

DEPARTMENT OF CONSERVATION**DIVISION OF MINES AND GEOLOGY****STRONG MOTION INSTRUMENTATION PROGRAM**

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September 13, 1994

**CSMIP Strong-Motion Data from the South Lake Tahoe
Area Earthquake of September 12, 1994**

Strong-motion records are included from five CSMIP stations that recorded the local magnitude 6.1 (BRK) (M_w 6.3; NEIC) earthquake of September 12. The preliminary hypocenter is located at 38.82 N, 119.64 W with a shallow depth near 5 km (UNR). The epicenter is located near the California-Nevada border about 32 km southeast of South Lake Tahoe.

The following table summarizes the strong-motion data at these five stations, ranging in epicentral distance from 14 to 163 km. The largest horizontal acceleration recorded at a ground response site is 0.09 g in Woodfords. The ground response accelerations, though not large, are near the mean of several attenuation curves for an earthquake of this magnitude. The largest structural acceleration is 0.35 g at the crest of a small earth dam at Indian Creek Reservoir.

Processed data from Woodfords and the State Capitol in Sacramento are included in this early release. The processed acceleration, velocity and displacement, and the response spectra are shown.

Files of the processed data are on the Internet. (They are available in directory pub/csmip_eq_data at ftp.netcom.com by anonymous ftp).

Table

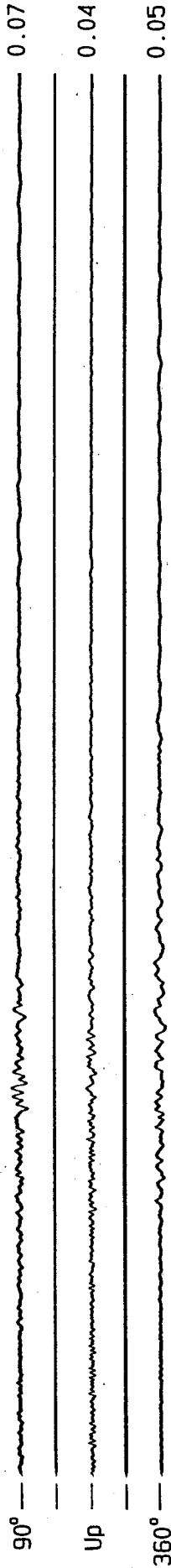
Data recovered at CSMIP stations from the September 12 Earthquake

<u>Station No.</u>	<u>Station Name</u>	<u>Structure Type</u>	<u>Station Coords.</u>	<u>Epic Dist (km)</u>	<u>Maximum Acceleration</u>		<u>Site Geology</u>
					<u>Ground</u>	<u>Struct</u>	
65430	Indian Creek Dam (Crest)	Earth dam	38.752 N 119.777 W	14		0.35g H 0.14g V	Rock (volcanic)
65398	Woodfords	1-story building	38.771 N 119.815 W	16	0.09g H 0.12g V		Alluvium
66038	Meyers South Lake Tahoe	1-story building	38.860 N 120.019 W	33	0.07g H 0.04g V		Alluvium
66360	Lake Tahoe Bliss Park	Small shelter	38.978 N 120.101 W	44	0.02g H 0.01g V		Weathered rock (granitic)
76054	Truckee Airport	Small shelter	39.318 N 120.145 W	71	Not triggered though operational		Alluvium
67508	Sacramento State Capitol	5-story building	38.577 N 121.492 W	163	0.004g H 0.004g V	0.038g H	Alluvium

Meyers - South Lake Tahoe
(CSMIP Station 66038)

Record 66038-S1571-94255.02

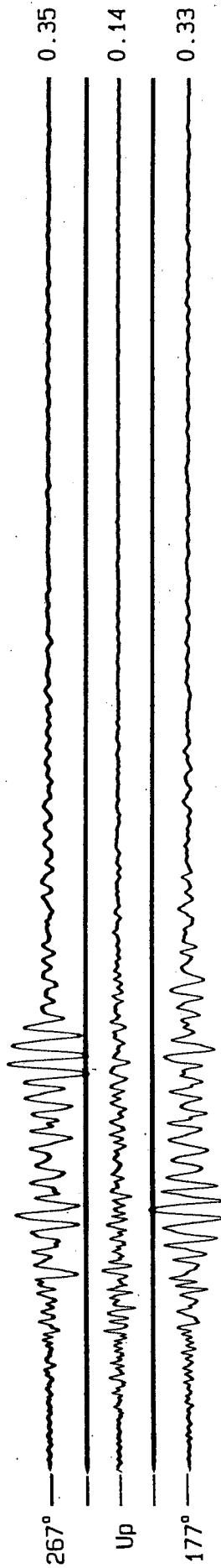
Max.
Accel.
(g)



Indian Creek Dam - Crest
(CSMIP Station 65430)

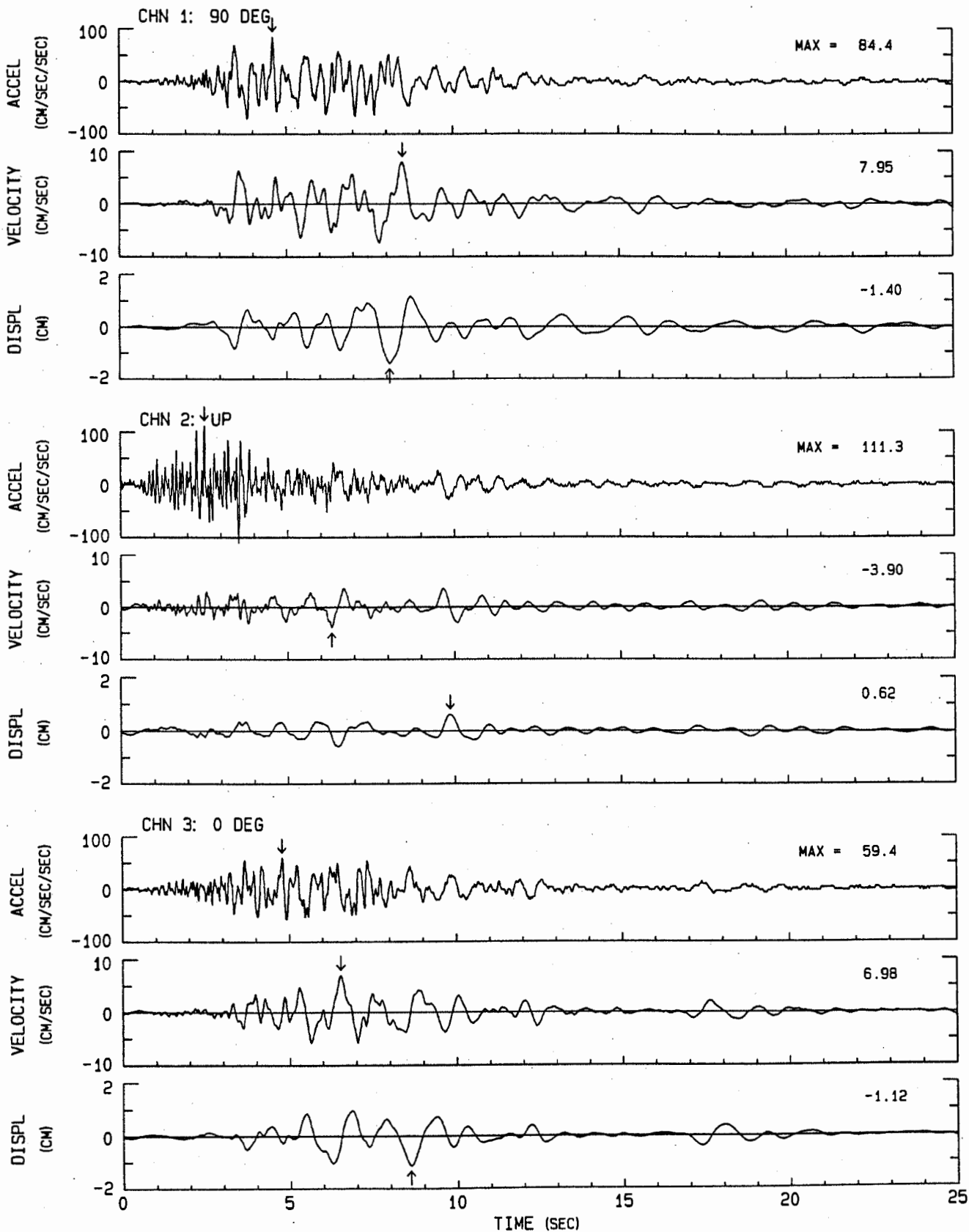
Record 65430-S4389-94255.02

Max.
Accel.
(g)



SO LAKE TAHOE EARTHQUAKE OF 12 SEP 1994 CSMIP PRELIMINARY PROCESSING
WOODFORDS: CSMIP S/N 398

PHASE 2 FILTERED DATA: ACCELERATION, VELOCITY AND DISPLACEMENT
USABLE DATA BANDWIDTH: .34 TO 23.6 HZ (1.04 TO 2.94 SEC) RECORD ID: 65398-S2781-94255.02



WOODFORDS: CSMIP S/N 398

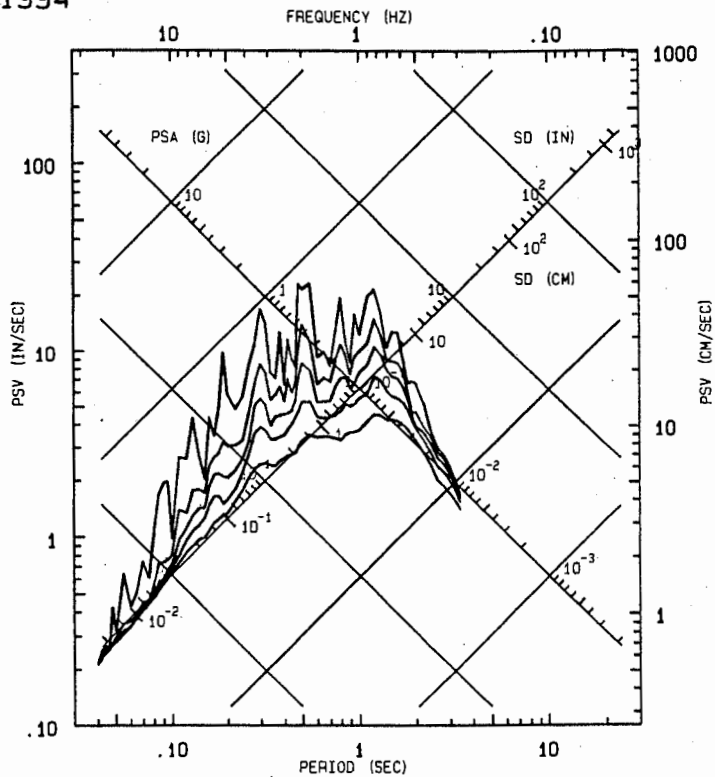
SO LAKE TAHOE EARTHQUAKE OF 12 SEP 1994
CSMIP PRELIMINARY PROCESSING

PHASE 3 DATA: RESPONSE SPECTRA
USABLE DATA BANDWIDTH: 0.34 TO 23.6 HZ
(0.04 TO 2.94 SEC)

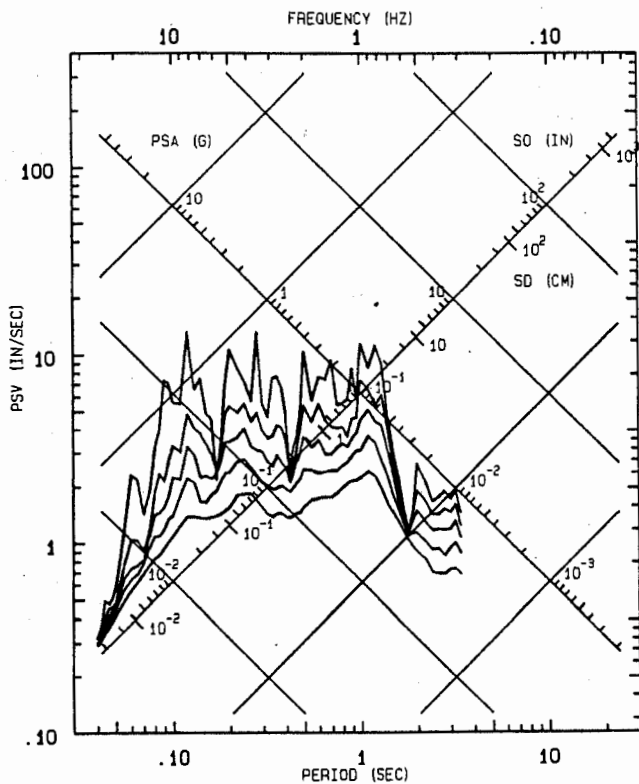
RECORD ID: 65398-S2781-94255.02

— RESPONSE SPECTRA: PSV, PSA & SD
DAMPING VALUES: 0, 2, 5, 10, 20%

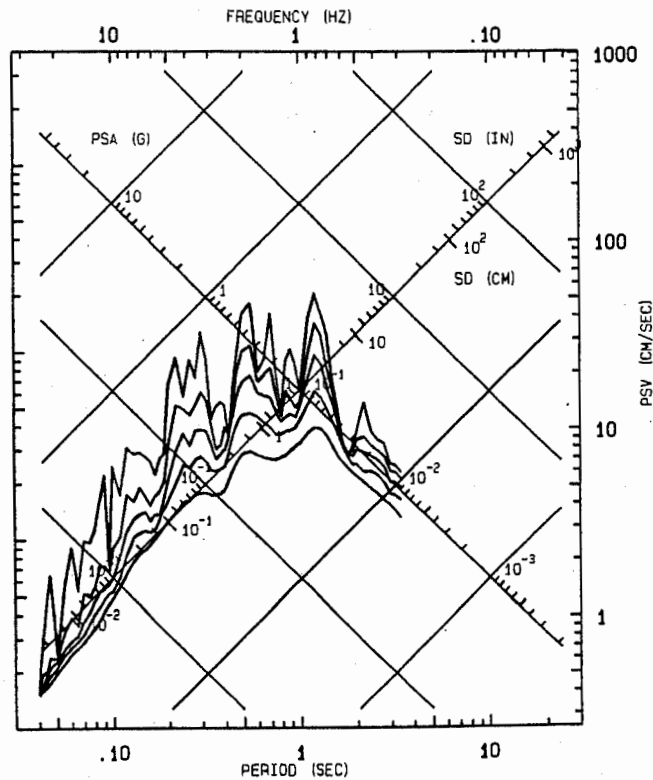
CHN 1: 90 DEG



CHN 2: UP

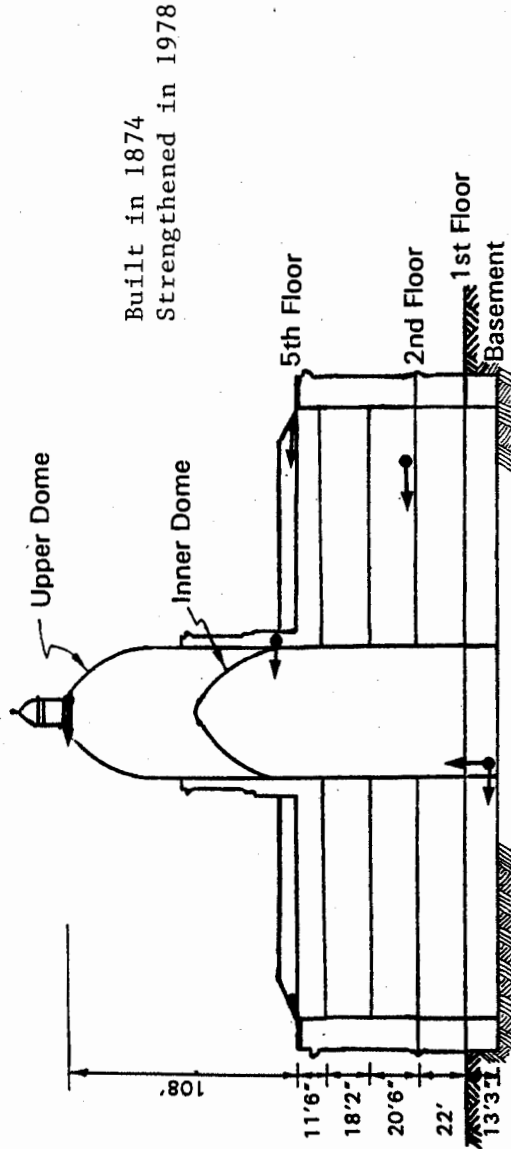


CHN 3: 0 DEG



Sacramento - State Capitol
(CSMIP Station No. 67508)

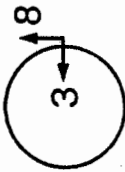
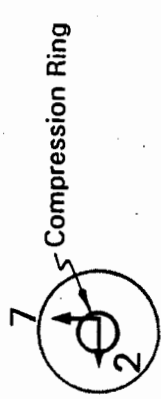
SENSOR LOCATIONS



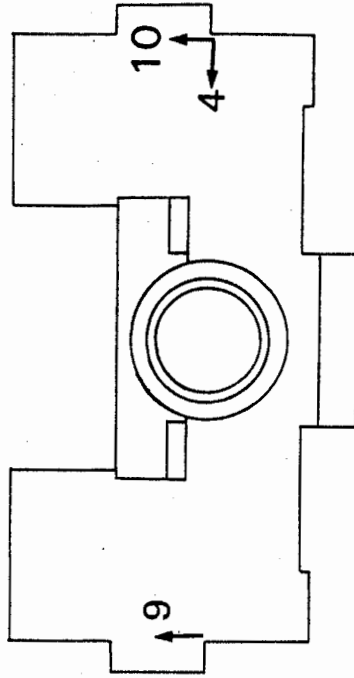
N/S Elevation



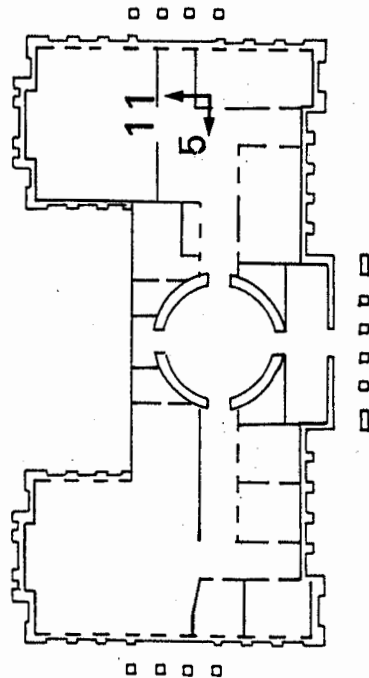
Structure Reference
Orientation: N = 18°



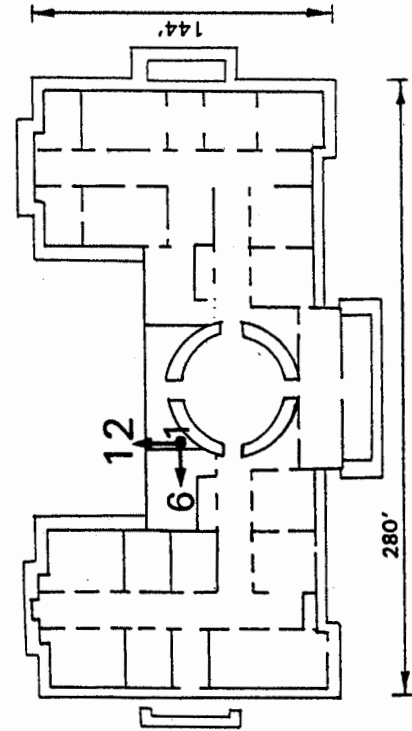
Inner Dome



5th Floor Plan



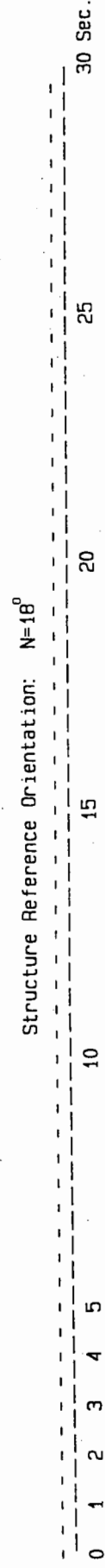
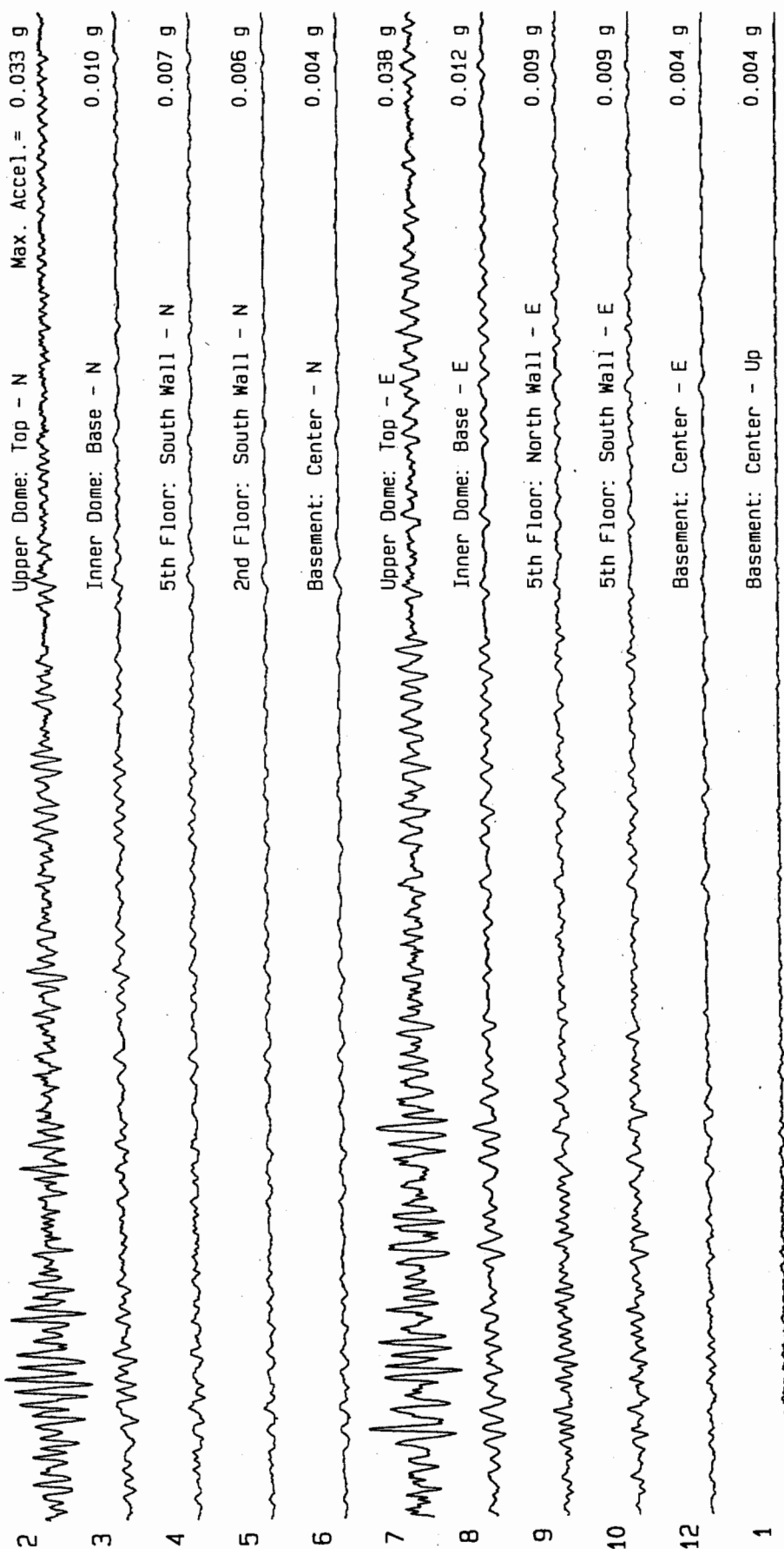
2nd Floor Plan



Basement Plan

Sacramento - State Capitol
 (CSMIP Station 67508)

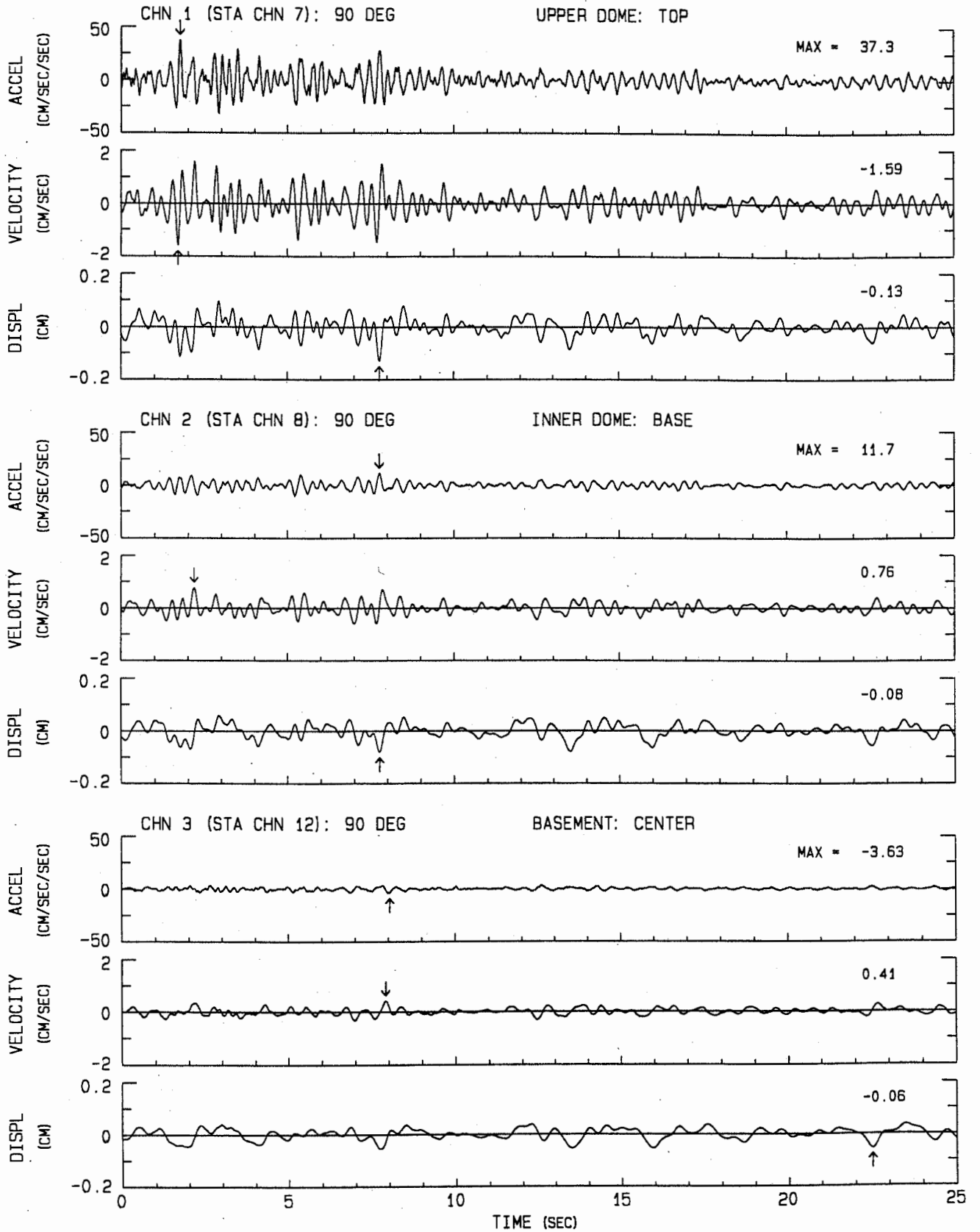
RECORD 67508-C0102-94255



This page plotted with 10x vertical exaggeration.

SO LAKE TAHOE EARTHQUAKE OF 12 SEP 1994 CSMIP PRELIMINARY PROCESSING
SACRAMENTO - STATE CAPITOL: CSMIP S/N 508

PHASE 2 FILTERED DATA: ACCELERATION, VELOCITY AND DISPLACEMENT
USABLE DATA BANDWIDTH: .34 TO 47.2 HZ (.02 TO 2.94 SEC) RECORD ID: 67508-D0296-94255.04



SO LAKE TAHOE EARTHQUAKE OF 12 SEP 1994 CSMIP PRELIMINARY PROCESSING
SACRAMENTO - STATE CAPITOL
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPES AT .20-.40 TO 46.0-50.0 HZ.
67508-D0296-94255.04 091394.1148-QN94A508

