PROMPT GAMMA RAY SPECTRA FROM PRODUCTS FORMED

IN THE SPONTANEOUS FISSION OF ^{252}Cf

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ABSTRACT

We present information on how to obtain and use a magnetic tape on which is recorded gamma ray spectral information in coincidence with the prompt fission of ^{252}Cf . This data is supplied so that interested users may have access to a large number and variety of gamma ray spectra sorted according to fragment mass intervals. The information was recorded in three and four parameter experiments in which two fragment kinetic energies were measured in coincidence with gamma rays and K x-rays.

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I. INTRODUCTION

We have performed three and four parameter coincidence measurements on the gamma ray and K x-ray emission of prompt products (0 - 100 nsec) formed in the spontaneous fission of ^{252}Cf (see Fig. 1). These data have been analyzed to determine ground state bands in even-even fission products,¹⁻³ as well as information on the mass and charge distribution in fission⁴ and on the primary fragment angular momentum.⁵ We are currently in the process of assigning transitions to specific odd A and odd-odd nuclei. In the course of these experiments we have recorded $\sim 2 \times 10^8$ multiparameter coincidence events. It is therefore impossible to publish in detail all the experimental information. We therefore propose to make available, on request, the experimental data (on magnetic tape) to any individuals who would find it useful.

The purpose of this report is to present a compilation of data necessary for utilizing the experimental information present on the magnetic tape. The tape contains gamma ray spectra for selected mass intervals (in one case also Z intervals). The masses are calculated from the measured kinetic energies of the fragments and are based on the predetermined mass dependent neutron emission distributions.⁶ The mass calculational procedure is outlined below in Section II. Section III contains the general description of the tape which we will provide. The tape will be sent to the requester so that he will be able to make a copy for himself and return the original to us.

II. Mass Calculation

Multiparameter events of the form (F_1 , F_2 , γ_1 , γ_2 , M) were recorded in chronological order on magnetic tapes. F_1 , F_2 refer to fission fragment pulse heights of the two coincident fission fragments. γ_1 and γ_2 refer to pulse heights from two photon detectors. M designates a marker dimension which contained a classification of the event type. For a typical three parameter experiment (i.e. with only one photon detector) each magnetic tape contained approximately 10^6 events of the type $F_1 F_2 \gamma$ (γ being γ_1 or γ_2) and 10^5 binary fission coincidences, without a photon (i.e. $F_1 F_2$). The binary fission events were taken by recording one out of every fifty or a hundred binary events throughout the experiment. Each dimension was analyzed in a 4096 channel ADC. The binary fission events were also used for stabilization of the gain by maintaining the center position of the light fragment peak at a fixed channel (1664). Upon the completion of the experiment the binary events were used for calibration, by finding the first moments between the 3/4 points of the two fission peaks. These are defined here as P_L and P_H for the light and heavy fragments respectively.

Sorting of the $F_1 F_2 \gamma$ events to obtain gamma ray spectra as a function of mass interval was performed by generating a mass table for all pulse height combinations of the fission fragments. The table was based on the fission fragment energy calibration described previously and was constructed for each data tape in the manner similar to that described by Watson.⁷

The mass table was constructed as a 100 x 100 matrix. In each fission dimension the 8 most significant bits (256 channels) out of a total of 12 bits were considered for the table. By restricting the fragment spectrum to 8 bits (256 channels) the centroid of the light fission peak (F_L) was maintained, by digital stabilization, in channel 104. The value of P_H was usually at channel

75. The 10,000 positions in the table were obtained from the matrix of channels 31 to 130 for both F_1 and F_2 . This range included more than 98% of all the fission events. The mass in each location of the table was calculated by first obtaining a rough energy calibration:

$$E = a \cdot x + b \quad (1)$$

x is the channel number and a and b are constants

$$a = 24.40 / (P_L - P_H)$$

$$b = 103.77 - a \cdot P_L$$

Conservation of momentum leads to:

$$M_{1p} = \frac{252}{(1 + E_{1p}/E_{2p})} \quad (2)$$

$$M_{2p} = 252 - M_{1p}$$

M_i and E_i denote mass in a.m.u. and energy in MeV of the i -th fragment. The subscript p denotes pre-neutron emission quantities. At the first stage E_{1p} and E_{2p} were approximated by E_1 and E_2 (post neutron emission energies) in equation 2 and M_{1p} was derived. Also the total kinetic energy E_T was approximated by

$$E_T = E_{1p} + E_{2p} \approx E_1 + E_2. \quad (3)$$

The values of M_{1p} and M_{2p} were then corrected for the average number of emitted neutrons ($\bar{\nu}$) by using the tabulated experimental results of $\bar{\nu}(M, E_T)$ of Bowman et al.⁶ The original table was stored in the memory of the computer and the specific values of $\bar{\nu}(M, E_T)$ were found by linear interpolation within the table.

The neutron correction takes the form

$$M_1 = M_{1p} - \bar{\nu}_1(M_{1p}, E_T); \quad M_2 = M_{2p} - \bar{\nu}_2(M_{2p}, E_T) \quad (4)$$

Using the final masses M_1 and M_2 the Schmitt mass dependent energy calibration⁸ was evaluated.

$$\begin{aligned}
 E_1 = & (24.0203 + 0.03574 M_1) \frac{x}{P_L - P_H} \\
 & - (24.0203 + 0.03574 M_1) \frac{P_L}{P_L - P_H} \\
 & + -.1370 M_1 + 89.6083
 \end{aligned} \tag{5}$$

The values of E_{1p} were then calculated

$$E_{1p} = E_1(1 + \nu_1/M_1) \tag{6}$$

The new values of E_{1p} and E_{2p} were entered into equation (2) for continuation of the iterative process. This was repeated until the mass values resulting from two consecutive iterations differed by less than 0.05%. In a few rare instances no convergence was achieved due to fluctuations within the neutron correction tables. In such cases the calculation was stopped after the 20th iteration.

The mass table was generated from the calibration points P_L and P_H

before the analysis of each magnetic tape of data. With the table in the memory the events of the type F_1 , F_2 , γ were read from the tape. Each of the values of F_1 and F_2 which consisted of 12 bits was separated into two numbers. The 8 most significant bits formed the numbers X_1' and X_2' and the 4 least significant bits formed the numbers R_1 and R_2 . To use the mass table we define $X_1 = X_1' - 30$; $X_2 = X_2' - 30$. The mass value corresponding to channels F_1 , F_2 were then inferred by interpolation from the 100 x 100 mass table

$$\begin{aligned}
 M(F_1, F_2) = & M(X_1, X_2) + R_1 [M(X_1 + 1, X_2) - M(X_1, X_2)] \frac{1}{16} \\
 & + R_2 [M(X_1, X_2 + 1) - M(X_1, X_2)] \frac{1}{16}
 \end{aligned} \tag{7}$$

After finding the mass of each event the gamma ray was placed in the gamma ray spectrum corresponding to the appropriate mass interval.

The analysis of the events in the sorting program was done in integer mode to save time. The mass table was prepared in units of a.m.u. $\times 256$ and all the division operations were done by shifting bits. In this way one magnetic tape containing about 10^6 (F_1, F_2, r) events was sorted into 38 gamma ray spectra corresponding to 38 mass intervals. This required a time of about 5 minutes in the CDC 6600 computer.

The mass resolution of the experiment was inferred directly from the appearance of a specific gamma ray line in several adjacent mass intervals. In this experiment it was 4-7 a.m.u. (FWHM) and depended on the mass of the specific fragment. An example of the mass dispersion for a single isotope is shown in Fig. 2.

It should be emphasized that the mass calculations are only approximate. This is because the neutron corrections which are applied to the data are determined from measurements of average values. When applying these average corrections to specific nuclei it is possible to introduce errors as large as 1 - 1.5 a.m.u. Though the absolute value of the mass so determined may be wrong, the general trends of the mass distribution will be correct (i.e. lighter isotopes will appear with mass centroids having lower values than heavy isotopes). The only accurate way of determining the true mass is by establishing the systematics of the distributions. In practice this means using our established transitions in even-even nuclei as reference points where the true mass values are known. It is then possible by interpolation to establish the true mass associated with other transitions.

III. General Tape Description

The tape contains 6 files of gamma ray data followed by an extra end of file mark. The 6 files are then repeated and an additional end of file mark follows the last gamma ray spectrum. The tape contains binary data which is written in an odd parity mode at a density of 800 bits per inch. Table 1 presents the general file structure of the tape. Table 2 presents the general format for the spectra and also the identification written in the first word of each spectrum. Table 3 contains a complete Scelm of the tape and Table 4 is an octal dump of the first spectrum in file 1.

To utilize the presented spectra it is necessary to know the energy and efficiency calibrations for each detector. These are given below along with relevant data of each experiment.

HR Experiment (files 1,8)

The HR experiment was a three parameter measurement of gamma rays in coincidence with fission fragment kinetic energies. The gamma ray detector was a $1 \text{ cm}^3 \text{ Ge(Li)}$ detector with resolution of 1 keV at 122 keV. The detector was located in position r_2 (see Fig. 1). An example of the gamma ray spectra recorded in this experiment is shown in Fig. 3. Table 5 presents the energy and efficiency calibration data for the HR experiment. To find the energy of any channel a linear interpolation between values presented in the table will give adequate results ($\pm .1 \text{ keV}$). To determine the yield of any gamma ray it is necessary to divide the number of counts in the photopeak by an interpolated number extracted from the table. (Since the photopeak efficiency of the detector is essentially a decreasing exponential function of energy it is probably best to use a logarithmic interpolation procedure). The divided number then represents the yield of the gamma ray in %/fission. In our analysis of photopeak

yields we have used a computer code called SAMPO written by Routti and Prussin.⁹ Within the accuracy of the efficiency determination ($\sim \pm 15\%$) the results are probably independent of the particular method used to analyze the photopeak intensities but there will likely be slight variations in determined yields dependent on the method chosen for analysis.

As an example of the use of Table 5 suppose that a photopeak has its centroid at channel 2407.83 and has area above the background of 7970 counts. The energy of this gamma ray transition is

$$E = \left(\frac{2407.83 - 2338.63}{2498.04 - 2338.63} \right) (249.73 \text{ keV} - 233.89 \text{ keV}) + 233.89 \text{ keV}$$

$$E = 240.77 \text{ keV}$$

The number of counts necessary for a 1%/fission yield at 240.77 keV is:

$$N_{1\%} = \exp \left[\left(\frac{240.77 - 234.}{242. - 234.} \right) * (\ln \frac{6900}{7500}) + \ln (7500) \right]$$

$$N_{1\%} = 6989.$$

Therefore the yield of the measured gamma ray is:

$$Y = \frac{7970}{6989} = 1.14\%/\text{fission}.$$

G6 Experiment (files 1.9)

Two three parameter measurements were recorded in the same experiment. These are the data labeled 'G6' and 'Coax'. In the G6 experiment a 6 cm³ Ge(Li) gamma ray detector was located in position γ_1 . Table 6 presents the energy and efficiency calibration data for the G6 experiment. The efficiency calibration is for gamma rays emitted from fragments stopped in detector F_1 . Transitions occurring in fragments flying toward detector F_2 are Doppler shifted and broadened (due to the fairly large solid angle for fragment detection) and

are usually not resolvable into discrete lines. However, transitions occurring in fragments which have stopped in detector F_2 (these are transitions which occur at times greater than ~ 0.8 ns after fission) are non-Doppler shifted and appear as sharp gamma ray lines. The mass interval labelling the spectrum is based on fragments stopping in detector F_1 and therefore transitions from fragments stopped in detector F_2 are associated with the complementary masses. Deciding if a transition is from the mass interval on which the sort was performed or from a complementary mass can easily be resolved by observing the same transition in the HR, or Coax experiments. In these experiments the gamma ray detector was located behind fragment detector F_1 . Therefore, from geometry considerations, gamma ray fragments stopped in detector F_1 will always be observed with more intensity than those stopped in F_2 even if the transition lifetime is long compared with the transit time between the two detectors. This removes the ambiguity of the analysis and insures that the transition is assigned to the correct mass interval.

GX Experiment (files 3,10)

The data recorded in the GX experiment represents the gamma ray portion of three and four parameter measurements in which gamma rays and K x-rays were recorded. The gamma ray detector had a 6 cm^3 volume and was located in position F_1 . Table 7 presents the energy and efficiency calibration data for the experiment. As in the G6 experiment the efficiency calibration is for fragments stopped in detector F_1 .

COAX Experiment (files 4,11)

The data presented in the COAX file were recorded in the same experiment as the 'G6' data. The COAX data were taken with a 35 cm^3 coaxially drifted Ge(Li)

detector located in position γ_2 . Table 8 presents the energy and photopeak efficiency calibration for transitions from fragments stopped in detector F_1 .

HRF2 Experiment (files 5, 12)

This experiment is the same data that is presented in the HR experiment but in this case the data has been sorted into mass intervals relative to the fragment stopping in fragment detector F_2 . This means, for example, in the first spectrum of this file the mass interval 87-89 is relative to fragments within this mass interval stopping in detector F_2 . The sorting is performed in this manner so that transition lifetime information can be extracted from the γ -ray intensity measurements. By observing, over the same mass intervals, the intensity of a specific gamma ray in the HR and HRF2 experiments and knowing the velocity of the fragment and the geometry of the detectors it is possible to estimate the transition life time from a two point decay curve. Since the fragment detectors are separated by ~ 8 mm and fission fragments have velocities of ~ 1 cm/ns it is possible to obtain transition lifetime information over a region of about 0.2-2. nsec. Transition lifetimes which we have extracted utilizing this technique are presented in Ref. 1-3.

The energy calibration for the HRF2 data is the same as the HR energy calibration presented in Table 5. There is no efficiency calibration data available since the observed yield of the gamma ray is dependent on the transition lifetime

Z Experiment (files 6, 13)

This experiment presents gamma ray data obtained in a four parameter experiment in which two fragment energies were recorded in coincidence with gamma rays and K x-rays. The fragment energies were used in the standard way to

identify fragment masses. The K x-rays were used for identifying the atomic numbers of the fragments. The gamma ray data were recorded using the detector in the GX experiment. The energy calibration is the same as presented in Table 7.

In this file there are 27 spectra. Each spectrum is labeled with an atomic number. These atomic numbers were established by placing windows on the appropriate interval containing the $K\alpha$ x-rays of each element. The energy resolution of the Si(Li) detector used for the K-x-ray measurements was ~ 0.7 keV at 14 keV. The resolution was this poor because, for the sake of detection efficiency, a large surface area detector was used (2 cm^2). Even at this resolution it is possible to separate the x-rays of adjacent elements reasonably well. Each spectrum in this file has, in addition to a window on the K-x-ray energy interval, an additional window on a mass interval. The mass interval window was chosen to be 12 a.m.u. wide and centered on the most probable mass (A_p) for each value of Z .⁴ The atomic number of the fragment with which the transition is associated can be extracted from these data but the mass of the transition should be obtained from one of the sets of three dimensional data presented above.

It should be remembered that there are two fragments associated with each fission and it is therefore possible to have x-rays in coincidence with γ -rays from complementary fragments. It is easy to resolve this ambiguity by observing whether the transition is predominately seen with a light or heavy fragment mass in one of the three parameter experiments.

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Table 1. File indentification.

File	Experimental Designation	Detector	Position (Fig.1)	Resolution	Usuable Energy Range of Data (keV)	Number of Spectra
1	HR	1 cm ³ Ge(Li)	γ_2	~1 keV at 122keV	40-400	41
2	G6	6 cm ³ Ge(Li)	γ_1	1.6 keV at 279keV	60-1400	41
3	GX	6 cm ³ Ge(Li)	γ_1	1.6 keV at 279keV	60-1400	41
4	COAX	35 cm ³ Ge(Li)	γ_2	2.5 keV at 279keV	150-1900	41
5	HRF2	1 cm ³ Ge(Li)	γ_2	~1 keV at 122keV	40-400	41
6	X	6 cm ³ Ge(Li)	γ_1	1.6 keV at 279keV	60-1400	27
7	(Blank)					
8-13	repeat of files 1-6 respectively.					
14	(Blank)					

Table 2. General tape information.

	Format of each spectrum
Number of 60 bit words	- 4112 (eight 512 word records and one 16 word record)
1st Word	- Spectrum identification (see below)
2nd Word	- Contains the number 4.
Words 3-4098	- Gamma ray channels 1 - 4096.
Words 4099 - 4112	- Contain the number 0.

Spectra Identification for Files 1 - 5 (8-12).

Spectrum	Identification (1st Word)	Mass interval
1	8700089	87-89
2	8900091	89-91
7	9900101	99-101
8	10100103	101-103
9	10300105	103-105
38	16100163	161-163
39	8700163	87-163 (all mass intervals)
40	8700123	87-123 (light mass intervals)
41	12300163	123-163 (heavy mass intervals)

Spectra Identification for File 6 (13)

Spectrum	Identification (1st Word)	Z	Mass Interval ^{a)}
1	37	37	86 - 98
2	38	38	89 - 101
13	49	49	117 - 129
14	10050	50	122 - 134
15	10051	51	125 - 1137
26	10062	62	152 - 164
27	10063	63	155 - 167

a) The mass interval is for each Z the most probable mass value of the chain (A_p) $\pm$ 6 a.m.u. (A_p values are in ref. 4).

Table 3. Complete Scelm of Magnetic Tape. (a)

(a) Due to core limitations in the computer on which the Scelm was performed a full record (512 60 bit words) is recorded in the listing as 463 words and 5 characters.

*** GENERAL SCEN ***
** (CDC) **

TAPE-BUFFER SIZE IS 0463 60-BIT WORDS AND 5 6-BIT CHARACTERS

NOISE RECORD LIMIT IS 018 CHARACTERS

REC'D FILE

1	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	1 TO 8 INCLUSIVE
2	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	9 TO 9 INCLUSIVE
3	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	10 TO 17 INCLUSIVE
4	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	18 TO 18 INCLUSIVE
5	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	19 TO 26 INCLUSIVE
6	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	27 TO 27 INCLUSIVE
7	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	28 TO 35 INCLUSIVE
8	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	36 TO 36 INCLUSIVE
9	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	37 TO 44 INCLUSIVE
10	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	45 TO 45 INCLUSIVE
11	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	46 TO 53 INCLUSIVE
12	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	54 TO 54 INCLUSIVE
13	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	55 TO 62 INCLUSIVE
14	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	63 TO 63 INCLUSIVE
15	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	64 TO 71 INCLUSIVE
16	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	72 TO 72 INCLUSIVE
17	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	73 TO 80 INCLUSIVE
18	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	81 TO 81 INCLUSIVE
19	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	82 TO 89 INCLUSIVE
20	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	90 TO 90 INCLUSIVE
21	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	91 TO 98 INCLUSIVE
22	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	99 TO 99 INCLUSIVE
23	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	100 TO 107 INCLUSIVE
24	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	108 TO 108 INCLUSIVE
25	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	109 TO 116 INCLUSIVE
26	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	117 TO 117 INCLUSIVE
27	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	118 TO 125 INCLUSIVE
28	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	126 TO 126 INCLUSIVE
29	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	127 TO 134 INCLUSIVE
30	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	135 TO 135 INCLUSIVE
31	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	136 TO 143 INCLUSIVE
32	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	144 TO 144 INCLUSIVE
33	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	145 TO 152 INCLUSIVE
34	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	153 TO 153 INCLUSIVE
35	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	154 TO 161 INCLUSIVE
36	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	162 TO 162 INCLUSIVE
37	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	163 TO 170 INCLUSIVE
38	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	171 TO 171 INCLUSIVE
39	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	172 TO 179 INCLUSIVE
40	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	180 TO 180 INCLUSIVE
41	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	181 TO 188 INCLUSIVE
42	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	189 TO 189 INCLUSIVE
43	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	190 TO 197 INCLUSIVE
44	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	198 TO 198 INCLUSIVE
45	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	199 TO 206 INCLUSIVE
46	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	207 TO 207 INCLUSIVE
47	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	208 TO 215 INCLUSIVE
48	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	216 TO 216 INCLUSIVE
49	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	217 TO 224 INCLUSIVE
50	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	225 TO 225 INCLUSIVE
51	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	226 TO 233 INCLUSIVE
52	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	234 TO 234 INCLUSIVE
53	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	235 TO 242 INCLUSIVE
54	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	243 TO 243 INCLUSIVE
55	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	244 TO 251 INCLUSIVE
56	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	252 TO 252 INCLUSIVE
57	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	253 TO 260 INCLUSIVE
58	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	261 TO 261 INCLUSIVE

0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	262 TO	269 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	270 TO	270 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	271 TO	278 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	279 TO	279 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	280 TO	287 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	288 TO	288 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	289 TO	296 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	297 TO	297 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	298 TO	305 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	306 TO	306 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	307 TO	314 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	315 TO	315 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	316 TO	323 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	324 TO	324 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	325 TO	332 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	333 TO	333 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	334 TO	341 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	342 TO	342 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	343 TO	350 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	351 TO	351 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	352 TO	359 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	360 TO	360 INCLUSIVE
0 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	1, RECORDS	361 TO	368 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	1, RECORDS	369 TO	369 INCLUSIVE

SUMMARY
 369 GOOD BINARY RECORDS OF LENGTH 0016 WORDS TO 0463 WORDS AND 5 CHARACTERS
 THE ABOVE INCLUDES 328 N.I.N(N) RECORDS
 IN FILE 1, RECORDS 1 TO 369 INCLUSIVE

END-OF-FILE 1

[illegible]

0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	262	TO	269	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	270	TO	270	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	271	TO	278	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	279	TO	279	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	280	TO	287	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	288	TO	288	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	289	TO	296	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	297	TO	297	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	298	TO	305	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	306	TO	306	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	307	TO	314	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	315	TO	315	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	316	TO	323	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	324	TO	324	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	325	TO	332	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	333	TO	333	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	334	TO	341	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	342	TO	342	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	343	TO	350	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	351	TO	351	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	352	TO	359	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	360	TO	360	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	2,	RECORDS	361	TO	368	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	2,	RECORDS	369	TO	369	INCLUSIVE

SUMMARY

369 GOOD BINARY RECORDS OF LENGTH 0016 WORDS
 THE ABOVE INCLUDES
 IN FILE 2, RECORDS 1 TO 369 INCLUSIVE

TO 0463 WORDS AND 5 CHARACTERS
 328 N.I.N(W) RECORDS

END-OF-FILE 2

BEGIN FILE 3

0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	1	TO	8	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	9	TO	9	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	10	TO	17	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	18	TO	18	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	19	TO	26	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	27	TO	27	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	28	TO	35	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	36	TO	36	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	37	TO	44	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	45	TO	45	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	46	TO	53	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	54	TO	54	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	55	TO	62	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	63	TO	63	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	64	TO	71	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	72	TO	72	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	73	TO	80	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	81	TO	81	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	82	TO	89	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	90	TO	90	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	91	TO	98	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	99	TO	99	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	100	TO	107	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	108	TO	108	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	109	TO	116	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	117	TO	117	INCLUSIVE

1	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	118	TO	125	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	126	TO	126	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	127	TO	134	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	135	TO	135	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	136	TO	143	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	144	TO	144	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	145	TO	152	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	153	TO	153	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	154	TO	161	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	162	TO	162	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	163	TO	170	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	171	TO	171	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	172	TO	179	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	180	TO	180	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	181	TO	188	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	189	TO	189	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	190	TO	197	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	198	TO	198	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	199	TO	206	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	207	TO	207	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	208	TO	215	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	216	TO	216	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	217	TO	224	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	225	TO	225	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	226	TO	233	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	234	TO	234	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	235	TO	242	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	243	TO	243	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	244	TO	251	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	252	TO	252	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	253	TO	260	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	261	TO	261	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	262	TO	269	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	270	TO	270	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	271	TO	278	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	279	TO	279	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	280	TO	287	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	288	TO	288	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	289	TO	296	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	297	TO	297	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	298	TO	305	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	306	TO	306	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	307	TO	314	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	315	TO	315	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	316	TO	323	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	324	TO	324	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	325	TO	332	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	333	TO	333	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	334	TO	341	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	342	TO	342	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	343	TO	350	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	351	TO	351	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	352	TO	359	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	360	TO	360	INCLUSIVE
0	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	3,	RECORDS	361	TO	368	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	3,	RECORDS	369	TO	369	INCLUSIVE

SUMMARY
369 GOOD BINARY RECORDS OF LENGTH 0016 WORDS
THE ABOVE INCLUDES
IN FILE 3, RECORDS 1 TO 369 INCLUSIVE

TO 0463 WORDS AND 5 CHARACTERS
328 N.I.N(W) RECORDS

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TO 0463 WORDS AND 5 CHARACTERS
328 N.I.N(W) RECORDS

[illegible]

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS

8 GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS

IN FILE

6, RECORDS

234 TO

234 INCLUSIVE

IN FILE

6, RECORDS

235 TO

242 INCLUSIVE

IN FILE

6, RECORDS

243 TO

243 INCLUSIVE

SUMMARY

243 GOOD BINARY RECORDS OF LENGTH 0016 WORDS

THE ABOVE INCLUDES

IN FILE 6, RECORDS 1 TO 243 INCLUSIVE

TO 0463 WORDS AND 5 CHARACTERS

216 N.I.N(W) RECORDS

END-OF-FILE 6

BEGIN FILE 7

END-OF-FILE 7

EMPTY FILE - POSSIBLE END-OF-RUN

8 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	262 TO	269 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	8, RECORDS	270 TO	270 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	271 TO	278 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0216 WORDS	IN FILE	8, RECORDS	279 TO	279 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	280 TO	287 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	8, RECORDS	288 TO	288 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	289 TO	296 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0216 WORDS	IN FILE	8, RECORDS	297 TO	297 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	298 TO	305 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	8, RECORDS	306 TO	306 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	307 TO	314 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0216 WORDS	IN FILE	8, RECORDS	315 TO	315 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	316 TO	323 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	8, RECORDS	324 TO	324 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	325 TO	332 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	8, RECORDS	333 TO	333 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	334 TO	341 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	8, RECORDS	342 TO	342 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	343 TO	350 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0216 WORDS	IN FILE	8, RECORDS	351 TO	351 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	352 TO	359 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	8, RECORDS	360 TO	360 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	8, RECORDS	361 TO	368 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	8, RECORDS	369 TO	369 INCLUSIVE

SUMMARY

369 GOOD BINARY RECORDS OF LENGTH 0016 WORDS TO 0463 WORDS AND 5 CHARACTERS
 THE ABOVE INCLUDES 328 N.I.N(W) RECORDS
 IN FILE 3, RECORDS

END-OF-FILE 8

8 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	1 TO	8 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	9, RECORDS	9 TO	9 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	10 TO	17 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	9, RECORDS	18 TO	18 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	19 TO	26 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	9, RECORDS	27 TO	27 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	28 TO	35 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0216 WORDS	IN FILE	9, RECORDS	36 TO	36 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	37 TO	44 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	9, RECORDS	45 TO	45 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	46 TO	53 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0216 WORDS	IN FILE	9, RECORDS	54 TO	54 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	55 TO	62 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	9, RECORDS	63 TO	63 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	64 TO	71 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0216 WORDS	IN FILE	9, RECORDS	72 TO	72 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	73 TO	80 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	9, RECORDS	81 TO	81 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	82 TO	89 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	9, RECORDS	90 TO	90 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	91 TO	98 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	9, RECORDS	99 TO	99 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	100 TO	107 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0216 WORDS	IN FILE	9, RECORDS	108 TO	108 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0463 WORDS	IN FILE	9, RECORDS	109 TO	116 INCLUSIVE
1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE	9, RECORDS	117 TO	117 INCLUSIVE

8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	1	TO	8	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	9	TO	9	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	10	TO	17	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	18	TO	18	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	19	TO	26	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	27	TO	27	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	28	TO	35	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	36	TO	36	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	37	TO	44	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	45	TO	45	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	46	TO	53	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	54	TO	54	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	55	TO	62	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	63	TO	63	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	64	TO	71	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	72	TO	72	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	73	TO	80	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	81	TO	81	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	82	TO	89	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	90	TO	90	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	91	TO	98	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	99	TO	99	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	100	TO	107	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	108	TO	108	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	109	TO	116	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	117	TO	117	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	118	TO	125	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	126	TO	126	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	127	TO	134	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	135	TO	135	INCLUSIVE
8	GOOD	BINARY	RECORDS	OF	LENGTH	0463	WORDS	AND	5	CHARACTERS	IN	FILE	10,	RECORDS	136	TO	143	INCLUSIVE
1	GOOD	BINARY	RECORDS	OF	LENGTH	0016	WORDS				IN	FILE	10,	RECORDS	144			

SUMMARY

369 GOOD BINARY RECORDS OF LENGTH 0016 WORDS
 THE ABOVE INCLUDES
 IN FILE 11, RECORDS 1 TO 369 INCLUSIVE

TO 0463 WORDS AND 5 CHARACTERS
 320 N.I.N(W) RECORDS

END-OF-FILE 11

BEGIN FILE 12

8	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	1 TO	8	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	9 TO	9	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	10 TO	17	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	18 TO	18	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	19 TO	26	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	27 TO	27	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	28 TO	35	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	36 TO	36	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	37 TO	44	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	45 TO	45	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	46 TO	53	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	54 TO	54	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	55 TO	62	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	63 TO	63	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	64 TO	71	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	72 TO	72	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	73 TO	80	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	81 TO	81	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	82 TO	89	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	90 TO	90	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	91 TO	98	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	99 TO	99	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	100 TO	107	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	108 TO	108	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	109 TO	116	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	117 TO	117	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	118 TO	125	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	126 TO	126	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	127 TO	134	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	135 TO	135	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	136 TO	143	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	144 TO	144	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	145 TO	152	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	153 TO	153	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	154 TO	161	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	162 TO	162	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	163 TO	170	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	171 TO	171	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	172 TO	179	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	180 TO	180	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	181 TO	188	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	189 TO	189	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	190 TO	197	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	198 TO	198	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	199 TO	206	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	207 TO	207	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	208 TO	215	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	216 TO	216	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	217 TO	224	INCLUSIVE
1	GOOD BINARY RECORDS OF LENGTH 0016 WORDS	IN FILE 12, RECORDS	225 TO	225	INCLUSIVE
0	GOOD BINARY RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE 12, RECORDS	226 TO	233	INCLUSIVE

1	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	234 TO	234 INCLUSIVE
2	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	235 TO	242 INCLUSIVE
3	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	243 TO	243 INCLUSIVE
4	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	244 TO	251 INCLUSIVE
5	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	252 TO	252 INCLUSIVE
6	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	253 TO	260 INCLUSIVE
7	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	261 TO	261 INCLUSIVE
8	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	262 TO	269 INCLUSIVE
9	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	270 TO	270 INCLUSIVE
10	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	271 TO	278 INCLUSIVE
11	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	279 TO	279 INCLUSIVE
12	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	280 TO	287 INCLUSIVE
13	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	288 TO	288 INCLUSIVE
14	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	289 TO	296 INCLUSIVE
15	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	297 TO	297 INCLUSIVE
16	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	298 TO	305 INCLUSIVE
17	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	306 TO	306 INCLUSIVE
18	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	307 TO	314 INCLUSIVE
19	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	315 TO	315 INCLUSIVE
20	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	316 TO	323 INCLUSIVE
21	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	324 TO	324 INCLUSIVE
22	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	325 TO	332 INCLUSIVE
23	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	333 TO	333 INCLUSIVE
24	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	334 TO	341 INCLUSIVE
25	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	342 TO	342 INCLUSIVE
26	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	343 TO	350 INCLUSIVE
27	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	351 TO	351 INCLUSIVE
28	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	352 TO	359 INCLUSIVE
29	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	360 TO	360 INCLUSIVE
30	GOOD	BINARY	RECORDS OF LENGTH 0463 WORDS	IN FILE	12, RECORDS	361 TO	368 INCLUSIVE
31	GOOD	BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	12, RECORDS	369 TO	369 INCLUSIVE

SUMMARY

369 GOOD BINARY RECORDS OF LENGTH 0016 WORDS TO 0463 WORDS AND 5 CHARACTERS
 THE ABOVE INCLUDES 320 N.I.(M) RECORDS

IN FILE 12, RECORDS 1 TO 369 INCLUSIVE

END-OF-FILE 12

DEBIN FILE	13	GOOD BINARY	RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	13, RECORDS	1 TO	8 INCLUSIVE
1	GOOD BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	13, RECORDS	9 TO	9 INCLUSIVE	
2	GOOD BINARY	RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	13, RECORDS	10 TO	17 INCLUSIVE	
3	GOOD BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	13, RECORDS	18 TO	18 INCLUSIVE	
4	GOOD BINARY	RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	13, RECORDS	19 TO	26 INCLUSIVE	
5	GOOD BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	13, RECORDS	27 TO	27 INCLUSIVE	
6	GOOD BINARY	RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	13, RECORDS	28 TO	35 INCLUSIVE	
7	GOOD BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	13, RECORDS	36 TO	36 INCLUSIVE	
8	GOOD BINARY	RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	13, RECORDS	37 TO	44 INCLUSIVE	
9	GOOD BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	13, RECORDS	45 TO	45 INCLUSIVE	
10	GOOD BINARY	RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	13, RECORDS	46 TO	53 INCLUSIVE	
11	GOOD BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	13, RECORDS	54 TO	54 INCLUSIVE	
12	GOOD BINARY	RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	13, RECORDS	55 TO	62 INCLUSIVE	
13	GOOD BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	13, RECORDS	63 TO	63 INCLUSIVE	
14	GOOD BINARY	RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	13, RECORDS	64 TO	71 INCLUSIVE	
15	GOOD BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	13, RECORDS	72 TO	72 INCLUSIVE	
16	GOOD BINARY	RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	13, RECORDS	73 TO	80 INCLUSIVE	
17	GOOD BINARY	RECORDS OF LENGTH 0016 WORDS	IN FILE	13, RECORDS	81 TO	81 INCLUSIVE	
18	GOOD BINARY	RECORDS OF LENGTH 0463 WORDS AND 5 CHARACTERS	IN FILE	13, RECORDS	82 TO	89 INCLUSIVE	

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 90 TO 90 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 91 TO 91 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 99 TO 99 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 100 TO 107 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 108 TO 108 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 109 TO 116 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 117 TO 117 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 118 TO 125 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 126 TO 126 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 127 TO 134 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 135 TO 135 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 136 TO 143 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 144 TO 144 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 145 TO 152 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 153 TO 153 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 154 TO 161 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 162 TO 162 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 163 TO 170 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 171 TO 171 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 172 TO 179 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 180 TO 180 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 181 TO 188 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 189 TO 189 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 190 TO 197 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 198 TO 198 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 199 TO 206 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 207 TO 207 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 208 TO 215 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 216 TO 216 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 217 TO 224 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 225 TO 225 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 226 TO 233 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 234 TO 234 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 235 TO 242 INCLUSIVE

1 GOOD BINARY RECORDS OF LENGTH 0016 WORDS AND 5 CHARACTERS IN FILE 13 RECORDS 243 TO 243 INCLUSIVE

SUMMARY

243 GOOD BINARY RECORDS OF LENGTH 0016 WORDS TO 0463 WORDS AND 5 CHARACTERS
 THE ABOVE INCLUDES 216 N.I.H.I.VI RECORDS

14 FILE 13 RECORDS 1 TO 243 INCLUSIVE

END-OF-FILE 13

BEGIN FILE 14

END-OF-FILE 14

EMPTY FILE - POSSIBLE END-OF-RUN

BEGIN FILE 15

FILE 15 RECORD 1 'NOISE' RECORD OF LENGTH 6 CHARACTERS

SUMMARY

1 'MCISC' RECORDS OF LENGTH
THE ABOVE INCLUDES
IN FILE 15, RECORDS 1 TO 1 INCLUSIVE

6 CHARACTERS

1 N.I.(NIN) RECORDS.

END-OF-FILE 15

BEGIN FILE 16

END-OF-FILE 16

EMPTY FILE - POSSIBLE END-OF-RUN

BEGIN FILE 17

Table 4. Tape Dump of First 10 Records^(a)

(a) The computer listing has four words per line. Each word is written as 20 octal characters. The four characters on the far left of each page give the word count in decimal and the four characters to the right of this give the word count in octal.

CDC 6600 TAPE DUMP

[illegible]

0484	0744	03090	00000	00000	00044	00000	00000	00000	00044	00000	00000	00000	00035	00000	00000	00042
0488	0750	00000	00000	00000	00046	00000	00000	00000	00044	00000	00000	00000	00043	00000	00000	00043
0492	0754	00000	00000	00000	00043	00000	00000	00000	00042	00000	00000	00000	00032	00000	00000	00033
0496	0760	00000	00000	00000	00039	00000	00000	00000	00035	00000	00000	00000	00031	00000	00000	00024
0500	0764	00000	00000	00000	00022	00000	00000	00000	00024	00000	00000	00000	00021	00000	00000	00017
0504	0770	00000	00000	00000	00021	00000	00000	00000	00014	00000	00000	00000	00023	00000	00000	00014
0508	0774	00000	00000	00000	00011	00000	00000	00000	00014	00000	00000	00000	00021	00000	00000	00024

FILE NO 1 RECORD NO 2 5120 CHARACTERS. BINARY

0000	0000	00000	00000	00000	00034	00000	00000	00000	00023	00000	00000	00000	00032	00000	00000	00017
0004	0004	00000	00000	00000	00022	00000	00000	00000	00027	00000	00000	00000	00023	00000	00000	00017
0008	0010	00000	00000	00000	00014	00000	00000	00000	00013	00000	00000	00000	00020	00000	00000	00024
0012	0014	00000	00000	00000	00017	00000	00000	00000	00021	00000	00000	00000	00024	00000	00000	00015
0016	0020	00000	00000	00000	00015	00000	00000	00000	00016	00000	00000	00000	00014	00000	00000	00011
0020	0024	00000	00000	00000	00013	00000	00000	00000	00013	00000	00000	00000	00015	00000	00000	00017
0024	0030	00000	00000	00000	00013	00000	00000	00000	00013	00000	00000	00000	00015	00000	00000	00025
0028	0034	00000	00000	00000	00007	00000	00000	00000	00007	00000	00000	00000	00021	00000	00000	00021
0032	0040	00000	00000	00000	00021	00000	00000	00000	00024	00000	00000	00000	00014	00000	00000	00012
0036	0044	00000	00000	00000	00013	00000	00000	00000	00017	00000	00000	00000	00014	00000	00000	00020
0040	0050	00000	00000	00000	00012	00000	00000	00000	00020	00000	00000	00000	00023	00000	00000	00015
0044	0054	00000	00000	00000	00017	00000	00000	00000	00015	00000	00000	00000	00026	00000	00000	00016
0048	0060	00000	00000	00000	00017	00000	00000	00000	00024	00000	00000	00000	00023	00000	00000	00021
0052	0064	00000	00000	00000	00020	00000	00000	00000	00015	00000	00000	00000	00013	00000	00000	00023
0056	0070	00000	00000	00000	00013	00000	00000	00000	00023	00000	00000	00000	00021	00000	00000	00025
0060	0074	00000	00000	00000	00022	00000	00000	00000	00012	00000	00000	00000	00024	00000	00000	00012
0064	0100	00000	00000	00000	00013	00000	00000	00000	00023	00000	00000	00000	00013	00000	00000	00023
0068	0104	00000	00000	00000	00014	00000	00000	00000	00015	00000	00000	00000	00017	00000	00000	00016
0072	0110	00000	00000	00000	00017	00000	00000	00000	00023	00000	00000	00000	00023	00000	00000	00017
0076	0114	00000	00000	00000	00012	00000	00000	00000	00012	00000	00000	00000	00021	00000	00000	00021
0080	0120	00000	00000	00000	00014	00000	00000	00000	00013	00000	00000	00000	00021	00000	00000	00023
0084	0124	00000	00000	00000	00015	00000	00000	00000	00013	00000	00000	00000	00023	00000	00000	00013
0088	0130	00000	00000	00000	00017	00000	00000	00000	00022	00000	00000	00000	00017	00000	00000	00016
0092	0134	00000	00000	00000	00013	00000	00000	00000	00015	00000	00000	00000	00012	00000	00000	00020
0096	0140	00000	00000	00000	00024	00000	00000	00000	00021	00000	00000	00000	00012	00000	00000	00014
0100	0144	00000	00000	00000	00007	00000	00000	00000	00024	00000	00000	00000	00022	00000	00000	00013
0104	0150	00000	00000	00000	00015	00000	00000	00000	00012	00000	00000	00000	00016	00000	00000	00022
0108	0154	00000	00000	00000	00021	00000	00000	00000	00014	00000	00000	00000	00015	00000	00000	00017
0112	0160	00000	00000	00000	00011	00000	00000	00000	00021	00000	00000	00000	00014	00000	00000	00010
0116	0164	00000	00000	00000	00017	00000	00000	00000	00011	00000	00000	00000	00016	00000	00000	00016
0120	0170	00000	00000	00000	00014	00000	00000	00000	00014	00000	00000	00000	00014	00000	00000	00021
0124	0174	00000	00000	00000	00022	00000	00000	00000	00017	00000	00000	00000	00013	00000	00000	00017
0128	0200	00000	00000	00000	00020	00000	00000	00000	00013	00000	00000	00000	00020	00000	00000	00023
0132	0204	00000	00000	00000	00027	00000	00000	00000	00021	00000	00000	00000	00022	00000	00000	00016
0136	0210	00000	00000	00000	00034	00000	00000	00000	00037	00000	00000	00000	00040	00000	00000	00036
0140	0214	00000	00000	00000	00027	00000	00000	00000	00037	00000	00000	00000	00024	00000	00000	00015
0144	0220	00000	00000	00000	00013	00000	00000	00000	00022	00000	00000	00000	00025	00000	00000	00022
0148	0224	00000	00000	00000	00016	00000	00000	00000	00013	00000	00000	00000	00016	00000	00000	00017
0152	0230	00000	00000	00000	00025	00000	00000	00000	00026	00000	00000	00000	00017	00000	00000	00015
0156	0234	00000	00000	00000	00022	00000	00000	00000	00022	00000	00000	00000	00017	00000	00000	00024
0160	0240	00000	00000	00000	00014	00000	00000	00000	00016	00000	00000	00000	00015	00000	00000	00017
0164	0244	00000	00000	00000	00013	00000	00000	00000	00016	00000	00000	00000	00015	00000	00000	00012
0168	0250	00000	00000	00000	00010	00000	00000	00000	00013	00000	00000	00000	00021	00000	00000	00025
0172	0254	00000	00000	00000	00011	00000	00000	00000	00013	00000	00000	00000	00025	00000	00000	00027
0176	0260	00000	00000	00000	00024	00000	00000	00000	00015	00000	00000	00000	00016	00000	00000	00011
0180	0264	00000	00000	00000	00013	00000	00000	00000	00022	00000	00000	00000	00022	00000	00000	00023
0184	0270	00000	00000	00000	00021	00000	00000	00000	00020	00000	00000	00000	00020	00000	00000	00031
0188	0274	00000	00000	00000	00024	00000	00000	00000	00025	00000	00000	00000	00026	00000	00000	00031
0192	0300	00000	00000	00000	00031	00000	00000	00000	00025	00000	00000	00000	00024	00000	00000	00027

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3444	0674	00000	00000	00000	00015	00000	00000	00000	00017	00000	00000	00000	00022	00000	00000	00000	00024
3448	0700	00000	00000	00000	00011	00000	00000	00000	00016	00000	00000	00000	00014	00000	00000	00000	00014
0492	0704	00000	00000	00000	00015	00000	00000	00000	00025	00000	00000	00000	00015	00000	00000	00000	00014
0496	0710	00000	00000	00000	00014	00000	00000	00000	00023	00000	00000	00000	00024	00000	00000	00000	00007
0460	0714	00000	00000	00000	00013	00000	00000	00000	00024	00000	00000	00000	00017	00000	00000	00000	00017
0464	0720	00000	00000	00000	00015	00000	00000	00000	00026	00000	00000	00000	00030	00000	00000	00000	00016
0468	0724	00000	00000	00000	00020	00000	00000	00000	00013	00000	00000	00000	00023	00000	00000	00000	00014
0472	0730	00000	00000	00000	00017	00000	00000	00000	00015	00000	00000	00000	00016	00000	00000	00000	00017
0476	0734	00000	00000	00000	00015	00000	00000	00000	00026	00000	00000	00000	00012	00000	00000	00000	00017
0480	0740	00000	00000	00000	00020	00000	00000	00000	00021	00000	00000	00000	00020	00000	00000	00000	00016
0484	0744	00000	00000	00000	00013	00000	00000	00000	00012	00000	00000	00000	00020	00000	00000	00000	00014
0488	0750	00000	00000	00000	00023	00000	00000	00000	00030	00000	00000	00000	00024	00000	00000	00000	00021
0492	0754	00000	00000	00000	00016	00000	00000	00000	00023	00000	00000	00000	00015	00000	00000	00000	00022
0496	0760	00000	00000	00000	00030	00000	00000	00000	00022	00000	00000	00000	00014	00000	00000	00000	00024
0500	0764	00000	00000	00000	00026	00000	00000	00000	00026	00000	00000	00000	00026	00000	00000	00000	00022
0504	0770	00000	00000	00000	00022	00000	00000	00000	00027	00000	00000	00000	00023	00000	00000	00000	00021
0508	0774	00000	00000	00000	00014	00000	00000	00000	00016	00000	00000	00000	00023	00000	00000	00000	00016

FILE NO	1	RECORD NO	3	5120 CHARACTERS. BINARY
0000	0000	00000	00000	00000
0004	0004	00000	00000	00000
0008	0010	00000	00000	00000
0012	0014	00000	00000	00000
0016	0020	00000	00000	00000
0020	0024	00000	00000	00000
0024	0030	00000	00000	00000
0028	0034	00000	00000	00000
0032	0040	00000	00000	00000
0036	0044	00000	00000	00000
0040	0050	00000	00000	00000
0044	0054	00000	00000	00000
0048	0060	00000	00000	00000
0052	0064	00000	00000	00000
0056	0070	00000	00000	00000
0060	0074	00000	00000	00000
0064	0080	00000	00000	00000
0068	0084	00000	00000	00000
0072	0090	00000	00000	00000
0076	0094	00000	00000	00000
0080	0100	00000	00000	00000
0084	0104	00000	00000	00000
0088	0110	00000	00000	00000
0092	0114	00000	00000	00000
0096	0120	00000	00000	00000
0100	0124	00000	00000	00000
0104	0130	00000	00000	00000
0108	0134	00000	00000	00000
0112	0140	00000	00000	00000
0116	0144	00000	00000	00000
0120	0150	00000	00000	00000
0124	0154	00000	00000	00000
0128	0160	00000	00000	00000
0132	0164	00000	00000	00000
0136	0170	00000	00000	00000
0140	0174	00000	00000	00000
0144	0180	00000	00000	00000
0148	0184	00000	00000	00000
0152	0190	00000	00000	00000

0116	0164	00000	00000	00000	00015	00000	00000	00000	00007	00000	00000	00012	00000	00000	00010	00010
0120	0170	00000	00000	00000	00007	00000	00000	00000	00015	00000	00000	00012	00000	00000	00000	00010
0124	0174	00000	00000	00000	00011	00000	00000	00000	00012	00000	00000	00012	00000	00000	00000	00010
0128	0200	00000	00000	00000	00011	00000	00000	00000	00012	00000	00000	00012	00000	00000	00000	00010
0132	0204	00000	00000	00000	00011	00000	00000	00000	00012	00000	00000	00012	00000	00000	00000	00010
0136	0210	00000	00000	00000	00007	00000	00000	00000	00011	00000	00000	00011	00000	00000	00000	00010
0140	0214	00000	00000	00000	00011	00000	00000	00000	00011	00000	00000	00011	00000	00000	00000	00010
0144	0220	00000	00000	00000	00012	00000	00000	00000	00011	00000	00000	00011	00000	00000	00000	00010
0148	0224	00000	00000	00000	00016	00000	00000	00000	00012	00000	00000	00012	00000	00000	00000	00010
0152	0230	00000	00000	00000	00022	00000	00000	00000	00017	00000	00000	00017	00000	00000	00000	00010
0156	0234	00000	00000	00000	00010	00000	00000	00000	00012	00000	00000	00012	00000	00000	00000	00010
0160	0240	00000	00000	00000	00016	00000	00000	00000	00016	00000	00000	00016	00000	00000	00000	00010
0164	0244	00000	00000	00000	00013	00000	00000	00000	00014	00000	00000	00014	00000	00000	00000	00010
0168	0250	00000	00000	00000	00007	00000	00000	00000	00013	00000	00000	00013	00000	00000	00000	00010
0172	0254	00000	00000	00000	00020	00000	00000	00000	00013	00000	00000	00013	00000	00000	00000	00010
0176	0260	00000	00000	00000	00013	00000	00000	00000	00014	00000	00000	00014	00000	00000	00000	00010
0180	0264	00000	00000	00000	00016	00000	00000	00000	00012	00000	00000	00012	00000	00000	00000	00010
0184	0270	00000	00000	00000	00011	00000	00000	00000	00016	00000	00000	00016	00000	00000	00000	00010
0188	0274	00000	00000	00000	00005	00000	00000	00000	00011	00000	00000	00011	00000	00000	00000	00010
0192	0280	00000	00000	00000	00006	00000	00000	00000	00015	00000	00000	00015	00000	00000	00000	00010
0196	0284	00000	00000	00000	00011	00000	00000	00000	00014	00000	00000	00014	00000	00000	00000	00010
0200	0290	00000	00000	00000	00005	00000	00000	00000	00014	00000	00000	00014	00000	00000	00000	00010
0204	0294	00000	00000	00000	00007	00000	00000	00000	00013	00000	00000	00013	00000	00000	00000	00010
0208	0300	00000	00000	00000	00022	00000	00000	00000	00013	00000						

FILE NO	1	RECORD NO	6	5120 CHARACTERS. BINARY
0324	0504	00000	00000	00000
0328	0510	00000	00000	00000
0332	0514	00000	00000	00000
0336	0520	00000	00000	00000
0340	0524	00000	00000	00000
0344	0530	00000	00000	00000
0348	0534	00000	00000	00000
0352	0540	00000	00000	00000
0356	0544	00000	00000	00000
0360	0550	00000	00000	00000
0364	0554	00000	00000	00000
0368	0560	00000	00000	00000
0372	0564	00000	00000	00000
0376	0570	00000	00000	00000
0380	0574	00000	00000	00000
0384	0600	00000	00000	00000
0388	0604	00000	00000	00000
0392	0610	00000	00000	00000
0396	0614	00000	00000	00000
0400	0620	00000	00000	00000
0404	0624	00000	00000	00000
0408	0630	00000	00000	00000
0412	0634	00000	00000	00000
0416	0640	00000	00000	00000
0420	0644	00000	00000	00000
0424	0650	00000	00000	00000
0428	0654	00000	00000	00000
0432	0660	00000	00000	00000
0436	0664	00000	00000	00000
0440	0670	00000	00000	00000
0444	0674	00000	00000	00000
0448	0700	00000	00000	00000
0452	0704	00000	00000	00000
0456	0710	00000	00000	00000
0460	0714	00000	00000	00000
0464	0720	00000	00000	00000
0468	0724	00000	00000	00000
0472	0730	00000	00000	00000
0476	0734	00000	00000	00000
0480	0740	00000	00000	00000
0484	0744	00000	00000	00000
0488	0750	00000	00000	00000
0492	0754	00000	00000	00000
0496	0760	00000	00000	00000
0500	0764	00000	00000	00000
0504	0770	00000	00000	00000
0508	0774	00000	00000	00000
0512	0780	00000	00000	00000
0516	0784	00000	00000	00000
0520	0790	00000	00000	00000
0524	0794	00000	00000	00000
0528	0800	00000	00000	00000
0532	0804	00000	00000	00000
0536	0808	00000	00000	00000
0540	0812	00000	00000	00000
0544	0816	00000	00000	00000
0548	0820	00000	00000	00000
0552	0824	00000	00000	00000
0556	0828	00000	00000	00000
0560	0832	00000	00000	00000
0564	0836	00000	00000	00000
0568	0840	00000	00000	00000
0572	0844	00000	00000	00000
0576	0848	00000	00000	00000
0580	0852	00000	00000	00000
0584	0856	00000	00000	00000
0588	0860	00000	00000	00000
0592	0864	00000	00000	00000
0596	0868	00000	00000	00000
0600	0872	00000	00000	00000
0604	0876	00000	00000	00000
0608	0880	00000	00000	00000
0612	0884	00000	00000	00000
0616	0888	00000	00000	00000
0620	0892	00000	00000	00000
0624	0896	00000	00000	00000
0628	0900	00000	00000	00000
0632	0904	00000	00000	00000
0636	0908	00000	00000	00000
0640	0912	00000	00000	00000
0644	0916	00000	00000	00000
0648	0920	00000	00000	00000
0652	0924	00000	00000	00000
0656	0928	00000	00000	00000
0660	0932	00000	00000	00000
0664	0936	00000	00000	00000
0668	0940	00000	00000	00000
0672	0944	00000	00000	00000
0676	0948	00000	00000	00000
0680	0952	00000	00000	00000
0684	0956	00000	00000	00000
0688	0960	00000	00000	00000
0692	0964	00000	00000	00000
0696	0968	00000	00000	00000
0700	0972	00000	00000	00000
0704	0976	00000	00000	00000
0708	0980	00000	00000	00000
0712	0984	00000	00000	00000
0716	0988	00000	00000	00000
0720	0992	00000	00000	00000
0724	0996	00000	00000	00000
0728	1000	00000	00000	00000
0732	1004	00000	00000	00000
0736	1008	00000	00000	00000
0740	1012	00000	00000	00000
0744	1016	00000	00000	00000
0748	1020	00000	00000	00000
0752	1024	00000	00000	00000
0756	1028	00000	00000	00000
0760	1032	00000	00000	00000
0764	1036	00000	00000	00000
0768	1040	00000	00000	00000
0772	1044	00000	00000	00000
0776	1048	00000	00000	00000
0780	1052	00000	00000	00000
0784	1056	00000	00000	00000
0788	1060	00000	00000	00000
0792	1064	00000	00000	00000
0796	1068	00000	00000	00000
0800	1072	00000	00000	00000
0804	1076	00000	00000	00000
0808	1080	00000	00000	00000
0812	1084	00000	00000	00000
0816	1088	00000	00000	00000
0820	1092	00000	00000	00000
0824	1096	00000	00000	00000
0828	1100	00000	00000	00000
0832	1104	00000	00000	00000
0836	1108	00000	00000	00000
0840	1112	00000	00000	00000
0844	1116	00000	00000	00000
0848	1120	00000	00000	00000
0852	1124	00000	00000	00000
0856	1128	00000	00000	00000
0860	1132	00000	00000	00000
0864	1136	00000	00000	00000
0868	1140	00000	00000	00000
0872	1144	00000	00000	00000
0876	1148	00000	00000	00000
0880	1152	00000	00000	00000
0884	1156	00000	00000	00000
0888	1160	00000	00000	00000
0892	1164	00000	00000	00000
0896	1168	00000	00000	00000
0900	1172	00000	00000	00000
0904	1176	00000	00000	00000
0908	1180	00000	00000	00000
0912	1184	00000	00000	00000
0916	1188	00000	00000	00000
0920	1192	00000	00000	00000
0924	1196	00000	00000	00000
0928	1200	00000	00000	00000
0932	1204	00000	00000	00000
0936	1208	00000	00000	00000
0940	1212	00000	00000	00000
0944	1216	00000	00000	00000
0948	1220	00000	00000	00000
0952	1224	00000	00000	00000
0956	1228	00000	00000	00000
0960	1232	00000	00000	00000
0964	1236	00000	00000	00000
0968	1240	00000	00000	00000
0972	1244	00000	00000	00000
0976	1248	00000	00000	00000
0980	1252	00000	00000	00000
0984	1256	00000	00000	00000
0988	1260	00000	00000	00000
0992	1264	00000	00000	00000
0996	1268	00000	00000	00000
1000	1272	00000	00000	00000

[illegible]

FILE NO 1 RECORD NO 9 160 CHARACTERS, BINARY

FILE NO 1 RECORD NO 10 5120 CHARACTERS. BINARY

3000	0000	00000	00000	03417	46773	00030	00003	00000	00004	00030	00000	00000	00021	00000	00000	00003	00000
3004	0004	00003	00000	00000	00000	00003	00003	00000	00000	00000	00000	00000	00003	00003	00000	00000	00000
3008	0100	00000	00003	00000	00000	00003	00003	00000	00003	00000	00000	00000	00000	00000	00000	00000	00000
3012	0014	00000	00000	00003	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3016	0020	00000	00000	00003	00000	00003	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3020	0024	00000	00003	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3024	0030	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3028	0034	00000	00000	00003	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3032	0040	00000	00003	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3036	0044	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3040	0050	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3044	0054	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3048	0060	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3052	0064	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3056	0070	00000	00003	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3060	0074	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3064	0100	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3068	0104	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3072	0110	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3076	0114	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3080	0120	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3084	0124	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000
3088	0130	00000	00003	00000	00000												

0376	0570	00000	00000	00000	01142	00000	00000	00000	01215	00000	00000	00000	01334	00000	00000	00000	01402
0380	0574	00000	00000	00000	01460	00000	00000	00000	01561	00000	00000	00000	01650	00000	00000	00000	01634
0384	0600	00000	00000	00000	01712	00000	00000	00000	01636	00000	00000	00000	01564	00000	00000	00000	01543
0388	0604	00000	00000	00000	01376	00000	00000	00000	01462	00000	00000	00000	01416	00000	00000	00000	01426
0392	0610	00000	00000	00000	01431	00000	00000	00000	01420	00000	00000	00000	01406	00000	00000	00000	01466
0396	0614	00000	00000	00000	01406	00000	00000	00000	01514	00000	00000	00000	01313	00000	00000	00000	01336
0400	0620	00000	00000	00000	01216	00000	00000	00000	01122	00000	00000	00000	01107	00000	00000	00000	00763
0404	0624	00000	00000	00000	00755	00000	00000	00000	00724	00000	00000	00000	00715	00000	00000	00000	00646
0408	0630	00000	00000	00000	00673	00000	00000	00000	00650	00000	00000	00000	00642	00000	00000	00000	00531
0412	0634	00000	00000	00000	00553	00000	00000	00000	00527	00000	00000	00000	00526	00000	00000	00000	00437
0416	0640	00000	00000	00000	00424	00000	00000	00000	00427	00000	00000	00000	00357	00000	00000	00000	00340
0420	0644	00000	00000	00000	00311	00000	00000	00000	00310	00000	00000	00000	00306	00000	00000	00000	00264
0424	0650	00000	00000	00000	00310	00000	00000	00000	00303	00000	00000	00000	00333	00000	00000	00000	00323
0428	0654	00000	00000	00000	00343	00000	00000	00000	00337	00000	00000	00000	00362	00000	00000	00000	00454
0432	0660	00000	00000	00000	00427	00000	00000	00000	00341	00000	00000	00000	00406	00000	00000	00000	00403
0436	0664	00000	00000	00000	00362	00000	00000	00000	00356	00000	00000	00000	00323	00000	00000	00000	00267
0440	0670	00000	00000	00000	00256	00000	00000	00000	00322	00000	00000	00000	00307	00000	00000	00000	00357
0444	0674	00000	00000	00000	00307	00000	00000	00000	00352	00000	00000	00000	00370	00000	00000	00000	00360
0448	0700	00000	00000	00000	00405	00000	00000	00000	00342	00000	00000	00000	00360	00000	00000	00000	00346
0452	0704	00000	00000	00000	00324	00000	00000	00000	00270	00000	00000	00000	00250	00000	00000	00000	00254
0456	0710	00000	00000	00000	00234	00000	00000	00000	00281	00000	00000	00000	00255	00000	00000	00000	00237
0460	0714	00000	00000	00000	00237	00000	00000	00000	00232	00000	00000	00000	00245	00000	00000	00000	00223
0464	0720	00000	00000	00000	00246	00000	00000	00000	00201	00000	00000	00000	00177	00000	00000	00000	00202
0468	0724	00000	00000	00000	00170	00000	00000	00000	00166	00000	00000	00000	00170	00000	00000	00000	00136
0472	0730	00000	00000	00000	00146	00000	00000	00000	00145	00000	00000	00000	00135	00000	00000	00000	00137
0476	0734	00000	00000	00000	00140	00000	00000	00000	00122	00000	00000	00000	00130	00000	00000	00000	00134
0480	0740	00000	00000	00000	00122	00000	00000	00000	00117	00000	00000	00000	00102	00000	00000	00000	00122
0484	0744	00000	00000	00000	00141	00000	00000	00000	00126	00000	00000	00000	00127	00000	00000	00000	00117
0488	0750	00000	00000	00000	00123	00000	00000	00000	00114	00000	00000	00000	00121	00000	00000	00000	00124
0492	0754	00000	00000	00000	00121	00000	00000	00000	00113	00000	00000	00000	00105	00000	00000	00000	00102
0496	0760	00000	00000	00000	00077	00000	00000	00000	00070	00000	00000	00000	00073	00000	00000	00000	00063
0500	0764	00000	00000	00000	00064	00000	00000	00000	00075	00000	00000	00000	00056	00000	00000	00000	00075
0504	0770	00000	00000	00000	00060	00000	00000	00000	00074	00000	00000	00000	00071	00000	00000	00000	00066
0508	0774	00000	00000	00000	00060	00000	00000	00000	00066	00000	00000	00000	00072	00000	00000	00000	00104

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FILE NO	1	RECORD NO	11	5120 CHARACTERS. BINARY															
0000	0000			00000	00000	00000	00112	00000	00000	00000	00104	00000	00000	00000	00077	00000	00000	00000	00104
0004	0004			00000	00000	00000	00106	00000	00000	00000	00071	00000	00000	00000	00106	00000	00000	00000	00067
0008	0010			00000	00000	00000	00071	00000	00000	00000	00104	00000	00000	00000	00053	00000	00000	00000	00055
0012	0014			00000	00000	00000	00077	00000	00000	00000	00067	00000	00000	00000	00054	00000	00000	00000	00062
0016	0020			00000	00000	00000	00047	00000	00000	00000	00055	00000	00000	00000	00056	00000	00000	00000	00063
0020	0024			00000	00000	00000	00065	00000	00000	00000	00062	00000	00000	00000	00047	00000	00000	00000	00053
0024	0030			00000	00000	00000	00073	00000	00000	00000	00077	00000	00000	00000	00063	00000	00000	00000	00052
0028	0034			00000	00000	00000	00056	00000	00000	00000	00074	00000	00000	00000	00066	00000	00000	00000	00055
0032	0040			00000	00000	00000	00060	00000	00000	00000	00061	00000	00000	00000	00067	00000	00000	00000	00102
0036	0044			00000	00000	00000	00076	00000	00000	00000	00103	00000	00000	00000	00060	00000	00000	00000	00072
0040	0050			00000	00000	00000	00067	00000	00000	00000	00076	00000	00000	00000	00101	00000	00000	00000	00075
0044	0054			00000	00000	00000	00122	00000	00000	00000	00107	00000	00000	00000	00105	00000	00000	00000	00063
0048	0060			00000	00000	00000	00106	00000	00000	00000	00106	00000	00000	00000	00075	00000	00000	00000	00104
0052	0064			00000	00000	00000	00071	00000	00000	00000	00055	00000	00000	00000	00072	00000	00000	00000	00056
0056	0070			00000	00000	00000	00054	00000	00000	00000	00067	00000	00000	00000	00065	00000	00000	00000	00063
0060	0074			00000	00000	00000	00066	00000	00000	00000	00072	00000	00000	00000	00075	00000	00000	00000	00075
0064	0100			00000	00000	00000	00103	00000	00000	00000	00067	00000	00000	00000	00072	00000	00000	00000	00066
0068	0104			00000	00000	00000	00112	00000	00000	00000	00075	00000	00000	00000	00074	00000	00000	00000	00110
0072	0110			00000	00000	00000	00061	00000	00000	00000	00056	00000	00000	00000	00075	00000	00000	00000	00136
0076	0114			00000	00000	00000	00103	00000	00000	00000	00073	00000	00000	00000	00054	00000	00000	00000	00072
0080	0120			00000	00000	00000	00067	00000	00000	00000	00104	00000	00000	00000	00101	00000	00000	00000	00056
0084	0124			00000	00000	00000	00071	00000	00000	00000	00051	00000	00000	00000	00104	00000	00000	00000	00074
0088	0130			00000	00000	00000	00055	00000	00000	00000	00054	00000	00000	00000	00057	00000	00000	00000	00061

Table 5. Energy and photopeak efficiency calibration for HR experiment.

Energy Calibration					
Channel	Energy (keV)	Channel	Energy (keV)	Channel	Energy (keV)
713.93	71.55	1763.48	177.05	2690.40	268.89
1048.46	105.24	2038.04	204.11	2969.70	296.58
1210.20	121.57	2081.28	208.37	2994.60	299.16
1359.79	136.66	2142.59	214.49	3281.40	327.82
1463.58	147.12	2179.93	218.10	3747.01	378.72
1524.48	153.27	2284.36	228.49	3780.91	385.23
1711.72	171.33	2338.63	233.89	3855.30	413.86
1739.47	174.37	2498.04	249.73	3864.88	418.73

Photopeak Efficiency Calibration					
Energy (keV)	Counts for 1%/Fission Yield	Energy (keV)	Counts for 1%/Fission Yield	Energy (keV)	Counts for 1%/Fission Yield
30.0	1.48×10^5	116.	3.70×10^4	225.	8.35×10^3
47.0	1.48×10^5	121.	3.42×10^4	234.	7.50×10^3
52.0	1.33×10^5	125.	3.15×10^4	242.	6.90×10^3
60.0	1.10×10^5	130.	2.89×10^4	251.	6.25×10^3
70.0	8.85×10^4	136.	2.68×10^4	262.	5.70×10^3
72.5	8.45×10^4	141.	2.48×10^4	274.	5.20×10^3
75.8	7.90×10^4	146.	2.30×10^4	284.	4.72×10^3
78.5	7.45×10^4	152.	2.10×10^4	294.	4.28×10^3
81.5	7.00×10^4	158.	1.93×10^4	308.	3.86×10^3
84.8	6.60×10^4	164.	1.75×10^4	319.	3.51×10^3
88.3	6.15×10^4	171.	1.61×10^4	331.	3.21×10^3
92.0	5.70×10^4	177.	1.48×10^4	345.	2.59×10^3
95.7	5.30×10^4	185.	1.33×10^4	358.	2.45×10^3
99.5	4.90×10^4	192.	1.23×10^4	372.	2.31×10^3
103.0	4.56×10^4	199.	1.11×10^4	388.	2.21×10^3
107.0	4.35×10^4	206.	1.02×10^4	405.	1.96×10^3
111.0	3.98×10^4	216.	9.25×10^3		

Table 6. Energy and photopeak efficiency calibration for G6 experiment.

Energy Calibration					
Channel	Energy (keV)	Channel	Energy (keV)	Channel	Energy (keV)
276.9	99.6	768.5	277.6	2832.3	1015.1
288.3	103.8	996.0	359.7	3279.3	1173.2
580.7	209.8	1171.4	423.1	3532.0	1279.2
631.7	228.2	1634.8	589.6	3709.7	1332.5

Photopeak Efficiency Calibration ^{a)}					
Energy (keV)	Counts for 1%/Fission Yield	Energy (keV)	Counts for 1%/Fission Yield	Energy (keV)	Counts for 1%/Fission Yield
60.	4864.	190.	3174.	580.	389.
70.	5888.	200.	2892.	600.	376.
80.	6528.	220.	2406.	650.	333.
90.	6912.	240.	1997.	700.	297.
100.	6784.	260.	1638.	750.	269.
110.	6400.	280.	1357.	800.	241.
120.	6144.	300.	1203.	850.	218.
130.	5708.	340.	947.	900.	194.
140.	5325.	380.	806.	1000.	161.
150.	4838.	420.	678.	1100.	138.
160.	4378.	460.	576.	1200.	118.
170.	3917.	500.	491.	1300.	105.
180.	3584.	540.	433.		

- a) These absolute efficiencies are not as well determined as the HR experimental efficiencies. For best absolute accuracy a photopeak should be normalized to the HR results and then use these efficiencies as relative standards.

Table 7. Energy and photopeak efficiency calibration for GX experiment.

Energy Calibration					
Channel	Energy (keV)	Channel	Energy (keV)	Channel	Energy (keV)
315.1	104.0	613.2	211.6	1660.0	589.0
502.8	171.7	949.7	332.9	2287.2	815.4
519.4	199.4	1024.0	359.7	3568.2	1279.5

Photopeak Efficiency Calibration ^{a)}

Energy (keV)	Counts for 1%/Fission Yield	Energy (keV)	Counts for 1%/Fission Yield	Energy (keV)	Counts for 1%/Fission Yield
60.	42670.	190.	27840.	580.	3412.
70.	51650.	200.	25370.	600.	3298.
80.	57260.	220.	21100.	650.	2921.
90.	60630.	240.	17520.	700.	2605.
100.	59510.	260.	14370.	750.	2359.
110.	56140.	280.	11900.	800.	2114.
120.	53890.	300.	10550.	850.	1912.
130.	50070.	340.	8307.	900.	1701.
140.	46710.	380.	7070.	1000.	1412.
150.	42440.	420.	5947.	1100.	1210.
160.	38400.	460.	5050.	1200.	1035.
170.	34300.	500.	4307.	1300.	921.
180.	31440.	540.	3798.		

a) See note on Table 6.

Table 8. Energy and Photopeak Efficiency Calibration for COAX Experiment.

Energy Calibration					
Channel	Energy (keV)	Channel	Energy (keV)	Channel	Energy (keV)
396.9	199.3	513.0	258.5	1173.9	589.6
421.0	211.6	585.4	296.0	2348.5	1173.2
470.5	236.9	659.4	332.9	2667.5	1332.5
478.8	240.8	712.4	359.7		

Photopeak Efficiency Calibration a)

Energy (keV)	Counts for 1%/Fission Yield	Energy (keV)	Counts for 1%/Fission Yield	Energy (keV)	Counts for 1%/Fission Yield
130.	24395.	380.	5474.	900.	1549.
150.	21420.	440.	4403.	950.	1481.
170.	16838.	460.	4165.	1000.	1374.
190.	14399.	480.	3927.	1100.	1190.
210.	12495.	500.	3689.	1200.	1053.
230.	11126.	540.	3320.	1300.	940.
250.	9995.	580.	2986.	1400.	845.
270.	8865.	600.	2856.	1500.	768.
290.	8032.	650.	2558.	1600.	708.
300.	7616.	700.	2350.	1700.	648.
320.	6961.	750.	2130.	1800.	601.
340.	6426.	800.	1909.	1900.	559.
360.	5890.	850.	1749.	2000.	523.

a) See note on Table 6.

FIGURE CAPTIONS

Fig. 1. General schematic representation of the detector configuration.

Detectors F_1 (with electrodeposited ^{252}Cf) and F_2 measured kinetic energies of the fragments. Detectors γ_1 and γ_2 measured energies of γ -rays and/or x-rays. The sources and detectors indicated in the bottom of the figure were used for external stabilization of the photon detectors.

Fig. 2. An example showing the mass resolution for four specific transitions associated with the isotope ^{144}Ba . Each point represents the intensity of the gamma ray observed in the mass interval indicated on the abscissa. The width of the distribution for this isotope is ~ 5.6 a.m.u. (FWHM). Depending on the mass with which the γ -ray is associated the width can vary from ~ 4 -7 a.m.u. It should be noted the centroid of this distribution is about $A = 143.5$ and not $A = 144$ even though these transitions are associated with the isotope ^{144}Ba (see text for discussion on this subject).

Fig. 3. An example of portions of mass sorted gamma ray spectra recorded in the HR experiment. The top spectrum is for transition from fission products stopped in fragment detector F_1 having masses between 103-105 and the bottom spectrum is for the mass interval 105-107. The straight line is for energy calibration. Each spectrum is plotted twice with the top spectrum being equal to the bottom spectrum multiplied by 5.

XBL703-2403

Fig. 1

XBL703-2398

Fig. 2

XBL 700-1785

Fig. 3