.0
			-1	1.2
			4	57.5
			-1	1.2
55.9	34.8		12	1.2
			10	20.6
			-1	1.1
			4	12.4
			0	20.6
60.1	34.4		4	21.6
			8	38.5
56.4	15.2	30823- 30957	-1	1.0
		31204- 32006	0	58.6
			-1	1.2
54.0	18.4	44155- 50215	2	60.9
		62000- 62600		
60.2	18.9	62600- 64310	4	52.2
		80000- 80100	-1	8.0
60.5	33.6	80100- 82434	4	60.9
		94200- 94500		
50.2	35.2	94500-100337	6	53.9
			9	5.4
57.0	32.8	112500-114215	9	6.8
		130600-130900	-1	.8
			4	41.9
			2	11.1
59.3	34.1	130900-132146	2	41.0
		144900-145200	-1	1.2
			4	17.1
56.8	28.6	145200-145915	4	32.9
			-1	2.3
			0	30.0
			-1	1.2
43.4	16.9		-1	27.5
			2	30.9

	422	NONE					
620404	423	MINN	181830	195526	93.5	58.3	34.4
620404	424	MINN	195941	213639	94.2	59.1	34.5
620404	425	MINN	214208	231903	94.1	59.5	34.6
620405	426	MINN	232343	10037	95.0	59.2	34.3
620405	427	MINN	10539	24234	93.9	54.1	33.9
620405	428	MINN	24709	42404	94.6	60.4	17.7
620405	429	CALIF	43432	61102	95.8	60.3	16.8
	430	NONE					
620405	431	CALIF	80318	94013	96.0	59.1	34.5
620405	432	CALIF	94457	112152	95.9	58.1	28.1
620405	433	MINN	112612	130307	93.6	56.9	34.2
620405	434	MINN	131037	144733	93.5	59.0	34.3
620405	435	CALIF	145107	162803	94.3	55.4	22.7
620405	436	NOISY	163511	181203	0		
	437	NONE					
620405	438	NOISY	181727	195424	0		
620405	439	NOISY	195959	213600	0		

58.3	34.4			
			2	19.4
			-1	1.2
			8	37.7
59.1	34.5			
			8	16.9
			3	26.1
			4	16.0
59.5	34.6			
			4	9.1
			-1	1.2
			4	15.8
			-1	5.5
			0	27.9
59.2	34.3			
			0	4.6
			4	26.2
			-1	3.3
			0	25.1
54.1	33.9			
			-1	12.3
			0	47.4
60.4	17.7	30300- 32009	0	60.4
		32118- 32226		
60.3	16.8	44104- 50242	2	39.0
		62000- 64400	-1	.8
		80100- 80200	4	20.5
59.1	34.5	80200- 82358	4	49.6
		94200- 94400	-1	1.1
			8	10.3
58.1	28.1	94400-100300	5	55.0
		112500-112600	7	4.4
56.9	34.2	112600-114234	7	30.7
		130700-131000	8	18.2
			10	8.0
59.0	34.3	131000-132121	10	10.0
		145000-145100	4	12.5
			0	19.4
			8	17.2
55.4	22.7	145100-145546	8	6.5
			-1	.8
			0	50.4

620405	440	MINN	214208	231904	94.1	59.3	34.0
620406	441	MINN	232402	10057	94.4	59.1	34.9
620406	442	CALIF	10608	24304	96.1	50.3	22.9
620406	443	CALIF	25235	42932	96.2	34.8	12.6
620406	444	CALIF	43732	61320	94.3	51.8	13.8
620406	445	MINN	62133	75823	87.4	51.1	26.2
620406	446	CALIF	80324	94020	97.4	56.5	11.9
620406	447	CALIF	94502	112200	96.2	56.5	10.3
620406	448	CALIF	112705	130400	96.2	55.3	22.0
620406	449	MINN	131104	144752	75.8	40.8	34.0
620406	450	CALIF	145319	162910	94.3	48.2	17.9
620406	451	NOISY	163407	181103	0		
	452	NONE					
620406	453	CALIF	181906	195604	96.2	47.4	22.5
	454	NONE					
620406	455	MINN	214234	231930	88.9	53.5	34.7
620407	456	MINN	232437	10133	94.6	58.1	33.6
620407	457	MINN	10623	24323	95.9	59.0	17.0
620407	458	CALIF	25250	42947	91.6	48.2	9.1

59.3	34.0		-1	2.3
			0	7.8
			-1	4.4
			8	28.0
			-1	16.8
59.1	34.9		0	3.5
			2	9.0
			4	46.6
50.3	22.9	13845- 14013	0	60.5
34.8	12.6	30205- 32148	0	60.2
51.8	13.8	44042- 50334	0	58.6
		61900- 62800		
51.1	26.2	62800- 64401	4	2.2
			8	57.4
56.5	11.9	80258- 82321	10	61.1
		94300- 94400		
56.5	10.3	94400-100224	-1	41.4
		112500-112600	8	14.0
			-1	4.0
55.3	22.0	112600-114115	10	49.6
		130600-131100	0	10.7
40.8	34.0	131100-132103	0	40.8
		145100-145200		
48.2	17.9		0	34.9
			1	20.3
47.4	22.5		0	21.8
			2	39.1
53.5	34.7		8	4.6
			5	5.7
			-1	1.1
			10	42.1
58.1	33.6		4	3.5
			0	54.7
59.0	17.0	13300- 13947	4	43.1
			-1	5.7
			0	10.2
48.2	9.1	30204- 32049	0	60.4
		44000- 45300		

620407	459	MINN	43715	61310	86.1	59.4	14.6
620407	460	MINN	62147	75845	82.4	44.8	27.6
	461	NONE					
620407	462	MINN	94530	112224	92.2	53.5	31.2
620407	463	MINN	112837	130536	93.4	56.7	27.3
620407	464	CALIF	131038	144700	94.7	50.8	21.5
	465	NONE					
620407	466	CALIF	163844	181313	93.5	19.5	25.6
	467	NONE					
620407	468	MINN	181915	195614	93.7	56.9	35.8
620407	469	MINN	200057	213757	93.5	58.1	34.6
620407	470	MINN	214257	231956	94.8	59.6	34.4
620408	471	MINN	232504	10203	81.1	55.7	26.1
620408	472	CALIF	10637	24333	96.0	58.9	14.5
620408	473	CALIF	25306	43001	95.0	49.3	9.8
620408	474	CALIF	43934	61632	96.2	55.8	16.8
620408	475	CALIF	62256	75950	96.2	50.4	18.4
620408	476	CALIF	80431	94123	94.9	27.6	20.8
620408	477	CALIF	94548	112245	96.1	49.8	17.6
620408	478	MINN	112849	130544	94.0	59.0	26.9

59.4	14.6	45300- 50337	2	51.5
		61900- 63400	4	7.9
44.8	27.6	63400- 64401	10	3.3
		80100- 82300	4	28.0
		94400- 94600	0	22.3
53.5	31.2	94600-100142	4	50.0
		112600-112700	1	3.5
56.7	27.3	112700-114138	1	28.4
		130700-131000	2	18.0
			8	10.3
50.8	21.5	131000-132045	8	41.3
			11	17.5
19.5	25.6		-1	57.6
56.9	35.8		4	10.4
			8	10.2
			4	8.0
			-1	2.1
			0	26.3
58.1	34.6		0	15.0
			8	34.0
			0	9.1
59.6	34.4		0	59.6
55.7	26.1		0	55.7
58.9	14.5	12246- 13957	8	31.0
			0	29.5
49.3	9.8	30040- 32149	1	59.2
55.8	16.8	44019- 50426	4	33.0
		61900- 62100	-1	.9
			8	26.0
50.4	18.4	62100- 64347	0	57.5
		80100- 80400		
27.6	20.8	80400- 82255	0	51.3
49.8	17.6	94400-100211	0	54.4
		112600-112800	-1	4.2
59.0	26.9	112800-114106	0	47.9
		130800-131000	4	6.5
			8	4.6

620408	479	CALIF	131003	144700	94.4	57.0	27.0
620408	480	CALIF	145303	163003	96.2	50.1	27.6
	481	NONE					
620408	482	MINN	163700	181400	12.3	13.5	0
620408	483	NDISY	181911	195613	0		
620408	484	MINN	200101	213600	91.6	54.9	31.7
620408	485	MINN	214259	232000	93.8	57.6	34.3
620409	486	CALIF	232502	10203	96.2	53.1	22.7
620409	487	MINN	10630	24330	90.5	59.5	17.2
620409	488	CALIF	25209	42906	97.0	45.4	8.9
620409	489	CALIF	44113	61805	96.2	19.5	0
620409	490	MINN	62308	80007	89.2	59.3	27.8
620409	491	MINN	80421	94120	94.3	50.0	28.3
620409	492	MINN	94600	112300	93.3	58.6	34.6
620409	493	MINN	112835	130531	92.9	53.3	34.2
620409	494	MINN	131032	144732	85.8	50.2	31.9
620409	495	CALIF	145353	163034	78.7	31.0	33.4
	496	NONE					
620409	497	MINN	163800	181500	93.6	56.9	34.0
	498	NONE					
620409	499	CALIF	200132	213833	96.2	33.0	28.2

57.0	27.0	131000-131710	-1	10.0
			0	30.6
			-1	18.1
50.1	27.6		-1	36.9
			0	23.8
13.5	0		0	13.5
54.9	31.7		0	54.9
57.6	34.3		0	57.6
53.1	22.7		0	61.4
59.5	17.2	12312- 14049	4	19.5
			0	40.0
45.4	8.9	30016- 32818	8	33.4
			0	26.5
19.5	0	43900- 50422	-1	41.4
		62000- 62800		
59.3	27.8	62800- 64323	4	59.3
		80100- 80400		
50.0	28.3	80400- 82127	8	27.3
		94400- 94500	0	22.6
58.6	34.6	94500-100148	1	7.9
		112600-112800	-1	2.2
			0	44.1
			2	4.4
53.3	34.2	112800-114030	2	43.3
		131000-131400	4	4.6
			0	10.0
50.2	31.9		0	36.5
			2	13.8
31.0	33.4		-1	14.8
			10	24.4
56.9	34.0		10	5.6
			4	20.5
			6	10.2
			8	20.5
33.0	28.2		4	16.6
			-1	42.8

620409	500	MINN	214336	232040	92.5	58.3	34.3
620410	501	MINN	232500	10200	93.8	58.2	20.4
620410	502	CALIF	11135	24834	96.2	54.9	12.7
620410	503	MINN	25459	43200	73.4	53.6	11.8
	504	NONE					
620410	505	MINN	62240	75939	88.9	59.3	27.3
620410	506	MINN	80421	94121	93.3	59.3	33.1
	507	NONE					
620410	508	MINN	112835	130534	43.4	9.2	34.4
620410	509	CALIF	131404	145150	95.9	41.2	35.3
620410	510	NOISY	151524	163025	0		
	511	NONE					
	512	NONE					
	513	NONE					
620410	514	MINN	200120	213830	94.6	57.2	34.7
620410	515	CALIF	214356	232053	96.2	59.5	35.4
620411	516	MINN	232532	10230	93.6	58.4	11.7
620411	517	CALIF	11213	24906	96.2	27.6	8.1
620411	518	CALIF	25544	43230	96.2	55.3	7.1
620411	519	MINN	44226	61925	82.6	53.4	21.8

58.3	34.3		-1	1.2
			8	8.1
			9	18.6
			-1	1.1
			2	29.4
58.2	20.4		8	3.5
			9	50.2
			2	4.5
54.9	12.7	12100- 14045	1	41.1
		30000- 31600	-1	.9
			2	18.1
53.6	11.8	31600- 32253	6	42.7
		43800- 50400	8	18.3
		62000- 62800		
59.3	27.3	62800- 64303	0	59.3
		80300- 80500		
59.3	33.1	80500- 82121	5	35.4
		94400-100100	10	23.9
		112600-114000		
9.2	34.4		8	9.2
41.2	35.3		8	38.9
			5	13.0
57.2	34.7		2	14.9
			4	42.3
59.5	35.4		4	10.4
			8	26.3
			-1	1.1
			0	22.6
58.4	11.7	234300-234400	0	4.0
		234700-235000	8	36.4
		235100- 0	0	18.0
27.6	8.1	12003- 14121	8	59.1
55.3	7.1	25834- 32222	10	19.5
		43800- 45400	-1	40.9
53.4	21.8	45400- 50338	2	9.2

620411	520	MINN	62337	75950	29.6	30.8	0
620411	521	NOISY	80431	94130	0		
620411	522	NOISY	94801	112500	0		
	523	NONE					
	524	NONE					
	525	NONE					
620411	526	CALIF	145523	163200	73.7	30.7	26.1
620411	527	MINN	163858	181600	93.3	58.5	33.4
620411	528	MINN	182008	195700	93.9	59.0	33.3
620411	529	CALIF	200158	213903	96.2	60.0	35.4
620411	530	CALIF	214414	232116	95.9	59.6	35.1
620412	531	MINN	232530	10230	94.2	59.9	31.5
620412	532	CALIF	11201	24904	96.0	50.3	11.1
620412	533	CALIF	25905	43604	96.3	57.2	8.5
620412	534	MINN	44136	61937	79.5	56.1	20.2
620412	535	MINN	62309	80008	88.1	53.7	27.0
620412	536	MINN	80454	94151	95.1	59.7	28.9
620412	537	CALIF	94730	112431	96.1	18.5	14.7

		62000- 62800	4	14.6
			8	21.7
			0	13.6
30.8	0	62800- 64214	0	30.8
		80300- 82100		
		94500-100100		
		112700-113800		
30.7	26.1		-1	13.6
			0	24.3
58.5	33.4		0	58.5
59.0	33.3		0	59.0
60.0	35.4		0	16.7
			2	8.9
			-1	4.1
			0	31.4
59.6	35.1		0	10.2
			8	43.2
			0	7.0
59.9	31.5	234214-235845	0	4.7
		442- 38	-1	1.1
			8	54.1
50.3	11.1	11951- 14132	10	15.1
			-1	5.5
			8	40.3
57.2	8.5	25949- 32245	8	14.7
		43900- 45700	-1	5.4
			0	40.4
56.1	20.2	45700- 50309	8	34.5
		62000- 62900	0	21.6
53.7	27.0	62900- 64209	8	49.0
		80300- 80400	0	4.7
59.7	28.9	80400- 82031	2	31.1
		94500- 94700	-1	.9
			4	27.7
18.5	14.7	94700-100009	0	47.9
		112800-113000		

620412	538	CALIF	112829	130607	94.1	39.2	21.3
620412	539	NOISY	131201	144900	0		
	540	NONE					
620412	541	NOISY	145656	163400	0		
620412	542	NOISY	163828	181530	0		
620412	543	MINN	181958	195600	91.9	56.7	33.6
620412	544	MINN	200147	213930	93.7	57.2	33.8
620412	545	MINN	214413	232120	93.1	58.0	32.7
620413	546	CALIF	233035	10737	96.2	27.4	5.7
620413	547	CALIF	11200	24900	95.9	50.6	12.2
620413	548	CALIF	25946	43648	96.0	52.7	6.3
620413	549	MINN	44136	61841	83.0	48.4	19.1
620413	550	MINN	62323	80024	88.6	44.0	26.6
620413	551	CALIF	80502	94203	96.1	60.3	31.7
620413	552	CALIF	94737	112439	96.2	45.8	28.2
620413	553	CALIF	113007	130704	94.1	29.8	32.2
620413	554	CALIF	131129	144832	95.7	6.2	0
	555	NONE					
620413	556	NOISY	145655	163400	0		
620413	557	NOISY	163756	181500	0		
620413	558	CALIF	182120	195603	93.5	53.7	35.0
620413	559	MINN	200257	214000	93.4	59.4	34.4

39.2	21.3	113000-113728	-1	57.2
56.7	33.6		0	22.0
			4	34.7
57.2	33.8		4	14.8
			8	21.7
			0	20.7
58.0	32.7	221729-221850	0	9.3
			3	48.7
27.4	5.7	234028-235934	-1	56.7
50.6	12.2	11928- 14226	0	60.2
52.7	6.3	25800- 32424 43900- 45300	5	59.0
48.4	19.1	45300- 50233 62100- 62900	0	60.0
44.0	26.6	62900- 64135	-1	1.2
			5	7.5
			8	8.1
			0	30.7
60.3	31.7	80300- 82054 94500- 94700	3	60.7
45.8	28.2	94700-100210 112900-113100	5	35.2
			-1	4.6
			10	16.2
			-1	4.7
29.8	32.2	113100-113310	0	45.0
			-1	13.3
6.2	0		-1	18.2
53.7	35.0		-1	5.1
			0	16.2
			-1	1.2
			4	36.4
59.4	34.4		4	16.3

620413	560	MINN	214357	232100	92.3	55.8	15.4
620414	561	CALIF	233102	10800	96.0	31.5	5.9
	562	NONE					
620414	563	CALIF	30039	43720	95.8	6.8	2.0
620414	564	CALIF	44203	61857	96.1	54.6	14.6
620414	565	MINN	62335	80050	85.4	59.3	21.3
620414	566	CALIF	80710	94414	95.8	48.1	22.7
620414	567	CALIF	94907	112459	95.2	42.7	34.8
620414	568	CALIF	113100	130803	96.2	43.1	27.0
620414	569	NOISY	131259	145001	0		
	570	NONE					
620414	571	NOISY	145659	163400	0		
620414	572	NOISY	163956	181700	0		
620414	573	MINN	182209	195900	93.6	57.7	30.8
620414	574	CALIF	200424	214049	96.1	46.3	30.9
620414	575	CALIF	214425	232124	95.2	54.7	15.0
620415	576	CALIF	233113	10814	96.1	41.7	9.0
620415	577	CALIF	11449	25145	96.8	50.4	7.6
620415	578	CALIF	30031	43736	77.0	58.7	11.4
620415	579	CALIF	44216	61910	96.0	45.8	21.3

			9	43.1
55.8	15.4	221200-221946	9	8.2
			0	47.7
31.5	5.9	234033- 43	-1	59.9
		11900- 14300		
		25800- 30000		
6.8	2.0	30000- 32746	-1	59.1
		43900- 44000		
54.6	14.6	44000- 50228	0	58.1
		62200- 63100		
59.3	21.3	63100- 64126	0	59.3
		80400- 80600		
48.1	22.7	80600- 82024	4	47.6
		94500- 94900	-1	5.5
			0	5.9
42.7	34.8	94900-100109	0	53.8
			-1	4.3
43.1	27.0		0	48.9
			4	12.1
57.7	30.8		4	19.9
			0	37.8
46.3	30.9		0	16.4
			5	43.0
54.7	15.0	220248-221849	5	11.7
			8	37.6
			-1	1.0
			0	10.6
41.7	9.0	233916- 100	8	58.6
50.4	7.6	11838- 14123	-1	3.1
		14218- 14307	4	44.5
		25800- 31800	-1	13.7
58.7	11.4	31800- 32232	10	61.4
		44000- 44100		
45.8	21.3	44100- 50205	12	49.7
			-1	4.0

620415	580	CALIF	62211	75956	95.3	59.8	15.6
620415	581	NOISY	80738	94425	.0		
620415	582	CALIF	99000	112518	64.8	22.4	21.4
620415	583	CALIF	113059	130804	96.3	29.0	33.9
	584	NONE					
620415	585	MINN	131553	145300	93.4	57.8	32.9
620415	586	MINN	145652	163353	92.8	57.8	34.0
620415	587	MINN	163856	181600	93.6	58.6	35.0
620415	588	MINN	182059	195800	93.4	58.6	33.3
620415	589	MINN	200328	214030	94.0	55.6	32.4
620415	590	CALIF	214500	232203	96.0	57.9	12.4
620416	591	CALIF	233102	10803	96.1	48.5	11.9
620416	592	CALIF	11919	25612	95.8	12.4	6.6
620416	593	CALIF	30038	43752	95.7	60.4	14.7
620416	594	CALIF	44234	61932	96.1	48.7	6.5
620416	595	CALIF	62416	80110	96.0	55.1	19.5
620416	596	CALIF	80742	94439	95.3	37.0	22.7
	597	NONE					

			0	7.1
59.8	15.6	62200- 64052	4	31.7
		80400- 82000	-1	1.0
		94600- 95700	8	28.2
22.4	21.4		8	20.0
			4	4.0
29.0	33.9		-1	49.3
			3	11.4
57.8	32.9		3	38.9
			8	18.9
57.8	34.0		8	34.2
			9	23.6
58.6	35.0		9	29.5
			11	11.8
			4	17.3
58.6	33.3		4	22.5
			8	9.5
			0	26.7
55.6	32.4	203804-203833	0	15.4
			9	42.6
			-1	1.2
57.9	12.4	220101-221951	9	12.1
			2	28.7
			-1	6.6
			8	14.2
48.5	11.9	233950- 119	3	58.7
12.4	6.6	11800- 14306	-1	59.4
		14331- 14433		
		25800- 30000		
60.4	14.7	30000- 32235	12	5.9
		44000- 44100	0	55.7
48.7	6.5	44100- 50129	2	60.8
		62200- 62300		
55.1	19.5	62300- 64139	4	62.0
		80400- 80800		
37.0	22.7	80800- 82028	-1	37.8
		94700- 95400	8	20.1
			-1	2.4

620416	598	CALIF	113504	130817	92.7	5.8	21.6
	599	NONE					
620416	600	CALIF	131827	145302	96.0	57.9	34.6
620416	601	MINN	145743	163430	74.2	39.3	33.8
620416	602	CALIF	164019	181721	96.1	55.8	29.7
620416	603	MINN	182200	195900	91.9	55.9	33.4
620416	604	MINN	200329	214030	90.8	56.3	31.4
	605	NONE					
620417	606	CALIF	233405	11110	96.2	46.6	9.0
620417	607	NOISY	11758	25523	0		
620417	608	NOISY	30109	43808	0		
620417	609	NOISY	44336	62146	0		
620417	610	NOISY	62609	80312	0		
620417	611	NOISY	80801	94503	0		
620417	612	NOISY	94922	112603	0		
	613	NONE					
	614	NONE					
620417	615	NOISY	131645	145345	0		
620417	616	MINN	145830	163530	92.4	54.0	33.2
620417	617	MINN	164028	181730	93.7	58.9	33.2
620417	618	MINN	182227	195930	93.8	59.0	33.3
620417	619	MINN	200355	214100	92.5	54.2	20.0

5.8	21.6		-1	54.6
57.9	34.6		0	57.9
39.3	33.8		0	15.5
			2	23.8
55.8	29.7		2	29.6
			-1	32.2
55.9	33.4		4	20.3
			10	2.4
			4	33.2
56.3	31.4	203627-203737	4	22.7
		220000-221900	0	33.5
46.6	9.0	233823- 151	2	12.8
		11700- 14300	-1	46.6
		25900- 32200		
		44100- 50100		
		62300- 64000		
		80400- 82000		
		94900- 95100		
54.0	33.2		0	33.6
			2	24.0
58.9	33.2		2	28.8
			3	30.0
59.0	33.3		3	21.7
			10	37.3
54.2	20.0	202600-202700	4	15.7
		203000-203826	5	38.3
			4	3.6

620417	620	CALIF	215032	232733	96.2	58.2	13.3
620418	621	MINN	233359	11100	70.4	56.7	14.7
620418	622	CALIF	11911	25610	96.1	42.8	4.2
620418	623	MINN	30132	43836	89.2	60.2	14.5
620418	624	MINN	44241	61944	90.1	59.1	18.5
620418	625	CALIF	62648	80348	96.1	42.1	10.1
620418	626	CALIF	80746	94437	84.6	39.1	25.7
620418	627	CALIF	94900	112602	95.8	5.2	2.7
	628	NONE					
620418	629	MINN	113602	131300	91.8	46.0	32.9
620418	630	MINN	131656	145400	94.3	59.6	33.3
620418	631	MINN	145855	163600	92.6	57.8	32.7
620418	632	MINN	164058	181800	93.0	58.1	33.6
620418	633	MINN	182158	195900	93.3	58.4	33.4
620418	634	MINN	200425	214130	94.5	54.7	31.4
620418	635	MINN	215039	232743	64.1	36.2	20.9
620419	636	NOISY	234357	12100	0		
620418	637	NOISY	12025	25707	0		
620419	638	MINN	30141	43846	77.6	54.9	14.5

58.2	13.3	215930-222032	-1	8.4
		233800-235300	6	13.3
			-1	4.6
			8	34.9
56.7	14.7	235300- 125	10	56.7
		11700- 11800		
42.8	4.2	11800- 14213	-1	59.9
		25900- 31700		
60.2	14.5	31700- 32204	14	18.1
		44100- 45800	-1	1.1
			0	41.1
59.1	18.5	45800- 50014	2	59.1
		62300- 62500		
42.1	10.1	62500- 64130	4	61.1
		80500- 81800		
39.1	25.7		4	51.3
5.2	2.7		-1	56.4
46.0	32.9		2	43.7
			5	13.2
59.6	33.3		5	41.4
			7	18.2
57.8	32.7		7	33.0
			9	3.4
			4	14.6
			0	6.8
58.1	33.6		0	29.0
			1	29.1
58.4	33.4		1	23.1
			3	35.3
54.7	31.4	202100-203739	3	12.2
		203856-203939	8	42.6
		215900-221100		
36.2	20.9	221100-222015	1	7.9
		233700- 300	8	5.3
		11800- 14300	0	31.6
		25900- 31900		
54.9	14.5	31900- 32102	4	60.9
		44200- 50000		
		62300- 62500		

	639	NONE						
620419	640	CALIF	62614	80315	96.1	46.8	6.9	46.8
	641	NONE						
620419	642	CALIF	95007	112703	96.1	31.1	27.6	31.1
	643	NONE						
620419	644	NOISY	113609	131300	0			
620419	645	NOISY	131800	145400	0			
620419	646	CALIF	145914	163616	96.1	13.3	26.4	13.3
620419	647	CALIF	164104	181808	96.2	60.0	34.3	60.0
620419	648	MINN	182258	200000	93.8	59.0	31.2	59.0
620419	649	MINN	200427	214130	91.4	56.5	27.5	56.5
620419	650	CALIF	215102	232803	96.1	47.8	2.0	47.8
620420	651	CALIF	233907	11609	96.1	14.3	6.3	14.3
620420	652	MINN	12024	25720	74.8	49.2	12.1	49.2
620420	653	MINN	30417	44126	78.0	60.2	15.6	60.2
620420	654	MINN	44336	62040	79.6	60.2	18.1	60.2
620420	655	NOISY	62617	80320	0			
620420	656	CALIF	80816	94515	96.0	50.7	20.3	50.7
620420	657	NOISY	95101	112800	0			
	658	NONE						
620420	659	NOISY	113556	131300	0			
620420	660	NOISY	131658	145400	0			
620420	661	MINN	145858	163600	93.0	59.5	34.0	59.5

46.8	6.9	62500- 63919	4	19.4
		80600- 81600	-1	27.9
			0	14.3
31.1	27.6		8	55.8
			-1	3.7
13.3	26.4		2	36.4
			-1	18.3
60.0	34.3		5	30.7
			6	13.5
			-1	1.1
			8	15.9
59.0	31.2	185655-185748	8	23.3
			10	35.7
56.5	27.5	202051-203905	8	15.9
			10	40.6
47.8	2.0	215829-222002	-1	8.8
		233700-233800	11	50.3
14.3	6.3	233800- 310	13	60.7
		11800- 14000		
49.2	12.1	14000- 14218	15	35.5
		30000- 31800	0	24.6
60.2	15.6	31800- 32057	2	17.1
		44200- 45800	4	43.1
60.2	18.1	45800- 50034	6	51.1
		62400- 64000	8	9.1
50.7	20.3	80700- 81332	4	61.9
59.5	34.0		8	36.0
			10	23.6

620420	662	MINN	164058	181800	94.3	59.4	33.2
620420	663	MINN	182258	200000	94.5	59.5	32.1
620420	664	CALIF	200942	214646	95.7	16.4	3.8
620420	665	CALIF	215323	233025	95.3	52.7	12.8
620421	666	CALIF	233928	11623	95.9	53.6	3.6
620421	667	MINN	12050	25800	80.2	59.8	15.7
620421	668	MINN	30218	43920	80.2	56.8	17.5
620421	669	CALIF	44556	62256	96.0	27.7	7.0
620421	670	CALIF	62749	80346	94.5	52.3	19.0
620421	671	CALIF	81003	94704	96.1	33.1	6.0
620421	672	NOISY	95131	112833	0		
	673	NONE					
620421	674	MINN	113557	131300	81.5	46.1	33.0
620421	675	MINN	131758	145500	93.0	57.9	33.4
620421	676	MINN	145958	163700	92.8	57.7	33.7
620421	677	MINN	164158	181900	91.5	56.4	33.6
620421	678	MINN	182300	200000	92.8	57.7	31.5
620421	679	CALIF	201052	214658	95.1	4.4	2.2
620421	680	CALIF	215806	233507	96.1	43.6	8.6
620422	681	CALIF	233905	11557	95.2	57.8	12.8
620422	682	MINN	12057	25800	77.2	55.5	14.5
620422	683	MINN	25741	43436	89.7	51.7	16.6

59.4	33.2		10	17.3
			4	13.6
			7	28.5
59.5	32.1	185234-185728	7	24.8
			9	34.8
16.4	3.8	201940-204014	-1	59.2
52.7	12.8	215753-222129	-1	6.8
		233700-233800	11	52.9
50.6	3.6	233800- 210	-1	60.6
		11800- 13500		
59.8	15.7	13500- 14210	14	59.8
		30100- 31700		
56.8	17.5	31700- 32039	0	60.3
		44200- 44400		
27.7	7.0	44400- 45953	1	59.9
		62300- 62700		
52.3	19.0	62700- 63925	2	59.9
33.1	6.0		4	59.8
46.1	33.0		8	46.1
57.9	33.4		10	41.7
			12	16.2
57.7	33.7		12	35.1
			14	22.6
56.4	33.6		14	27.6
			0	28.9
57.7	31.5	184540-185733	0	23.8
			2	33.9
4.4	2.2	201848-204017	-1	55.6
		215700-220000		
43.6	8.6	220000-222200	0	53.5
		233700-233800		
57.8	12.8	233800- 123	2	61.5
		11900- 13800		
55.5	14.5	13800- 14034	4	8.8
		30100- 31800	8	39.1
			0	12.6
51.7	16.6	31800- 32058	2	51.7

620422	684	MINN	44548	62258	91.4	42.7	28.1
620422	685	CALIF	62704	80404	95.2	55.7	17.0
620422	686	CALIF	81002	94704	96.1	32.9	9.5
	687	NONE					
620422	688	CALIF	95502	113205	96.1	56.8	24.1
620422	689	MINN	113600	131300	92.0	56.8	33.6
620422	690	CALIF	131755	145503	96.1	60.2	29.8
620422	691	MINN	145958	163700	92.2	57.1	34.1
620422	692	MINN	164156	181900	94.2	57.9	34.1
620422	693	CALIF	182303	200005	95.5	56.9	23.6
620422	694	CALIF	201001	214703	96.0	55.9	16.9
620422	695	CALIF	215807	233509	96.1	56.7	1.1
620423	696	MINN	233958	11700	89.0	27.6	14.8
620423	697	CALIF	12101	25803	95.5	58.8	11.0
	698	NONE					
620423	699	CALIF	44617	62319	96.1	44.5	10.4
620423	700	NOISY	62730	80417	0		
620423	701	NOISY	81034	94733	0		
	702	NONE					

		44609- 45015		
42.7	28.1	45015- 50004	4	41.8
		62500- 62600	-1	1.3
			4	15.1
55.7	17.0	62600- 63716	5	60.5
32.9	9.5		7	60.1
56.8	24.1		9	54.2
			11	6.3
56.8	33.6		4	7.6
			-1	1.2
			8	37.8
			9	10.1
60.2	29.8		2	32.4
			0	11.3
			8	17.3
57.1	34.1		0	34.2
			3	22.9
57.9	34.1		3	19.9
			4	10.0
			0	27.9
56.9	23.6	184009-185830	-1	5.3
			0	20.3
			1	33.9
55.9	16.9	201849-203917	-1	15.2
			8	19.5
			-1	2.6
			0	22.5
56.7	1.1	215700-222245	-1	3.7
		233700-235700	8	57.7
27.6	14.8	235700- 102	10	55.2
58.8	11.0	12800- 14026	6	60.4
		30100- 32000		
		44300- 44500		
44.5	10.4	44500- 45959	8	60.3
		62600- 63400		

620423	703	NOISY	95457	113200	0		
620423	704	MINN	113625	131330	87.9	54.1	34.1
620423	705	CALIF	145547	145547	96.1	60.2	26.8
620423	706	CALIF	163748	163748	96.1	57.9	27.8
620423	707	MINN	164226	181930	93.3	58.1	33.3
620423	708	CALIF	200537	200537	96.2	36.5	6.8
620423	709	MINN	201230	214934	92.2	56.9	23.0
620423	710	MINN	215717	233420	75.4	54.5	20.9
620424	711	MINN	234004	11700	71.3	59.4	13.6
620424	712	MINN	12157	25900	80.1	59.4	16.3
620424	713	MINN	30508	44210	82.3	50.9	18.2
620424	714	MINN	44634	62345	89.6	58.4	27.2
620424	715	CALIF	62832	80443	94.6	54.3	22.5
620424	716	CALIF	81000	94733	96.1	18.6	7.6
	717	NONE					
620424	718	MINN	95523	113230	92.5	54.9	33.9
620424	719	MINN	113709	131415	92.2	55.6	34.4
620424	720	MINN	131911	145615	89.8	49.6	33.7
620424	721	MINN	150054	163800	94.0	58.6	34.3

34.1	54.1	34.1			
				0	43.3
				-1	1.2
				3	9.7
26.8	60.2	26.8			
				3	43.3
				5	18.1
27.8	57.9	27.8			
				5	37.8
				7	23.4
33.3	58.1	33.3			
				7	30.2
				9	27.9
6.8	36.5	6.8	184010-185816	-1	20.3
				10	37.9
23.0	56.9	23.0	201803-204031	10	10.9
			215600-221400	12	46.0
20.9	54.5	20.9	221400-222153	14	54.5
			233800-235900		
13.6	59.4	13.6	235900- 144	0	59.4
			12000- 13600		
16.3	59.4	16.3	13600- 14046	2	59.4
			30200- 31700		
18.2	50.9	18.2	31700- 31944	4	54.6
			44300- 45100		
27.2	58.4	27.2	45100- 50001	6	58.4
			62700- 62800		
22.5	54.3	22.5	62800- 63116	8	39.0
				-1	10.3
				0	10.9
7.6	18.6	7.6		-1	61.4
33.9	54.9	33.9			
				-1	1.2
				0	51.1
				2	5.8
34.4	55.6	34.4			
				2	24.1
				4	11.0
				-1	1.1
				8	9.7
				1	3.7
33.7	49.6	33.7			
				4	5.8
				8	19.8
				0	15.8
				4	13.4
34.3	58.6	34.3			
				1	36.6

620424	722	MINN	164243	181945	92.8	58.6	31.4
620424	723	CALIF	182929	200632	95.6	55.0	15.4
620424	724	MINN	201315	214956	81.1	45.3	24.8
620424	725	CALIF	215752	233454	96.1	56.1	0
620425	726	MINN	233957	11700	73.1	55.1	13.7
620425	727	MINN	12157	25900	75.8	44.1	14.2
620425	728	MINN	30509	44214	84.4	58.9	20.7
620425	729	CALIF	44619	62318	95.3	51.1	13.6
620425	730	MINN	62859	80601	93.8	57.8	29.9

731 NONE
732 NONE
733 NONE
734 NONE
735 NONE
736 NONE
737 NONE
738 NONE
739 NONE
740 NONE
741 NONE

			3	22.0
58.6	31.4	171147-171600	3	30.5
			10	28.0
55.0	15.4	183831-185832	10	19.5
		201700-202400	12	15.9
			-1	1.6
			0	22.0
45.3	24.8	202400-205051	3	45.3
		215600-215700		
56.1	0	215700-222136	-1	6.1
		233800-235900	11	52.7
			-1	2.4
55.1	13.7	235900- 103	2	45.4
		12000- 13800	4	14.6
44.1	14.2	13800- 14036	7	58.9
		30200- 31400		
58.9	20.7	31400- 32031	1	58.9
		44400- 44500		
51.1	13.6	44500- 45714	3	31.4
			-1	2.8
			0	24.8
57.8	29.9	170400-171700	5	57.8
		183800-185900		
		201700-204200		
		215700-222100		
		233800- 0		
		12000- 13900		
		30200- 31900		
		44400- 45600		

	742	NONE					
	743	NONE					
	744	NONE					
	745	NONE					
	746	NONE					
	747	NONE					
	748	NONE					
	749	NONE					
620426	750	NOISY	132019	145700	0		
620426	751	CALIF	150203	163904	96.0	48.4	23.9
620426	752	CALIF	164305	182007	95.4	29.9	30.1
620426	753	CALIF	182943	200647	96.0	18.3	22.3
620426	754	CALIF	201734	215433	96.0	0	19.0
620426	755	CALIF	215909	233602	95.0	14.7	15.2
620427	756	MINN	234043	11743	87.2	54.3	23.8
620427	757	MINN	12216	25923	81.7	55.9	20.2
620427	758	MINN	30509	44213	90.7	59.9	22.4
620427	759	MINN	44638	62340	90.9	49.9	22.1
620427	760	CALIF	80854	80854	95.9	50.2	25.1
	761	NONE					
620427	762	CALIF	81433	95134	95.4	5.0	5.1
	763	NONE					
620427	764	CALIF	113808	131507	91.4	21.0	11.5
620427	765	CALIF	132101	145803	96.1	22.4	5.9
620427	766	CALIF	150203	163903	95.3	34.1	13.8

48.4	23.9		-1	2.5
			5	32.3
			-1	2.4
			0	21.4
29.9	30.1	170001-171728	0	30.7
			-1	25.2
18.3	22.3	183709-185831	-1	18.1
			0	39.8
0	19.0	201600-204141	-1	10.1
		215700-215900	0	49.4
14.7	15.2	215900-222012	-1	3.5
		233900-234500	0	55.1
54.3	23.8	234500-235926	0	59.1
		12100- 13500		
55.9	20.2	13500- 13848	8	29.8
		30200- 30900	0	26.1
59.9	22.4	30900- 31940	8	16.3
		44600- 44700	0	43.7
49.9	22.1	44700- 45241	3	18.6
			4	35.0
50.2	25.1		6	55.6
5.0	5.1		-1	10.5
21.0	11.5		-1	43.5
22.4	5.9		-1	54.8
34.1	13.8	153343-153459	-1	57.9

620427	767	MINN	164830	182527	79.5	43.0	34.6
620427	768	CALIF	183206	200906	95.9	59.3	18.7
620427	769	CALIF	201734	215434	96.0	57.1	16.0
	770	NONE					
620428	771	CALIF	234102	11803	96.1	57.4	17.6
620428	772	MINN	12347	30050	84.6	58.6	21.3
620428	773	CALIF	30613	44313	96.0	53.7	10.0
620428	774	MINN	44800	62500	92.2	59.3	30.8
620428	775	CALIF	80703	80703	96.0	10.0	9.0
	776	NONE					
	777	NONE					
620428	778	NOISY	95644	113345	0		
620428	779	CALIF	113902	131604	96.0	10.5	7.6
620428	780	CALIF	132100	145802	96.0	51.4	8.0
620428	781	CALIF	150202	163903	95.5	42.2	18.2
	782	NONE					
620428	783	CALIF	183304	200920	95.2	51.6	23.2
620428	784	CALIF	201823	215522	96.1	57.1	11.7
620428	785	MINN	215959	233700	93.9	55.0	24.9

		165900-170300		
43.0	34.6	170300-171726	0	1450.0
			5	31.3
			-1	1.2
59.3	18.7	183709-190000	5	18.3
			7	40.9
57.1	16.0	201600-204043	7	9.2
		215700-222000	0	51.0
57.4	17.6	234000-235902	0	60.5
		12100- 13400		
58.6	21.3	13400- 13852	4	13.4
		30200- 30500	8	5.0
			0	40.1
53.7	10.0	30500- 31825	4	59.3
		44700- 44800		
59.3	30.8		6	59.3
10.0	9.0		0	10.0
10.5	7.6		-1	1.3
			0	42.8
			-1	15.5
51.4	8.0		-1	.8
			1	39.1
			-1	2.4
			3	16.6
42.2	18.2	152849-153708	-1	3.5
		165800-171800	3	11.9
			-1	40.4
51.6	23.2	183641-185913	-1	19.0
		185948-190031	8	40.8
		201600-201700		
57.1	11.7	201700-204022	8	8.7
			10	50.7
55.0	24.9	215800-221912	10	3.6
		234000-234100	2	43.4
			-1	1.2
			8	10.9

620429	786	CALIF	234103	11803	94.7	29.2	13.6
620429	787	CALIF	12330	30033	96.1	40.5	5.9
620429	788	CALIF	30507	44239	96.1	7.5	3.6
	789	NONE					
	790	NONE					
620429	791	NOISY	63341	81045	0		
620429	792	CALIF	81501	95202	95.7	57.2	24.2
620429	793	CALIF	95646	113348	96.0	55.2	18.1
620429	794	CALIF	113901	131604	95.5	51.0	19.9
620429	795	CALIF	132057	145803	96.1	28.6	23.5
620429	796	CALIF	150305	164007	96.0	52.4	18.5
620429	797	CALIF	164854	182557	97.3	54.9	35.2
620429	798	MINN	183545	201250	92.9	57.3	32.2
620429	799	CALIF	201859	215556	96.0	53.5	23.4
620429	800	MINN	215956	233700	49.9	28.7	21.5
620430	801	MINN	234155	11900	75.8	58.5	16.7
620430	802	CALIF	12434	30138	96.0	59.4	14.7
620430	803	MINN	30548	44248	85.8	58.6	24.0
620430	804	CALIF	44901	62605	96.1	12.0	10.4
	805	NONE					
620430	806	NOISY	63356	81100	0		
620430	807	CALIF	95234	95234	96.0	48.9	4.5
620430	808	CALIF	95727	113433	96.0	59.8	6.8

29.2	13.6	234100-235824	-1	59.6
40.5	5.9	12200- 13841 30300- 30400	0	59.2
7.5	3.6	30400- 31617	0	16.2
57.2	24.2		0	59.5
55.2	18.1		-1	60.4
51.0	19.9		-1 10 -1	32.1 14.3 11.1
28.6	23.5		5 -1	41.7 15.7
52.4	18.5	152115-153532	2 8	36.9 23.9
54.9	35.2	165707-171810	8 10	26.2 32.2
57.3	32.2	183600-185908 201600-201800	10 12	13.1 44.1
53.5	23.4	201800-204003 215800-221600	-1 14 -1 0	8.8 34.6 .7 15.5
28.7	21.5	221600-221852 234000-235700	2	28.7
58.5	16.7	235700-235923 12200- 12300	4	58.5
59.4	14.7	12300- 13749 30400- 31300	6 -1 0	13.0 1.4 45.4
58.6	24.0		1	58.6
12.0	10.4		2	13.6
48.9	4.5		-1	61.0
59.8	6.8		4 6	54.2 6.0

620430	809	CALIF	113930	131632	95.7	44.7	21.7
620430	810	CALIF	132116	145820	96.1	53.4	13.1
	811	NONE					
620430	812	CALIF	165200	182905	95.8	56.9	22.0
620430	813	MINN	183647	201345	93.9	58.6	30.7
620430	814	CALIF	201902	215606	96.1	56.2	6.7
620430	815	CALIF	220004	233704	95.3	58.7	15.6
620501	816	CALIF	234201	11905	96.1	59.8	15.7
620501	817	CALIF	12427	30134	96.0	59.9	10.6
620501	818	CALIF	30628	44326	96.0	40.0	6.8
620501	819	CALIF	44928	62635	95.7	59.2	17.8
	820	NONE					
620501	821	CALIF	63359	81104	96.1	20.9	17.5
620501	822	CALIF	81600	95304	96.1	0	21.8
620501	823	CALIF	95832	113504	95.3	53.7	24.2
620501	824	CALIF	113950	131703	96.0	41.8	21.7
620501	825	CALIF	132144	145848	96.0	0	6.4
	826	NONE					
620501	827	CALIF	165300	182906	94.3	20.4	24.5
620501	828	CALIF	183634	201337	96.0	27.4	1.9
620501	829	CALIF	201833	215539	96.1	5.0	15.5

44.7	21.7		-1	59.6
53.4	13.1	135420-135532	8	42.6
		151800-153600	0	18.0
56.9	22.0	165704-171752	4	23.6
		183500-183600	8	22.5
			-1	14.0
58.6	30.7	183600-190045	0	14.3
		201700-201800	4	12.0
			8	32.3
56.2	6.7	201800-203913	8	8.8
			10	5.9
			-1	1.0
			8	44.3
58.7	15.6	215900-221745	-1	3.6
			10	56.7
59.8	15.7	234100-235754	13	47.8
		12200- 12300	-1	2.9
			2	9.6
59.9	10.6	12300- 13745	0	59.9
40.0	6.8	30727- 30911	4	5.6
			-1	44.9
			0	9.4
59.2	17.8		0	60.8
20.9	17.5		8	59.9
0	21.8		0	59.5
53.7	24.2		0	60.1
41.8	21.7		0	48.9
			-1	10.7
0	6.4	135119-135141	-1	57.8
		135333-135519		
		151800-153600		
20.4	24.5	165653-171853	-1	17.8
		183500-183600	0	36.4
27.4	1.9	183600-185955	-1	15.4
		201700-201800	0	45.2
5.0	15.5	201600-203820	-1	7.5
		215900-220300	0	51.6

620501	830	CALIF	220200	233905	98.1	37.9	21.1
620502	831	CALIF	234314	12019	95.7	29.9	8.0
620502	832	CALIF	12503	30200	95.3	16.9	12.4
620502	833	CALIF	30800	44504	94.4	36.3	10.8
620502	834	CALIF	44933	62636	96.1	40.7	24.0
	835	NONE					
620502	836	CALIF	63418	81123	94.5	18.3	16.9
620502	837	CALIF	81600	95303	96.0	1.1	19.7
620502	838	CALIF	95830	113533	96.0	0	25.6
620502	839	CALIF	131703	131703	95.9	30.4	12.0
620502	840	NOISY	132155	145900	0		
	841	NONE					
620502	842	NOISY	170623	183219	0		
620502	843	CALIF	183744	201447	95.9	43.1	20.7
620502	844	CALIF	201907	215613	95.9	59.7	25.9
620502	845	CALIF	220047	233750	96.1	58.9	14.0
620503	846	MINN	234347	12049	21.1	0	21.0
620503	847	NOISY	12603	30300	0		
620503	848	NOISY	30752	44457	0		
	849	NONE					
620503	850	NOISY	45255	63000	0		
620503	851	MINN	63423	81130	17.1	12.0	4.8
620503	852	NOISY	81622	95330	0		
620503	853	CALIF	95827	113533	96.1	57.9	25.1
620503	854	CALIF	114057	131803	95.8	60.1	32.3

37.9	21.1	220300-221806 234100-234200	0	58.1
29.9	8.0	234200-235718 12300- 12400	0	58.8
16.9	12.4	12400- 13612	0	60.3
36.3	10.8		0	59.9
40.7	24.0		0	60.6
18.3	16.9		-1	55.7
1.1	19.7		-1	59.2
0	25.6		0	60.8
30.4	12.0	134500-134600 134800-135400 151700-153700 165500-171800 183600-183700	0 -1	48.8 10.0
43.1	20.7	183700-185906 201700-201800	4 6	13.8 46.1
59.7	25.9	201800-203803	6 8	9.2 51.6
58.9	14.0	220000-221707 234100-235300	8 10	4.6 56.5
0	21.0	235300-235700 12300- 13400		
12.0	4.8		0	12.0
57.9	25.1		0 -1	54.3 7.0
60.1	32.3		2	47.3

620503	855	CALIF	132159	145904	95.5	51.5	18.5
620503	856	CALIF	150755	164504	96.1	59.9	22.0
620503	857	CALIF	165545	183250	96.0	58.3	27.8

			4	13.2
51.5	16.5	133837-135639	-1	46.1
			6	12.0
			-1	2.4
59.9	22.0	151602-153742	6	33.5
			8	28.1
58.3	27.8	165500-171909	8	21.7
		183600-183700	11	40.0

TIME SUMMARY (HRS)

TOTAL TIME	619.52
ACQUIRED TIME	524.16
GOOD DATA - DAY	273.63
NIGHT	124.93
TRAPPED PROT. FLUX	101.94

```
02 HAMN PRST FLUX FL INTRG FLUX DECAY FLUX  LONG      LAT    HT      B        LAMBDA
                    0 1629 2.7767E 01 2                  0                 0  -21.45  -4.62 592.1  .212 1.148 21.
4                                                0 1630 2.2185E 01 2 1.5553E 03 1.5205E 03  -18.94  -5.63
3.6  .212 1.140 20.51                                                    0 1631 2.6035E 01 2 2.3972E 03 2.8709
03  -15.09  -3.63 585.0  .213 1.153 21.36
                                                                                  0 1632 3.9730E 01
4.5593E 03 4.3118E 03  -13.02 -10.60 586.5  .215 1.178 22.47
0 1633 5.4044E 01 4 6.6431E 03 6.2207E 03  -10.00 -12.33 587.8  .214 1.209 24.57
                    0 1634 4.0607E 01 4 9.8857E 03 9.2045E 03   -5.38 -14.42 589.1  .222 1.247 26.
3                                                0 1635 5.1080E 01 4 1.2322E 04 1.1323E 04   -3.82 -16.27
0.4  .226 1.289 28.26

 0 1636 6.7341E 01 4 1.5987E 04 1.4578E 04    -.65 -14.35 591.5  .233 1.336 30.10
                    0 1637 5.4138E 01 4 2.0027E 04 1.8109E 04    2.50 -19.78 592.7  .235 1.389 31.
2                                                0 1638 9.0945E 01 4 2.3475E 04 2.1357E 04    5.99 -21.44
3.7  .238 1.444 33.68                                                    0 1639 9.2557E 01 4 2.9332E 04 2.6080E
04    9.32 -23.02 594.6  .242 1.503 35.35
3.4886E 04 3.0750E 04  12.80 -24.51 595.5  .245 1.558 36.91                                  0 1640 9.0558E 01
 0 1641 7.7847E 01 4 4.0320E 04 3.5213E 04   15.36 -25.90 595.2  .243 1.624 38.31
                    0 1642 8.0938E 01 4 4.4991E 04 3.8793E 04   23.31 -27.23 596.7  .251 1.681 39.
3                                                0 1643 5.7014E 01 4 4.9851E 04 4.2459E 04   23.75 -28.38
7.4  .253 1.733 40.57

 0 1644 3.0114E 01 4 5.3271E 04 4.6625E 04   27.57 -29.33 597.3  .255 1.783 41.45
                    0 1645 2.4273E 01 4 5.5078E 04 4.5163E 04   31.47 -30.38 598.0  .259 1.819 42.
4                                                0 1646                0 5 5.5535E 04 4.5394E 04   35.45 -31.18
8.1  .263 1.851 42.69
03  -43.14  -6.31 583.5  .212 1.142 20.65                                   0 1805 2.3441E 01 2 5.6535E 04 4.9342E
5.7943E 04 6.1697E 03  -40.19  -4.80 588.0  .206 1.157 21.62                                  0 1807 9.5986E 01
 0 1808 1.7336E 02 2 5.3703E 04 1.1503E 04  -37.21 -10.77 585.3  .233 1.169 22.29
                    0 1809 2.0621E 02 2 7.4105E 04 2.1434E 04  -34.19 -12.70 587.8  .201 1.165 22.
7                                                0 1810 2.3444E 02 2 3.5973E 04 3.2853E 04  -31.13 -14.59
9.1  .200 1.168 22.29

 0 1811 3.1374E 02 2 1.0034E 05 4.5536E 04  -28.00 -15.43 593.4  .201 1.192 23.56
                    0 1812 3.9968E 02 4 1.1977E 05 5.2700E 04  -24.32 -18.21 591.6  .203 1.223 25.
8                                                0 1813 5.3098E 02 4 1.4335E 05 6.4311E 04  -21.57 -19.93
2.7  .206 1.259 26.97                                                    0 1814 5.5054E 02 0 1.7921E 05 1.1299E
05  -18.24 -21.58 593.7  .210 1.300 28.71                                                  0 1815 7.3088E 02
 2.1424E 05 1.4787E 05  -14.84 -23.15 594.5  .215 1.347 30.50
 0 1816 7.1834E 02 4 2.5810E 05 1.8648E 05  -11.35 -24.53 595.5  .219 1.399 32.28
                    0 1817 5.4533E 02 4 3.0120E 05 2.2330E 05   -7.73 -25.32 596.3  .224 1.457 34.
5                                                0 1818 4.7357E 02 4 3.3333E 05 2.4938E 05   -4.12 -27.31
6.9  .228 1.520 35.80

 0 1819 3.2527E 02 4 3.6240E 05 2.6991E 05    -.37 -28.44 597.4  .233 1.589 37.50
                    0 1820 2.3812E 02 4 3.8192E 05 2.8151E 05    3.46 -29.53 597.8  .237 1.660 39.
9                                                0 1821 1.9213E 02 4 3.9523E 05 2.8771E 05    7.36 -30.46
8.1  .241 1.731 40.53
05   11.35 -31.25 598.2  .243 1.798 41.77                                   0 1822 9.1257E 01 4 4.0474E 05 2.8814E
4.1021E 05 2.8559E 05   15.39 -31.90 598.2  .248 1.854 42.74                                  0 1823 5.3324E 01
 0 1824 4.8473E 01 4 4.1901E 05 2.8148E 05   19.49 -32.40 598.0  .251 1.5[illegible] 43.45
                    0 1825 3.9237E 01 4 4.1692E 05 2.7561E 05   23.54 -32.75 597.7  .254 1.927 43.
1                                                0 1826 3.5733E 01 4 4.1327E 05 2.7134E 05   27.30 -32.95
7.3  .257 1.940 44.11

 0 1827 2.9114E 01 4 4.2148E 05 2.6606E 05   31.39 -32.39 595.7  .251 1.941 44.13
                    0 1828                0 5 4.2322E 05 2.6348E 05   35.17 -32.87 595.0  .265 1.931 43.
8                                                0 1945 5.2489E 01 2 4.2322E 05 3.0904E 04  -59.38 -12.87
7.8  .209 1.151 21.24
04  -56.31 -14.75 589.1  .204 1.165 22.11                                   0 1946 1.4518E 02 2 4.2637E 05 3.3026E
4.3515E 05 4.0653E 04  -52.18 -16.59 590.4  .200 1.171 22.47                                  0 1947 2.4616E 02
 0 1948 3.0530E 02 2 4.4991E 05 5.3307E 04  -48.02 -18.35 591.5  .197 1.169 22.35
                    0 1949 3.8369E 02 2 4.6823E 04 7.0250E 04  -45.74 -20.04 592.7  .196 1.180 22.
```

D-00103

OSO-1

First and last 10 records

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 LAT   HT      B        L      .49884                                  SEC      1. LENGTH   960
)              0  -21.35  -4.62 582.1   .212 1.148 21.0
185E 01 2 1.5550E 03 1.5205E 03  -18.94  -6.63 58
                0 1531 2.6035E 01 2 2.9972E 03 2.8709E
                                        0 1532 3.8730E 01 2
.178 32.97
-12.53 587.9   .213 1.202 24.57
 9.2045E 03    -5.74 -14.42 589.1   .222 1.247 26.4
080E 01 4 1.2322E 04 1.1323E 04    -3.82 -16.27 59

-13.26 591.5   .233 1.335 30.10                                      SEC      2. LENGTH   960
 1.3109E 04     2.52 -19.73 592.7   .235 1.389 31.9
945E 01 4 2.3875E 04 2.1357E 04     5.92 -21.44 59
                0 1639 9.2557E 01 4 2.9332E 04 2.6080E
                                        0 1640 9.0558E 01 4
.554 36.31
-25.30 595.2   .243 1.624 38.11
 3.8733E 04    23.01 -27.23 596.3   .251 1.681 39.5
019E 01 4 4.9831E 04 4.2459E 04    23.75 -28.38 59

22.33 597.3   .255 1.783 41.45                                      SEC      3. LENGTH   960
4.5163E 04    31.47 -30.38 598.0   .259 1.819 42.1
      0 5 5.5535E 04 4.5394E 04    35.45 -31.18 59
                0 1835 2.3481E 01 2 5.6535E 04 4.9342E
                                        0 1897 9.5986E 01 2
157 21.62
10.77 595.4   .223 1.168 22.29
2.1434E 04    -54.19 -12.70 597.8   .201 1.166 22.1
44E 02 2 3.5473E 04 3.2853E 04    -31.13 -14.59 58

15.43 593.4   .231 1.192 23.56                                      SEC      4. LENGTH   960
5.2703E 04    -24.32 -13.21 591.6   .203 1.223 25.2
98E 02 4 1.4335E 05 4.4311E 04    -21.57 -19.93 59
                0 1814 5.5054E 02 0 1.7521E 05 1.1299E
                                        0 1815 7.3048E 02 4
147 30.50
24.53 595.5   .217 1.399 32.29
4.2730E 05    -7.73 -26.22 596.3   .224 1.457 34.0
37E 02 4 3.1393E 05 2.4934E 05    -4.12 -27.31 59
)
3.41 597.4   .233 1.589 37.50                                      SEC      5. LENGTH   960
.8131E 05     3.46 -29.53 597.9   .237 1.660 39.0
9E 02 4 3.7523E 05 2.3771E 05     7.36 -30.46 59
                0 1922 9.1267E 01 4 4.0474E 05 2.8814E
                                        0 1923 5.3324E 01 4
54 42.74
2.40 598.0   .251 1.853 43.46
.7551E 05    23.54 -32.75 597.7   .254 1.927 43.9
4E 01 4 4.1227E 05 2.7134E 05    27.30 -32.95 59

2.33 595.7   .261 1.941 44.13                                      SEC      6. LENGTH   960
.6348E 05    35.17 -32.87 596.0   .265 1.931 43.9
9E 01 2 4.2322E 05 3.0804E 04    -58.38 -12.87 58
                0 1945 1.4618E 02 2 4.2637E 05 3.3026E
                                        0 1947 2.4616E 02 2
31 22.47
.35 591.5   .197 1.169 22.35
0250E 04    -45.74 -20.09 592.7   .196 1.190 22.9
```

```
9
3.7  .195 1.204 24.25                                   0 1950 5.4468E 02 4 4.9124E 05 9.0704E 04  -42.40 -21.72 59
 0 1951 7.5519E 02 4 5.3392E 05 1.2001E 05  -38.99 -23.24 594.7  .195 1.231 25.67
                    0 1952 9.3212E 02 4 5.6923E 05 1.6380E 05  -35.53 -24.75 595.5  .197 1.262 27.1
1
6.3  .200 1.297 28.59                                   0 1953 1.0857E 03 4 5.2515E 05 2.1000E 05  -31.92 -26.14 59
05  -28.25 -27.41 596.9  .203 1.335 30.06                                   0 1954 1.2915E 03 4 6.9030E 05 2.5840E
 7.6779E 05 3.3643E 05  -24.50 -29.58 597.4  .207 1.377 31.53                                   0 1955 1.2820E 03 4
 0 1956 1.1233E 03 4 8.4471E 05 4.0205E 05  -20.56 -29.52 597.8  .211 1.423 33.04
                    0 1957 9.1494E 02 0 9.1211E 05 4.5551E 05  -15.75 -30.51 598.1  .216 1.475 34.5
7
8.2  .220 1.531 36.08                                   0 1958 7.3750E 02 4 9.5700E 05 4.3752E 05  -12.76 -31.31 59

 0 1959 5.2641E 02 4 1.0113E 06 5.3695E 05  -8.71 -31.95 598.2  .225 1.592 37.58
                    0 2000 4.5261E 02 4 1.0428E 06 5.4326E 05  -4.50 -32.44 598.1  .230 1.657 39.0
3
7.8  .234 1.721 40.34                                   0 2001 2.1412E 02 4 1.0543E 06 5.4332E 05  -.36 -32.77 59
05  3.72 -32.98 597.3  .238 1.782 41.49                                   0 2002 1.3586E 02 4 1.0771E 06 5.4671E
 1.0852E 06 5.3969E 05  7.90 -32.98 596.7  .242 1.833 42.39                                   0 2003 9.7833E 01 4
 0 2004 7.1938E 01 4 1.0911E 06 5.3064E 05  12.08 -32.35 595.0  .245 1.870 43.01
                    0 2005 5.7935E 01 4 1.0954E 06 5.2033E 05  15.23 -32.57 595.2  .249 1.889 43.3
2
4.2  .252 1.848 43.30                                   0 2006 4.8535E 01 4 1.0932E 06 5.0988E 05  20.36 -32.13 59

 0 2007 4.2524E 01 4 1.0188E 06 4.9439E 05  23.43 -31.54 593.1  .255 1.870 43.01
                    0 2008 2.6223E 01 4 1.0946E 06 4.8724E 05  28.45 -30.81 591.8  .257 1.838 42.4
7
0.5  .260 1.797 41.76                                   0 2009 2.9250E 01 4 1.0539E 06 4.7545E 05  32.40 -29.94 59
05  36.27 -28.33 589.0  .264 1.743 40.87                                   0 2012          0 5 1.1077E 06 4.6415E
 1.1077E 06 5.8019E 04  -69.90 -20.23 592.7  .210 1.142 29.55                                   0 2125 3.4912E 01 2
```

```
11 PASS    S C STA S4 DATE 620307 PLOK 650108 UT 230423 MARTIN  13753 CMC  100 START  118 212715 D/N
  872 213947          01 N/D 2866 221255 D/N   -0          0 END 5954 230423 PITCH 88.7 SPIN DEC -21.2 SUN
DEC -5.0 SPIN RA  74.6 SUN RA -11.7    01 DSI 90.5 DELPSI  4.2 SPIN READ 1.210 CA.C 1.874 RES  .127
 TIME FLAG   10                                                                   02  BASE    50-150 KEV SUN TE.     50-15
0 KEV SEC TE        .3-1 MEV ISOTROPIC  .3-1 M S T   1-3 MEV ISOTROPIC  1-3 M S T  2  TIME   TIME REG
RATE  ERR F.  TIME REG RATE  ERR FL  TIME REG RATE  ERR FL REG ON F  TIME REG RATE  ERR F. REG ON F
02 ORBIT   _ING    _AT   HT     3     L  LAMBDA SIGMA PROT FLUX FL INTEG F_UX DECAY F_UX FA SECT  TA
N PL LOOKRA _OOKDEC 03 21 27   36.8 151     0     0 0  49.5 310     0     0 0  61.8 262     0     0 0
 0  0 5  87.0 270     0     0 2 231  0 0  3     3  -51.03 -24.32 595.2  .202 1.187 23.40 23.86 2.6294
E 02 2 1.1132E 06 5.9035E 04  0  0 -1     0     0     0

03 21 28   51.7 483  70.7  3.9 0 139.6  0     0     0 5     0  0     0     0 1   0  0 1     0  0
  0   0 1   0  0 1  3     3  -56.55 -26.07 595.2  .200 1.214 24.32 23.83 4.6251E 02 4 1.1329E 06 7.
6051E 04  0  0 -1     0     0     0  03 21 31   27.0 374  41.4  2.1 2  39.4 307  35.3  1.6 2  51.
9 403  39.1   .4 2 392  0 2  76.9  0     0     0 5 125435 2  3     3  -45.89 -23.14 597.7  .198 1.27
9 27.91 23.90 1.0173E 03 4 1.2016E 06 1.3476E 05  0  0 -1     0     0     0  03 21 32   54.2 199
 51.5  3.4 2 181.7 263  36.0  2.1 2 134.1 449  14.1   .3 2   2  0 1     0  0     0  0 1   0  0 1
3     3  -41.23 -30.53 594.1  .190 1.318 29.43 23.91 1.3314E 03 4 1.2903E 06 2.1456E 05  0  0 -1
  0     0     0  03 21 36   13.7 311  16.9  1.2 0  25.1  0     0     0 5 102.2 414 161.8   .9 2 3
98  6 2     0  0     0  0 1   0  0 1  3     3  -27.74 -32.55 593.0  .209 1.425 33.11 23.91 1.2851
E 03 0 1.5560E 06 4.3802E 05  0  0 -1     0     0     0

02 HRMN PROT F_UX FL INTEG FLUX DECAY FLUX  LONG     LAT   HT     B     L  _AMBDA
                    0 2137 1.1584E 03 4 1.6154E 06 4.8594E 05  -24.55 -33.80 597.8  .210 1.453 33.9
4
HT     B     L   _AM  SIG  PROT F_UX F INTG FLUX  DEC FLUX 04 213947.5     0     0 0 213947.5     0
  0 0  -12.9 -32.9 596.2  .221 1.567 37.0 23.9 6.5195E 02 4 1.3332E 05 5.302E 05  4 214010.4     0
```

```
8E 02 4 4.9124E 05 9.0704E 04  -42.40 -21.72 59

.25 594.7  .198 1.231 25.67                                  REC    7. LENGTH   960
6380E 05  -15.53 -24.26 595.5  .197 1.262 27.1
E 03 4 5.2515E 05 2.1080E 05  -31.92 -26.14 59
        0 1954 1.2915E 03 4 6.9030E 05 2.6840E
                                0 1955 1.2820E 03 4
7 31.53
.52 597.9  .211 1.423 33.34
5561E 05  -15.75 -30.53 598.1  .216 1.475 34.5
F 02 4 9.5703E 05 4.9752E 05  -12.76 -31.31 59

.95 598.2  .225 1.592 37.58                                  REC    8. LENGTH   960
4326E 05  -4.50 -32.44 598.1  .230 1.657 39.0
E 02 4 1.2543E 06 5.4339E 05  -.46 -32.77 59
        0 2002 1.3586E 02 4 1.0772E 06 5.4671E
                                0 2003 9.7833E 01 4
2 42.39
.35 595.0  .245 1.870 43.01
0335E 05  16.23 -32.87 595.2  .249 1.889 43.3
E 01 4 1.3733E 06 5.2248E 05  20.36 -32.13 59

54 593.1  .255 1.870 43.01                                   REC    9. LENGTH   960
7238E 05  29.45 -30.81 591.3  .257 1.838 42.4
01 4 1.1059E 06 4.7545E 05  32.40 -29.94 59
        0 2013          0 5 1.1077E 06 4.6415E
                                0 2125 3.4912E 01 2
29.65

MARTIN  13753 CMC  100 START  118 212715 D/N                 REC   10. LENGTH   960
ND 5954 230423 PITCH 88.7 SPIN DEC -21.2 SUN
SI  8.2 SPIN READ 1.910 CA.C 1.874 245  .122
    02  BASE    50-150 CEV SUN TE.     50-15
EV 1SOTROPIC  1-3 M S I  2  TIME   TIME REG
FL REG DN F  TIME REG RATE  ESS F. REG DN F
OT FLUX FL INTEG FLUX DECAY FLUX FA SECT  FA
.5 310     0    0 0  61.8 262     0    0 0
 -24.32 595.2  .202 1.187 23.40 23.86 2.6294
 0

   0  0    0   0 1   0  0 1    0   0                         REC   11. LENGTH   960
1.214 2.42 23.83 4.4251E 02 4 1.1329E 06 7.
374  41.4  2.1 2  39.4 307  35.3  1.6 2  51.
 2  3    3  -46.89 -29.14 597.7  .198 1.27
1    0    0    0  03 21 32   54.2 199
2  2  3 1    0  3    0    0 1   0  0 1
3314E 03 4 1.2933E 05 2.1456E 05  0  0 -1
1  3    0    0 5 102.2 414 161.8   .0 2 3
-32.55 594.0  .209 1.425 33.11 23.91 1.2851
0

 HT    0    .  AMMDA                                          REC   12. LENGTH   960
4E 05  -24.55 -32.80 597.8  .210 1.453 33.9
SINGLES  TIME  C R TE.ESCAPE  .DNG  LAT
UK 34 213947.5    0    0 0 213947.5    0
4 1.333E 05 5.302E 05  4 214010.4    0
```

```
9
3.7  .195 1.203 24.25                                   0 1950 5.4468E 02 4 4.9124E 05 3.0734E 04  -42.40 -2

 0 1951 7.5819E 02 4 5.2322E 05 1.2001E 05  -38.99 -23.28 594.7  .195 1.231 25.67
                    0 1952 9.3212E 02 4 5.6923E 05 1.5380E 05  -35.30 -24.76 595.5  .197 1.2
1
5.3  .208 1.297 28.59                                   0 1953 1.0837E 03 4 5.2516E 05 2.1080E 05  -31.92 -2
05  -28.25 -27.41 596.3  .203 1.335 30.06                                   0 1954 1.2915E 03 4 5.9030E 05 2
 7.6779E 05 3.3643E 05  -24.50 -28.58 597.4  .207 1.377 31.53                                   0 1955 1.282
 0 1956 1.1233E 03 4 8.4471E 05 4.0205E 05  -20.56 -29.52 597.3  .211 1.423 33.04
                    0 1957 9.1494E 02 0 9.1211E 05 4.5251E 05  -15.75 -30.53 598.1  .215 1.4
7
8.2  .220 1.531 36.08                                   0 1958 7.3750E 02 4 3.5703E 05 4.9752E 05  -13.76 -3

 0 1959 5.2641E 02 4 1.0113E 06 5.2695E 05  -8.71 -31.25 598.2  .225 1.592 37.58
                    0 2000 3.5261E 02 4 1.0428E 06 5.4326E 05  -4.50 -32.44 598.1  .230 1.65
3
7.8  .234 1.721 40.34                                   0 2001 2.1812E 02 4 1.2543E 06 5.4339E 05  -.36 -32
05  3.72 -32.96 597.3  .238 1.782 41.49                                   0 2002 1.3586E 02 4 1.0771E 06 5.
 1.0852E 06 5.3969E 05  7.90 -32.98 596.7  .242 1.833 42.39                                   0 2003 9.7833
 0 2004 7.1936E 01 4 1.0911E 06 5.3064E 05  12.08 -32.35 595.0  .245 1.870 43.01
                    0 2005 5.7915E 01 4 1.0954E 06 5.2033E 05  15.23 -32.57 595.2  .249 1.86
2
4.2  .252 1.848 43.30                                   0 2006 4.3535E 01 4 1.3332E 06 5.3988E 05  20.36 -32

 0 2007 4.2524E 01 4 1.1018E 06 4.9439E 05  23.43 -31.54 593.1  .255 1.870 43.01
                    0 2008 2.6223E 01 4 1.1046E 06 4.8724E 05  28.35 -30.81 591.8  .257 1.83
7
0.5  .260 1.797 41.76                                   0 2009 2.9250E 01 4 1.1059E 06 4.7545E 05  32.40 -29.
05  36.27 -28.93 589.0  .264 1.742 40.87                                   0 2010                   0 5 1.1077E 05 4.
 1.1077E 06 5.8019E 04  -69.30 -20.23 592.7  .210 1.142 20.53                                   0 2125 3.4912


11 PASS    5 C STA SA DATE 620207 BLDK 650108 UT 230423 MARTIN  13751 CMC  130 START  118 2127
 872 213947          01 NO 2866 221255 D/N   -0        0 END 5954 230423 PITCH 88.7 SPIN DEC -21
 DEC -5.0 SPIN 24  74.6 SUN 24 -11.7    01 PST 90.5 DELDSI  4.2 SPIN READ 1.210 CA.C 1.974 345
 TIME F_AG   10
0 KEV SEC TE          .3-1 MEV ISOTROPIC  .3-1 M S T   1-3 MEV ISOTROPIC  1-3 M S T   2  TIME   TIME
RATE  ERR F_  TIME REG RATE  ERR FL  TIME REG RATE  ERR FL REG DN F  TIME REG RATE  ERR F_ REG
02 OBBIT  _DNG   LAT   HT     B     L  LAMBDA SIGMA PROT FLUX FL INTEG F_UX DECAY F_UX FA SEC
N PL LOOKRA _DDKDEC 03 21 27   36.8 151      0     0 0  49.5 313      0     0 0  61.8 262      0
 0  0 5  87.0 270     3    0 2 231  0 0  3      3  -51.03 -23.32 595.2  .202 1.187 23.40 23.86
E 02 2 1.1132E 06 5.9055E 04  0  0 -1      0      0      0

03 21 28   51.7 483  70.7  3.9 0 139.6  0      0      0 5      0      0      0      0 1    0  0 1      0
 0    0 1    0  0 1  3      3  -56.55 -26.07 595.2  .200 1.214 24.32 23.33 4.4251E 02 4 1.1329E
6051E 04  0  0 -1      0      0      0  03 21 31   27.0 374  31.4   2.1 2  33.4 307  35.3  1.6
9 403  39.1   .4 2 392  0 5  76.9  0      0      0 5 125435 2  3      3  -45.89 -23.14 597.7  .199
9 27.91 23.90 1.0173E 03 4 1.2016E 06 1.3476E 05  0  0 -1      0      0      0  03 21 32   54.2
 51.6  1.3 2 141.7 263  46.0  2.1 2 154.1 449  13.1  .3 2  0  0 1      0      0      0      0 1    0
 3      3  -41.23 -30.52 598.1  .199 1.318 29.43 23.91 1.3314E 03 4 1.2903E 05 2.1456E 05  0  0
 0      0      0  03 21 36   13.7 411  16.9  1.2 0  25.1  0      0      0 5 102.2 414 161.8
98  6 2      0      0      0      0 1    0  0 1  3      3  -37.74 -32.55 598.3  .208 1.425 33.11 23.91
E 03 0 1.5560E 05 4.3802E 05  0  0 -1      0      0      0

02 HRMN PROT F_UX FL INTEG F_UX DECAY FLUX  LONG     LAT   HT     B     -  _AMMDA
                    0 2137 1.1584E 03 4 1.6154E 05 4.8594E 05  -24.55 -32.80 597.4  .210 1.459
4                                                  02   TIME    C R SINGLES   TIME   C R TE_ESC32E  _DNG
HT     B     -   _AM  SIG   PROT F_UX F INTG FLUX  DEC FLUX 04 213947.5      0      0 0 213947.5
 0 0  -12.9 -32.9 596.2  .221 1.567 37.0 23.9 6.5195 32 4 1.3332E 05 5.3025E 05  4 214010.4
```

```
4468E 02 4 4.9124E 05 9.0704E 04  -42.40 -21.72 59

-23.28 594.7  .195 1.231 25.67                                  REC     7. LENGTH   960
 1.5380E 05  -35.50 -24.75 595.5  .197 1.262 27.1
857E 03 4 5.2514E 05 2.1080E 05  -31.92 -26.14 59
          0 1954 1.2915E 03 4 6.9030E 05 2.6840E
                                 0 1955 1.2820E 03 4
.377 31.55
-29.52 597.8  .211 1.423 33.04
 4.5561E 05  -15.75 -30.53 598.1  .216 1.475 34.5
750E 02 4 9.6700E 05 4.9752E 05  -12.76 -31.31 59

-31.95 598.2  .225 1.592 37.58                                  REC     8. LENGTH   960
 5.4326E 05   -4.50 -32.44 598.1  .230 1.657 39.0
112E 02 4 1.0549E 06 5.4899E 05   -.46 -32.77 59
          0 2002 1.3586E 02 4 1.0771E 06 5.4671E
                                 0 2003 9.7833E 01 4
.833 42.39
-32.35 595.0  .245 1.870 43.01
 5.2033E 05   15.23 -32.57 595.2  .249 1.889 43.3
35E 01 4 1.0033E 06 5.0949E 05   20.36 -32.13 59

31.54 593.1  .255 1.870 43.01                                   REC     9. LENGTH   960
 4.8724E 05   28.45 -30.81 591.8  .257 1.838 42.4
50E 01 4 1.1059E 06 4.7545E 05   32.40 -29.94 5
          0 2010            0 5 1.1077E 05 4.6415E
                                 0 2125 3.4912E 01 2
142 20.63

23 MARTIN  13753 CMC  100 START  118 212715 D/N                 REC    10. LENGTH   960
0 END 5954 230423 PITCH 88.7 SPIN DEC -21.2 SUN
ELPSI  4.2 SPIN READ 1.210 CALC 1.874 RMS  .122
        02  BASE    50-150 KEV SUN TEL      50-15
3 MEV ISOTROPIC  1-3 M S T  2  TIME   TIME REG
RR FL REG DN F  TIME REG RATE  ERR FL REG DN F
 PROT FLUX FL INTEG FLUX DECAY FLUX FA SECT  TA
 49.5 310     0    0 0  61.8 262     0    0 0
.00 -24.32 595.2  .202 1.187 23.40 23.86 2.6294
    0

 5     0   0     0    0 1   0  0 1     0   0                    REC    11. LENGTH   960
00 1.214 24.32 23.89 4.4251E 02 4 1.1329E 06 7.
.0 374  41.4  2.1 2  39.4 307  35.3  1.6 2  51.
5405 2  3     3  -45.89 -29.14 597.7  .198 1.27
 -1      0      0      0  03 21 32   54.2 199
.3 2   0  0 1     0   0     0    0 1   0  0 1
 1.3314E 03 4 1.2903E 06 2.1456E 05  0  0 -1
 25.1   0     0    0 5 102.2 414 161.8   .9 2 3
74 -32.55 598.0  .209 1.425 33.11 23.91 1.2851
    0

AT   HT     B     L  LAMBDA                                      REC    12. LENGTH   960
8594E 05  -24.55 -32.80 597.8  .210 1.453 33.9
 R SINGLES   TIME  C R TELESCOPE  LONG   LAT
 FLUX 04 213947.5     0    0 0 213947.5     0
 02 4 1.309E 05 6.302E 05  4 214010.4     0
```

.6 2
.2 3 4 154410.1 49.2 6.1 2 154410.1 2.
04 154411.2 64.0 4.0 3 154421.7 2.4 .8 2 59.4 -24.8 566.7 .302 1.561 36.9 23.3 4 154420.0 59.1
2.227E 08 2.415E 05 4 154441.2 53.3 6.8 3 154433.1 3.7 .4 0 0
4 154452.3 64.0 5.6 2 154446.5 2.9 .5 3

4 154502.8 71.1 8.8 3 154506.8 3.0 .5 0
04 154514.3 64.0 5.6 2 154506.7 3.2 .5 0 62.0 -23.7 567.3 .307 1.523
.9 53.3 0 6 2.227E 08 2.367E 05 4 154525.6 0 0 5 154517.7 2.5 .9 2
.6 3 4 154537.8 41.2 3.6 3 154527.9 2.
.7 2 154542.3 1.0 .5 3 4 154548.9 53.3
04 154556.8 46.8 3.3 3 154552.8 3.2 1.1 2 64.6 -22.6 567.8 .312 1.484 34.8 23.3 0
2.227E 08 2.319E 05 4 154613.5 41.2 3.6 3 154602.8 2.5 .5 1
4 154622.2 42.6 3.7 3 154613.8 1.6 .4 2

4 154633.5 39.9 4.9 2 154624.3 1.6 .4 1
04 154645.8 0 0 5 154635.7 1.6 .8 3 67.2 -21.3 568.5 .317 1.443
.7 23.4 0 9 2.227E 08 2.209E 05 154656.1 43.6 3.1 3 154646.7 2.1 .4 0
.4 0 4 154706.6 42.6 5.3 3 154659.4 2.0
.4 2 154708.3 2.0 .4 0 4 154719.5 35.5
04 154728.0 0 0 5 154719.8 2.0 .4 0 69.6 -20.1 569.1 .322 1.407 32.5 23.4 0
2.227E 08 2.220E 05 4 154739.8 35.9 2.0 2 154731.0 1.6 .4 1
154749.7 35.5 2.5 2 154741.6 2.1 .7 2

4 154751.4 32.0 2.3 3 154752.3 2.2 .7 2
04 154813.2 39.0 4.9 3 154803.6 1.7 .3 0 72.1 -18.8 569.7 .326 1.369
.3 23.4 0 6 2.227E 08 2.180E 05 4 154824.1 41.2 3.6 3 154814.6 2.8 1.4 2
0 5 4 154835.1 39.9 4.9 3 154874.8 0
.8 3 154835.1 1.9 .4 0 4 154847.2 33.0
04 154858.4 31.4 2.2 3 154849.5 1.8 .6 2 74.5 -17.5 570.4 .330 1.332 30.0 23.4 0
2.227E 08 2.135E 05 4 154909.5 29.7 2.6 3 154900.5 2.0 .4 1
154919.6 0 0 5 154912.3 1.6 .3 0

4 154931.4 37.6 4.7 3 154924.6 2.2 .4 1
04 154942.7 39.9 4.9 3 154938.5 1.4 .5 3 76.9 -16.2 571.1 .332 1.298
.6 23.4 0 9 2.227E 08 2.091E 05 4 154955.8 0 0 5 154956.9 2.4 .6 2
.5 2 4 155010.1 35.5 4.4 3 155011.9 1.9
0 5 4 155020.3 0
04 155030.4 39.9 4.9 2 155024.3 1.9 .5 3 79.3 -14.7 571.9 .335 1.263 27.2 23.4 0
2.227E 08 2.049E 05 4 155041.1 27.8 1.7 1 155035.6 2.0 .5 1
155051.6 24.6 3.0 3 155046.6 1.0 .3 0

4 155101.9 29.0 2.0 2 155059.3 1.2 .3 1
04 155113.6 23.4 1.6 2 155110.8 1.3 .3 0 81.6 -13.4 572.6 .336 1.233
.8 23.4 0 6 2.227E 08 2.005E 05 4 155125.0 24.6 3.0 3 155122.0 1.0 .3 0
.4 1 4 155138.2 0 0 5 155132.6 1.6
.3 2 155143.1 1.5 .3 0 4 155148.9 26.6
04 155159.6 23.7 2.9 2 155159.6 0 0 5 83.9 -11.9 573.3 .337 1.203 24.3 23.4 0
2.227E 08 1.953E 05 4 155213.8 0 0 5 155211.9 1.3 .3 1
4 155223.8 45.7 5.7 3 155223.8 1.3 .3 0

4 155234.1 32.0 4.0 2

```
          4 154410.1  49.2  6.1 2 154410.1   2.7
                                 4 154420.0  58.1  7
.4 -24.8 566.7  .302 1.561 36.9 23.3          0 6
.1   2.7   .4 0
  64.0  5.6 2 154446.5   2.9   .5 3


.7   3.2   .5 0   62.0 -23.7 567.3  .307 1.523 35          REC   381. LENGTH   960
     0     0 5 154517.7   2.5   .9 2
          4 154537.8  41.2  3.6 3 154527.9   2.4
                                 4 154548.9  53.3  4
6 -22.6 567.8  .312 1.484 34.8 23.3          0 6
8   2.5   .5 1
  42.5  3.7 3 154613.8   1.6   .4 2


7   1.6   .8 3   67.2 -21.3 568.5  .317 1.443 33          REC   382. LENGTH   960
  43.6  3.1 3 154646.7   2.1   .4 0
          4 154706.6  42.6  5.3 3 154658.4   2.0
                                 4 154715.5  35.5  4
 -20.1 569.1  .322 1.407 32.5 23.4          0 6
   1.6   .4 1
  35.5  2.5 2 154741.6   2.1   .7 2


   1.7   .3 0   72.1 -18.8 569.7  .326 1.369 31          REC   383. LENGTH   960
  41.2  3.6 3 154814.6   2.8  1.4 2
          4 154835.1  39.9  4.9 3 154824.8     0
                                 4 154847.2  32.0  2
 -17.5 570.4  .330 1.332 30.0 23.4          0 6
   2.0   .4 1
   0     0 5 154912.3   1.6   .3 0


   1.4   .5 3   76.9 -16.2 571.1  .332 1.298 29          REC   384. LENGTH   960
   0     0 5 154956.9   2.4   .6 2
          4 155010.1  35.5  4.4 3 155011.8   1.8
                                 4 155020.2     0
 -14.7 571.9  .335 1.263 27.2 23.4          0 6
   2.0   .5 1
  4.6  3.0 3 155046.6   1.0   .3 0


   1.3   .3 0   81.6 -13.4 572.6  .336 1.233 25          REC   385. LENGTH   960
  4.6  3.0 3 155122.0   1.0   .3 0
          4 155136.2     0     0 5 155132.6   1.6
                                 4 155148.9  26.6  2
 11.9 573.3  .337 1.203 24.3 23.4          0 6
   1.3   .3 1
  .7  5.7 3 155223.8   1.3   .3 0


                                                          REC   386. LENGTH   960
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                    04 155246.4      0      0 5 155235.4    1.6    .8 2   86.3 -10.4 574.1  .336 1.
 .7 23.5          0 6 2.227E 08 1.921E 05    155257.3      0      0 5 155246.9    1.3    .7 0
  .3 1                                                              4 155307.9  39.9  3.5 3 155257.2
 0 5 155311.4      2      0 5                                                                 4 155320.3
04 155332.2  29.0  3.6 3 155321.4    1.5    .3 0    88.5  -8.9 574.9  .335 1.150 21.2 23.5
2.227E 08 1.881E 05  4 155343.7  35.5  4.4 3 155335.7    1.2    .4 2
                                                155358.2      0      0 5 155346.5    1.4    .3 0

 4                                  155358.6    1.6    .3 0
                    04 155412.1  21.3  2.6 3 155412.1    1.4    .4 2   90.5  -7.5 575.6  .333 1.
 .8 23.5          0 6 2.227E 08 1.847E 05    155422.0      0      0 5 155422.0    1.2    .4 1
  .4                                                                4 155433.1  28.4  2.5 1 155433.1
 .6 2                                                                                        4 155445.3  3
04 155456.5  30.9  2.2 2 155447.3    1.6    .3 0    92.7  -6.1 576.4  .331 1.109 18.3 23.5
2.227E 08 1.809E 05  4 155465.5  28.4  2.5 3 155457.6    2.4    1.2 2
                                                155520.3  23.7  2.0 2 155509.9    1.6    .3 0

 4                                  155520.3    1.9    .4 0
                    04 155533.5      0      0 5 155531.1    2.5    .9 2   94.5  -4.8 577.0  .329 1.0
 .0 23.5          0 6 2.227E 08 1.778E 05    155544.5  19.1  1.6 2 155541.7    1.1    .3 0
  .4 1                                                              4 155557.6  18.2  2.2 3 155552.1
 .1 3 155578.7    .9    .3 2                                                                 4 155609.5  16.
04 155619.5  19.9  1.7 1 155619.5    1.1    .3 0    96.7  -3.2 577.8  .325 1.075 15.3 23.5
2.227E 08 1.741E 05  4 155632.1      0      0 5 155632.1    .9    .2 0
                                                155643.7  21.3  2.6 3 155643.7    1.3    .3 0

 4 155654.3      0      0 5
                    04 155708.3  23.7  2.9 3 155657.4    1.5    .4 2   99.1  -1.5 578.6  .321 1.0
 .6 23.5          0 5 2.227E 08 1.702E 05  4 155719.0      0      0 5 155708.3    1.7    .6 2
  .2 0                                                              4 155731.9  24.6  3.0 3 155719.0
 .2 3 155731.9    1.5    .3 0                                                                 4 155742.5  26.
04 155755.1      0      0 5 155746.1      0      0 5  101.3    .0 579.3  .318 1.045 12.0 23.6
2.227E 08 1.666E 05  4 155805.8  23.6  3.2 3 155759.5    1.1    .2 0
                                                4 155816.0  25.0  2.2 3 155809.8    1.1    .3 0

 4 155828.7      0      0 5 155819.8    1.2    .3 0
                    04 155838.4  27.8  2.4 2 155832.6    1.2    .3 0  103.4    1.5 580.0  .315 1.0
 .6 23.6          0 6 2.227E 08 1.633E 05  4 155845.9  27.8  3.4 2 155847.3    .8    .2 0
  .6 1                                                              4 155900.5  32.8  2.9 3 155859.6
 0 6 155910.0      0      0 5                                                                 4 155915.8
04 155923.3      0      0 6 155923.7    1.1    .2 0  105.9    3.2 580.8  .311 1.024  8.9 23.6
2.227E 08 1.594E 05  4 155940.3      0      0 5 155939.8      0      0 5
                                                4 155950.9      0      0 5 155950.9    1.4    .3 0

 4 160001.8      0      0 6
                    04 160012.0      0      0 5 160005.3    1.0    .2 0  107.3    4.7 581.4  .308 1.0
 .6 23.6          0 5 2.227E 08 1.556E 05    160032.3      0      0 5 160017.4    .9    .2 0
  .6                                                                4
                                                                                          160031.6
    160042.3    1.4    .3 0                                                                 5
04 160053.5      0      0 6 160055.0      0      0 5  109.5    5.7 581.8  .307 1.014  6.7 23.6
2.227E 08 1.541E 05  4 160055.0      0      0 5 160106.5    1.5    .3 1
                                                4 160106.5  27.8  3.4 2
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55235.4   1.6   .8 2   86.3 -10.4 574.1  .336 1.175 22
257.3     0     0 5 155246.9   1.3   .3 0
                4 155307.9  39.9  3.5 3 155257.3   1.0
                                    4 155320.3     0

   88.8  -8.9 574.9  .335 1.150 21.2 23.5          0 6
55335.3   1.2   .4 2
258.2     0     0 5 155346.5   1.4   .3 0


5412.1   1.4   .4 2   90.5  -7.5 575.6  .333 1.129 19                REC   387. LENGTH   960
22.0      0     0 5 155422.0   1.2   .4 1
                4 155433.1  28.4  2.5 1 155433.1   2.1
                                    4 155445.3  30.4  2

   92.7  -6.1 576.4  .331 1.109 18.3 23.5          0 6
5457.6   2.4  1.2 2
20.3  23.7  2.0 2 155509.9   1.6   .3 0


5531.1   2.6   .9 2   94.5  -4.8 577.0  .329 1.053 17                REC   388. LENGTH   960
44.5  19.1  1.6 2 155541.7   1.1   .3 0
                4 155557.6  18.2  2.2 3 155552.1   1.4
                                    4 155609.5  16.8  2

   96.7  -3.2 577.8  .325 1.075 15.3 23.5          0 6
5632.1    .9   .2 0
3.7  21.3  2.6 3 155643.7   1.3   .3 0


557.4   1.6   .4 2   99.1  -1.6 578.6  .321 1.059 13                REC   389. LENGTH   960
9.0      0     0 5 155708.3   1.7   .6 2
                4 155731.9  24.6  3.0 3 155719.0   1.4
                                    4 155742.5  26.6  2

101.3    .0 579.3  .318 1.045 12.0 23.6          0 6
759.5   1.1   .2 0
5.0  25.0  2.2 3 155809.9   1.1   .3 0


32.6   1.2   .3 0  103.4   1.5 580.0  .315 1.035 10                REC   390. LENGTH   960
.9  27.8  3.4 2 155847.3    .8   .2 0
                4 155900.5  32.8  2.9 3 155858.6   1.7
                                    4 155915.8     0

05.9   3.2 580.8  .311 1.024  8.9 23.6          0 6
39.8      0     0 5
.9      0     0 5 155950.9   1.4   .3 0


5.3   1.0   .2 0  107.9   4.7 581.4  .308 1.018  7                REC   391. LENGTH   960
.3      0     0 5 160017.4    .9   .2 0
                4                   160031.6     0
                                    4

9.5   5.7 581.8  .307 1.014  6.7 23.6          0 6
6.5   1.5   .3 1
5  27.8  3.4 2
```

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4 160118.5      0     0 5
                    04 160129.7  26.6  2.3 2 160120.9   1.5    .4 3  111.7   7.3 582.5  .30
.0 23.6          0 6 2.227E 08 1.508E 05  4 160143.9  37.6  5.7 3 160133.4   1.2    .3 0
                                                                4 160156.7      0     0 5 16014
  .5 2                                                                                  4 160206.
 0 5 160158.0   1.8    .4 0
04 160217.9  35.5  3.1 3 160208.8   1.1    .3 0  114.1   8.9 583.1  .303 1.011  5.9 23.6
2.227E 08 1.475E 05  4 160232.3      0     0 6 160220.3   1.0    .2 0
                                                160246.7      0     0 6 160232.3   1.3    .3 0

4 160258.8      0     0 6 160246.7   1.1    .2 0
                    04 160309.1      0     0 6 160304.3   2.0    .7 3  116.7  10.5 583.8  .302
.3 23.6          0 5 2.227E 08 1.441E 05     160321.7      0     0 5 160315.8      0     0 5
                                                                4 160332.7      0     0 6 160332
  0 5                                                                                  4 160343.4
 0 5 160343.4   1.2    .3 0
04 160352.3      0     0 5 160353.3      0     0 5  118.9  12.0 584.3  .301 1.013  6.5 23.7
2.227E 08 1.412E 05  4 160404.9      0     0 6 160404.9   1.5    .5 2
                                                4 160416.4  25.6  3.2 3 160416.4   2.3    .6 2

4 160431.3  29.0  2.5 2 160427.5   1.6    .4 2
                    04 160443.5  29.7  2.6 2 160438.1   1.4    .3 0  121.4  13.6 584.9  .301
.8 23.7          0 6 2.227E 08 1.379E 05  4 160503.3      0     0 5 160449.9   1.3    .3 1
                                                                4                      160503.
```

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.9   1.5   .4 3  111.7   7.3 582.5  .305 1.011  6          REC   392. LENGTH   960
  37.6  4.7 3 160133.4   1.2   .3 0
          4 160156.7     0     0 5 160147.3   2.0
                                4 160206.9     0

.1   8.9 583.1  .303 1.011  8.9 23.6          0 6
.3   1.0   .2 0
     0     0 6 160232.3   1.3   .3 8

3   2.0   .7 3  116.7  10.5 587.8  .302 1.012  6          REC   393. LENGTH   960
     0     0 5 160315.8     0     0 5
          4 160332.7     0     0 6 160330.3     0
                                4 160343.4     0

9  12.0 584.3  .301 1.013  6.5 23.7          0 6
9   1.5   .5 2
 25.6  3.2 3 160416.4   2.3   .6 2

1   1.4   .3 0  121.4  13.6 584.9  .301 1.019  7          REC   394. LENGTH   960
     0     0 5 160449.9   1.3   .3 1
          4                          160503.3   2.9
```