SDCS-ER-76-114

(1)

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
NTS Event "BANON", 26 August 1976

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SDCS Event Report No. 114

NTS Event "BANON", 26 August 1976

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	14:41:32.6	14:30:03.0	37.9N	116.9W	5.1	N/A
Hagfors	14:41:40.8	14:29:56	37N	117W	5.5	N/A

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

14:30:04.0	37.6N	116.0W	5.4	4.3

This is the first SDCS report published incorporating data from Oak Springs Butte, Nevada (OB2NV) and NT-NV, two of the three stations at the Nevada Test Site. The third station, NT2NV is not yet operational. Included in this report are geologic surveys of the sites. Unfortunately, the data from these two new sites is unuseable in the hypocenter determination due to their close proximity to the event, the same being responsible for the extremely large ground motion which caused all the traces to clip.

Useable short-period signals associated with this event were recorded at HN-ME, RK-ON, LASA, and NORSAR. LASA data was retrieved from the SDAC/VELA Network detection processor. Information reported for NORSAR is from their bulletin. SDCS data were taken from the digital field tapes and horizontal channels were rotated.

Long-period signals associated with this event were recorded at HN-ME, RK-ON, and LASA. NORSAR data was unobtainable. LASA data was obtained from the SDAC/VELA Network detection processor. SDCS data were taken from the digital field tapes, and horizontal channels were rotated.

Scaling factors on plots are millimicrons at 1 Hz for SP and 0.04 Hz for LP (not corrected for instrument response).

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES DEG MN SECS	ELEVATION METERS	INSTRUMENTATION SHORT-PERIOD	LONG-PERIOD
HN-ME	Houlton, Maine	46 09 43.0 N 067 59 09.0 W	213	KS36000	KS36000
RK-ON	Red Lake, Ontario	50 50 20.0 N 093 40 20.0 W	366	18300	SL210 V SL220 H
OB2NV	Nevada Test Site	37 13 31.0 N 116 03 28.0 W		18300	N/A
NT-NV	Nevada Test Site	31 16 33.0 N 116 25 06.0 W		18300	N/A
NT2NV	Nevada Test Site	37 15 16.0 N 116 18 13.0 W		18300	N/A
LASA	Billings, Montana	46 41 19.0 N 106 13 20.0 W	744	HS10	7505A V 8700C H
NORSAR	Kjeller, Norway	60 49 25.4 N 010 49 56.5 E	379	HS10	7505A V 8700C H

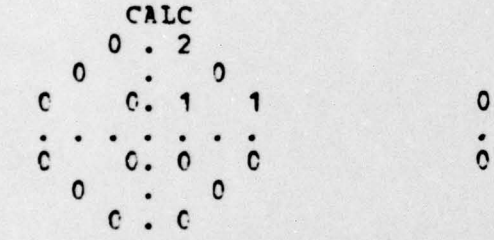
-- HYPO --

26AUG INPUT FOR EVENT 26 AUG 76
14:30:00.0 37.000N 116.000W 0KM.

STA.	ARRIVAL	RESIDUALS CALC		RESIDUALS REST		DIST. REST	AZ. REST
RK-ON	14 34 46.0	-0.0		-0.0		20.8	42.6
LAO *	14 32 53.8	1.6	*	1.3	*	11.8	34.9
HN-ME	14 37 08.4	0.0		0.0		36.3	60.5
OB2NV*	14 30 02.0	7.2	*	-5.2	*	0.2	186.2
NAO	14 41 32.6	0.1		0.1		72.7	24.1
NT-NV*	14 30 06.9	7.0	*	-3.3	*	0.3	248.9
HFS	14 41 40.8	-0.1		-0.1		74.1	23.5

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
NO CONVERGENCE ON CALC RUN						
14:30:01.9	37.544N	116.075W	-11. CALC	0.1	16	4
14:30:04.0	37.580N	116.034W	0. REST	0.1	3	4



CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.24
MAJOR 126.4KM. MINOR 66.1KM. AZ= 169 AREA= 26262 SQ.KM. REST

DATA SUMMARY

26AUG INPUT FOR EVENT 26 AUG 76
14:30:00.0 37.000N 116.000W 0KM.

STA.	PHASE	ARRIVAL TIME	INST	PER	A/T	MAGNITUDE MB	MS	DIR	DIST.
OB2NV*	EP	14 30 02.0	SPZ	9.9	9999.				
NT-NV*	EP	14 30 06.9	SPZ	9.9	9999.				
LAO *	EP	14 32 53.8	SAB	9.9	9999.				
LAO	LR	14 37 50.0	LPZ	14.0	98.		4.18		11.8
RK-ON	EP	14 34 46.0	SPZ	1.1	638.	5.58			20.8
RK-ON	LR	14 43 26.0	LPZ	16.0	37.		4.01		20.8
HN-ME	EP	14 37 08.4	SPZ	1.2	144.	5.43			36.3
HN-ME	LR	14 52 23.0	LPZ	18.0	41.		4.29		36.3
NAO	EP	14 41 32.6	AB	1.2	43.	5.23			72.7
HFS	EP	14 41 40.8	SPZ	9.9	9999.				

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPMAG	LPSDV	LPSTA
14:30:04.0	37.580N	116.034W	0. REST	5.42	0.18	3	4.29	******	1

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

OAK SPRING BUTTE 2, NEVADA

OB2NV
PORTABLE DIGITAL SITE

NYE COUNTY NEVADA
NEVADA TEST SITE, AREA 15

37° 13' 31" N (Est. accuracy ±3 sec)
116° 03' 28" W (Est. accuracy ±3 sec)

Approximate Elevation 1542 meters or 5060 ft (±20 ft)

The site is on the southeast flank of the belted range in the block-faulted Basin and Range Province. Oak Spring Butte and other heights form the dissected topography to the north of Yucca Flat. Topographic relief in the site area is approximately 794 meters (2605 ft). A major north-trending, high-angle fault zone is about 1.6 kilometers (1 mile) west of the site and a persistent, shallow, northwest-to-north trending normal fault is located about 400 meters north-northeast of the site. Relatively minor east-northeast trending folds and faults are to the southeast of the site location. The site is on the east flank of a Permian-Lower Mesozoic intrusive granite stock. The bedrock, as found in the Climax mine at the nearby OB-NV site, is an Ordovician dolomitic limestone of the Goodwin Limestone and Ninemile formations. This competent bedrock is light gray to light brown and tan, hard, dense, thick to thin bedded and locally recrystallized to marble and tactite. General bedding strike is easterly with about 15°-25° north dip. Primary vegetation consists of sparse desert grasses and brush.

The primary noise source at this site will be wind blowing on a tower near the site and blowing against the steep ridge north of the site.

NEVADA TEST SITE

NT-NV
PORTABLE DIGITAL SITE

NYE COUNTY, NEVADA
NEVADA TEST SITE, AREA 20

37° 16' 33" N (Est. accuracy ±3 sec)
116° 25' 06" W (Est. accuracy ±3 sec)

Approximate Elevation 1987 meters or 6520' (±20 ft)

The site is located on Pahute Mesa in the block-faulted Basin and Range Province. Pahute Mesa is an irregular, dissected, west-northwest trending mesa capped by resistant volcanic rocks. The topographic relief in the area is about 518 meters (1700 feet). The mesa is underlain by more than 1829 meters (6000 ft) of layered volcanic extrusive rocks of Tertiary age. High-angle, north-trending faults cut the general area. The Timber Mountain Caldera was active in early Pliocene time and moat structures were formed in the collapsed caldera just south of Pahute Mesa. The Pahute Mesa outcrops are primarily welded to nonwelded ash-flow tuff and air fall ash. The grayish pink, hard, dense, welded tuffs are rhyolitic in part and weather to brown, broken and blocky fragments on the surface. The nonwelded tuffs and ash falls are not resistant and weather to buff and cream, crumbly, soft, powder zones.

The mesa top presents a rolling, ravine-cut, hilly terrain with occasional cliff-forming outcrops. The thick, low desert brush and sparse grass cover a rough, rocky surface. Steep canyons head into Pahute Mesa from the north, west and south. Although the area is remote from the normal cultural noise sources, equipment activity at Camp 20 and strong winds across the rugged topography limit the operating magnification at this site.

NEVADA TEST SITE

NT2NV
PORTABLE DIGITAL SITE

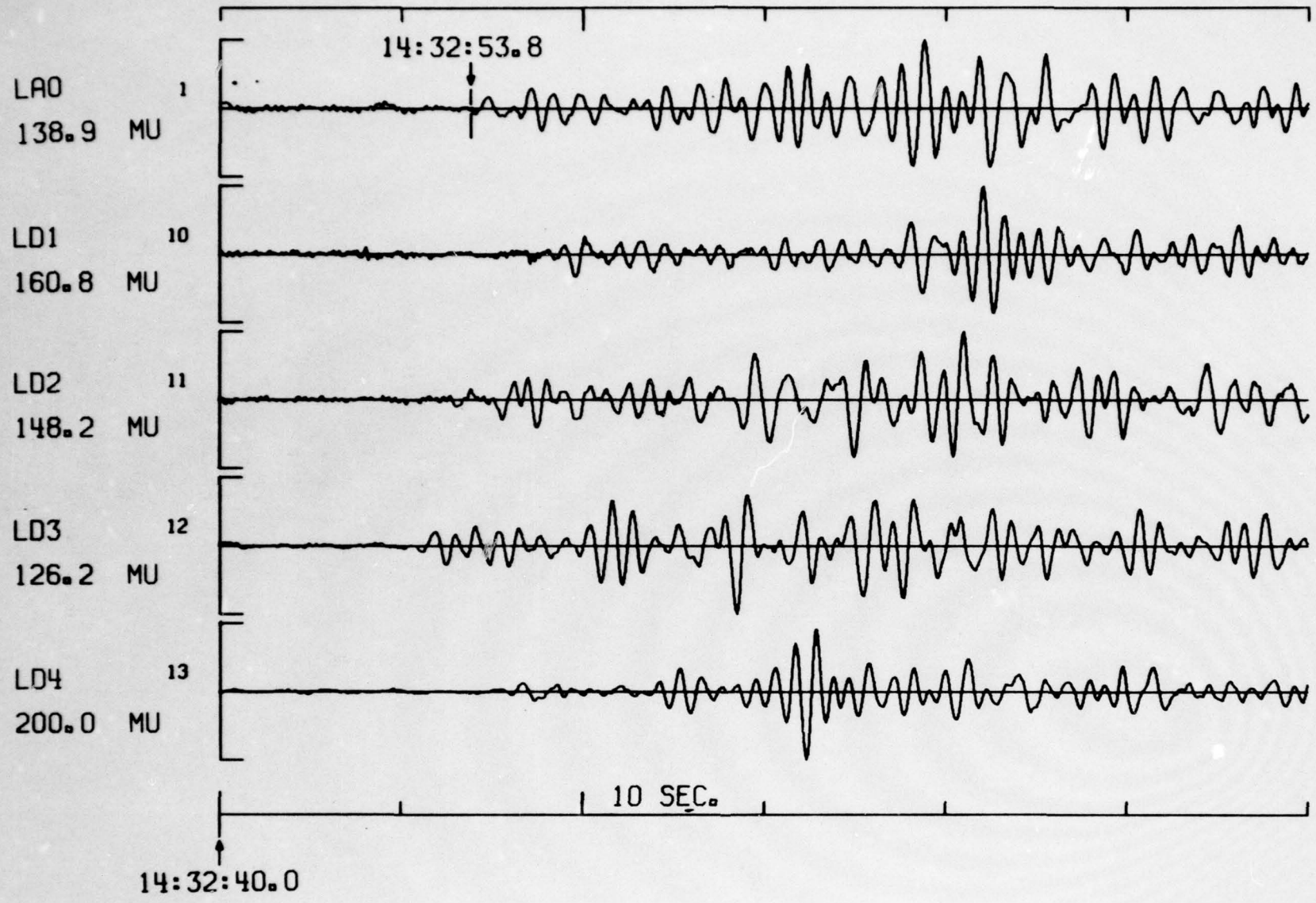
NYE COUNTY, NEVADA
NEVADA TEST SITE, AREA 19

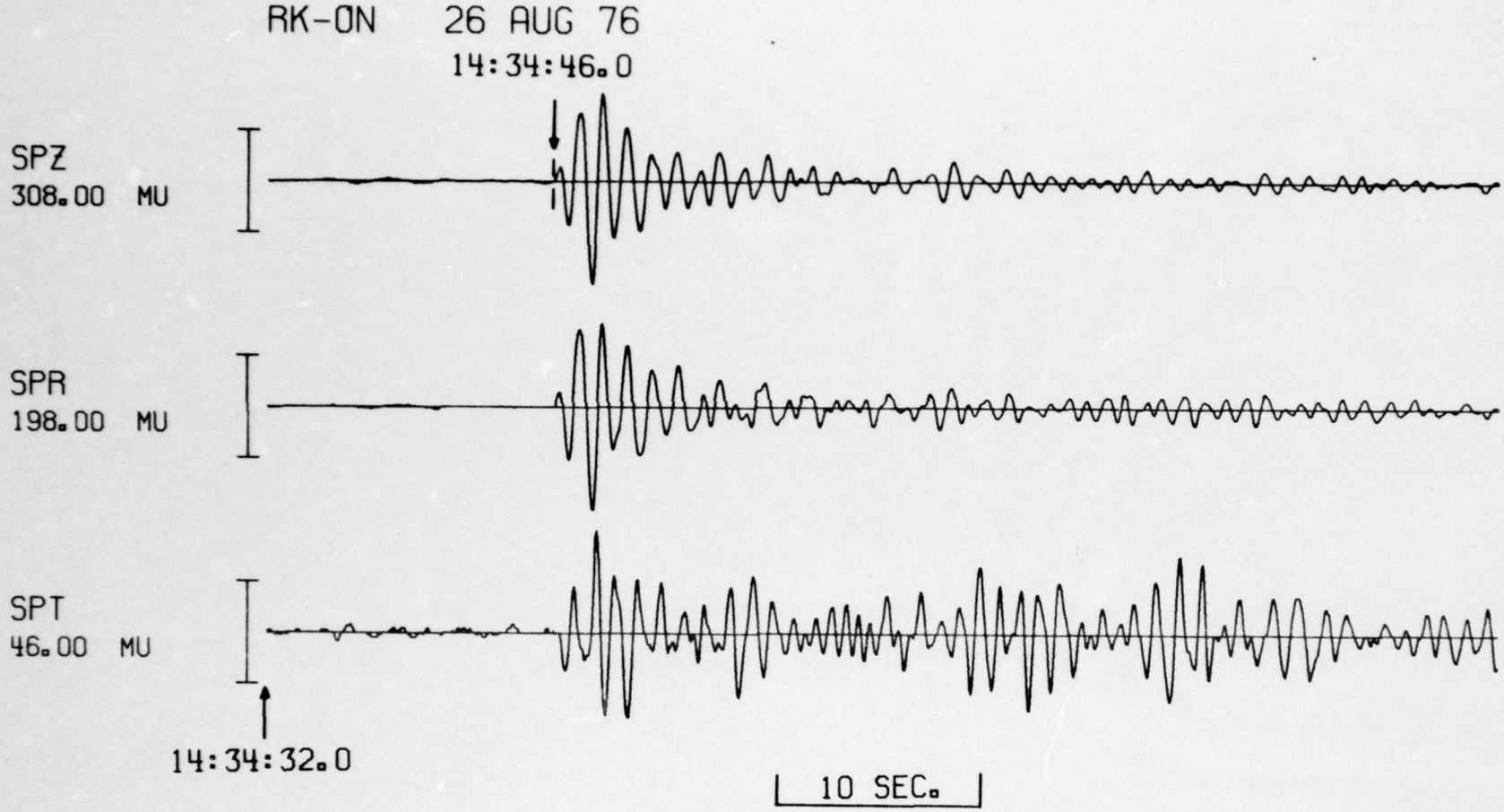
37° 15' 16" N (EST. ACCURACY ±3 SEC)
116° 18' 13" W (EST. ACCURACY ±3 SEC)

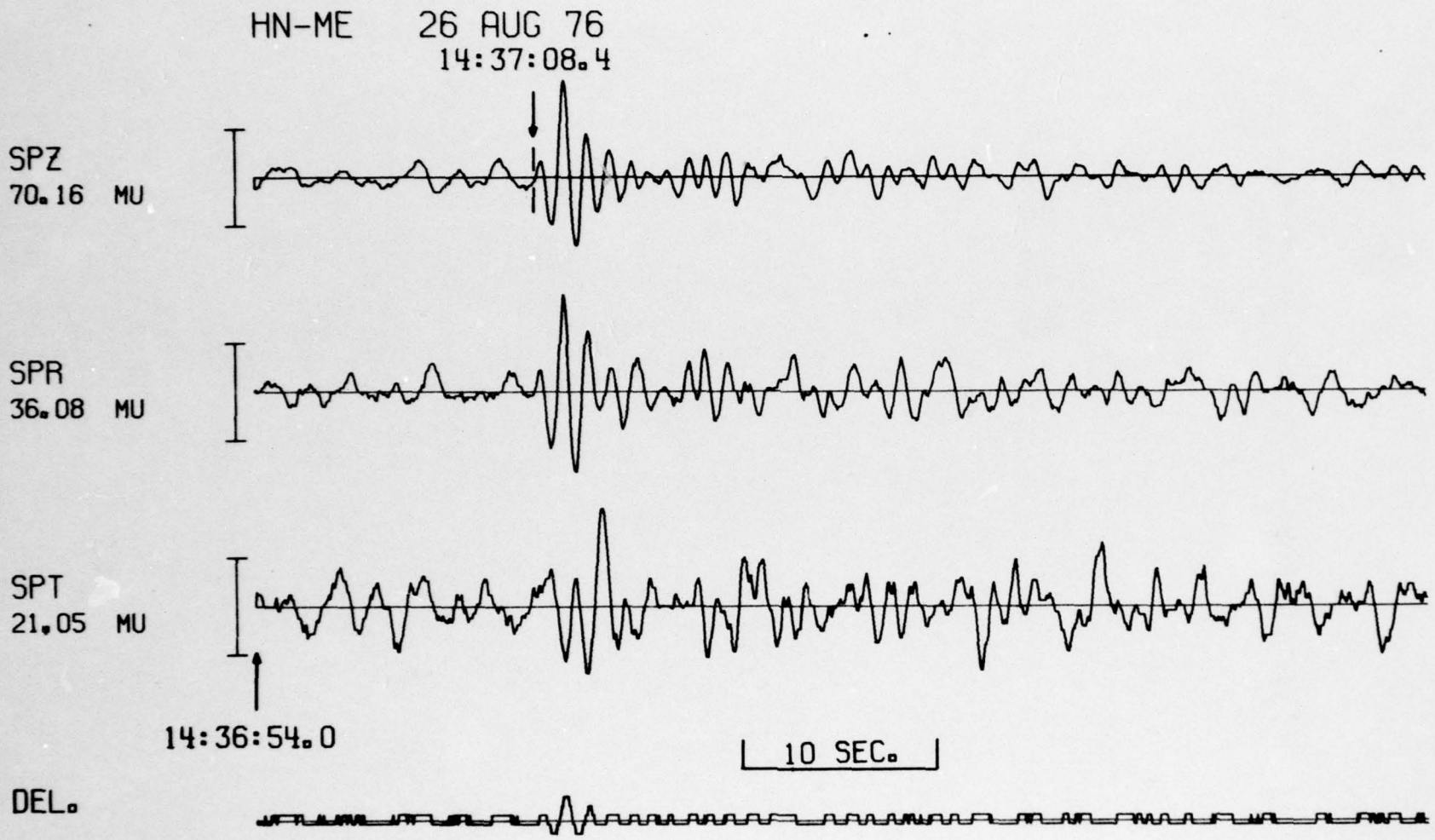
Approximate Elevation 2097 meters or 6880 ft (±20 ft)

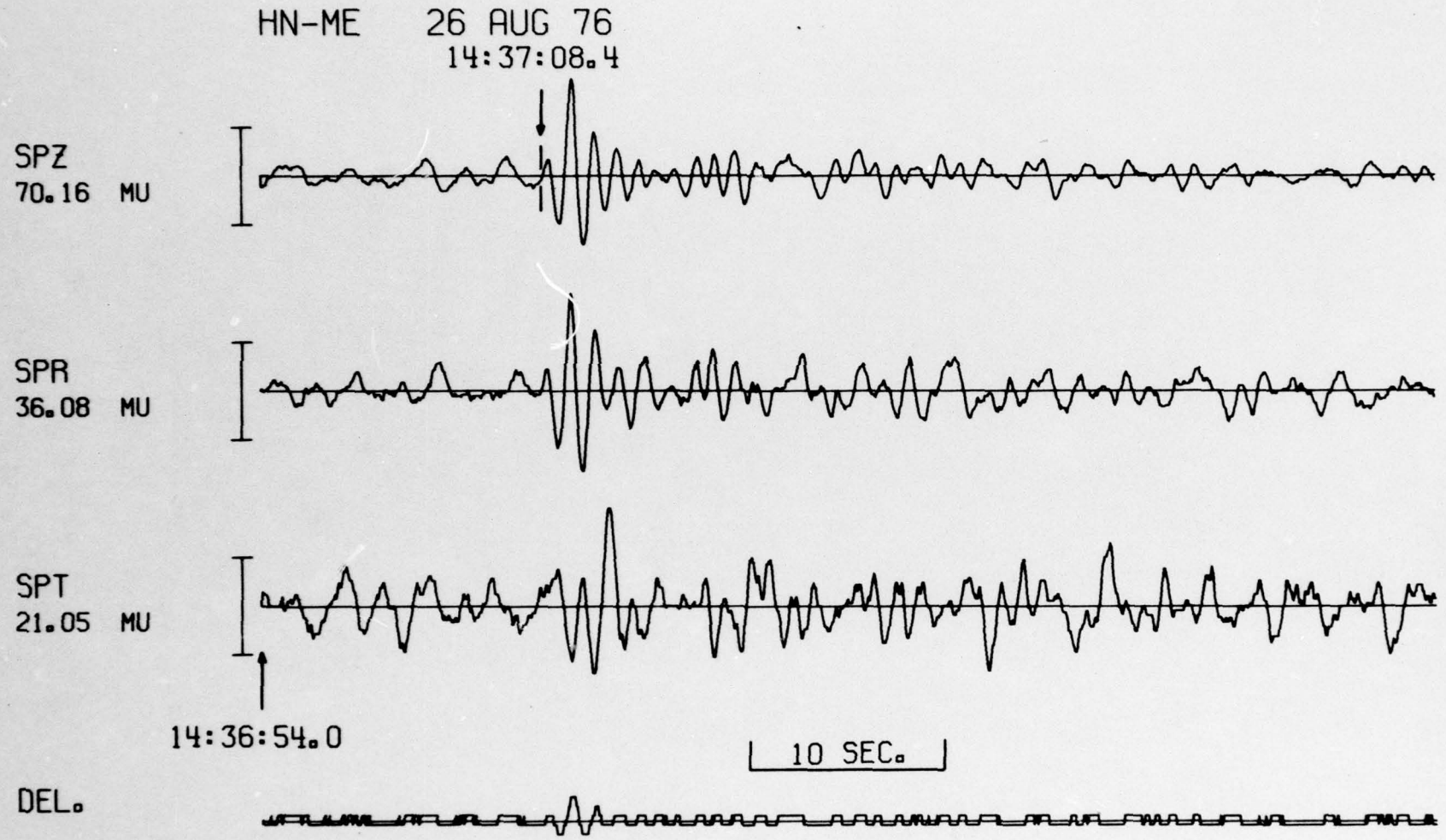
The site is located on Pahute Mesa in the block-faulted Basin and Range Province. Pahute Mesa is an irregular, dissected, west-northwest trending mesa capped by resistant volcanic rocks. The topographic relief in the area is about 518 meters (1700 ft). The mesa is underlain by more than 1829 meters (6000 ft) of layered volcanic extrusive rocks of Tertiary age. High-angle north-trending faults cut the general area. The Timber Mountain Caldera was active in early Pliocene time and moat structures were formed in the collapsed caldera just south of Pahute Mesa. The Pahute Mesa outcrops are primarily welded to nonwelded ash-flow tuff and air fall ash. The grayish pink, hard, dense, welded tuffs are rhyolitic in part and weather to brown, broken and blocky, fragments on the surface. The nonwelded tuffs and ash falls are not resistant and weather to buff and cream, crumbly, soft, powder zones.

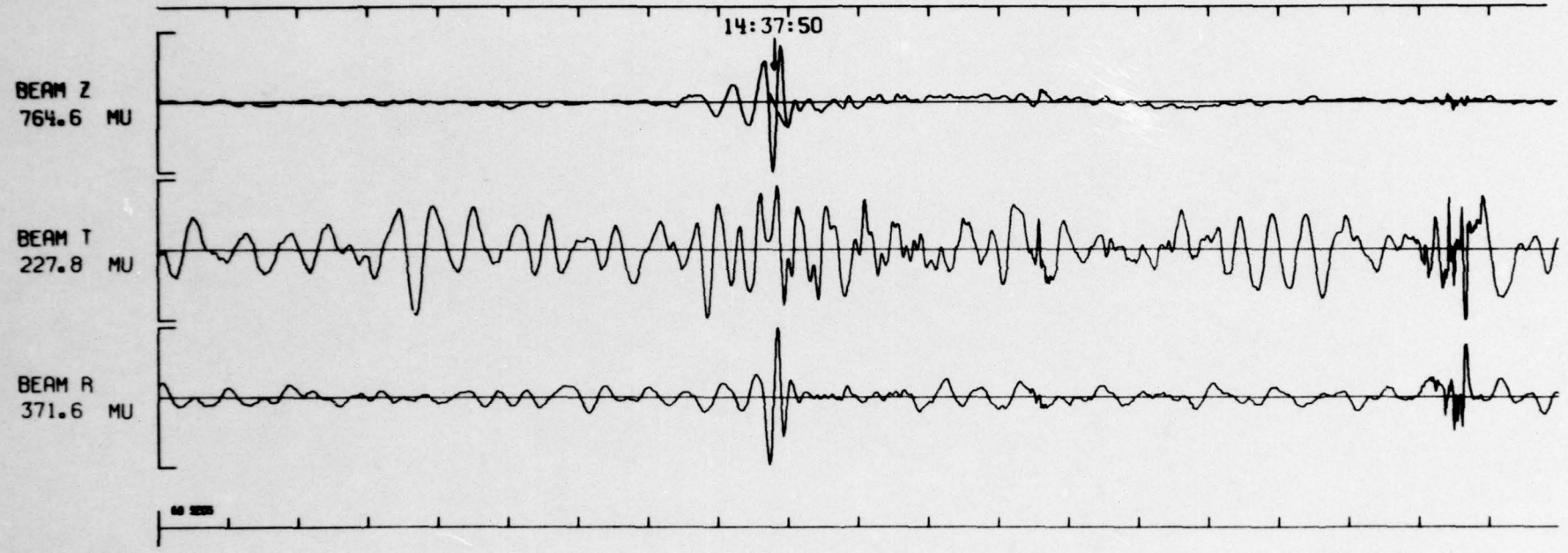
The mesa top presents a rolling, ravine-cut, hilly terrain with occasional cliff-forming outcrops. The vegetation is generally low juniper and spruce with a sparse grass cover. The rough, rocky mesa surface is cut by steep canyons on the north, west and south and, although the area is remote from normal cultural noise sources, strong winds across the rugged topography and traffic on Pahute Mesa Road are sources of noise.


14:32:53.8
LA0
1
138.9 MU
LD1
10
160.8 MU
LD2
11
148.2 MU
LD3
12
126.2 MU
LD4
13
200.0 MU
10 SEC.
14:32:40.0


RK-ON 26 AUG 76
14:34:46.0
SPZ
308.00 MU
SPR
198.00 MU
SPT
46.00 MU
14:34:32.0
10 SEC.

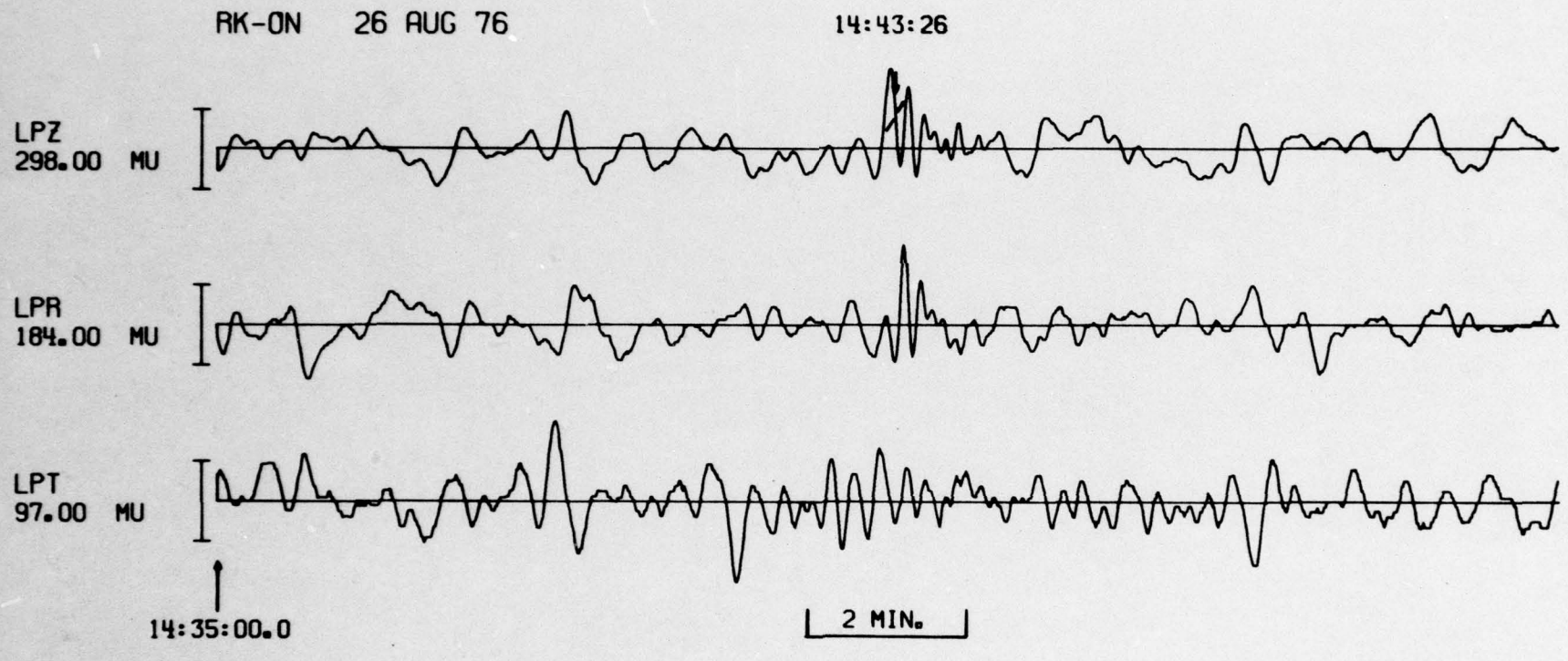

HN-ME 26 AUG 76
14:37:08.4
SPZ
70.16 MU
SPR
36.08 MU
SPT
21.05 MU
14:36:54.0
10 SEC.
DEL.

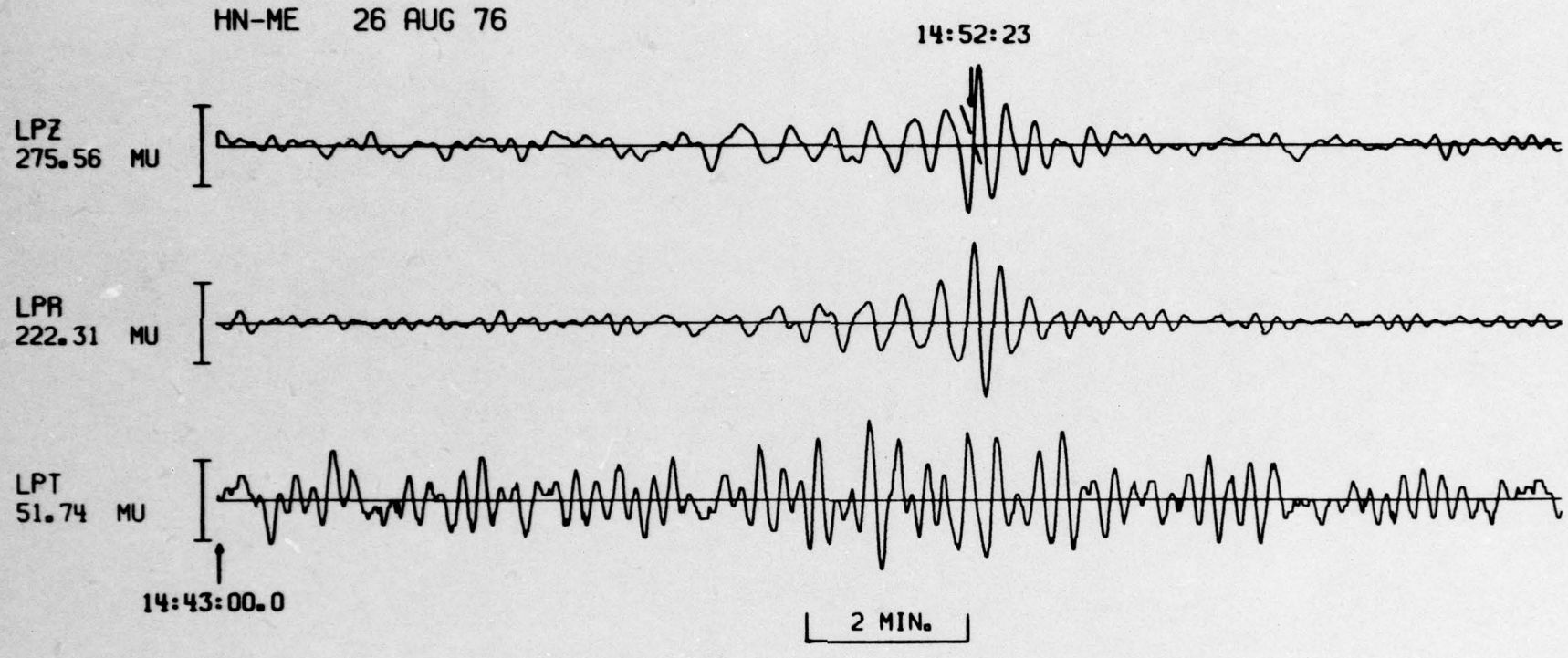

HN-ME 26 AUG 76
14:37:08.4
SPZ
70.16 MU
SPR
36.08 MU
SPT
21.05 MU
14:36:54.0
10 SEC.
DEL.



LASA LONG PERIOD BEAM STEER DATA

26 AUG 76


RK-ON 26 AUG 76
14:43:26
LPZ
298.00 MU
LPR
184.00 MU
LPT
97.00 MU
14:35:00.0
2 MIN.


HN-ME 26 AUG 76
14:52:23
LPZ
275.56 MU
LPR
222.31 MU
LPT
51.74 MU
14:43:00.0
2 MIN.