SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT REPORT, NORTHERN CALIFORNIA, 1 AUGUST 1975

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Teledyne Geotech

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SDCS-ER-75-52

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
Northern California, 1 August 1975

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January 1976

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SDCS EVENT REPORT NO. 52

Northern California, 1 August 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:

	"P" Arrival	Origin Time	Lat.	Long.	m_b	M_s
NORSAR	20:31:33.0	20:20:02	38 N	121 W	5.8	N/A
Hagfors	20:31:48.9	20:20:48	44 N	115 W	6.5	5.7

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

20:20:06.1	38.6N	122.0W	5.8	5.3

RK-ON was not operational for this period.

Short-period signals associated with this event were recorded at WH2YK, CPSO, HN-ME, FN-WV, LASA and NORSAR. Horizontal SP channels at CPSO, FN-WV and HN-ME were rotated. At WH2YK horizontal SP channels were not rotated due to excessive noise on the SP transverse channel.

Long-period signals were recorded at WH2YK, CPSO, HN-ME, FN-WV, ALPA and NORSAR. At FN-WV the signal arrival occurred during the LP frequency response calibration. Horizontal LP channels at WH2YK and HN-ME were rotated. At CPSO horizontal LP channels were not rotated due to signal clipping on the LP east channel. The horizontal LP channels at FN-WV were not rotated due to signal arrival at calibration time. Validity of the ALPA and NORSAR long-period vertical beams is uncertain and horizontal channels were not included due to program recovery problems. LASA long-period array data were not recoverable.

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 DEG MN SECS	ELEVATION METERS	INSTRUMENTATION 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

Note: The orientation of the radial instruments at FN-WV is assumed to be 316° ± 5° based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 1 AUG 75
20:20:02.0 38.000N 121.000W 0KM.

STA.	ARRIVAL	RESIDUALS CALC	RESIDUALS REST	DIST. REST	AZ. REST
LAC	20 23 26.6	0.2	0.2	14.2	49.9
WH2YK	20 25 17.3	-0.3	0.1	23.6	344.0
CPC	20 26 08.2	0.2	0.7	29.1	84.4
FN-WV	20 26 42.0	-0.2	-0.1	33.0	76.4
HN-ME	20 27 40.3	-0.5	-1.0	40.0	61.1
NAO	20 31 41.0	0.6	0.1	73.7	22.0

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)		SDV	IT	STA
20:20:05.7	38.800N	121.711W	58.	CALC	0.4	3	6
20:20:06.1	38.592N	121.983W	0.	REST	0.6	3	6

CALC

```
    0 . 1
  0   .   0
0    1. 1   3
. . . . . . .
0    0. 0   0
  0   .   0
    0 . 0
```

REST

```
    0 . 1
  0   .   0
0    1. 1   3
. . . . . . .
0    0. 0   0
  0   .   0
    0 . 0
```

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.64
MAJOR 74.7KM. MINOR 36.9KM. AZ= 27 AREA= 8659 SQ.KM. REST

DATA SUMMARY

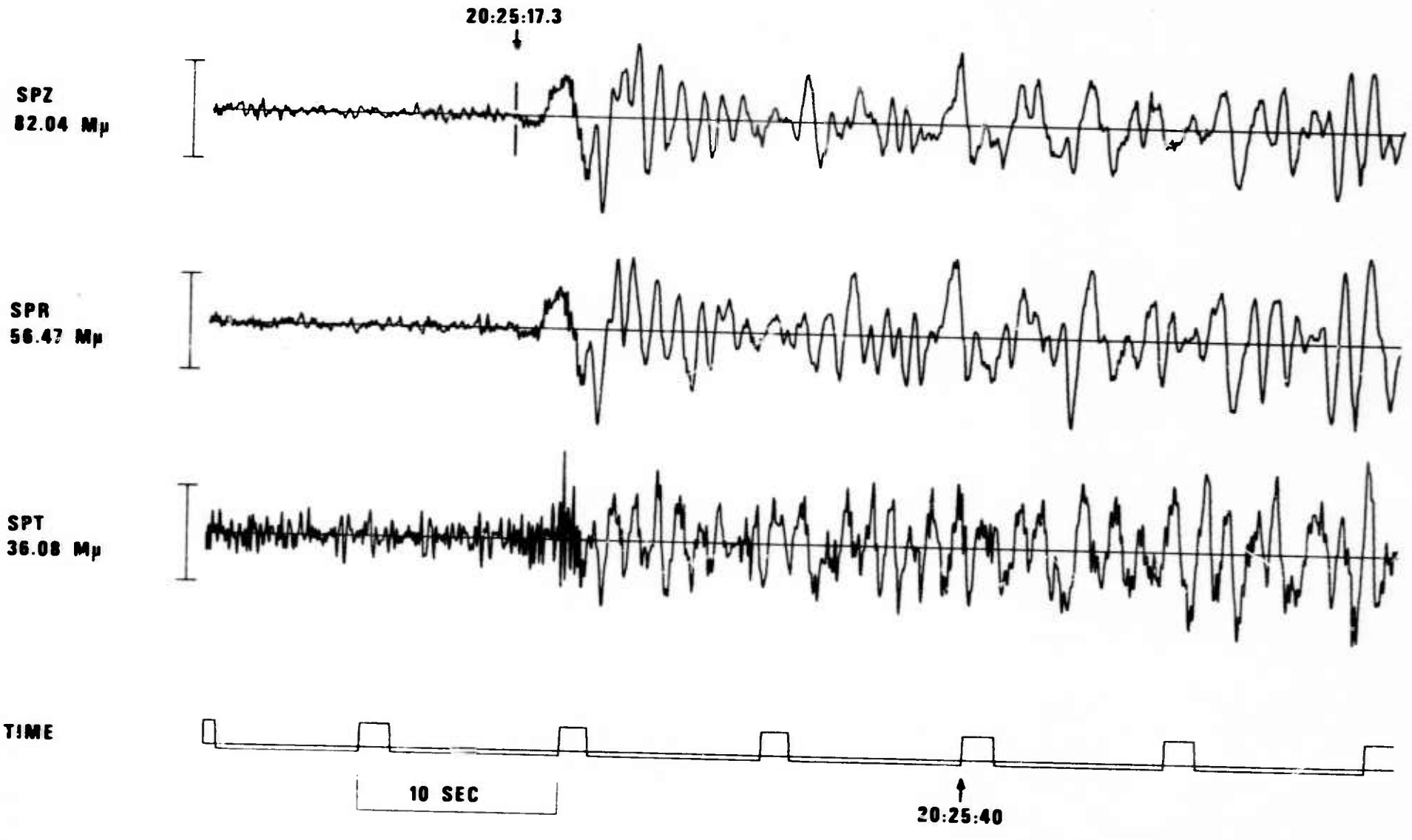
INPUT FOR EVENT 1 AUG 75
20:20:02.0 38.000N 121.000W 0KM.

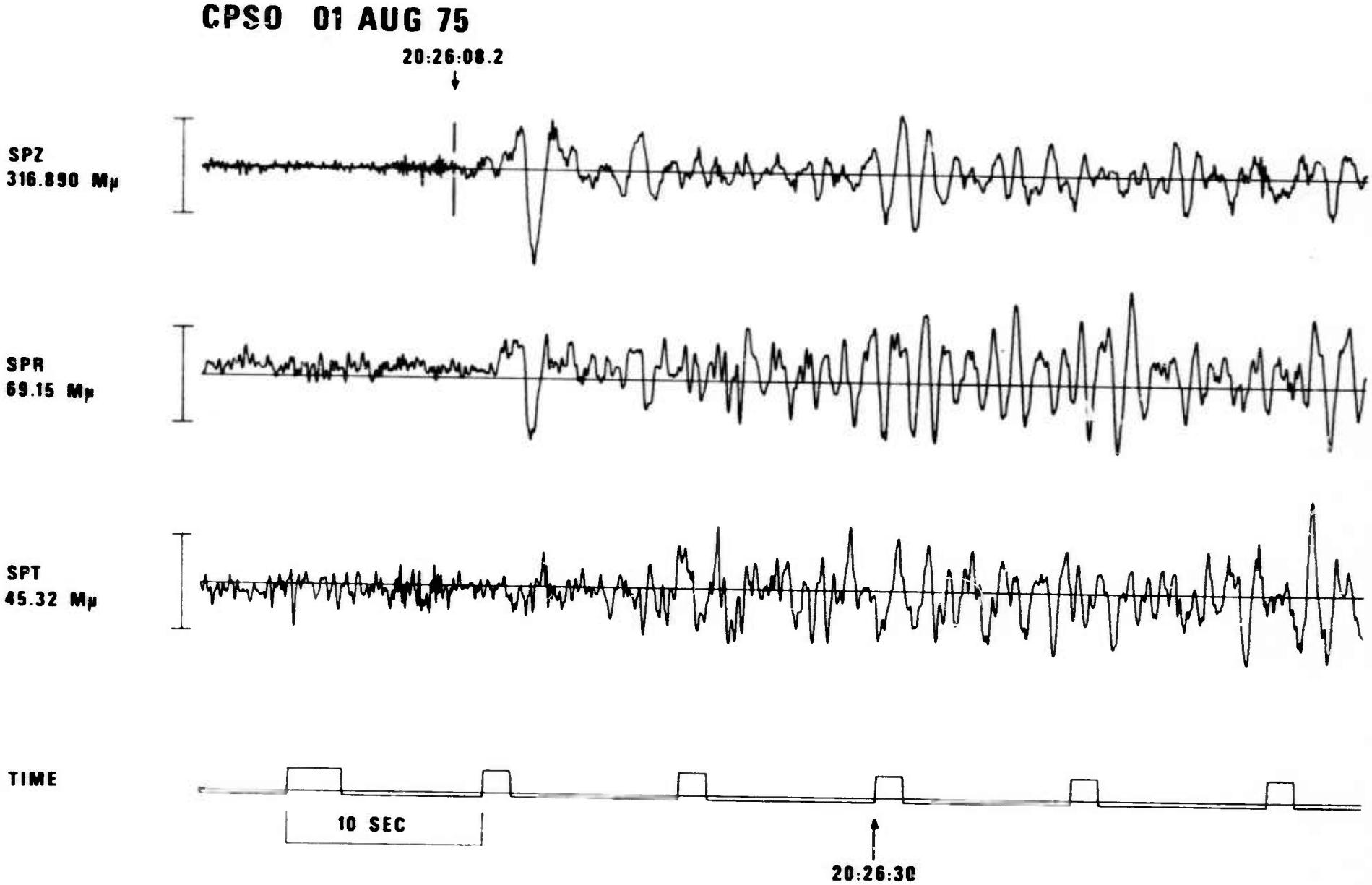
STA.	PHASE	ARRIVAL TIME	INST	PER	A/T	MAGNITUDE MB	MS	DIR	DIST
IAC M	EP	20 23 26.6	SAB	1.6	645.	6.06			14.2
WH2YK	EP	20 25 17.3	SPZ	2.8	589.	5.77			23.6
WH2YK	LR	20 35 14.0	LPZ	17.0	743.		5.36		23.6
CPC	EP	20 26 08.2	SPZ	2.0	1248.	6.40			29.1
CPC	LR	20 38 05.0	LPZ	20.0	9999.		0.0		29.1
ALPA	LR	20 39 15.0	LPZ	21.0	110.		4.65		30.6
HN-WV	EP	20 26 42.0	SPZ	2.2	274.	5.84			33.0
HN-ME	EP	20 27 40.3	SPZ	1.0	105.	5.12			40.0
HN-ME	LQ	20 41 25.0	LPT	22.0	488.				
HN-ME	LR	20 44 09.0	LPZ	21.0	1513.		5.90		40.0
NAC	EP	20 31 41.0	AE	1.0	200.	5.83			73.7
NAC	LR	21 03 06.0	LPZ	17.0	257.		5.40		73.7

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPMAG	LPSDV	LPSTA
20:20:15.7	38.889N	121.711W	58. CALC	5.74	0.36	5	5.32	0.5	4
20:20:06.1	38.552N	121.983W	0. REST	5.79	0.45	5	5.33	0.5	4

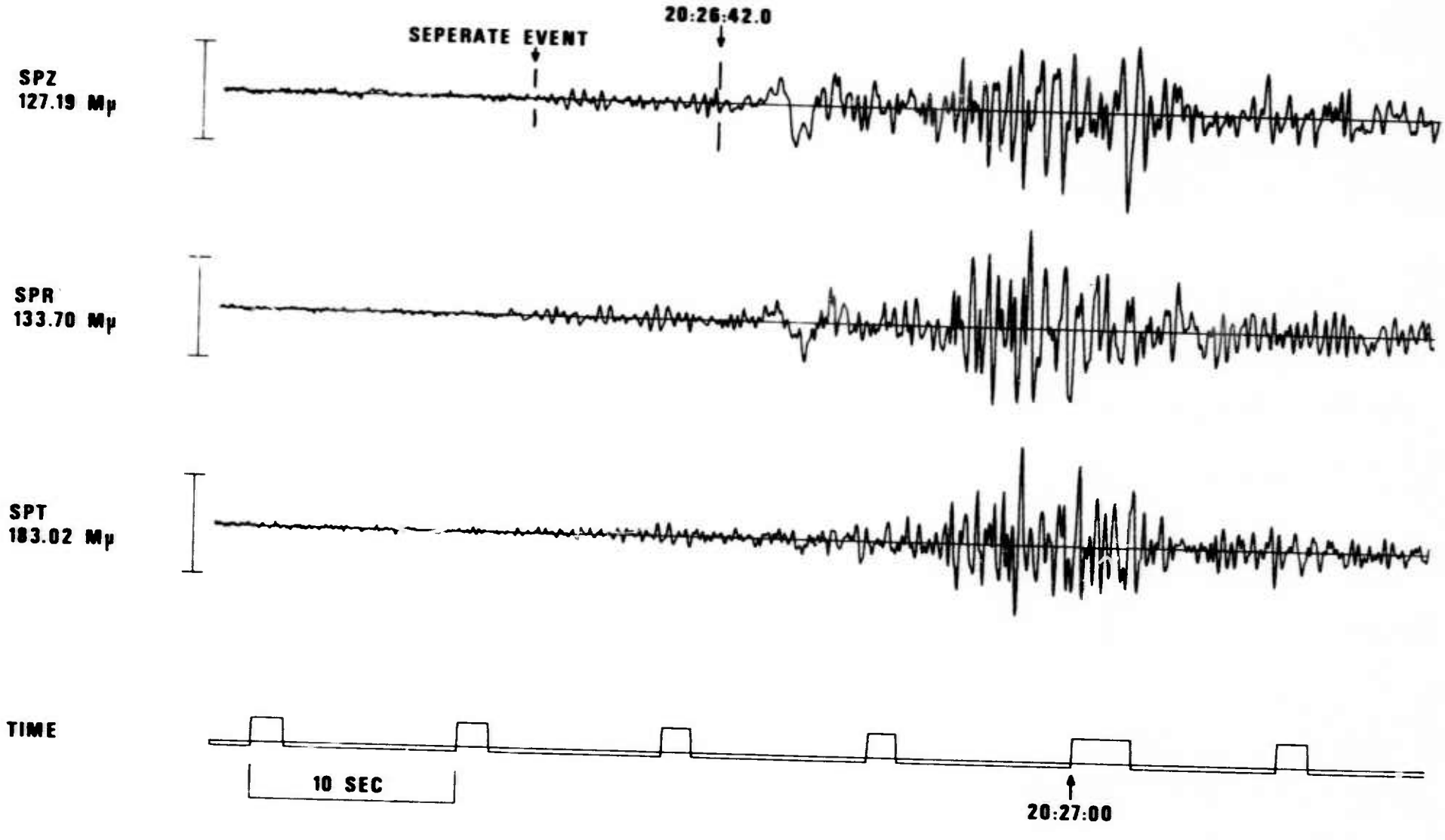
IAC NOT USED IN CALC RUN SP AVG. MAG.
IAC NOT USED IN REST RUN SP AVG. MAG.

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

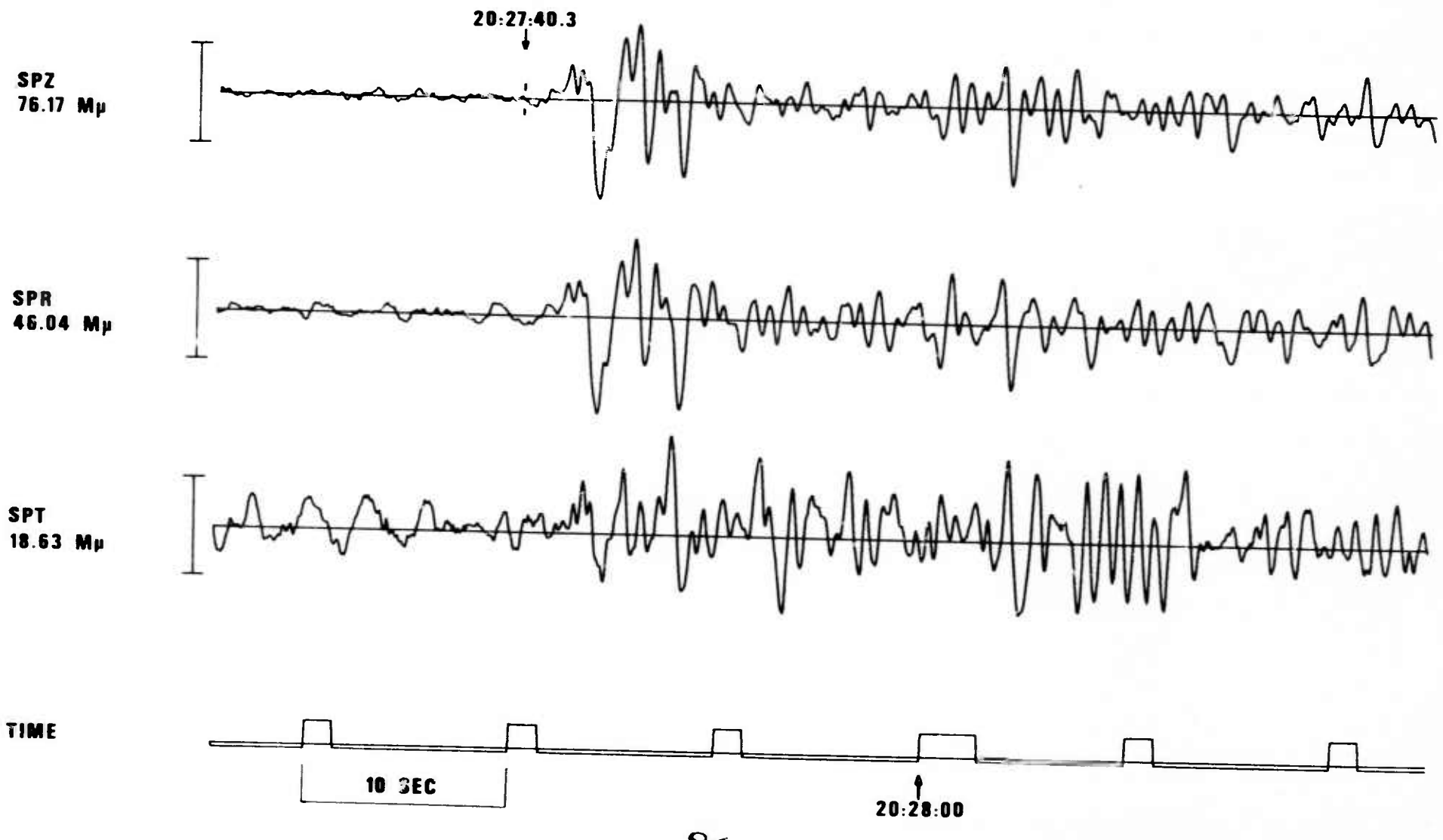

WH2YK 01 AUG 75
20:25:17.3
SPZ
82.04 Mμ
SPR
56.47 Mμ
SPT
36.08 Mμ
TIME
10 SEC
20:25:40

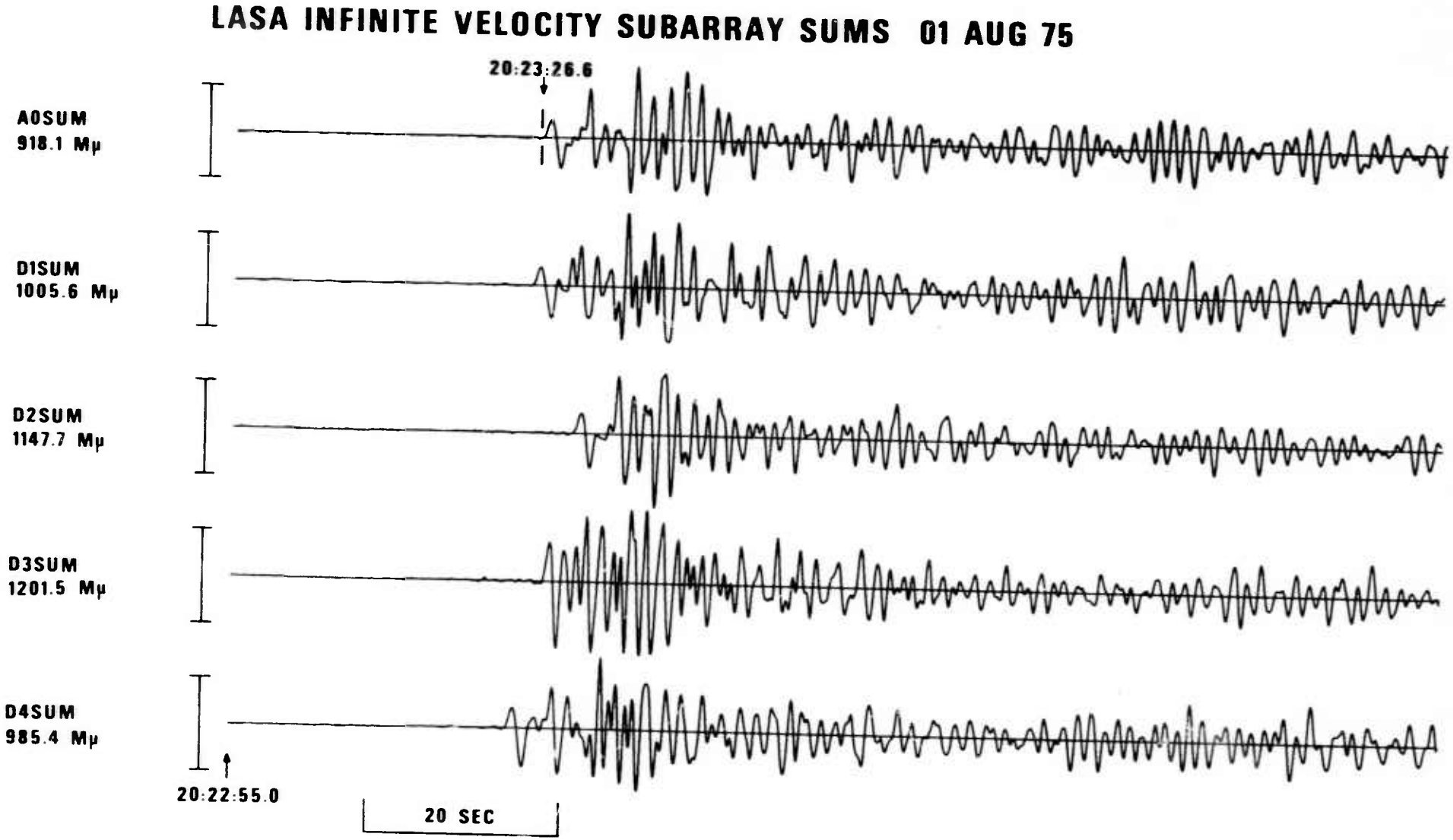

CPSO 01 AUG 75
20:26:08.2
SPZ
316.890 Mμ
SPR
69.15 Mμ
SPT
45.32 Mμ
TIME
10 SEC
20:26:30

FN-WV 01 AUG 75



7<


HN-ME 01 AUG 75
20:27:40.3
SPZ
76.17 Mμ
SPR
46.04 Mμ
SPT
18.63 Mμ
TIME
10 SEC
20:28:00

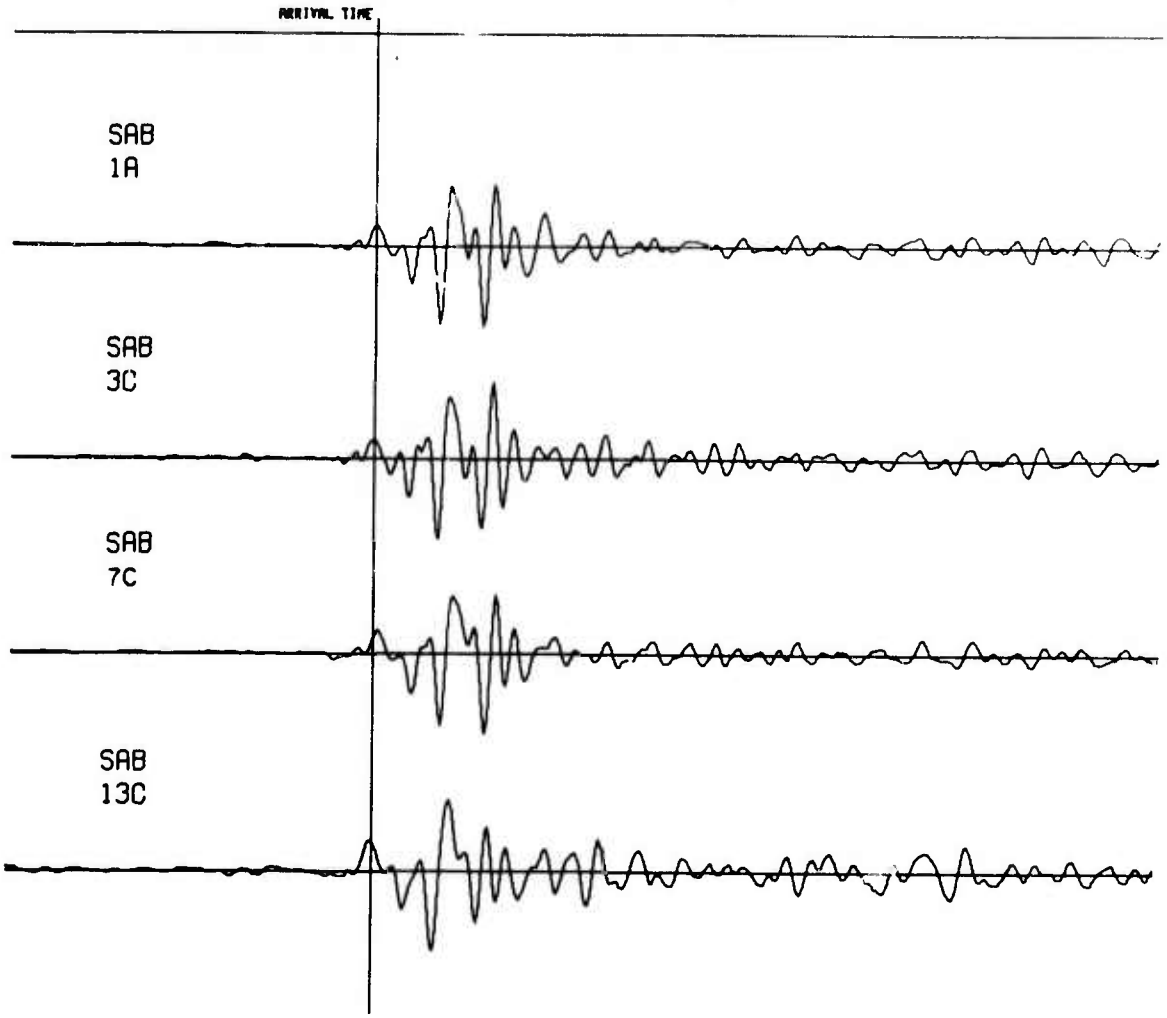

LASA INFINITE VELOCITY SUBARRAY SUMS 01 AUG 75
20:23:26.6
A0SUM
918.1 Mμ
D1SUM
1005.6 Mμ
D2SUM
1147.7 Mμ
D3SUM
1201.5 Mμ
D4SUM
985.4 Mμ
20:22:55.0
20 SEC

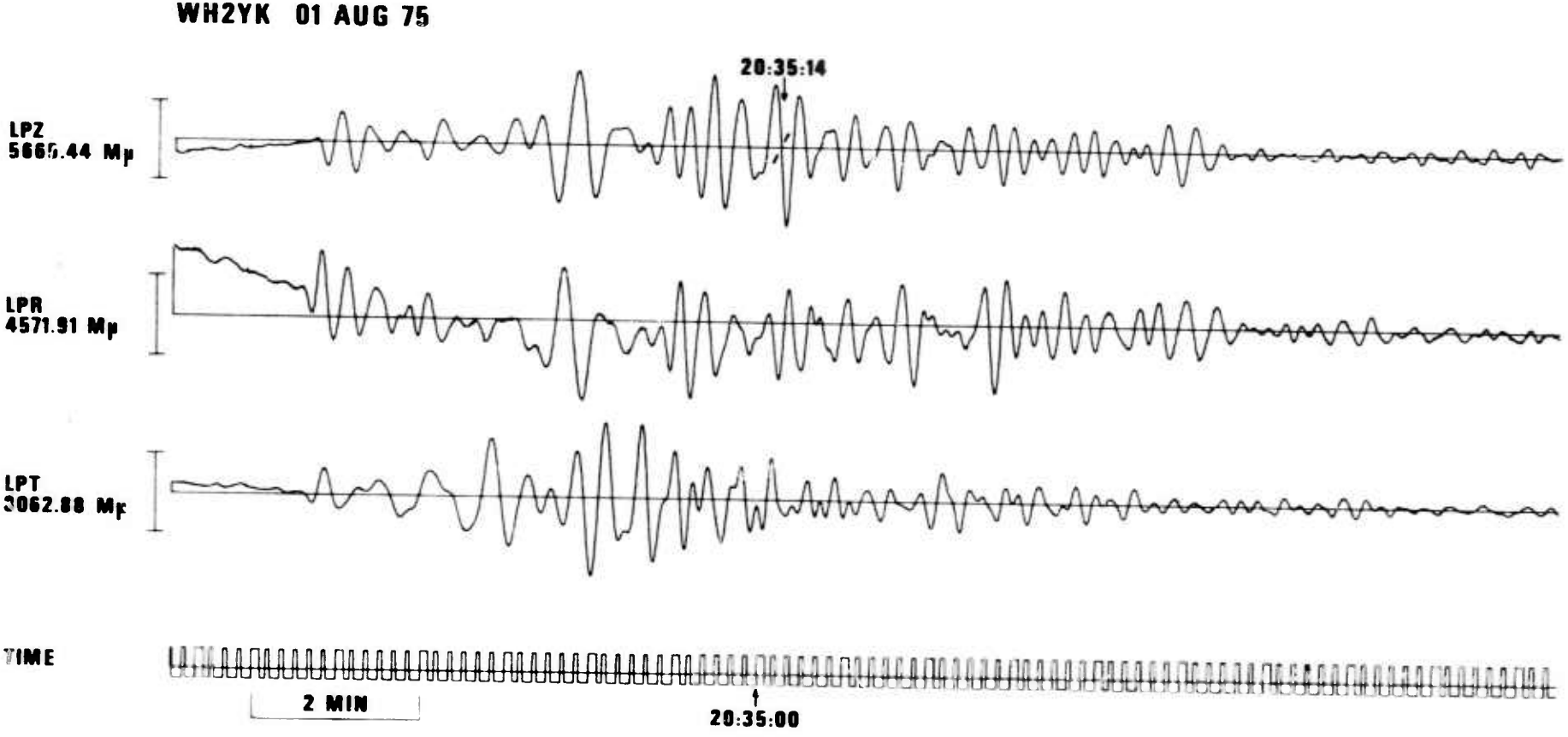
NORSAR EVENT FILE 1975 AUG 1

EPX NO. 77800 ARR. 20.31.42.8 38.1N 120.7W 5.7MB 33KM

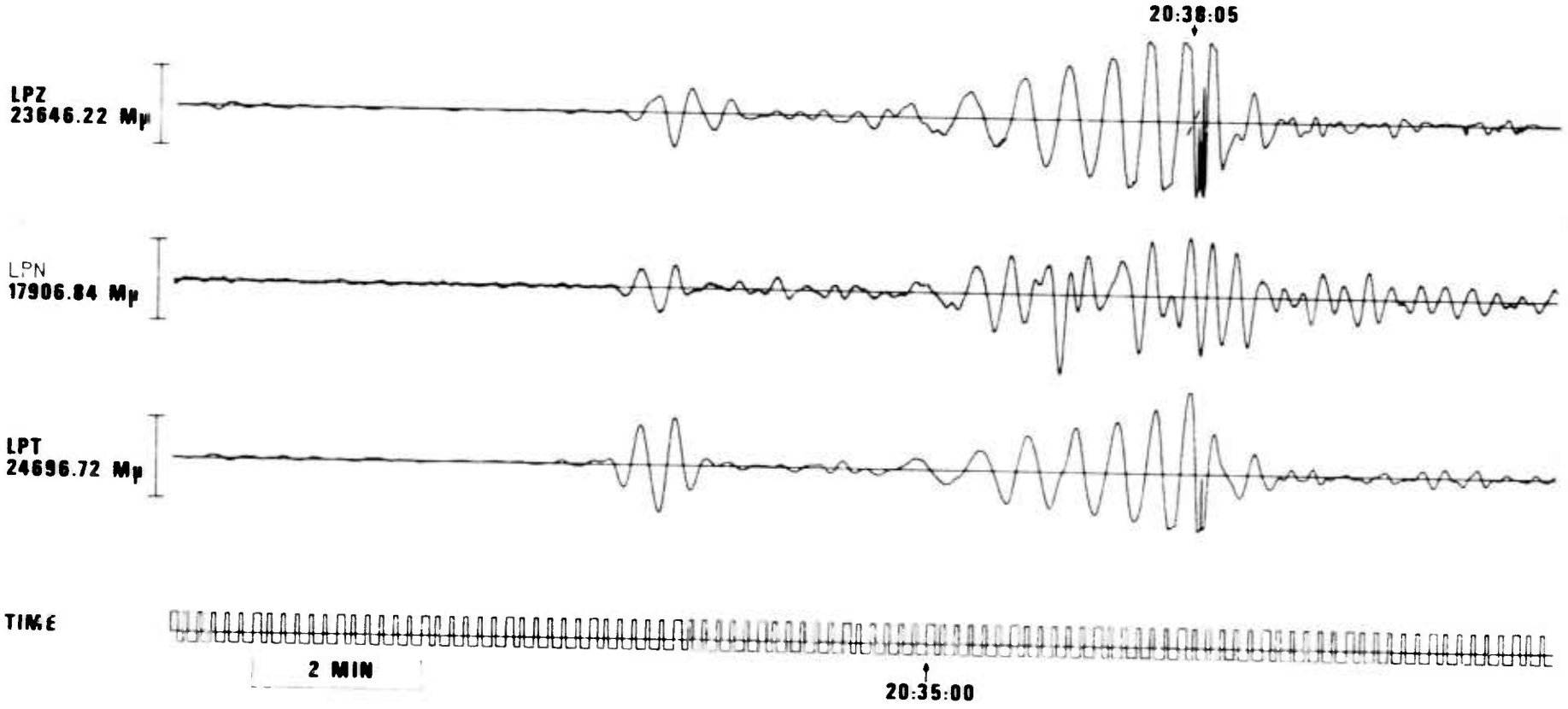
DIST = 73.8 AZI = 322.1 AMP = 67.2 PER = 0.9
AB

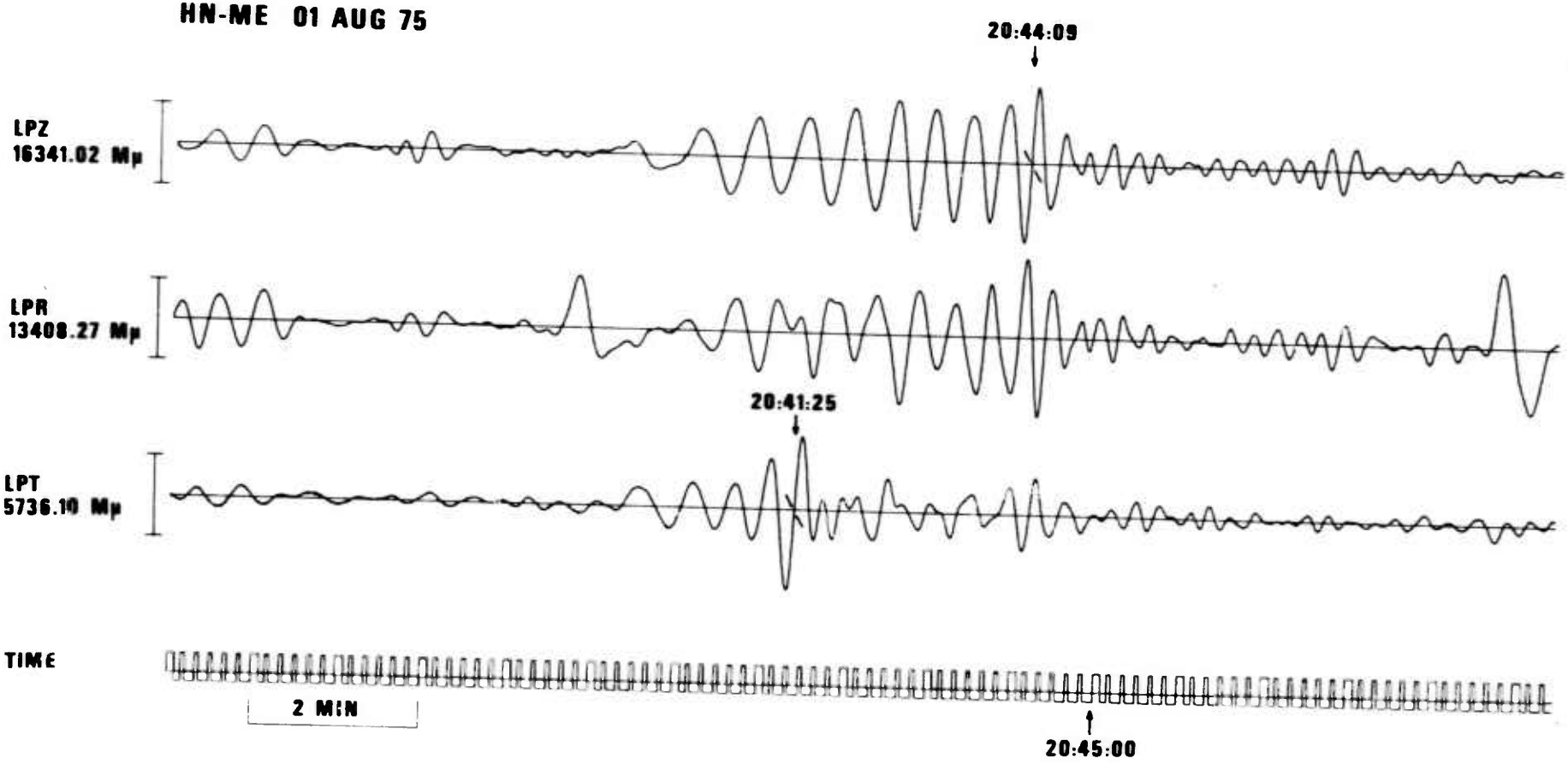
= 5 SECONDS

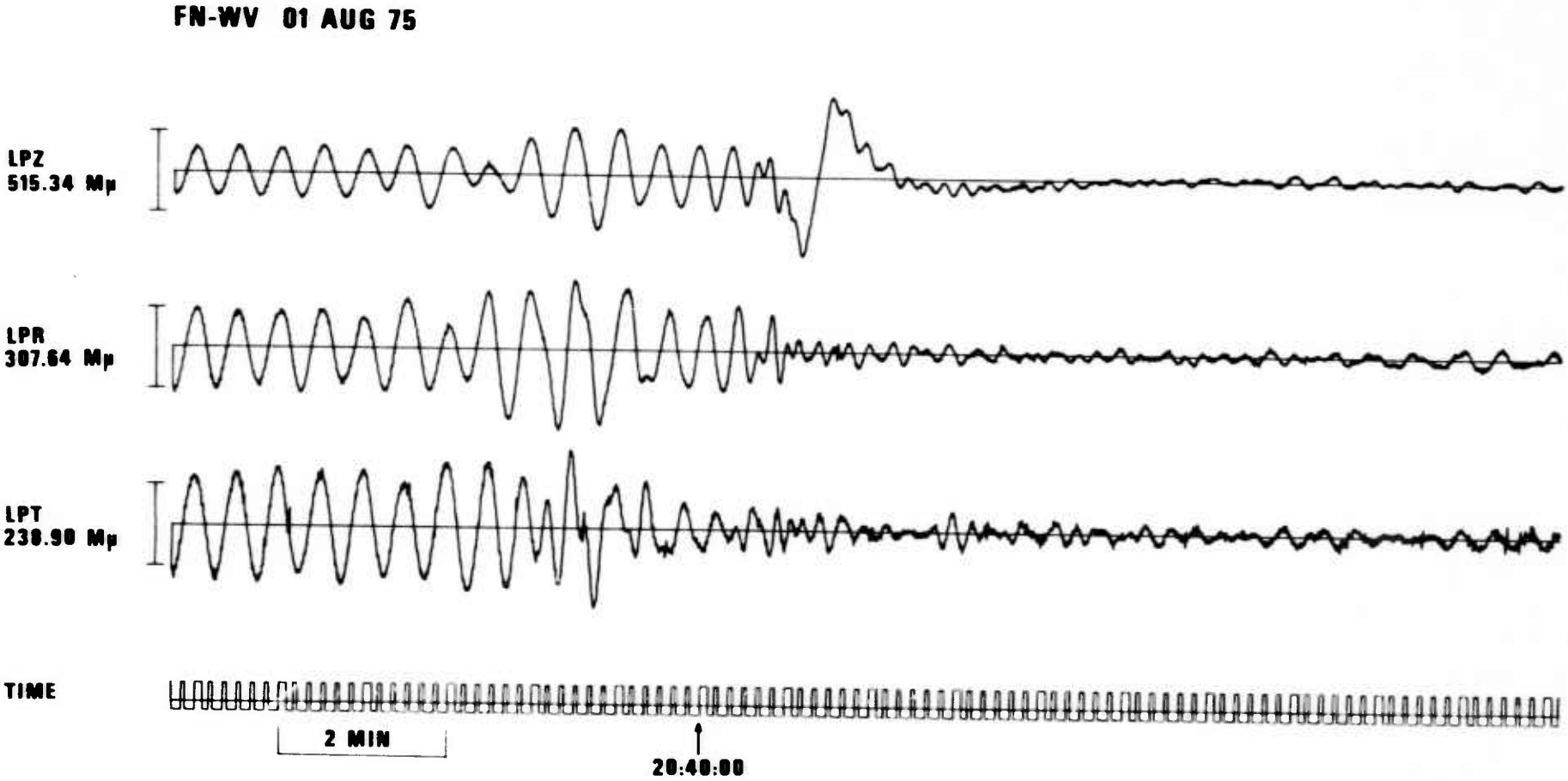



WH2YK 01 AUG 75
20:35:14
LPZ
5665.44 Mμ
LPR
4571.91 Mμ
LPT
3062.88 Mμ
TIME
2 MIN
20:35:00

CPSO 01 AUG 75




HN-ME 01 AUG 75
20:44:09
LPZ
16341.02 Mμ
LPR
13408.27 Mμ
20:41:25
LPT
5736.10 Mμ
TIME
2 MIN
20:45:00


FN-WV 01 AUG 75
LPZ
515.34 Mμ
LPR
307.64 Mμ
LPT
238.90 Mμ
TIME
2 MIN
20:40:00

ARRAY LONG PERIOD VERTICAL BEAMS 01 AUG 75