

AD-A023 162

SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT
REPORT, NTS EVENT 'STILTON', 3 JUNE 1975

J. R. Woolson, et al

Teledyne Geotech

Prepared for:

Defense Advanced Research Projects Agency

23 September 1975

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**SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
NTS Event "STILTON", 3 June 1975**

**J.R. Woolson, D.D. Solari, M.S. Dawkins, K.J. Hill, and R.J. Markle
Alexandria Laboratories
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September 1975

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SDCS Event Report No. 21

NTS Event "STILTON", 3 June 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	Origin Time	Latitude	Longitude	m_b	M_s
NORSAR	14:20:06	38 N	116 W	5.6	N/A
LASA	14:20:02	37.0N	116.0W	5.8	N/A

Using SDCS stations, LASA and NORSAR, the epicenter location and magnitudes become

	14:20:02	37.4N	116.5W	5.6	4.4
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Short-period signals associated with this event were recorded at all SDCS stations, LASA and NORSAR.

Long-period signals were recorded at all SDCS stations, ALPA and NORSAR. LASA was performing calibrations during the predicted signal arrival period. The long-period vertical channel magnification at HN-ME is unknown due to calibration problems. The gains of the horizontal LP instruments at RK-ON are unknown due to erratic calibration amplitudes. The long-period radial and transverse beams at NORSAR were not recoverable.

Details of the program used to obtain beamed vertical, radial and transverse long-period data at LASA, ALPA, and NORSAR are in the process of being reviewed. Vertical beams are probably valid while horizontal beams are questionable.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES		ELEVATION METERS	INSTRUMENTATION	
		DEG	MN SECS		SHORT - PERIOD	LONG - PERIOD
ALPA	Alaska	65 14	00.0 N 147 44 36.0 W	626	None	31300
CPSO	McMinnville, Tennessee	35 35	41.4 N 085 34 13.5 W	574	6480 V 7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38 32	58.0 N 079 30 47.0 W	910	KS36000	KS36000
LASA	Billings, Montana	46 41	19.0 N 106 13 20.0 W	744	HS10	7505A V 8700C H
HN-ME	Houlton, Maine	46 09	43.0 N 067 59 09.0 W	213	18300	SL210 V SL220 H
NORSAR	Kjeller, Norway	60 49	25.4 N 010 49 56.5 E	379	HS10	7505A V 8700C H
RK-ON	Red Lake, Ontario	50 50	20.0 N 093 40 20.0 W	366	18300	SL210 V SL220 H
WH2YK	White Horse, Yukon	60 41	41.0 N 134 58 02.0 W	853	18300	SL210 V SL220 H

3.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 3 JUN 75
 14:20:00.0 37.000N 116.000W 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CALC	REST		
LAO	14 22 53.9	-0.0	0.4	12.0	36.1
RK-ON	14 24 46.4	-0.1	-0.6	21.1	43.1
CPO	14 25 25.5	-0.1	0.4	24.9	84.7
WH2YK	14 25 36.7	0.1	0.6	26.1	339.3
FN-WV	14 26 03.2	0.1	0.2	29.1	76.2
HN-ME	14 27 09.8	0.3	-0.1	36.7	60.5
NAO	14 31 32.0	-0.3	-0.9	73.1	24.0

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
14:20:11.2	37.683N	116.276W	60. CALC	0.2	4	7
14:20:01.7	37.376N	116.506W	0. REST	0.6	3	7

CALC			REST		
1	.	1	1	.	1
0	.	0	0	.	0
0	0.	3 2	0	0.	3 2
.
0	0.	0 0	0	0.	0 0
0	.	C	0	.	0
0	.	0	0	.	0

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.69
 MAJOR 61.7KM. MINOR 37.9KM. AZ= 30 AREA= 7346 SQ.KM. REST

DATA SUMMARY

INPUT FOR EVENT 3 JUN 75
 14:20:00.0 37.000N 116.000W 0KM.

STA.	PHASE	ARRIVAL		INST	PER	A/T	MAGNITUDE		DIR	DIST
		TIME					M _B	M _S		
LAC M	EP	14 22	53.9	AB	1.2	451.	6.45			12.0
RK-ON	EP	14 24	46.4	SPZ	1.0	1470.	5.98			21.1
RK-ON	LR	14 33	42.0	LPZ	16.0	291.		4.91		21.1
CPO	EP	14 25	25.5	SPZ	0.9	827.	6.09			24.9
CPO	LQ	14 33	47.0	LPT	17.0	351.				
CPO	LR	14 35	31.0	LPZ	14.0	957.		5.50		24.9
WH2YK	EP	14 25	36.7	SPZ	1.0	154.	5.30			26.1
WH2YK	LQ	14 34	32.0	LPT	23.0	74.				
WH2YK	LR	14 36	51.0	LPZ	16.0	388.		5.13		26.1
FN-WV	EP	14 26	03.2	SPZ	1.0	64.	5.11			29.1
FN-WV	LQ	14 35	40.0	LPT	23.0	102.				
FN-WV	LR	14 39	31.0	LPZ	23.0	211.		4.91		29.1
ALPA	LR	14 39	32.0	LAB	23.0	51.		4.35		33.4
HN-ME	EP	14 27	09.8	SPZ	0.7	209.	5.55			36.7
HN-ME	LQ	14 38	18.0	LPT	30.0	15.				
HN-ME	LR	14 42	32.0	LPZ	18.0	??				36.7
NAO	EP	14 31	32.0	AB	0.9	120.	5.67			73.1
NAO	LR	15 03	00.0	LAB	18.0	11.		4.03		73.1

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPMAG	LPSDV	LPSTA
14:20:11.2	37.003N	116.276W	60. CALC	5.54	0.38	6	4.43	0.4	3
14:20:01.7	37.376N	116.506W	0. REST	5.61	0.38	6	4.43	0.4	3

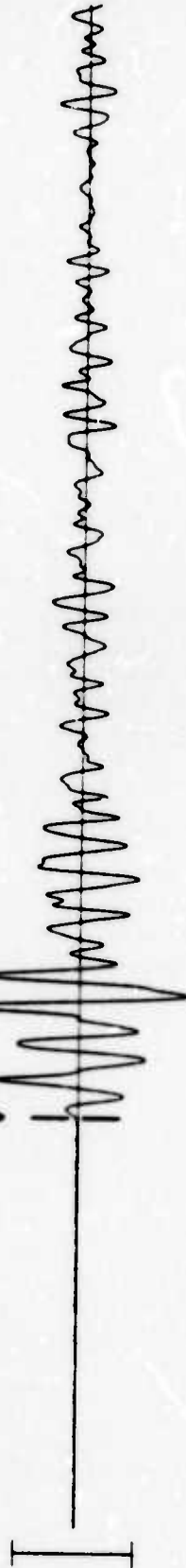
Short-period magnitudes (m_b) used in averaging are restricted to those recorded at distances between 20 and 110 degrees from the epicenter.

Average long-period magnitude (M_s) is based on Rayleigh wave observations in the period range of 17 to 23 seconds per cycle.

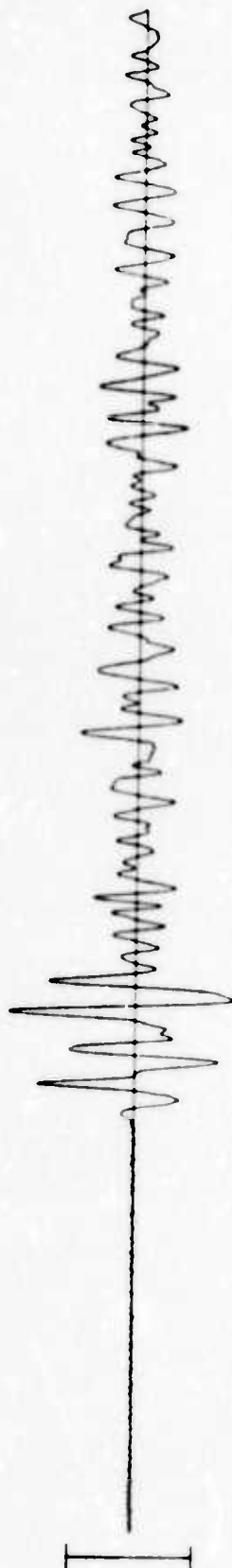
RK-ON 3 JUN 75

14:24:48.4

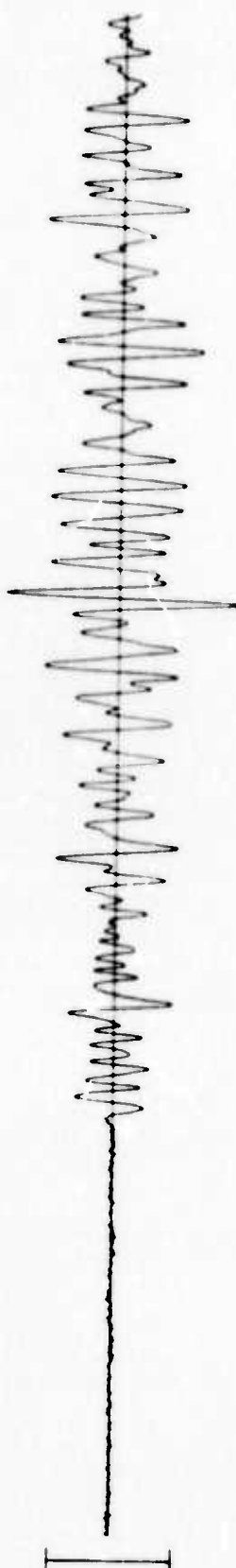
SPZ
777.82 MP



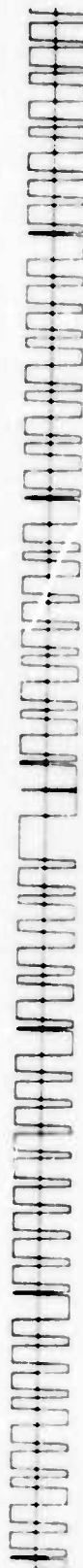
SPR
568.28 MP



SPT
244.08 MP



TIME



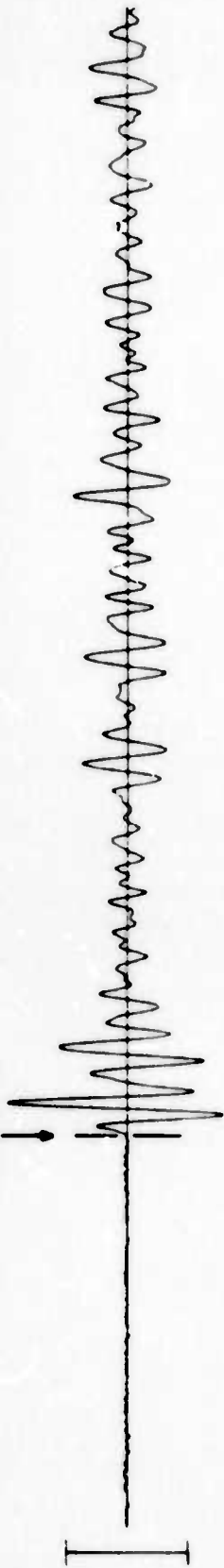
10 SEC

14:25:00

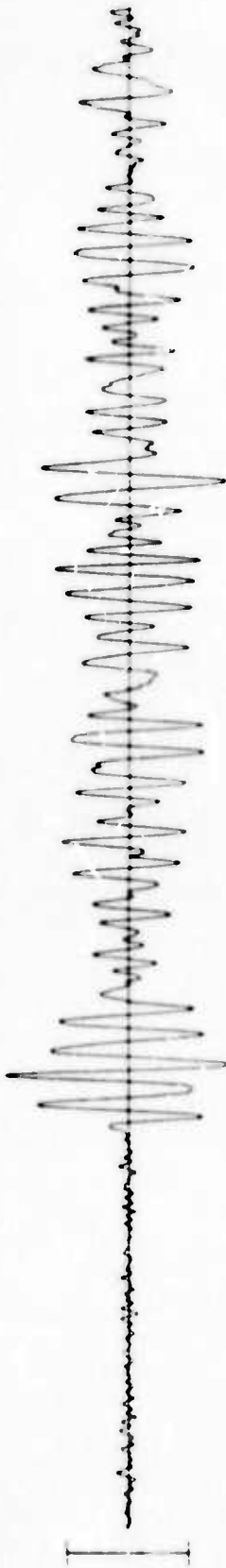
6.

CP-SO 3 JUN 75

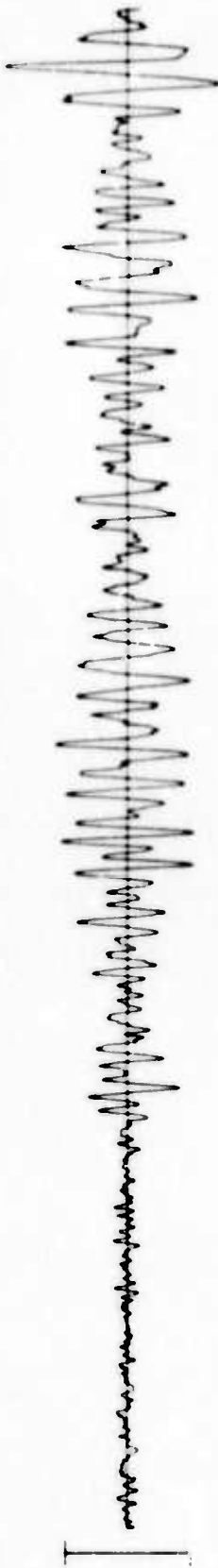
14:25:25.5



SPZ
475.06 MHz



SPR
110.01 MHz

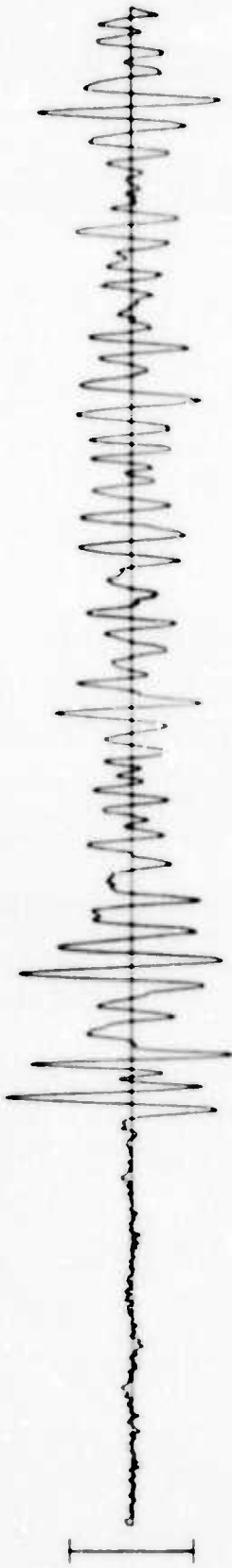
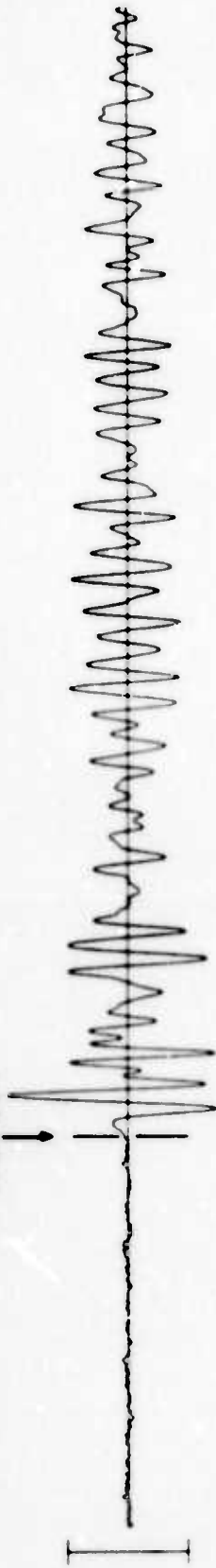


SPT
185.90 MHz

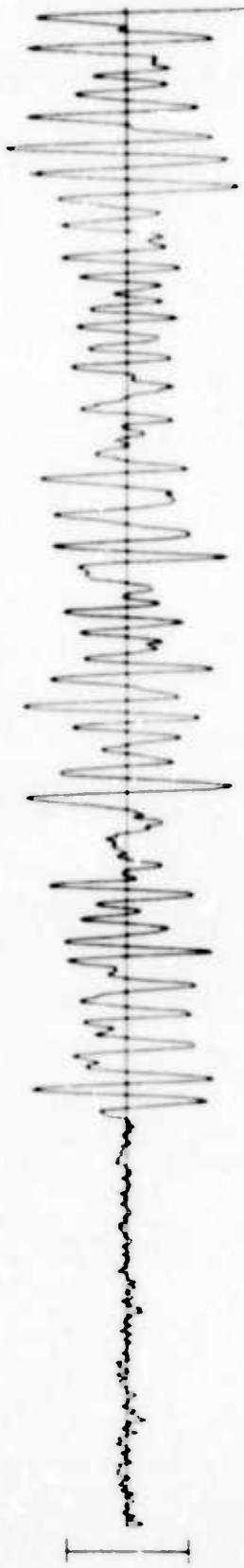
10 SEC

WH2YK 3 JUN 75

14:25:36.7



∞.

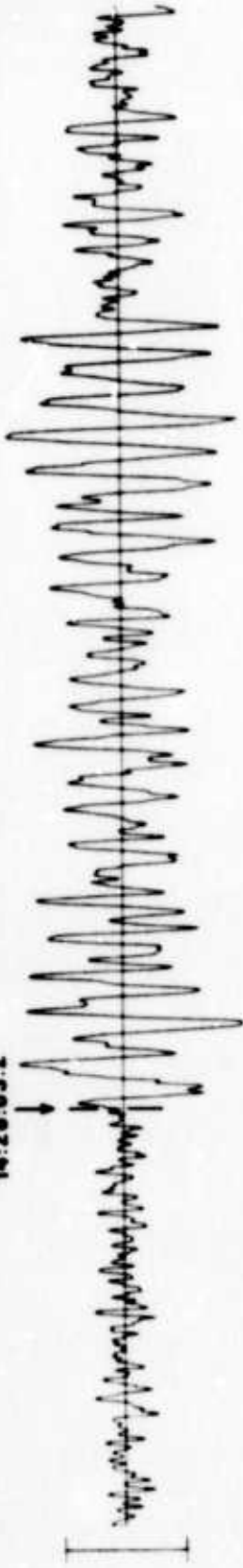


10 SEC

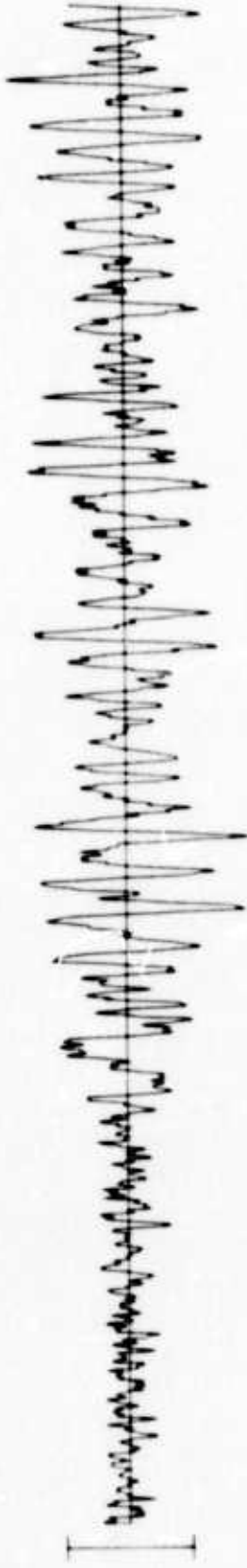
14:26:00

FN-WV 3 JUN 75

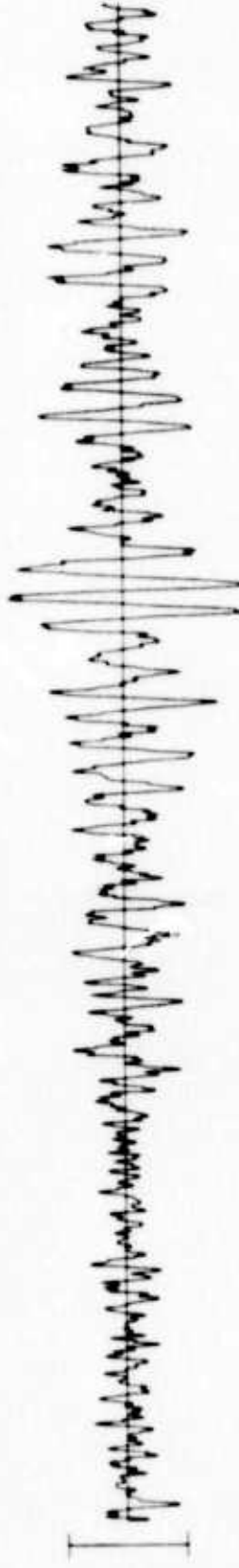
14:25:03.2



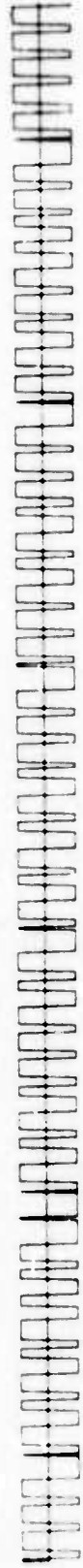
**SPZ
36.10 MP**



**SPR
34.19 MP**



**SPT
36.72 MP**



TIME

14:26:10

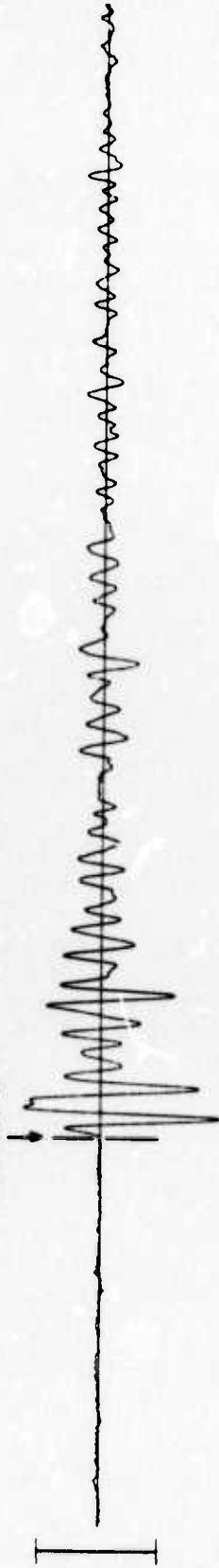
10 SEC

9.

HN-ME 3 JUN 75

SPZ
197.89 Mμ

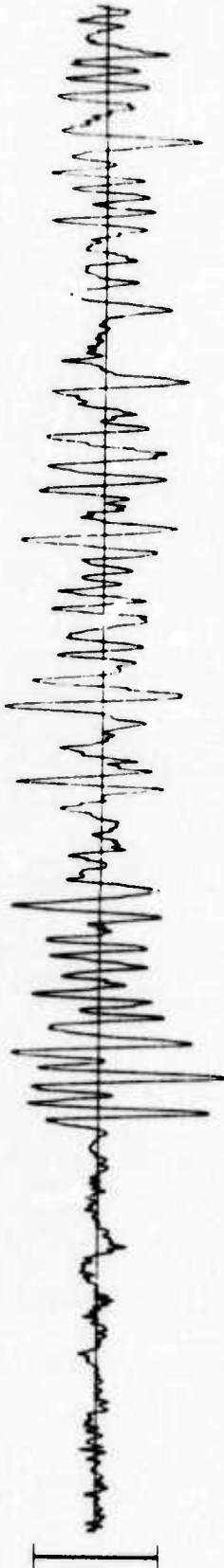
14:27:09.8



SPR
120.01 Mμ



SPT
41.00 Mμ



TIME



10 SEC

14:27:20

LASA

1 3 JUN 1975

2 14 20 2 37.0N 116.0W

3 14 22.54.0 LAO P

06 D 5.3 40 CALIFORNIA-NEVEDA BORDER

55.8 1.1 8.2 12.1 220.7

EPX 25343

ABN 7.1

Handwritten scribble
14:22:44.0

BP-B 0.6-2.0 HZ

AB 320

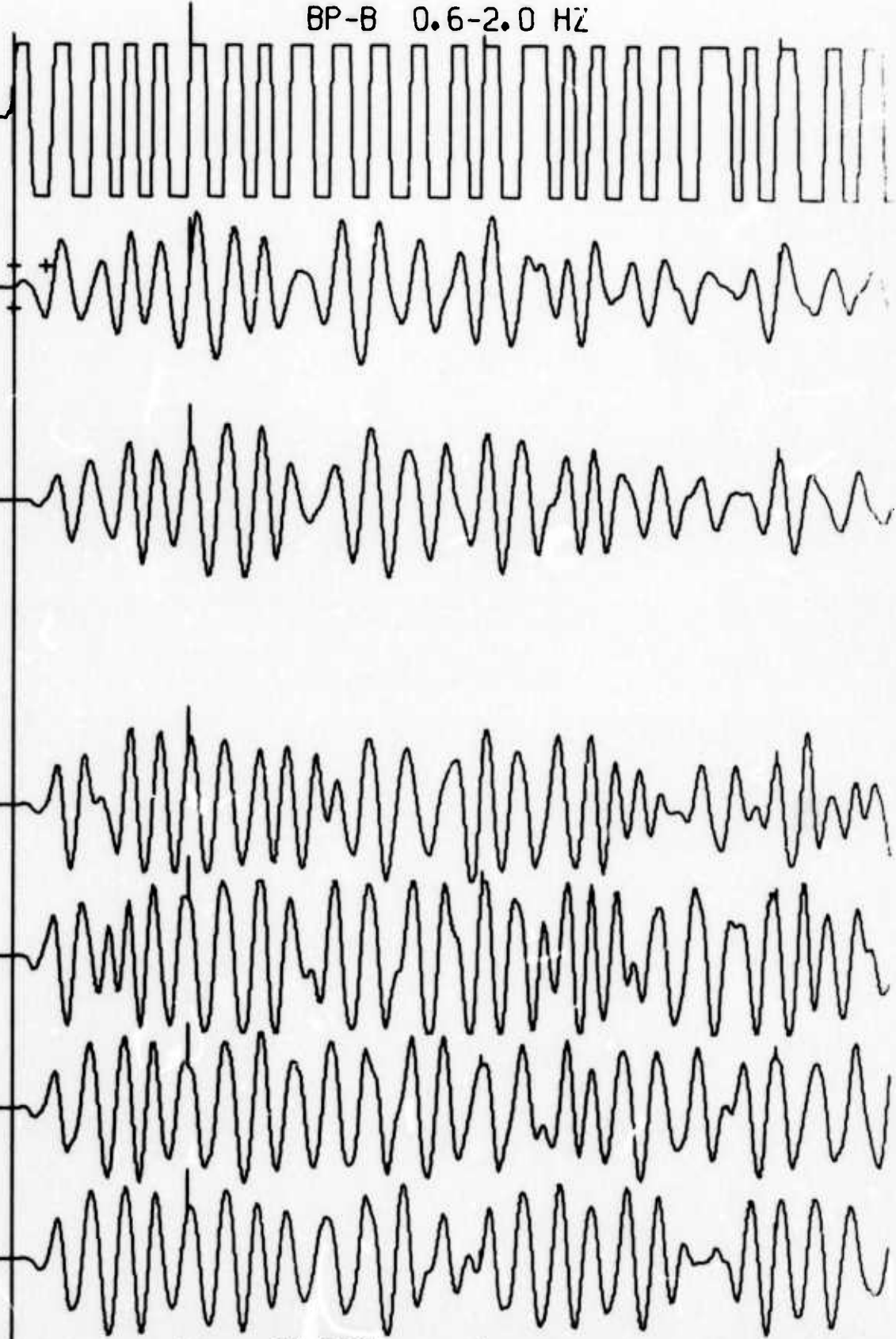
FAB 270

PAB1 170

PAB2 150

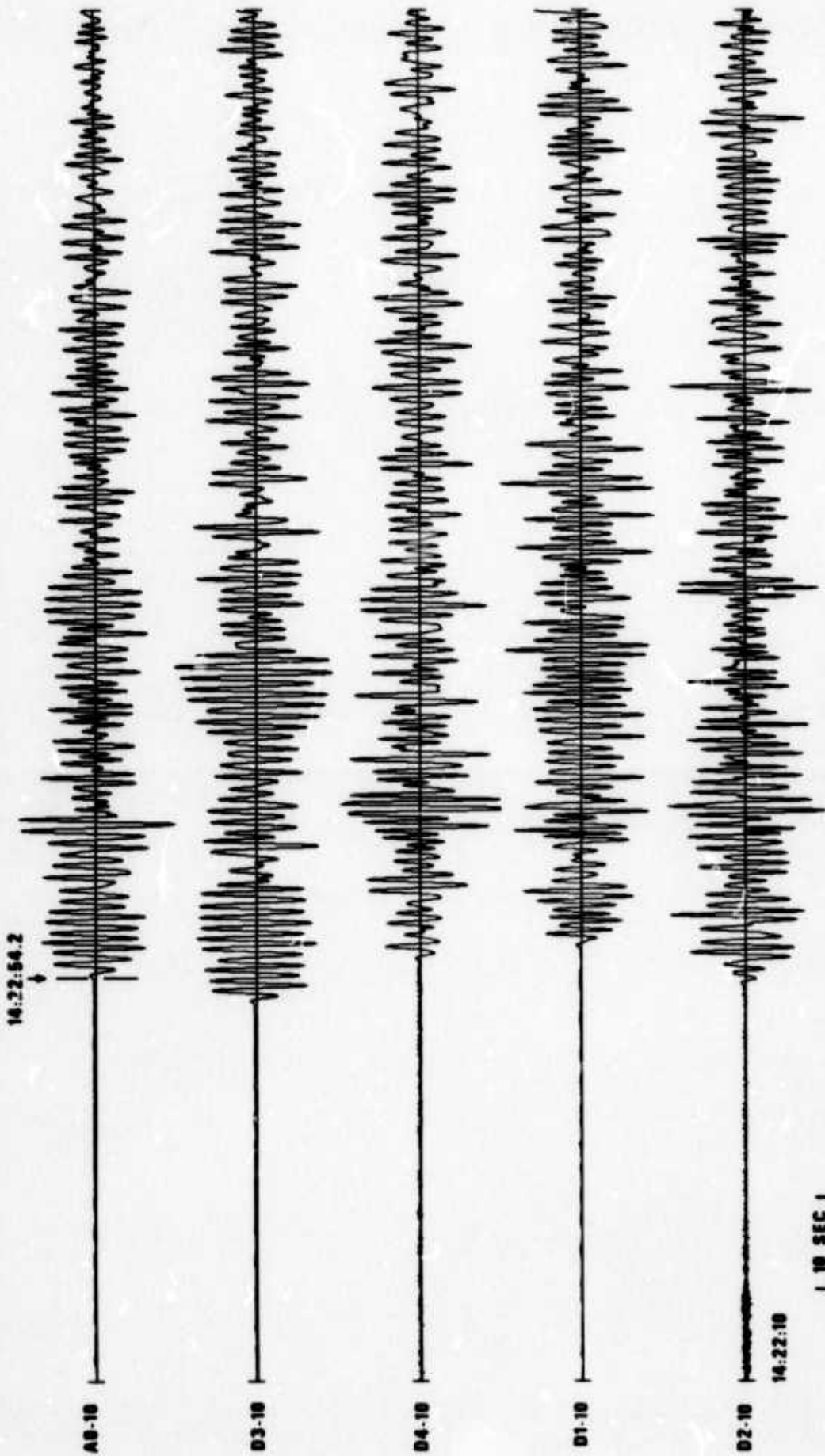
PAB3 190

PAB4 180



1G SEC //

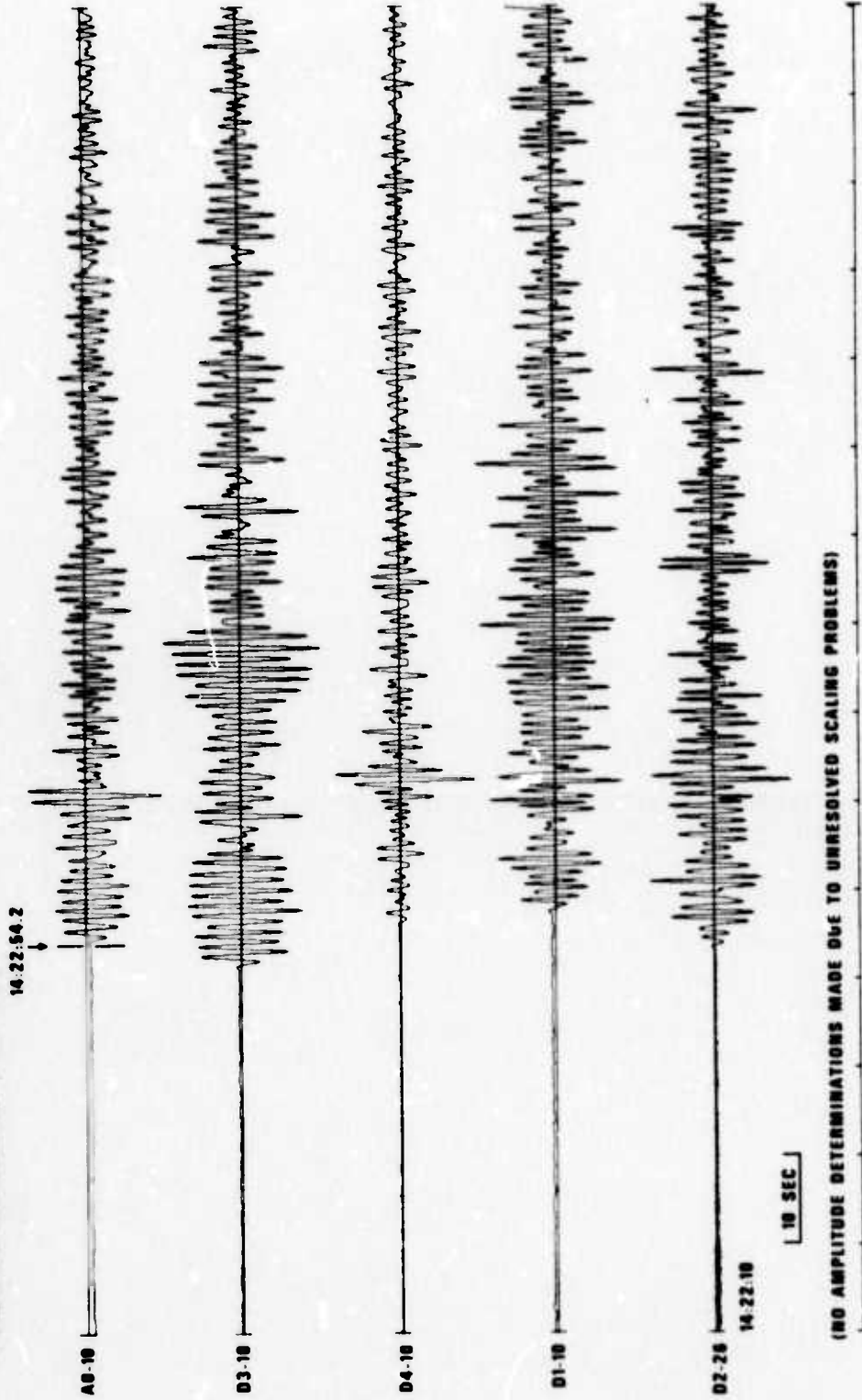
LASA (INDIVIDUAL SHORT-PERIOD INSTRUMENTS) HIGH-GAIN SENSORS 3 JUN 75



(NO AMPLITUDE DETERMINATIONS MADE DUE TO UNRESOLVED SCALING PROBLEMS)

2.

LASA (INDIVIDUAL SHORT-PERIOD INSTRUMENTS) 3 JUN 75
PADDED SENSORS (-30 dB)



B.

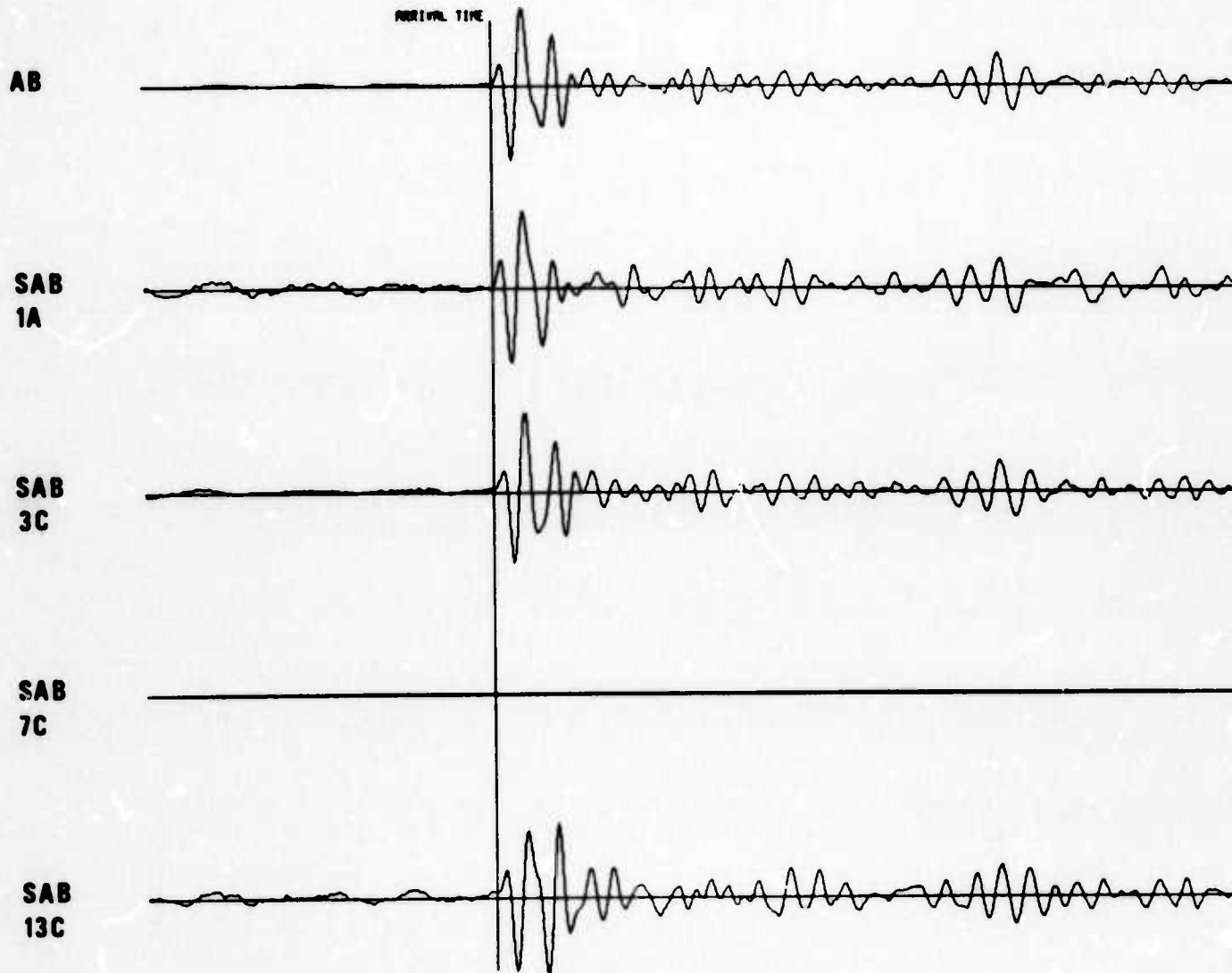
NORSAR EVENT FILE

1975 JUN 3

EPX NO. 1380 ARR. 14.31.32.0 38.2N 115.6W 5.6MB 33KM

DIST = 72.1 AZI = 318.2 AMP = 73.6 PER = 1.1 UMETH 2

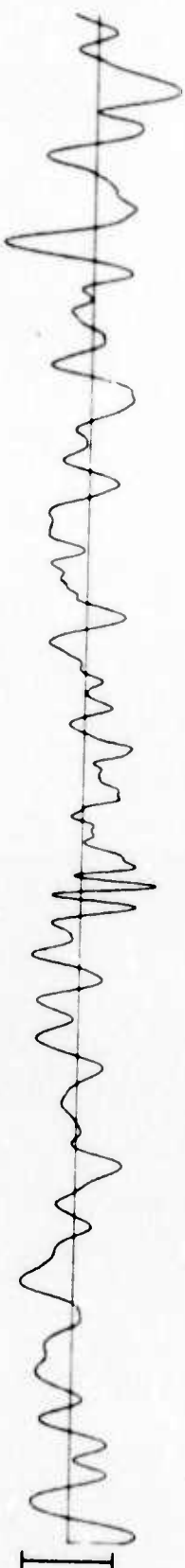
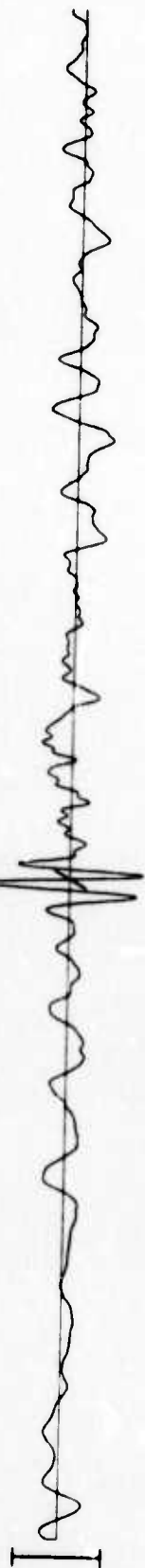
SCALE  = 5 SECONDS



14.

RK-ON 3 JUN 75

14:33:42



TIME

2 MIN

15.

CP-SO 3 JUN 75

LPZ
4996.00 MP

14:35:31

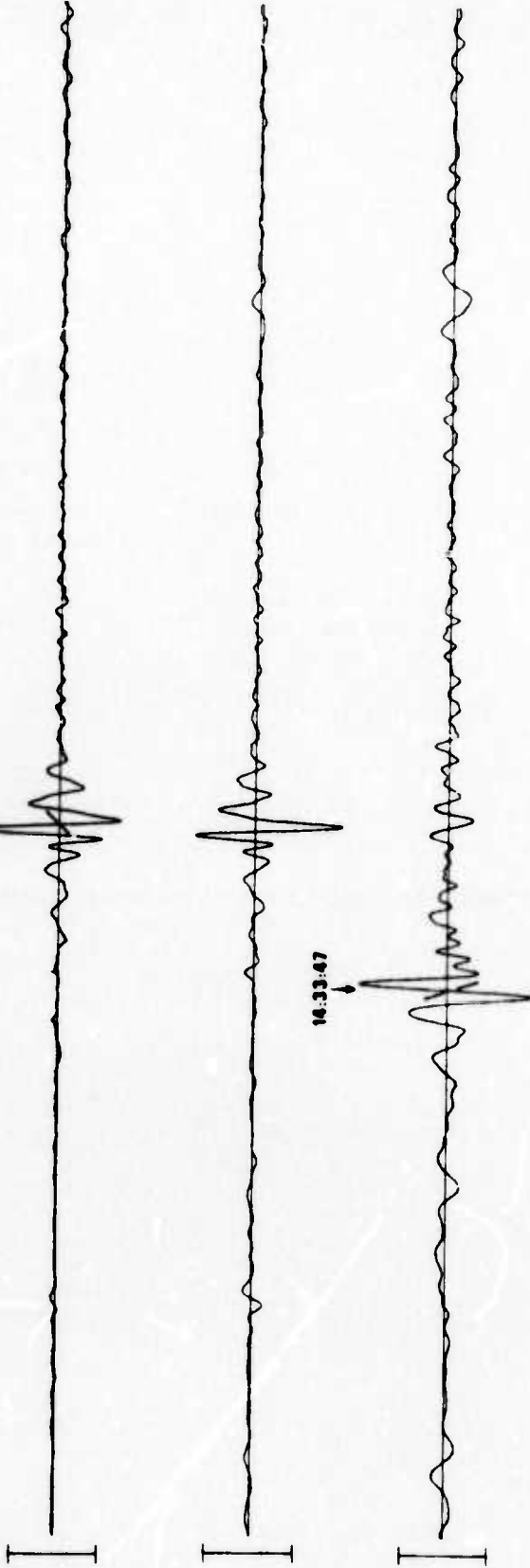
LPR
4996.00 MP

14:33:47

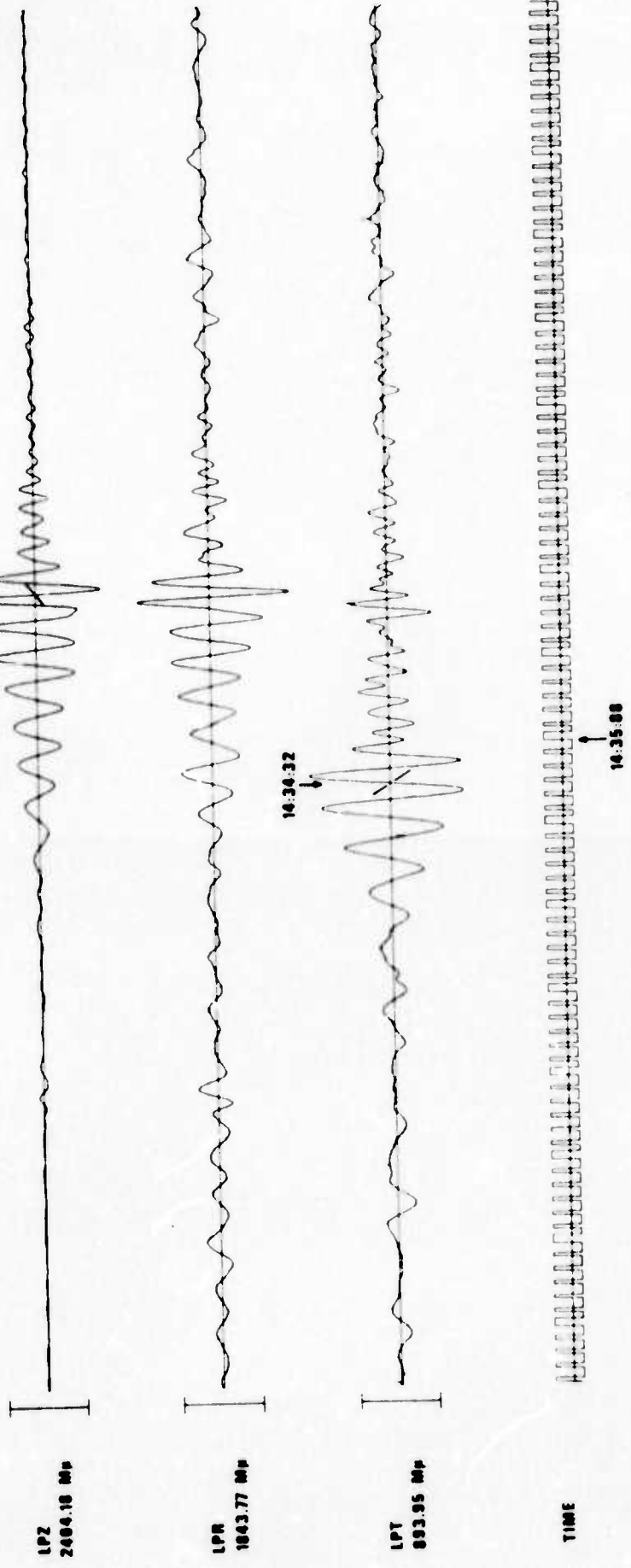
LPT
2431.06 MP

2 MIN

16.



WH2YK 3 JUN 75



17.

FN-WV 3 JUN 75

LPZ
2520.00 MP

14:30:31

LPR
1500.55 MP

14:35:40

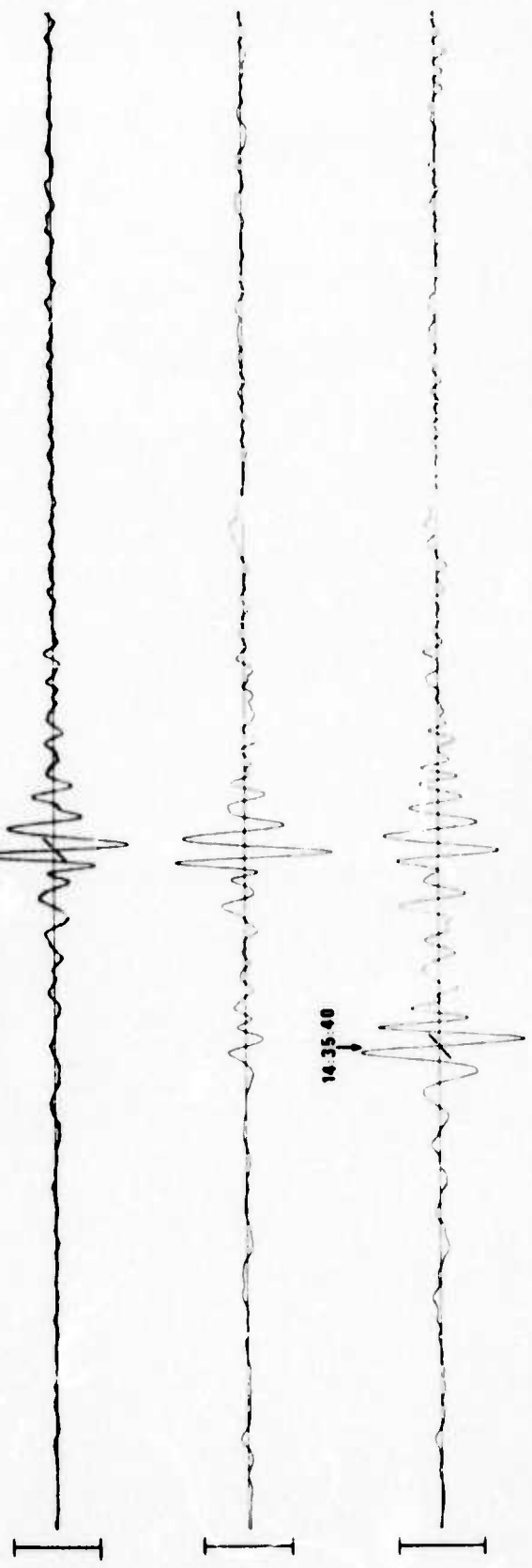
LPT
1200.32 MP

TIME

14:37:00

2 MIN

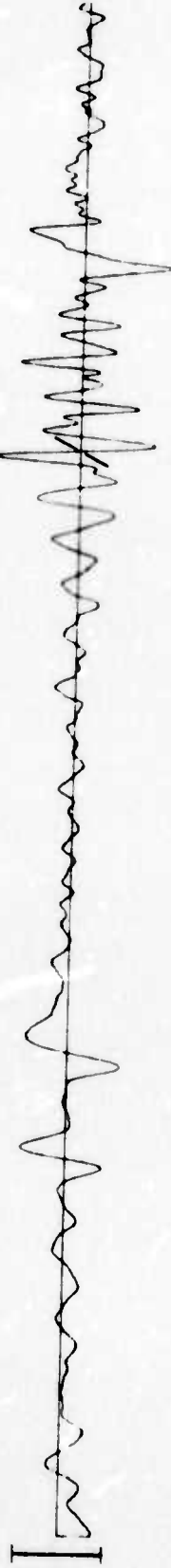
18.



HN-ME 3 JUN 75

LPT
UNKNOWN

14:02:32



LPT
1011.39 MP

14:30:10



LPT
210.73 MP



TIME



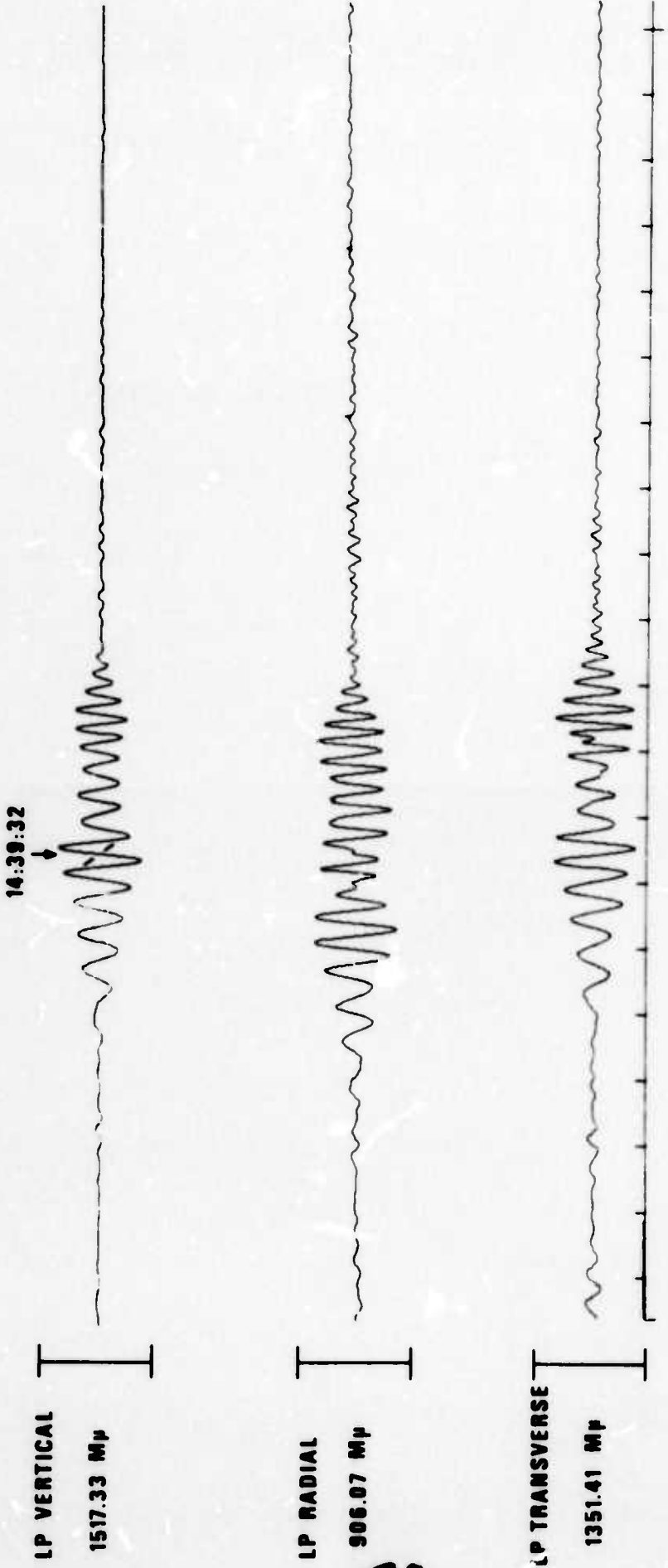
14:02:00

2 MIN

CALIBRATION QUESTIONABLE

19.

ALPHA LONG-PERIOD BEAMS 3 JUN 75



NORSAR LONG-PERIOD BEAMS 3 JUN 75

F.

405.08 MHz

15:03:00



14:52:35.0

1 MIN

RADIAL AND TRANSVERSE CHANNELS NOT RECOVERABLE