

#410

VIKING LANDER 2

SEISMIC EDR-2

75-083C-08A

75-083C-08B

VIKING 2 LANDER

SEISMIC DATA PROGRAM TAPE

75-083C-08A

This data set have been restored. Originally there was one 7-track, 800 BPI tape. There is one restored tape. The original tape was created on a 1108 computer, and the restored tape was created on an IBM 9021 computer. The DR tape is 3480 cartridge and the DS tape is 9-track, 6250 BPI, written in ASCII. The DR and DS number along with their corresponding D number is as follows:

DR#	DS#	DD#	FILES
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DR-005229	DS-005229	DD-029660	1

VIKING 2 LANDER
SEISMIC EDR-2 TAPES
75-083C-08B

This data set has been restored. There were originally 113 7-track, 800 BPI tapes written in BCD. There are 10 restored tapes written in ASCII. The DR tapes are 3480 cartridges and the DS tapes are 9-track, 6250 BPI. The original tapes were created on a 1108 computer. The DR and DS numbers along with the corresponding D numbers are as follows:

<u>DR#</u>	<u>DS#</u>	<u>D#</u>	<u>FILES</u>	<u>TIME SPAN</u>	
DR004167	DS004167	D019660	1 - 3	09/03/76 - 09/09/76	
		D029661	4 - 6	09/04/76 - 09/06/76	
		D030689	7 - 9	09/10/76 - 09/12/76	
		D030691	10 - 12	09/13/76 - 09/15/76	
		D030692	13 - 15	09/16/76 - 09/18/76	
		D030694	16 - 18	09/19/76 - 09/21/76	(a)
		D030696	19 - 21	09/21/76 - 09/24/76	(b)
		D030697	22 - 24	09/25/76 - 09/27/76	
		D030698	25 - 27	09/27/76 - 09/30/76	
		D030693	28 - 30	10/01/76 - 10/02/76	
DR004168	DS004168	D030700	1 - 3	10/05/76 - 10/07/76	
		D030701	4 - 6	10/09/76 - 10/10/76	
		D030702	7 - 9	10/11/76 - 10/14/76	
		D030703	10 - 12	10/14/76 - 10/17/76	
		D030705	13 - 15	10/21/76 - 10/23/76	
		D030706	16 - 18	10/23/76 - 10/26/76	
DR004169	DS004169	D030707	1 - 3	10/27/76 - 10/29/76	
		D030708	4 - 6	10/30/76 - 11/01/76	
		D030709	7 - 9	11/02/76 - 11/04/76	
		D030688	10 - 12	12/02/76 - 12/27/76	
		D030953	13 - 15	12/29/76 - 01/01/77	
		D030954	16 - 18	01/03/77 - 01/09/77	(c)
		D030955	19 - 21	01/11/77 - 01/15/77	
		D031188	22 - 24	01/16/77 - 01/19/77	
		D031189	25 - 27	01/21/77 - 01/30/77	
		D031190	28 - 30	01/30/77 - 02/01/77	

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<u>DR#</u>	<u>DS#</u>	<u>D#</u>	<u>FILES</u>	<u>TIME SPAN</u>
DR004170	DS004170	D031191	1 - 3	02/03/77 - 02/06/77 (d)
		D031210	4 - 6	02/11/77 - 02/12/77
		D031209	7 - 9	02/13/77 - 02/14/77
		D031211	10 - 12	02/15/77 - 02/16/77
		D031207	13 - 15	02/18/77 - 02/22/77 (e)
		D031208	16 - 18	02/24/77 - 02/26/77
		D031275	19 - 21	02/27/77 - 02/28/77
		D031276	22 - 24	02/28/77 - 03/01/77
		D031265	25 - 27	03/03/77 - 03/04/77 (f)
		D031266	28 - 30	03/06/77 - 03/09/77
		D031267	31 - 33	03/11/77 - 03/13/77
DR004171	DS004171	D031268	1 - 3	03/13/77 - 03/14/77 (g)
		D031269	4 - 6	03/15/77 - 03/16/77
		D031270	7 - 9	03/17/77 - 03/17/77
		D031271	10 - 12	03/18/77 - 03/22/77
		D031272	13 - 15	03/23/77 - 03/25/77
		D031800	16 - 18	03/26/77 - 03/27/77 (h)
		D031801	19 - 21	03/28/77 - 03/29/77
		D031802	22 - 24	03/30/77 - 04/02/77
		D031791	25 - 27	04/03/77 - 04/05/77 (i)
		D031792	28 - 30	04/05/77 - 04/07/77 (j)
		D031793	31 - 33	04/07/77 - 04/09/77
		D031794	34 - 36	04/09/77 - 04/10/77 (k)
		D031803	37 - 39	04/11/77 - 04/12/77
		D031796	40 - 42	04/15/77 - 04/16/77 (l)
DR004172	DS004172	D031795	1 - 3	04/17/77 - 04/20/77
		D031797	4 - 6	04/23/77 - 04/28/77 (m)
		D031798	7 - 9	05/01/77 - 05/02/77 (n)
		D031799	10 - 12	05/04/77 - 05/06/77 (o)
		D031948	13 - 15	05/06/77 - 05/08/77
		D031949	16 - 18	05/09/77 - 05/10/77 (p)
		D031950	19 - 21	05/11/77 - 05/12/77 (q)
		D031951	22 - 24	05/19/77 - 05/24/77 (r)
		D031952	25 - 27	06/03/77 - 06/09/77
		D031953	28 - 30	06/09/77 - 06/17/77
		D031954	31 - 33	06/18/77 - 06/19/77 (s)
		D032023	34 - 36	06/23/77 - 06/29/77

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<u>DR#</u>	<u>DS#</u>	<u>D#</u>	<u>FILES</u>	<u>TIME SPAN</u>
DR004173	DS004173	D032024	1 - 3	07/01/77 - 07/07/77
		D032025	4 - 6	07/15/77 - 07/24/77 (t)
		D032026	7 - 9	07/24/77 - 07/27/77
		D032027	10 - 12	07/30/77 - 08/08/77
		D032028	13 - 15	08/16/77 - 08/20/77
		D032029	16 - 18	08/21/77 - 08/27/77
		D032030	19 - 21	08/20/77 - 09/02/77
		D032031	22 - 24	09/05/77 - 09/11/77
		D032032	25 - 27	09/11/77 - 09/17/77 (u)
		D032033	28 - 30	09/17/77 - 09/26/77
		D032034	31 - 33	09/26/77 - 09/28/77
		D032035	34 - 36	09/28/77 - 10/01/77 (v)
		DR004174	DS004174	D032036
D032037	4 - 6			10/06/77 - 10/11/77 (w)
D032346	7 - 9			10/12/77 - 10/16/77
D032347	10 - 12			10/17/77 - 10/21/77
D032348	13 - 15			10/24/77 - 10/27/77
D032349	16 - 18			10/27/77 - 10/29/77
D032350	19 - 21			10/31/77 - 11/02/77
D032351	22 - 24			11/03/77 - 11/05/77 (x)
D032352	25 - 27			11/06/77 - 11/14/77
D032353	28 - 30			11/15/77 - 11/17/77
D032354	31 - 33			11/19/77 - 11/22/77 (y)
D032355	34 - 36			11/27/77 - 11/30/77 (z)
D032356	37 - 39			12/01/77 - 12/03/77
D032357	40 - 42			12/04/77 - 12/07/77 (aa)
DR004175	DS004175	D032668	1 - 3	12/08/77 - 12/09/77
		D032669	4 - 6	12/10/77 - 12/12/77
		D032670	7 - 9	12/13/77 - 12/17/77 (bb)
		D032671	10 - 12	12/20/77 - 12/26/77
		D032672	13 - 15	12/26/77 - 01/01/78
		D032673	16 - 18	01/01/78 - 01/05/78
		D032691	19 - 21	01/05/78 - 01/09/78
		D032689	22 - 24	01/09/78 - 01/12/78
		D032674	25 - 27	01/12/78 - 01/15/78
		D032675	28 - 30	01/15/78 - 01/17/78 (cc)
		D032676	31 - 33	01/19/78 - 01/30/78 (dd)
D032677	34 - 36	01/30/78 - 02/02/78 (ee)		
D032678	37 - 39	02/06/78 - 02/13/78		

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DR#	DS#	D#	FILES	TIME SPAN
DR004176	DS004176	D032679	1 - 3	02/13/78 - 02/17/78
		D032680	4 - 6	02/13/78 - 02/18/78
		D032681	7 - 9	02/19/78 - 02/22/78 (ff)
		D032682	10 - 12	02/22/78 - 02/24/78
		D032683	13 - 15	02/25/78 - 03/09/78 (gg)
		D032684	16 - 18	03/09/78 - 03/12/78
		D032685	19 - 21	03/12/78 - 03/15/78
		D032690	22 - 24	03/12/78 - 03/15/78
		D032686	25 - 27	03/18/78 - 03/29/78
		D032687	28 - 30	03/29/78 - 03/29/78
		D032688	31	03/31/78 - 04/01/78 (hh)

- (a) D030694 : Read errors occurred in records 2351, 2352, 2361, 2370, & 2399 of File 3.
- (b) D030696 : Read error occurred in record 2329 of File 3.
- (c) D030954 : Read errors occurred in records 92, 93, & 94 of File 1.
- (d) D031191 : Read errors occurred in records 235, 236, & 237 of File 1.
- (e) D031207 : Read errors occurred in records 729, 763, 775, 821, 832 of File 1 and records 521, 543, 554, 565, 835 of File 2.
- (f) D031265 : Read errors occurred in records 657, 658, 659, 660, & 661 of File 1.
- (g) D031268 : Read errors occurred in records 226, & 227 of File 1.
- (h) D031800 : Read error occurred in record 111 of File 3.
- (i) D031791 : Read errors occurred in records 332, 333, 344, & 650 of File 1.
- (j) D031792 : Read errors occurred in records 10, 12, 20, 137, 141, 172, & 211 of File 1.
- (k) D031794 : Read error occurred in record 258 of File 1.
- (l) D031796 : Read errors occurred in records 231, 232, & 233 of File 1.
- (m) D031797 : Read errors occurred in records 151, 245, 246, 247, 248, & 249 of File 2.
- (n) D031798 : Read error occurred in record 256 of File 3.
- (o) D031799 : Read error occurred in record 129 of File 1.
- (p) D031949 : Read errors occurred in records 13 & 25 of File 2.
- (q) D031950 : Read errors occurred in records 601, 605, 616, 617, 624, 636, 647, 658, 704 of File 3.
- (r) D031951 : Read errors occurred in records 153, 189, 206, 213, 218, 655, 667 & 679 of File 1.
- (s) D031954 : Read error occurred in record 58 of File 1.
- (t) D032025 : Read error occurred in record 673 of File 1.
- (u) D032032 : Read error occurred in record 6 of File 1.

- (v) D032035 : Read error occurred in record 6 of File 1.
- (w) D032037 : Read error occurred in record 213 of File 1.
- (x) D032351 : Read errors occurred in records 11, 149, 371, 421, 738, 757, 759 of File 1 and record 145 of File 2.
- (y) D032354 : Read error occurred in record 16 of File 3.
- (z) D032355 : Read error occurred in record 19 of File 1.
- (aa) D032357 : Read error occurred in record 5 in File 1 and record 84 of File 2.
- (bb) D032670 : Read errors occurred in records 23 & 29 of File 1.
- (cc) D032675 : Read error occurred in record 1 of File 1.
- (dd) D032676 : Read errors occurred in records 258, 363, 386, 635, 863 of File 2 and records 149 & 220 of File 3.
- (ee) D032677 : Read errors occurred in records 21, 37, 41, 42, 48, 49, 90, & 126 of File 1.
- (ff) D032681 : Read errors occurred in records 520, 794, 795, 796 of File 1 and record 450 of File 3.
- (gg) D032683 : Read errors occurred in records 89, 174, 217, 263, 738, 756 of File 1 and record 573 of File 2, and record 732 of File 3.
- (hh) D032688 : Read error occurred in records 1, 567, 581 of File 1.

REQ. AGENT
DBN
CMP

RAND #
RC7885 RD0050
RC8604 RD0467
RC9053 RD1112

ACQ. AGENT
RWV

VIKING LANDER 2

SEISMIC EDR-2

75-083C-08A

75-083C-08B

This data set consists of one program tape and 106 data tapes. Both tapes are 800 BPI, Even Parity, 7 track, 08A contains 1 file and 08B contains 3 files. The tapes were created on a UNIVAC 1108 computer.

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
<u>08A</u>		
D-29660	C-19261	Program Tape
<u>08B</u>		
D-29661	C-19262	09/04/76 - 09/06/76
D-30688	C-19658	12/06/76 - 12/27/76
D-30689	C-19659	09/10/76 - 09/12/76
D-30690	C-19660	09/03/76 - 09/09/76
D-30691	C-19661	09/13/76 - 09/15/76
D-30692	C-19662	09/16/76 - 09/18/76
D-30693	C-19663	10/01/76 - 10/02/76
D-30694	C-19684	09/19/76 - 09/21/76
D-30696	C-19685	09/21/76 - 09/24/76
D-30697	C-19664	09/25/76 - 09/27/76
D-30698	C-19686	09/27/76 - 09/30/76
D-30700	C-19687	10/05/76 - 10/07/76
D-30701	C-19688	10/09/76 - 10/10/76
D-30702	C-19689	10/11/76 - 10/14/76

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
D-30703	C-19690	10/14/76 - 10/17/76
D-30705	C-19665	10/21/76 - 10/23/76
D-30706	C-19691	10/23/76 - 10/26/76
D-30707	C-19666	10/27/76 - 10/29/76
D-30708	C-19667	10/30/76 - 11/01/76
D-30709	C-19692	11/02/76 - 11/04/76
D-30953	C-19810	12/29/76 - 1/01/77
D-30954	C-19811	01/03/77 - 01/09/77
D-30955	C-19812	01/11/77 - 01/15/77
D-31188	C-19845	01/16/77 - 01/19/77
D-31189	C-19846	01/21/77 - 01/30/77
D-31190	C-19847	01/30/77 - 02/01/77
D-31191	C-19848	02/03/77 - 02/06/77
D-31207	C-19863	02/18/77 - 02/22/77
D-31208	C-19864	02/24/77 - 02/26/77
D-31209	C-19865	02/11/77 - 02/12/77
D-31210	C-19866	02/15/77 - 02/16/77
D-31211	C-19867	02/15/77 - 02/16/77
D-31265	C-19898	03/03/77 - 03/04/77
D-31266	C-19899	03/06/77 - 03/09/77
D-31267	C-19900	03/11/77 - 03/13/77
D-31268	C-19901	03/13/77 - 03/14/77
D-31269	C-19902	03/15/77 - 03/16/77
D-31270	C-19903	03/17/77 - 03/17/77
D-31271	C-19904	03/18/77 - 03/22/77
D-31272	C-19905	03/23/77 - 03/25/77
D-31275	C-19907	02/27/77 - 02/28/77
D-31276	C-19908	02/28/77 - 03/01/77

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
D-31791	C-19927	04/03/77 - 04/05/77
D-31792	C-19928	04/05/77 - 04/07/77
D-31793	C-19929	04/07/77 - 04/09/77
D-31794	C-19930	04/09/77 - 04/10/77
D-31795	C-19931	04/17/77 - 04/20/77
D-31796	C-19932	04/15/77 - 04/16/77
D-31797	C-19933	04/23/77 - 04/28/77
D-31798	C-19934	05/01/77 - 05/02/77
D-31799	C-19935	05/04/77 - 05/06/77
D-31800	C-19936	03/26/77 - 03/27/77
D-31801	C-19937	03/28/77 - 03/29/77
D-31802	C-19938	03/30/77 - 04/02/77
D-31803	C-19939	04/11/77 - 04/14/77
D-31948	C-20015	05/06/77 - 05/08/77
D-31949	C-20016	05/09/77 - 05/10/77
D-31950	C-20017	05/11/77 - 05/12/77
D-31951	C-20018	05/19/77 - 05/24/77
D-31952	C-20019	06/03/77 - 06/09/77
D-31953	C-20020	06/09/77 - 06/17/77
D-31954	C-20021	06/18/77 - 06/19/77
D-32023	C-20097	06/23/77 - 06/29/77
D-32024	C-20098	07/01/77 - 07/06/77
D-32025	C-20099	07/15/77 - 07/24/77
D-32026	C-20100	07/24/77 - 07/27/77
D-32027	C-20101	07/30/77 - 08/08/77
D-32028	C-20102	08/16/77 - 08/20/77

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
D-32029	C-20103	08/21/77 - 08/27/77
D-32030	C-20104	08/30/77 - 09/02/77
D-32031	C-20105	09/05/77 - 09/11/77
D-32032	C-20106	09/11/77 - 09/17/77
D-32033	C-20107	09/17/77 - 09/26/77
D-32034	C-20108	09/26/77 - 09/28/77
D-32035	C-20109	09/28/77 - 10/01/77
D-32036	C-20110	10/01/77 - 10/06/77
D-32037	C-20111	10/06/77 - 10/11/77
D-32346	C-20186	10/12/77 - 10/16/77
D-32347	C-20187	10/17/77 - 10/21/77
D-32348	C-20188	10/24/77 - 10/27/77
D-32349	C-20189	10/27/77 - 10/29/77
D-32350	C-20190	10/31/77 - 11/02/77
D-32351	C-20191	11/03/77 - 11/05/77
D-32352	C-20192	11/06/77 - 11/14/77
D-32353	C-20193	11/15/77 - 11/17/77
D-32354	C-20194	11/19/77 - 11/22/77
D-32355	C-20195	11/27/77 - 11/30/77
D-32356	C-20196	12/01/77 - 12/03/77
D-32357	C-20197	12/04/77 - 12/07/77
D-32668	C-20272	12/08/77 - 12/09/77
D-32669	C-20297	12/10/77 - 12/12/77
D-32670	C-20273	12/13/77 - 12/17/77
D-32671	C-20274	12/20/77 - 12/26/77
D-32672	C-20275	12/26/77 - 01/01/78
D-32673	C-20276	01/01/78 - 01/05/78
D-32674	C-20277	01/12/78 - 01/15/78
* D-32675	C-20278	01/19/78 - 01/30/78
D-32676		

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
D-32677	C-20279	01/30/78 - 02/02/78
D-32678	C-20280	02/06/78 - 02/13/78
* D-32679		
* D-32680	C-20281	02/19/78 - 02/22/78
D-32681		
D-32682	C-20282	02/22/78 - 02/24/78
D-32683	C-20283	02/25/78 - 03/09/78
D-32684	C-20284	03/09/78 - 03/12/78
* D-32685		
D-32686	C-20285	03/18/78 - 03/29/78
* D-32687		
* D-32688	C-20286	01/09/78 - 01/12/78
D-32689		
* D-32690	C-20287	01/05/78 - 01/09/78
D-32691		

* THESE TAPES HAD VARIOUS REASONS WHY THEY WERE NOT ACCEPTABLE

D-32675 DLT799 First part of record 1 of file 1 is missing, this includes the time span

D-32679 DLT804 Roughly the same time span as D-32680 2/13/78-2/18/78 but the data is different

D-32680 DLT805 Time span is 2/13/78-2/19/78

D-32685 DLT810 Same time span as D-32690 3/12/78-3/15/78 data seems identical

D-32690 DLT802 Time span 3/12/78-3/15/78 same as above

D-32687 DLT812 Time Span goes from a later date to an earlier date

D-32688 DLT813 There is only one file of data when there should be three

DUMPS OF THE ABOVE TAPES ARE AT THE BACK OF THE CATALOG

VIKING TAPES - FORMAT

Anton M. Dainty

M.I.T.

May 2, 1977

The Viking EDR-2 tapes are unlabelled, ⁹ track, ⁶²⁵⁰ 800 bpi, ~~even~~ ^{odd} parity tapes. They are written in ^{Asc II} BCD by a FORTRAN Program on a UNIVAC 1108 at the Jet Propulsion Laboratory, Pasadena. When data is written by a FORTRAN program on this machine, only one record format is permissible. Records are written in a blocked format, and are of variable length. A control word is placed at the beginning of each record; this control word is thirty-six bits long, and is written in binary, not BCD. This complicates the task of reading the tapes - a program, EDREMT, written in PL/I to remove the control words and write the output as card images, one record to an image, is described below. The blocksize is 1344 BCD characters. There are two additional control words at the beginning of the first block, which we have not used. Otherwise, there are no control words at the beginning of the block - if a record starts at the end of one block, it is carried over to the next block. The information in the control words used by EDREMT is in bits 0-5, the record type; in bits 6-11, the number of BCD characters in the following record; in bits 12-17, the number of BCD characters in the previous record. Figure 1 illustrates these relations. The number of characters in any record is always an exact multiple of 6. See EDREMT write-up.

Note: the number of characters discussed above is expressed as the number of 6 characters words.

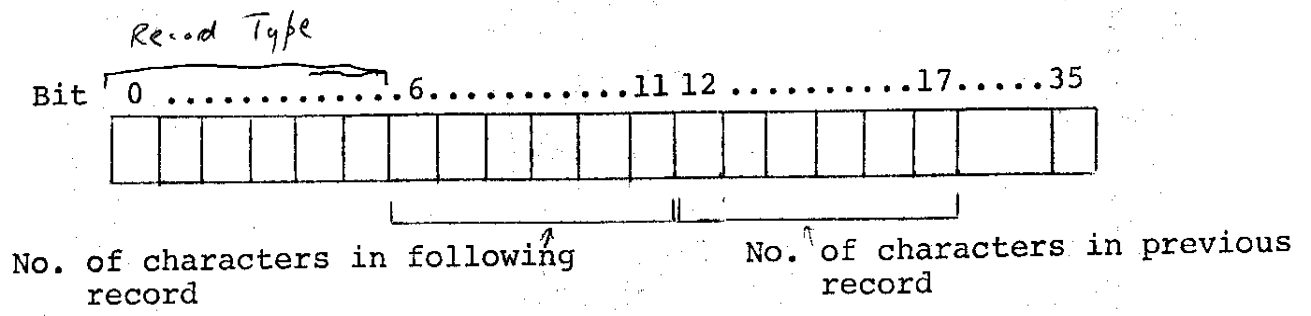


Figure 1.

The records themselves are organized into buffers, which are the basic unit of seismometer data. Each buffer contains two header records, containing information such as timing, the number of data samples in the buffer, and the operating status of the instrument. Following the header records are the data samples. Each data sample consists of one sample from each of three components. If a sample is not available from a component, zeros are written. At least one data sample is written, if the number of data samples in the header is given as '0', zeros are written. The format of the header records and the data samples is described below.

The header records are written by the FORTRAN commands
 WRITE(N,1) LNDR, ISAS, ISDR, IDEC, IDAY, ITIME, IRUN,
 NDATA, IMODE, MODE, VATTEN, HATTEN, TLEVEL, FILT, FMODE,
 XTRIG, YTRIG, ZTRIG, CAL, IYEAR, IGCSC, SEC.

```
1 FORMAT(1X, I1, I7, 2I5, I3, I10, I3, I2, I1, 5A6/1X, 5A6,  

  I5, I10, E16.8)
```

'N' is a seven track tape drive. The slash in the format statement indicates an end of record. A detailed description of the meaning of each variable is given below, together with information concerning allowed values or ranges. Hollerith:

constants are enclosed in a single quote; the single quotes are not, of course, on the tape.

LNDR(integer) Lander. Allowed values, 1=VL1, 2=VL2.

ISAS(integer) Buffer number assigned by program SASEIS. Should start at 1000 and increment by 10.

ISDR(integer) No meaning. Apparently usually 0.

IDEC(integer) Program DECSET sequence number. Little meaning.

IDAY(integer) GMT day of first data sample, x-component.

ITIME(integer) GMT time in milliseconds (apparently after the nearest hour) of earth receipt of first bit of the buffer.

IRUN(integer) Run number. Little meaning.

NDATA(integer) Number of data samples in buffer. For normal mode, range 0-83; for event mode, 0-53; for high data rate, 0-83.

IMODE(integer) Integer code denoting mode of operation of seismometer. 1 = normal mode, 2 = event mode, 3 = high data mode.

MODE(hollerith) Mode of operation of seismometer, allowed values, 'NORMAL', 'EVENT', 'HIGH'.

VATTEN (") Vertical (x-component) attenuation. Allowed values '0DB', '6DB', '12DB', '18DB', '24DB', '30DB', '36DB'.

HATTEN (") Horizontal (y- and z-component) attenuation. Allowed values as for VATTEN.

TLEVEL(") Trigger level (see report on operation of the instrument). Signal must rise above background by this factor to trigger into EVENT mode. Has

no meaning if trigger is not set. Allowed values 'X4', 'X8', 'X12', 'X16', 'X20'.

FILT (") Rollover point for the hi-pass filter. Has no meaning for EVENT mode (filter cannot be used in this mode). Allowed values '.5HZ', '1.HZ', '2.HZ', '4.HZ', ' '.

FMODE (") Indicates status of filter range. Allowed values 'FIX', 'STEP', 'FIX' indicates IFILT value holds for entire buffer. 'STEP' (only allowable in NORMAL mode) indicates that first 8 data samples are at IFILT setting; filter then cycles through all possible values in the sense .5HZ → 1.HZ → 2.HZ → 4.HZ → .5HZ, etc. at 8 data sample intervals. Has no meaning in EVENT mode.

XTRIG (") Trigger status of x-component (any or all of the triggers may be enabled at any time). Allowed values 'XON', 'XOFF'.

YTRIG (") Trigger status of y-component. Allowed values 'YON', 'YOFF'.

ZTRIG (") Trigger status of z-component. Allowed values 'ZON', 'ZOFF'.

CAL (") Calibration status. Only has meaning in high data rate. Allowed values 'CALON' (indicating calibration sequence), 'CALOFF'.

IYEAR(integer) Year.

IGCSC(integer) Integer count kept by the GCSC (Guidance command and sequencing computer) for timing. One bit in this count represents 160 milliseconds (nominal).

Note that because of limitations on the number of bits available, this number cycles through 0 approximately every 31 days. This number is the original source for IDAY and SEC.

SEC(real) Seconds into GMT day of first sample, x-component.

Data samples are written in two formats, depending on whether the period is the first after the header records or not.

The FORTRAN write is:

```
WRITE(N,2) (IXA(I) (IXA(I),IXZ(I),IYA(I),IYZ(I),IZA(I),IZZ(I),
I=1,NDATA.
```

If the record is the first record after the header record, the

FORMAT is 2 FORMAT(4X,12(I4,12)). Otherwise the FORMAT is

2 FORMAT(12(I4,I2)). The symbols are as follows:

IXA(integer) Normal mode - average rectified amplitude of x-component in a 14.85 sec interval. Allowed range 0+127.

Event mode - average rectified amplitude in a 0.9901 sec interval. Allowed range 0+127.

High data rate - sampled value of output of seismometer. Samples every 0.0495 sec. Allowed range -127++127.

IXZ(integer) Normal mode - no meaning. Zero written.

Event mode - number of negative to positive zero crossings of seismometer output for x-component in 0.9901 sec interval. Amplitude of zero crossing must be at least 3 bits (-1 to +2) to be counted.

High data rate - no meaning. Zero written.

IYA(integer) Y-component, as for IXA.

IYZ(integer) Y-component, as for IXZ.
 IZA(integer) Z-component, as for IXA.
 IZZ(integer) Z-component, as for IXZ.
 NDATA(integer) Number of data samples (from leader. Allowed range - normal mode, 0→83; event mode, 0→53; high data rate, 0→83.

Program EDRFMT

This PL/I program reads in data from a VIKING EDR-2 tape and removes the binary control records, placing each on a card-image and outputting it in a suitable format. The program uses the PL/I Optimizing compiler under IBM OS/370.

Input:

The only input is the seven-track VIKING tape. The file name is EDRIN and the Data Definition (DD) card is:

```
//G.EDRIN DD UNIT=TAPE7,VOL=SER=xxxxxx,DISP=OLD,
//          LABEL=(y,NL),DCB=(RECFM=U,BLKSIZE=1344,DEN=2,TRTCH=ET)
```

Note xxxxxx is the tape number. y is the appropriate file - VIKING EDR-2 tapes are multi-file tapes with standard file marks. G. indicates GO step of the PL/I Optimizing compile, link edit and execute.

Outputs:

On file SYSPRINT, a printer output of the card images.

On file EDROUT, the card images. Currently we are using the following DD card - any other appropriate card could be used.

With this DD card, the output is EBCDIC.

```
//G.EDROUT DD UNIT=TAPE9,VOL=SER=xxxxxx,DISP=(NEW,KEEP),
//          LABEL=(1,NL),DCB=(RECFM=FB,BLKSIZE=3120,LRECL=80,DEN=2)
```

Error messages:

Appear on file SYSPRINT.

'EDRFMT: TRANSMIT CONDITION RAISED'

Followed by a dump of the input block.

Indicates a permanent I/O error while reading file EDRIN.

'STRANGE BLOCK LENGTH xxxx AT BLOCK yyyy'

A block of length xxxx ≠ 1344 was detected, at the yyyy block (in order). Will always be printed at the EOF mark.

'BREAK: BUG - INVALID HEADER FORMAT AT xxxx'

Self explanatory. xxxx is the character from the start of the block.

'BREAK: BUG - INVALID LOGICAL RECORD TYPE = x = YYYYYYYY AT zzzz'

The record type (bits 0-5 of the control word) does not correspond to tape label, Data, or End of File. x is the EBCDIC character representation (see program notes), YYYYYYYY is the (binary) internal code of the character, zzz is the character number in the block.

'LNGTH: BUG - STRANGE CHARACTER CODE = x = YYYYYYYY at zzzz'

The record length is not one of the expected length (bits 6-11 of the control word, see program notes), x, YYYYYYYY, zzzz same meaning as above.

Program notes:

The Data Control Block (DCB) parameters used for file EDRIN cause the BCD→EBCDIC translator to be invoked, causing an 8 bit code to be substituted for every 6 bit code on the original tape. With respect to the control words, this causes bits 0-5 (record tape) to be converted as well as bits 6-11 (length of following recording) and bits 12-17 (length of previous record). As a result of the conversion the valid record types are:

EBCDIC character '*' - tape label;

EBCDIC character '^' - data;

Binary string 11100000 - EOF.

The record length encountered together with their equivalent EBCDIC representation are given in Table I below.

TABLE I.

<u>Record length, characters, decimal</u>	<u>EBCDIC Equivalent</u>
18	↖ ↗
24	↗
36	A
42	B
54	D
60	E
66	F
72	G
78	H

Example of input to FDR FMT and translation

Table label

BLOCK	1	LENGTH	1344
1*	(P*****F(CW	2	1000
33*	4316284	81120757	0512EVENT 0*
65*	DB ODB X20	.5HZ*FFC*(FIX
97*	XOFF YOFF	ZOFF CALOFF	1976
129*	2797502	.46967221604	"HFC"
161*	"	5 0 4 0 4 0 3 4	*
193*	2 1 3 4 3 1	3 3 2 5	5*
225*	2 2 3 3 3 3	2 2 1	1*
257*	2 3 5 3 3	2 1 3 4	2 2*
289*	1 3 4 3 5 2	4 2 5 2	"G"
321*	"GC")	6 3 3 3 2 4	3 3*
353*	4 5 7 5 7	3 7 6 6	4 5*
385*	3 6 6 5	"GGC" 4 1 2 5	*
417*	4 5 4 7 5 7	9 7 7 7	5*
449*	7 8 6 6 4 7	3 3 4 6	"GGC" *
481*	9 7 5 7 3 6	5 7 4 7	7 6*
513*	7 8 "GGC"	7 7 5 7	5 7*
545*	6 7 5 5	7 7 5 7	5 7*
577*	8 7 7 4 7 7	5 4 8 "GGC" A	12 5*
609*	5 4 7 7 7 7	9 7 7 4	4 4*
641*	6 3 3 5 4 5	6 1 4 4	*
673*	6 3 3 5 4 5	6 1 4 4	*
705*	7 "GGC" B	9 4 4 6 6 6	7*
737*	7 5 6 9 7	5 6 4 6 5 7	*
769*	4 7 4 6 8	"GGC" C 6 7	*
801*	6 7 11 7 8 6	5 4 9 5	6*
833*	4 5 3 7 4 7 2	5 4 7 3	*
865*	"GGC" D	5 2 6 2 8 4	8 3*
897*	5 4 8 5 9 4	6 2 8 5	4*
929*	5 6 4 8 7	"GGC" E 7 5 7 5	*
961*	11 6 10 5 7 5	12 7 7 7	*
993*	6 4 9 7 7 7	7 6 15 6	"GGC" *
1025*	"F 12 6 10 7 15	6 9 4 6 3	*
1057*	11 3 8 4 7 2	10 3 7 2	*
1089*	5 2 5 2 "DGC" G	4 2 3 2 5	*
1121*	4 8 4 8 5 13	6 10 7 6 6	*
1153*	12 7 "FDC" H	2 1010 0 43172	*
1185*84	81121285	0492EVENT	0DB 0*
1217*DB	X20 .5HZ*FFC*(FIX XOFF	*
1249*	YOFF ZOFF	CALOFF 1976	27978*
1281*26	.47485616804	"HFC"	*
1313*	1014 815 1515	10 7 7 4	*
2	1000	0 4316284 81120757	0512EVENT
FIX	XOFF YOFF	ZOFF CALOFF	1976
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4317284 81121285	0492EVENT
FIX	XOFF YOFF	ZOFF CALOFF	1976
2	1010	0 4316284 81120757	0512EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4317284 81121285	0492EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4316284 81120757	0512EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4317284 81121285	0492EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4316284 81120757	0512EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4317284 81121285	0492EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4316284 81120757	0512EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4317284 81121285	0492EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4316284 81120757	0512EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4317284 81121285	0492EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4316284 81120757	0512EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4317284 81121285	0492EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6	5 4 7 7 7	9 7 7 4	12 5
9	4 6 6 6 6	7 7 5 6	9 7
6	7 6 7 11 7	8 6 5 4	9 5
5	2 6 2 8 4	8 3 5 4	8 5
7	5 7 5 11 6	10 5 7 5	12 7
4	2 10 7 15 6	9 4 6 3	11 3
4	2 3 2 5 4	8 4 8 5	13 6
2	1010	0 4316284 81120757	0512EVENT
5	0 4 0 4 0 4	3 4 2 1	3 4
2	1 2 3 3 5	3 3 2 1	3 4
6	3 3 2 4	3 3 3 4	5 7
4	1 2 5 4 5	4 7 5 7	9 7
4	7 4 7 7 7	7 6 5 7	9 7
5	7 4 7 7 6	6 7 5 5	7 7
6			

```

BLOCK 2 LENGTH 1344
1*11 6 7 5 5 6 8 7 5 2 3*
33* 3 6 5 "GHC"( 5 5 6 7 7*
65* 7 5 5 4 5 8 6 6 6 5 4*
97* 9 6 6 5 9 3 11 2"GGC") *
129* 8 2 7 2 8 5 7 5 4 6 11*
161* 7 10 4 8 4 13 4 10 2 7 3*
193* 12 5"GGC" 1 10 6 10 7 12 5 *
225* 8 4 5 3 11 3 10 2 8 2 9*
257* 3 11 2 7 3 8 4"GGC"- 5 5*
289* 4 4 8 4 5 3 4 5 5 7 *
321* 4 7 4 4 10 6 7 5 5 2 9*
353* 4"GGC" 7 2 7 4 8 5 8 4*
385* 5 4 8 6 5 7 6 7 11 6 *
417* 7 5 5 3 9 6"GCA" 6 5 6*
449* 4 9 4 6 3 6 5 7 4 5 4*
481* 3 4 5 5 5 5 3 8 5"G*
513*GCB 610 010 017 25526 0*
545* 0 10 8 031 0 0 0 0 0 *
577* 0 0 0 0"GGC"C 0 0 0 0 *
609* 0 0 0 0 0 0 0 0 0 0 *
641* 0 0 9 1025 616 11 3"GCC"D*
673* 8 2 6 2 6 5 6 3 4 5 *
705* 9 7 1 2 0 9 0 8 0 0 0*
737* 0 0 0"GGC"E 0 0 0 0 0*
769* 0 0 0 0 0 0 0 0 0 0 *
801* 0 0 0 0 0 0 0 0 0 0 *
833* 0 0 0 0 0 0 0 0 0 0 *
865* 0 0 1"GCG 0 0 0 0 0 0 *
897* 0 0 1"GCG 0 0 0 0 0 0 *
929*** 2 1020 0 4429284 811767*
961*86 0512EVENT ODB ODB X20 *
993*.SHZ"FFC"( PIX XOFF YOFF ZOFF
1025*F CALOFF 1976 2812840 .715*
1057*07800604 "HFC" 2 8 2*
1089*18 3 1 4 1 3 3 1 3 3 6 1*
1121* 3 2 3 4 3 3 1 3 3 6 *
1153*"GHC"( 3 4 3 1 5 3 5 1 *
1185* 3 3 5 6 5 7 4 6 7 5 5*
1217* 4 3 6 5 7"GGC") 4 5 4 4*
1249* 7 6 5 5 4 5 6 6 5 7 *
1281* 3 6 6 7 4 6 3 6 5 7"GGC*
1313*" 4 7 3 6 5 7 3 7 3 6*
1014 815 1515 10 7 7 4 11 6 7 5 5 6 8 7 5 2 3 3 6 5
5 5 6 7 7 7 5 5 4 5 8 6 6 6
8 2 7 2 8 5 7 5 4 6 11 7 10 4 8 2 13 4 10 2 7 3 12 5
10 6 10 7 12 5 8 4 5 3 11 3 10 2 8 2 9 3 11 2 7 3 8 4
5 5 4 4 8 4 5 3 4 5 5 7 4 7 4 4 10 6 7 5 5 2 9 4 4
7 2 7 4 8 5 8 4 5 4 8 6 5 7 6 7 11 6 7 5 5 3 9 6 6
6 5 6 4 9 4 6 3 6 5 7 4 5 4 3 4 5 5 5 5 3 8 5
610 010 017 25526 0 0 10 8 031 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
8 2 6 2 6 5 6 3 4 5 9 7 1 2 0 9 0 8 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1020 0 4429284 81176786 0512EVENT ODB ODB X20 .5HZ
PIX XOFF YOFF ZOFF CALOFF 1976 2812840 -.71507800+04
2 8 218 3 1 4 1 3 1 3 3 6 1 3 2 3 4 3 3 1 3 3 6
3 4 3 1 5 3 5 1 3 3 3 3 5 6 5 7 4 6 7 5 5 4 3 6 5 7

```


\$JOB 17:00:05
SASS IN MS6
SNOP; **** LIST OF ****
SEXEC LIST BS

P. ZAL

INPUT PARAMETERS ARE: BC FL=2=2 1

TAPE NO. 1 FILE NO. 1
RECORD 1 LENGTH 1344
*LF*****"FFC" 2 1000 2690 68445003 0512EVENT ODB X20 .5HZ"FFC" FIX X0
FF YOFF ZOFF CALOFF 1978 12366660 -6338370+US "HFC" 2 0 1 0 1 0 2 0 0 0 1 0 2 0 2 1 2 1
2 1 1 0 2 0 0 0 1 0 1 0 1 0 1 0 1 0 2 0 2 0 1 0 1 0 1 0 1 1 0 0
"GGC" 1 0 1 0 1 0 1 0 1 0 1 0 1 0 2 0 1 0 2 0 2 0 0 0 0 0 0 0 0 0 1 0
2 0 1 0 0 0 1 0 3 0 0 1 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 1 1 0 1 1 1 1 1 1 1 1 "GGC" A 4 1 2 1 2 1 3 1 2 0 1 0 1 0 1 0 1 0
2 0 0 0 1 0 "GGC" B 1 0 0 1 0 1 0 1 0 1 0 1 0 2 0 1 0 1 0 1 0 1 0 1 0 0 0 0 0 0
1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0
1 0 1 0 1 1 0 0 0 2 0 "GGC" F 3 0 2 0 1 0 1 0 0 0 1 0 1 0 1 0 2 0 0 0 1 0 1 0
1 0 1 0 "DGC" G 1 0 0 0 1 0 3 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0
68445267 0512EVENT ODB X20 .5HZ"FFC" FIX XOFF YOFF ZOFF CALOFF 1978 12366984
63441209+05 "HFC" 2 1 0 1

TAPE NO. 1 FILE NO. 1
RECORD 2 LENGTH 1344
2 1 4 0 1 0 2 0 1 0 2 0 1 0 "GGC" 1 1 1 0 1 0 2 0 0 1 0 1 0 1 0 1 0 1 0 1 0 2 1
"GGC" 2 0 0 0 1 0 1 0 1 0 2 0 1 0 2 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0
1 0 1 0 1 0 2 0 1 0 1 0 1 0 0 0 2 0 0 0 1 0 "GGC" 1 1 1 0 1 0 2 0 1 0 1 0
2 0 0 0 1 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 3 1 0 1 0 1 0
1 0 0 0 1 0 "GGC" B 1 0 1 0 1 1 1 0 1 0 1 0 1 0 2 0 1 0 1 0 1 0 1 0 1 1 0 1 0
2 0 1 0 2 1 4 1 2 0 3 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0
2 0 0 0 1 1 1 0 1 1 0 2 1 2 0 1 0 "GGC" E 4 0 2 0 1 0 2 0 1 0 2 0 1 0 2 0
1 0 1 0 "DGC" G 2 0 0 1 0 1 0 1 0 0 0 1 1 1 0 1 0 1 0 "FDC" 2 1020 0 2692 5
68445531 0512EVENT ODB X20 .5HZ"FFC" FIX XOFF YOFF ZOFF CALOFF 1978 12367308
63493049+05 "HFC" 1 0 0 1 2 1 2 1 2 0 2 0 4 0 2 0 1 1 1 1 1 0 2 0
"GGC" 2 0 1 0 2 0 1 0 1 0 2 1 1 0 1 0 1 0 1 0 1 0 "GGC" J 2 0 1 0
1 0 1 0 0 0 1 0 2 0 0 0 0 0 1 0 1 0 1 0

TAPE NO. 1 FILE NO. 1
RECORD 816 LENGTH 1344
2 0 0 1 0 "GGC" F 2 0 1 0 2 0 1 0 1 0 2 0 1 0 1 0 2 0 1 0 1 0 1 0 1 0 "GGC" G
2 0 1 0 1 0 2 0 0 1 0 1 0 1 0 2 0 2 0 0 0 1 0 "GGC" H 2 0 1 0 1 0 2 0 1 0 2 0
1 0 1 0 2 0 1 0 2 0 1 0 1 0 2 0 "GGC" I 1 0 1 0 1 0 1 0 1 0 1 0 2 0 1 0
1 0 "GGC" K 2 0 1 0 1 0 2 0 1 0 1 0 1 0 1 0 1 0 2 0 1 0 1 0 1 0 1 0 1 0
1 0 1 0 2 0 1 0 1 0 2 0 1 0 2 0 1 0 1 0 1 0 1 0 1 0 "GGC" L 1 0 1 0
1 0 1 0 1 0 1 0 1 0 1 0 1 0 "GGC" M 2 0 1 0 2 0 1 0 2 0 1 0 2 0 1 0
1 0 1 0 1 0 1 0 "DGC" O 2 0 1 0 2 0 1 0 "GGC" N 2 0 1 0 2 0 1 0 2 0 1 0 2 0 0 0
0 6446 7 69570324 0831NORMAL ODB X20 4.HZ"FFC" FIX XOFF YOFF ZOFF CALOFF 1978 1
3370262 -51163490+35 "HFC" 2 55 0 1 0 1 0 2 0 1 0 2 0 1 0 2 0 1 0 2 0 2 0
1 0 2 0 "GGC" 2 0 1 0 1 0 2 0 1 0 2 0 2 0 1 0 1 0 1 0 1 0 2 0 "GGC" J
1 0 1 0 1 0 2 0 1 0 1 0 1 0 2 0 1 0 1 0 2 0 1 0 1 0 1 0 1 0 1 0 2 0
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TAPE NO. 1 FILE NO. 1
RECORD 817 LENGTH 1344
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1 0 "GGC" C 2 0 1 0 2 0 0 0 1 0 2 0 1 0 1 0 2 0 0 0 2 0 "GGC" D 2 0 0 0
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