#281

APOLLO 15 + 16

LUNAR ORBIT X-RAY + TRANSEARTH COAST X-RAY

71-063A-09A, 09B

72-031A-08A

Table of Contents

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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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

APOLLO 15 CSM

LUNAR ORBIT X-RAY DATA

71-063A-09A PSPG-00504

This data set has been restored. There was originally one 9-track, 1600 BPI tape written in Binary. There is one restored tape. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The original tape was created on an IBM 360 computer and the restored tape was created on an IBM 9021 computer. The DR and DS numbers along with the corresponding D number are as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR005687	DS005687	D014017	1 - 2	07/30/71 - 08/04/71

APOLLO 15 CSM

TRANSEARTH COAST X-RAY DATA

71-063A-09B PSPG00351

This data set has been restored. There was originally one 9-track, 800 BPI tape written in Binary. There is one restored tape. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The original tape was created on an IBM 360 computer and the restored tape was created on an IBM 9021 computer. The DR and DS numbers along with the corresponding D number are as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR005893	DS005893	D014016	1	08/04/71 - 08/07/71

APOLLO 16 CSM

LUNAR ORBIT X-RAY DATA

72-031A-08A PSPG-00086

This data set has been restored. There was originally one 9-track, 1600 BPI tape written in Binary. There is one restored tape. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The original tape was created on an IBM 360 computer and the restored tape was created on an IBM 9021 computer. The DR and DS numbers along with the corresponding D number are as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR005688	DS005688	D022495	1 - 2	04/20/72 - 04/24/72

REQ. AGENT	RAND NO.	ACQ. AGENT
WPP CMM VJP	RB5604 RC4834	CDW

APOLLO 15 + 16

LUNAR ORBIT X-RAY + TRANSEARTH COAST X-RAY

71-063A-09A

71-063A-09B

72-031A-08A

This data set consists of 1 Apollo 15 Lunar Orbit X-ray data, 1 Apollo 15 Transearth Coast X-ray data and 1 Apollo 16 Lunar Orbit X-ray data tape. Data set 71-063A-09B is 800 BPI, BIN and containing 1 file. The D tape is 9 track and the C tape is 7 track. Data sets 71-063A-09A and 72-031A-08A are 1600 BPI, BIN, 9 track and contains 2 files each. All 3 tapes were created on the IBM 360.

The time spans are as follows:

71-063A-09A APOLLO 15

D#	C#	FILES	TIME SPAN
D-14017	C-12712	2	7/30/71 - 8/04/71

71-063A-09B APOLLO 15

D-14016	C-12711	1	8/04/71 - 8/07/71

72-031A-08A APOLLO 16

D-22195	C-17290	2	4/20/72 - 4/24/72

OPTIONAL FORM NO. 10
JULY 1973 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO : Dr. Wende - Code 601.1
National Space Science Data Center

DATE: October 21, 1975

FROM : Richard Schmadebeck - Code 682
Project Engineer

SUBJECT: Delivery of the Apollo 15 and 16 X-ray Spectrometer Data Tapes.

I am enclosing the lunar portions of the Apollo 15 and 16 X-ray data. These data tapes are cleaned up versions of the original row data which composed some two hundred tapes in all. Both tapes have the same format, DCB information, and two file structures. These were generated on an IBM S360/91 here at Goddard. The tape characteristics are:

1) Tape File #1 - Normal X-ray and calibration data where the energy region was from 0.75 to 3.0 kilo electron volts (kev) for all four detectors.

2) Tape File #2 - All detectors except detector #1 (i.e. the detector with only the beryllium window) have the same energy range as before 0.75 to 3.0 kev. The energy range of detector one is 1.5 to 6.0 kev.

NOTE: Calibration and non calibration data is randomly interspersed but identifiable on tape files 1 and 2.

3) Non Labled Industry compatable 9 track tapes.

4) Density = 1600 bits per inch.

5) RECFM (Record format) = VBS (Variable Block Size)

6) LRECL (Length of record) = 900

7) BLKSIZE (Maximum Block Size) = 27004

8) Data Format: The data format consists of an integer number (NFLAG), followed by eight single precision floating point numbers "ANS (8)". This data is then followed by 36 integer numbers "ISPEC (4,9)".

"NFLAG" Indicates in which mode the measurement was made. They are defined as follows:

"NFLAG" = 16 Spectrometer measuring normal data (i.e. energy range from 0.75 to 3.0 kev)

"NFLAG" = 96 Calibration sources of magnesium K alpha and Fe^{55} have been placed in the field of view of detectors 1, 2, 3. Energy range is from 0.75 to 3.0 kev.

"NFLAG"= 144 Normal data for detectors 2 through 4 (i.e. from 0.75 to 3.0 kev). Detector 1 energy range from 1.5 to 6.0 kev).

"NFLAG" = 224 Spectral range is the same as for NFIAG = 144 but the calibration sources have been rotated into the field of view of detectors 1, 2, 3.

"ANS (1)" is the ground elapsed time in seconds.

"ANS (2)" is the lunar orbit number.

"ANS (3)" is the selenographic latitude in degrees.

"ANS (4)" is the selenographic longitude in degrees from 180 to -180 degrees as per the orbital path.

"ANS (5)" is the altitude of the spacecraft above the lunar surface in kilometers assuming a mean circular moon (i.e. no corrections for terrain have been made).

"ANS (6)" is the spacecraft pitch angle.

"ANS (7)" is the spacecraft yaw angle.

"ANS (8)" is the spacecraft roll angle.

"ISPEC (4,9)" is hereby defined as "ISPEC (I,J)" where I = 1 is the beryllium windowed counter, I = 2 is the magnesuim filtered filtered counter, I = 3 the aluminum filtered counter, and I = 4 the solar monitor. For each detector J = 1 to 7 represents the seven equal energy intervals into which the energy regions were divided. All x ray events above the upper level discriminator are stored in J = 8. All non x ray events are stored in J = 9 except for the solar monitor detector where the sum of all events in all four detectors channels 1 through 8 is stored. This number is then divided by 16 and telemetered to the ground. Thus if all the events in channels 1 to 8 for all four detectors are summed and divided by 16 and compared with this number the data quality can be determined. This number will differ slightly because all the events detected were not analyzed because of dead time problems, but if there is a very large difference the data should be scanned for possible errors which may have been missed during the screening process.

NOTE: These data sets normally represent the accumulation of data for 8 seconds time.

Specifically Data tape CA0439 contains the data from Apollo 15. File 1 contains 26,843 data sets between 85 hours 10 minutes and 220 hours 49 minutes. This is all of the recoverable normal and calibration data. File 2 contains 7,086 attenuation data sets between 90 hours 35 minutes and 214 hours 07 minutes.

Data tape CA0438 contains all of the recovered lunar data from Apollo 16. File 1 contains 24,577 normal data sets between 80 hours 04 minutes and 191 hours 56 minutes. File 2 contains 6,965 Data sets between 85 hours 51 minutes and 193 hours 31 minutes.

71-063A-09 Apollo 15

(from Schmadebeck XT 5941 or 6881)

The enclosed list shows the word number, symbol, and parameter name (with units) for each of the 39 emphemeris values recorded on the X-ray merge tape. The emphemeris values are a subset of those values originally provided to the principal investigators by MSC. The definitions and coordinate systems called for in the list are taken directly from "Apollo Postflight Trajectory Parameters" MSC 04404.

SUBROUTINE XINTGN(KK)

The purpose of this subroutine is to interpolate the emphemeris data stored in the D vector at one-minute intervals to give emphemeris values at the spectrum GETS stored in GT. The interpolated values are SPLINE interpolated and stored in the vector ANS for transfer to the main or calling program. Most of this subroutine will be self-explanatory as well as SPLINE subroutine which follows it.

SUBROUTINE XRY(IEØF,LONG)

I. General

This subroutine is used to read only the Apollo 15 'XRAY' merge tape and output certain desired data with its associated emphemeris data interpolated to give the emphemeris data for the midpoint of each set of summed spectra. The format of the data tape is written as follows: GANDN(39),NSPECT,[GET,XRAY(2,110),GET,(XRAY(2,110).....], GANDN(39) etc. The number of GET and XRAY data sets will equal the value of NSPECT. There will be no GET,XRAY data sets if NSPECT is equal to zero. The actual interval of XRAY data is from 306600. seconds GET to 795000. seconds.

Only 8 values of the 39 values of emphemeris data for each minute (GANDN(39)) are actually used in this subroutine. The format of the XRAY data is as follows:

a) The cal/attenuate flags are XRAY(1,5); XRAY(2,5); XRAY(1,6); and XRAY(2,6)

PULSE SHAPE DISCRIMINATOR

b) PSD and TOTAL values are at XRAY(2,1) through XRAY(2,4) in sequence and the valid data flag for each value is in the appropriate position from XRAY(1,1) to XRAY(1,4)

c) The X-ray spectral data is stored in order in the locations from XRAY(2,6) through XRAY(2,38) and their associated validity flags from XRAY(1,6) to XRAY(1,38).

d) The Housekeeping data for the 8-second period is stored from XRAY(2,39) on with the valid data flag from XRAY(1,39) onward.

II. Main Body of the Subroutine

a) Lines 800 to ~~3100~~ 3300 initialize the parameters upon entrance into the subroutine.

b) Lines ~~3200~~ 3400 to ~~7650~~ 8600 concern the reading of emphemeris data and the checking for quality.

c) Lines ~~7700~~ 8700 to ~~13000~~ 14000 concern the reading of the X-ray data, quality checking, and summing of the data.

d) Lines ~~13500~~ 14100 to ~~15700~~ 16000 concern the storage of the summed data into SPECT.

e) Lines ~~15800~~ 16100 to ~~17200~~ 17300 deal with the preparation for exit from the subroutine to the main or calling program.

III. Input Data Using the Call Statement

a) 'IEØF' is a flag used to determine the condition encountered during a previous call to the subroutine. For the first call to the subroutine, IEØF should be set to a minus one. When the subroutine returns control to the calling program, the value of IEØF will indicate the reason for terminating the tape reading. These condition codes are:

IEØF=1 indicates 300 spectra (M=300) or 300 loss of syncs have been encountered (LSYNC=300). The reason for termination is not to overflow either SPECT(300,4,10) or SYNC(300).

IEØF=2 indicates that either 300 emphemeris data sets have been encountered (KK=300) or that 3 emphemeris data sets have been encountered containing zero spectra.

IEØF=3 indicates that the last time of interest GETS(2) has been exceeded.

IEØF=4 indicates that an end of file during a tape read has been encountered. The end of file mark appears only at the end of the whole data tape.

b) 'LONG' is a real vector of length two which is used to look at areas between longitude one and longitude two. Longitude one is the east longitude and longitude two is the western longitude. This option can only be used if IØUT(1)=2.

IV. Common Areas

a) /INPDAT/

1) 'NFC' is the number of the first channel of the area over which the data will be summed.

2) 'NCH' is the number of the last channel of the area over which the data will be summed.

3) 'ACCTIM' is the amount of time over which the spectrum will be accumulated. This must be some multiple of 8 seconds.

4) 'IØUT' is a vector of length 6 which is used mainly in the calling program to eliminate unnecessary printout during the running of the program. The only area of concern in this subroutine is IØUT(1).

IØUT(1)=0 deletes most of the printout of the data being read from the tape.

IØUT(1)=1 allows the printout of all of the data being read from the merged tape

IØUT(1)=2 allows both printout and the use of only that data which lies between LONG(1) and LONG(2).

5) 'GETS' is a vector of length two which contains the beginning GET accumulation time (GETS(1)) and the end accumulation time (GETS(2)).

b) /INFØ/

1) 'ANS' is a vector of length 300 and 8 values of GANDN data interpolated at the midpoint of the accumulation period.

a. ANS(m,1) is the GET of the midpoint of the accumulation period in seconds.

b. ANS(m,2) is the orbit number.

c. ANS(m,3) is the selenographic latitude of the midpoint of the accumulation period.

d. ANS(m,4) is the selenographic longitude of the midpoint of the accumulation period

e. ANS(m,5) is the altitude in nautical miles above the lunar surface.

f. ANS(m,6) is the spacecraft angle Theta in degrees.

g. ANS(m,7) is the spacecraft angle PSI in degrees.

h. ANS(m,8) is the spacecraft angle PHI in degrees.

2) SPECT is an integer vector of up to 300 spectra consisting of a spectrum for each of the 4 detectors, with ten values for each spectrum. The detectors are numbered 1 to 3 and number 4 is the solar monitor. The 9th value in each spectrum is the PSD value for each detector. The solar monitor channel 9 is the so-called TOTAL value. The 10th value in each spectrum is the total sum of the channels between NFC and NCH.

3) NFLAG is a vector of length 300 which contains the calibrator/attenuation flag bits.

4) NC is a vector which contains the number of actual spectra accumulated during the time period ACCTIM.

5) NSPEC is the number of spectra actually stored in ANS and SPECT.

c) /RATIØ/

1) NDUM is not used in this program.

2) SYNC is the vector which contains the GET of any lost syncs or zero spectra.

3) NSYNC is the number of lost SYNCS associated with the GET stored in SYNC.

4) NZERO is the number of zeros encountered in each spectrum associated with the GET stored in SYNC.

5) D is the vector which contains the emphemeris values which will be used in the interpolations to get the longitude, etc. for each spectrum.

V. Dimensioned Variables

a) CHSM is an intermediate storage location which is used to store the sums of the spectra during the counting period.

b) XRAY is a vector which contains the raw X-ray spectra and housekeeping data as recorded in the PCM stream. Most of the values of XRAY(1,m) are flag bits associated with values of XRAY(2,m). The housekeeping data is stored from in XRAY where m = 39 to 110. Each housekeeping value is repeated eight times to cover the eight-second sample time. The values of housekeeping are stored as follows:

XRAY(2,39) is the low voltage power supply summed.

XRAY(2,47) is the discriminator reference voltage.

XRAY(2,55) is the +6.75 volt power supply.

XRAY(2,63) is the +5.0 volt power supply.

XRAY(2,71) is the processor electronics temperature.

XRAY(2,79) is the detector temperature.

XRAY(2,87) is the low voltage power supply temperature.

XRAY(2,95) is the lunar detector temperature.

XRAY(2,103) is the solar detector temperature.

This subroutine makes no effort to retrieve and save these values.

GANDN Word No.	Symbol	Parameter (Units)
1	GMT_s	Greenwich mean time from midnight preceding launch (sec.)
2	GET_H	Ground elapsed time from launch (hr.)
3	GET_s	Ground elapsed time from launch (sec.)
4	Rev. No.	Current incremental revolution (n.d.)
5	Φ_s	Selenographic latitude (deg.) with 0 degrees being the equator of the moon.
6	λ_s	Selenographic longitude (deg.) measured from + 180 to - 180 degrees from east to west with 0^o referring to a line slightly to the west of Aristillus
7	R_s	Selenocentric radius (ft.)
8	V_i	Lunar inertial velocity (fps)
9	r_{as}	Apolune radius (ft.)
10	r_{ps}	Perilune radius (ft.)
11	h_{as}	Apolune altitude (n. mi.)
12	h_{ps}	Perilune altitude (n. mi.)
13	α_M	Vehicle look angle to moon (deg.)
14	β_M	Vehicle look angle to moon (deg.)
15	θ_{LH}	Vehicle attitude with respect to local horizontal coordinate system (deg.) vehicle pitch
16	Ψ_{LH}	Vehicle attitude with respect to local horizontal coordinate system, (deg.) vehicle yaw
17	Φ_{LH}	Vehicle attitude with respect to local horizontal coordinate system, (deg.) vehicle roll. Note: In the vehicle nose forward ($\theta_{LH} = 0.0$) orbital mode the Sim Bay center line has a ΦLH of + 142.25 degrees. In the vehicle nose pointing backward ($\theta_{LH} = -180$) the $\Phi_{LH} = -37.75^o$.

18	X_M	Position component in lunar orbit (moon centered), (ft.)
19	Y_M	Position component in lunar orbit (moon centered), (ft.)
20	Z_M	Position component in lunar orbit (moon centered), (ft.)
21	$\dot{X}_M$	Velocity component in PACSS lunar orbit (moon centered), (fps)
22	$\dot{Y}_M$	Velocity component in PACSS lunar orbit (moon centered), (fps)
23	$\dot{Z}_M$	Velocity component in PACSS lunar orbit (moon centered), (fps)
24	$\ddot{X}_M$	Acceleration component in lunar orbit (moon centered), (ft/sec^2)
25	$\ddot{Y}_M$	Acceleration component in lunar orbit (moon centered), (ft/sec^2)
26	$\ddot{Z}_M$	Acceleration component in lunar orbit (moon centered), (ft/sec^2)
27	H_{LLS}	Altitude above the lunar landing site, (ft.)
28	$\dot{H}_{LLS}$	Altitude rate in lunar orbit, (ft.)
29	$\ddot{X}_p$	Sensed acceleration component in platform coordinates ft/sec^2
30	$\ddot{Y}_p$	Sensed acceleration component in platform coordinates, (ft/sec^2)
31	$\ddot{Z}_p$	Sensed acceleration component in platform coordinates, (ft/sec^2)
32	$\dot{X}_p$	Sensed velocity component in platform coordinates, (fps)
33	$\dot{Y}_p$	Sensed velocity component in platform coordinates, (fps)
34	$\dot{Z}_p$	Sensed velocity component in platform coordinates, (fps)

35	H_o	Geodetic altitude, (n. mi.)
36	Φ	Sun look angle in the sun vector system, (deg.)
37	θ	Sun look angle relative to the stable system, (deg.)
38	α_s	Vehicle look angles to the sun, (deg.)
39	β_s	Vehicle look angles to the sun, (deg.)

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00000100          SUBROUTINE XRY(IEOF,LONG)                                    00000100
00000200          REAL GANDN(39),GT(300),LONG(2),GNSAVE(2,8)                   00000200
00000300          COMMON/INPDAT/NFC,NCH,ACCTIM,IOUT(6),GETS(2)                 00000300
00000400          COMMON/INFO/ANS(300,8),SPECT(300,4,10),NFLAG(300),NC(300),NSPEC 00000400
00000500          COMMON/RATIO/NDUM,SYNC(300),NSYNC(300),NZERO(300),D(300,8)   00000500
00000600          EQUIVALENCE (GT(1),ANS(1,1))                                 00000600
00000700          INTEGER XRAY(2,110),CHSM(4,10),SPECT,HR,SEC                  00000700
00000800          LSYNC=0                                                      00000800
00000900          LINE=0                                                       00000900
00001000          M=0                                                          00001000
00001100          KK=0                                                         00001100
00001200          GOLD=-1.0                                                    00001200
00001300          ICUR=-1                                                      00001300
00001400          J=0                                                          00001400
00001500          WRITE(6,2000)NFC,NCH,ACCTIM                                  00001500
00001600  2000 FORMAT(11X,'XRAY DATA WITH CHANNELS',I2,'-',I2,                 00001600
00001700         X' SUMMED AND ACCUMULATED OVER ',F6.0,' SEC. INTERVALS')      00001700
00001800          IF(IEOF.EQ.-1) GO TO 15                                      00001800
00001900          GO TO (5,2,12,15),IEOF                                       00001900
00002000       2 I=0                                                           00002000
00002100       5 KK=2                                                         00002100
00002200          DO 10 L=1,2                                                  00002200
00002300          DO 10 LL=1,8                                                 00002300
00002400      10 D(L,LL)=GNSAVE(L,LL)                                          00002400
00002500          IEOF=0                                                       00002500
00002600          GO TO 130                                                    00002600
00002700      12 IEOF=0                                                        00002700
00002800          IF(GETS(1).GT.GNSAVE(1,1)) GO TO 45                          00002800
00002900      15 REWIND 9                                                      00002900
00003000          ICAL=0                                                       00003000
00003100          WRITE(6,2013)                                                00003100
00003200  2013 FORMAT('0UNIT 9 REWOUND')                                       00003200
00003300          IEOF=0                                                       00003300
00003400      20 READ(9,END=200) GANDN                                         00003400
00003500          READ(9,END=200) NSPECT                                       00003500
00003600          IFLONG=0                                                     00003600
00003700          IF(GANDN(3).LT.GETS(1)-60.) GO TO 46                         00003700
00003800          IF(IOUT(1).LT.2) GO TO 25                                    00003800
00003900          IF(GANDN(6).GT.LONG(1)+6.) GO TO 45                          00003900
00004000          IF(GANDN(6).LT.LONG(2)+6.0.AND.M.GT.0) GO TO 220             00004000
00004100          IF(GANDN(6).LT.LONG(2)+6.0) GO TO 45                         00004100
00004200          IFLONG=1                                                     00004200
00004300      25 KK=KK+1                                                       00004300
00004400          D(KK,5)=.3048*GANDN(27)/1000.                                00004400
00004500          HR=GANDN(3)/3600                                             00004500
00004600          TEMP=GANDN(3)-(HR*3600)                                      00004600
00004700          MIN=TEMP/60.                                                 00004700
00004800          SEC=TEMP+0.5-(MIN*60.)                                       00004800
00004900          IF(IOUT(1).EQ.0.OR.KK.EQ.1.OR.IOUT(1).EQ.2) GO TO 28         00004900
00005000          LINE=LINE+1                                                  00005000
00005100          WRITE(6,2001) HR,MIN,SEC,GANDN(3),GANDN(5),GANDN(6)          00005100
00005200  2001 FORMAT('0   GET',I5,' HR',I4,' MIN',I4,' SEC AND TOTAL SEC=',  00005200
00005300         XF10.2,3X,'SELENOGRAPHIC LAT. =',F8.2,3X,'LONG. =',F8.2)      00005300
00005400          WRITE(6,2002)GANDN(15),GANDN(16),GANDN(17),GANDN(4),D(KK,5)  00005400
00005500  2002 FORMAT(6X,'PITCH=',F8.2,3X,'YAW=',F8.2,3X,'ROLL=',F8.2,3X,     00005500
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00005600        1        'ORBIT NO.=',F8.2,3X,'ALTITUDE=',F10.3)                00005600
00005700         IF(LINE.EQ.9) LINE=0                                          00005700
00005800         IF(LINE.EQ.0) WRITE(6,2010)                                   00005800
00005900   2010 FORMAT(1H1///)                                                 00005900
00006000     28 D(KK,1)=GANDN(3)                                               00006000
00006100        D(KK,2)=GANDN(4)                                               00006100
00006200        D(KK,3)=GANDN(5)                                               00006200
00006300        D(KK,4)=GANDN(6)                                               00006300
00006400        D(KK,6)=GANDN(15)                                              00006400
00006500        D(KK,7)=GANDN(16)                                              00006500
00006600        D(KK,8)=GANDN(17)                                              00006600
00006700        INT=0                                                          00006700
00006800        DO 30 II=2,5                                                   00006800
00006900        IF (D(KK,II).EQ.0.0) INT=INT+1                                 00006900
00007000     30 CONTINUE                                                       00007000
00007100        IF(INT.EQ.0) GO TO 40                                          00007100
00007200        KK=KK-1                                                        00007200
00007300        WRITE(6,2008) HR,MIN,SEC                                       00007300
00007400   2008 FORMAT('0BAD G AND N VALUES AT GET ',I5,2I4)                   00007400
00007500     40 IF(GANDN(3).GE.GETS(2)) GO TO 210                             00007500
00007600        IF(KK.GE.300) GO TO 220                                        00007600
00007700     45 IF(NSPECT.LT.101.AND.NSPECT.NE.0) GO TO 47                    00007700
00007800        LZERO=LZERO+1                                                  00007800
00007900        IF(LZERO.LT.3) GO TO 20                                        00007900
00008000        IF(M.GT.0.OR.J.GT.0) GO TO 220                                 00008000
00008100        IF(KK.GT.0) KK=0                                               00008100
00008200        LZERO=-1                                                       00008200
00008300        GO TO 25                                                       00008300
00008400     46 IF(NSPECT.GE.101.OR.NSPECT.EQ.0) GO TO 20                     00008400
00008500     47 I=1                                                            00008500
00008600        LZERO=0                                                        00008600
00008700     50 READ(9,END=200) GET,XRAY                                      00008700
00008800        IF(IOUT(1).GE.2.AND.IFLONG.EQ.0) GO TO 140                     00008800
00008900        IF(GET.LT.GETS(1).OR.GOLD.EQ.GET) GO TO 140                    00008900
00009000        ISAV=XRAY(1,5)                                                 00009000
00009100        DO 54 LL=1,2                                                   00009100
00009200        ICK=0                                                          00009200
00009300        IF(ISAV.EQ.XRAY(1,5)) ICK=ICK+1                                00009300
00009400        IF(ISAV.EQ.XRAY(1,6)) ICK=ICK+1                                00009400
00009500        IF(ISAV.EQ.XRAY(2,5)) ICK=ICK+1                                00009500
00009600        IF(ISAV.EQ.XRAY(2,6)) ICK=ICK+1                                00009600
00009700        IF(ICK.GE.3) GO TO 56                                          00009700
00009800     54 ISAV=XRAY(1,6)                                                 00009800
00009900        WRITE(6,2005) GET,XRAY(1,5),XRAY(1,6),XRAY(2,5),XRAY(2,6)      00009900
00010000   2005 FORMAT(' FLAG ERROR AT GET',F10.2,4(2X,I6))                    00010000
00010100        ISAV=0                                                         00010100
00010200     56 IFLG=0                                                        00010200
00010300        IZERO=0                                                        00010300
00010400        DO 60 L=1,4                                                    00010400
00010500        IFLG=IFLG+XRAY(1,L)                                            00010500
00010600        DO 60 K=1,NCH                                                  00010600
00010700        IF(XRAY(2,8*L-2+K).EQ.0) IZERO=IZERO+1                         00010700
00010800     60 IFLG=IFLG+XRAY(1,8*L-2+K)                                     00010800
00010900        IF(IZERO.EQ.0.AND.IFLG.EQ.0) GO TO 70                          00010900
00011000        LSYNC=LSYNC+1                                                  00011000
```

```
00011100          SYNC(LSYNC)=GET                                                00011100
00011200          NSYNC(LSYNC)=IFLG                                              00011200
00011300          NZERO(LSYNC)=IZERO                                             00011300
00011400          IF(LSYNC.EQ.300) GO TO 230                                     00011400
00011500          IF(IFLG.GT.0.OR.IZERO.GT.4) GO TO 130                          00011500
00011600       70 IF(ICAL.EQ.ICUR.AND.GET-STTIM.LE.ACCTIM-7.) GO TO 110          00011600
00011700          GO TO 300                                                      00011700
00011800       75 IF(IEOF.GT.0) GO TO 500                                        00011800
00011900       80 STTIM=GET                                                      00011900
00012000          ICUR=ICAL                                                      00012000
00012100          DO 90 L=1,4                                                    00012100
00012200          DO 90 K=1,10                                                   00012200
00012300       90 CHSM(L,K)=0                                                    00012300
00012400      110 DO 120 L=1,4                                                   00012400
00012500          CHSM(L,9)=CHSM(L,9)+XRAY(2,L)                                  00012500
00012600          DO 120 K=1,8                                                   00012600
00012700          CHSM(L,K)=CHSM(L,K)+XRAY(2,8*L-2+K)                            00012700
00012800          IF(K.GE.NFC.AND.K.LE.NCH) CHSM(L,10)=CHSM(L,10)+XRAY(2,8*L-2+K) 00012800
00012900      120 CONTINUE                                                       00012900
00013000          J=J+1                                                          00013000
00013100          GOLD=GET                                                       00013100
00013200      130 ICAL=ISAV                                                      00013200
00013300      140 I=I+1                                                          00013300
00013400          IF(I.GT.NSPECT) GO TO 20                                       00013400
00013500          GO TO 50                                                       00013500
00013600      200 IEOF=1                                                         00013600
00013700      210 IEOF=IEOF+1                                                    00013700
00013800      220 IEOF=IEOF+1                                                    00013800
00013900      230 IEOF=IEOF+1                                                    00013900
00014000      300 ENDTIM=GOLD+8.0                                                00014000
00014100          IF(J.EQ.0) GO TO 75                                            00014100
00014200          IF(IOUT(1).EQ.0.OR.IOUT(1).EQ.2) GO TO 320                     00014200
00014300          LINE=LINE+1                                                    00014300
00014400          WRITE(6,2004)STTIM,ENDTIM,ICUR,J,NFC,NCH,                      00014400
00014500         X(II,(CHSM(II,JJ),JJ=1,10),II=1,4)                              00014500
00014600     2004 FORMAT('0DATA FROM T =',F11.2,' TO T =',F11.2,3X,'CAL FLAG =',I4, 00014600
00014700         X3X,'# OF SPECTRA =',I3/4X,'DET. #     CH.: 1      2      3      4 00014700
00014800         X5      6      7      8    PSD    SUM',I2,'-',I1/(I6,8X,10I6)) 00014800
00014900          IF(LINE.EQ.9) LINE=0                                          00014900
00015000          IF(LINE.EQ.0) WRITE(6,2010)                                   00015000
00015100      320 M=M+1                                                         00015100
00015200          IF(M.EQ.300) IEOF=1                                           00015200
00015300          NFLAG(M)=ICUR                                                 00015300
00015400          NC(M)=J                                                       00015400
00015500          GT(M)=(ENDTIM-STTIM)/2.0 + STTIM - 4.0                        00015500
00015600          DO 450 II=1,4                                                 00015600
00015700          DO 450 JJ=1,10                                                00015700
00015800      450 SPECT(M,II,JJ)=CHSM(II,JJ)                                    00015800
00015900          J=0                                                           00015900
00016000          IF(IEOF.LE.0) GO TO 80                                        00016000
00016100      500 NSPEC =M                                                      00016100
00016200          GETS(1)=D(KK,1)+8.                                            00016200
00016300          IF(NSPEC.GT.0) GETS(1)=GT(NSPEC)-1+ACCTIM/2.                  00016300
00016400          DO 800 J=1,2                                                  00016400
00016500          DO 800 K=1,8                                                  00016500
```

```
00016600      800 GNSAVE(J,K)=D(KK+J-2,K)                                        00016600
00016700          IF(NSPEC.GT.0) CALL XINTGN(KK)                                 00016700
00016800      820 IF(LSYNC.GT.0) WRITE(6,2006)(SYNC(J),NSYNC(J),NZERO(J),J=1,LSYNC) 00016800
00016900     2006 FORMAT(20X,'GETS AND NUMBER OF LOST SYNCS AND ZEROS'/(1H ,     00016900
00017000         X5(F10.2,2I5,2X)))                                              00017000
00017100          WRITE(6,2012) IEOF                                             00017100
00017200     2012 FORMAT('0TERMINATION CODE =',I3)                               00017200
00017300          RETURN                                                         00017300
00017400          END                                                            00017400
```

*** END OF MEMBER *** 174 RECORDS PROCESSED.

EPHEMERIS LISTING OF APOLLO 15

D-14016

HR	MIN	SEC	SEC.	LAT.	LONG.	THETA	PSI	PHI	ALTITUDE	SPECTRA
222	19	1	800340.88	-24.86	98.05	-59.47	-27.61	77.55	138.38	7
222	20	1	800400.88	-24.06	94.92	-57.33	-27.68	77.65	137.88	8
222	21	1	800460.88	-23.20	91.82	-54.32	-27.30	77.11	137.33	7
222	22	1	800520.88	-22.28	88.76	-51.21	-26.95	77.85	136.74	8
222	23	1	800580.88	-21.30	85.74	-48.52	-27.14	77.20	136.11	7
222	24	1	800640.88	-20.27	82.76	-44.87	-27.48	78.06	135.43	8
222	25	1	800700.88	-19.19	79.82	-41.83	-27.61	77.40	134.72	7
222	26	1	800760.88	-18.06	76.91	-39.42	-27.52	77.57	133.97	8
222	27	1	800820.88	-16.89	74.04	-36.61	-27.56	77.88	133.18	7
222	28	1	800880.88	-15.68	71.20	-33.50	-27.80	77.34	132.36	8
222	29	1	800940.88	-14.43	68.40	-30.16	-27.03	77.91	131.52	7
222	30	1	801000.88	-13.15	65.62	-27.27	-27.13	77.80	130.64	8
222	31	1	801060.88	-11.83	62.87	-24.45	-27.20	77.28	129.74	7
222	32	1	801120.88	-10.49	60.15	-21.80	-27.42	77.88	128.81	8
222	33	1	801180.88	-9.13	57.44	-19.26	-27.54	78.44	127.87	7
222	34	1	801240.88	-7.74	54.75	-16.81	-27.71	78.87	126.90	8
222	35	1	801300.88	-6.34	52.08	-12.18	-27.19	78.19	125.92	7
222	36	1	801360.88	-4.92	49.42	-9.93	-27.70	77.55	124.93	8
222	37	1	801420.88	-3.49	46.77	-6.57	-27.18	77.62	123.93	7
222	38	1	801480.88	-2.05	44.12	-3.32	-26.82	77.69	122.92	8
222	39	1	801540.88	-0.60	41.47	-0.25	-27.16	77.78	121.90	7
222	40	1	801600.88	0.85	38.83	2.69	-25.27	78.45	120.88	8
222	41	1	801660.88	2.30	36.17	5.50	-21.72	79.32	119.87	7
222	42	1	801720.88	3.74	33.51	8.36	-21.93	79.36	118.85	8
222	43	1	801780.88	5.18	30.84	11.65	-22.50	78.98	117.85	7
222	44	1	801840.88	6.61	28.16	14.94	-22.70	79.42	116.85	8
222	45	1	801900.88	8.03	25.45	18.05	-22.32	79.60	115.86	7
222	46	1	801960.88	9.43	22.72	21.25	-21.94	79.19	114.89	8
222	47	1	802020.88	10.81	19.97	23.75	-22.17	79.47	113.94	7
222	48	1	802080.88	12.17	17.19	26.45	-22.22	79.58	113.00	8
222	49	1	802140.88	13.50	14.38	29.58	-21.59	79.08	112.09	7
222	50	1	802200.88	14.80	11.54	32.35	-22.36	79.26	111.20	5
222	51	1	802260.88	16.06	8.66	35.35	-22.50	79.23	110.34	7
222	52	1	802320.88	17.29	5.74	38.53	-22.19	78.87	109.51	8
222	53	1	802380.88	18.48	2.77	41.93	-21.75	79.61	108.71	7
222	54	1	802440.88	19.62	-0.23	45.31	-22.03	79.40	107.95	8
222	55	1	802500.88	20.72	-3.28	48.30	-22.33	78.90	107.23	7
222	56	1	802560.88	21.76	-6.37	50.79	-22.40	79.47	106.54	8
222	57	1	802620.88	22.74	-9.51	53.59	-22.40	79.23	105.89	7
222	58	1	802680.88	23.66	-12.70	57.42	-22.57	79.11	105.29	8
222	59	1	802740.88	24.52	-15.93	60.61	-22.41	79.23	104.73	7
223	0	1	802800.88	25.30	-19.20	63.71	-22.09	79.94	104.22	8
223	1	1	802860.88	26.02	-22.52	67.61	-22.07	79.49	103.75	7
223	2	1	802920.88	26.66	-25.88	97.34	-41.49	95.95	103.34	0
223	2	58	802977.88	27.19	-29.11	0.0	0.0	0.0	102.99	0
223	3	58	803037.88	27.67	-32.54	-174.46	-42.53	159.80	102.67	0
223	4	58	803097.88	28.07	-35.99	-143.78	-22.36	176.34	102.41	0
223	5	58	803157.88	28.38	-39.47	-132.18	-12.27	178.98	102.20	0
223	6	58	803217.88	28.60	-42.97	-129.41	-12.55	179.47	102.04	0
223	7	58	803277.88	28.73	-46.47	-126.79	-12.20	179.63	101.94	0

```
IEF237I 213    ALLOCATED TO SYSPRINT
IEF237I 214    ALLOCATED TO SYSPRINT
IEF237I 0D3    ALLOCATED TO FT09F001
IEF237I 0D3    ALLOCATED TO FT09F002
IEF237I 332    ALLOCATED TO FT08F001
IEF237I 213    ALLOCATED TO SYSUDUMP
```

Apollo 15
D-14017
09A

GET IN SEC	HR	MIN		GET IN SEC	HR	MIN	TOTAL	MISSING
0.	0	0	TO	0.	85	10	85	10
310277.	86	11	TO	310277.	87	2	0	51
316663.	87	57	TO	316663.	89	6	1	8
323849.	89	57	TO	323849.	93	21	3	24
337438.	93	43	TO	337438.	94	38	0	54
341363.	94	49	TO	341363.	107	2	12	13
392858.	109	7	TO	392858.	112	8	3	0
407009.	113	3	TO	407009.	113	27	0	24
411374.	114	16	TO	411374.	114	28	0	12
414355.	115	5	TO	414355.	115	24	0	19
421549.	117	5	TO	421549.	117	21	0	15
424131.	117	48	TO	424131.	119	48	2	0
434179.	120	36	TO	434179.	120	51	0	15
435777.	121	2	TO	435777.	121	10	0	7
439127.	121	58	TO	439127.	122	4	0	5
443019.	123	3	TO	443019.	124	15	1	12
449965.	124	59	TO	449965.	126	7	1	7
454766.	126	19	TO	454766.	126	35	0	15
456461.	126	47	TO	456461.	129	29	2	41
470689.	130	44	TO	470689.	134	0	3	15
485173.	134	46	TO	485173.	135	38	0	52
494933.	137	28	TO	494933.	137	46	0	17
502303.	139	31	TO	502303.	139	44	0	12
503950.	139	59	TO	503950.	141	59	2	0
516291.	143	24	TO	516291.	143	28	0	3
523717.	145	28	TO	523717.	145	39	0	11
527074.	146	24	TO	527074.	146	38	0	14
528720.	146	52	TO	528720.	147	40	0	48
532726.	147	58	TO	532726.	149	58	2	0
544811.	151	20	TO	544811.	151	25	0	5
549208.	152	33	TO	549208.	152	37	0	3
551653.	153	14	TO	551653.	153	31	0	16
556074.	154	27	TO	556074.	154	45	0	17
561502.	155	58	TO	561502.	157	58	2	0
570199.	158	23	TO	570199.	158	41	0	18
575610.	159	53	TO	575610.	160	1	0	8
576945.	160	15	TO	576945.	160	34	0	19
580565.	161	16	TO	580565.	161	37	0	21
583947.	162	12	TO	583947.	162	39	0	27
587816.	163	16	TO	587816.	163	21	0	5
590278.	163	57	TO	590278.	167	31	3	33
605460.	168	10	TO	605460.	174	35	6	24
632385.	175	39	TO	632385.	175	54	0	14
634295.	176	11	TO	634295.	176	58	0	46
639499.	177	38	TO	639499.	183	8	5	30
662236.	183	57	TO	662236.	184	58	1	1
670309.	186	11	TO	670309.	186	27	0	15
672123.	186	42	TO	672123.	186	58	0	16
674698.	187	24	TO	674698.	187	27	0	2
679717.	188	48	TO	679717.	188	55	0	7
680892.	189	8	TO	680892.	191	8	2	0
691603.	192	6	TO	691603.	192	54	0	47
700787.	194	39	TO	700787.	194	44	0	4
704097.	195	34	TO	704097.	195	51	0	16
709668.	197	7	TO	709668.	199	7	2	0
733249.	203	40	TO	733249.	203	59	0	19
736182.	204	29	TO	736182.	204	42	0	12
738444.	205	7	TO	738444.	207	7	2	0
747405.	207	36	TO	747405.	207	52	0	15
750961.	208	36	TO	750961.	208	38	0	2
754495.	209	34	TO	754495.	209	50	0	15
761753.	211	35	TO	761753.	211	49	0	13
767221.	213	7	TO	767221.	215	7	2	0
778691.	216	18	TO	778691.	216	29	0	11
786052.	218	20	TO	786052.	218	36	0	15
792447.	220	7	TO	792447.	220	20	0	12

```
END OF DATA FILE  1
TOTAL NUMBER OF SPECTRA ON FILE    1 =       26843
```

```
 GET IN SEC      HR    MIN      GET IN SEC      HR      MIN       TOTAL MISSING
       0.         0      0 TO         0.      90       35          90      35
  326999.        90     49 TO    326999.      90       59           0       9
  330596.        91     49 TO    330596.     117       48          25      59
  425074.       118      4 TO    425074.     118       10           0       6
  428583.       119      3 TO    428583.     119       14           0      11
  431324.       119     48 TO    431324.     133        7          13      19
  480944.       133     35 TO    480944.     133       48           0      12
  482224.       133     57 TO    482224.     134        0           0       3
  482407.       134      0 TO    482407.     139       59           5      59
  509033.       141     23 TO    509033.     141       37           0      13
  511144.       141     59 TO    511144.     147       58           5      59
  537290.       149     14 TO    537290.     149       32           0      17
  539920.       149     58 TO    539920.     155       58           5      59
  563093.       156     24 TO    563093.     156       39           0      14
  566489.       157     21 TO    566489.     157       26           0       4
  568696.       157     58 TO    568696.     163       58           5      59
  590422.       164      0 TO    590422.     167       21           3      21
  603085.       167     31 TO    603085.     174       28           6      57
  628524.       174     35 TO    628524.     183        2           8      27
  659310.       183      8 TO    659310.     189        8           5      59
  685376.       190     22 TO    685376.     190       38           0      15
  686567.       190     42 TO    686567.     190       54           0      11
  688086.       191      8 TO    688086.     197        7           5      59
  714976.       198     36 TO    714976.     198       41           0       5
  716862.       199      7 TO    716862.     205        7           5      59
  740267.       205     37 TO    740267.     205       59           0      21
  745638.       207      7 TO    745638.     213        7           5      59

END OF DATA FILE   2
TOTAL NUMBER OF SPECTRA ON FILE    2 =        7086


IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF285I   SYS75086.T112209.RV000.TCRLSS54.LODMOD          PASSED
IEF285I   VOL SER NOS= M2SCR4.
IEF285I   SYS75086.T112209.RV000.TCRLSS54.S0000012        SYSIN
IEF285I   VOL SER NOS= M2SCR5.
IEF285I   SYS75086.T112209.RV000.TCRLSS54.S0000012        DELETED
IEF285I   VOL SER NOS= M2SCR5.
IEF285I   SYS75086.T112209.SV000.TCRLSS54.R0000005        SYSOUT
IEF285I   VOL SER NOS= M2SCR8.
IEF285I   SYS75086.T112209.SV000.TCRLSS54.R0000006        DELETED
IEF285I   VOL SER NOS= M2SCR4.
IEF285I   SYS75086.T112209.SV000.TCRLSS54.R0000007        DELETED
IEF285I   VOL SER NOS= M2SCR8.
IEF285I   SYS75086.T112209.RV000.TCRLSS54.R0000008        KEPT
IEF285I   VOL SER NOS= CA0439.
IEF285I   SYS75086.T112209.RV000.TCRLSS54.R0000009        KEPT
IEF285I   VOL SER NOS= CA0439.
IEF285I   SYS75086.T112209.SV000.TCRLSS54.R000001C        DELETED
IEF285I   VOL SER NOS= M2SCR8.
IEF285I   SYS75086.T112209.SV000.TCRLSS54.R0000011        DELETED
IEF285I   VOL SER NOS= M2SCR4.
IEF373I STEP /GO       / START 75066.1123
IEF374I STEP /GO       / STOP  75086.1127 CPU    0MIN 08.67SEC MAIN  96K LCS    0K
- STEP 02 -     RETURN CODE = 0000                                  STEP TIME =      .19 MINS=(CPU=      .14,IO=      .05)
                                          IO IN SECS. DISK=      .75,DRUM=      .30,TAPE=     2.51,CELL=      .00,OTHR=      .16
-- THIS STEP DOES NOT USE AT LEAST  5CK BYTES OF CORE THAT IT REQUESTS -- PLEASE DECREASE THE REGION PARAMETER
      // EXEC NOTIFY,MODE=ALL
      XXDEFAULT PROC MODE=,USRID=,MSG=                  * NOTIFY * 22 JUN 72 * 00000010
      XXNOTIFY EXEC PGM=NOTIFY,REGION=20K,COND=EVEN,PARM='&MODE,&USRID,&MSG'  00000020
      IEF653I SUBSTITUTION JCL - PGM=NOTIFY,REGION=20K,COND=EVEN,PARM='ALL,,'
IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF373I STEP /NOTIFY   / START 75066.1127
IEF374I STEP /NOTIFY   / STOP  75086.1127 CPU    0MIN 00.05SEC MAIN   8K LCS    0K
- STEP 03 -     RETURN CODE = 0000                                  STEP TIME =      .00 MINS=(CPU=      .00,IO=      .00)
                                          IO IN SECS. DISK=      .17,DRUM=      .08,TAPE=      .00,CELL=      .00,OTHR=      .05
IEF285I   SYS75086.T112209.RV000.TCRLSS54.LODMOD          DELETED
IEF285I   VOL SER NOS= M2SCR4.
IEF375I  JOB /TCRLSS54/ START 75066.1122
IEF376I  JOB /TCRLSS54/ STOP  75086.1127 CPU    0MIN 09.02SEC
-  SYSTEM=MVT-21 (11-15-73)   M2                                                    TIME=11.27.24.60 DATE=03-27-75
- JOB 0259-                                                    TOTAL TIME =      .35 MINS=(CPU=      .15,IO=      .20)
                                          IO IN SECS. DISK=     8.50,DRUM=     1.18,TAPE=     2.51,CELL=      .00,OTHR=      .35
 THERE WERE 01 TAPES MOUNTED FOR THIS JOB. TAPE MOUNT CHARGE WAS 00.0 MINUTES.
```

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IEF237I 213   ALLOCATED TO SYSPRINT
IEF237I 214   ALLOCATED TO SYSPRINT
IEF237I 0D4   ALLOCATED TO FT09F001
IEF237I 0D4   ALLOCATED TO FT09F002
IEF237I 332   ALLOCATED TO FT08F001
IEF237I 216   ALLOCATED TO SYSUDUMP
```

Apollo 16
D-22495
08A

GET IN SEC	HR	MIN		GET IN SEC	HR	MIN	TOTAL	MISSING
0.	0	0	TO	0.	80	4	80	4
291728.	81	2	TO	291728.	81	7	0	5
295676.	82	7	TO	295676.	82	29	0	21
302423.	84	0	TO	302423.	84	24	0	24
309066.	85	51	TO	309066.	88	11	2	20
319298.	88	41	TO	319298.	88	51	0	10
322975.	89	42	TO	322975.	90	6	0	23
328314.	91	11	TO	328314.	91	35	0	23
331488.	92	4	TO	331488.	106	17	14	13
385071.	106	57	TO	385071.	107	5	0	7
391666.	108	47	TO	391666.	109	58	1	10
398332.	110	38	TO	398332.	110	53	0	14
401770.	111	36	TO	401770.	111	56	0	20
404248.	112	17	TO	404248.	114	48	2	31
415886.	115	31	TO	415886.	115	53	0	22
420131.	116	42	TO	420131.	116	52	0	10
423640.	117	40	TO	423640.	117	51	0	11
433025.	120	17	TO	433025.	122	17	2	0
442233.	122	50	TO	442233.	122	54	0	4
449092.	124	44	TO	449092.	124	50	0	5
452058.	125	34	TO	452058.	125	41	0	7
455631.	126	33	TO	455631.	127	12	0	38
461802.	128	16	TO	461802.	129	36	1	19
466710.	129	38	TO	466710.	130	16	0	38
470475.	130	41	TO	470475.	130	46	0	4
477461.	132	37	TO	477461.	132	51	0	14
480587.	133	29	TO	480587.	133	40	0	11
484552.	134	35	TO	484552.	134	59	0	23
488237.	135	37	TO	488237.	135	40	0	2
490579.	136	16	TO	490579.	138	16	2	0
498756.	138	32	TO	498756.	138	55	0	22
502370.	139	32	TO	502370.	139	37	0	5
506207.	140	36	TO	506207.	140	44	0	7
513361.	142	36	TO	513361.	143	23	0	47
519356.	144	15	TO	519356.	146	15	2	0
530411.	147	20	TO	530411.	147	30	0	10
534448.	148	27	TO	534448.	148	32	0	5
541571.	150	26	TO	541571.	154	15	3	49
558301.	155	5	TO	558301.	155	14	0	9
562834.	156	20	TO	562834.	157	21	1	0
570084.	158	21	TO	570084.	158	26	0	4
572402.	159	0	TO	572402.	159	21	0	21
576910.	160	15	TO	576910.	162	15	2	0
586663.	162	57	TO	586663.	163	19	0	21
590891.	164	8	TO	590891.	164	20	0	12
604528.	167	55	TO	604528.	169	51	1	56
615083.	170	51	TO	615083.	177	56	7	4
643808.	178	50	TO	643808.	178	56	0	6
644368.	178	59	TO	644368.	179	2	0	3
650355.	180	39	TO	650355.	181	2	0	23
658053.	182	47	TO	658053.	183	3	0	15
662169.	183	56	TO	662169.	185	55	1	59
672353.	186	45	TO	672353.	187	1	0	15
679372.	188	42	TO	679372.	189	0	0	17
686510.	190	41	TO	686510.	190	51	0	10
690475.	191	47	TO	690475.	191	50	0	3

```
END OF DATA FILE  1
TOTAL NUMBER OF SPECTRA ON FILE    1 =       24577
```

GET IN SEC	HR	MIN		GET IN SEC	HR	MIN	TOTAL	MISSING
0.	0	0	TO	0.	85	51	85	51
309250.	85	54	TO	309250.	86	17	0	23
312887.	86	54	TO	312887.	86	57	0	2
316108.	87	48	TO	316108.	106	8	18	19
382665.	106	17	TO	382665.	112	17	5	59
408804.	113	33	TO	408804.	113	58	0	24
411034.	114	10	TO	411034.	120	17	6	6
437701.	121	35	TO	437701.	121	51	0	16
440219.	122	16	TO	440219.	128	16	5	59

```
  463297.      128     41 TO  463297.      128     48          0      6
  466564.      129     36 TO  466564.      129     38          0      2
  468996.      130     16 TO  468996.      136     16          5     59
  491682.      136     34 TO  491682.      136     57          0     22
  495295.      137     34 TO  495295.      137     39          0      4
  497773.      138     16 TO  497773.      144     16          5     59
  523337.      145     22 TO  523337.      145     28          0      6
  526550.      146     15 TO  526550.      153     15          6     59
  555328.      154     15 TO  555328.      160     15          5     59
  579700.      161      1 TO  579700.      161     20          0     19
  584105.      162     15 TO  584105.      169     47          7     32
  611502.      169     51 TO  611502.      177     46          7     55
  640571.      177     56 TO  640571.      183     56          6      0
  665111.      184     45 TO  665111.      185      4          0     19
  669347.      185     55 TO  669347.      191     55          5     59
  693224.      192     33 TO  693224.      192     46          0     13

END OF DATA FILE   2
TOTAL NUMBER OF SPECTRA ON FILE    2 =        6965


IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF285I   SYS75086.T102033.RV000.TCRLSS64.LODMOD        PASSED
IEF285I   VOL SER NOS= M2SCR8.
IEF285I   SYS75086.T102033.RV000.TCRLSS64.S0000012      SYSIN
IEF285I   VOL SER NOS= M2SCR5.
IEF285I   SYS75086.T102033.RV000.TCRLSS64.S0000012      DELETED
IEF285I   VOL SER NOS= M2SCR5.
IEF285I   SYS75086.T102033.SV000.TCRLSS64.R0000005      SYSOUT
IEF285I   VOL SER NOS= M2SCR5.
IEF285I   SYS75086.T102033.SV000.TCRLSS64.R0000006      DELETED
IEF285I   VOL SER NOS= M2SCR8.
IEF285I   SYS75086.T102033.SV000.TCRLSS64.R0000007      DELETED
IEF285I   VOL SER NOS= M2SCR5.
IEF285I   SYS75086.T102033.RV000.TCRLSS64.R0000008      KEPT
IEF285I   VOL SER NOS= CA0438.
IEF285I   SYS75086.T102033.RV000.TCRLSS64.R0000009      KEPT
IEF285I   VOL SER NOS= CA0438.
IEF285I   SYS75086.T102033.SV000.TCRLSS64.R0000010      DELETED
IEF285I   VOL SER NOS= M2SCR8.
IEF285I   SYS75086.T102033.SV000.TCRLSS64.R0000011      DELETED
IEF285I   VOL SER NOS= M2SCR3.
IEF373I STEP /GO       / START 75086.1022
IEF374I STEP /GO       / STOP  75086.1023 CPU    0MIN 08.07SEC MAIN   96K LCS    0K
- STEP 02 -      RETURN CODE = 0000                                  STEP TIME =      .18 MINS=(CPU=      .13,IO=      .05)
                                        IO IN SECS. DISK=      .75,DRUM=      .30,TAPE=     2.35,CELL=      .00,OTHR=      .16
-- THIS STEP DOES NOT USE AT LEAST  50K BYTES OF CORE THAT IT REQUESTS -- PLEASE DECREASE THE REGION PARAMETER
      // EXEC NOTIFY,MODE=ALL
      XXDEFAULT PROC MODE=,USRID=,MSG=                  * NOTIFY * 22 JUN 72 * 00000010
      XXNOTIFY EXEC PGM=NOTIFY,REGION=20K,COND=EVEN,PARM='&MODE,&USRID,&MSG'   00000020
      IEF653I SUBSTITUTION JCL - PGM=NOTIFY,REGION=20K,COND=EVEN,PARM='ALL,,'
IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF373I STEP /NOTIFY   / START 75086.1023
IEF374I STEP /NOTIFY   / STOP  75086.1023 CPU    0MIN 00.07SEC MAIN    8K LCS    0K
- STEP 03 -      RETURN CODE = 0000                                  STEP TIME =      .00 MINS=(CPU=      .00,IO=      .00)
                                        IO IN SECS. DISK=      .17,DRUM=      .08,TAPE=      .00,CELL=      .00,OTHR=      .05
IEF285I   SYS75086.T102033.RV000.TCRLSS64.LODMOD        DELETED
IEF285I   VOL SER NOS= M2SCR8.
IEF375I  JOB /TCRLSS64/ START 75086.1021
IEF376I  JOB /TCRLSS64/ STOP  75086.1023 CPU    0MIN 08.43SEC
-  SYSTEM=MVT-21 (11-15-73)   M2                                                    TIME=10.23.42.11 DATE=03-27-75
- JOB 0167-                                                  TOTAL TIME =      .33 MINS=(CPU=      .14,IO=      .19)
                                        IO IN SECS. DISK=     8.45,DRUM=     1.18,TAPE=     2.35,CELL=      .00,OTHR=      .35
 THERE WERE 01 TAPES MOUNTED FOR THIS JOB.  TAPE MOUNT CHARGE WAS 00.0 MINUTES.
```

RECORD 1 OF FILE 1
LENGTH = 27004 BYTES

Apollo 15
D-14017

July 30 – Aug 4, 1971

09A

697C0000	00280000	00000010	454ADA5B	414.33333	413D70A3	425047AE	422D3AE1	C0CCCCCC	40147AE1
428D6E14	00940000	00000057	000000AF	000001F1	00000 1EE	000000FE	00000061	00000012	00000 01D
000008C4	00000011	00000023	00000 03C	000 0001D	00000013	00000015	00000005	00000022	00000 7CB
00000012	00000020	00000077	00000005A	00000018	00000007	00000005	00000030	0000077F	000024C1
00002CB1	00001884	000009F0	00000 3A2	000000F4	00000 04B	000000B9	00000857	00280000	00000010
454ADB79	41433333	414C51E3	425FE666	422CE8F5	C08C28F	BF28F5C2	428D828F	00940000	00000042
000000AF	00000 1BC	00000202	000000F1	00000054	00000013	0000001C	000008BC	00000119	00000037
0000003D	00000036	0000000C	00000010	00000002	00000024	000007DB	00000015	0000004D	00000 07D
0000006D	00000019	00000009	0000000A	0000002D	00000754	000023FC	00002CE2	0000187F	00000 9EF
0000036F	00000 10E	0000005A	000000C0	000 0084E	00280000	00000010	454ADBFC	41433333	41435C28
425F8000	422C970A	C09EB851	C0170A3D	428D9999	00940000	0000004A	000000CA	00000188	00000206
00000104	00000059	00000022	0000001E	00000946	00000011	00000035	00000049	00000029	00000019
0000000A	00000008	00000025	000007EB	00000011	00000 02F	0000007C	0000005E	00000014	0000000C
00000005	0000002B	000007D0	00002544	00002BFF	00001 8D0	000009FD	00000388	00000116	00000 04D
000000AF	00000 85B	00280000	00000010	454ADC7C	41433333	41666666	425FIC28	422C451E	C08A3D70
C028851E	428DAE14	00940000	00000048	000000B9	00000 1EB	0000020A	00000104	00000058	00000012
00000018	00000873	00000011	00000034	00000057	00000028	00000017	0000000B	00000008	0000001D
00000777	0000001D	00000047	00000085	00000059	00000020	00000006	00000006	00000035	0000077C
0000254A	00002CD8	000018B5	000009B4	00000385	00000 11A	00000056	000000B4	00000357	00280000
00000010	454ADCF8	41433333	414647AE	42568A51	4228F5C2	C07EC28F	C0400000	428DC28F	00940000
0000005C	000000B2	000001D6	0C000202	00000104	00000049	00000011	0000001B	0000089D	00000015
0000003D	00000 04E	00000020	0000000C	00000008	00000006	00000019	0000078F	00000016	00000040
00000089	00000068	00000018	000000009	00000005	00000 03A	000007C5	000024F9	00002DA6	00001885
00000A04	00000372	00000109	00000065	00000080	00000868	00280000	00000010	454ADD79	41433333
414C51E8	425E570A	4228A666	C063D70A	C04F5C28	4228D47A	00940000	00000048	000000C5	00000 1A3
00000209	000000F5	00000059	00000010	0000002C	00000 8E0	00000016	00000031	0000003F	00000027
00000013	00000 00A	00000005	00000024	000007B0	00000013	00000037	00000070	0000006A	00000 01E
00000004	00000006	00000030	000000797	00002469	00002C0F	000018AA	00000983	00000391	00000126
00000041	000000AC	00000845	00280000	00000010	454ADDFC	41433333	414F5C28	425DF0A3	42285A7A
C051EB85	C06147AE	428DE8F5	00940000	0000003F	00000097	000001D9	000001D8	00000188	00000 8BE
00000011	0000001F	00000921	00000019	00000032	00000 04B	000000 2B	00000013	00000007	00000006
0000001F	00000 79F	00000013	00000030	00000067	00000 06B	00000012	0000000A	00000009	00000035
000007E0	00002542	00002D2E	00001800	00000987	00000359	000000F9	0000004F	000000A7	00000 84E
00280000	00000010	454ADE7C	41433333	41823D70	42508CCC	422B051E	C0481EB8	C08E147A	42000FAE1
00940000	00000057	000000D5	000001D2	000001CE	00000 0FC	00000065	00000014	00000022	00000 0C3
0000000E	00000030	00000084	00000033	00000017	00000 00D	00000005	00000029	0000079F	00000017
00000036	00000089	00000063	0000001E	00000008	00000003	00000034	000007FA	000024CB	00002D5A
00001810	000009EB	00000035	00000100	00000044	00000 0A6	00000858	00280000	00000010	45[illegible]FB
41433333	4155A7AE	425D2B85	422AB5C2	C035C28F	C07AE147	428E0CCC	00940000	00000048	00000085
000001A6	00000 21E	00000104	00000 05A	000 0000E	00000 01E	00000903	00000016	00000026	00000042
00000027	00000015	00000004	00000004	000000 1B	00000 7F4	00000014	00000034	00000076	00000069
00000023	00000 00A	00000006	00000 03D	00000782	00002520	000028F6	00001870	000000E0	00000 37D
00000100	00000046	000000C2	00000 84D	00280000	00000010	454ADF79	41433333	4158 28F5	425CC7AE
422A6666	C028851E	C0851EB8	428E1EB8	00940000	00000044	000000BC	00000 1BC	00000 1EA	00000 0D6
00000063	00000 01A	00000 01C	00000 942	00000011	00000031	00000 04D	00000 02D	00000 00E	00000 009
00000005	00000 01D	00000832	00000015	00000039	00000 07E	00000 04D	00000015	00000 00D	00000 00D
00000030	00000 7E4	00002470	00002CD5	00001888	00000998	00000346	00000 11F	00000051	00000 08A
00000847	00280000	00000010	454ADFF9	41433333	415B0A3D	425C63D7	422A170A	C02147AE	C08F5C28
428E2E14	00940000	00000 04E	00000 0AD	000001CA	00000 1CE	00000 10F	00000052	00000 00D	00000 01C
00000908	00000016	00000 02C	00000042	00000022	00000011	00000007	00000007	0000001F	00000 7D8
00000011	00000 03C	00000070	00000 05B	00000 01C	00000 0A	00000008	00000 03F	00000 73E	00002 41E
00002C82	00001810	00000 96A	00000 34B	00000 108	00000051	00000 09D	00000 82C	00280000	00000010
454AE07C	41433333	415E147A	425BFD70	4229C7AE	C0199999	C0970A3D	428E4000	00940000	00000043
00000085	00000 1BE	00000207	00000 0DF	00000064	00000011	00000 01E	00000007	00000010	00000 030
00000044	00000 02A	00000010	00000 00E	00000002	00000018	000007F0	00000 00C	00000038	00000 068
00000064	00000 01C	00000 00B	00000006	00000 03D	00000794	000023F5	00002C03	000018A	00000 9CC
00000 34A	00000 0EF	00000 03F	00000 0B3	000 00830	00283000	00000010	454AE0FB	41433333	41611EB8
425B9999	42297851	C011EB85	C09EB851	428E4F5C	00940000	00000040	000000D2	00000181	00000182
000000F8	00000053	00000 00D	00000024	00000923	00000 01B	00000031	00000044	00000 02B	00000013
00000 00C	00000005	00000022	00000 85F	00000 01A	00000049	00000072	00000072	00000 01C	00000 005
00000007	00000033	000007C5	000023FD	000 02BCF	00000 17D4	00000935	00000355	000000EF	00000047
000000A7	00000816	00280000	00000010	454AE179	41433333	41640000	425B35C2	4229 28F5	BFCCCCCC
C0A3D70A	428E5C28	00940000	00000048	000000B1	00000 1C2	00000 20A	000000EB	00000 04F	00000011
0000001F	00000 8A7	00000011	00000031	00000049	00000 02A	00000015	00000008	00000003	00000020
000007E4	00000019	00000039	00000 07B	00000056	00000 01B	00800009	00000007	00000 03A	00000 7D9
000022FB	00002B34	00001859	00000979	00000392	00000 0E3	00000 03A	000000AF	00000 80D	00280000
00000010	454AE1F9	41433333	4166E147	425AD1EB	4228DC28	BF7AE147	C0A66666	428E6885	00940000
00000041	00000 0B7	00000 1D5	000001E2	000000DC	00000 050	00000018	00000020	00000 91D	00000 014
00000031	0000003E	0000002E	00000015	0000000C	00000002	00000 02B	00000833	00000017	0000003E
0000007A	00000043	00000025	00000009	00000008	00000037	00000 79C	00002419	00002 88E	00001 7E5
00000 97B	00000349	000000F5	00000057	000000AD	00000 81A	00280000	00000010	454AE27C	41433333
4169EB85	425A68F5	42288CCC	BF7AE147	C0A8F5C2	428E7851	00940000	00000055	000000AA	00000 1BA
000001FA	000000F1	00000066	00000014	00000015	00000 8B8	00000015	00000036	00000052	00000 033
00000015	00000008	00000003	00000016	00000772	00000 03B	00000 03B	00000072	00000059	00000 01D
0000000A	00000005	0000003F	000007AF	00002348	00002BDC	00001795	00000968	00000353	00000 0F9
00000065	00000096	000000810	00280000	00000010	454AE2FB	41433333	4166CCCC	425A051E	42283D70
BF51EB85	C0A8F5C2	428E851E	00940000	00000049	00000 0A1	000001BD	000001D4	000003F7	00000054
0000000D	00000018	00000892	00000015	00000037	00000 04A	00000029	00000012	0000000D	00000007
00000020	000007C5	00000013	00000036	00000078	00000062	0000001D	00000009	00000003	00000 02F

```
00000241  00000171  0000007A  00000033  00000016  0000000C  00000B8  00000094  00280000  00000090
458D1066  42469999  421A9C28  C21570A3  427368F5  40C00000  C0599999  428E5C28  009A0000  00000127
00000088  0000000F  00000008  00000009  00000008  00000006  00000015  00000827  00000015  00000014
0000001D  00000011  00000009  00000003  00000003  00000018  00000835  00000018  00000014  00000022
00000014  0000000A  00000005  00000007  00000022  00000842  000000D8  00000216  00000135  00000065
00000020  00000008  0000000A  0000008F  00000087  00280000  00000090  458D10E6  42469999  421AB0A3
C215E147  4273547A  40B851E3  C05C28F5  428E75C2  00940000  00000127  00000088  0000009E  00000009
00000007  00000005  00000005  00000021  0000082A  00000018  00000019  00000023  00000017  00000007
0000000A  00000003  00000018  0000082A  00000012  0000000E  0000001F  00000010  00000013  00000005
00000003  00000028  00000803  000000AC  000001CB  00000115  00000054  00000021  00000010  00000008
00000095  0000007F
```

50 RECORDS IN FILE 2 OF TAPE

```
IEC209I YZJRJJJ5 JJ0010 0C4 TR=001.TM=000.EG=000.CL=000.N=000.SIO=00192
IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF285I    SYS75315.T115432.RV000.YZJRJJJ5.LODMOD        PASSED
IEF285I    VOL SER NOS= K3SCR2.
IEF285I    SYS75315.T115432.RV000.YZJRJJJ5.S0000395      SYSIN
IEF285I    VOL SER NOS= K3SCR2.
IEF285I    SYS75315.T115432.RV000.YZJRJJJ5.S0000395      DELETED
IEF285I    VOL SER NOS= K3SCR2.
IEF285I    SYS75315.T115432.SV000.YZJRJJJ5.R0000391      SYSOUT
IEF285I    VOL SER NOS= K3SCR4.
IEF285I    SYS75315.T115432.SV000.YZJRJJJ5.R0000392      DELETED
IEF285I    VOL SER NOS= K3SCR4.
IEF285I    SYS75315.T115432.SV000.YZJRJJJ5.R0000393      DELETED
IEF285I    VOL SER NOS= K3SCR5.
IEF285I    SYS75315.T115432.RV000.YZJRJJJ5.R0000394      KEPT
IEF285I    VOL SER NOS= JJ0010.
IEF280E K 0C4.JJ0010.YZJRJJJ5.GO
IEF373I STEP /GO       / START 75315.1923
IEF374I STEP /GO       / STOP  75315.1927 CPU    0MIN 05.94SEC MAIN 186K LCS    0K
- STEP 03 -      RETURN CODE = 0000                                  STEP TIME =      .24 MINS=(CPU=      .11,IO=      .13)
                                    IO IN SECS. DISK=     2.65,DRUM=      .48,TAPE=     4.96,CELL=      .00,OTHR=      .11
IEF285I    SYS75315.T115432.RV000.YZJRJJJ5.LODMOD        DELETED
IEF285I    VOL SER NOS= K3SCR2.
IEF375I  JOB /YZJRJJJ5/ START 75315.1920
IEF376I  JOB /YZJRJJJ5/ STOP  75315.1927 CPU    0MIN 12.53SEC
-  SYSTEM=MVT-21 (11-21-73)   K3                                                    TIME=19.27.39.43 DATE=11-11-75
- JOB 0418-                                                    TOTAL TIME =      .60 MINS=(CPU=      .20,IO=      .40)
                                    IO IN SECS. DISK=    13.42,DRUM=     1.28,TAPE=     9.88,CELL=      .00,OTHR=      .34
 THERE WERE 03 TAPES MOUNTED FOR THIS JOB. TAPE MOUNT CHARGE WAS 00.0 MINUTES.
```

RECORD 1 OF FILE 1
LENGTH = 20004 BYTES

4E240000	00A00000	45CF51CE	42D35120	45C3654E	42483A45	C218DBE0	42620DD6	465DC890	4414A339
433F4CD3	433DFEB9	4248FD04	42371B60	42283F0D	424049C6	C2387809	C2139BD0	424D8D73	C64AFED7
C617FE67	C532FA8E	C3885D32	43D2CEF0	43AEEF88	413AA083	4112BFCF	4127DFCA	456ED818	C21A4510
00000000	00000000	00000000	00000000	00000000	00000000	4530ADC9	416871BE	4248A6AA	4244CA4C
C24D3B5E	05980000	00000067	03780000	45C365CD	00000000	00000864	00000000	00000865	00000000
00000845	00000000	0000003B	00000090	00000090	00000090	00000090	00000000	00CC00CC	C0000000
00000006	00000000	00000003	00000090	0000000B	00000000	0000000B	00000000	0000000D	00000000
0000000E	00000000	00000018	00000000	0000000F	00000000	00000006	00000000	00000005	00000000
00000002	00000000	00000005	00000000	00000004	00000000	00000091	00000000	00000014	00000000
00000014	00000000	00000006	00000000	00000006	00000000	0000000A	00000000	000C00C7	00000000
00000001	00000000	00000006	00000000	0000002A	00000000	00000047	00000000	00000113	00000000
00000073	00000000	00000017	00000000	00000006	0000000C	00000008	00000000	0000000A	00000000
000000AC	00000000	000000C7	00000000	C00000C7	00000000	000000C7	00000000	000000C7	00000000
000000C7	00000000	000000C7	00000000	000000C7	00000000	000000C7	00000000	000000CA	00000000
000000CA	00000000	000000CA	00000000	000000CA	00000000	000000CA	00000000	000000CA	00000000
000000CA	00000000	000000CA	00000000	0C0000CA	00000000	000000CA	00000000	000C00CA	00000000
000000CA	00000000	000000CA	00000000	0C0000CA	00000000	000000CA	00000000	000C00CA	00000000
000000C6	00000000	000000C6	00000000	000000C6	00000000	000000C6	00000000	000000C6	00000000
000000C6	00000000	000000C6	00000000	000000C6	0000000C	000000A0	0000000C	000000A0	0000000C
000000A0	0000000C	000000A0	0000000C	0C0000A0	0000000C	000000A0	0000000C	000000A0	0000000C
000000A0	0000000C	0000006C	0000000C	0000006C	0000000C	0000006C	0000000C	0000006C	0000000C
0000006C	0000000C	0000006C	0000000C	0C00006C	0000000C	0000006C	00000000	00CC007B	00000000
0000007B	00000000	0000007B	00000000	0C00007B	00000000	00000078	00000000	0000007B	00000000
0000007B	00000000	0000007B	00000000	0000005E	00000000	0000005E	00000000	0000005E	00000000
0000005F	00000000	0000005F	00000000	0000005E	00000000	0000005E	00000000	0000005F	00000000
0000004D	00000000	0000004C	00000000	0000004C	00000000	0000004D	00000000	0000004D	00000000
0000004C	00000000	0000004D	00000000	0000004D	03780000	45C3664C	00000000	00000833	00000000
0000081F	00000000	0000E844	00000000	0C000038	000000E0	000000E0	000000E0	000000E0	00000000
00000010	00000000	000000CD	00000000	00000009	00000000	00000008	00000000	00000004	00000000
00000004	00000000	00000005	00000000	00000019	00000000	00000008	00000000	00000005	00000000
00000006	00000000	00000002	00000000	00000003	00000000	00000005	00000000	00000005	00000000
00000016	00000000	000000C5	00000000	00000006	00000000	00000005	00000000	00000004	00000000
00000004	00000000	00000009	00000000	00000005	00000000	00000027	00000000	00000055	00000000
00000107	00000000	00000070	00000000	0000000E	00000000	00000006	00000000	000C0005	00000000
00000008	00000000	000000C9E	00000000	000000C7	00000000	000000C7	00000000	000000C7	00000000
000000C7	00000000	000000C7	00000000	000000C7	00000000	000000C7	00000000	000000C7	00000000
000000CA	00000000	000000CA	00000000	000000CA	00000000	000000CA	00000000	000000CA	00000000
000000CA	00000000	000000CA	00000000	0C0000CA	00000000	000000CA	00000000	000000CA	00000000
000000CA	00000000	000000CA	00000000	000000CA	00000000	000000CA	00000000	000000CA	00000000
000000CA	00000000	000000C6	00000000	000000C6	00000000	000000C6	00000000	000C00C6	00000000
000000C6	00000000	000000C6	00000000	000000C6	00000000	000000C6	0000000C	000000A0	0000000C
000000A0	0000000C	000000A0	0000000C	000000A0	0000000C	000000A0	0000000C	000000A0	0000000C
000000A0	0000000C	000000A0	0000000C	0000006C	0000000C	0000006C	0000000C	0000006C	0000000C
0000006C	0000000C	0000006C	0000000C	0000006C	0000000C	0000006C	0000000C	0000006C	00000000
0000007B	00000000	0000007B	00000000	0000007B	00000000	0000007B	00000000	0000007B	00000000
0000007B	00000000	0000007B	00000000	0000007B	00000000	0000005E	00000000	000C005E	00000000
0000005E	00000000	0000C5E	00000000	0000005E	00000000	0000005E	00000000	0000005E	C0000000
0000005E	00000000	0000004D	00000000	0000004C	00000000	0000004C	00000000	0000004C	00000000
0000004C	00000000	0000004C	00000000	0000004D	00000000	0000004C	03780000	45C366CB	00000000
000009DA	00000000	000011SB	00000000	00000E12	00000000	000001FD	000000E0	000C00E0	000000E0
000000E0	00000000	00000104	00000000	00000039	00000000	0000008C	00000000	000C0057	00000000
000001D7	00000000	00000448	00000000	000003C0	00000000	00000342	00000000	00000081	00000000
000001DE	00000000	00000235	00000000	00000082	00000000	00000018	00000000	00000021	00000000
00000036	00000000	000002B4	00000000	00000023	00000000	0000002A	00000000	00000036	00000000
0000000E	00000000	0000000C	00000000	00000018	00000000	0000002F	00000000	000003A7	00000000
00000048	00000000	000001C5	00000000	0000006F	00000000	0000000A	00000000	0000000D	C0CCCCC0
00000208	00000000	0000000D	00000000	00000208	00000000	000000C7	00000000	000000C7	00000000

Apollo 15
[redacted]
D-14016
Aug 4, 1971 hr 222
Exhibit 75
Aug 7, 1971 hr 288

09B

```
0000007B 00000000 000000C7B C0000000 00000078 00000000 0000005E 00000000 0000005E 00000000
0000005E 00000000 0000005E 00000000 0000005E 00000000 0000005E 00000000 0000005E 00000000
0000005E 00000000 0000004C 00000000 0000004C 00000000 0000004C 00000000 0000004C 00000000
0000004C 00000000 00000C4C 00000000 0000004C 00000000 0000004C 03780000 45C36FC9 00000000
000007E5 00000000 000007FD 00000000 00000835 00000000 00000036 00000090 00000090 00000000
00000090 00000000 0000006A 00000000 0000000E 00000000 00000008 00000000 00000006 00000000
00000005 00000000 00000009 00000000 0C000004 00000000 00000030 00000000 0000000A 00000000
00000002 00000000 00000003 00000000 0C000004 00000000 00000004 00000000 000000C4 00000000
00000002 00000000 00000010 00000000 0000000B 00000000 00000005 00000000 00000004 00000000
00000005 00000000 00000004 00000000 00000006 00000000 0000000C 00000000 00000020 00000000
00000046 00000000 000000FF 00000000 00000079 00000000 00000010 00000000 00000002 00000000
00000006 00000000 00000006 00000000 0000099D 00000000 000000C7 00000000 000000C7 00000000
000000C7 00000000 000000C7 00000000 0C0000C7 00000000 000000C7 00000000 000000C7 00000000
000000C7 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000
000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000
000000CA 00000000 000000CA 00000000 0C0000CA 00000000 000000CA 00000000 000000CA 00000000
000000CA 00000000 000000CA 00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000
000000C6 00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000 000000C6 0000000C
000000A0 0000000C 000000A0 0000000C 0C0000A0 0000000C 000000A0 0000000C 000000A0 0000000C
000000A0 0000000C 000000A0 0000000C 0C0000A0 0000000C 0000006B 0000000C 0000006B 0000000C
0000006B 0000000C 00000C6B 0000000C 0000006B 0000000C 0000006B 0000000C 0000006B 000000CC
0000006B 00000000 00000C7B 00000000 0000007B 00000000 0000007B 00000000 0000007B 00000000
0000007B 00000000 00000C7B 00000000 0000007B 00000000 0000007B 00000000 0000005E 00000000
0000005E 00000000 0000005E 00000000 0000005E 00000000 0000005E 00000000 0000005E 00000000
0000005E 00000000 0000005E 00000000 0000004C 00000000 0000004C 00000000 0000004C 00000000
0000004C 00000000 0000004C 00000000 0000004C 00000000 0000004C 00000000 0000004C 03500100
45C37048 00000000 00000851 00000000 00000821 0C0C0000 000007FC 00000000 0000003A 0000C0S0
00000090 00000090 00000090 00000000 0000000C 00000000 00000007 00000000 0000000C 00000000
0000000D 00000000 0000000A 00000000 0C00000A 00000000 00000007 00000000 C0000010 00000000
00000012 00000000 00000008 00000000 00000005 00000000 00000001 00000000 00000001 00000000
00000003 00000000 00000004 00000000 0C00001C 00000000 0000000F 00000000 000000C9 C0000000
00000001 00000000 00000002 00000000 00000003 00000000 00000003 00000000 00000006 C0000000
00000025 00000000 00000056 00000000 00000113 00000000 00000072 00000000 00000012 00000000
00000005 00000000 00000009 00000000 00000003 00000000 000000AC 00000000 000000C7 00000000
000000C7 00000000 000000C7 00000000 000000C7 00000000 000000C7 00000000 000000C7 00000000
000000C7 00000000 000000C7 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000
000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000
000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000
000000CA 00000000 000000CA 00000000 000000CA 00000000 000000C6 00000000 000000C6 00000000
000000C6 00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000
000000C6 00000000 000000A0 00000000 000000A0 00000000 000000A0 00000000 000000A0 0000000C
000000A0 0000000C 000000A0 0000000C 0C0000A0 0000000C 000000A0 0000000C 0000006B 0000000C
0000006B 0000000C 0000006B 0000000C 0000006B 0000000C 0000006B 0000000C 0000006B 000000CC
0000006B 0000000C 0000006B 00000000 0C00007B 00000000 0000007B 00000000 0000007B 00000000
0000007B 00000000 0000007B 00000000 0000007B 00000000 0000007B 00000000 0000007B 00000000
0000005E 00000000 0000005E 00000000 0000005E 00000000 0000005E 00000000 0000005E 00000000
0000005E 00000000 0000005E 00000000 0000005E 00000000 0000004C 00000000 0000004C 00000000
0000004C
```

RECORD 456 OF FILE 1
LENGTH = 13680 BYTES

```
35700000 00BC0200 00000000 00000068 00000000 00000068 00000000 00000068 00000000 00000068
00000000 00000068 00000000 00000068 00000000 00000068 00000000 00000029 00000000 00000029
00000000 00000029 00000000 00000029 00000000 00000028 00000000 00000029 00000000 00000028
00000000 00000029 00000000 0000005C 00000000 0000005D 00000000 0000005C 00000000 0000005D
00000000 0000005D 00000000 0000005C 00000000 0000005D 00000000 0000005D 03780000 45FD3E50
00000000 000009AA 00000000 000009F0 00000000 00000993 00000000 00000047 00000090 00000090
00000090 00000090 00000000 0000000E 00000000 00000012 00000000 00000010 00000000 0000000A
00000000 0000000C 00000000 00000006 00000000 0000000F 00000000 0000002A 00000000 00000018
00000000 00000008 00000000 00000006 00000000 00000009 00000000 00000007 00000000 000000C5
00000000 00000004 00000000 0000001F 00000000 00000013 00000000 00000007 00000000 000000C8
00000000 00000007 00000000 00000008 00000000 0000000A 00000000 0000000A 00000000 0000004B
00000000 00000057 00000000 000000F3 00000000 00000072 00000000 00000010 00000000 000000CE
00000000 0000000E 00000000 00000008 00000000 00000103 00000000 000000C7 00000000 000000C7
00000000 000000C7 00000000 000000C7 00000000 000000C7 00000000 000000C7 00000000 000000C7
00000000 000000C7 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA
00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA
00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA
00000000 000000CA 00000000 000000CA 00000000 000000C6 00000000 000000C6 00000000 000000C6
00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000 000000C6
0000000C 000000A0 0000000C 000000A0 0000000C 000000A0 0000000C 000000A0 0000000C 000000A0
0000000C 000000A0 0000000C 000000A0 0000000C 000000A0 0000000C 00000066 0000000C 00000066
0000000C 00000066 0000000C 00000066 0000000C 00000066 0000000C 00000066 0000000C 00000066
0000000C 00000066 00000000 00000068 00000000 00000068 00000000 00000068 00000000 00000068
00000000 00000068 00000000 00000068 00000000 00000068 00000000 00000068 000000CC 00000028
00000000 00000028 00000000 00000029 00000000 00000029 00000000 00000028 00000000 00000029
00000000 00000028 00000000 00000029 00000000 0000005D 00000000 0000005D 00000000 0000005C
00000000 0000005C 00000000 0000005D 00000000 0000005D 00000000 0000005D 00000000 000000C5D
03780000 45FD3ECF 00000000 000009B3 00000000 00000A22 00000000 000009DA 00000000 00000047
00000090 00000090 00000090 00000090 00000000 00000013 00000000 0000000C 00000000 000000CB
00000000 0000000F 00000000 00000009 00000000 00000007 00000000 00000009 00000000 0000002A
00000000 0000000F 00000000 00000009 00000000 00000002 00000000 00000006 00000000 000000C5
00000000 00000006 00000000 00000003 00000000 0000002F 00000000 00000020 00000000 000000CA
00000000 00000005 00000000 000003C7 00000000 00000009 00000000 0000000B 00000000 000000CB
00000000 00000055 00000000 00000066 00000000 000000EB 00000000 00000078 00000000 000000CE
00000000 0000000E 00000000 0000000C 00000000 0000000C 00000000 000000E4 00000000 000000C7
00000000 000000C7 00000000 000000C7 00000000 000000C7 00000000 000000C7 00000000 000000C7
00000000 000000C7 00000000 000000C7 00000000 000000CA 00000000 000000CA 00000000 000000CA
00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA
00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA
00000000 000000CA 00000000 000000CA 00000000 000000C6 00000000 000000C6 00000000 000000C6
00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000 000000C6
00000000 000000C6 00000000 000000A0 00000000 000000A0 00000000 000000A0 00000000 000000A0
00000000 000000A0 00000000 000000A0 00000000 000000A0 00000000 000000A0 00000000 00000066
00000000 00000066 00000000 00000066 00000000 00000066 00000000 00000066 00000000 00000066
00000000 00000066 00000000 00000068 00000000 00000068 00000000 00000068 00000000 00000068
00000000 00000068 00000000 00000068 00000000 00000068 00000000 00000068 00000000 00000068
00000000 00000028 00000000 00000029 00000000 00000029 00000000 00000028 00000000 00000029
00000000 00000029 00000000 0000005D 00000000 0000005D 00000000 0000005D 00000000 0000005C
03780000 45FD3F4E 00000000 000009D4 00000000 00000A2B 00000000 00000580 00000000 0000004F
00000000 00000090 00000090 00000090 00000000 0000000F 00000000 00000010 00000000 0000000B
00000000 0000000D 00000000 0000000F 00000000 0000000A 00000000 00000011 00000000 0000002E
00000000 0000001A 00000000 00000007 00000000 00000C08 00000000 000000CB 00000000 00000007
00000000 00000009 00000000 00000003 00000000 00000032 00000000 00000011 00000000 00000006
00000000 0000000A 00000000 00000007 00000000 00000009 00000000 00000009 00000000 00000009
00000000 00000009 00000000 00000068 00000000 0000005C 00000000 00000111 00000000 0000007A
00000000 0000001A 00000000 00000000 00000000 00000000 00000000 00000010 00000000 00000113
```

```
00000000 00000006 00000000 00000006 00000000 00000009 00000000 0000005D 00000000 00000056
00000000 000000E3 00000000 00000068 00000000 00000014 00000000 0000000C 00000000 00000008
00000000 00000007 00000000 000000E9 00000000 000000C7 00000000 000000C7 00000000 000000C7
00000000 000000C7 00000001 00000000 00000000 000000C7 00000000 000000C7 00000000 000000C7
00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA
00000000 0000004A 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA
00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA 00000000 000000CA
00000000 000000CA 00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000 000000C6
00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000 000000C6 00000000 000000A0
0000000C 000000A0 0000000C 000000A0 0000000C 000000A0 0000000C 000000A0 0000000C 000000A0
0000000C 000000A0 0000000C 000000A0 0000000C 00000066 0000000C 00000066 0000000C 00000066
0000000C 00000066 0000000C 00000066 0000000C 00000066 0000000C 00000066 0000000C 00000066
00000000 00000068 00000001 00000000 00000000 00000069 00000000 00000068 00000000 00000068
00000000 00000068 00000000 00000068 00000000 00000068 00000000 00000029 00000000 00000029
00000000 00000029 00000000 00000029 00000001 00000000 00000000 00000029 00000000 00000029
00000000 00000029 00000000 0000005C 00000001 00000000 00000000 0000005C 00000000 0000005C
00000000 0000005C 00000000 0000005C 00000000 0000005C 00000000 0000005C 00A00000 46109578
4312D555 45FD6808 00000000 00000000 00000000 00000000 4272691C 485C31DA 47141F78 453D4F25
421CC1D8 42553243 426C9314 C289E042 C23841A1 42864B76 00000000 00000000 00000000 00000000
00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
00000000 00000000 00000000 44B22D60 C259FD57 4272691C 4255BB27 C257382F 0008000C 0000C0C0
```

456 RECORDS IN FILE 1 OF TAPE

```
 ENTRY ADDRESS       00
 TOTAL LENGTH     170E0

****GSFC      DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET


IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF285I   SYS2.LOADLIB                                    KEPT
IEF285I   VOL SER NOS= K3SYS4.
IEF285I   SYS2.DUMMY                                      KEPT
IEF285I   VOL SER NOS= K3SYS2.
IEF285I   SYS2.DUMMY                                      KEPT
IEF285I   VOL SER NOS= K3SYS2.
IEF285I   SYS1.FORTLIB                                    KEPT
IEF285I   VOL SER NOS= K3SYS6.
IEF285I   SYS2.FORTLIB                                    KEPT
IEF285I   VOL SER NOS= K3SYS2.
IEF285I   SYS1.PL1LIB                                     KEPT
IEF285I   VOL SER NOS= K3SYS6.
IEF285I   SYS1.FORTSSP                                    KEPT
IEF285I   VOL SER NOS= K3SYS2.
IEF285I   SYS2.COBLIB                                     KEPT
IEF285I   VOL SER NOS= K3SYS6.
IEF285I   SYS1.ALGLIB                                     KEPT
IEF285I   VOL SER NOS= K3SYS6.
IEF285I   SYS75315.T115432.RV000.YZJRJJJ3.LODMOD          PASSED
IEF285I   VOL SER NOS= K3SCR3.
IEF285I   SYS75315.T115432.SV000.YZJRJJJ3.R0000375        SYSOUT
IEF285I   VOL SER NOS= K3SCR2.
IEF285I   SYS75315.T115432.SV000.YZJRJJJ3.R0000376        SYSOUT
IEF285I   VOL SER NOS= K3SCR3.
IEF285I   SYS75315.T115432.RV000.YZJRJJJ3.R0000377        DELETED
IEF285I   VOL SER NOS= K3SCR4.
IEF285I   SYS75315.T115432.RV000.YZJRJJJ3.S0000378        SYSIN
IEF285I   VOL SER NOS= K3SCR4.
IEF285I   SYS75315.T115432.RV000.YZJRJJJ3.S0000378        DELETED
IEF285I   VOL SER NOS= K3SCR4.
IEF373I STEP /LINK     / START 75315.1918
IEF374I STEP /LINK     / STOP  75315.1918 CPU    0MIN 01.69SEC MAIN 130K LCS    0K
- STEP 02 -      RETURN CODE = 0000                          STEP TIME =      .20 MINS=(CPU=      .02,IO=      .18)
                                    IO IN SECS, DISK=    10.30,DRUM=      .55,TAPE=      .00,CELL=      .00,OTHR=      .15
      XXGO       EXEC PGM=*.LINK.SYSLMOD,COND=(4,LT),REGION=70K                    00000230
      XXFT05F001 DD  DDNAME=DATA5                                                  00000240
      XXFT06F001 DD SYSOUT=&OUT,DCB=(RECFM=VBA,LRECL=137,BLKSIZE=&BLKSIZE)         00000250
      IEF653I SUBSTITUTION JCL - SYSOUT=A,DCB=(RECFM=VBA,LRECL=137,BLKSIZE=7265)
      XXFT07F001 DD SYSOUT=B,DCB=(RECFM=FB,BLKSIZE=7280,LRECL=80)                  00000260
      XXSYSPRINT DD SYSOUT=&OUT,DCB=(RECFM=VBA,LRECL=137,BLKSIZE=&BLKSIZE),        00000270
      IEF653I SUBSTITUTION JCL - SYSOUT=A,DCB=(RECFM=VBA,LRECL=137,BLKSIZE=7265),
      XX             SPACE=(CYL,(0,1)),UNIT=(DISK,3)                             00000280
      //GO.FT08F001 DD UNIT=9TRACK,DISP=(OLD,KEEP),LABEL=(01,BLP,,IN),
      //       DCB=(BLKSIZE=32000,RECFM=U,DEN=3),
      //            VOL=SER=JJ0006
      //GO.DATA5 DD *
      //
IEF236I ALLOC. FOR YZJRJJJ3 GO
IEF237I 232    ALLOCATED TO PGM=*.DD
IEF237I 231    ALLOCATED TO FT05F001
IEF237I 332    ALLOCATED TO FT06F001
IEF237I 332    ALLOCATED TO FT07F001
IEF237I 331    ALLOCATED TO SYSPRINT
IEF237I 231    ALLOCATED TO SYSPRINT
IEF237I 232    ALLOCATED TO SYSPRINT
IEF237I 0C3    ALLOCATED TO FT08F001
```

Q&A

Apollo 16

D-22495

April 20 - April 24
1972

```
                                    RECORD     1  OF FILE   1
                                    LENGTH =  27004  BYTES

 697C0000  00280000  00000010  45465F28  413B3333  C0428F5C  C23FCA3D  42484F5C  C07D70A3  C0147AE1
 428DEE14  00940000  00000015  00000012  00000007  00000004  0000000A  00003004  00000006  00000021
 0000052D  00000011  0000000A  0000000C  0000000B  00000004  00000004  00000002  00000007  000004F1
```

```
00000168 000000C1 00000050 0000002B 000002E9 0000011F 00280000 00000090 45AA0E5E 423D8000
C1A4F5C2 C1C4CCCC 427C0CCC C288428F C236E0A3 C224F333 00940000 000001CE 0000006A 00000013
0000001C 0000001A 0000001A 0000001A 00000062 00000847 00000016 0000002D 0000002A 00000016
00000003 00000008 00000008 0000002E 000008E9 00000010 0000001C 0000002E 00000025 00000010
0000000A 00000004 00000022 000008FB 00000174 0000035E 000002A6 00000176 00000096 0000003F
00000024 000002FA 00000119 00280000 00000090 45AA0EDC 423D8000 C1A547AE C1CB3333 427C11EB
C287E147 C236EE14 C224F5C2 00940000 000001D0 00000068 0000001B 00000010 00000021 00000015
0000001B 00000058 000008FA 00000016 00000032 00000028 00000020 00000008 00000007 0000000A
00000043 0000092C 00000010 00000020 00000042 00000028 0000000C 00000007 00000008 00000039
00000962 00000167 0000032B 000002A0 00000169 000000AF 00000040 00000028 000002E2 00000119
00280000 00000090 45AA0F5C 423D8000 C1A570A3 C1D1C28F 427C170A C2878000 C236E8F5 C224FD70
00940000 000001DC 00000065 00000017 00000017 0000001D 0000001E 00000015 0000005F 0000088C
00000012 0000002D 0000002C 0000000E 00000008 0000000A 00000008 0000003E 000008F6 0000000D
00000027 00000033 00000025 0000000A 00000007 00000006 0000002F 0000095E 00000168 00000361
0000028E 0000017D 0000008E 0000004B 0000002D 000002D6 00000117 00280000 00000090 45AA0FD8
423D8000 C1A59999 C1D828F5 427C1C28 C2871E88 C236E666 C225051E 00940000 000001C2 00000065
0000001B 0000000E 00000017 0000001B 0000001A 00000078 000008CA 00000012 00000040 00000023
0000001C 00000008 0000000D 00000007 00000040 0000094F 0000000D 0000001C 00000041 00000021
0000000A 00000006 00000005 00000028 00000928 00000162 0000037D 000002C8 000001A0 000000A6
00000038 00000034 000002E4 00000123 00280000 00000090 45AA1059 423D8000 C1A5E885 C1DE8F5C
427C2147 C2868D70 C236E147 C2250F5C 00940000 000001DD 00000058 00000013 0000000D 0000001A
0000001B 00000010 00000066 000008B4 0000000E 00000032 00000025 00000018 0000000B 0000000A
0000000E 00000039 0000092A 00000009 00000025 00000036 00000023 00000011 0000000A 0000000A
00000038 0000092E 0000019D 00000330 00000281 0000019F 000000AB 00000041 00000028 00000304
0000011D 00280000 00000090 45AA10DC 423D8000 C1A6147A C1E547AE 427C2666 C286570A C236DC28
C2251999 00940000 000001A6 0000005D 0000001F 00000017 00000017 0000001A 0000000D 0000006C
0000089E 00000015 0000003D 0000002F 00000010 0000000D 0000000A 00000009 00000038 00000931
00000012 0000001B 00000031 0000001F 00000010 00000005 00000003 0000002D 0000090D 0000016F
00000369 000002AF 00000182 000000BF 00000055 0000002D 000002D3 0000011A 00280000 00000090
45AA115C 423D8000 C1A66666 C1EBAE14 427C2885 C285F333 C236D999 C22528F5 00940000 00000183
00000046 0000001B 00000012 00000013 00000015 0000001F 00000064 00000949 0000001A 00000039
00000027 0000001A 0000000C 00000009 0000000A 0000002F 000009A1 00000013 00000026 00000034
00000027 0000000E 00000008 00000008 00000022 00000994 00000160 00000360 000002A9 000001A4
000000B8 00000047 0000002D 000002EE 0000011C 00280000 00000090 45AA11DB 423D8000 C1A68F5C
C1F2147A 427C30A3 C2858CCC C236D999 C2253851 00940000 000001AB 00000061 0000001B 0000000E
00000016 00000018 00000019 00000073 0000086B 00000018 0000002C 00000026 0000001E 00000009
0000000A 00000007 00000045 0000096C 0000000F 0000001E 0000002F 00000027 0000000F 00000008
00000002 00000032 000008EF 00000185 00000360 00000295 00000187 00000088 00000030 00000033
00000311 0000011E 00280000 00000090 45AA1259 423D8000 C1A68851 C1F87AE1 427C3333 C2852666
C236D70A C2254A3D 00940000 000001B0 00000066 00000020 0000001A 00000018 00000018 00000017
0000007F 000008BC 00000016 0000002C 0000002D 0000001F 0000000D 0000000C 00000008 0000003C
00000908 0000000E 00000020 00000037 0000001F 0000000A 00000006 00000002 00000027 000009A2
00000196 00000375 000002B7 00000168 000000C4 0000003E 00000030 000002D2 00000120 00280000
00000090 45AA12DC 423D8000 C1A6E147 C1FF3333 427C3851 C284BD70 C236D70A C2255C28 00940000
00000189 00000066 0000001B 00000013 0000001D 0000001D 00000016 00000065 0000089A 0000000E
00000036 00000024 0000001B 00000009 00000011 0000000A 00000040 0000098F 0000000F 00000023
0000002C 0000001C 0000000A 00000004 00000004 0000002E 00000991 00000188 0000035F 00000298
00000185 000000C1 00000049 0000002B 000002C0 0000011A 00280000 000000E0 45AA135C 423D8000
C1A70A3D C2105999 427C3AE1 C284547A C236D999 C2256E14 00940000 000021F 000000CD 000000C5
0000014E 000003E4 000003EE 000001CC 0000010C 000008F0 00000030 0000009A 00000058 0000002A
0000001F 00000C29 0000002B 00000587 00000D95 00000033 00000097 0000009A 0000003A 0000000C
00000022 0000002C 000003AF 00000CC4 00000180 0000035F 00000298 00000182 00000081 00000042
00000029 000002E6 0000029E 00280000 000000E0 45AA13DB 423D8000 C1A73333 C210C28F 427C4000
C283EE14 C236DC28 C2258000 00940000 0000020A 000000A0 000000A6 00000156 000003DE 000003E7
000001EA 0000010D 00000934 00000028 00000094 00000059 0000001C 0000000F 00000022 00000040
000005E1 000000B5 00000028 00000091 0000008A 00000038 00000012 00000019 0000002B 00000422
00000CA3 000001AB 00000385 000002C0 00000181 000000BC 00000046 00000021 00000315 000002A7
00280000 000000E0 45AA1459 423D8000 C1A75C28 C21128F5 427CA28F C28387AE C236DC28 C22591EB
00940000 0000020F 000000AE 000000B4 00000121 000003E2 00000401 000001BD 000000F8 00000949
00000034 000000AE 0000005F 0000001E 00000017 0000002E 00000040 000005F0 00000D83 00000031
000000A4 00000084 0000003C 0000000D 0000001E 00000020 000003DD 00000CAA 00000175 00000390
00000289 000001B2 000000C4 0000003F 0000002E 000002CB 000002A3 00280000 000000E0 45AA14D9
423D8000 C1A7851E C2118F5C 427C47AE C2832147 C236DEB8 C225A147 00940000 000001E8 000000AC
000000C5 00000124 000003C6 000003AB 00001C0 00000103 00000958 0000003A 0000009A 00000048
00000026 00000015 00000026 00000046 000005C0 00000DAF 0000001A 00000089 0000007D 00000034
0000000F 00000023 00000032 00000401 00000CD9 000001A0 00000372 000002CC 0000018E 000000A9
00000043 0000002D 000002E4 00000295
```

49 RECORDS IN FILE 2 OF TAPE

```
IEC209I YZJRJJJ3 JJ0006 0C3 TR=000,TW=000,EG=000,CL=018,N=000,SIO=00176
IEC209I YZJRJJJ3 JJ0006 0C3 TR=000,TW=000,EG=000,CL=018,N=000,SIO=00174
IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF285I   SYS75315.T115432.RV000.YZJRJJJ3.LODMOD        PASSED
IEF285I   VOL SER NOS= K3SCR3.
IEF285I   SYS75315.T115432.RV000.YZJRJJJ3.S0000383      SYSIN
IEF285I   VOL SER NOS= K3SCR2.
```