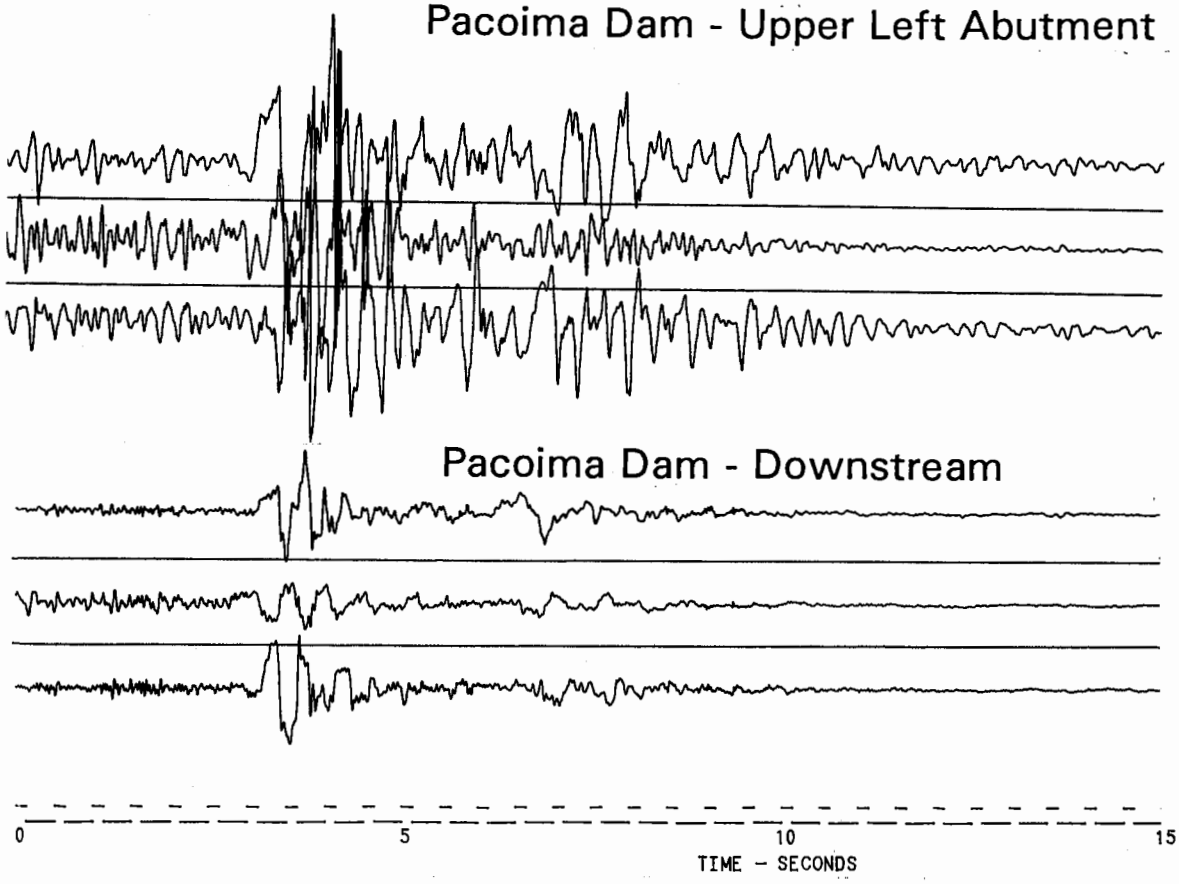
CSMIP STRONG-MOTION RECORDS FROM THE NORTHRIDGE, CALIFORNIA EARTHQUAKE OF JANUARY 17, 1994



CALIFORNIA DEPARTMENT OF CONSERVATION
DIVISION OF MINES AND GEOLOGY
OFFICE OF STRONG MOTION STUDIES
REPORT OSMS 94-07

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CSMIP STRONG-MOTION RECORDS FROM THE NORTHRIDGE, CALIFORNIA EARTHQUAKE OF 17 JANUARY 1994

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CSMIP STRONG-MOTION RECORDS FROM THE NORTHRIDGE, CALIFORNIA EARTHQUAKE OF 17 JANUARY 1994

INTRODUCTION

The magnitude 6.7 M_W earthquake that occurred near Northridge, California on January 17, 1994 produced an extensive set of strong-motion recordings. The epicenter is located about 32 km northwest of Los Angeles in the densely populated San Fernando Valley. No surface rupture that can be associated unequivocally with the mainshock has yet been found by field geologists from CDMG, USGS and other agencies. Analysis by the USGS and Caltech indicates that the earthquake had a thrust mechanism on a fault plane striking N60°W and dipping 35-45°S. The rupture initiated about 19 km below the San Fernando Valley and propagated upward toward the northeast on this plane. It is inferred that the rupture stopped about 5 km below the surface. The aftershock zone lies along this plane located mainly under the San Fernando Valley. The location of mainshock epicenter is indicated on the map in Figure 1.

The estimated location and magnitude of the Northridge earthquake are:

Epicenter: 34.209°N, 118.541°W. Focal Depth: 19 km (Caltech/USGS)
Origin Time: 12:30:55.4, 17 January 1994 UTC (4:30 AM, PST)
Magnitude: 6.4 M_L (Caltech), 6.7 M_W (Caltech); 6.8 M_S (NEIC)

Extensive damage occurred in the San Fernando Valley, Los Angeles basin and adjoining areas, although injuries were confined mainly to the epicentral area. A collection of damage studies by various individuals and institutions is being prepared by the Earthquake Engineering Research Institute. The U.C. Berkeley Earthquake Engineering Research Center published a preliminary report on the seismological and engineering aspects of the earthquake (Moehle, 1994).

This report includes all CSMIP data from the Northridge earthquake. It supersedes the five Quick Reports, CSMIP (1994a through 1994e), released during January 17 through January 25. These data are being processed and the first report containing five ground-response records was released on February 7 (Darragh and others, 1994a).

HIGHLIGHTS OF CSMIP STRONG-MOTION DATA

Strong-motion records were recovered from a total of 193 stations of the California Strong Motion Instrumentation Program (CSMIP) after the Northridge earthquake. The epicentral distance of the stations ranges from 5 km for the closest (Tarzana) to about 270 km for the farthest (Bombay Beach, in Imperial County). The 193 stations include 116 ground-response stations and 77 extensively-instrumented structures. The 77 structures include 57 buildings, 12 dams, 5 major freeway interchanges, a toll bridge, an airport control tower and a power plant.

The maximum acceleration values and the station parameters are presented in the tables at the beginning of this report for all records recovered. Most of the analog records are photographically reproduced in this report. However, records with very small amplitude (e.g., less than 5% g) generally have not been reproduced here.

Many of the CSMIP records from this event were recorded on digital recorders. These instruments provide enhanced frequency response and improved resolution at low levels of motion and also record motion before the onset of the strong earthquake shaking (pre-event memory). Digital records allow more accurate determination of ground velocity and displacement and better definition of the ground-motion attenuation curve at extended distances. Some stations have been plotted at a delayed initial time to show the strong portion of the shaking. Also, many of the low-amplitude digital records have been plotted with 4x vertical exaggeration so that details in the record can be readily discerned. Finally, for the convenience of the reader, records from individual sensors in structures are arranged in an order that allows easy visual comparison of the records.

Some specific highlights of the records include:

- **Pacoima Dam** During the 1971 San Fernando earthquake a then-unprecedented value of 1.25 g was recorded at the upper left abutment of this 365-foot high concrete arch dam constructed in 1929. Since the 1971 earthquake, the dam has been extensively instrumented with additional sensors at a downstream site and on the dam structure. During the Northridge earthquake the instrumentation system recorded high acceleration levels with peak accelerations exceeding 2 g. The upper left abutment instrument, at the same site where the 1971 record was obtained, recorded an acceleration of 1.5 g or greater on the horizontal and 1.4 g on the vertical component. (For reference, the peak acceleration in the 1971 record was 1.25 g on the horizontals and 0.7 g on the vertical). The Pacoima Dam downstream record from a site in the narrow canyon below the dam indicates accelerations of 0.44 and 0.20 g on the horizontal and vertical components, respectively. This site is approximately 130 m (430 feet) downstream from the base of the dam. Peak accelerations exceeding 2 g were recorded on the dam structure. The instrumentation system at the dam was damaged during the earthquake, but not before the records shown in this report were obtained. Some of the peak acceleration values will be determined when the records are digitized, and the orientations will be verified.

- **Tarzana** The record from the Tarzana ground-response station, about 5 km south of the epicenter, shows repeated accelerations over 1 g, for 7-8 seconds, with a peak horizontal acceleration of 1.8 g. All three components had accelerations over 1.0 g. Note that this station also had an isolated high-amplitude peak in the 1987 Whittier Narrows earthquake, though not in the largest Whittier aftershock nor several other events. Additional instruments have been deployed near the station to obtain data from the aftershocks to help understand this record.

- **Arleta** The second closest ground response CSMIP station, approximately 10 km east of the epicenter, recorded a peak horizontal acceleration of 0.35 g, but a higher vertical acceleration of 0.59 g.

• **Santa Monica** The free-field station on Santa Monica City Hall grounds had a peak horizontal acceleration of 0.93 g and vertical acceleration of 0.25 g. This station is approximately 23 km from the epicenter and about 11 km west of the section of the I-10 freeway that collapsed.

• **Features of the Recorded Accelerograms** A preliminary analysis of the accelerograms recorded at CSMIP stations from the Northridge earthquake show the following features. A more extensive discussion of features of the accelerograms, peak motions and processed data will be published in Darragh and others (1994b).

1) Duration The duration of strong shaking is about 10 to 15 seconds. This is comparable to the durations of the 1971 San Fernando and 1989 Loma Prieta events, but significantly less than the 30-second duration of the 1992 Landers earthquake.

2) Peak Acceleration Attenuation The peak horizontal accelerations from this earthquake have been compared to standard attenuation relationships. The Northridge accelerations are greater than would have been predicted by most relationships and are also greater than those in the 1971 San Fernando earthquake.

3) Vertical to Horizontal Peak Acceleration Ratio Typically, peak vertical acceleration is about two-thirds of the peak horizontal acceleration. However, at a few stations vertical accelerations were nearly equal to or greater than the peak horizontal acceleration (e.g., Arleta, etc.).

4) Site Amplification of Strong Ground Shaking No clear trend in amplification of ground motion at soil sites is apparent in the CSMIP data, in contrast to the 1989 Loma Prieta earthquake. Further investigation of the effects of site geology and basin effects will be necessary to determine the role of local site conditions on ground motions and damage during this earthquake.

• **Sylmar - County Hospital** The ground-response station in the parking lot of the County Hospital recorded a peak horizontal acceleration of 0.91 g and a peak vertical acceleration of 0.6 g. For reference, this station is approximately 6 km east of the I5/14 interchange which collapsed. This hospital replaced the hospital that collapsed in the 1971 San Fernando earthquake. The structure was built with concrete and steel shear walls, and the building was instrumented by the County and CSMIP at the time of construction. A peak acceleration of 0.8 g was recorded at the base and 2.3 g at the roof level. The records recovered during this earthquake allow analyses of this specialized structure.

• **San Fernando Valley Buildings** Several buildings in the San Fernando Valley were instrumented with limited instrumentation at the time of the 1971 earthquake. Two of these buildings, one in Van Nuys and one in North Hollywood, have since been extensively instrumented by CSMIP. The Van Nuys building, approximately 7 km east of the epicenter, recorded a peak horizontal acceleration of 0.47 g at the base and 0.59 g at the roof. The North Hollywood building, 19 km from the epicenter, recorded 0.33 g at the base and 0.66 g at the roof. These peak values were much larger than those

recorded at these buildings during the 1971 San Fernando earthquake. In addition to these two buildings and the Sylmar hospital building, high accelerations were also recorded at three other CSMIP buildings in the San Fernando Valley.

- **Parking Structure Records** The 6-story parking structure in downtown Los Angeles is the first parking structure from which significant strong-motion data has been obtained during earthquake shaking. It is approximately 31 km from the epicenter and recorded a peak horizontal acceleration of 0.29 g at the base and 0.84 g at the top of the shear wall. Rocking motion of the shear wall occurred as indicated from the records by a pair of vertical sensors at the base. It is also important to note that large amplifications occurred at the parapet (1.21 g) and at the center of the girder that supports the slab (0.52 g). Many parking structures suffered extensive damage during the Northridge earthquake. This set of records is very important for analyses of these structures.

- **Downtown Los Angeles Records** Records were obtained from six buildings and two ground-response stations in downtown Los Angeles, about 32 km from the epicenter. The buildings include three steel buildings, a precast concrete shear-wall building, and two unreinforced masonry (URM) infill wall buildings. These buildings range from 9 to 54 stories in height. The maximum recorded acceleration in these buildings was 0.58 g.

- **Base-isolated Building Records** Records were obtained at four base-isolated buildings instrumented by CSMIP. Two of these were located in the Los Angeles area, about 36 km from the epicenter, and were subjected to the strongest ground shaking since they were built. These two buildings are:

1) <u>7-story University Hospital</u>. The University Hospital is a 7-story braced steel frame building with a 1-story basement. The seismic isolation consists of 68 lead-rubber isolators and 81 elastomeric isolators. Stronger ground shaking was recorded in the north-south direction. The peak horizontal acceleration at the free-field site was 0.49 g and the peak acceleration at the foundation below the isolators was 0.37 g. In the superstructure above the isolators, the peak acceleration was 0.13 g at the base and 0.21 g at the roof level. The records indicate significant reduction of the earthquake force by the isolators and provide valuable information for study of seismic base-isolation for structures.

2) <u>2-story Los Angeles Fire Command Control Building</u> The Los Angeles County Fire Department's Fire Command and Control Building is a 2-story braced steel frame building supported on 32 high-damping rubber isolators. Peak horizontal acceleration of 0.32 g was recorded at a free-field site. In the north-south (longitudinal) direction, peak acceleration of 0.18 g was recorded at the foundation below the isolators, 0.07 g at the base (above the isolators), and 0.09 g at the roof. In the east-west (transverse) direction, peak acceleration of 0.22 g was recorded at the foundation. Several high-frequency spikes are apparent in the records, resulting in a peak acceleration of 0.35 g at the base and 0.32 g at the roof level. However, motion with a fundamental modal period of about 1.4 seconds is apparent in the records.

• **Highway Bridge Records** Records were obtained from six bridges during the Northridge earthquake. These bridges are located about 22 to 181 km from the epicenter. The most significant bridge records are:

1) Los Angeles - I10/405 Interchange Bridge This freeway interchange bridge is located approximately 22 km from the epicenter. The bridge is a curved concrete box girder structure. The bridge is 1,037 feet long and has nine single-column bents and two open-end seated abutments. This bridge was retrofitted in 1991 with steel jackets on some columns. The first phase instrumentation of this bridge with limited number of sensors, funded by Caltrans, was just completed prior to the earthquake. A peak vertical acceleration of 1.83 g was recorded by the sensor mounted at the box girder near the West Abutment. In general, the motion at the bridge deck was about 0.5 g. Because of the large shaking near the west abutment, one of the recorders failed to completely record the motions from the last three sensors. For reference, this bridge is located about 6 km west of the section of the I10 Freeway that collapsed during the earthquake.

2) Vincent Thomas Bridge This suspension bridge is located approximately 57 km south of the epicenter, and recorded horizontal peak accelerations of 0.65 g on the structure and 0.25 g at the base. This is the second significant set of records from this bridge. The motions of the bridge structure are generally larger than those recorded during the 1987 Whittier earthquake.

3) San Bernardino - I10/215 Interchange Another important set of records was obtained from this freeway overpass southwest of San Bernardino. The bridge is a long, high and curved structure. The bridge, about 2,540 feet long and 90 feet high near the center, has been retrofitted and was instrumented with 34 sensors. The ground motion near the bridge was 0.10 g and peak accelerations as high as 0.47 g were recorded on the bridge deck. In general, this record has smaller amplitude than those obtained during the 1992 Landers and the Big Bear earthquakes, and does not contain as many spikes as the Landers and Big Bear records.

• **Hospital Building Records** Records from a total of five hospital buildings were obtained from the Northridge earthquake. These hospitals are located at distances ranging from 16 km to 155 km from the epicenter. Two of the five hospitals were discussed above. The other three hospitals are located more than 60 km from the epicenter and the recorded motions were smaller than those recorded in the 1992 Landers and the Big Bear earthquakes.

• **Dam Records** Records from a total of 12 dams were obtained from the Northridge earthquake. These dams are located at distances ranging from 19 km to 111 km from the epicenter. The Pacoima Dam record is discussed above.

ADDITIONAL STRONG-MOTION DATA

Several agencies in addition to CSMIP have strong-motion instruments in the southern California area. The University of Southern California maintains a network of

approximately 80 ground-response stations in the Los Angeles basin. The U.S. Geological Survey maintains instruments of its own and of other agencies in this area, and has published a preliminary report on selected records from 22 stations (Porcella and others, 1994). In addition to these stations, smaller groups of stations are maintained by Caltech, Southern California Edison (SCE), Department of Water Resources and other agencies. Finally, many private building owners in the City of Los Angeles have instruments in their buildings, as required by the City code.

ORDER OF DATA PRESENTATION

- HOW TO USE THIS REPORT -

This report has three tables to make cross-referencing stations and records as convenient as possible. The CSMIP stations that recorded this earthquake are shown on the map in Figure 1 and on the inset map of the downtown Los Angeles and Pasadena area (Figure 2). Each station is identified by a three-digit code on the map. This code and the corresponding station name are cross-referenced in Table 1. Table 1 appears next to the station maps for convenience.

Table 2 lists the stations in alphabetical order. Once the station name is known this table can be used to obtain station characteristics such as coordinates and site geology.

Table 3 lists earthquake- and station-dependent information, including epicentral distance, sensor orientations, and peak acceleration values. The number of the page on which the accelerogram is reproduced in this report is given in each of the three tables.

The accelerograph record section follows the tables and has three main groupings: ground-response stations, building stations and lifeline structure stations. The first section includes selected **ground-response records**, one record per page. In the case of low amplitude records from digital instruments, the records are plotted with a 4x vertical exaggeration so that details of the record can be easily seen. Note that some of the lowest amplitude records are not reproduced in this report.

Building response records make up the second section. The presentation of the building records includes a picture of the building, a brief description of the structural system, and a schematic diagram of the sensor layout. (For lower amplitude records, the picture of the building is not included.) Please note that, by convention, the orientation of sensors in a building is given by reference directions parallel to the principal building dimensions; the relationship of these directions to true geographic directions is given on the sensor layout and the building record.

For each building, the introductory information is followed by two to six pages of records, depending on the number of sensors installed in the building. Selected records from digital instruments are plotted with a 4x vertical exaggeration. Some buildings have a ground-response station nearby to provide reference ground motion information. Note that some of the lowest amplitude building records are not reproduced in this report.

Lifeline structure records are in the third section. The presentation for lifeline structures follows the same format used for building records.

Note: Tables 2 and 3 of this report can be obtained via anonymous FTP on the Internet in directory pub/csmip_eq_data on netcom8.netcom.com. (IP# 192.100.81.100)

ACKNOWLEDGEMENTS

The California Strong Motion Instrumentation Program extends its appreciation to the individuals and organizations that have permitted and cooperated in the installation of strong-motion equipment on their property. CSMIP also extends its appreciation to the members of the Strong Motion Instrumentation Advisory Committee and its subcommittees. Funding for instrumenting some of the hospitals in this report was provided by the Office of Statewide Health Planning and Development (OSHPD). Instrumentation of the I-10/405, I-10/215, I-15/215 and I-10/62 Interchanges in Los Angles, San Bernardino, Devore and North Palm Springs was supported by Caltrans.

The records presented in his report were made possible through the efforts of many CSMIP technicians who installed and maintained the stations over the years. Record recovery following this earthquake was performed by W. Stephan, R. Meneely, A. Cramlet, D. Driver, W. Thomson, M. Morgan, R. Ayala and T. Pierce. C. Petersen coordinated the extensive record recovery with the assistance of R. Payne, S. Fife and M. Huston. D. Oca-Schmunk, S. Geiberger, S. Rowley, N. Sandhu and W. Hanson assisted in the report preparation. The efforts of all those involved made the timely publication of these data possible.

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CSMIP (1994a). First Quick Report on CSMIP Strong-Motion Data from the San Fernando Valley Earthquake of January 17, 1994, OSMS Report 94-01, 10 pp., 17 January 1994. [The present report supersedes the five Quick Reports.]

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CSMIP (1994c). Third Quick Report on CSMIP Strong-Motion Data from the Northridge/San Fernando Valley Earthquake of January 17, 1994, OSMS Report 94-03, 16 pp., 19 January 1994.

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Porcella, R., E. Etheredge, A. Acosta, E. Anjal, L. Fotte and W. Jungblut (1994). The M_s=6.6 Northridge, California earthquake of January 17, 1994: Selected USGS Accelerograms Recorded at National Strong-Motion Network Stations, 28 pp.

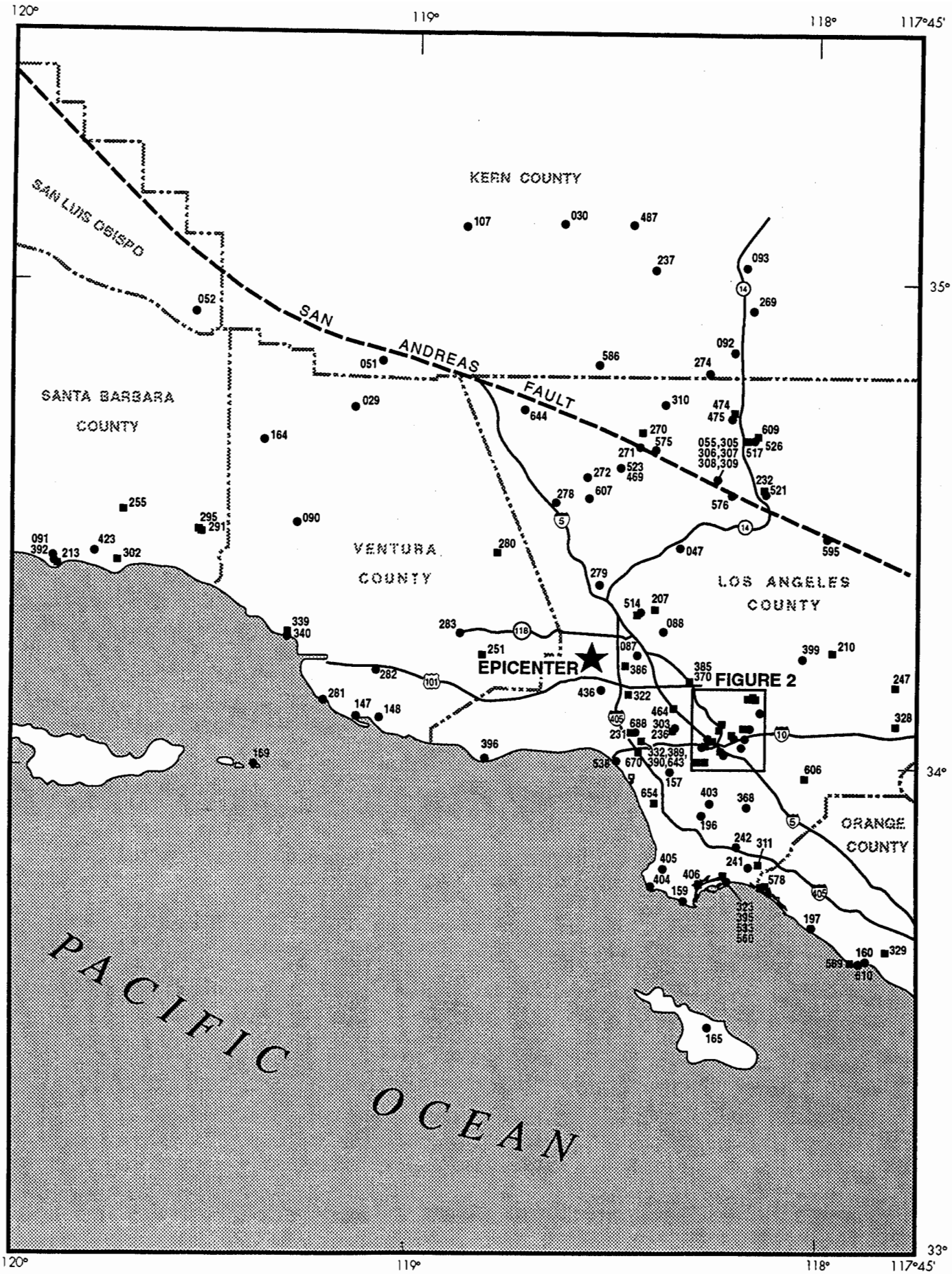
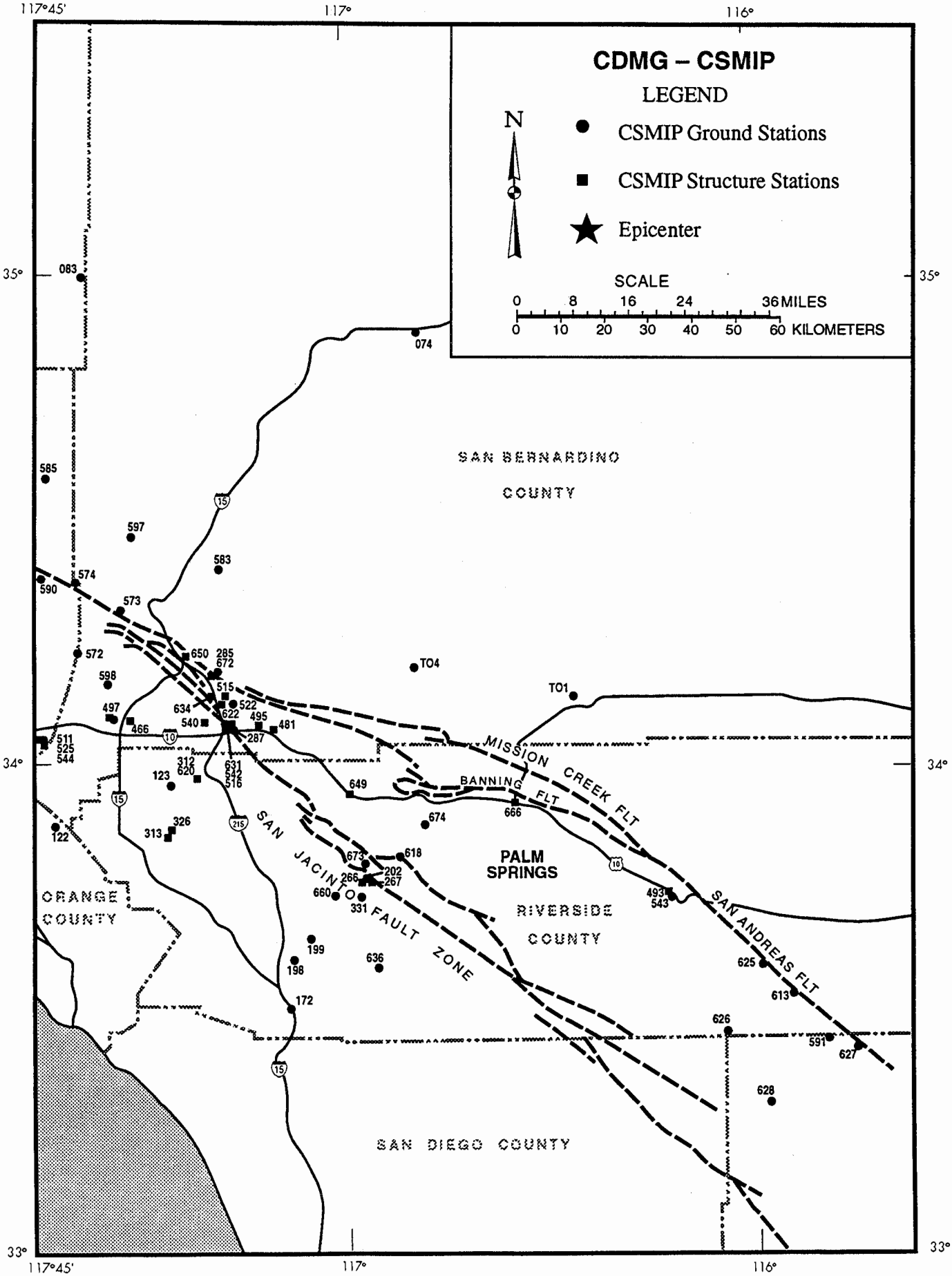


Figure 1. Index Map showing CSMIP stations which recorded the Northridge earthquake of January 17, 1994. The San Andreas and the San Jacinto fault zones are shown



for reference. Stations are identified by a three digit code cross-referenced to station names in Table 1. The downtown Los Angeles area CSMIP stations are shown in more detail in the inset map (Figure 2).

TABLE 1
Station-Code Reference Table

Code	Station Name	Record on Page
029	Lockwood Valley	--
030	Cummings Valley	--
047	Vasquez Rocks Park	92
051	Cuddy Valley	52
052	Cuyama Valley	54
055	Leona Valley #5 - Ritter Ranch	65
074	Yermo - Fire Station	95
082	Sawmill Mountain - Caltech Seismic Station	--
083	Boron - Fire Station	51
087	Arleta - Nordhoff Ave Fire Sta.	45
088	Pacoima - Kagel Canyon	45
090	Wheeler Gorge	93
091	Santa Barbara - UCSB Goleta	90
092	Rosamond - Airport	83
093	Mojave - Hwys 14 & 58	73
107	Arvin	51
122	Featherly Park - Park Maint. Bldg.	55
123	Riverside - Airport	82
147	Point Mugu - Naval Air Station	79
148	Point Mugu - Laguna Peak	79
157	Los Angeles - Baldwin Hills	68
159	San Pedro - Palos Verdes	89
160	Newport Beach - Irvine Ave. Fire Station	76
164	Ozena	--
165	Santa Catalina Island	91
169	Anacapa Island	49
172	Temecula - 6th & Mercedes	--
196	Inglewood - Union Oil Yard	58
197	Huntington Beach - Lake Street Fire Station	58
198	Murrieta Hot Springs - Collins Ranch	--
199	Winchester - Bergman Ranch	--
202	San Jacinto - Valley Cemetery	88
207	Pacoima Reservoir - Pacoima Dam	255
210	Cogswell Reservoir - Cogswell Dam	283
213	Santa Barbara - 3-story UCSB Office Bldg.	241
231	Los Angeles-7-story UCLA Math-Science Bldg.	115
232	Palmdale - 4-story Hotel	204
236	Los Angeles - Hollywood Storage Bldg.	133
237	Mojave - Oak Creek Canyon	74
241	Long Beach - Recreation Park	67
242	Long Beach - Rancho Los Cerritos	67
247	Big Dalton Reservoir - Big Dalton Dam	288
251	Wood Ranch Reservoir - Main Dam and Dikes	280
255	Gibraltar Reservoir - Gibraltor Dam	--
266	Hemet - 1-story Library	--
267	Hemet - 4-story Hospital	170
269	Mojave - Hwy 14 & Backus Rd	74
270	Fairmont Reservoir - Fairmont Dam	--
271	Lake Hughes #1 - Fire Station #7	59
272	Lake Hughes #9	59
274	Rosamond - Godde Ranch	83
278	Castaic - Old Ridge Route	46
279	Newhall - LA County Fire Sta.	46
280	Lake Piru - Santa Felicia Dam	286
281	Port Hueneme	80
282	Camarillo	52
283	Moorpark	48
285	San Bernardino - 5-story CSUSB Library	229
287	San Bernardino - 6-story Hotel	238
291	Jameson Lake - Juncal Dam A	--
295	Jameson Lake - Juncal Dam B	--
302	Santa Barbara - 4-story Office Bldg.	--
303	Los Angeles- Hollywood Storage Bldg. Grounds	47
305	Leona Valley #1	63
306	Leona Valley #2	63
307	Leona Valley #3	64
308	Leona Valley #4	64
309	Leona Valley #6	65
310	Antelope Buttes	50
311	Long Beach - 5-story CSULB Engineering Bldg.	--
312	Riverside - 13-story Government Office Bldg.	227
313	Lake Mathews - Main Dam	295
322	Sherman Oaks - 13-story Commercial Bldg.	103
323	Long Beach - 7-story Office Bldg.	180
326	Lake Mathews - Dike 1	296
328	Puddingstone Reservoir - Puddingstone Dam	291
329	Irvine - 8-story UCI Engineering Bldg.	171
331	Hemet - Stetson Ave Fire Station	57
332	Los Angeles - 3-story Commercial Bldg.	125
339	Ventura - 12-story Hotel	247
340	Ventura - Harbor & California	93
368	Downey - County Maint. Bldg.	54
370	Burbank - 6-story Commercial Bldg.	118
385	Burbank - 10-story Residential Bldg.	129
386	Van Nuys - 7-story Hotel	99
389	Century City - LACC North	53
390	Century City - LACC South	53
392	Santa Barbara - UCSB Grounds	90
395	Long Beach - Harbor Plaza	66
396	Malibu - Point Dume	71
399	Mt. Wilson - Caltech Seismic Station	73
400	Los Angeles - Obregon Park	69
401	San Marino - Southwestern Academy	86
403	Los Angeles - 116th St. School	68
404	Rancho Palos Verdes - Hawthorne Blvd.	80
405	Rolling Hills Estates - Rancho Vista School	82
406	Los Angeles - Vincent Thomas Bridge	263
423	Santa Barbara - Hwy 101 & State	91
436	Tarzana - Cedar Hill Nursery A	43
461	Alhambra - Fremont School	49
463	Los Angeles - 5-story Warehouse	184
464	North Hollywood - 20-story Hotel	111

TABLE 1
Station-Code Reference Table (Continued)

Code	Station Name	Record on Page
466	Etiwanda - Power Plant	297
468	Los Angeles - 8-story CSULA Admin. Bldg.	186
469	Lake Hughes #4 - Camp Mendenhall	60
474	Lancaster - Airport Control Tower	299
475	Lancaster - Fox Airfield Grounds	62
481	Redlands - 7-story Commercial Bl	225
487	Tehachapi - Valley Blvd & Curry	92
493	Indio - 4-story Govt. Office Bldg.	--
495	Redlands - 1-story Warehouse	224
497	Rancho Cucamonga - Law and Justice Center	219
497	Rancho Cucamonga-Law & Justice Parking Lot	81
511	Pomona - 2-story Commercial Bldg.	216
514	Sylmar - 6-story County Hospital	107
514	Sylmar - County Hospital Parking Lot	43
515	San Bernardino - 9-story Commercial Bldg.	240
516	San Bernardino - 3-story Office Bldg.	234
517	Lancaster - 3-story Office Bldg.	172
521	Palmdale - Hwy 14 & Palmdale Blvd.	77
522	San Bernardino - 2nd & Arrowhead	86
523	Lake Hughes #4B - Camp Mendenhall	60
525	Pomona - 4th & Locust	78
526	Lancaster - 15th & J	62
533	Long Beach - 15-story Government Office Bldg.	177
538	Santa Monica - City Hall Grounds	47
540	Colton - 1-story School Gym	168
541	Pasadena - 6-story Office Bldg.	206
542	San Bernardino - E & Hospitality	85
543	Indio - Riverside Co. Fairground	--
544	Pomona - 6-story Commercial Bldg.	222
546	Pasadena - 12-story Commercial/Office Bldg.	212
560	Long Beach - City Hall Grounds	66
566	Pasadena - 12-story Office Bldg.	214
567	Los Angeles - 13-story Office Bldg.	192
569	Los Angeles-15-story Government Office Bldg.	194
571	Pasadena - 9-story Commercial Bldg.	209
572	Mt. Baldy - Elementary School	72
573	Wrightwood - Nielson Ranch	94
574	Wrightwood - Swarthout Valley	95
575	Elizabeth Lake	55
576	Anaverde Valley - City Ranch	50
578	Seal Beach - 8-story Office Bldg. Parking Lot	89
578	Seal Beach - 8-story Office Bldg.	242
579	Los Angeles - 9-story Office Bldg.	189
580	Los Angeles - 2-story Fire Command Bldg.	137
583	Hesperia - 4th & Palm	57
585	Palmdale - Black Butte	77
586	Neenach - Sacatara Creek	75
589	Newport Beach - 11-story Hospital	201
590	Wrightwood - Jackson Flat	94
591	North Shore - Durmid	--
592	Los Angeles - City Terrace	69
595	Littlerock - Brainard Canyon	61
597	Phelan - Wilson Ranch Road	78
598	Rancho Cucamonga - Deer Canyon	81
601	Los Angeles - 17-story Residential Bldg.	155
602	Los Angeles - 52-story Office Bldg.	159
605	Los Angeles - 7-story University Hospital	141
605	Los Angeles - University Hospital Grounds	48
606	Whittier - 8-story Hotel	250
607	Lake Hughes 12A	61
609	Lancaster - 5-story Hospital	174
610	Newport Beach-Newport Blvd.& Coast Highway	76
611	Los Angeles - Temple & Hope	70
612	Los Angeles - Pico & Sentous	70
613	North Shore - Salton Sea State Park	75
618	San Jacinto - Soboba A	87
620	Riverside - 2-story Govt. Office Bldg.	226
622	San Bernardino - 1-story Commercial Bldg.	232
625	Mecca - CVWD Yard	72
626	Desert Shores	--
627	Bombay Beach - Bertram	--
628	Salton City	82
629	Los Angeles - 54-story Office Bldg.	198
631	San Bernardino - I10/215 Interchange Bridge	269
634	San Bernardino - 5-story Hospital	236
636	Sage - Fire Station	84
643	Los Angeles - 19-story Office Bldg.	121
644	Sandberg - Bald Mountain	88
649	Beaumont - I10/60 Interchange Bridge	276
650	Devore - I15/215 Interchange Bridge	274
652	Los Angeles - 6-story Office Bldg.	151
654	El Segundo - 14-story Office Bldg.	165
655	Los Angeles - 6-story Parking Structure	147
660	Hemet - Ryan Airfield	56
666	North Palm Springs - I10/62 Interchange Bridge	278
670	Los Angeles - I10/405 Interchange Bridge	259
672	San Bernardino - CSUSB Grounds	85
673	San Jacinto - CDF Fire Station	87
674	Banning - Twin Pines Rd.	--
688	Los Angeles - UCLA Grounds	71
T01	Yucca Valley	--
T04	Heart Bar State Park	56

Footnote: Peak accelerations for all stations which recorded the Northridge earthquake are listed in Table 3. However, certain records with small amplitude are not reproduced in the report.

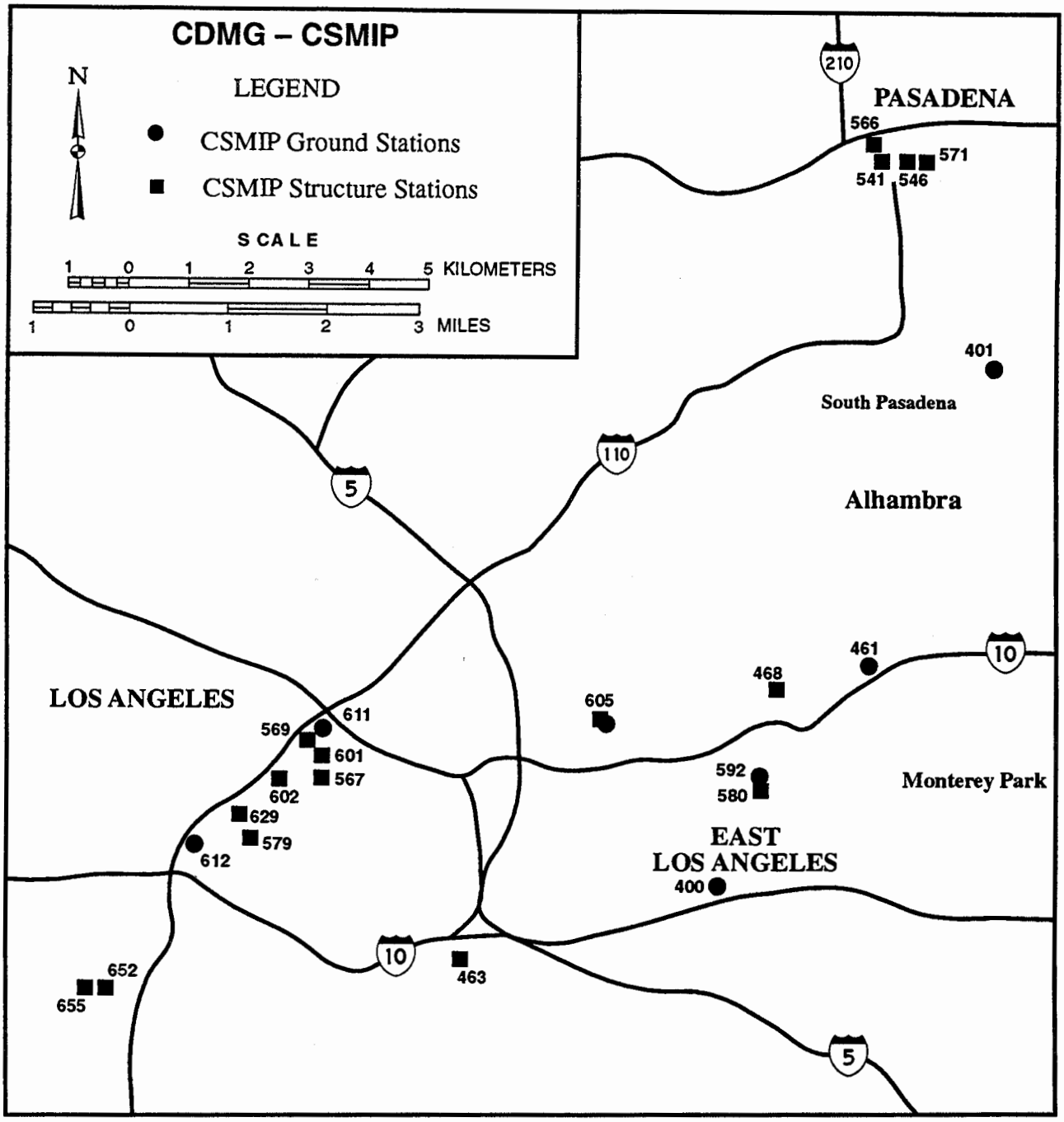


Figure 2. Inset section of Figure 1 for downtown Los Angeles and Pasedena.

The 3-digit code identifies CSMIP stations as follows:

400 LA – Obergon Park
401 San Marino – Southwestern Academy
461 Alhambra – Fremont School
463 LA – 5-story Warehouse
468 LA – 8-story CSULA Adminisration Bldg.
541 Pasadena – 6-story Office Bldg.
546 Pasadena – 12-story Commercial/Office Bldg.
566 Pasadena – 12-story Office Bldg.
567 LA – 13-story Office Bldg.
569 LA – 15-story Government Office Bldg.
571 Pasadena – 9-story Commercial Bldg.
579 LA – 9-story Office Bldg.
580 LA – 2-story Fire Command Control Bldg.
592 LA – City Terrace
601 LA – 17-story Residential Bldg.
602 LA – 52-story Office Bldg.
605 LA – 7-story University Hospital
611 LA – Temple and Hope
612 LA – Pico and Sentous
629 LA – 54-story Office Bldg.
652 LA – 6-story Office Bldg.
655 LA – 6-story Parking Structure

TABLE 2
CSMIP Strong-Motion Stations - Northridge Earthquake
Alphabetical Listing

Station Name	N.Lat.	W.Long.	Station No.	Code	Site Geology	Epicentral Dist.(km)	Record on Page*
Alhambra - Fremont School	34.070	118.150	24461	461	Alluvium	39	49
Altadena - Eaton Canyon Park	34.177	118.096	24402	402	Alluvium	41	nr
Anacapa Island	34.016	119.362	25169	169	Thin alluvium over rock (granitic)	79	49
Anaverde Valley - City Ranch	34.580	118.199	24576	576	Alluvium	52	50
Antelope Buttes	34.758	118.361	24310	310	Weathered granitic rock	63	50
Arleta - Nordhoff Ave Fire Sta.	34.236	118.439	24087	087	Alluvium	10	45
Arvin	35.126	118.860	34107	107	Alluvium	106	51
Banning - Twin Pines Rd.	33.869	116.824	12674	674	Hard rock (granitic)	163	--
Beaumont - I10/60 Interchange Bridge	33.933	116.990	12649	649	Alluvium over granite bedrock	146	276
Big Dalton Reservoir - Big Dalton Dam	34.170	117.808	23247	247	Granitic rock (diorite)	68	288
Bombay Beach - Bertram	33.397	115.776	11627	627	Sandstone	271	--
Boron - Fire Station	35.002	117.650	33083	083	Deep alluvium	120	51
Burbank - 6-story Commercial Bldg.	34.185	118.308	24370	370	Alluvium	22	118
Burbank - 10-story Residential Bldg.	34.187	118.311	24385	385	Alluvium	21	129
Cajon Junction - Drill Site	34.321	117.477	23616	616	Shallow alluvium over hard rock (sedimentary)	99	nt#
Caliente - Rogers Ranch	35.262	118.633	34085	085	Thin alluvium over rock (granitic)	117	nt
Camarillo	34.208	119.079	25282	282	Alluvium	50	52
Castaic - Halsey Canyon	34.459	118.650	24277	277	Alluvium	30	nr
Castaic - Old Ridge Route	34.564	118.642	24278	278	Sedimentary rock	41	46
Century City - LACC North	34.063	118.418	24389	389	Alluvium	20	53
Century City - LACC South	34.062	118.416	24390	390	Alluvium	20	53
Cogswell Reservoir - Cogswell Dam	34.245	117.964	23210	210	Weathered granitic rock	53	283
Colton - 1-story School Gym	34.072	117.335	23540	540	Deep alluvium	112	168
Cuddy Valley	34.840	119.066	25051	051	Alluvium	85	52

TABLE 2 (Continued)
CSMIP Strong-Motion Stations - Northridge Earthquake
Alphabetical Listing

Station Name	N.Lat.	W.Long.	Station No.	Code	Site Geology	Epicentral Dist.(km)	Record on Page*
Cummings Valley	35.122	118.612	34030	030	Thin alluvium over rock (diorite)	102	--
Cuyama Valley	34.937	119.524	25052	052	Alluvium	121	54
Desert Shores	33.426	116.078	12626	626	Alluvium	244	--
Devore - I15/215 Interchange Bridge	34.225	117.409	23650	650	Deep alluvium	104	274
Downey - County Maint. Bldg.	33.924	118.167	14368	368	Deep alluvium	47	54
El Segundo - 14-story Office Bldg.	33.920	118.390	14654	654	Deep alluvium	35	165
Elizabeth Lake	34.662	118.387	24575	575	Alluvium	52	55
Etiwanda - Power Plant	34.091	117.527	23466	466	Alluvium	94	297
Fairmont Reservoir - Fairmont Dam Right Abutment	34.704	118.426	24270	270	Granitic rock	56	--
Featherly Park - Park Maint. Bldg.	33.869	117.709	13122	122	Alluvium	86	55
Gibraltar Reservoir - Gibraltar Dam	34.527	119.686	25255	255	Rock (sandstone)	111	--
Heart Bar State Park	34.161	116.799	22T04	T04	Alluvium over rock (granitic)	161	56
Hemet - Ryan Airfield	33.731	117.023	13660	660	Deep alluvium	150	56
Hemet - Stetson Ave Fire Station	33.729	116.979	12331	331	Deep alluvium	154	57
Hemet - 1-story Library	33.748	116.966	12266	266	Deep alluvium	154	--
Hemet - 4-story Hospital	33.750	116.959	12267	267	Deep alluvium	155	170
Hesperia - 4th & Palm	34.405	117.311	23583	583	Alluvium	115	57
Huntington Beach - Lake Street Fire Station	33.662	117.997	13197	197	Alluvium	79	58
Indio - 4-story Govt. Office Bldg.	33.714	116.221	12493	493	Deep alluvium	221	--
Indio - Riverside Co. Fairgrounds	33.715	116.221	12543	543	Deep alluvium	221	--
Inglewood - Hollywood Park	33.952	118.335	14537	537	Deep Alluvium	34	nt#
Inglewood - Union Oil Yard	33.905	118.279	14196	196	Alluvium	42	58
Irvine - 8-story UCI Engineering Bldg.	33.645	117.840	13329	329	Thin alluvium over sandstone	90	171

TABLE 2 (Continued)
CSMIP Strong-Motion Stations - Northridge Earthquake
Alphabetical Listing

Station Name	N.Lat.	W.Long.	Station No.	Code	Site Geology	Epicentral Dist.(km)	Record on Page*
Jameson Lake - Juncal Dam A	34.492	119.507	25291	291	Rock (sandstone and siltstone)	94	--
Jameson Lake - Juncal Dam B	34.489	119.505	25295	295	Rock (sandstone and siltstone)	94	--
Lake Hughes #1 - Fire Station #78	34.674	118.430	24271	271	Alluvium	53	59
Lake Hughes #4 - Camp Mendenhall (near water tank)	34.650	118.478	24469	469	Weathered granitic rock	49	60
Lake Hughes #4B - Camp Mendenhall	34.650	118.477	24523	523	Weathered granitic rock	49	60
Lake Hughes #9	34.608	118.558	24272	272	Metamorphic rock (gneiss)	44	59
Lake Hughes 12A	34.571	118.560	24607	607	Alluvium	40	61
Lake Mathews - Dike 1	33.854	117.444	13326	326	Fill	109	296
Lake Mathews - Main Dam	33.836	117.461	13313	313	Fill	108	295
Lake Piru - Santa Felicia Dam	34.460	118.753	24280	280	Rock (sedimentary)	34	286
Lancaster - 15th & J	34.688	118.156	24526	526	Alluvium	64	62
Lancaster - Fox Airfield Grounds	34.739	118.214	24475	475	Alluvium	66	62
Lancaster - Airport Control Tower	34.739	118.214	24474	474	Alluvium	66	299
Lancaster - 3-story Office Bldg.	34.688	118.157	24517	517	Alluvium	64	172
Lancaster - 5-story Hospital	34.688	118.158	24609	609	Alluvium	64	174
Leona Valley #1	34.594	118.242	24305	305	Rock (metamorphic)	51	63
Leona Valley #2	34.595	118.243	24306	306	Alluvium	51	63
Leona Valley #3	34.596	118.243	24307	307	Metamorphic rock (gneiss)	51	64
Leona Valley #4	34.598	118.242	24308	308	Alluvium	51	64
Leona Valley #5 - Ritter Ranch	34.600	118.241	24055	055	Alluvium	51	65
Leona Valley #6	34.604	118.244	24309	309	Alluvium	52	65
Littlerock - Brainard Canyon	34.486	117.980	23595	595	Granitic rock	60	61
Lockwood Valley	34.749	119.131	25029	029	Alluvium	81	--
Long Beach - City Hall Grounds	33.768	118.196	14560	560	Alluvium	58	66

TABLE 2 (Continued)
CSMIP Strong-Motion Stations - Northridge Earthquake
Alphabetical Listing

Station Name	N.Lat.	W.Long.	Station No.	Code	Site Geology	Epicentral Dist.(km)	Record on Page*
Long Beach - Harbor Plaza	33.754	118.200	14395	395	Alluvium	60	66
Long Beach - Rancho Los Cerritos	33.840	118.194	14242	242	Deep alluvium	52	67
Long Beach - Recreation Park	33.778	118.133	14241	241	Alluvium	61	67
Long Beach - 5-story CSULB Engineering Bldg.	33.783	118.112	14311	311	Deep alluvium	62	--
Long Beach - 7-story Office Bldg.	33.755	118.200	14323	323	Alluvium	59	180
Long Beach - 15-story Government Office Bldg.	33.768	118.195	14533	533	Alluvium	58	177
Los Angeles - Baldwin Hills	34.009	118.361	24157	157	Thin fill and alluvium over rock (shale)	28	68
Los Angeles - City Terrace	34.053	118.171	24592	592	Rock (sedimentary)	38	69
Los Angeles - Hollywood Storage Bldg.	34.090	118.338	24236	236	Deep alluvium	23	133
Los Angeles - Hollywood Storage Bldg. Grounds	34.090	118.339	24303	303	Deep alluvium	23	47
Los Angeles - I10/405 Interchange Bridge	34.031	118.433	24670	670	Deep alluvium	22	259
Los Angeles - Obregon Park	34.037	118.178	24400	400	Alluvium	39	69
Los Angeles - Pico & Sentous	34.043	118.271	24612	612	Alluvium	31	70
Los Angeles - Temple & Hope	34.059	118.246	24611	611	Rock (sedimentary)	32	70
Los Angeles - UCLA Grounds	34.068	118.439	24688	688	Alluvium	18	71
Los Angeles - University Hospital Grounds	34.062	118.198	24605	605	Siltstone	36	48
Los Angeles - Vincent Thomas Bridge	33.750	118.271	14406	406	Alluvium	57	263
Los Angeles - 116th St. School	33.929	118.260	14403	403	Alluvium	41	68
Los Angeles - 2-story Fire Command Control Bldg.	34.053	118.171	24580	580	Rock (sedimentary)	38	137
Los Angeles - 3-story Commercial Bldg.	34.058	118.417	24332	332	Alluvium	20	125
Los Angeles - 5-story Warehouse	34.028	118.223	24463	463	Alluvium	36	184
Los Angeles - 6-story Office Bldg.	34.021	118.287	24652	652	Deep alluvium	31	151
Los Angeles - 6-story Parking Structure	34.021	118.289	24655	655	Deep alluvium	31	147

TABLE 2 (Continued)
CSMIP Strong-Motion Stations - Northridge Earthquake
Alphabetical Listing

Station Name	N.Lat.	W.Long.	Station No.	Code	Site Geology	Epicentral Dist.(km)	Record on Page*
Los Angeles - 7-story UCLA Math-Science Bldg.	34.069	118.442	24231	231	Alluvium	18	115
Los Angeles - 7-story University Hospital	34.062	118.198	24605	605	Rock (sedimentary)	36	141
Los Angeles - 8-story CSULA Admin Bldg.	34.067	118.168	24468	468	Rock (sedimentary)	38	186
Los Angeles - 9-story Office Bldg.	34.044	118.261	24579	579	Alluvium	32	189
Los Angeles - 12-story Commercial/Office Bldg.	34.048	118.260	24581	581	Alluvium	32	nt#
Los Angeles - 13-story Office Bldg.	34.050	118.247	24567	567	Alluvium over sedimentary rock	32	192
Los Angeles - 15-story Government Office Bldg.	34.058	118.249	24569	569	Rock (sedimentary)	32	194
Los Angeles - 17-story Residential Bldg.	34.053	118.248	24601	601	Rock (sedimentary)	32	155
Los Angeles - 19-story Office Bldg. Bldg.	34.059	118.416	24643	643	Deep alluvium	20	121
Los Angeles - 52-story Office Bldg.	34.051	118.259	24602	602	Alluvium over sedimentary rock	31	159
Los Angeles - 54-story Office Bldg.	34.048	118.260	24629	629	Alluvium over sedimentary rock	32	198
Malibu - Point Dume	34.013	118.800	24396	396	Thin alluvium over rock (sedimentary)	32	71
Mecca - CVWD Yard	33.564	115.987	11625	625	Deep alluvium	247	72
Mojave - Hwy 14 & Backus Rd	34.956	118.159	24269	269	Shallow alluvium over volcanic bedrock	90	74
Mojave - Hwys 14 & 58	35.070	118.175	34093	093	Alluvium	101	73
Mojave - Oak Creek Canyon	35.042	118.377	34237	237	Alluvium	94	74
Moorpark	34.288	118.881	24283	283	Alluvium	33	48
Mt. Baldy - Elementary School	34.233	117.661	23572	572	Shallow alluvium over granitic bedrock	81	72
Mt. Wilson - Caltech Seismic Station	34.224	118.057	24399	399	Rock (granitic)	45	73
Murrieta Hot Springs - Collins Ranch	33.599	117.132	13198	198	Thin alluvium over weathered granite	147	--
Neenach - Sacatara Creek	34.848	118.536	24586	586	Alluvium	71	75
Newhall - LA County Fire Sta.	34.390	118.530	24279	279	Alluvium	20	46
Newport Beach - 11-story Hospital	33.624	117.929	13589	589	Rock (sedimentary)	86	201
Newport Beach - Irvine Ave. Fire	33.634	117.902	13160	160	Alluvium	87	76

TABLE 2 (Continued)
CSMIP Strong-Motion Stations - Northridge Earthquake
Alphabetical Listing

Station Name	N.Lat.	W.Long.	Station No.	Code	Site Geology	Epicentral Dist.(km)	Record on Page*
Newport Beach - Newport Blvd. & Coast Highway	33.623	117.931	13610	610	Sedimentary rock	86	76
North Hollywood - 20-story Hotel	34.138	118.359	24464	464	Sandstone, shale	19	111
North Palm Springs - I10/62 Interchange Bridge	33.915	116.608	12666	666	Deep alluvium	181	278
North Shore - Durmid	33.421	115.831	11591	591	Alluvium over soft sedimentary rock	266	--
North Shore - Salton Sea State Park HQ	33.504	115.913	11613	613	Alluvium over soft sedimentary rock	256	75
Ozena	34.684	119.354	25164	164	Alluvium	91	--
Pacoima Reservoir - Pacoima Dam	34.334	118.396	24207	207	Metamorpic rock (diorite gneiss)	19	44,255
Pacoima - Kagel Canyon	34.288	118.375	24088	088	Rock (sedimentary)	18	45
Palmdale - 4-story Hotel	34.581	118.134	24232	232	Alluvium	56	204
Palmdale - Black Butte	34.586	117.728	23585	585	Rock (granitic)	86	77
Palmdale - Hwy 14 & Palmdale Blvd	34.581	118.135	24521	521	Alluvium	56	77
Pasadena - 6-story Office Bldg.	34.146	118.147	24541	541	Deep alluvium	37	206
Pasadena - 9-story Commercial Bldg.	34.146	118.143	24571	571	Deep alluvium	37	209
Pasadena - 12-story Commercial/ Office Bldg.	34.146	118.146	24546	546	Deep alluvium	37	212
Pasadena - 12-story Office Bldg.	34.149	118.151	24566	566	Deep alluvium	37	214
Pearblossom - Pallet Creek	34.458	117.909	23584	584	Rock (granitic)	64	nt#
Phelan - Wilson Ranch Road	34.467	117.520	23597	597	Alluvium	98	78
Point Mugu - Laguna Peak	34.109	119.065	25148	148	Rock (sedimentary)	50	79
Point Mugu - Naval Air Station	34.113	119.119	25147	147	Alluvium	54	79
Pomona - 4th & Locust	34.056	117.748	23525	525	Alluvium	75	78
Pomona - 2-story Commercial Bldg.	34.054	117.749	23511	511	Alluvium	75	216
Pomona - 6-story Commercial Bldg.	34.057	117.752	23544	544	Alluvium	75	222
Port Hueneme - Naval Lab.	34.145	119.206	25281	281	Alluvium	62	80

TABLE 2 (Continued)
CSMIP Strong-Motion Stations - Northridge Earthquake
Alphabetical Listing

Station Name	N.Lat.	W.Long.	Station No.	Code	Site Geology	Epicentral Dist.(km)	Record on Page*
Puddingstone Reservoir - Puddingstone Dam	34.091	117.808	23328	328	Crystalline rock, shale	69	291
Rancho Cucamonga - Deer Canyon	34.169	117.579	23598	598	Granitic rock	89	81
Rancho Cucamonga - Law & Justice Center Parking Lot	34.104	117.574	23497	497	Deep alluvium over granitic rock	90	81
Rancho Cucamonga - Law and Justice Center	34.104	117.574	23497	497	Deep alluvium over granitic rock	90	219
Rancho Palos Verdes - Hawthorne Blvd.	33.746	118.396	14404	404	Shale and basalt	53	80
Redlands - 1-story Warehouse	34.066	117.214	23495	495	Alluvium	123	224
Redlands - 7-story Commercial Bldg.	34.056	117.178	23481	481	Alluvium	127	225
Riverside - Airport	33.951	117.446	13123	123	Alluvium	105	82
Riverside - 2-story Govt. Office Bldg.	33.979	117.373	13620	620	Alluvium	111	226
Riverside - 13-story Government Office Bldg.	33.978	117.373	13312	312	Alluvium	111	227
Rolling Hills Estates - Rancho Vista School	33.787	118.356	14405	405	Rock (shale)	50	82
Rosamond - Airport	34.870	118.206	24092	092	Alluvium	80	83
Rosamond - Godde Ranch	34.827	118.265	24274	274	Alluvium	73	83
Sage - Fire Station	33.580	116.931	12636	636	Shallow alluvium over granitic bedrock	165	84
Salton City	33.280	115.984	11628	628	Deep alluvium	258	84
San Bernardino - 2nd & Arrowhead	34.103	117.289	23522	522	Deep alluvium	116	86
San Bernardino - CSUSB Grounds	34.183	117.321	23672	672	Deep alluvium	113	85
San Bernardino - E & Hospitality	34.065	117.292	23542	542	Deep alluvium	116	85
San Bernardino - I10/215 Interchange Bridge	34.064	117.296	23631	631	Deep alluvium	116	269
San Bernardino - 1-story Commercial Bldg.	34.098	117.293	23622	622	Deep alluvium	116	232
San Bernardino - 3-story Office Bldg.	34.065	117.289	23516	516	Deep alluvium	117	234
San Bernardino - 5-story CSUSB Library	34.183	117.323	23285	285	Deep alluvium	112	229
San Bernardino - 5-story Hospital	34.132	117.321	23634	634	Deep alluvium	113	236
San Bernardino - 6-story Hotel	34.065	117.279	23287	287	Deep alluvium	118	238

TABLE 2 (Continued)
CSMIP Strong-Motion Stations - Northridge Earthquake
Alphabetical Listing

Station Name	N.Lat.	W.Long.	Station No.	Code	Site Geology	Epicentral Dist.(km)	Record on Page*
San Bernardino - 9-story Commercial Bldg.	34.104	117.292	23515	515	Deep alluvium	116	240
San Jacinto - CDF Fire Station	33.787	116.958	12673	673	Deep alluvium	154	87
San Jacinto - Soboba A	33.801	116.877	12618	618	Thin alluvium over rock (granitic)	160	87
San Jacinto - Valley Cemetery	33.760	116.960	12202	202	Deep alluvium	154	88
San Marino - Southwestern Academy	34.115	118.130	24401	401	Deep alluvium	39	86
San Pedro - Palos Verdes	33.722	118.309	14159	159	Sandstone	58	89
Sandberg - Bald Mountain	34.743	118.724	24644	644	Thin alluvium over weathered rock (granitic)	62	88
Santa Barbara - Hwy 101 & State	34.439	119.756	25423	423	Alluvium	115	91
Santa Barbara - UCSB Grounds	34.415	119.846	25392	392	Thin alluvium over rock (sedimentary)	122	90
Santa Barbara - UCSB Goleta	34.422	119.851	25091	091	Shallow alluvium over rock (shale)	123	90
Santa Barbara - 3-story UCSB Office Bldg.	34.413	119.846	25213	213	Alluvium	122	241
Santa Barbara - 4-story Office Bldg.	34.423	119.698	25302	302	Alluvium	109	--
Santa Catalina Island	33.402	118.414	14165	165	Weathered rock (metamorphic)	90	91
Santa Monica - City Hall Grounds	34.011	118.490	24538	538	Alluvium	23	47
Sawmill Mountain - Caltech Seismic Station	34.719	118.581	24082	082	Granitic bedrock	57	nt
Seal Beach - 8-story Office Bldg.	33.757	118.084	14578	578	Alluvium	66	242
Seal Beach - 8-story Office Bldg. Parking Lot	33.757	118.084	14578	578	Alluvium	66	89
Sherman Oaks - 13-story Commercial Bldg.	34.154	118.465	24322	322	Alluvium	9	103
Sylmar - County Hospital Parking Lot	34.326	118.444	24514	514	Alluvium	16	43
Sylmar - 6-story County Hospital	34.326	118.444	24514	514	Alluvium	16	107
Tarzana - Cedar Hill Nursery A	34.160	118.534	24436	436	Thin alluvium over siltstone	5	43
Tehachapi - Valley Blvd & Curry St.	35.124	118.449	34487	487	Alluvium	102	92
Temecula - 6th & Mercedes	33.496	117.149	13172	172	Alluvium	151	--
Van Nuys - 7-story Hotel	34.221	118.471	24386	386	Alluvium	7	99

TABLE 2 (Continued)
CSMIP Strong-Motion Stations - Northridge Earthquake
Alphabetical Listing

Station Name	N.Lat.	W.Long.	Station No.	Code	Site Geology	Epicentral Dist.(km)	Record on Page*
Vasquez Rocks Park	34.490	118.320	24047	047	Alluvium over hard sandstone	37	92
Ventura - Harbor & California	34.276	119.293	25340	340	Alluvium	70	93
Ventura - 12-story Hotel	34.276	119.292	25339	339	Alluvium	70	247
Wheeler Gorge	34.511	119.273	25090	090	Rock (sedimentary)	75	93
Whittier - 8-story Hotel	33.975	118.036	14606	606	Shallow alluvium over sedimentary bedrock	53	250
Winchester - Bergman Ranch	33.640	117.094	13199	199	Weathered granitic rock	148	--
Wood Ranch Reservoir - Main Dam and Dikes	34.240	118.820	24251	251	Rock (sandstone)	26	280
Wrightwood - Jackson Flat	34.381	117.737	23590	590	Hard rock (metamorphic)	76	94
Wrightwood - Nielson Ranch	34.314	117.545	23573	573	Alluvium	93	94
Wrightwood - Swarthout Valley	34.369	117.658	23574	574	Alluvium	83	95
Yermo - Fire Station	34.903	116.823	22074	074	Deep alluvium	176	95
Yucca Valley	34.115	116.391	22T01	T01	Alluvium	198	--

Footnotes: This table includes all stations within 185 km (epicentral); beyond that distance only triggered stations are listed. (Nominal triggering threshold for CSMIP stations is 0.005 - 0.010 g.)

nt - Instrument not triggered, though operational
nt# - Instrument not triggered, probable instrument malfunction
nr - No record; instrumentation burned or stolen

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Comp.	Max. Acceleration Grnd. (g)	Max. Acceleration Struct. (g)	Record on Pg.
Tarzana	24436	Instr.	5	30:59.8	90	1.82		43
Cedar Hill Nursery A		shltr. H			Up	1.18		
					360	>1.06		
Van Nuys	24386	7-story	7	---	360	0.41	0.59	99
7-story Hotel		concrete bldg.			Up	0.30	---	
		(16 sensors)			270	0.47	0.59	
Sherman Oaks	24322	13-story	9	---	105	0.24	0.39	103
13-story Commercial		concrete bldg.			Up	0.18	---	
Bldg.		(15 sensors)			15	0.46	0.90	
Arleta	24087	1-story	10	---	90	0.35		45
Nordhoff Ave Fire Sta.		bldg.			Up	0.59		
					360	0.29		
Sylmar	24514	Small 1-story	16	31:00.4	360	0.91		43
County Hospital		bldg.			Up	0.60		
Parking Lot					90	0.61		
Sylmar	24514	6-story steel/	16	31:00.4	356	0.82	2.31	107
6-story County Hospital		concrete bldg.			Up	0.34	---	
		(13 sensors)			86	0.42	0.79	
Pacoima	24088	1-story	18	30:59.5	90	0.30		45
Kagel Canyon		bldg.			Up	0.19		
					360	0.44		
Los Angeles	24688	Instr.	18	31:00.4	90	0.32		71
UCLA Grounds		shltr. H			Up	0.29		
					360	0.66		
Los Angeles	24231	7-story steel/	18	---	90	0.25	0.46	115
7-story UCLA		concrete bldg.			Up	0.25	---	
Math-Science Bldg.		(12 sensors)			360	0.29	0.77	
North Hollywood	24464	20-story	19	31:00.5±	90	0.13	0.34	111
20-story Hotel		concrete bldg.			Up	0.15	---	
		(16 sensors)			360	0.33	0.66	
Pacoima Reservoir	24207	Concrete	19	---	360	0.54	1.76	255
Pacoima Dam		arch dam			Up	0.43	>1.60	
		(20 sensors)			270	0.49	2.01	
Pacoima Dam	24207	Instr.	19	---	265	0.44		44
Downstream		shltr. D			Up	0.20		
					175	0.42		
Pacoima Dam	24207	Instr.	19	31:00.5	205	1.53		44
Upper Left Abutment		shltr. A			Up	1.39		
					115	>1.22		

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Max. Acceleration Comp.	Grnd. (g)	Struct. (g)	Record on Pg.
Century City LACC North	24389	Instr. shltr. H	20	31:00.8	90	0.27		53
					Up	0.15		
					360	0.24		
Century City LACC South	24390	Instr. shltr. H	20	31:00.8	90	0.23		53
					Up	0.10		
					360	0.35		
Newhall LA County Fire Sta.	24279	1-story bldg.	20	31:00±	90	0.63		46
					Up	0.62		
					360	0.61		
Los Angeles 19-story Office Bldg.	24643	19-story steel bldg. (15 sensors)	20	30:56.1	314	0.20	0.65	121
					Up	0.13	---	
					44	0.32	0.53	
Los Angeles 3-story Commercial Bldg.	24332	3-story steel/ concrete bldg. (15 sensors)	20	---	321	0.33	0.66	125
					Up	0.15	0.26	
					51	0.33	0.97	
Burbank 10-story Residential Bldg.	24385	10-story concrete bldg. (16 sensors)	21	---	45	0.35	0.79	129
					Up	0.13	---	
					315	0.28	0.54	
Burbank 6-story Commercial Bldg.	24370	6-story steel Bldg. (13 sensors)	22	---	135	0.24	0.28	118
					Up	0.15	0.15	
					45	0.35	0.49	
Los Angeles I10/405 Interchange	24670	Curved concrete bridge (7 sensors)	22	30:56.6	T	---	1.79	259
					Up	---	1.83	
					L	---	1.00	
Santa Monica City Hall Grounds	24538	Instr. shltr. H	23	31:02.9	90	0.93		47
					Up	0.25		
					360	0.42		
Los Angeles Hollywood Storage Bldg. Grounds	24303	Instr. shltr. H	23	---	90	0.24		47
					Up	0.19		
					360	0.41		
Los Angeles Hollywood Storage Bldg.	24236	14-story concrete bldg. (12 sensors)	23	31:01.2	90	0.21	1.61	133
					Up	0.11	---	
					360	0.29	0.51	
Wood Ranch Reservoir Main Dam and Dikes	24251	Earth dam (12 sensors)	26	31:01.6	335	---	0.28	280
					Up	---	0.18	
					245	---	0.39	
Los Angeles Baldwin Hills	24157	Instr. shltr. A	28	---	90	0.24		68
					Up	0.10		
					360	0.17		

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Comp.	Max. Acceleration Grnd. (g)	Max. Acceleration Struct. (g)	Record on Pg.
Los Angeles	24612	Instr.	31	---	90	0.10		70
Pico & Sentous		shltr. H			Up	0.07		
					180	0.19		
Los Angeles	24655	6-story	31	30:57.9	30	0.29	1.21	147
6-story Parking		concrete bldg.			Up	0.22	0.52	
Structure		(14 sensors)			120	0.15	0.31	
Los Angeles	24652	6-story	31	30:57.8	345	0.20	0.29	151
6-story Office Bldg.		steel bldg.			Up	0.08	0.18	
		(14 sensors)			75	0.24	0.59	
Los Angeles	24602	52-story	31	30:58.5	355	0.15	0.41	159
52-story Office Bldg.		steel bldg.			Up	0.11	---	
		(20 sensors)			85	0.11	0.23	
Los Angeles	24611	Instr.	32	30:58.6	90	0.13		70
Temple & Hope		shltr. H			Up	0.10		
					180	0.19		
Los Angeles	24579	9-story	32	30:58.2	40	0.18	0.32	189
9-story Office Bldg.		concrete/URM			Up	0.12	---	
		bldg. (18 sensors)			310	0.13	0.34	
Los Angeles	24567	13-story steel/	32	31:01.6	223	0.18	0.27	192
13-story Office Bldg.		concrete/URM bldg.			Up	0.07	---	
		(15 sensors)			313	0.17	0.37	
Los Angeles	24569	15-story	32	30:58.9	43	0.21	0.52	194
15-story Government		steel bldg.			Up	0.07	---	
Office Bldg.		(15 sensors)			313	0.14	0.23	
Los Angeles	24601	17-story	32	30:58.6	220	0.26	0.46	155
17-story Residential		concrete bldg.			Up	0.08	---	
Bldg.		(14 sensors)			130	0.19	0.58	
Los Angeles	24629	54-story	32	30:58.1	40	0.14	0.19	198
54-story Office		steel bldg.			Up	0.09	---	
Bldg.		(20 sensors)			130	0.09	0.14	
Malibu	24396	1-story bldg.	32	31:02.0	90	0.13		71
Point Dume					Up	0.10		
					360	0.10		
Moorpark	24283	Small garage	33	31:02.7	180	0.30		48
					Up	0.15		
					90	0.19		
Lake Piru	24280	Earth dam	34	31:02.9	265	0.21	0.27	286
Santa Felicia Dam		(6 sensors)			Up	0.13	0.13	
					175	0.27	0.30	

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Max. Acceleration Comp.	Grnd. (g)	Struct. (g)	Record on Pg.
El Segundo	14654	14-story	35	30:58.8	315	0.09	0.25	165
14-story Office Bldg.		steel bldg.			Up	0.04	0.17	
		(16 sensors)			45	0.13	0.22	
Los Angeles	24463	5-story concrete	36	---	350	0.26	0.29	184
5-story Warehouse		bldg.			Up	0.08	---	
		(13 sensors)			260	0.20	0.25	
Los Angeles	24605	7-story isolated	36	30:57.8	5	0.37	0.21	141
7-story University		steel bldg.			Up	0.09	0.13	
Hospital		(24 sensors)			95	0.17	0.19	
Los Angeles	24605	Instr.	36	30:57.8	5	0.49		48
University Hospital		shltr. D			Up	0.12		
Grounds					95	0.22		
Pasadena	24541	6-story	37	31:03.0	90	0.12	0.17	206
6-story Office Bldg.		steel/URM			Up	0.09	---	
		bldg.(16 sensors)			360	0.17	0.21	
Pasadena	24571	9-story	37	31:01.2	90	0.16	0.19	209
9-story Commercial		concrete bldg.			Up	0.12	---	
Bldg.		(15 sensors)			180	0.19	0.29	
Pasadena	24546	12-story steel	37	31:01.0	360	---	0.32	212
12-story Commercial/		bldg.			Up	0.09	---	
Office Bldg.		(15 sensors)			270	---	0.20	
Pasadena	24566	12-story	37	31:01.0	180	0.23	0.31	214
12-story Office Bldg.		steel bldg.			Up	0.10	---	
		(15 sensors)			270	0.14	0.18	
Vasquez Rocks Park	24047	Instr.	37	31:02.7	90	0.15		92
		Shltr. A			Up	0.09		
					360	0.16		
Los Angeles	24468	8-story	38	---	180	0.13	0.25	186
8-story CSULA Admin.		concrete bldg.			Up	0.06	0.17	
Bldg.		(16 sensors)			90	0.17	0.22	
Los Angeles	24592	Instr.	38	30:58.3	90	0.26		69
City Terrace		shltr. H			Up	0.13		
					180	0.32		
Los Angeles	24580	2-story isolated	38	30:58.7	40	0.18	0.09	137
2-story Fire Command		steel bldg.			Up	0.11	0.30	
Control Bldg.		(16 sensors)			310	0.22	0.35	
Los Angeles	24400	1-story	39	31:04.8	90	0.36		69
Obregon Park		bldg.			Up	0.11		
					360	0.42		

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Max. Acceleration Comp.	Grnd. (g)	Struct. (g)	Record on Pg.
Alhambra Fremont School	24461	1-story bldg.	39	31:04.4	90 Up 360	0.12 0.07 0.09		49
San Marino Southwestern Academy	24401	1-story bldg.	39	31:04.5	90 Up 360	0.12 0.09 0.16		86
Lake Hughes 12A	24607	Instr. shltr. H	40	31:00.4	90 Up 180	0.18 0.12 0.26		61
Castaic Old Ridge Route	24278	1-story bldg.	41	31:03.4	90 Up 360	0.59 0.25 0.54		46
Los Angeles 116th St. School	14403	1-story bldg.	41	31:04.1	90 Up 360	0.20 0.06 0.15		68
Inglewood Union Oil Yard	14196	Instr. shltr. A	42	31:06.2	90 Up 360	0.12 0.06 0.10		58
Lake Hughes #9	24272	Instr. shltr. H	44	31:03.9	90 Up 360	0.24 0.09 0.17		59
Mt. Wilson Caltech Seismic Station	24399	Seismic vault	45	31:04.5	90 Up 360	0.14 0.11 0.23		73
Downey County Maint. Bldg.	14368	1-story bldg.	47	---	90 Up 360	0.17 0.14 0.23		54
Lake Hughes #4 Camp Mendenhall (near water tank)	24469	Instr. shltr. A	49	31:04.9	90 Up 360	0.10 0.06 0.06		60
Lake Hughes #4B Camp Mendenhall	24523	Instr. shltr. A	49	31:04.7	90 Up 360	0.07 0.05 0.05		60
Point Mugu Laguna Peak	25148	1-story bldg.	50	31:06.3	90 Up 360	0.22 0.08 0.14		79
Camarillo	25282	1-story bldg.	50	---	270 Up 180	0.11 0.05 0.12		52

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Max. Acceleration Comp.	Grnd. (g)	Struct. (g)	Record on Pg.
Rolling Hills Estates Rancho Vista School	14405	1-story bldg.	50	---	90	0.12		82
					Up	0.05		
					360	0.11		
Leona Valley #1	24305	Instr. shltr. H	51	31:05.8	90	0.09		63
					Up	0.05		
					360	0.10		
Leona Valley #2	24306	Instr. shltr. H	51	---	90	0.07		63
					Up	0.07		
					360	0.10		
Leona Valley #3	24307	Instr. shltr. H	51	31:06.2	90	0.12		64
					Up	0.06		
					360	0.08		
Leona Valley #4	24308	Instr. shltr. H	51	31:06.2	90	0.07		64
					Up	0.06		
					360	0.08		
Leona Valley #5 Ritter Ranch	24055	Instr. shltr. H	51	31:05.2	90	0.09		65
					Up	0.10		
					360	0.15		
Leona Valley #6	24309	Instr. shltr. H	52	31:05.1	90	0.18		65
					Up	0.07		
					360	0.14		
Anaverde Valley City Ranch	24576	Instr. shltr. H	52	31:02.3	90	0.04		50
					Up	0.04		
					180	0.06		
Long Beach Rancho Los Cerritos	14242	Instr. shltr. H	52	31:08.1	90	0.08		67
					Up	0.05		
					360	0.07		
Elizabeth Lake	24575	Instr. shltr. H	52	31:02.5	90	0.16		55
					Up	0.05		
					180	0.11		
Rancho Palos Verdes Hawthorne Blvd.	14404	1-story bldg.	53	31:07.6	90	0.06		80
					Up	0.04		
					360	0.08		
Lake Hughes #1 Fire Station #78	24271	1-story bldg.	53	31:05.2	90	0.08		59
					Up	0.10		
					360	0.09		
Cogswell Reservoir Cogswell Dam	23210	Earth dam (9 sensors)	53	31:05.3	155	0.15	0.32	283
					Up	0.07	0.28	
					65	0.11	0.35	

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Comp.	Max. Acceleration Grnd. (g)	Max. Acceleration Struct. (g)	Record on Pg.
Whittier	14606	8-story reinf.	53	31:01.4	360	0.19	0.49	250
8-story Hotel		masonry bldg.			Up	0.11	---	
		(12 sensors)			90	0.11	0.23	
Point Mugu	25147	Radar dome	54	31:06.3	90	0.17		79
Naval Air Station					Up	0.07		
					360	0.19		
Palmdale	24232	4-story reinf.	56	---	140	0.05	0.11	204
4-story Hotel		masonry bldg.			Up	0.06	0.05	
		(9 sensors)			50	0.09	0.13	
Palmdale	24521	Instr.	56	31:03.7	270	0.07		77
Hwy 14 & Palmdale Blvd		shltr. H			Up	0.04		
					360	0.06		
Fairmont Reservoir	24270	1-story	56	31:06.1	90	0.04		--
Fairmont Dam		bldg.			Up	0.03		
Right Abutment					360	0.06		
Los Angeles	14406	Suspension	57	31:07.4	190	0.19	0.65	263
Vincent Thomas Bridge		bridge			Up	0.08	0.44	
		(26 sensors)			100	0.25	0.55	
San Pedro	14159	1-story	58	---	90	0.10		89
Palos Verdes		bldg.			Up	0.07		
					360	0.11		
Long Beach	14560	Instr.	58	31:10.3	90	0.06		66
City Hall Grounds		shltr. H			Up	0.03		
					360	0.06		
Long Beach	14533	15-story	58	31:10.3	135	0.04	0.05	177
15-story Government		steel bldg.			Up	0.03	0.05	
Office Bldg.		(16 sensors)			45	0.03	0.06	
Long Beach	14323	7-story	59	31:15.0	90	0.07	0.13	180
7-story Office Bldg.		steel bldg.			Up	0.02	---	
		(18 sensors)			360	0.06	0.09	
Long Beach	14395	Instr.	60	31:11.9	90	0.06		66
Harbor Plaza		Shltr. H			Up	0.03		
					360	0.06		
Littlerock	23595	Instr.	60	31:01.3	90	0.07		61
Brainard Canyon		shltr. H			Up	0.04		
					180	0.06		
Long Beach	14241	Instr.	61	31:11.6	90	0.06		67
Recreation Park		shltr. H			Up	0.03		
					360	0.04		

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Max. Acceleration Comp.	Grnd. (g)	Struct. (g)	Record on Pg.
Long Beach	14311	5-story	62	---	360	0.04	---	--
5-story CSULB Engineering		concrete bldg.			Up	0.04	---	
Bldg.		(9 sensors)			90	0.09	---	
Sandberg	24644	Instr.	62	31:01.6	90	0.09		88
Bald Mountain		Shltr. H			Up	0.04		
					180	0.10		
Port Hueneme	25281	1-story	62	31:09.3	180	0.09		80
		bldg.			Up	0.04		
					90	0.10		
Antelope Buttes	24310	Instr.	63	31:06.7	90	0.07		50
		Shltr. H			Up	0.03		
					360	0.05		
Lancaster	24517	3-story reinf.	64	---	115	0.05	0.15	172
3-story Office Bldg.		masonry bldg.			Up	0.04	---	
		(13 sensors)			25	0.07	0.09	
Lancaster	24526	Instr.	64	31:07.1	115	0.08		62
15th & J		shltr. H			Up	0.11		
					25	0.08		
Lancaster	24609	5-story	64	31:01.8	25	0.07	0.28	174
5-story Hospital		steel bldg.			Up	0.04	---	
		(12 sensors)			295	0.06	0.15	
Lancaster	24474	Control	66	31:07.5	60	0.08	0.20	299
Airport Control Tower		Tower			Up	0.04	---	
		(9 sensors)			330	0.08	0.15	
Lancaster	24475	Instr.	66	31:07.6	90	0.07		62
Fox Airfield		shltr. H			Up	0.05		
Grounds					360	0.09		
Seal Beach	14578	8-story isolated	66	31:04.0	90	0.08	0.15	242
8-story Office Bldg.		concrete bldg.			Up	0.02	0.16	
		(28 sensors)			360	0.05	0.12	
Seal Beach	14578	Instr.	66	31:04.0	90	0.09		89
8-story Office Bldg.		shltr. H			Up	0.04		
Parking Lot					360	0.06		
Big Dalton Reservoir	23247	Concrete dam	68	31:09.7	20	---	0.09	288
Big Dalton Dam		(9 sensors)			Up	---	0.04	
					110	---	0.18	
Puddingstone Reservoir	23328	Earth dam	69	31:11.4	333	0.05	0.21	291
Puddingstone Dam		(15 sensors)			Up	---	0.07	
					243	0.04	0.12	

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Max. Acceleration Comp.	Grnd. (g)	Struct. (g)	Record on Pg.
Ventura 12-story Hotel	25339	12-story concrete bldg. (15 sensors)	70	---	360 Up 90	0.12 0.04 0.07	0.30 --- 0.31	247
Ventura Harbor & California	25340	Instr. Shltr. H	70	31:10.2	90 Up 360	0.06 0.02 0.07		93
Neenach Sacatara Creek	24586	Instr. shltr. H	71	31:06.1	90 Up 180	0.06 0.05 0.07		75
Rosamond Godde Ranch	24274	Instr. shltr. H	73	31:09.4	90 Up 360	0.05 0.03 0.05		83
Pomona 4th & Locust	23525	Instr. shltr. H	75	31:09.8	90 Up 360	0.05 0.04 0.05		78
Pomona 2-story Commercial Bldg.	23511	2-story concrete bldg. (10 sensors)	75	31:10.4	360 Up 270	0.05 0.04 0.06	0.15 --- 0.22	216
Pomona 6-story Commercial Bldg.	23544	6-story concrete/URM bldg.(12 sensors)	75	31:09.2	270 Up 180	0.07 0.03 0.04	0.16 --- 0.15	222
Wheeler Gorge	25090	1-story bldg.	75	---	90 Up 360	0.03 0.03 0.02		93
Wrightwood Jackson Flat	23590	Instr. shltr. H	76	31:06.0	90 Up 180	0.06 0.03 0.04		94
Anacapa Island	25169	1-story bldg.	79	---	360 Up 270	0.07 0.02 0.04		49
Huntington Beach Lake Street Fire Station	13197	1-story bldg.	79	---	90 Up 360	0.08 0.03 0.10		58
Rosamond Airport	24092	1-story bldg.	80	---	90 Up 360	0.04 0.03 0.08		83
Lockwood Valley	25029	1-story bldg.	81	31:12.2	90 Up 360	0.04 0.02 0.03		--

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Max. Acceleration Comp.	Grnd. (g)	Struct. (g)	Record on Pg.
Mt. Baldy Elementary School	23572	Instr. shltr. H	81	31:06.3	90	0.08		72
					Up	0.04		
					180	0.07		
Wrightwood Swarthout Valley	23574	Instr. shltr. H	83	31:06.0	90	0.05		95
					Up	0.04		
					180	0.06		
Cuddy Valley	25051	Instr. Shltr. A	85	31:12.7	90	0.05		52
					Up	0.02		
					360	0.05		
Featherly Park Park Maint. Bldg.	13122	1-story bldg.	86	---	90	0.12		55
					Up	0.03		
					360	0.11		
Newport Beach 11-story Hospital	13589	11-story concrete bldg. (18 sensors)	86	31:08.3	335	0.05	0.19	201
					Up	0.03	0.05	
					65	0.08	0.26	
Newport Beach Newport Blvd. & Coast Hwy	13610	Instr. Shltr. H	86	31:07.3	90	0.11		76
					Up	0.02		
					180	0.08		
Palmdale Black Butte	23585	Instr. shltr. H	86	31:07.7	90	0.03		77
					Up	0.02		
					180	0.03		
Newport Beach Irvine Ave. Fire Station	13160	1-story bldg.	87	---	90	0.07		76
					Up	0.02		
					360	0.04		
Rancho Cucamonga Deer Canyon	23598	Instr. shltr. H	89	31:06.9	90	0.07		81
					Up	0.03		
					180	0.05		
Rancho Cucamonga Law & Justice Center Parking Lot	23497	Instr. shltr. D	90	31:15.1	360	0.08		81
					Up	0.03		
					90	0.05		
Rancho Cucamonga Law and Justice Center	23497	4-story base-isolated bldg. (16 sensors)	90	31:15.1	360	0.05	0.09	219
					Up	0.03	0.03	
					90	0.03	0.10	
Irvine 8-story UCI Engineering Bldg.	13329	8-story steel/ concrete bldg. (12 sensors)	90	---	225	0.05	0.09	171
					Up	0.02	---	
					135	0.04	0.21	
Mojave Hwy 14 & Backus Rd	24269	Instr. shltr. H	90	31:13.4	90	0.06		74
					Up	0.03		
					360	0.03		

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Comp.	Max. Acceleration Grnd. (g)	Max. Acceleration Struct. (g)	Record on Pg.
Santa Catalina Island	14165	1-story bldg.	90	31:27.3	360	0.04		91
					Up	0.02		
					270	0.05		
Ozena	25164	1-story bldg.	91	31:17.2	90	0.04		--
					Up	0.02		
					360	0.04		
Wrightwood Nielson Ranch	23573	Instr. shltr. H	93	31:08.8	90	0.04		94
					Up	0.02		
					180	0.04		
Etiwanda Power Plant	23466	Steam generating plant (12 sensors)	94	31:18.1	180	0.07	0.11	297
					Up	0.03	0.13	
					90	0.05	0.10	
Jameson Lake Juncal Dam A	25291	Concrete arch dam (9 sensors)	94	31:26.1	160	0.03	0.01	--
					Up	0.01	0.01	
					70	0.05	0.05	
Jameson Lake Juncal Dam B	25295	Multiple arch dam (9 sensors)	94	---	150	---	0.07	--
					Up	---	0.02	
					60	---	0.05	
Mojave Oak Creek Canyon	34237	Instr. Shltr. A	94	31:15.1	90	0.07		74
					Up	0.03		
					360	0.05		
Phelan Wilson Ranch Road	23597	Instr. shltr. H	98	31:08.8	90	0.05		78
					Up	0.04		
					180	0.06		
Mojave Hwys 14 & 58	34093	1-story bldg.	101	---	90	0.07		73
					Up	0.03		
					360	0.04		
Cummings Valley	34030	Instr. Shltr. A	102	31:26.3	90	0.02		--
					Up	0.01		
					360	0.01		
Tehachapi Valley Blvd & Curry St.	34487	Instr. shltr. H	102	31:14.8	90	0.06		92
					Up	0.03		
					360	0.06		
Devore I15/215 Interchange Bridge	23650	Concrete bridge (6 sensors)	104	31:11.7	T	0.08	0.24	274
					Up	0.03	0.05	
					L	0.07	0.07	
Riverside Airport	13123	1-story bldg.	105		270	0.07		82
					Up	0.03		
					180	0.06		

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Max. Acceleration Comp.	Grnd. (g)	Struct. (g)	Record on Pg.
Arvin	34107	Instr. Shltr. A	106	31:17.1	90	0.04		51
					Up	0.02		
					360	0.03		
Lake Mathews Main Dam	13313	Earth dam (6 sensors)	108	31:19.5	350	---	0.12	295
					Up	---	0.07	
					260	---	0.15	
Lake Mathews Dike 1	13326	Earth dam (9 sensors)	109	31:16.6	75	0.04	---	296
					Up	0.02	---	
					345	0.04	---	
Santa Barbara 4-story Office Bldg.	25302	4-story steel/ concrete bldg. (9 sensors)	109	---	315	0.03	0.10	--
					Up	0.01	---	
					45	0.03	0.14	
Gibraltar Reservoir Gibraltar Dam	25255	Concrete arch dam (16 sensors)	111	31:17.1	275	0.03	0.05	--
					Up	0.02	0.02	
					185	0.02	0.04	
Riverside 13-story Government Office Bldg.	13312	13-story steel/concrete (15 sensors)	111	---	30	0.04	0.14	227
					Up	0.03	---	
					120	0.05	0.15	
Riverside 2-story Govt. Office Bldg.	13620	2-story concrete bldg. (12 sensors)	111	31:12.4	305	0.05	0.09	226
					Up	0.03	---	
					35	0.05	0.16	
Colton 1-story School Gym	23540	1-story tilt-up bldg. (13 sensors)	112	31:16.7	5	0.04	0.10	168
					Up	0.04	---	
					95	---	0.23	
San Bernardino 5-story CSUSB Library	23285	5-story concrete bldg. (10 sensors)	112	---	215	0.03	0.09	229
					Up	0.02	---	
					125	0.04	0.21	
San Bernardino CSUSB Grounds	23672	Instr. Shltr. H	113	31:13.7	360	0.03		85
					Up	0.02		
					90	0.07		
San Bernardino 5-story Hospital	23634	5-story steel bldg. (12 sensors)	113	31:15.0	2	0.08	0.35	236
					Up	0.04	---	
					92	0.08	0.32	
Hesperia 4th & Palm	23583	Instr. shltr. H	115		90	0.04		57
					Up	0.03		
					180	0.04		
Santa Barbara Hwy 101 & State	25423	1-story bldg.	115	---	90	0.03		91
					Up	0.02		
					360	0.05		

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Comp.	Max. Acceleration Grnd. (g)	Max. Acceleration Struct. (g)	Record on Pg.
San Bernardino	23622	1-story	116	31:12.2	180	0.05	0.15	232
1-story Commercial		concrete/URM			Up	0.02	---	
Bldg.		bldg.(10 sensors)			90	0.08	0.07	
San Bernardino	23522	Instr.	116	31:20.1	270	0.04		86
2nd & Arrowhead		shltr. H			Up	0.02		
					360	0.04		
San Bernardino	23515	9-story	116	31:21.8	180	0.04	0.06	240
9-story Commercial		steel bldg.			Up	0.02	---	
Bldg.		(13 sensors)			90	0.05	0.07	
San Bernardino	23542	Instr.	116	---	90	0.08		85
E & Hospitality		shltr. H			Up	0.04		
					180	0.10		
San Bernardino	23631	Curved concrete	116	31:14.4	T	0.13	0.47	269
I10/215 Interchange		bridge			Up	0.04	0.31	
		(34 sensors)			L	0.08	0.16	
San Bernardino	23516	3-story steel	117	31:16.5	360	0.06	0.14	234
3-story Office Bldg.		bldg.			Up	0.03	---	
		(13 sensors)			270	0.08	0.20	
San Bernardino	23287	6-story concrete	118	---	180	0.06	0.23	238
6-story Hotel		bldg.			Up	0.02	---	
		(9 sensors)			90	0.07	0.15	
Boron	33083	1-story	120	---	90	0.09		51
Fire Station		bldg.			Up	0.05		
					360	0.13		
Cuyama Valley	25052	Instr.	121	31:18.5	90	0.04		54
		Shltr. A			Up	0.02		
					360	0.06		
Santa Barbara	25213	3-story	122	31:22.3	360	0.04	0.16	241
3-story UCSB Office Bldg.		concrete bldg.			Up	0.03	---	
		(9 sensors)			90	0.04	0.09	
Santa Barbara	25392	Instr.	122	31:21.6	90	0.04		90
UCSB Grounds		Shltr. H			Up	0.02		
					360	0.04		
Santa Barbara	25091	1-story	123	---	90	0.07		90
UCSB Goleta		bldg.			Up	0.05		
					360	0.08		
Redlands	23495	1-story concrete	123	31:18.7	360	0.07	0.20	224
1-story Warehouse		titlt-up bldg.			Up	0.02	---	
		(12 sensors)			90	0.05	0.20	

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Comp.	Max. Acceleration Grnd. (g)	Max. Acceleration Struct. (g)	Record on Pg.
Redlands	23481	7-story steel	127	31:20.9	180	0.06	0.10	225
7-story Commercial		bldg.			Up	0.02	---	
Bldg.		(13 sensors)			270	0.04	0.07	
Beaumont	12649	Concrete	146	31:18.8	183	0.04	0.09	276
I10/60 Interchange Bridge		bridge			Up	0.02	0.03	
		(6 sensors)			273	0.04	0.07	
Murrieta Hot Springs	13198	Instr.	147	31:37.5	90	0.02		--
Collins Ranch		shltr. A			Up	0.02		
					360	0.02		
Winchester	13199	Instr.	148	31:42.7	90	0.01		--
Bergman Ranch		shltr. A			Up	0.02		
					360	0.01		
Hemet	13660	Instr.	150	31:19.4	360	0.06		56
Ryan Airfield		Shltr. H			Up	0.03		
					90	0.05		
Temecula	13172	Instr.	151	31:26.6	90	0.04		--
6th & Mercedes		shltr. H			Up	0.04		
					360	0.03		
Hemet	12266	1-story	154	---	360	0.05	0.10	--
1-story Library		bldg.			Up	0.04	---	
		(6 sensors)			270	0.05	0.10	
Hemet	12331	1-story	154	31:40.8	90	0.05		57
Stetson Ave Fire		bldg.			Up	0.03		
Station					360	0.06		
San Jacinto	12673	Instr.	154	31:19.8	360	0.08		87
CDF Fire Station		Shltr. H			Up	0.02		
					90	0.10		
San Jacinto	12202	1-story	154	31:41.2	90	0.05		88
Valley Cemetery		bldg.			Up	0.05		
					360	0.04		
Hemet	12267	4-story	155	---	315	0.05	0.10	170
4-story Hospital		concrete bldg.			Up	0.06	---	
		(10 sensors)			225	0.05	0.07	
San Jacinto	12618	Instr.	160	31:37.8	90	0.02		87
Soboba A		Shltr. H			Up	0.02		
					180	0.02		

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Max. Acceleration Comp.	Grnd. (g)	Struct. (g)	Record on Pg.
Heart Bar State Park	22T04	1-story bldg.	161	31:39.6	90	0.02		56
					Up	0.01		
					180	0.01		
Banning Twin Pines Rd.	12674	Instr. Shltr. H	163	31:42.0	360	0.01		--
					Up	0.004		
					90	0.01		
Sage Fire Station	12636	1-story bldg.	165	---	90	0.02		84
					Up	0.01		
					180	0.03		
Yermo Fire Station	22074	1-story bldg.	176	---	360	0.04		95
					Up	0.02		
					270	0.04		
North Palm Springs I10/62 Interchange Bridge	12666	Steel bridge (7 sensors)	181	---	T	0.02	0.11	278
					Up	0.01	---	
					L	0.02	0.08	
Yucca Valley	22T01	1-story bldg.	198	---	90	0.01		--
					Up	0.01		
					180	0.01		
Indio Riverside Co. Fairgrounds	12543	Instr. shltr. H	221	32:16.3	274	0.01		--
					Up	0.01		
					4	0.01		
Indio 4-story Govt. Office Bldg.	12493	4-story concrete bldg. (9 sensors)	221	---	360	---	0.05	--
					Up	---	---	
					90	---	0.02	
Desert Shores	12626	Instr. shltr. H	244	32:03.6	90	0.01		--
					Up	0.004		
					180	0.01		
Mecca CVWD Yard	11625	Instr. shltr. H	247	32:04.8	90	0.02		72
					Up	0.01		
					180	0.02		
North Shore Salton Sea State Park HQ	11613	Instr. shltr. H	256	32:05.4	90	0.03		75
					Up	0.01		
					180	0.03		
Salton City	11628	Instr. shltr. H	258	32:08.1	90	0.02		84
					Up	0.005		
					180	0.02		

TABLE 3 - CSMIP Strong-Motion Data - Northridge Earthquake (Continued)

Station Name	Station No.	Structure Type,Size*	Epicenter Dist.**	Trigger Time#	Comp.	Max. Acceleration Grnd. (g)	Max. Acceleration Struct. (g)	Record on Pg.
North Shore Durmid	11591	Instr. shltr. H	266	32:10.9	90	0.01		--
					Up	0.01		
					180	0.01		
Bombay Beach Bertram	11627	Instr. Shltr. H	271	32:16.9	90	0.01		--
					Up	0.004		
					180	0.01		

Footnotes:

* - Instrument shelter types:
Instr. shltr. A - small prefabricated metal building
Instr. shltr. D - small metal box
Instr. shltr. H - small fiberglass shelter

** - Distance (in km) relative to the presently estimated (USGS, CIT) epicenter at 34.209N, 118.541W.

\# - Accelerograph trigger time, when present, is in minutes and seconds after 12:00:00 UTC on 17 January 1994.

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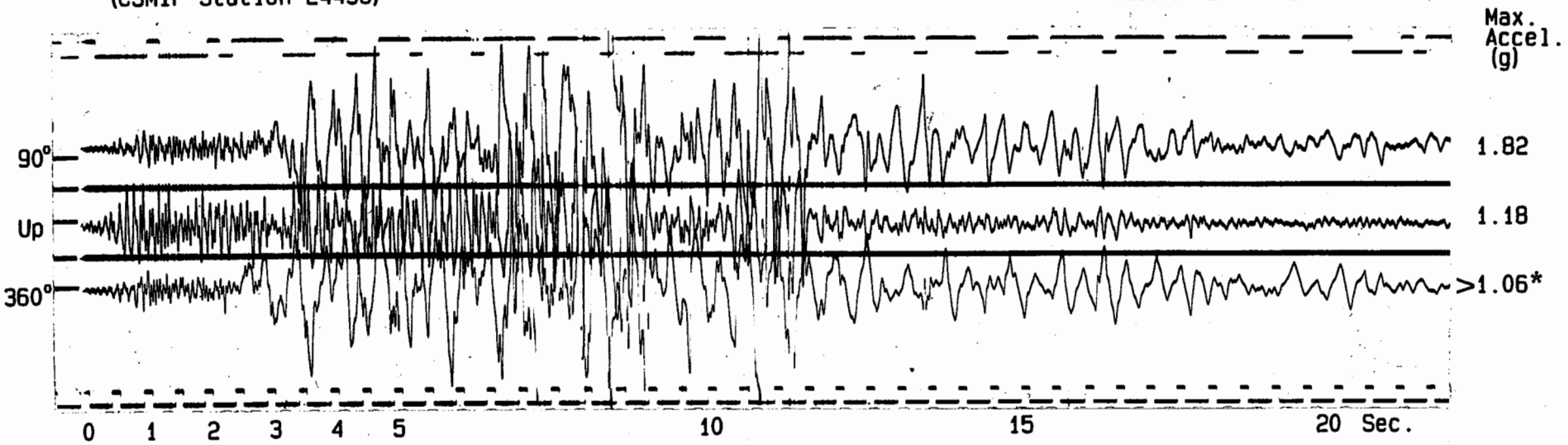
Tarzana - Cedar Hill Nursery A
(CSMIP Station 24436)

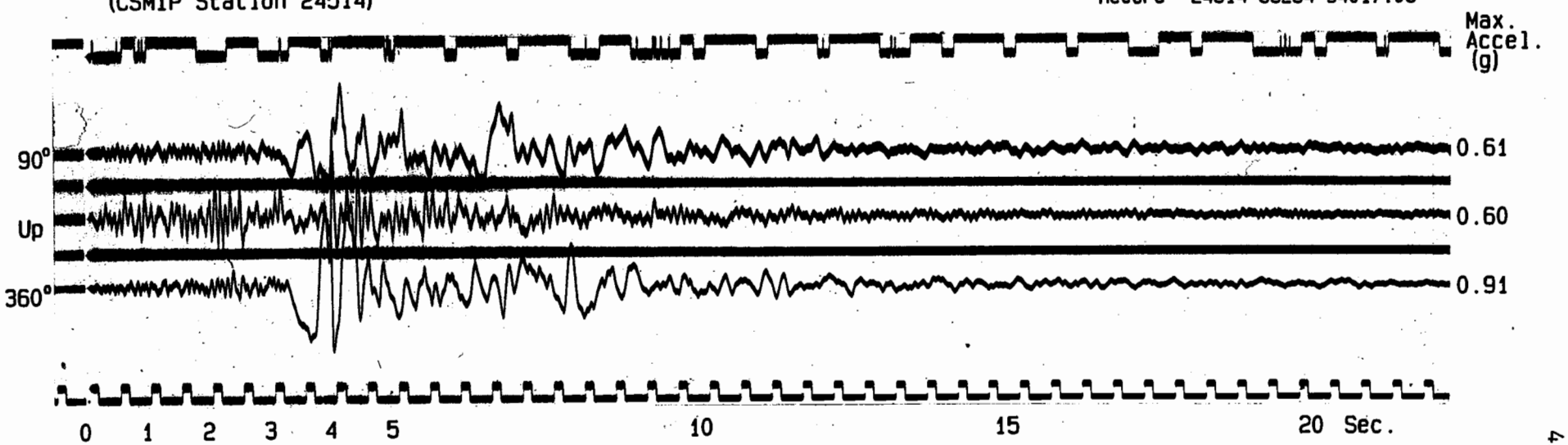
Record 24436-S1614-94017.02



* Final value will be determined during digitization.

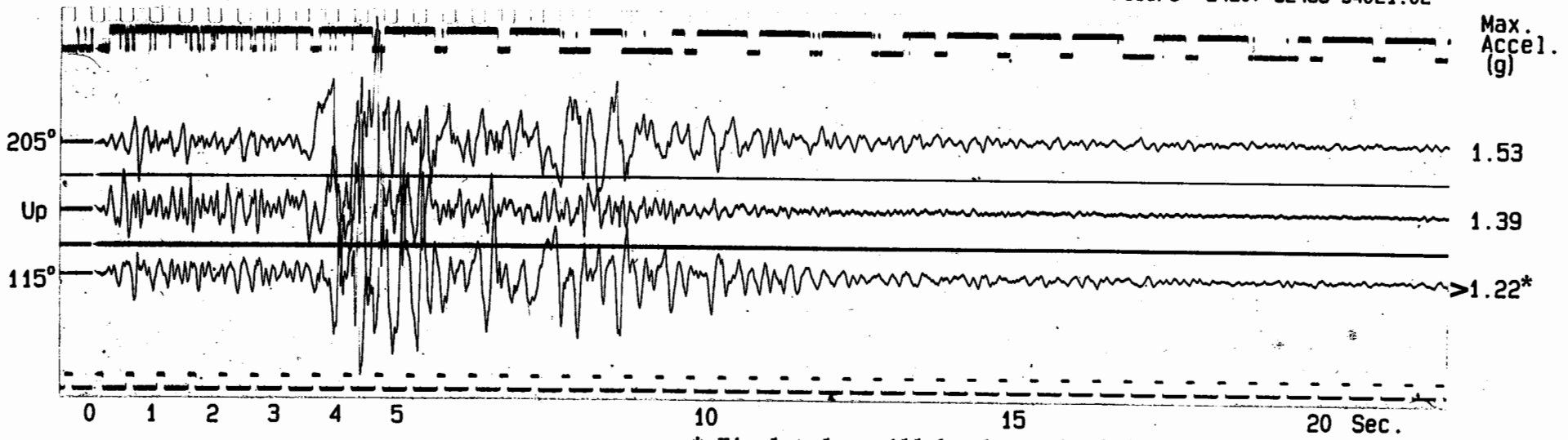
Sylmar - County Hospital Parking Lot
(CSMIP Station 24514)

Record 24514-S5254-94017.03



Pacoima Dam - Upper Left Abutment
(CSMIP Station 24207)

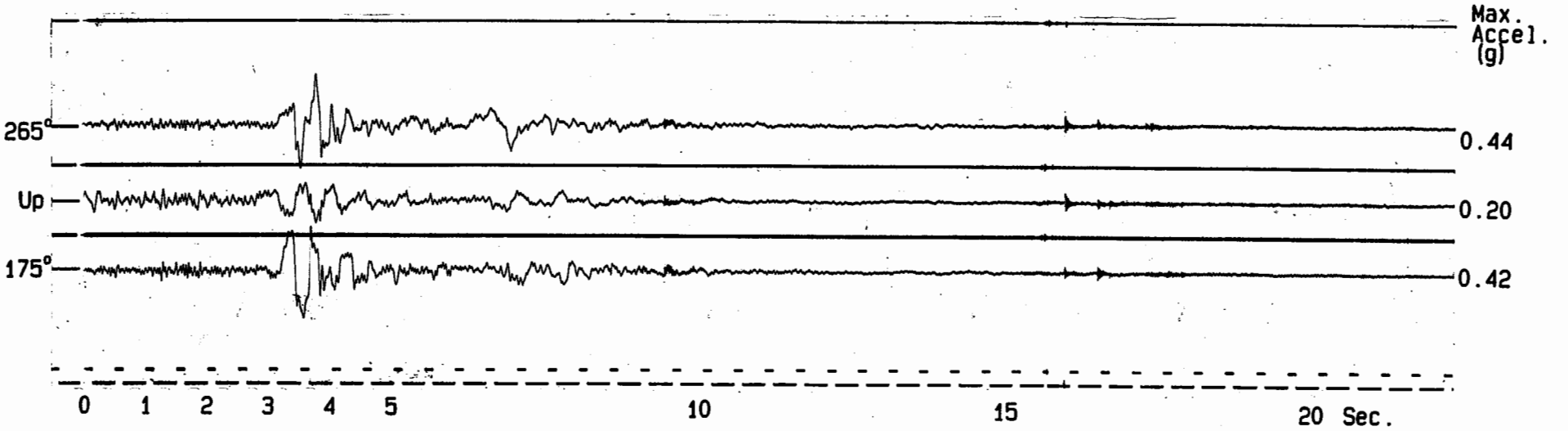
Record 24207-S2485-94021.02



* Final value will be determined during digitization.

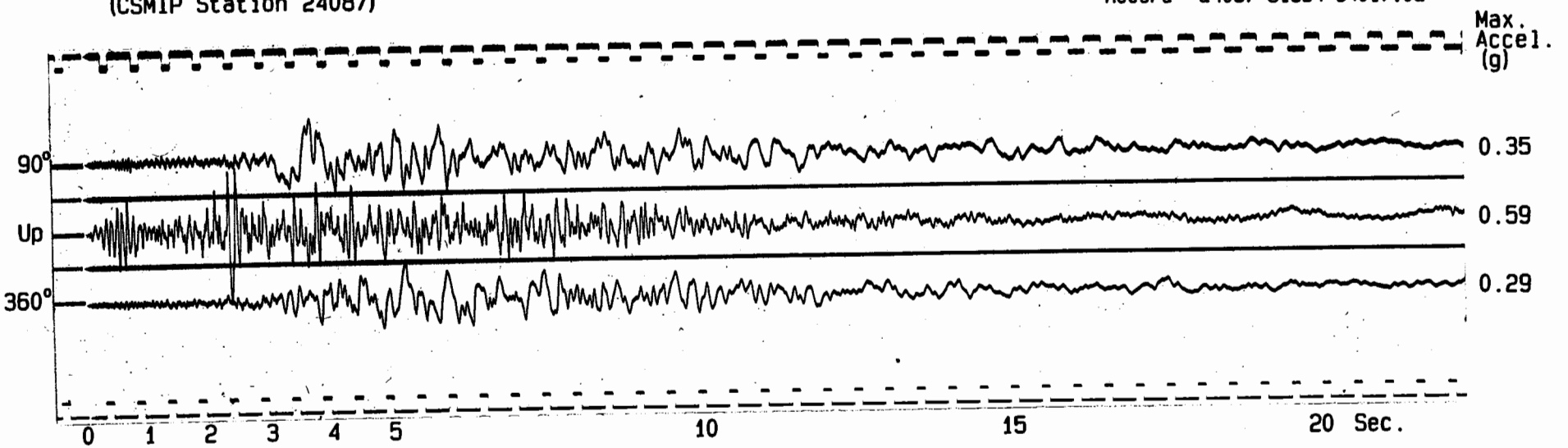
Pacoima Dam - Downstream
(CSMIP Station 24207)

Record 24207-S1672-94021.02



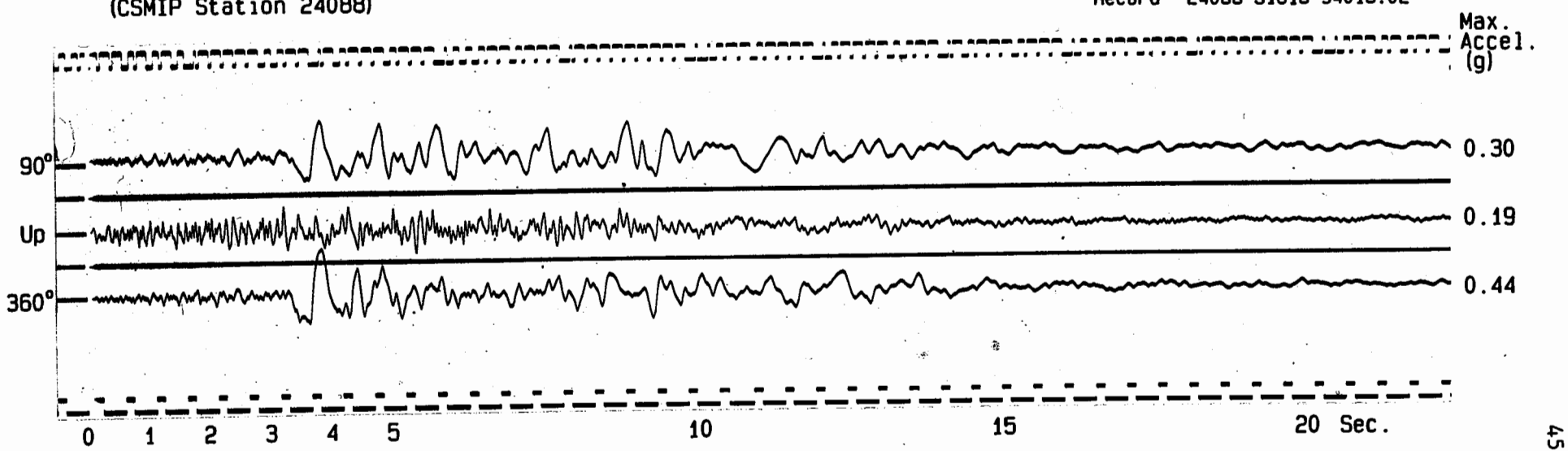
Arleta - Nordhoff Ave Fire Station
(CSMIP Station 24087)

Record 24087-S1594-94017.02



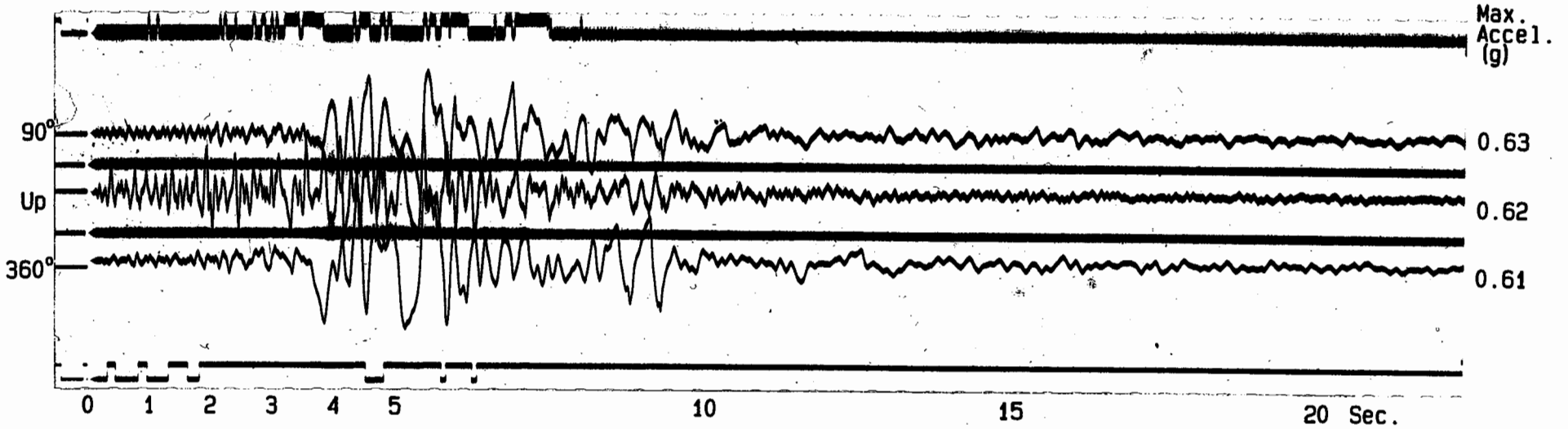
Pacoima - Kagel Canyon
(CSMIP Station 24088)

Record 24088-S1618-94018.02



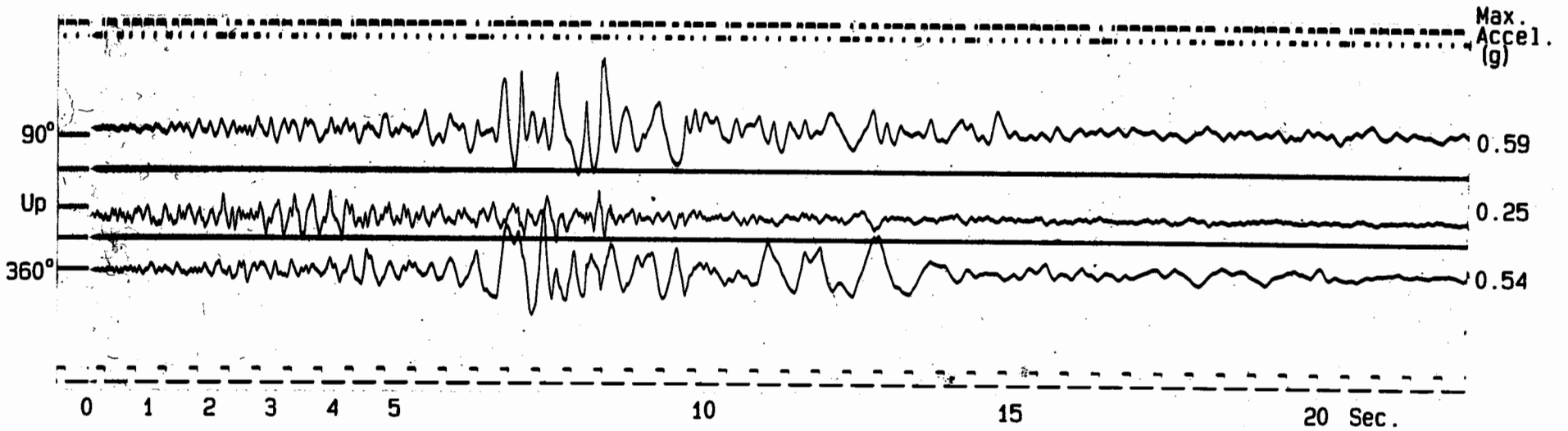
Newhall - LA County Fire Station
(CSMIP Station 24279)

Record 24279-S2499-94021.02



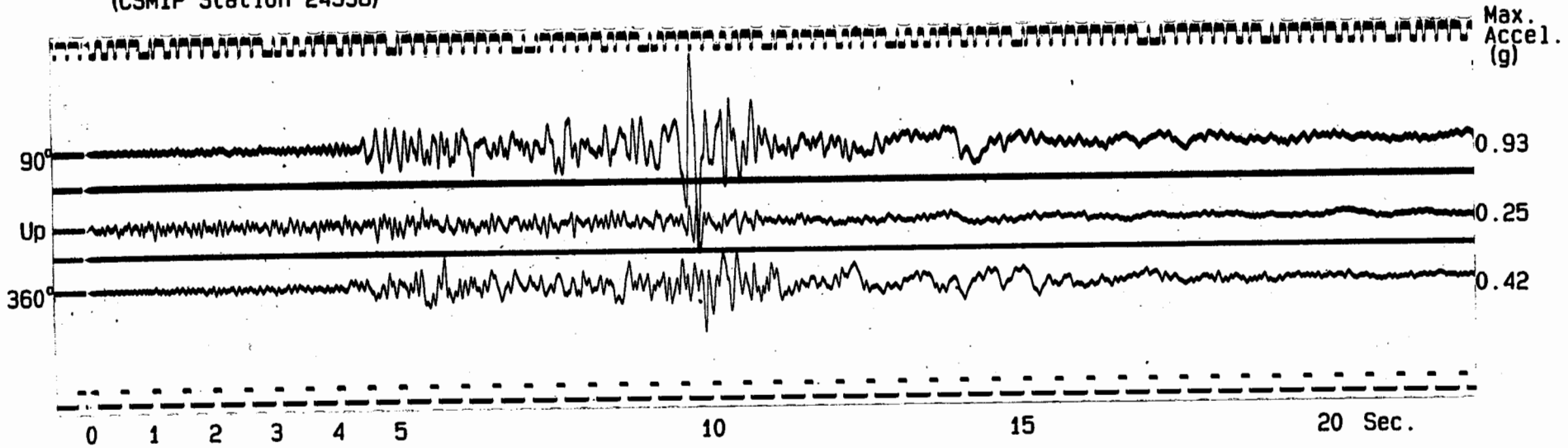
Castaic - Old Ridge Route
(CSMIP Station 24278)

Record 24278-S1572-94024.02



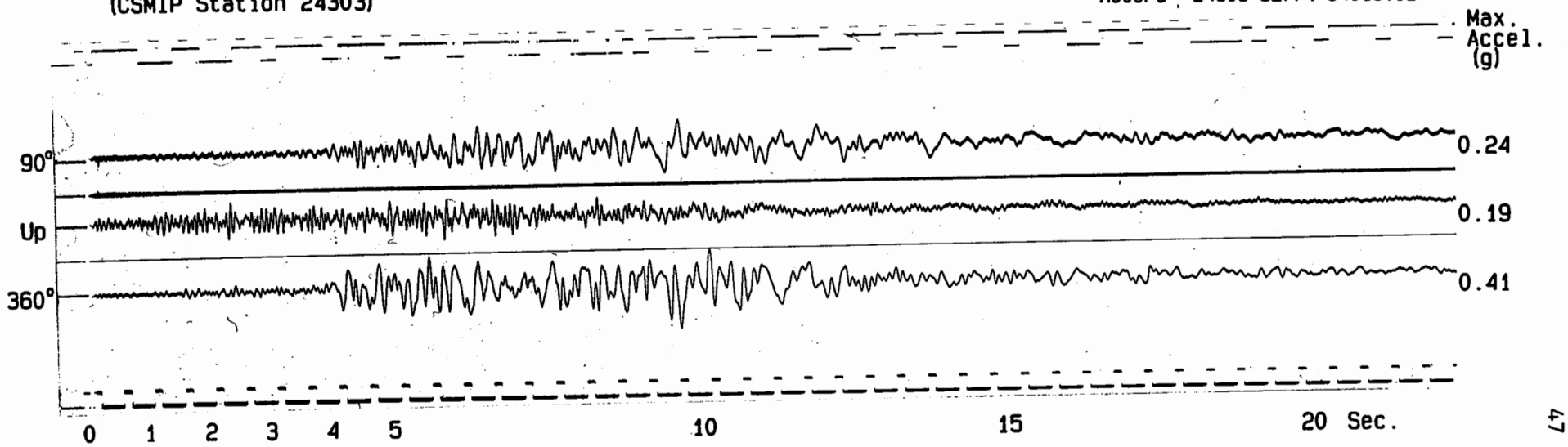
Santa Monica - City Hall Grounds
(CSMIP Station 24538)

Record 24538-S2486-94020.06



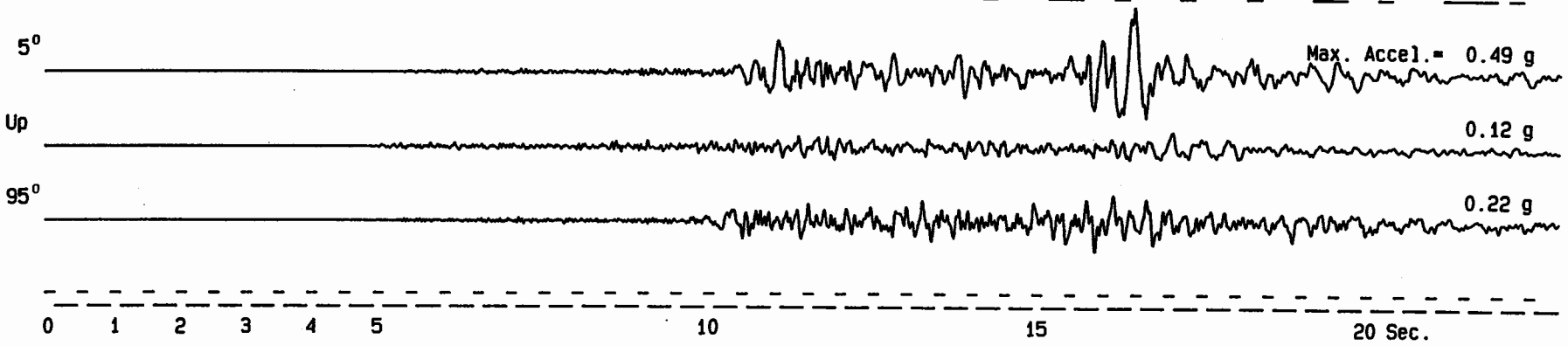
Los Angeles - Hollywood Storage Bldg. Grounds
(CSMIP Station 24303)

Record 24303-S2774-94018.02



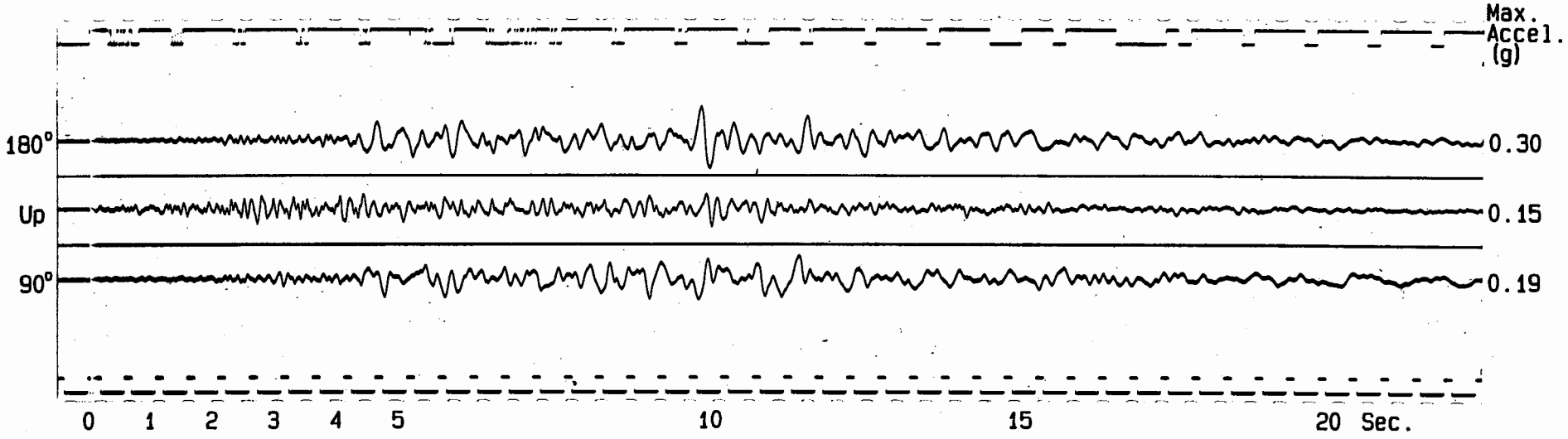
Los Angeles - University Hospital Grounds
(CSMIP Station 24605)

RECORD 24605-E0774-94017.01



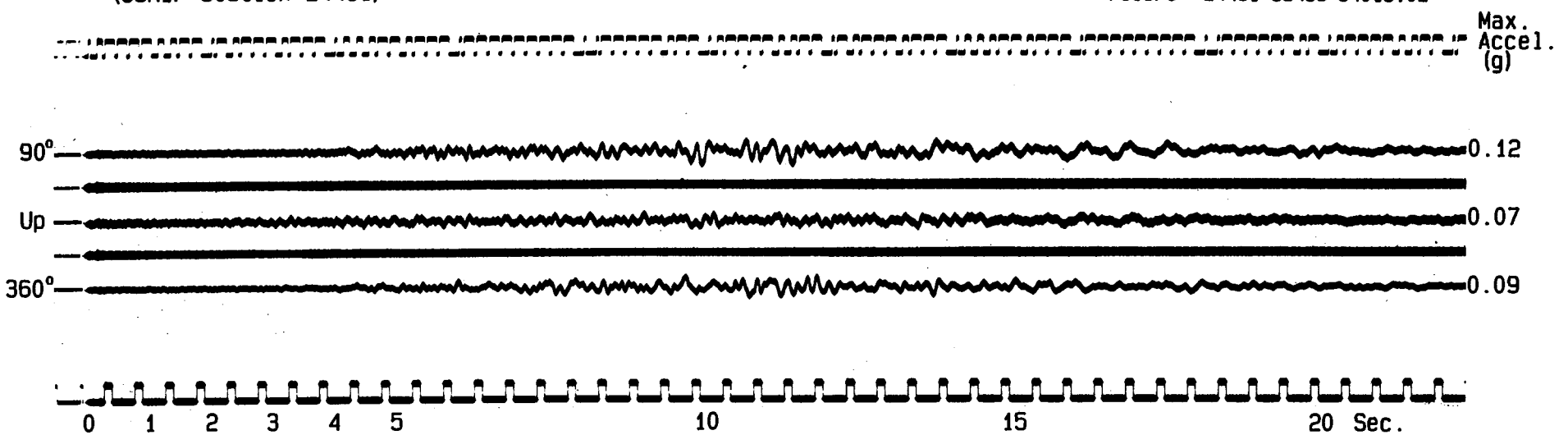
Moorpark
(CSMIP Station 24283)

Record 24283-S2509-94020.02



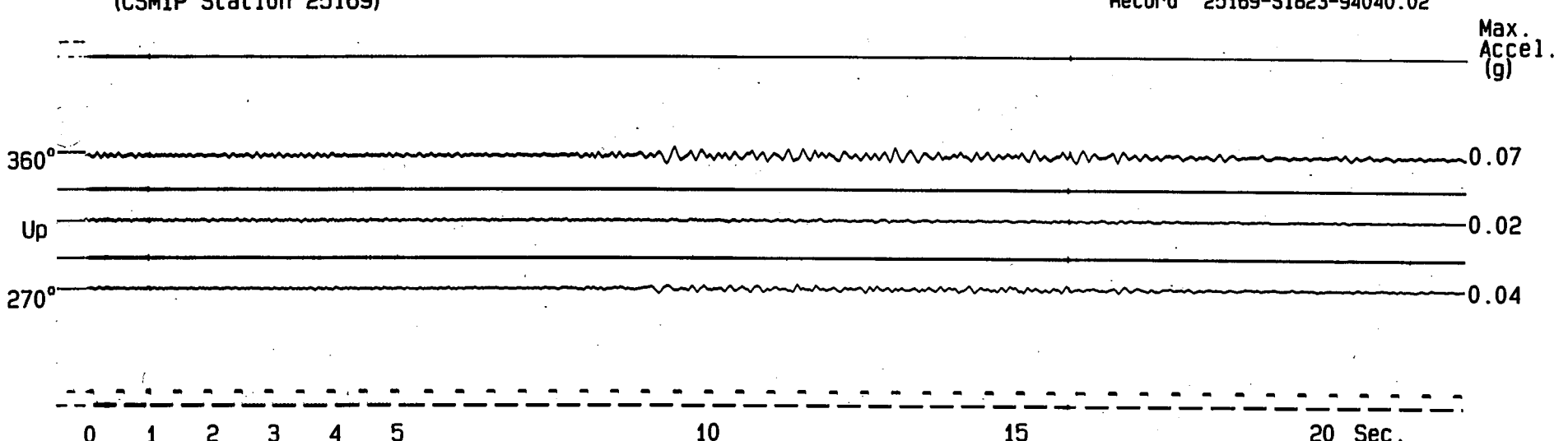
Alhambra - Fremont School
(CSMIP Station 24461)

Record 24461-S3498-94019.02

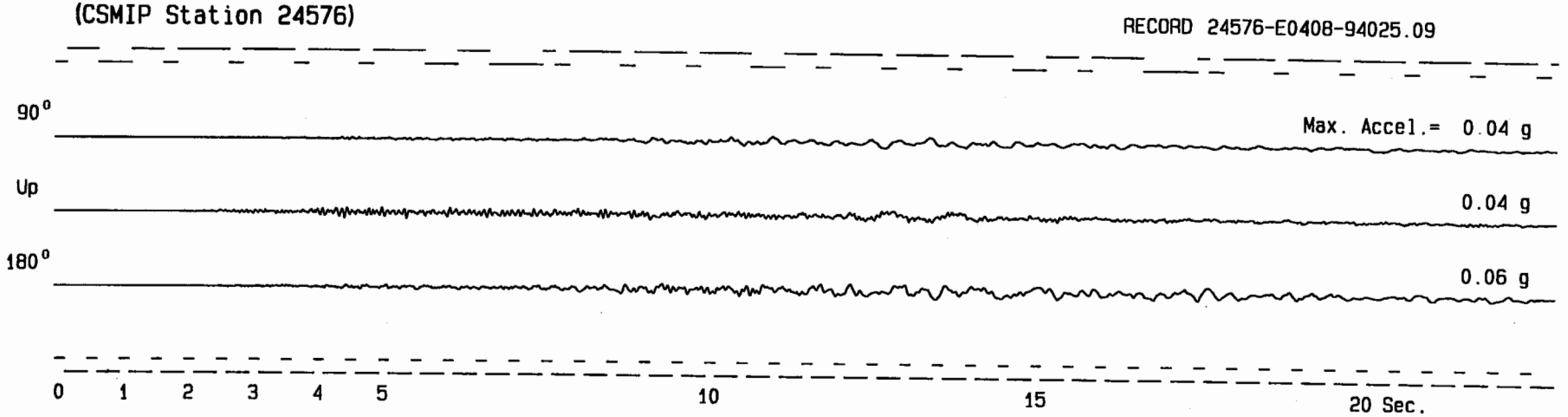


Anacapa Island
(CSMIP Station 25169)

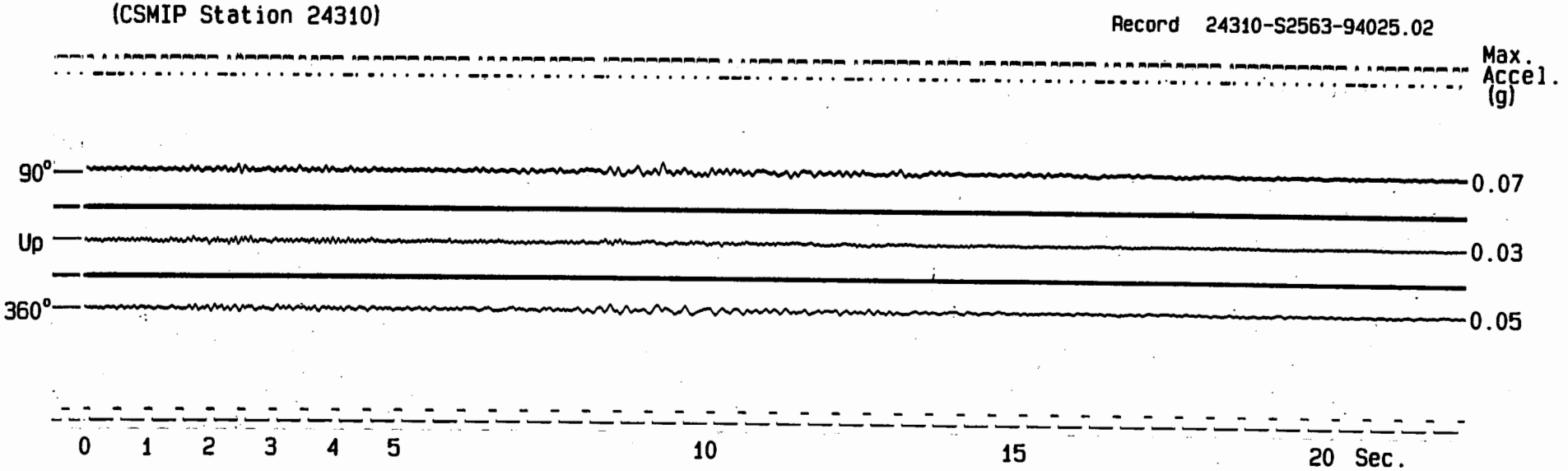
Record 25169-S1823-94040.02



Anaverde Valley - City Ranch
(CSMIP Station 24576)

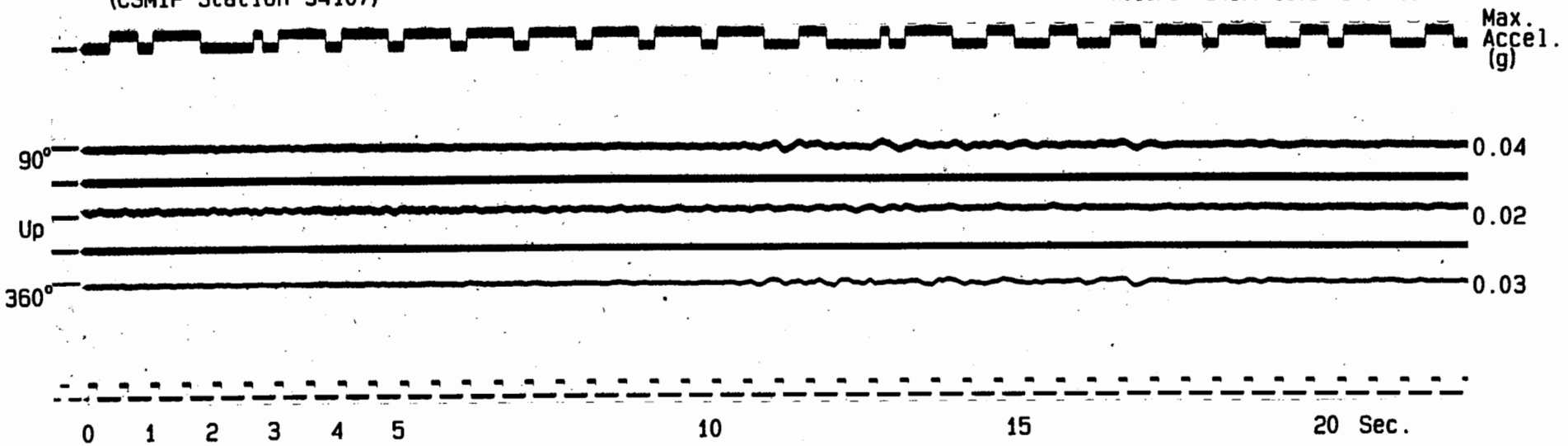


Antelope Buttes
(CSMIP Station 24310)



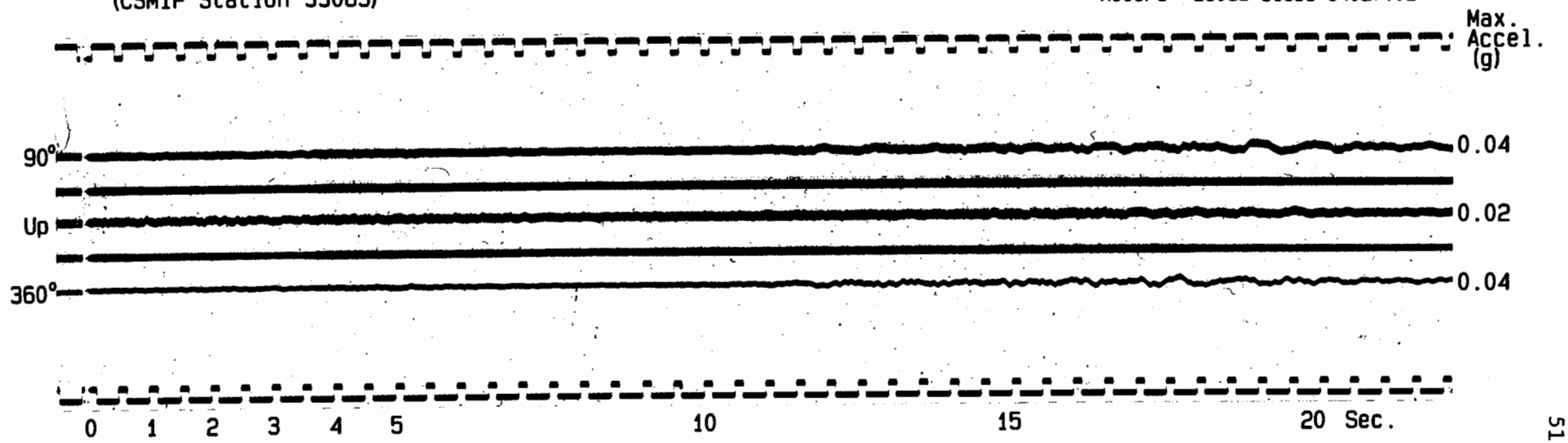
Arvin
(CSMIP Station 34107)

Record 34107-S1824-94033.02



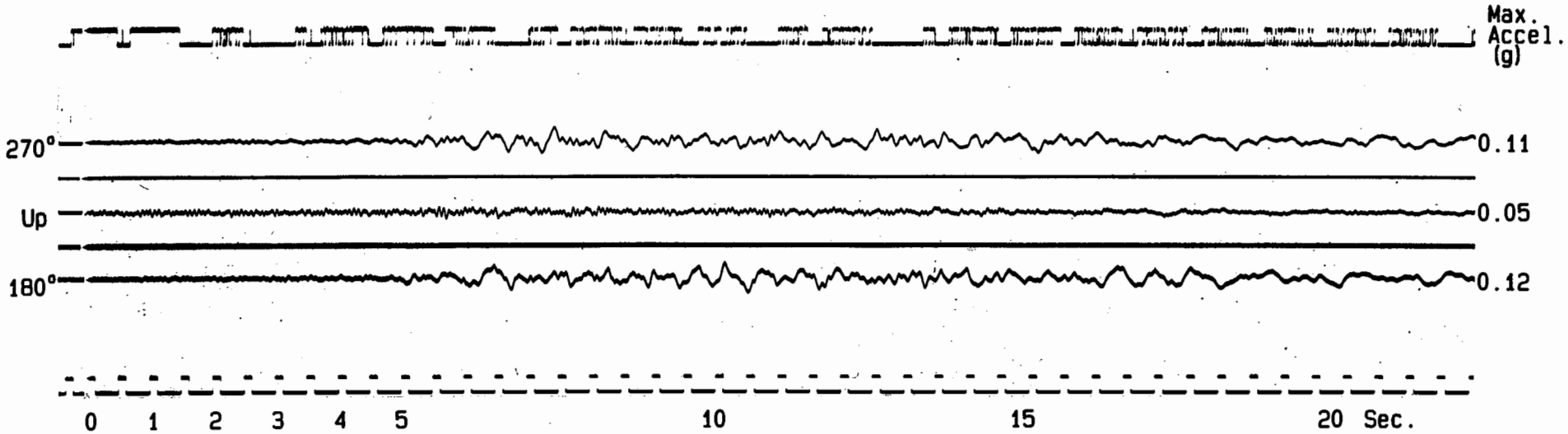
Boron - Fire Station
(CSMIP Station 33083)

Record 33083-S1599-94027.02



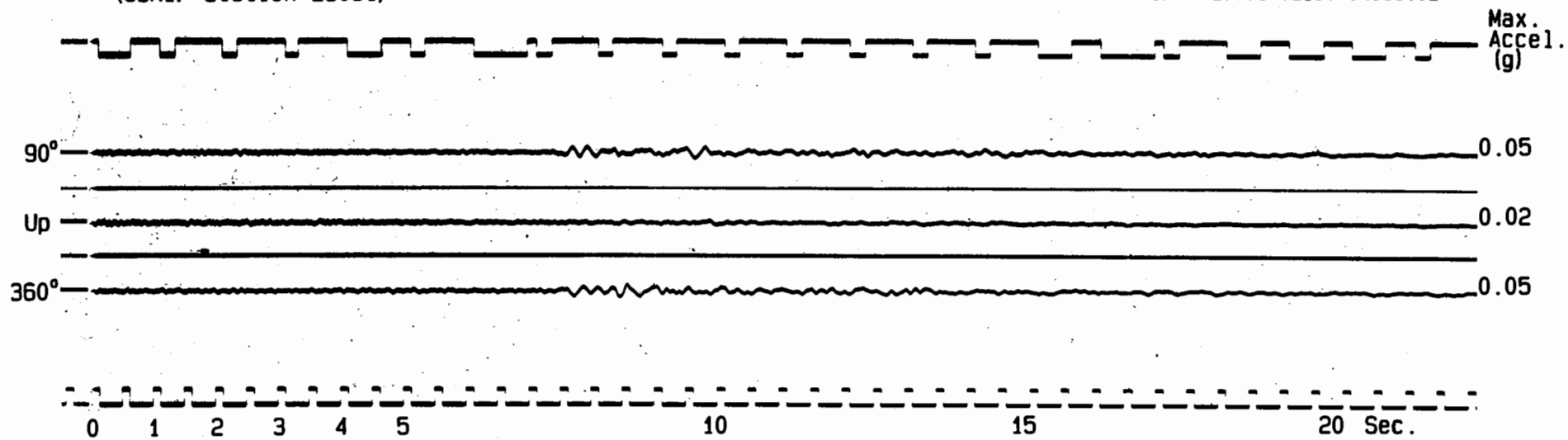
Camarillo - Fire Dept. Supply Bldg.
(CSMIP Station 25282)

Record 25282-S2508-94026.02



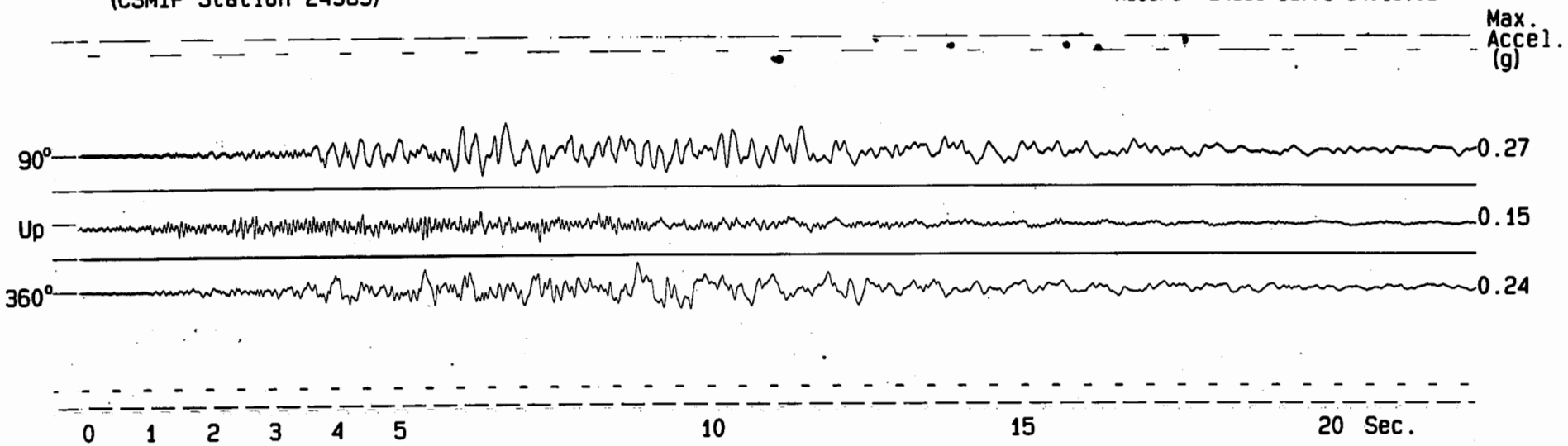
Cuddy Valley
(CSMIP Station 25051)

Record 25051-S2568-94033.02



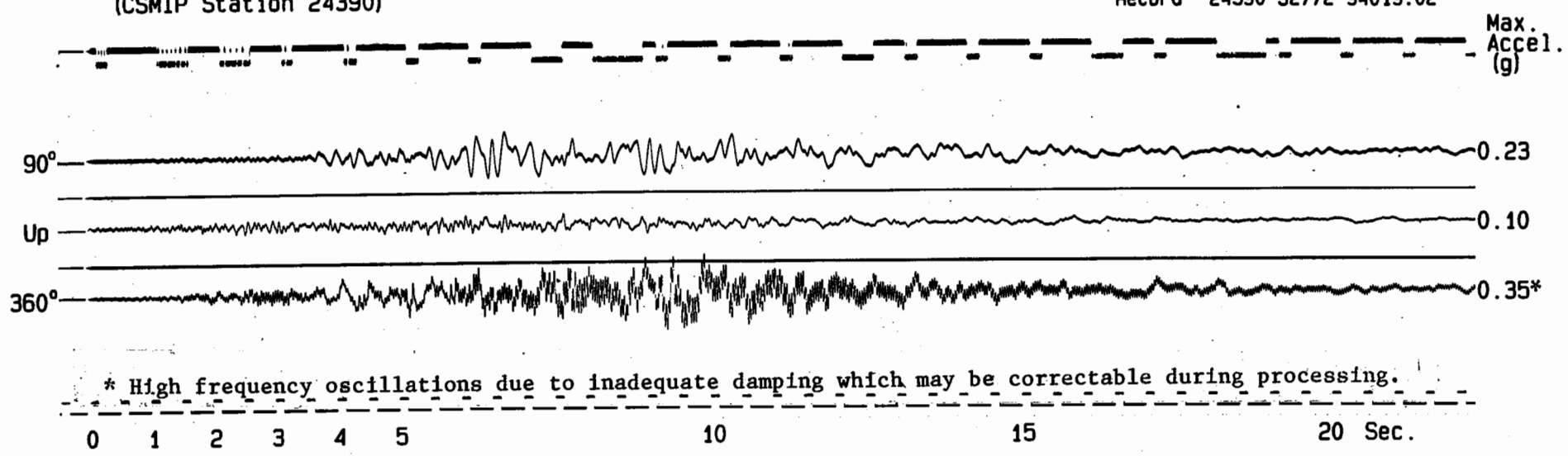
Century City - LACC North
(CSMIP Station 24389)

Record 24389-S2775-94019.02



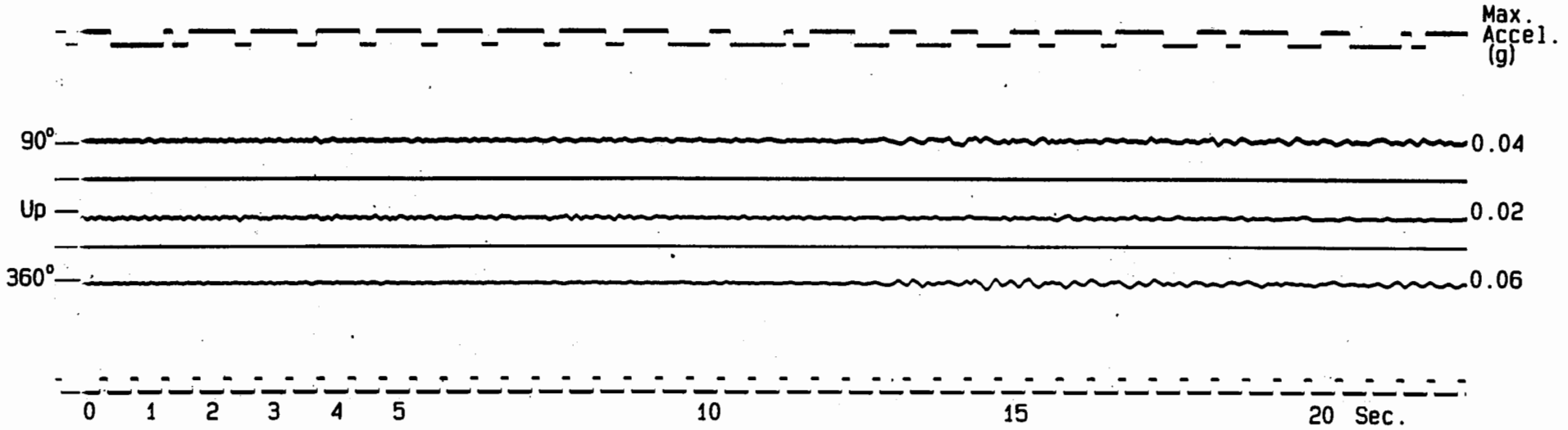
Century City - LACC South
(CSMIP Station 24390)

Record 24390-S2772-94019.02



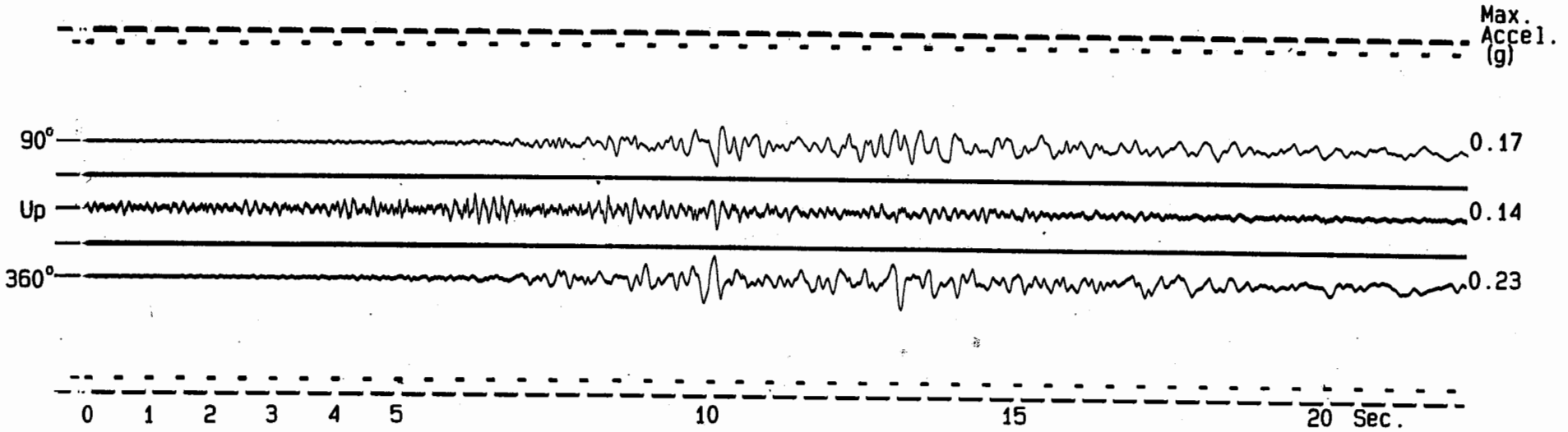
Cuyama Valley
(CSMIP Station 25052)

Record 25052-S2556-94034.02



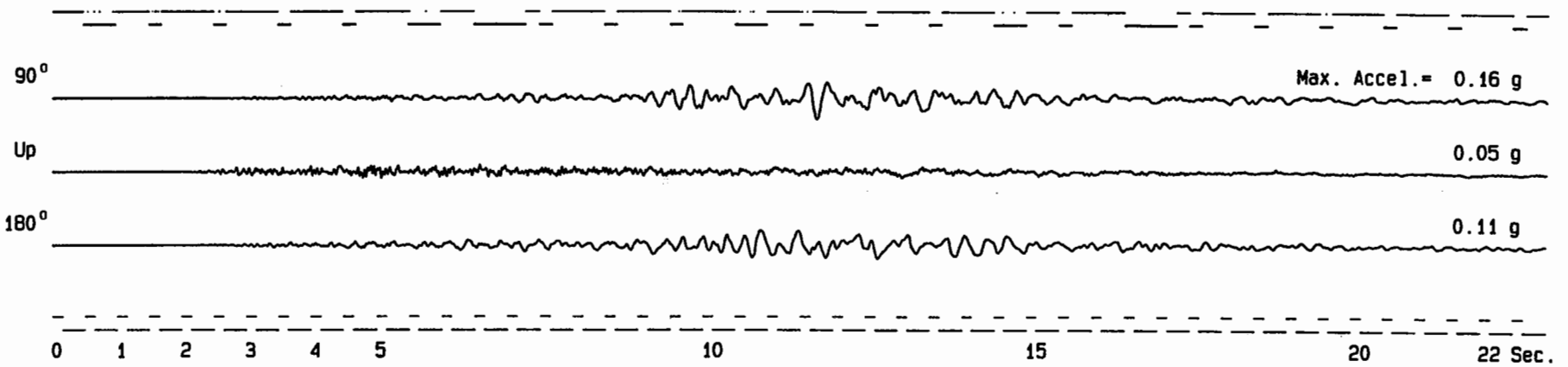
Downey - County Maint. Bldg.
(CSMIP Station 14368)

Record 14368-S1607-94021.02



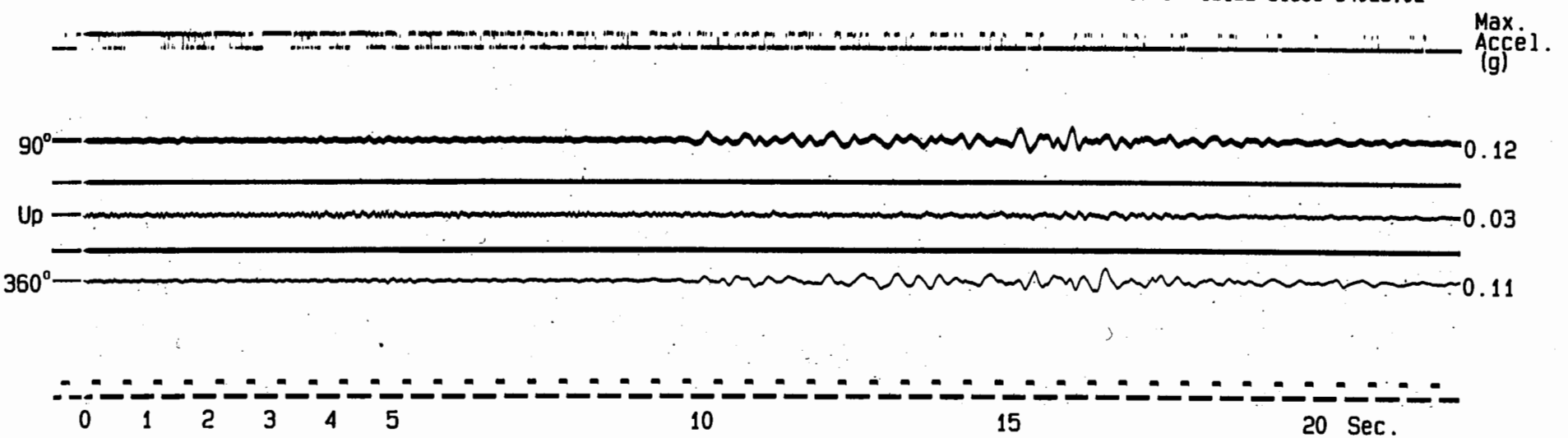
Elizabeth Lake
(CSMIP Station 24575)

RECORD 24575-E0272-94025.12

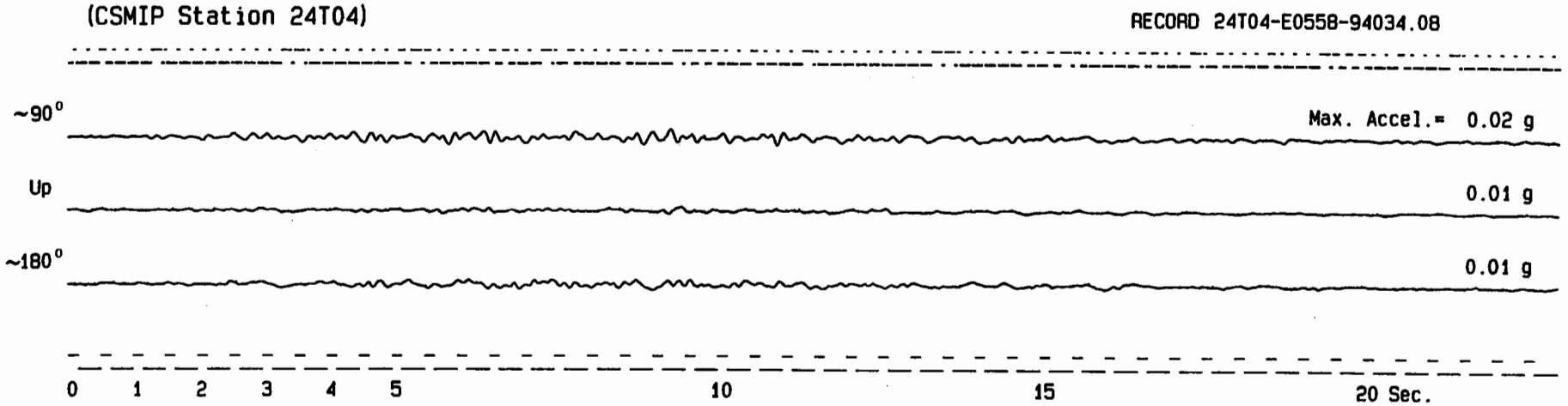


Featherly Park - Park Maint. Bldg.
(CSMIP Station 13122)

Record 13122-S1596-94028.02

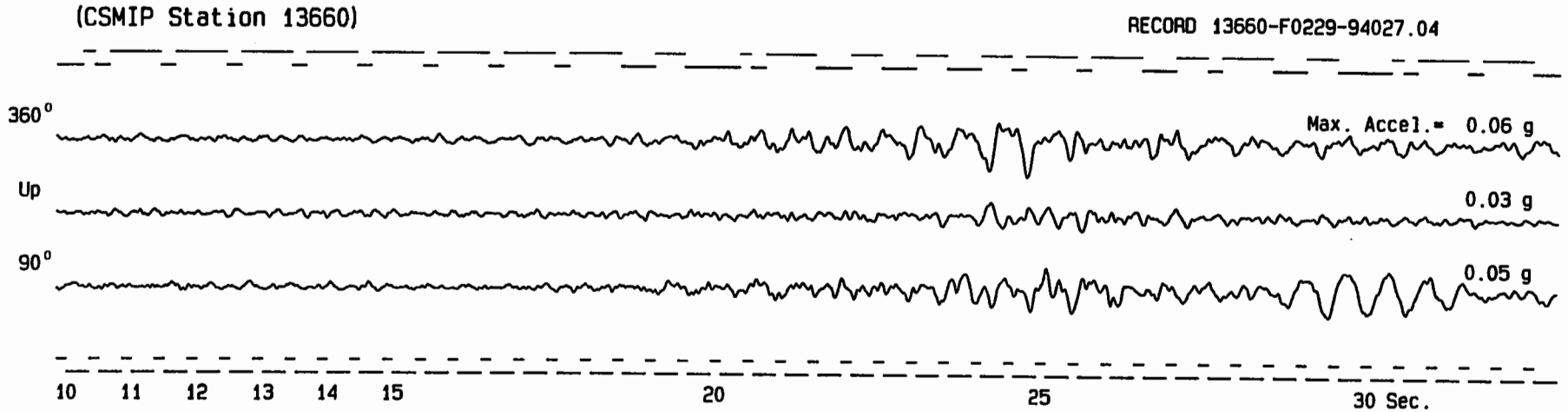


Heart Bar State Park
(CSMIP Station 24T04)



This record plotted with 4x vertical exaggeration.

Hemet - Ryan Airfield
(CSMIP Station 13660)



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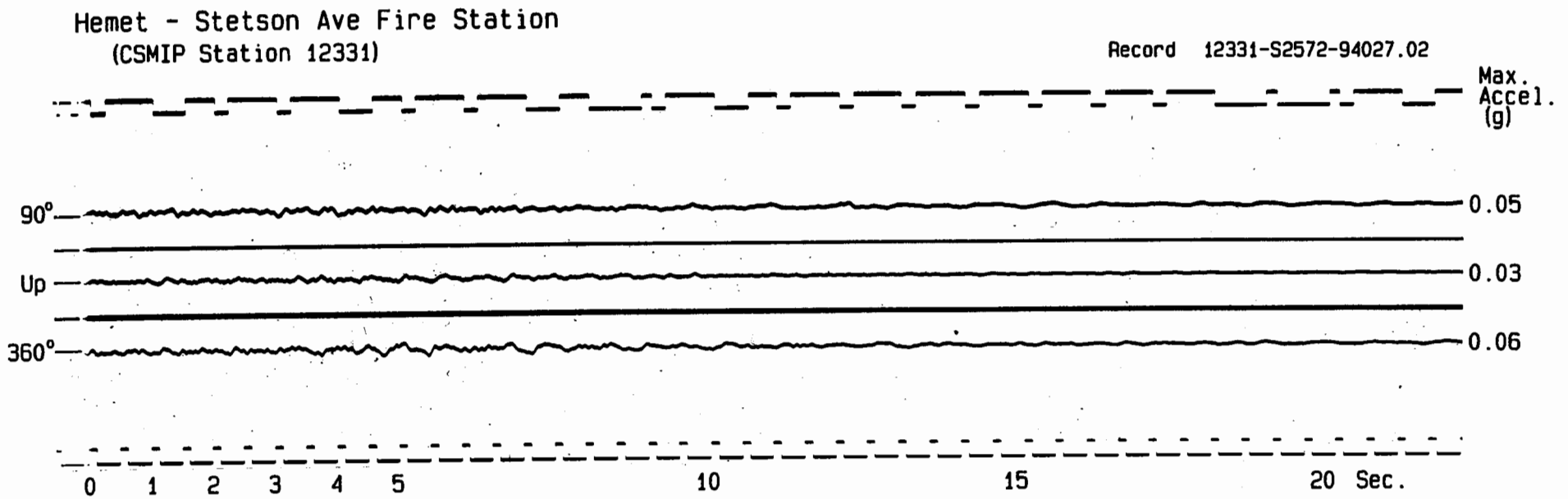
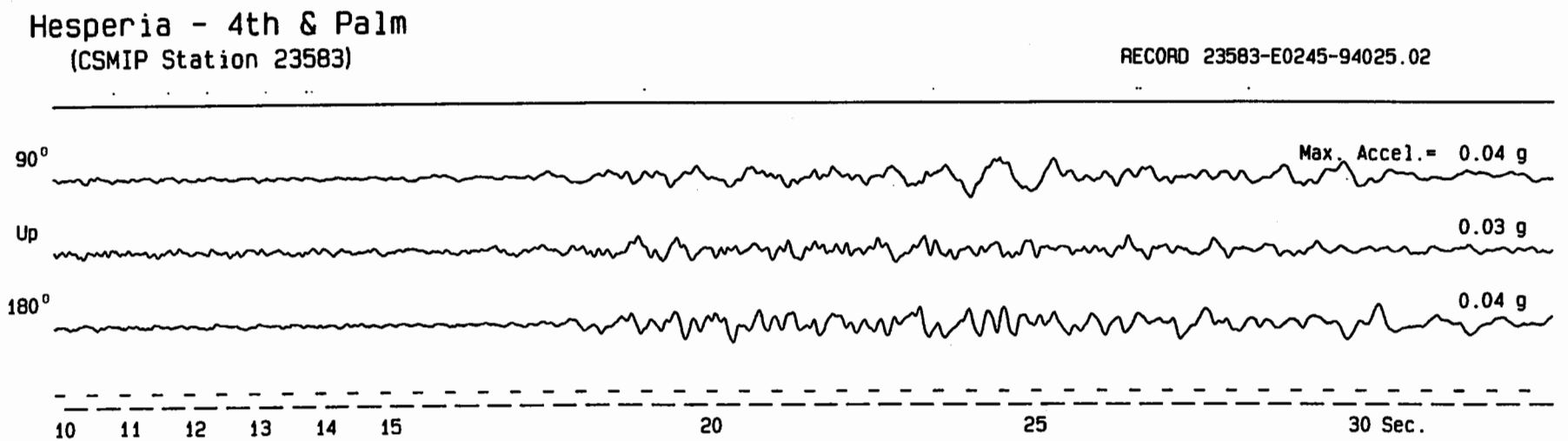
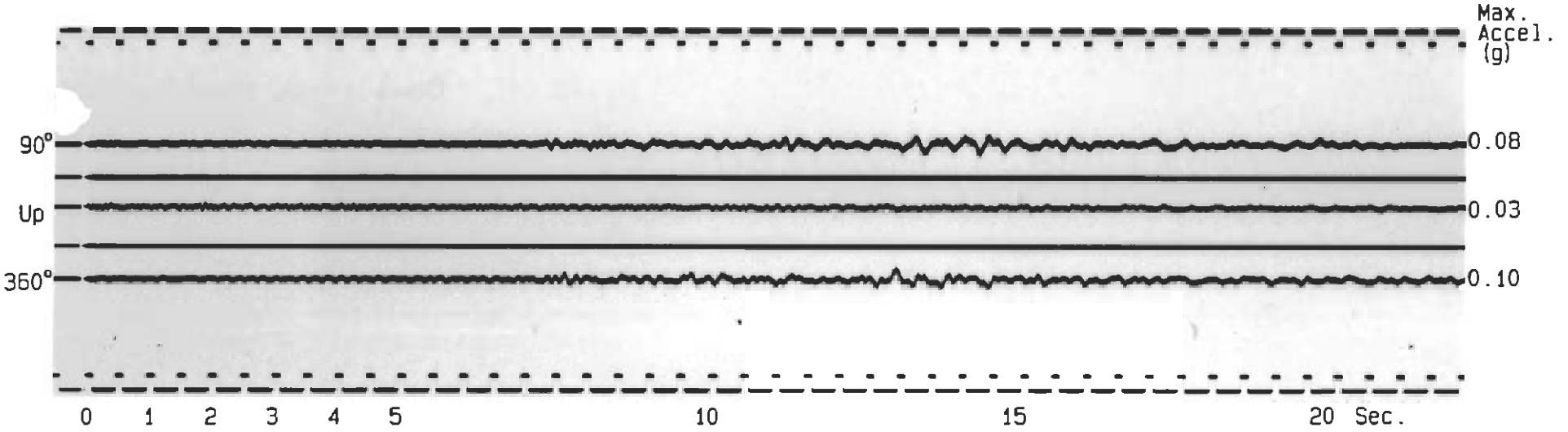




This record plotted with 4x vertical exaggeration.

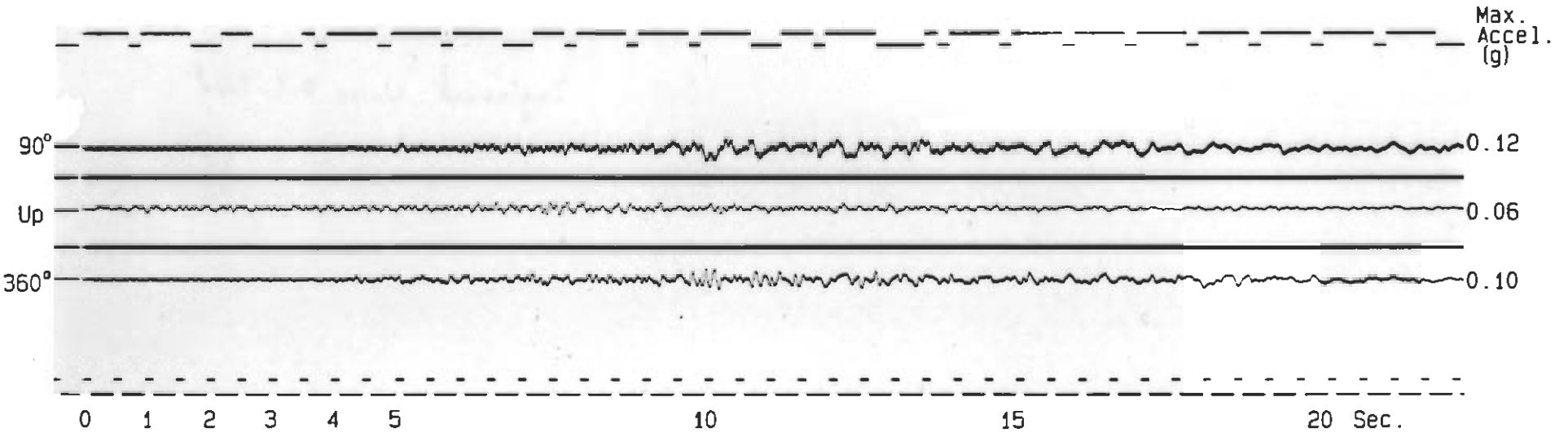
Huntington Beach - Lake Street Fire Station
(CSMIP Station 13197)

Record 13197-S0759-94025.02



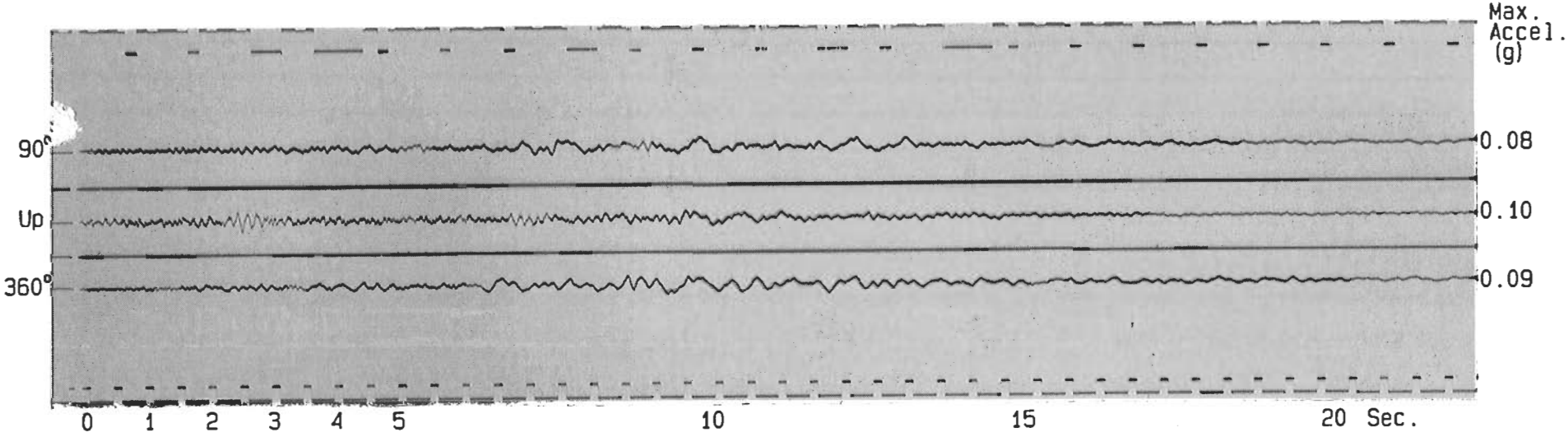
Inglewood - Union Oil Yard
(CSMIP Station 14196)

Record 14196-S1874-94021.02



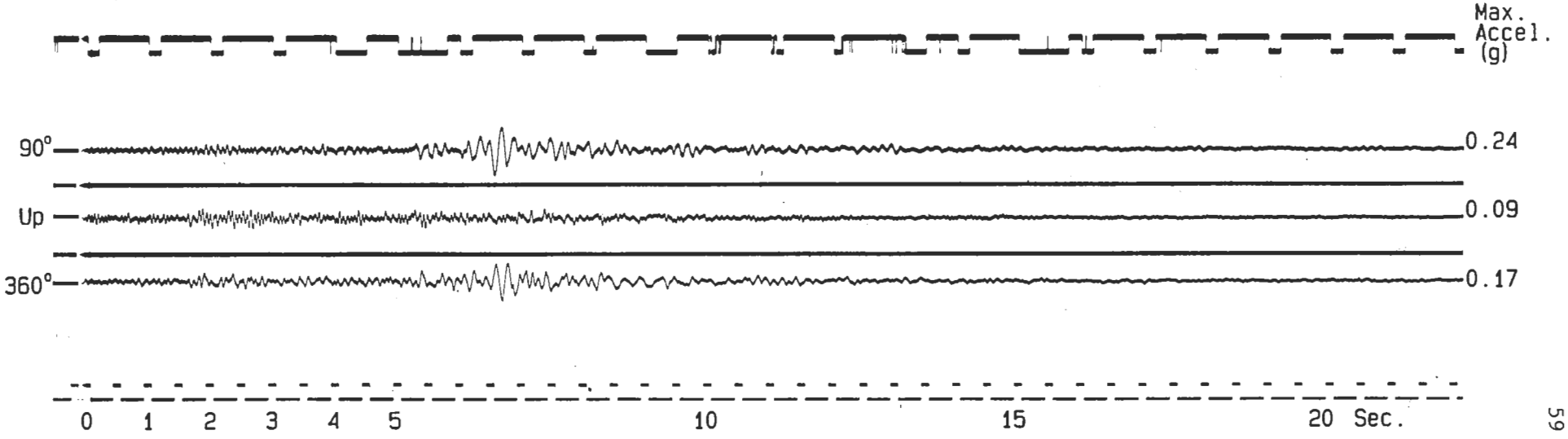
Lake Hughes #1 - Fire Station #78
(CSMIP Station 24271)

Record 24271-S2511-94025.02



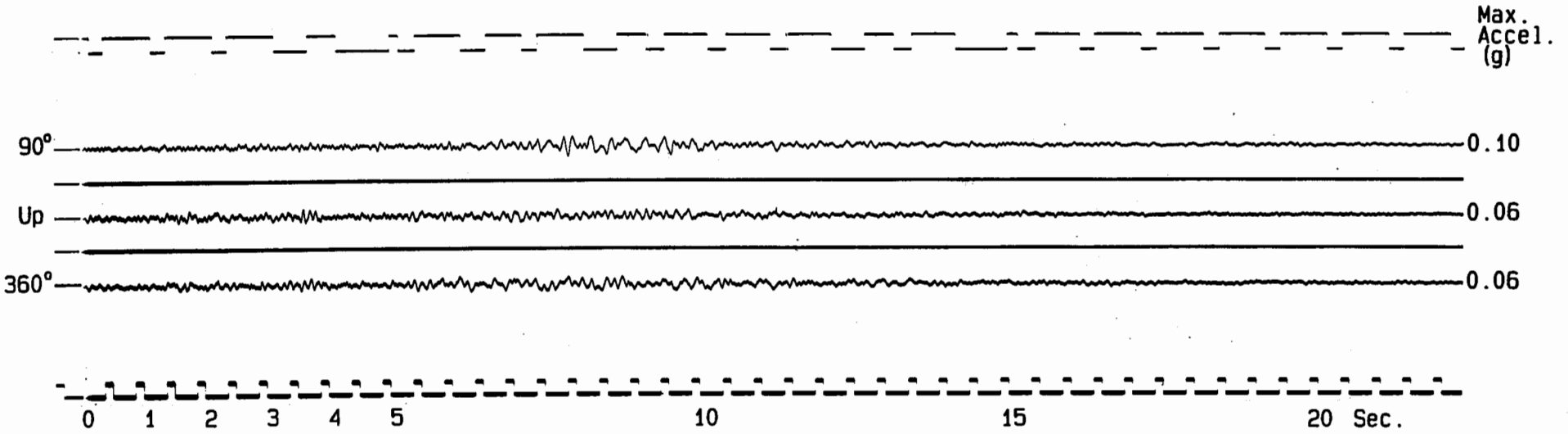
Lake Hughes #9
(CSMIP Station 24272)

Record 24272-S2516-94024.02



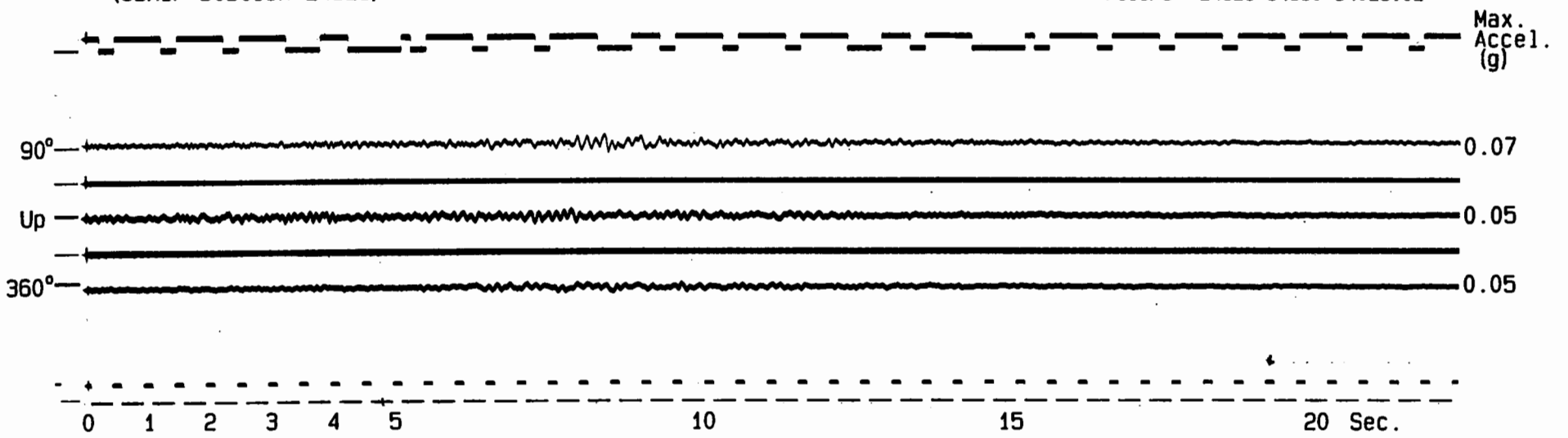
Lake Hughes #4 - Camp Mendenhall (near water tank)
(CSMIP Station 24469)

Record 24469-S4816-94025.02



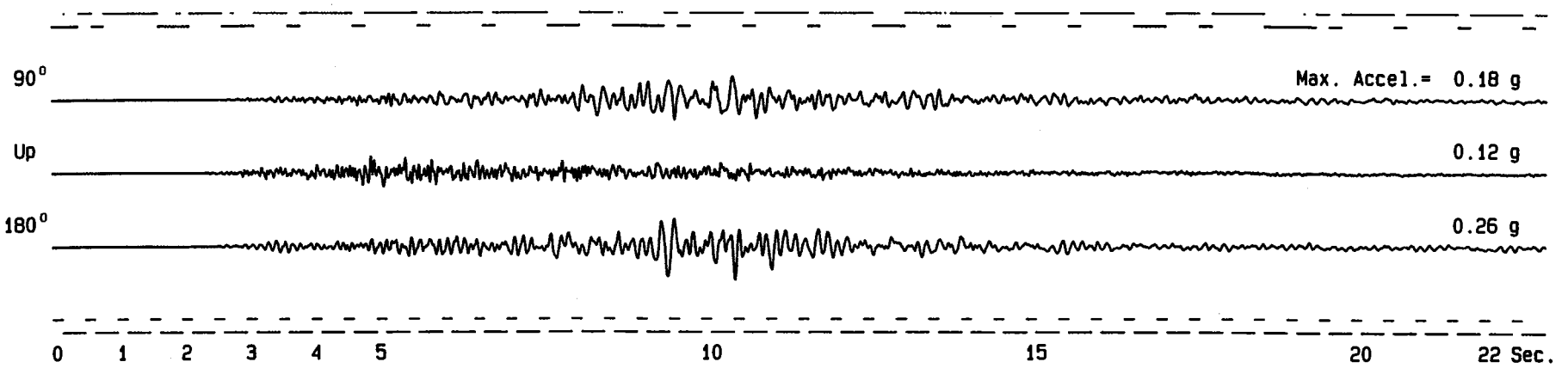
Lake Hughes #4B - Camp Mendenhall
(CSMIP Station 24523)

Record 24523-S4380-94025.02



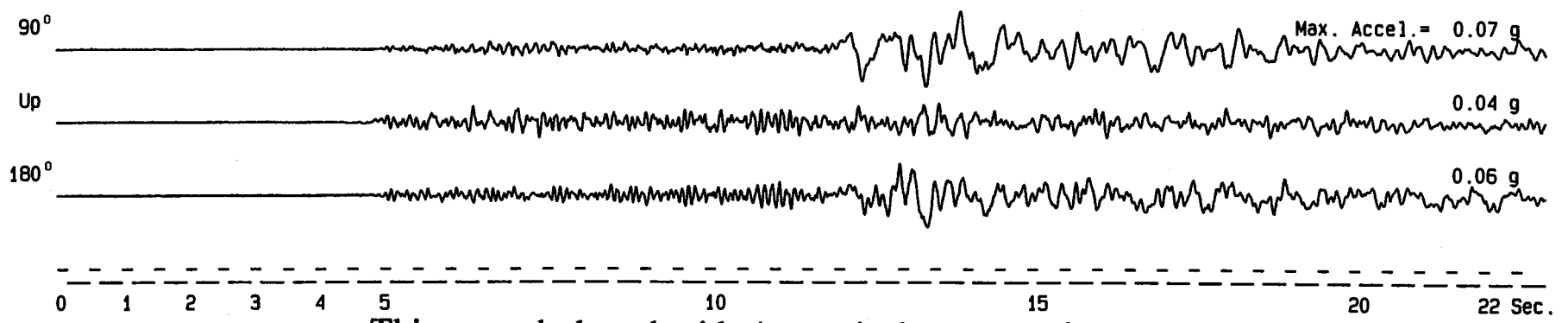
Lake Hughes 12A
(CSMIP Station 24607)

RECORD 24607-E0278-94024.02



Littlerock - Brainard Canyon
(CSMIP Station 23595)

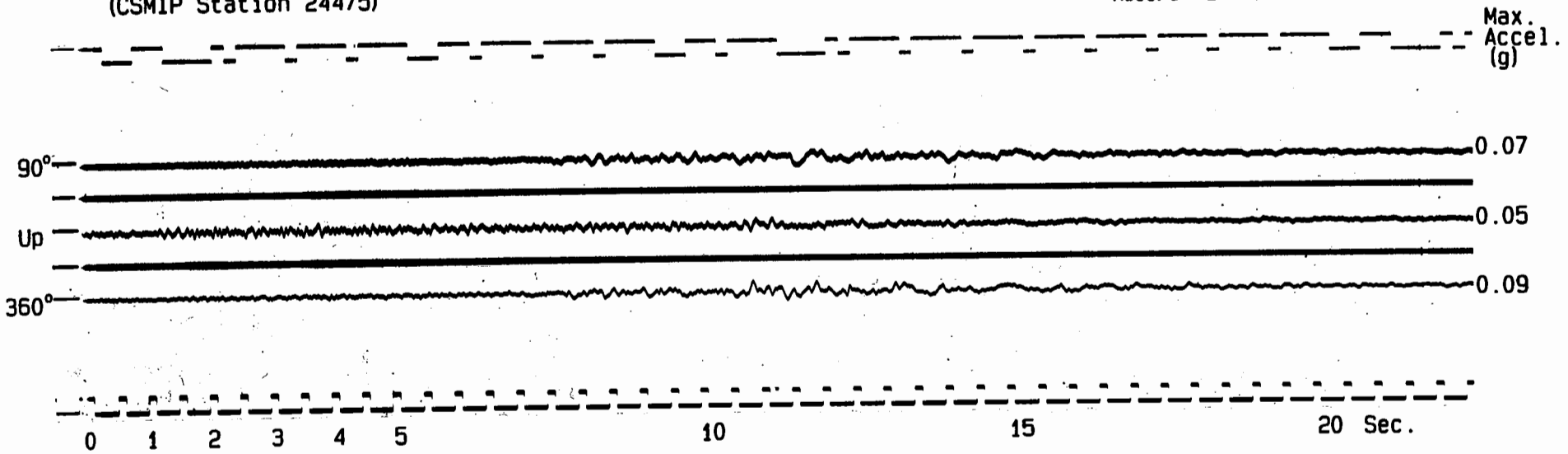
RECORD 23595-E0250-94020.02



This record plotted with 4x vertical exaggeration.

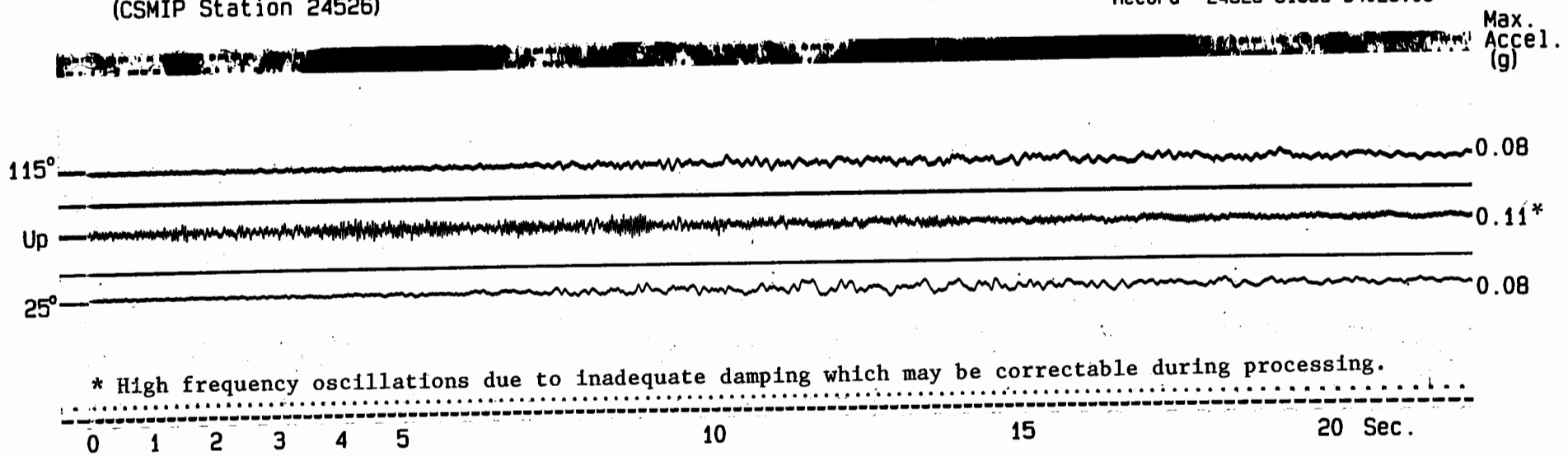
Lancaster - Fox Airfield Grounds
(CSMIP Station 24475)

Record 24475-S4819-94026.02



Lancaster - 15th & J
(CSMIP Station 24526)

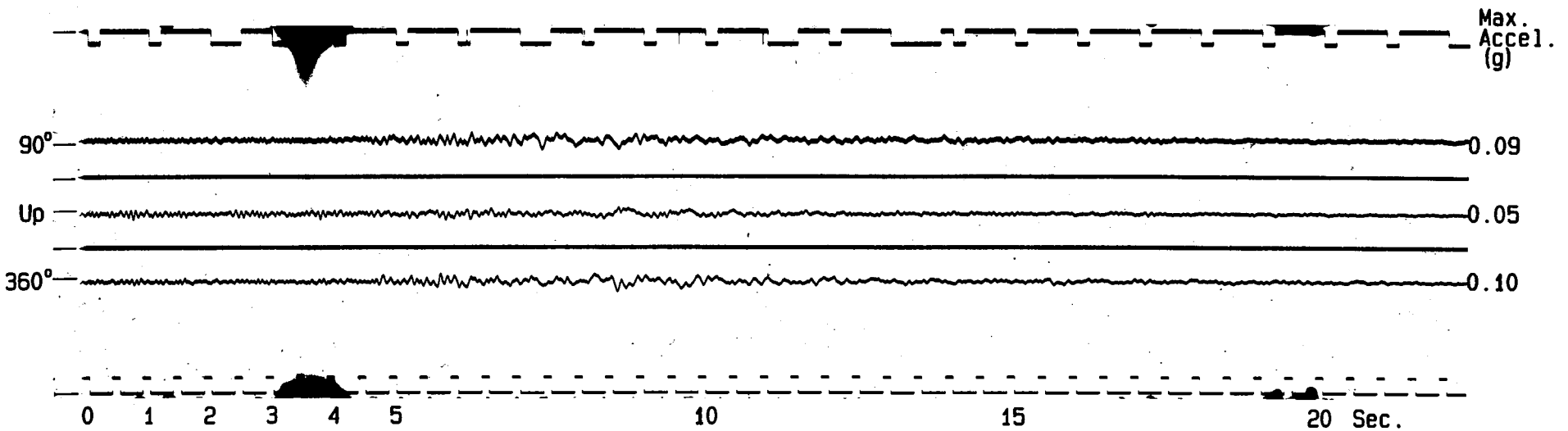
Record 24526-S1866-94026.03



* High frequency oscillations due to inadequate damping which may be correctable during processing.

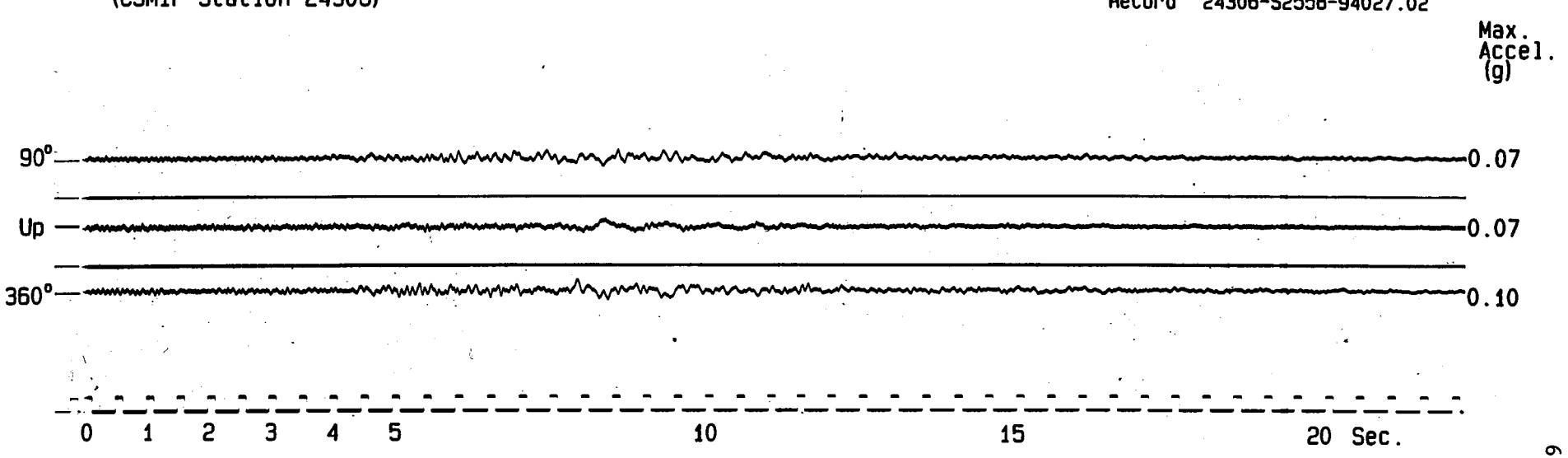
Leona Valley #1
(CSMIP Station 24305)

Record 24305-S2564-94027.01



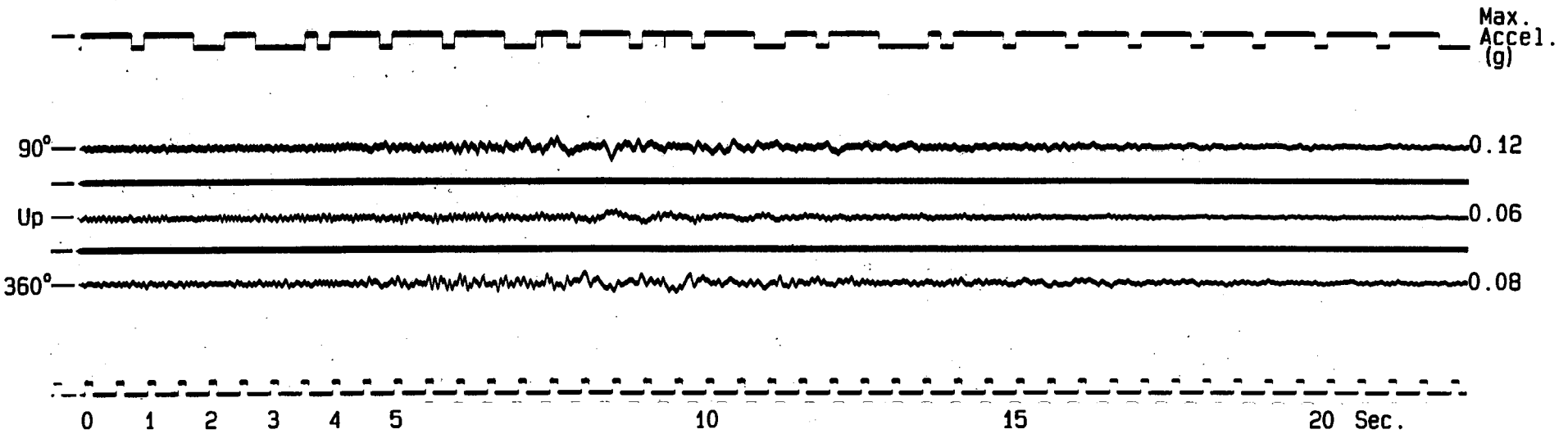
Leona Valley #2
(CSMIP Station 24306)

Record 24306-S2558-94027.02



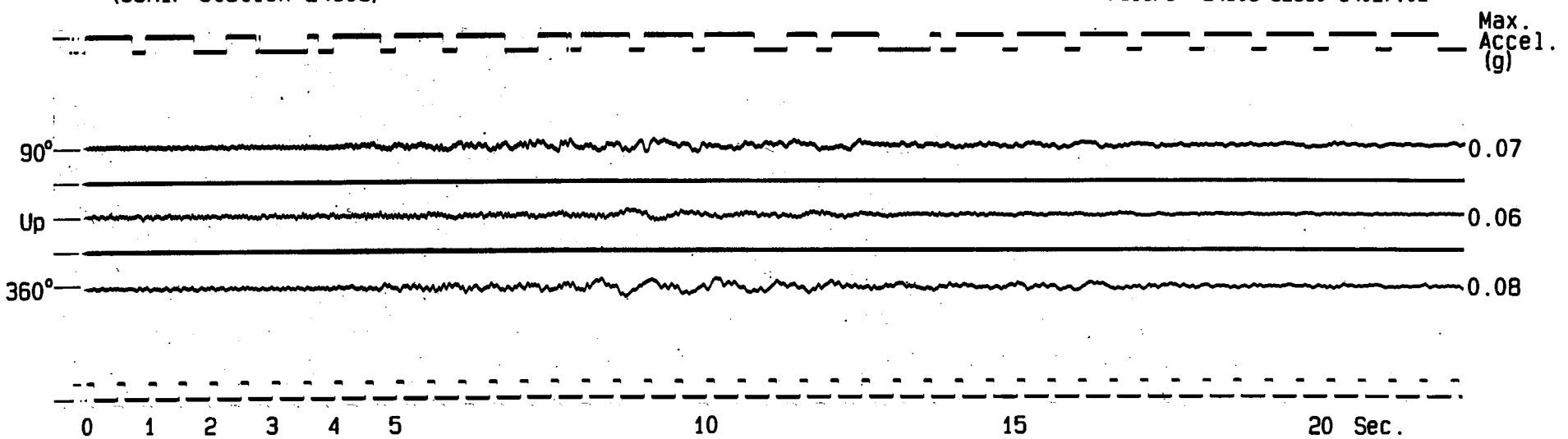
Leona Valley #3
(CSMIP Station 24307)

Record 24307-S2561-94026.02



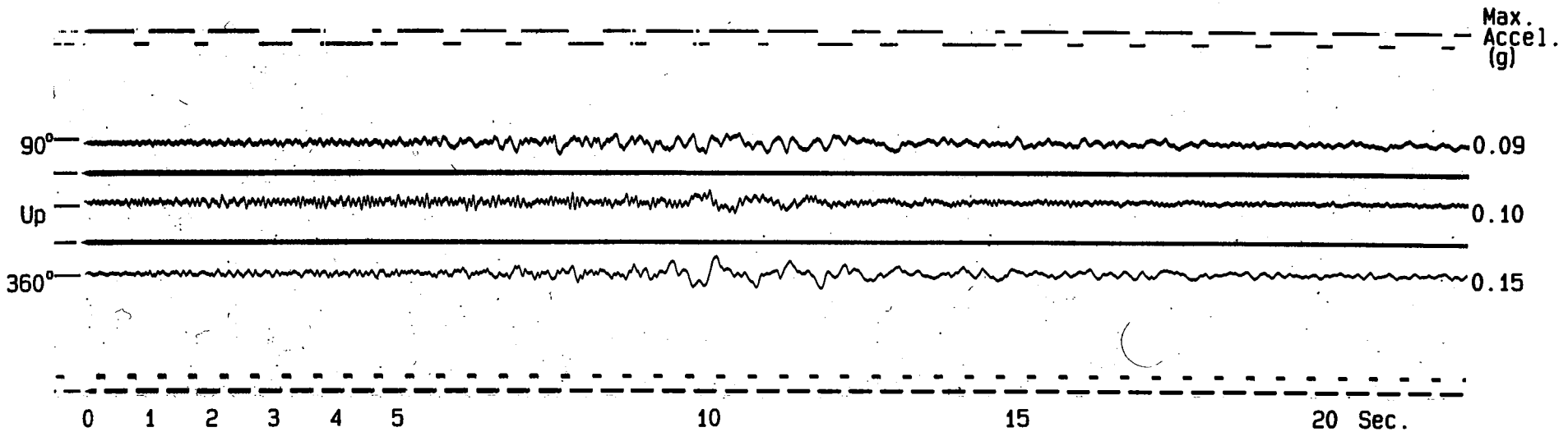
Leona Valley #4
(CSMIP Station 24308)

Record 24308-S2560-94027.02



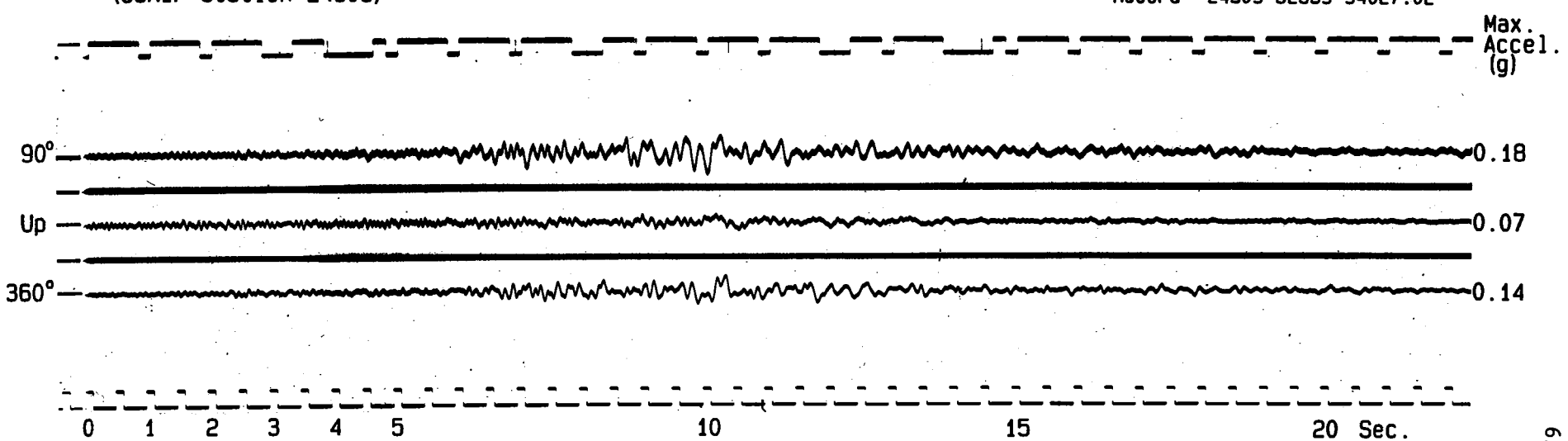
Leona Valley #5 - Ritter Ranch
(CSMIP Station 24055)

Record 24055-S1853-94026.02



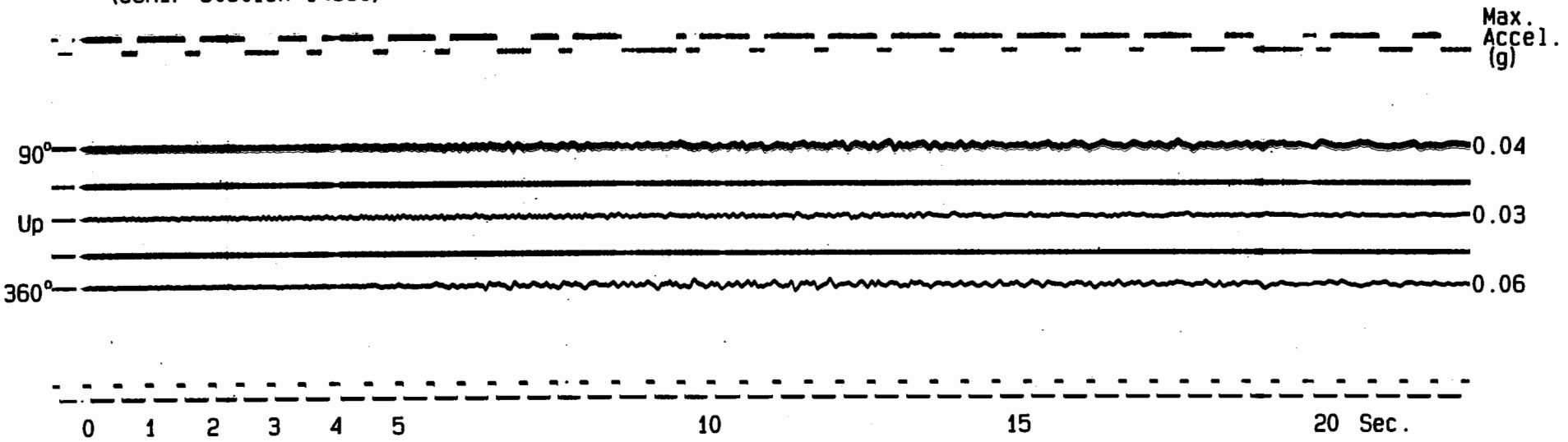
Leona Valley #6
(CSMIP Station 24309)

Record 24309-S2559-94027.02



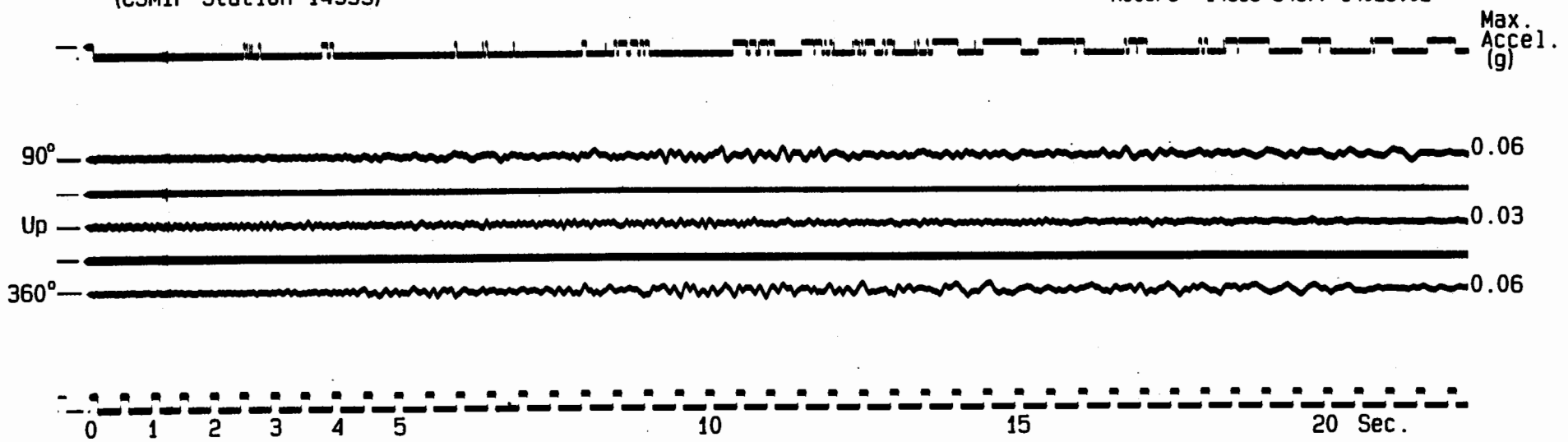
Long Beach - City Hall Grounds
(CSMIP Station 14560)

Record 14560-S2615-94020.02



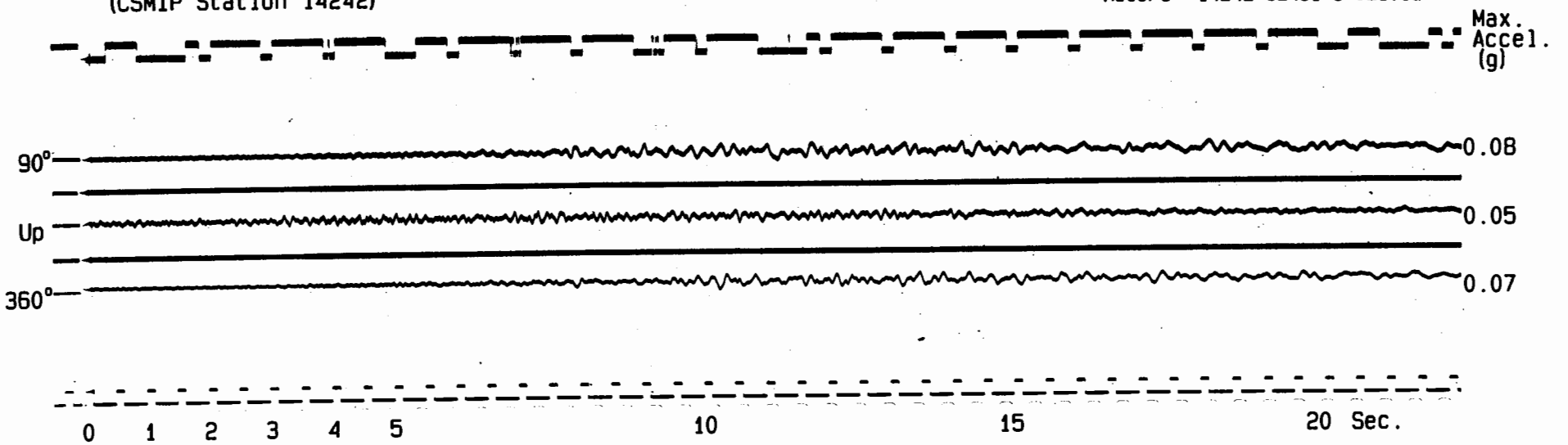
Long Beach - Harbor Plaza
(CSMIP Station 14395)

Record 14395-S4377-94025.02



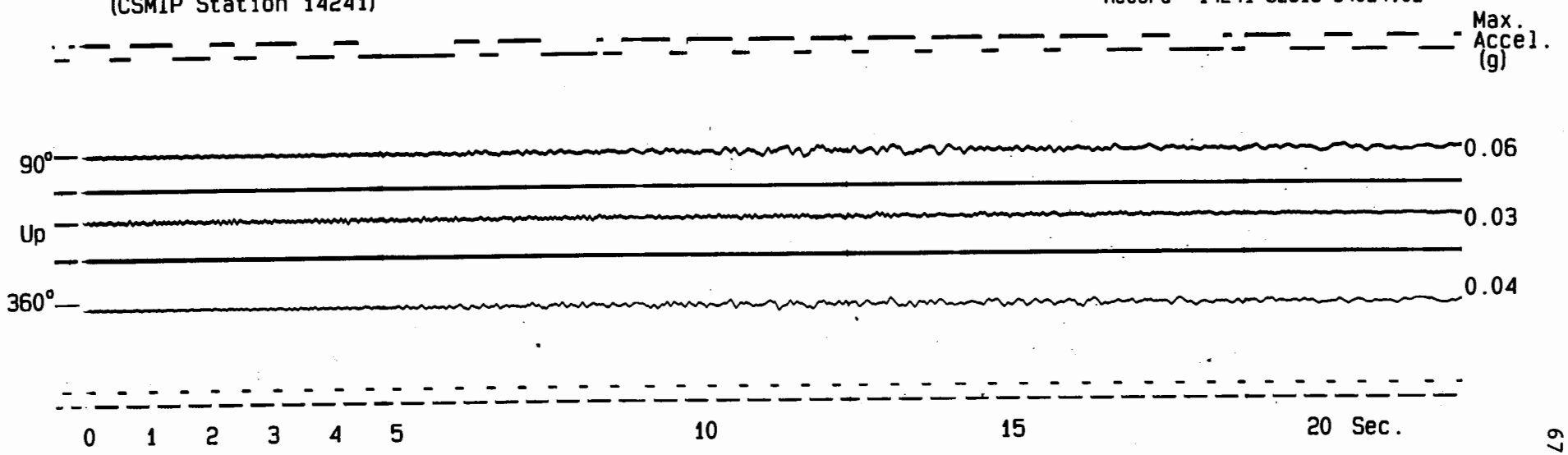
Long Beach - Rancho Los Cerritos
(CSMIP Station 14242)

Record 14242-S2491-94021.02



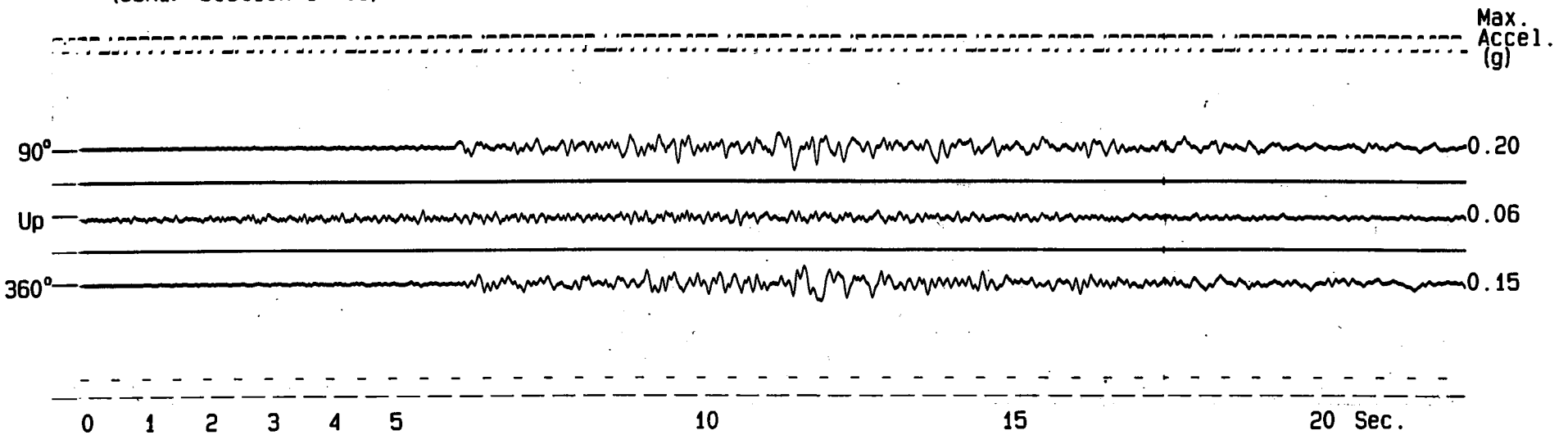
Long Beach - Recreation Park
(CSMIP Station 14241)

Record 14241-S2613-94024.02



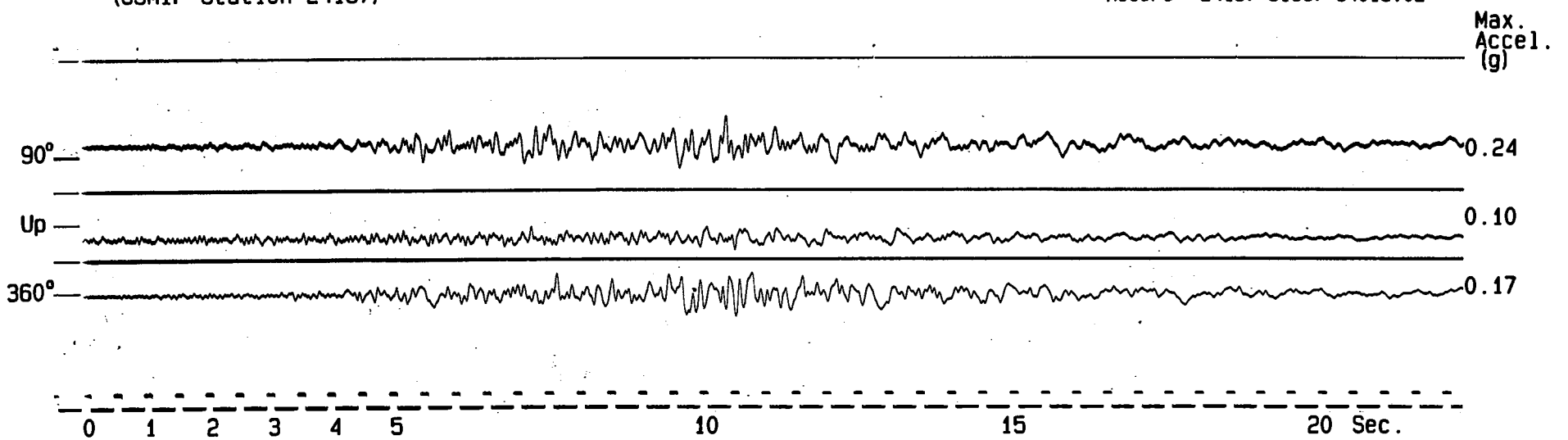
Los Angeles - 116th Street School
(CSMIP Station 14403)

Record 14403-S3492-94021.02



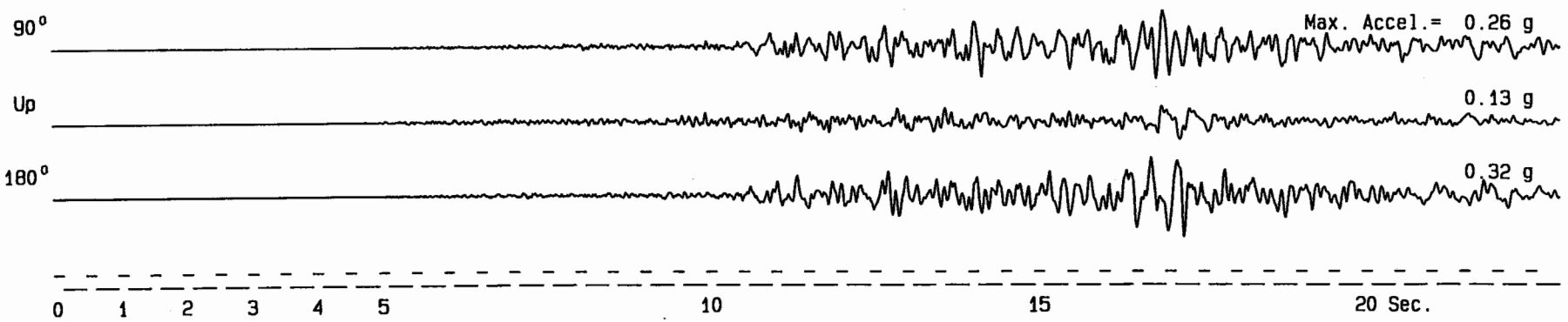
Los Angeles - Baldwin Hills
(CSMIP Station 24157)

Record 24157-S1687-94019.02



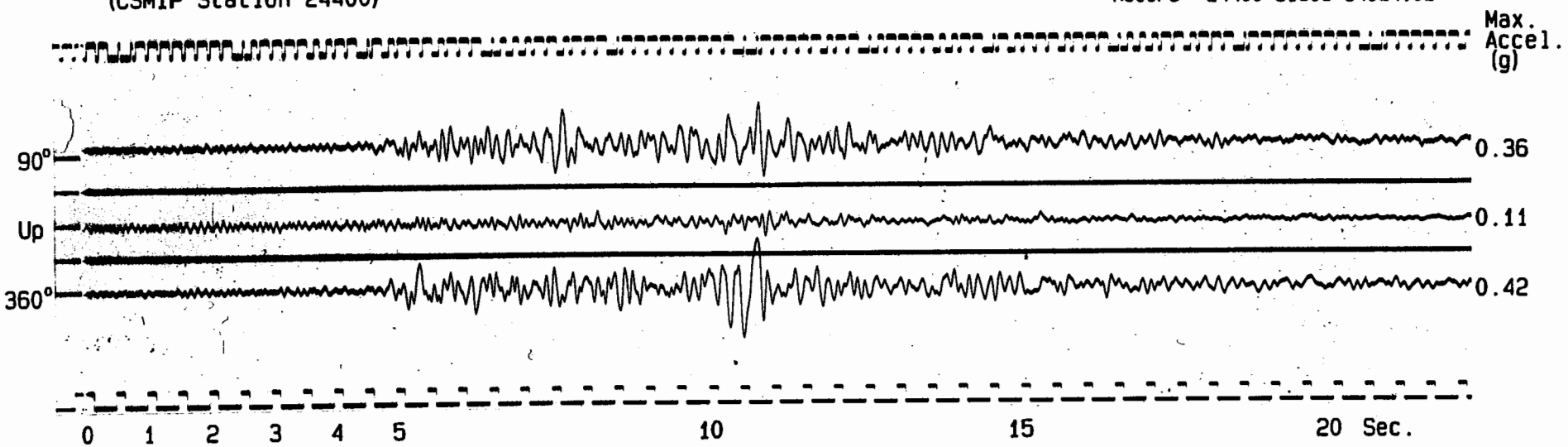
Los Angeles - City Terrace
(CSMIP Station 24592)

RECORD 24592-E0248-94018.02



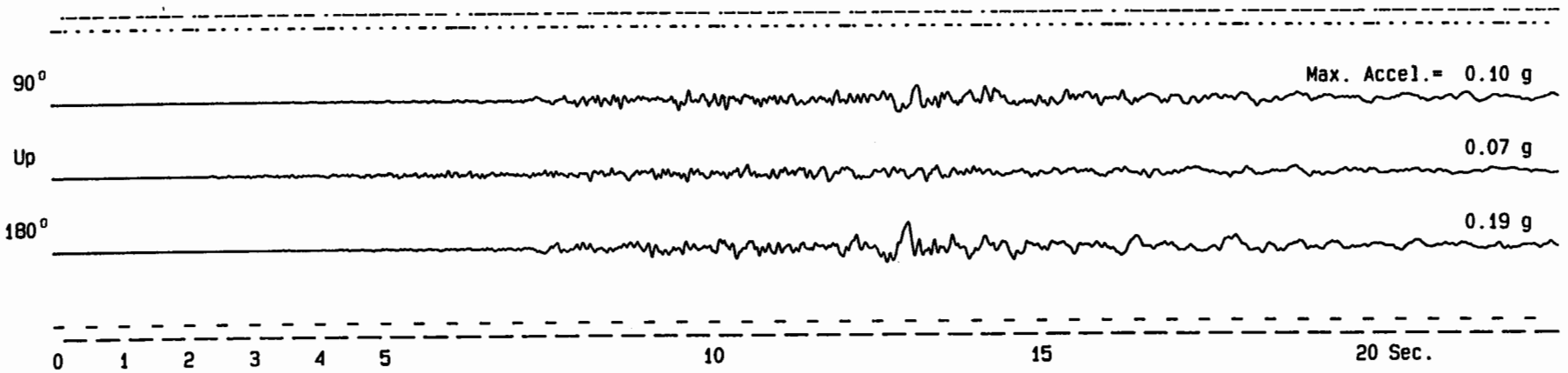
Los Angeles - Obregon Park
(CSMIP Station 24400)

Record 24400-S1606-94024.02



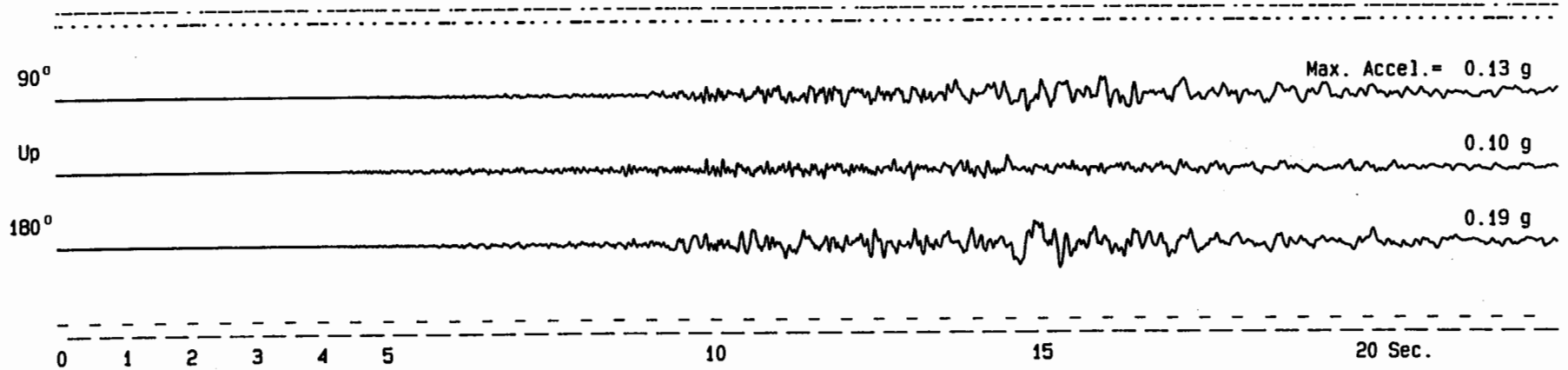
Los Angeles - Pico & Sentous
(CSMIP Station 24612)

RECORD 24612-E0276-94018.04



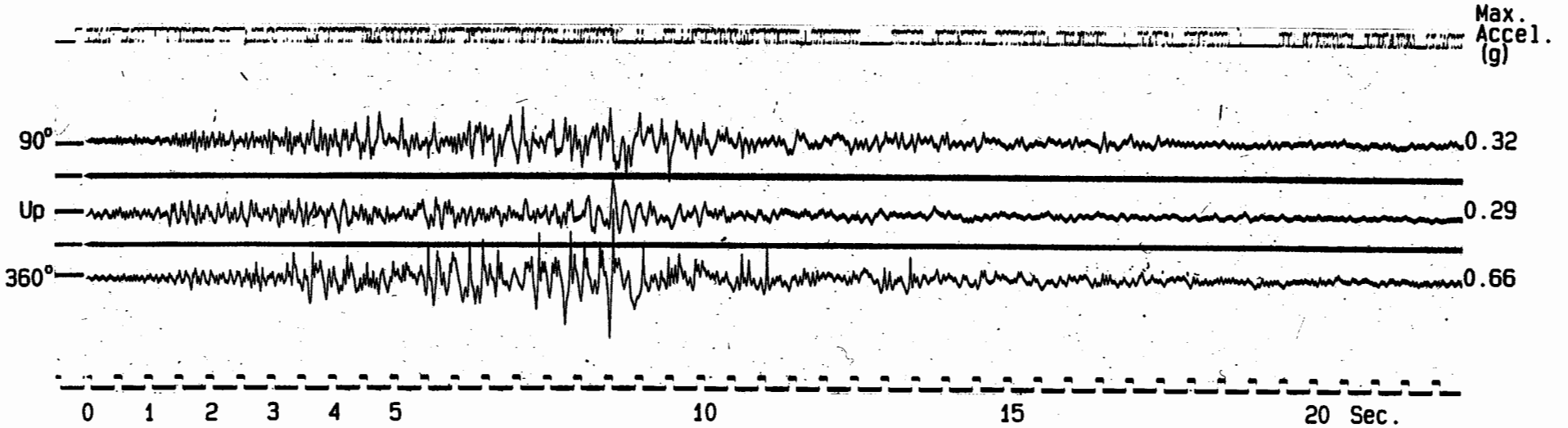
Los Angeles - Temple & Hope
(CSMIP Station 24611)

RECORD 24611-E0275-94018.02



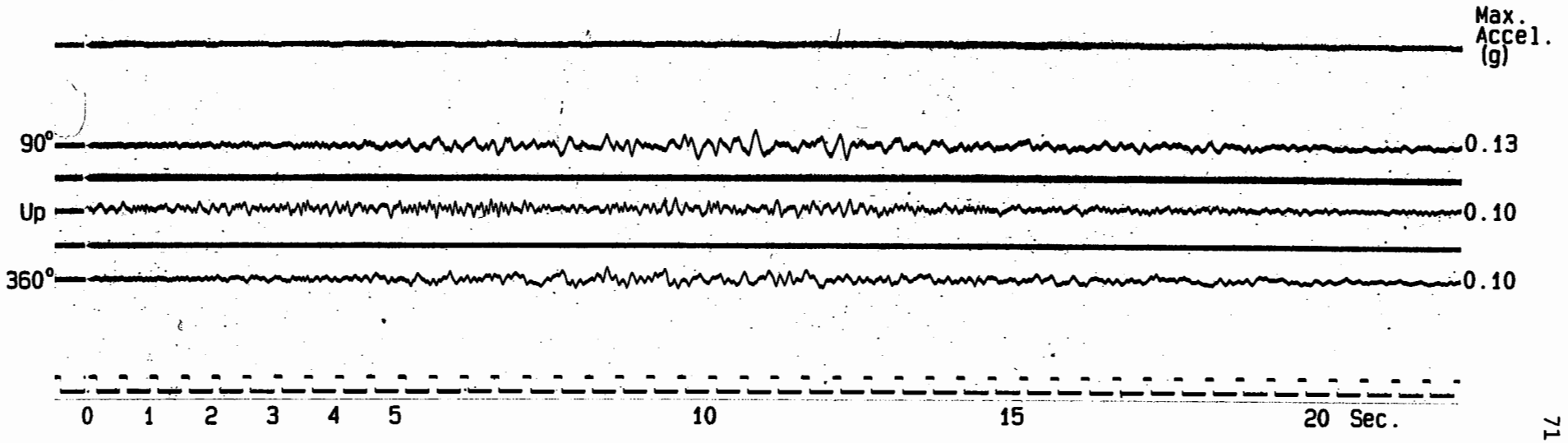
Los Angeles - UCLA Grounds
(CSMIP Station 24688)

Record 24688-S3399-94018.02

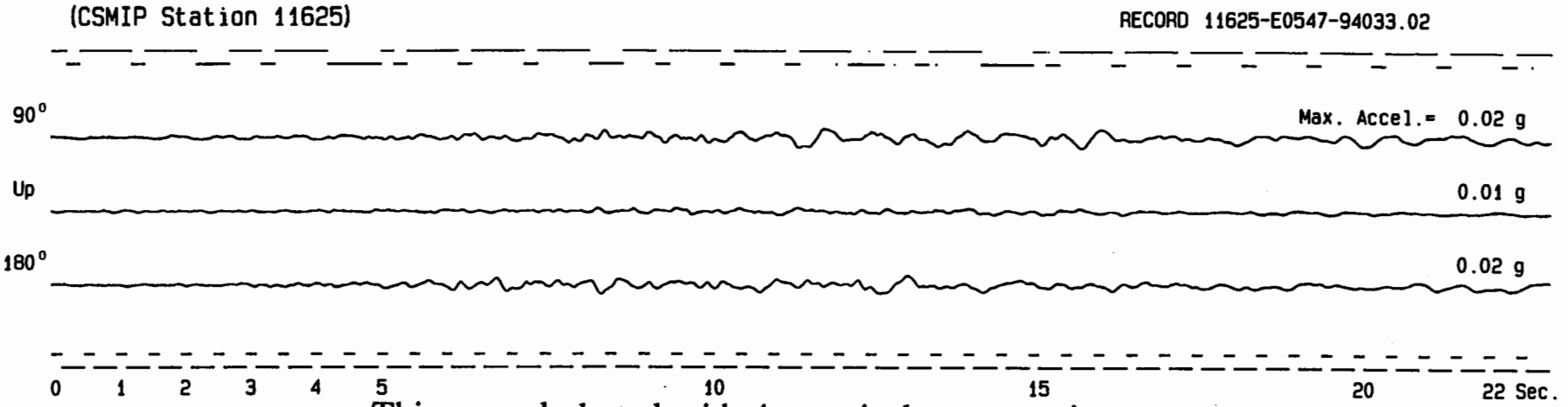


Malibu - Point Dume
(CSMIP Station 24396)

Record 24396-S2779-94026.02

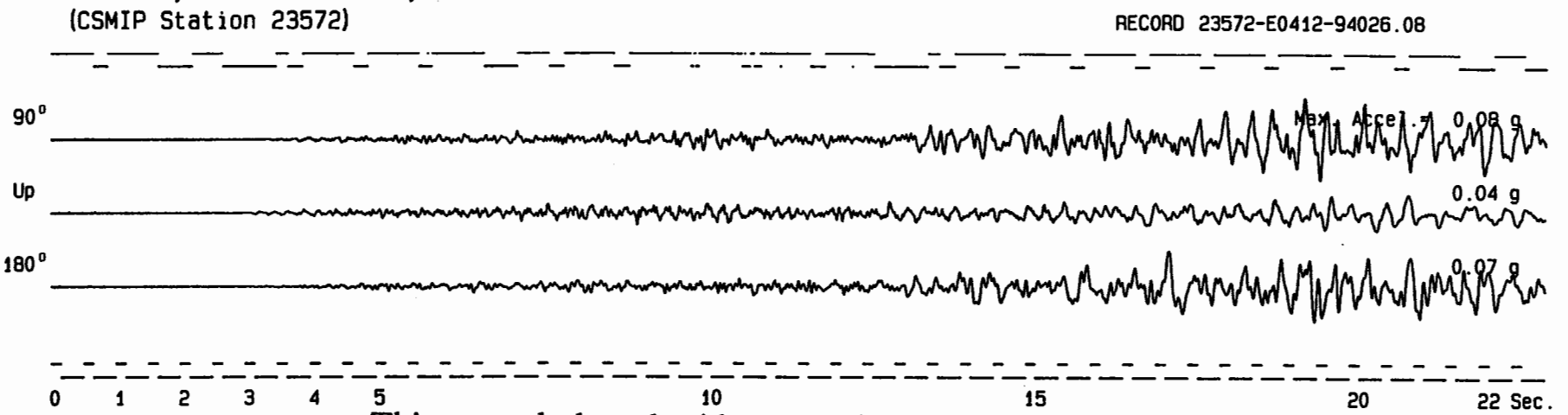


Mecca - CVWD Yard
(CSMIP Station 11625)



This record plotted with 4x vertical exaggeration.

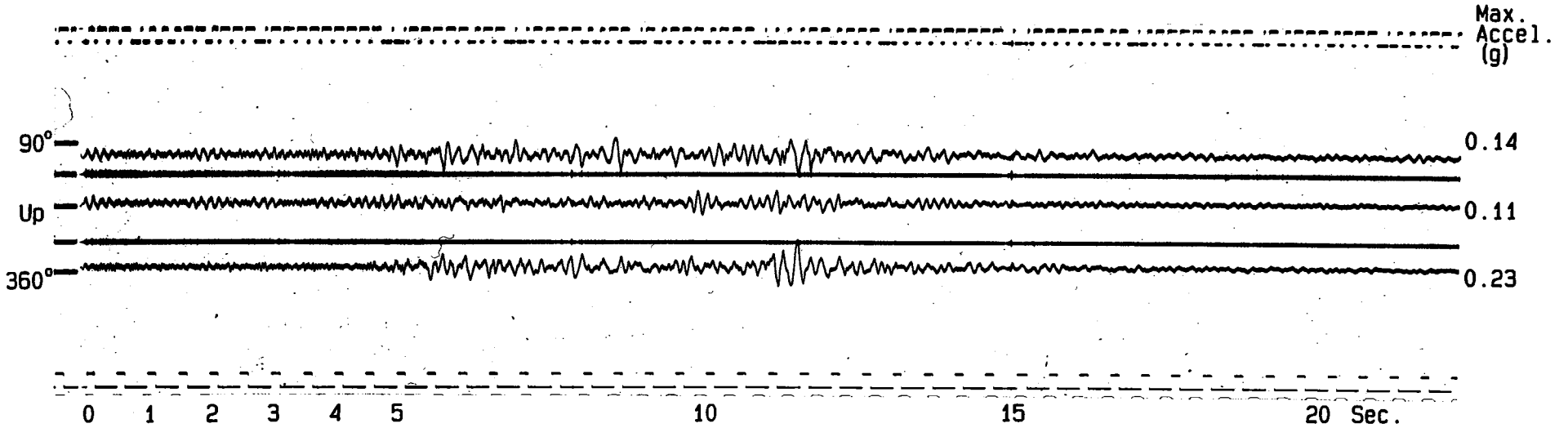
Mt. Baldy - Elementary School
(CSMIP Station 23572)



This record plotted with 4x vertical exaggeration.

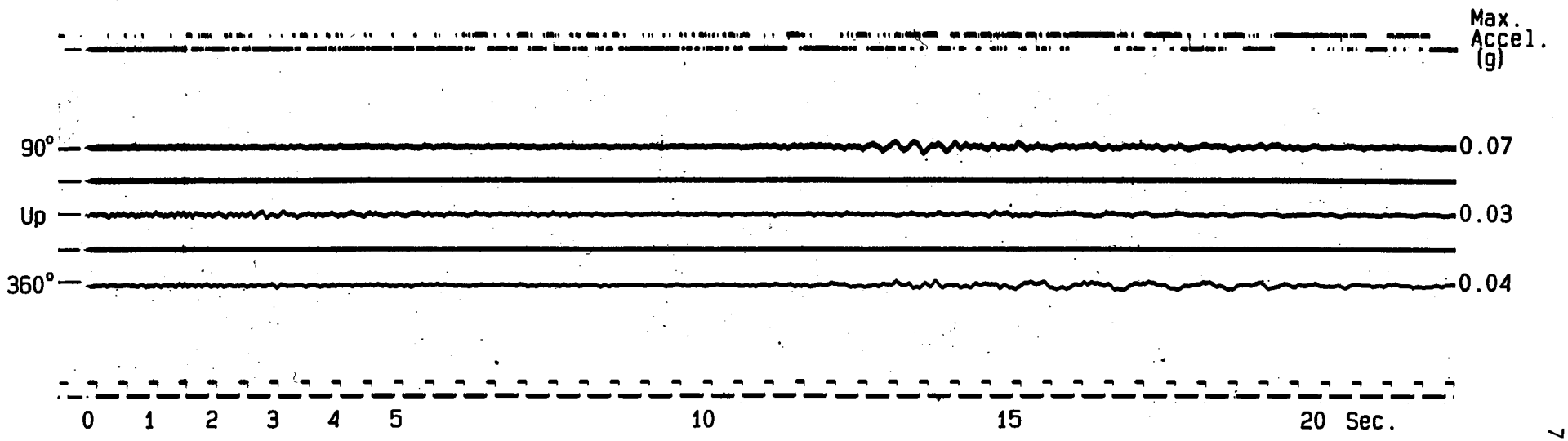
Mt. Wilson - Caltech Seismic Station
(CSMIP Station 24399)

Record 24399-S0416-94020.02



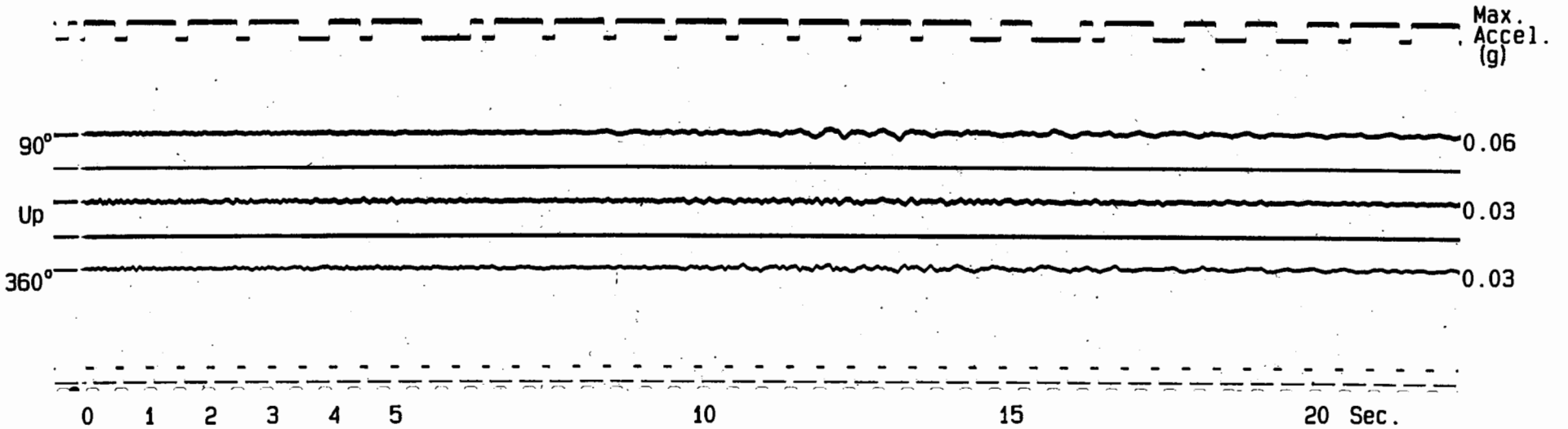
Mojave - Hwys 14 & 58
(CSMIP Station 34093)

Record 34093-S1605-94027.02



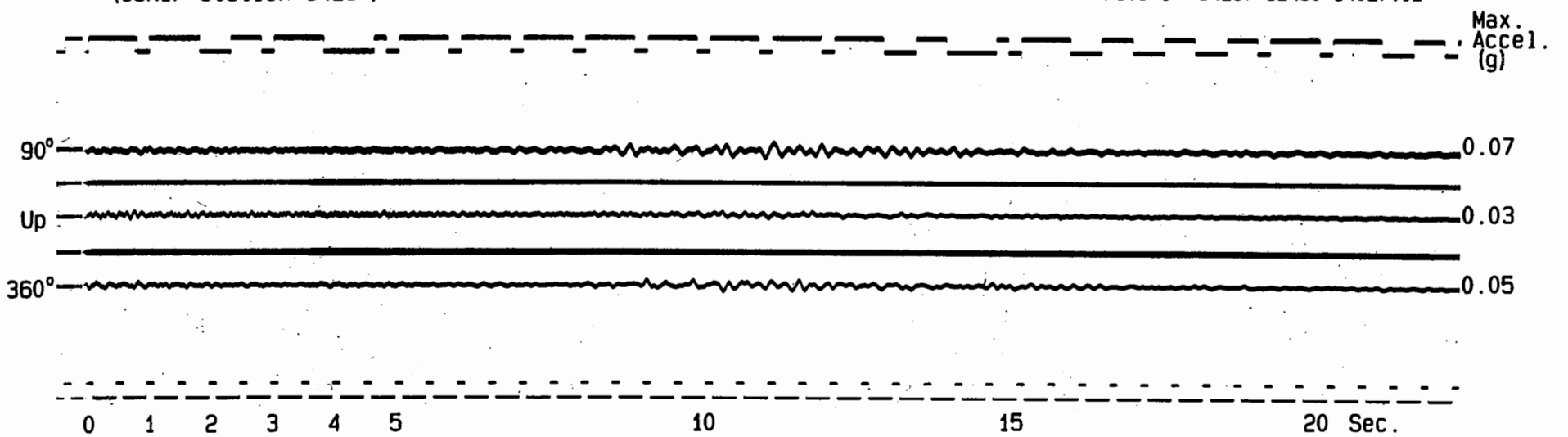
Mojave - Hwy 14 & Backus
(CSMIP Station 24269)

Record 24269-S2515-94027.02

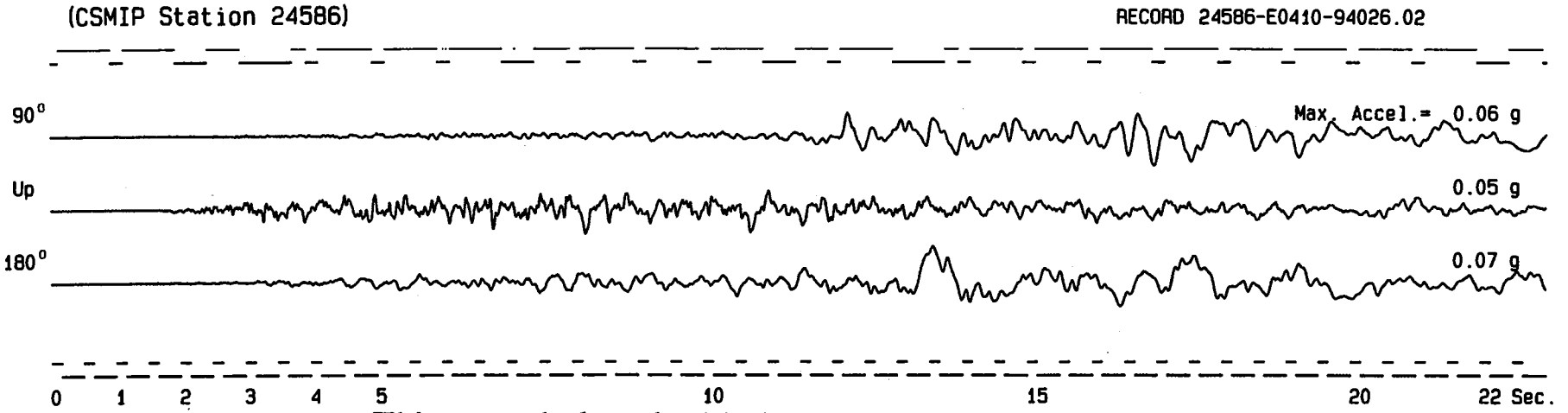


Mojave - Oak Creek Canyon
(CSMIP Station 34237)

Record 34237-S2490-94027.02

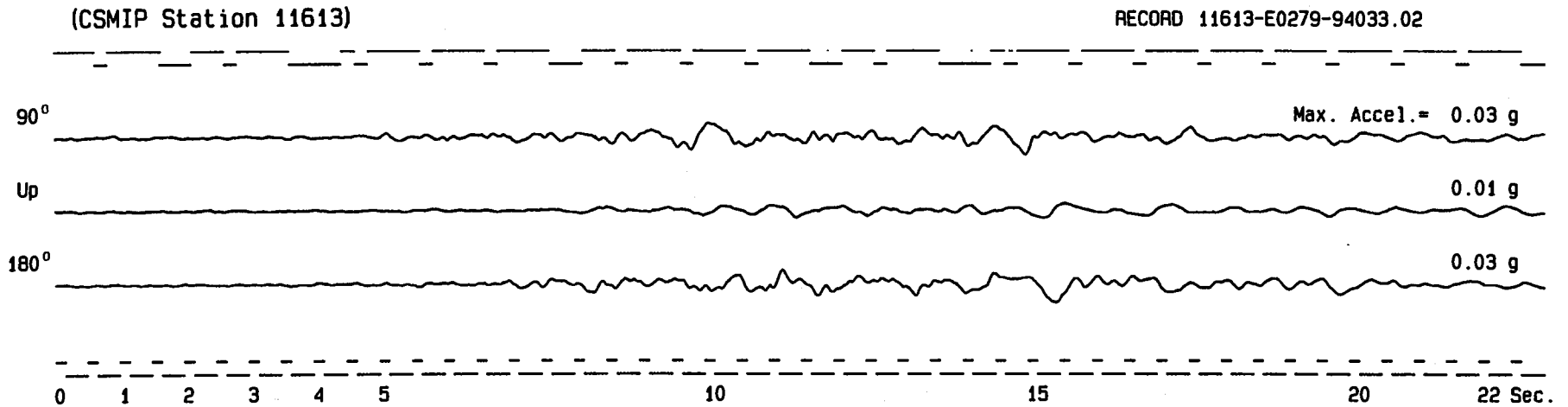


Neenach - Sacatara Creek
(CSMIP Station 24586)



This record plotted with 4x vertical exaggeration.

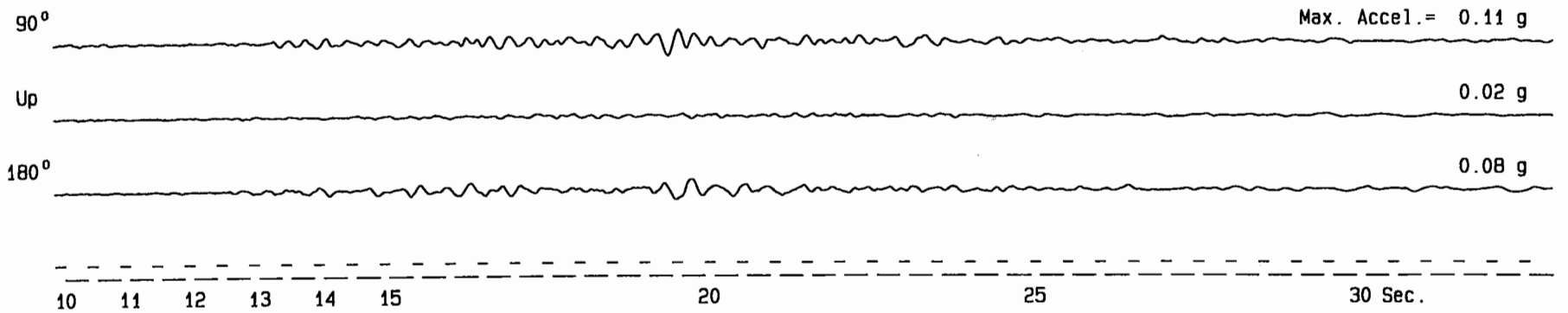
North Shore - Salton Sea State Park HQ
(CSMIP Station 11613)



This record plotted with 4x vertical exaggeration.

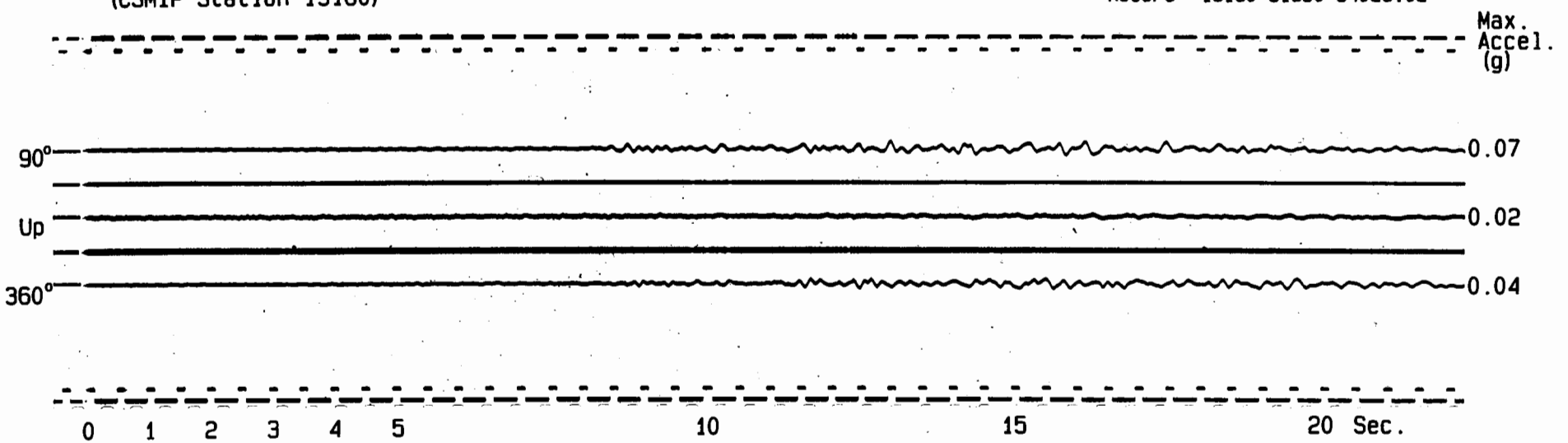
Newport Beach - Newport Blvd. & Coast Highway
(CSMIP Station 13610)

RECORD 13610-E0277-94026.02



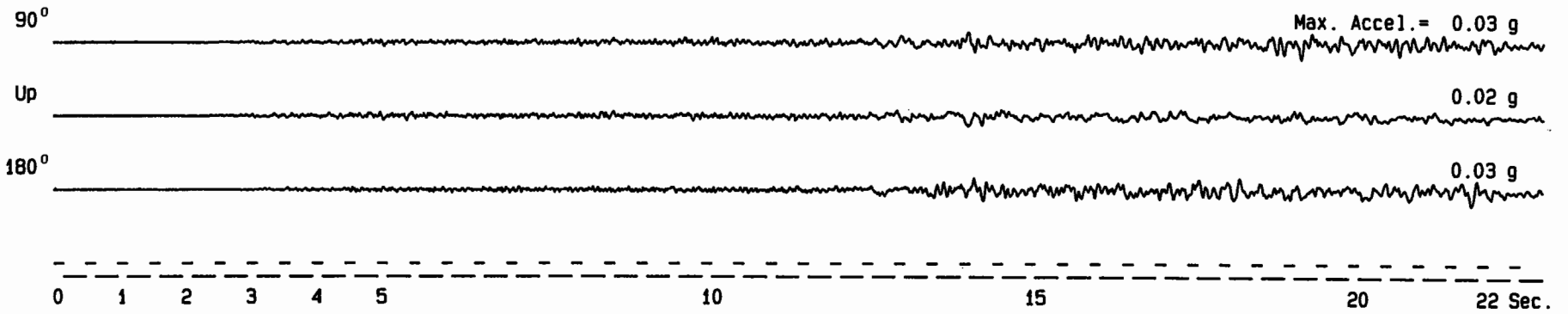
Newport Beach - Irvine Ave. Fire Station
(CSMIP Station 13160)

Record 13160-S1690-94026.02



Palmdale - Black Butte
(CSMIP Station 23585)

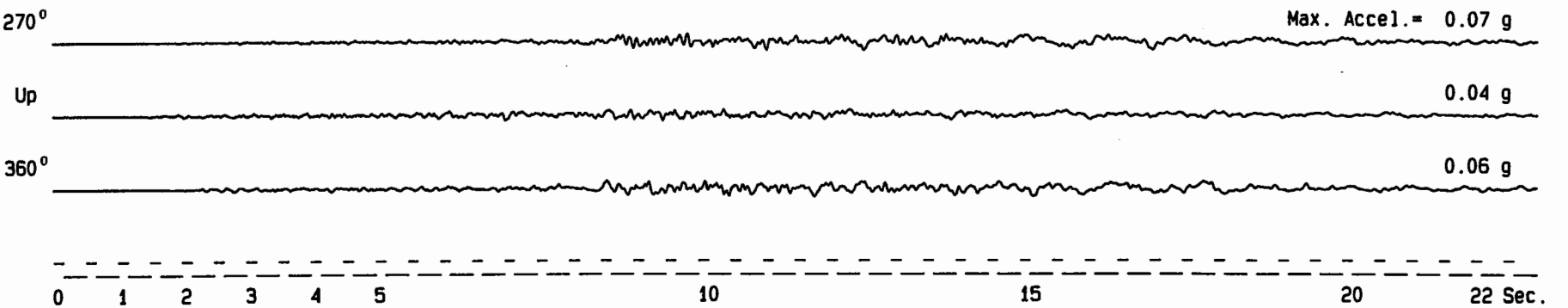
RECORD 23585-E0246-94025.02



This record plotted with 4x vertical exaggeration.

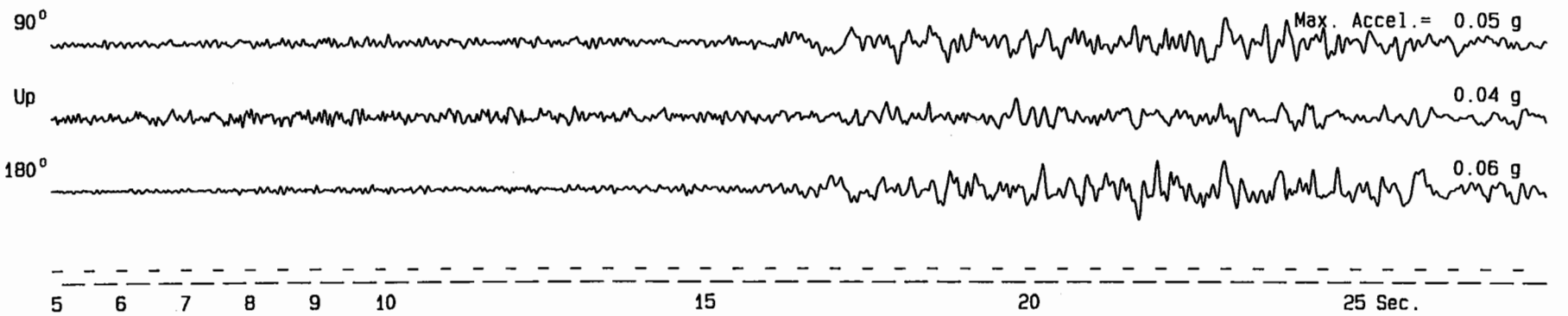
Palmdale - Hwy 14 & Palmdale Blvd.
(CSMIP Station 24521)

RECORD 24521-D0268-94025.03



Phelan - Wilson Ranch Road
(CSMIP Station 23597)

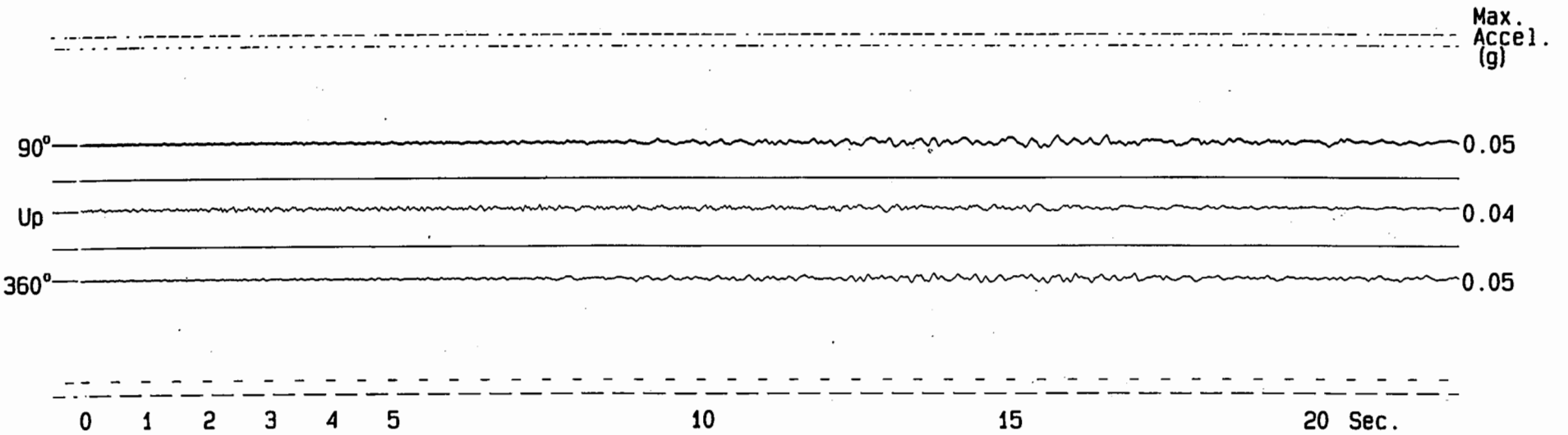
RECORD 23597-E0251-94025.02



This record plotted with 4x vertical exaggeration.

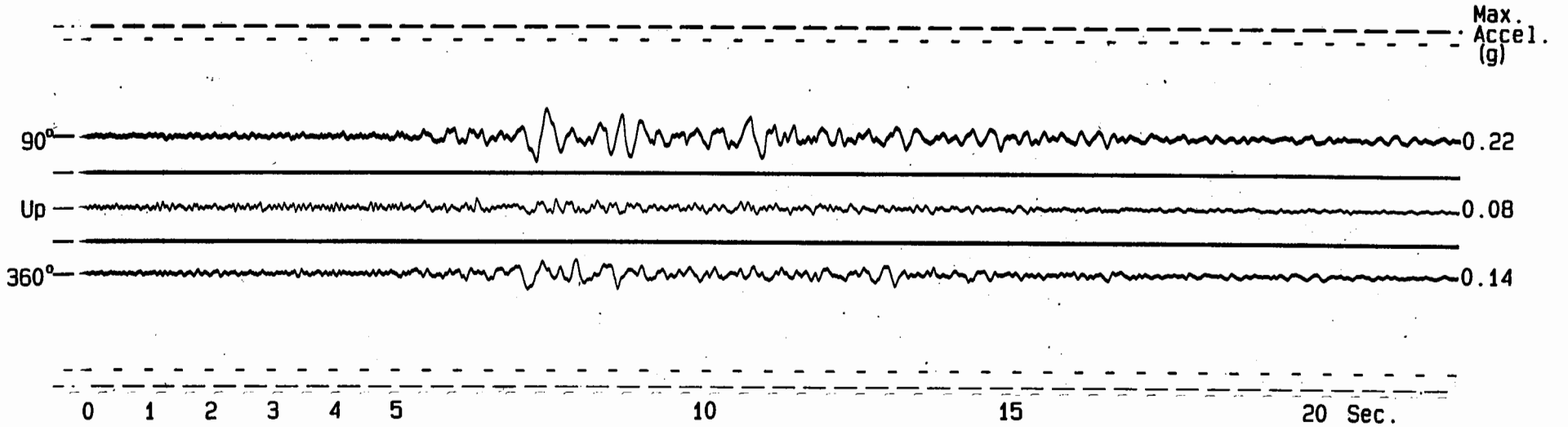
Pomona - 4th & Locust
(CSMIP Station 23525)

Record 23525-S2785-94031.02



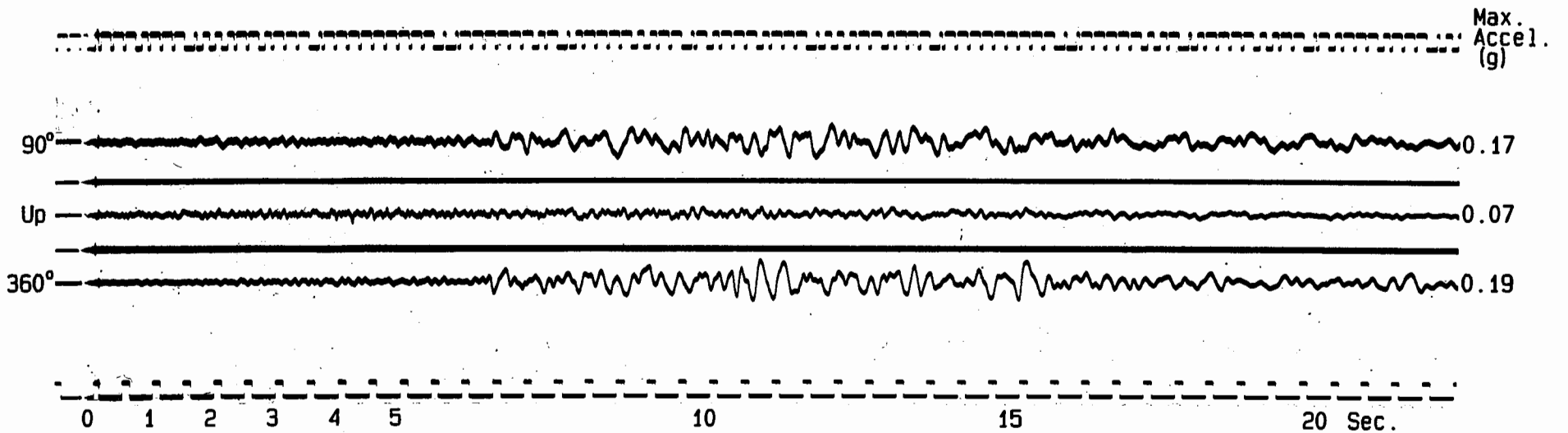
Point Mugu - Laguna Peak
(CSMIP Station 25148)

Record 25148-S1616-94026.02



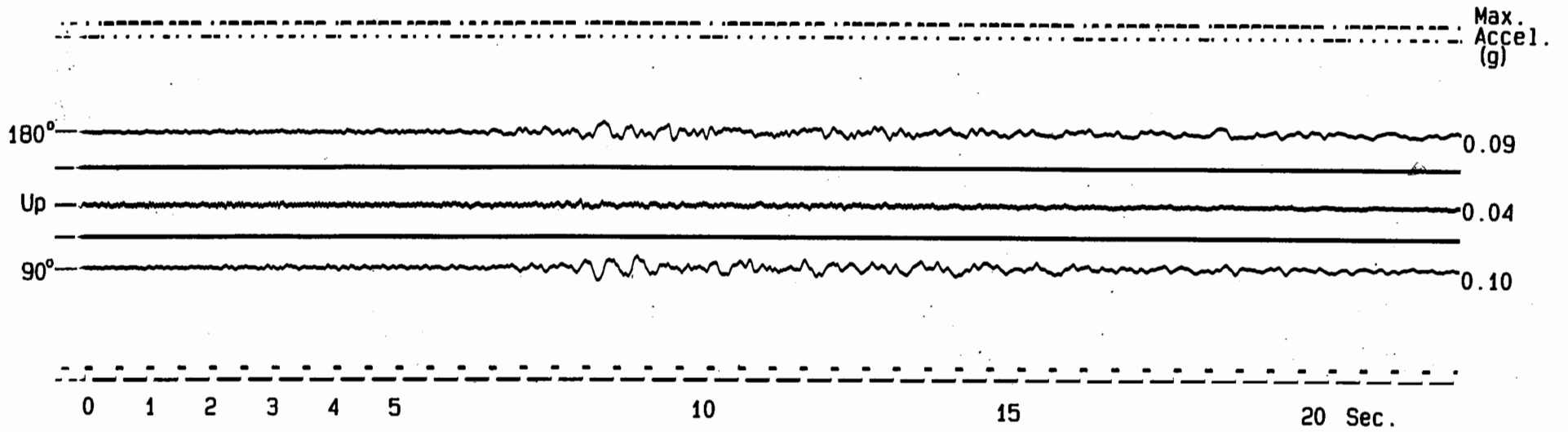
Point Mugu - Naval Air Station
(CSMIP Station 25147)

Record 25147-S3491-94026.02



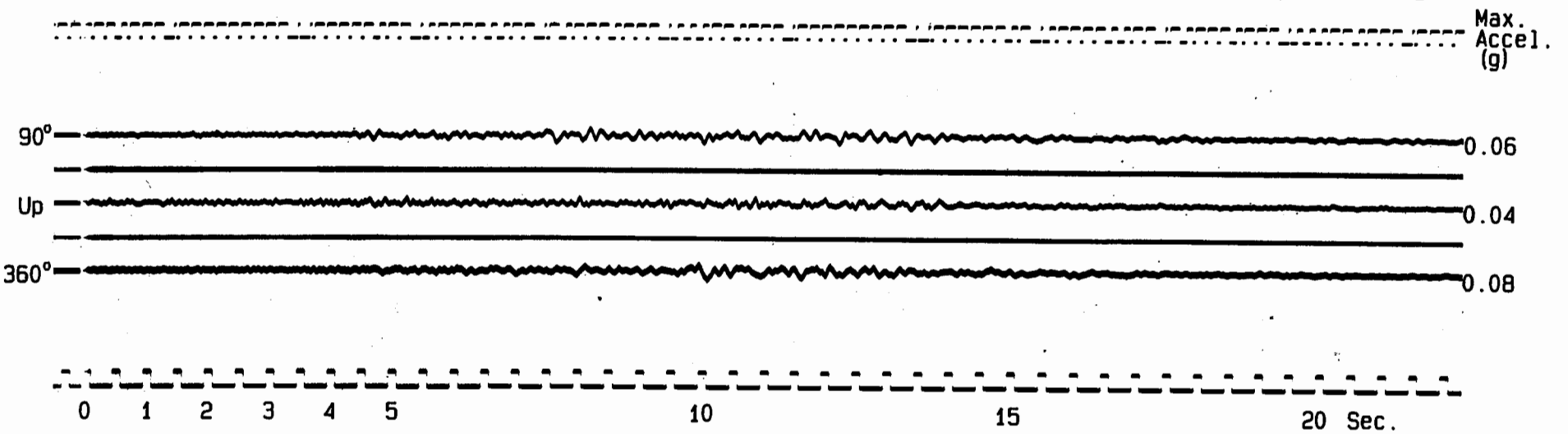
Port Hueneme - Naval Lab.
(CSMIP Station 25281)

Record 25281-S2519-94025.02



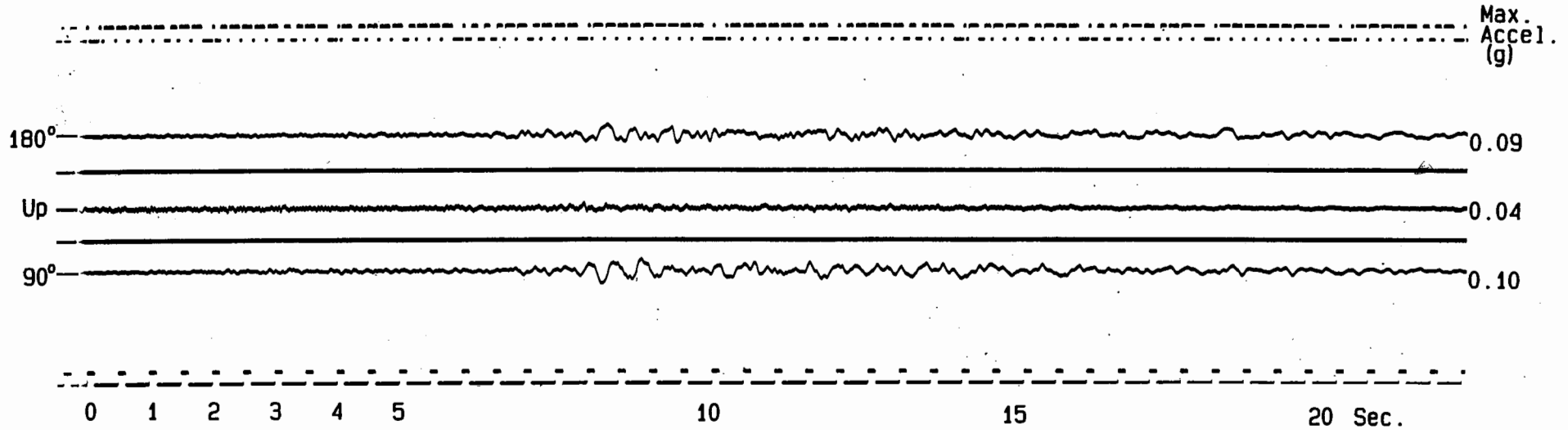
Rancho Palos Verdes - Hawthorne Blvd.
(CSMIP Station 14404)

Record 14404-S0417-94025.02



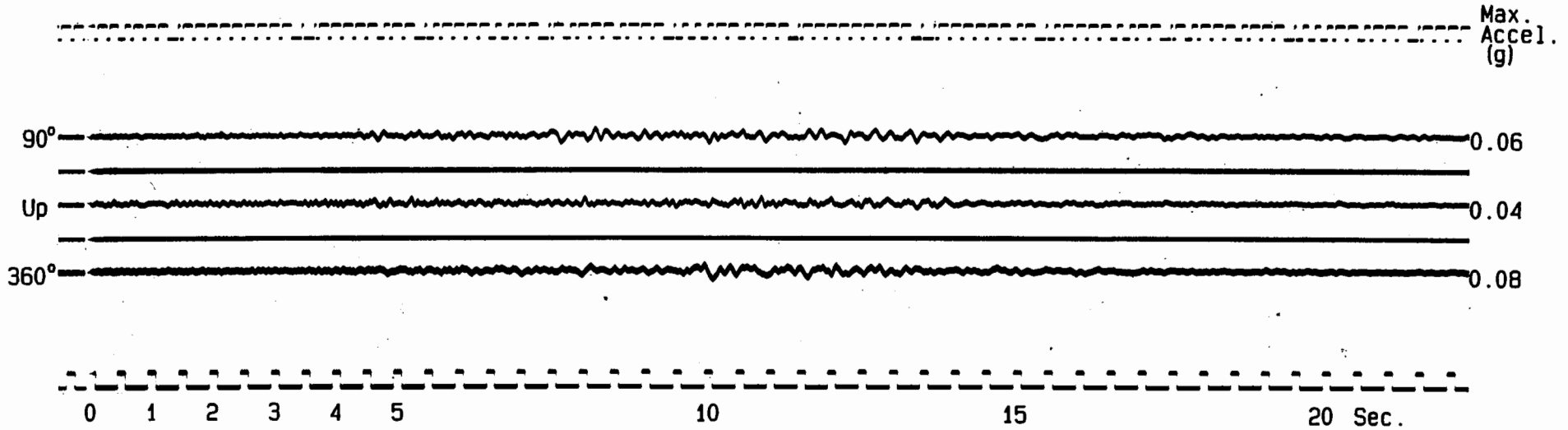
Port Hueneme - Naval Lab.
(CSMIP Station 25281)

Record 25281-S2519-94025.02



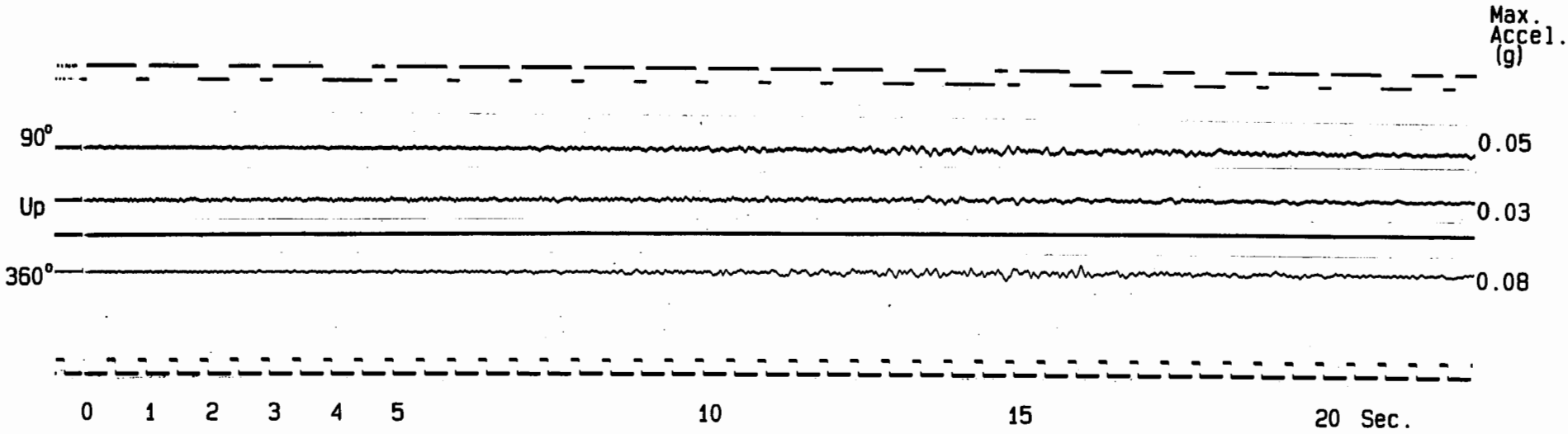
Rancho Palos Verdes - Hawthorne Blvd.
(CSMIP Station 14404)

Record 14404-S0417-94025.02



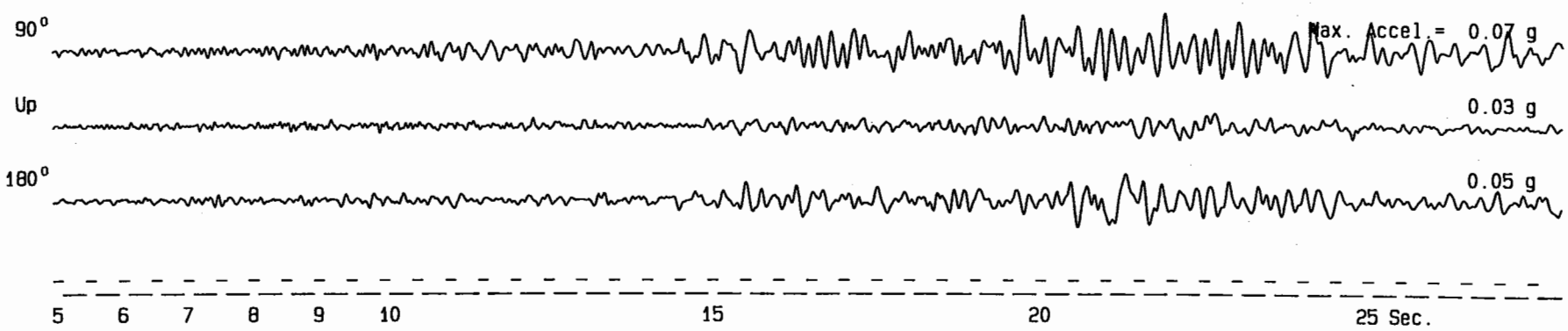
Rancho Cucamonga - Law & Justice Center Parking Lot
(CSMIP Station 23497)

Record 23497-C0118-94021.02



Rancho Cucamonga - Deer Canyon
(CSMIP Station 23598)

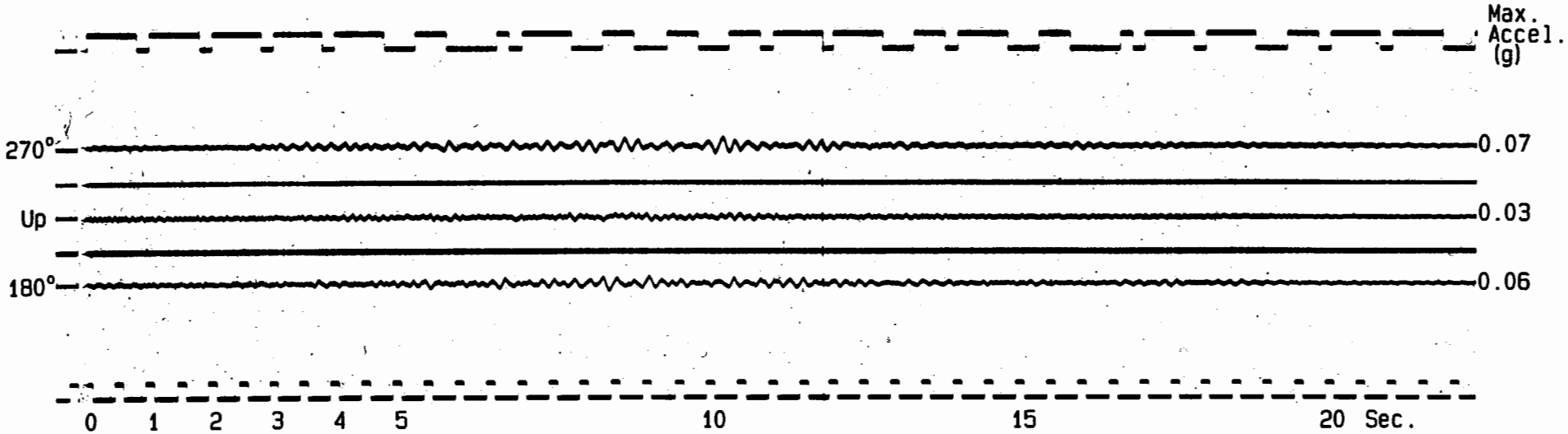
RECORD 23598-E0253-94021.02



This record plotted with 4x vertical exaggeration.

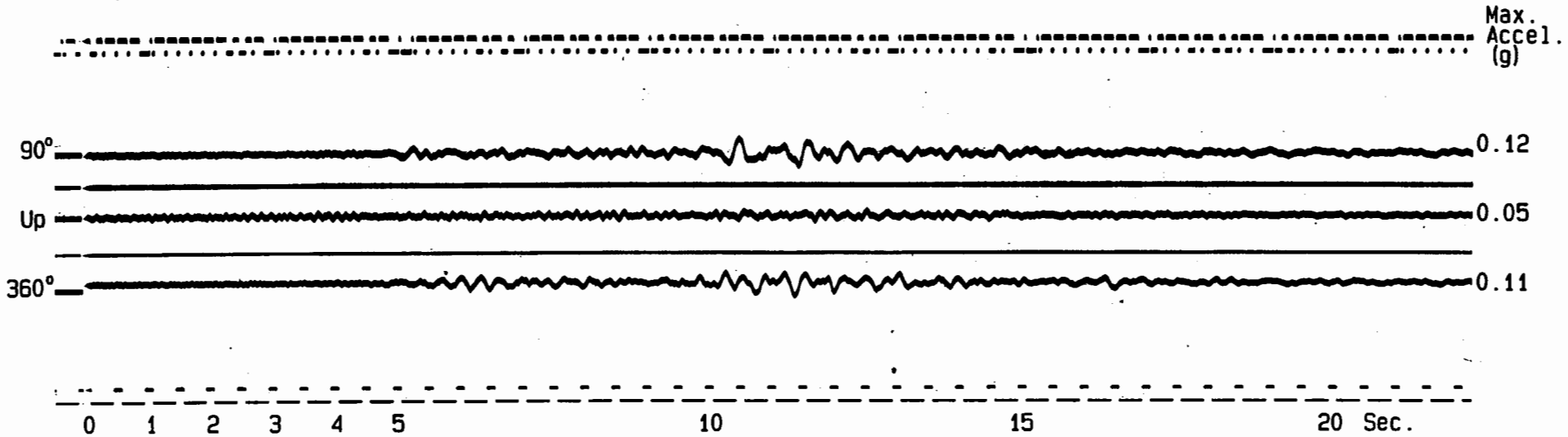
Riverside - Airport
(CSMIP Station 13123)

Record 13123-S1593-94028.02



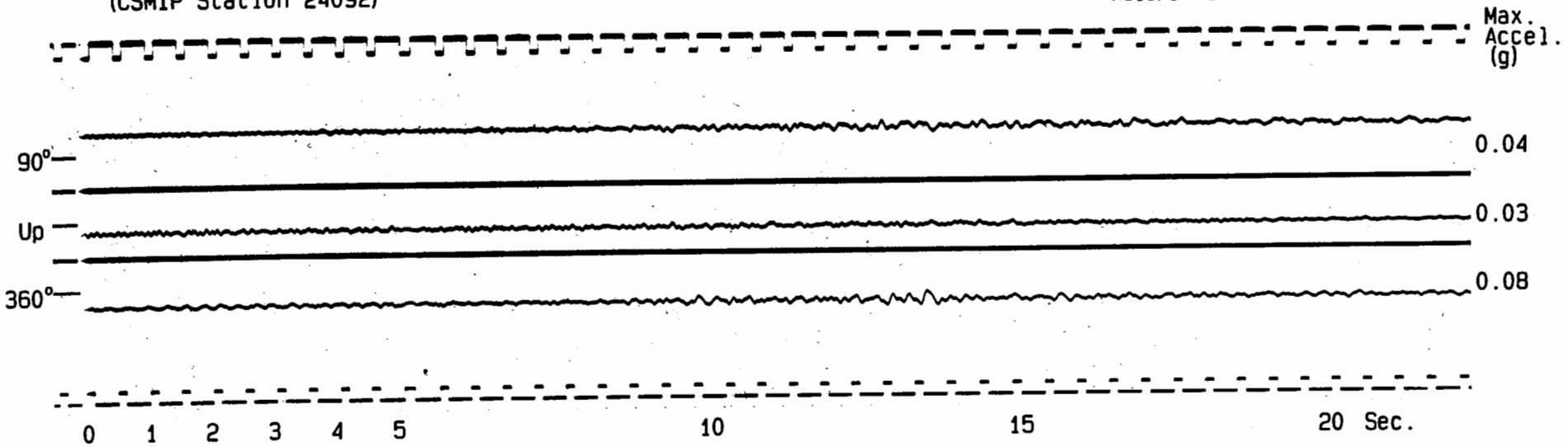
Rolling Hills Estates - Rancho Vista School
(CSMIP Station 14405)

Record 14405-S0757-94025.02



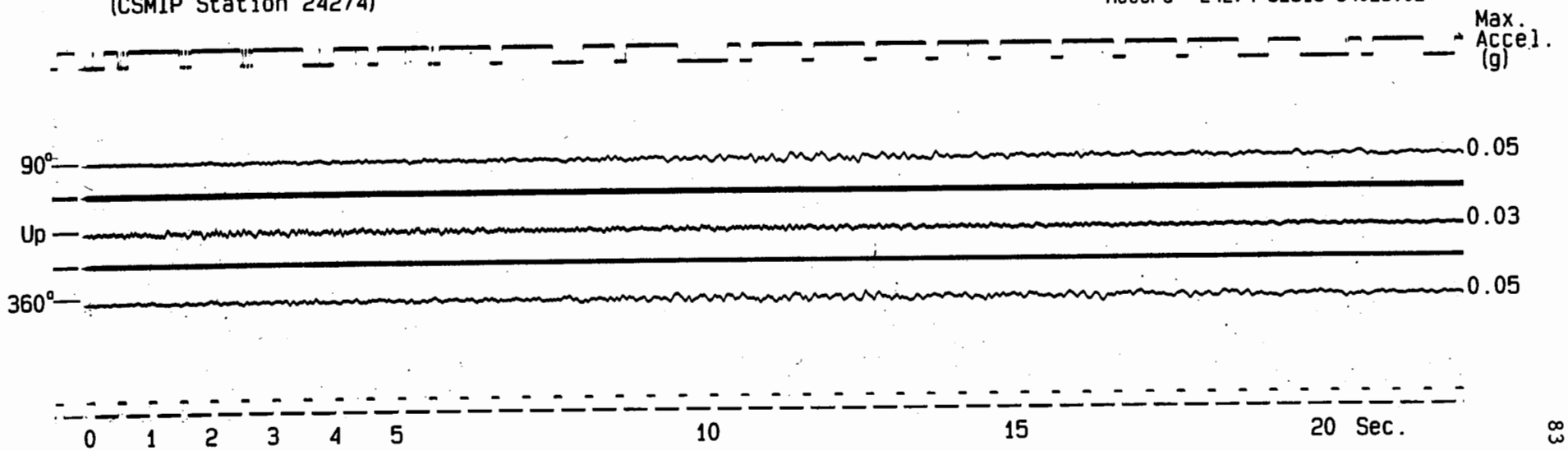
Rosamond - Airport
(CSMIP Station 24092)

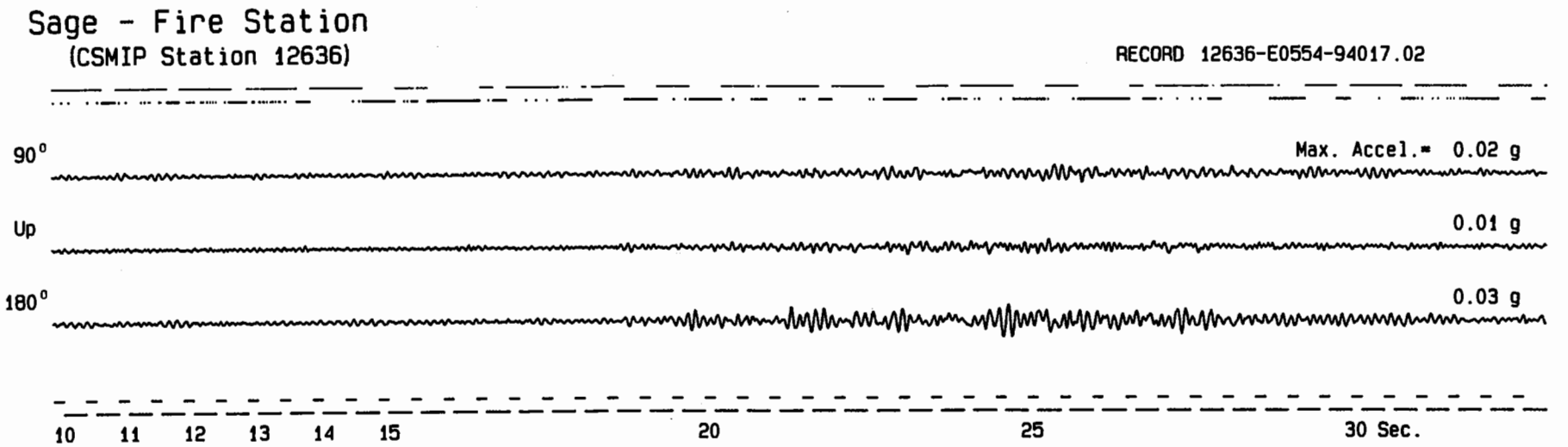
Record 24092-S1598-94026.02



Rosamond - Godde Ranch
(CSMIP Station 24274)

Record 24274-S2518-94026.02





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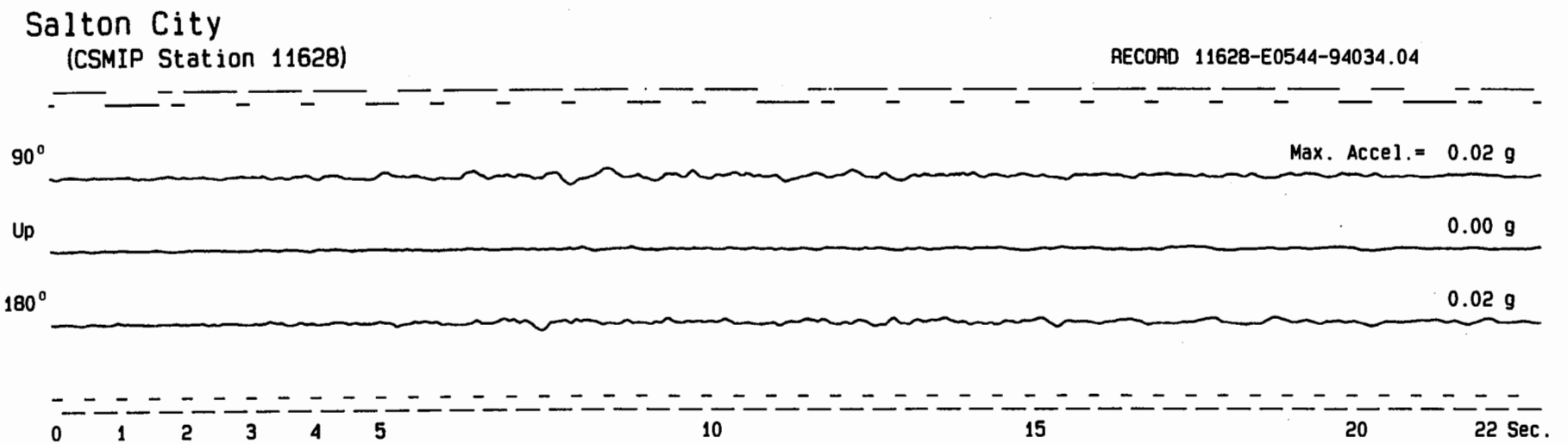

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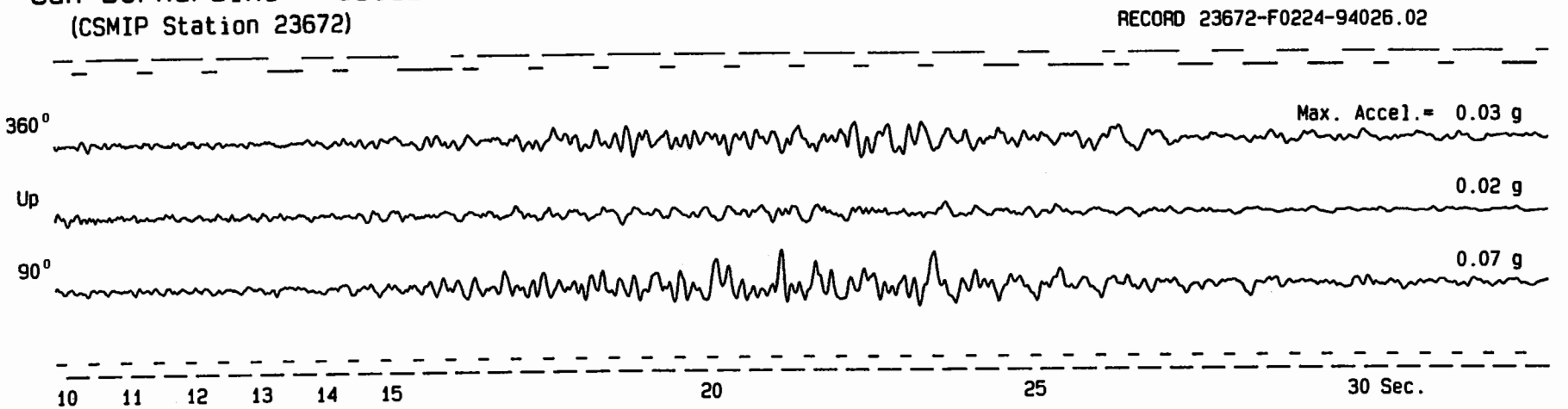
San Bernardino - CSUSB Grounds
(CSMIP Station 23672)



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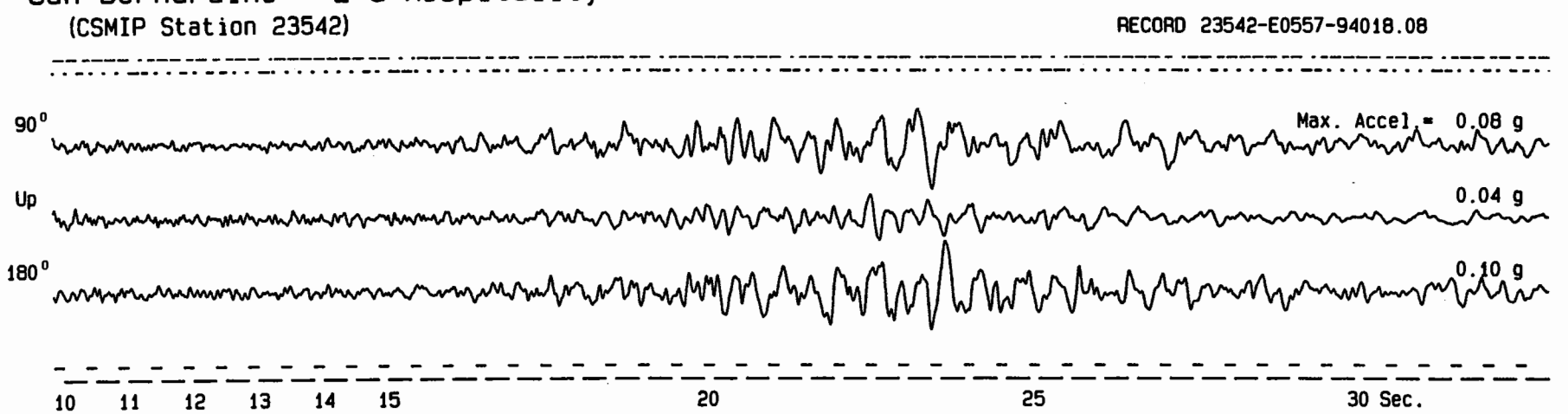
San Bernardino - E & Hospitality
(CSMIP Station 23542)



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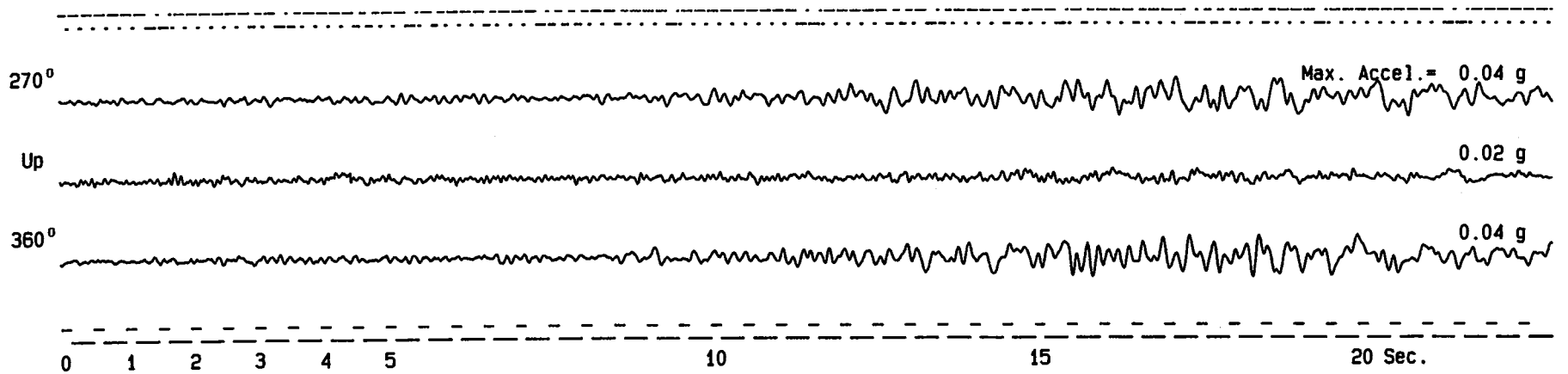
San Bernardino - 2nd & Arrowhead
(CSMIP Station 23522)

RECORD 23522-D0267-94027.04



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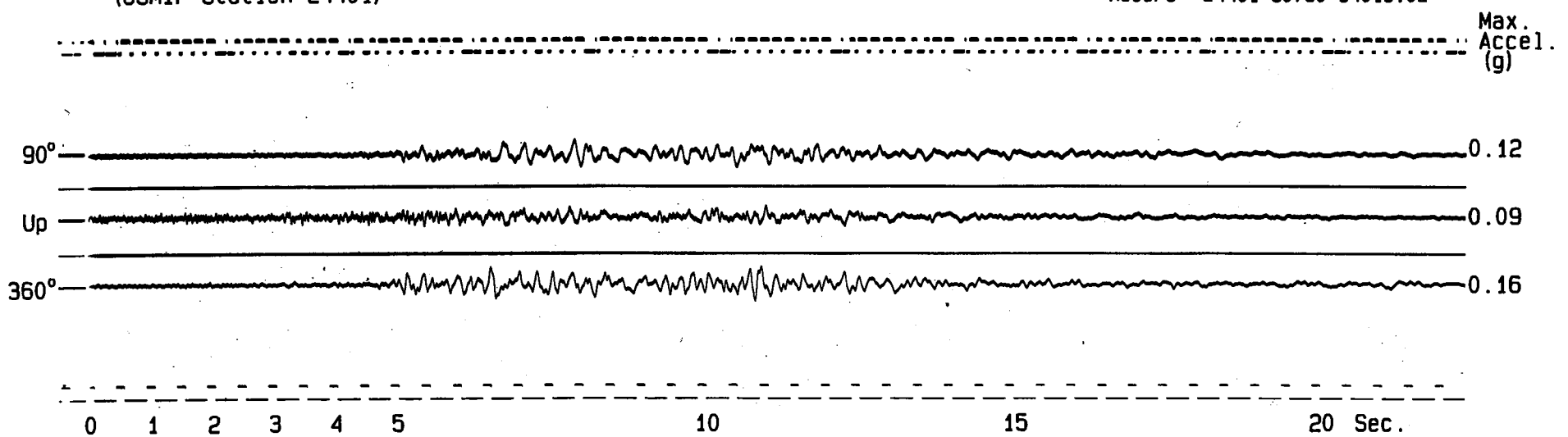
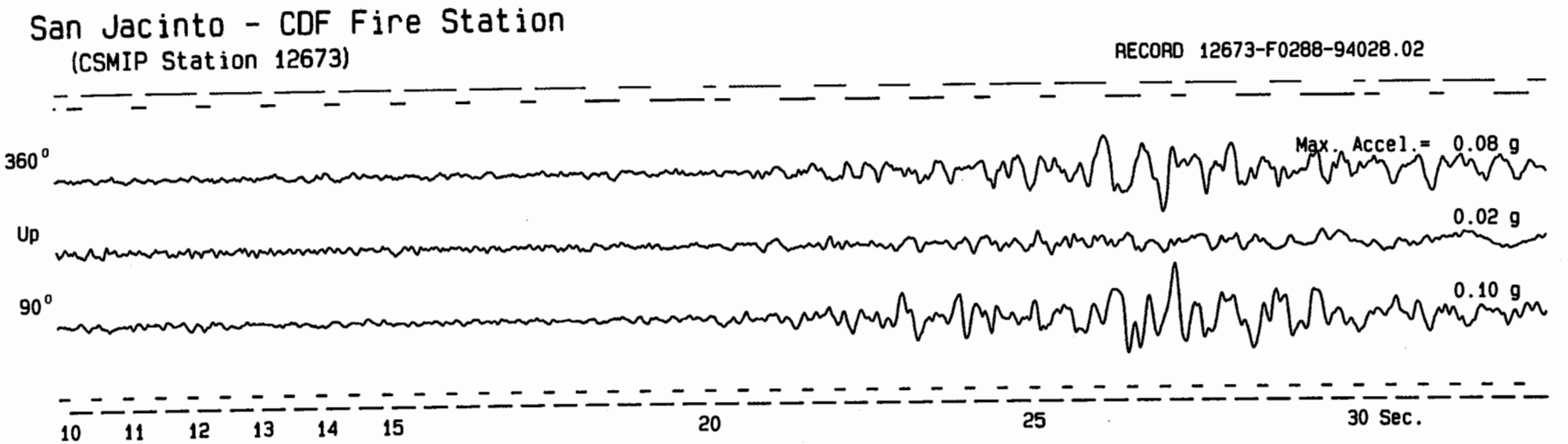
San Marino - Southwestern Academy
(CSMIP Station 24401)

Record 24401-S0760-94019.02





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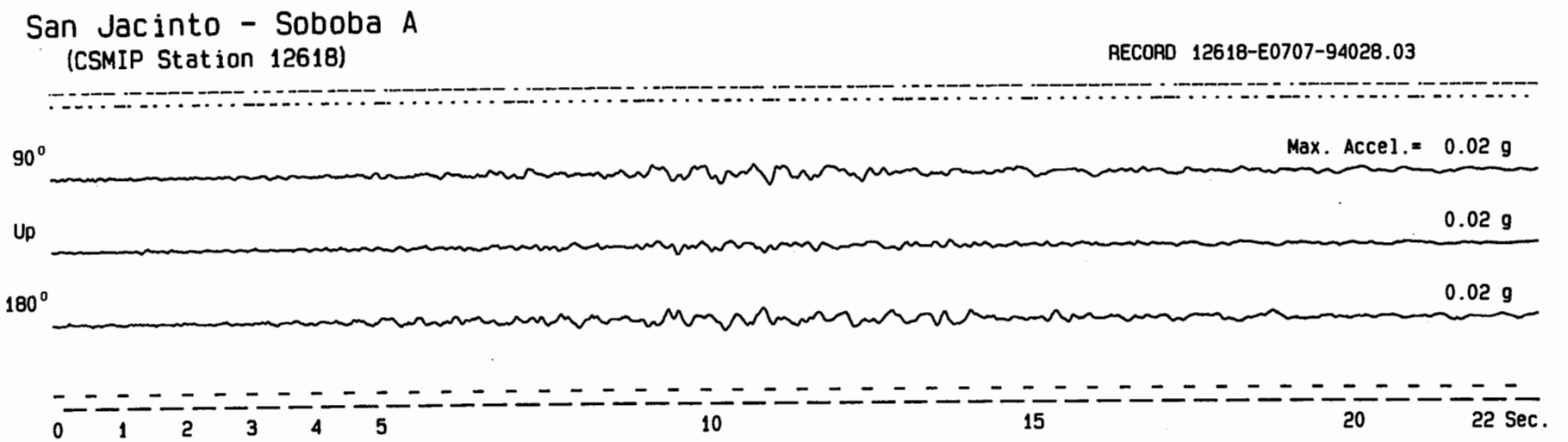

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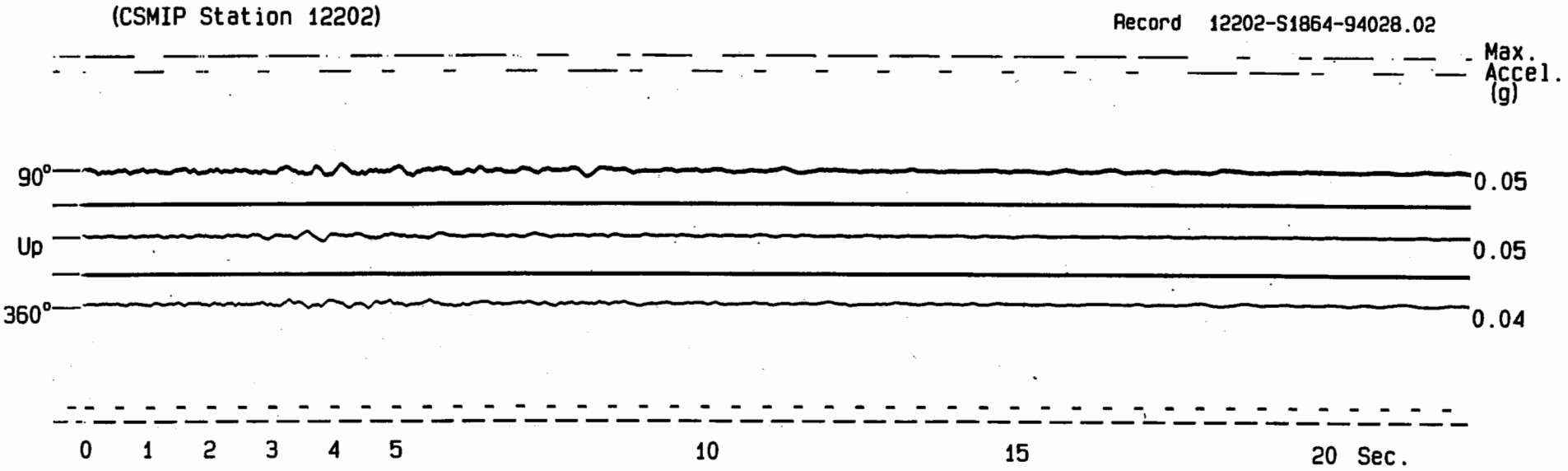
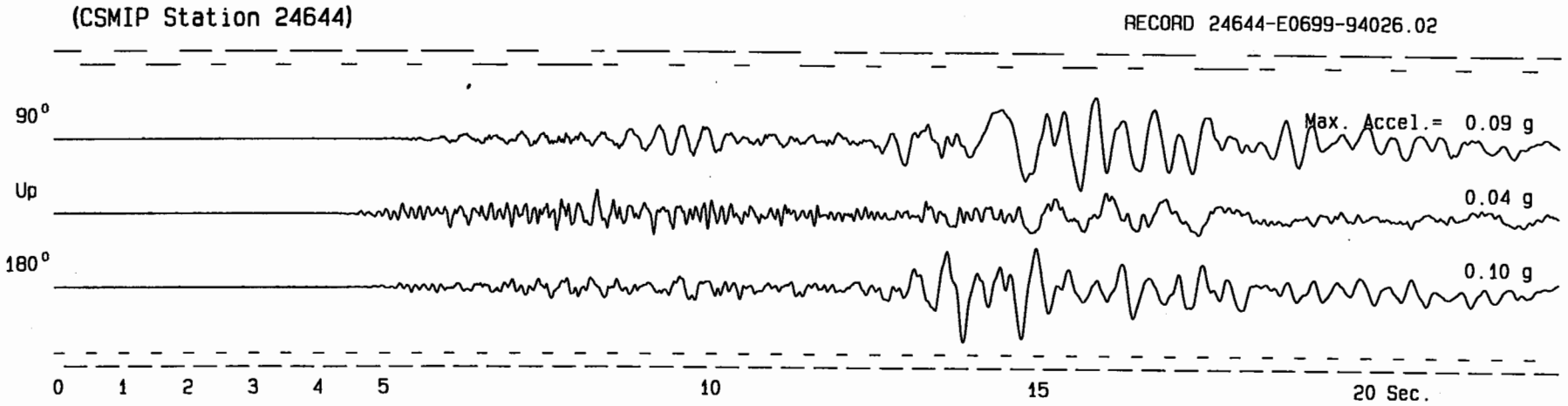
San Jacinto - Valley Cemetary
(CSMIP Station 12202)



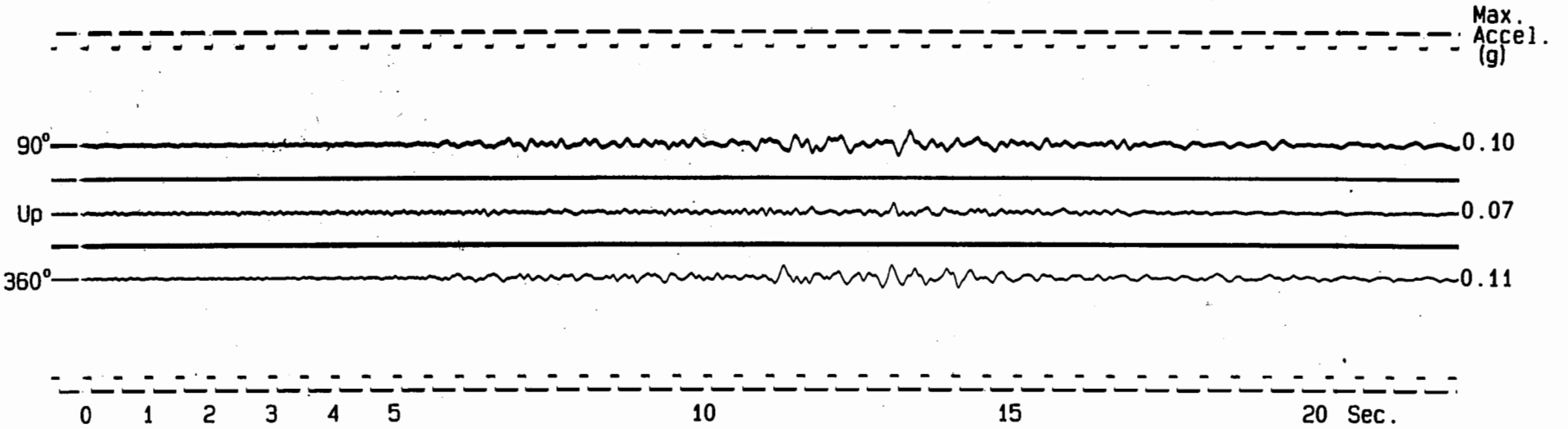
Sandberg - Bald Mountain
(CSMIP Station 24644)



This record plotted with 4x vertical exaggeration.

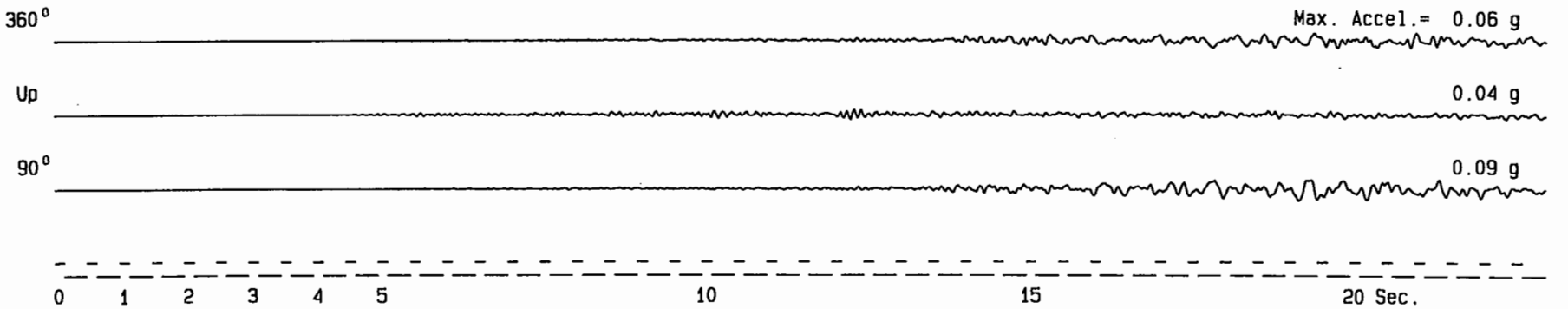
San Pedro - Palos Verdes
(CSMIP Station 14159)

Record 14159-S1692-94025.02



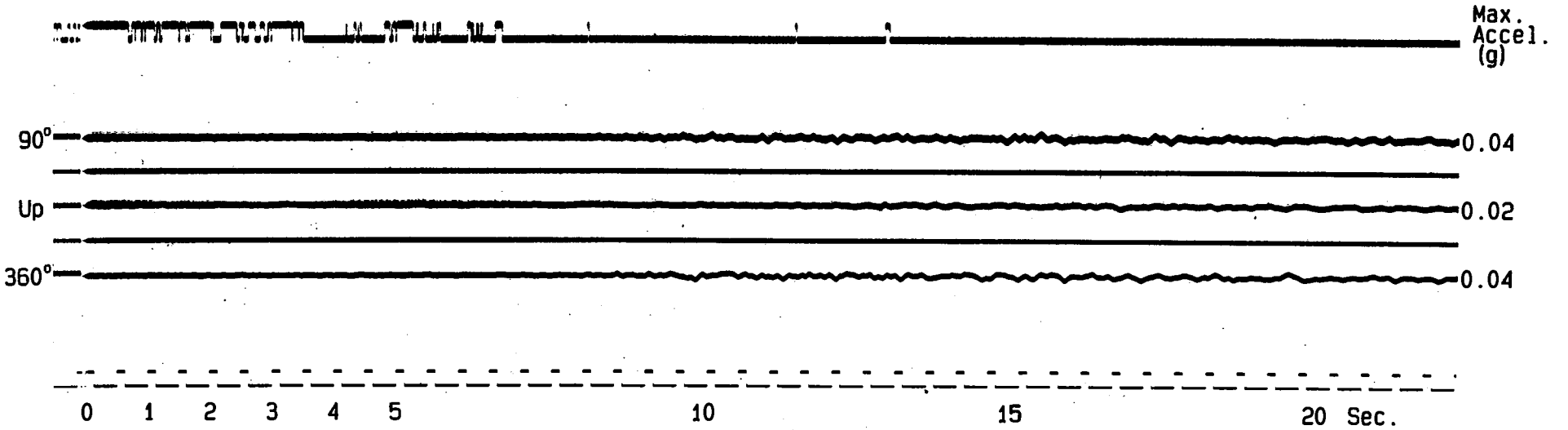
Seal Beach - 8-story Office Bldg. Parking Lot
(CSMIP Station 14578)

RECORD 14578-E0112-94017.02



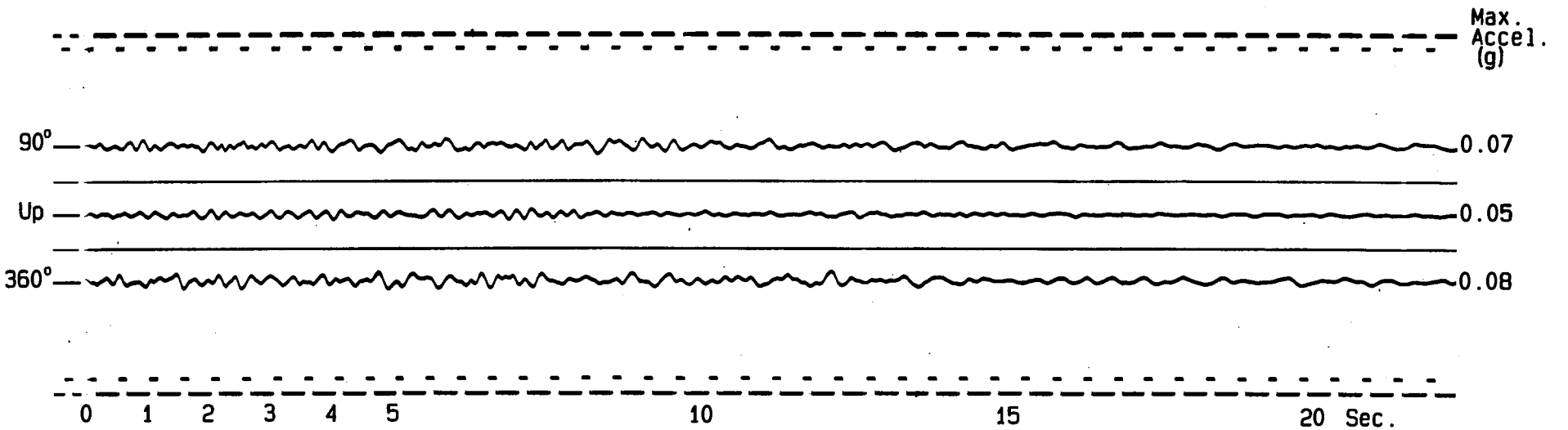
Santa Barbara - UCSB Grounds
(CSMIP Station 25392)

Record 25392-S3488-94033.02



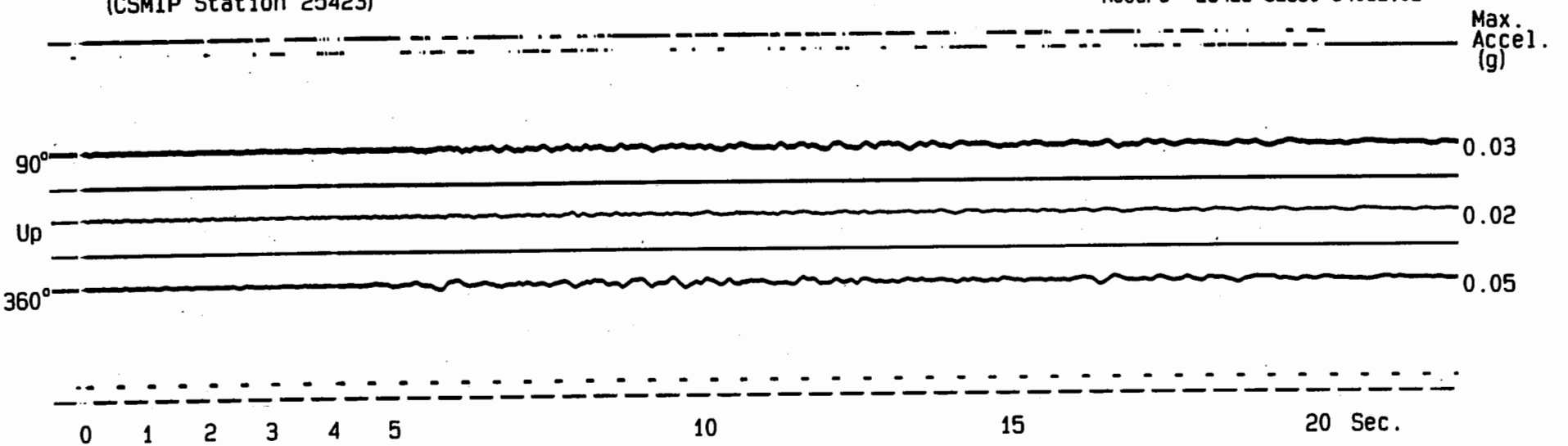
Santa Barbara - UCSB Goleta
(CSMIP Station 25091)

Record 25091-S1707-94033.02



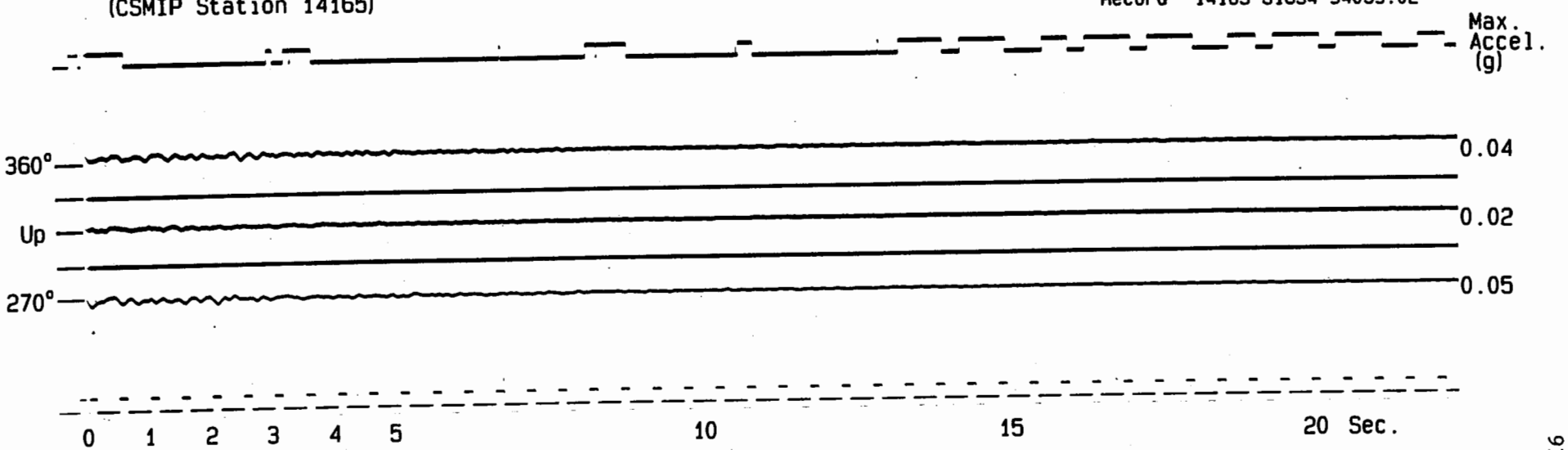
Santa Barbara - Hwy 101 & State
(CSMIP Station 25423)

Record 25423-S2590-94032.02



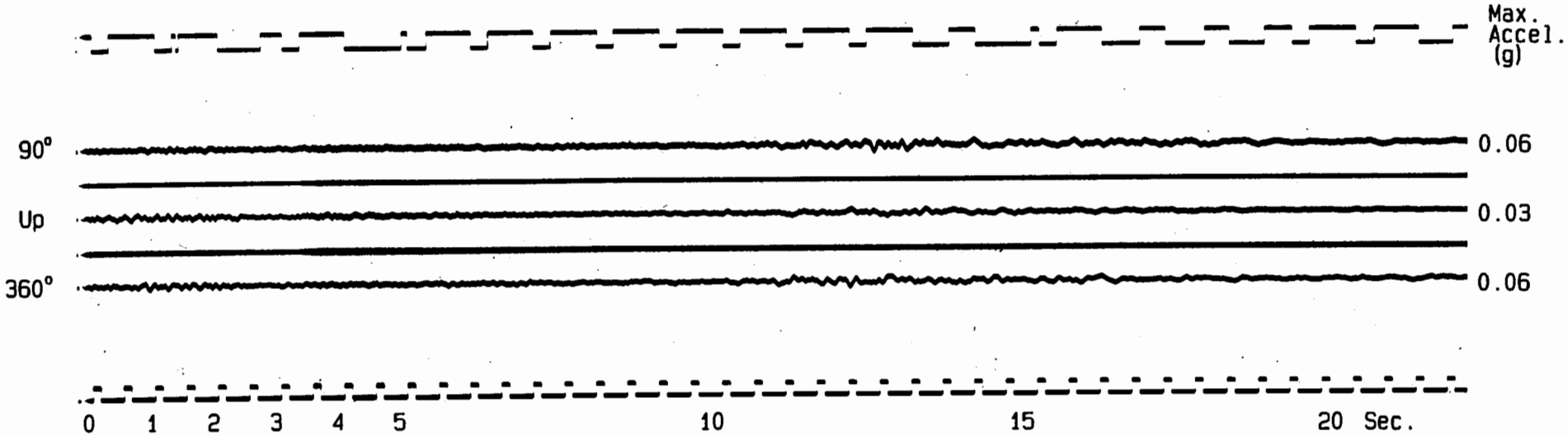
Santa Catalina Island
(CSMIP Station 14165)

Record 14165-S1854-94039.02



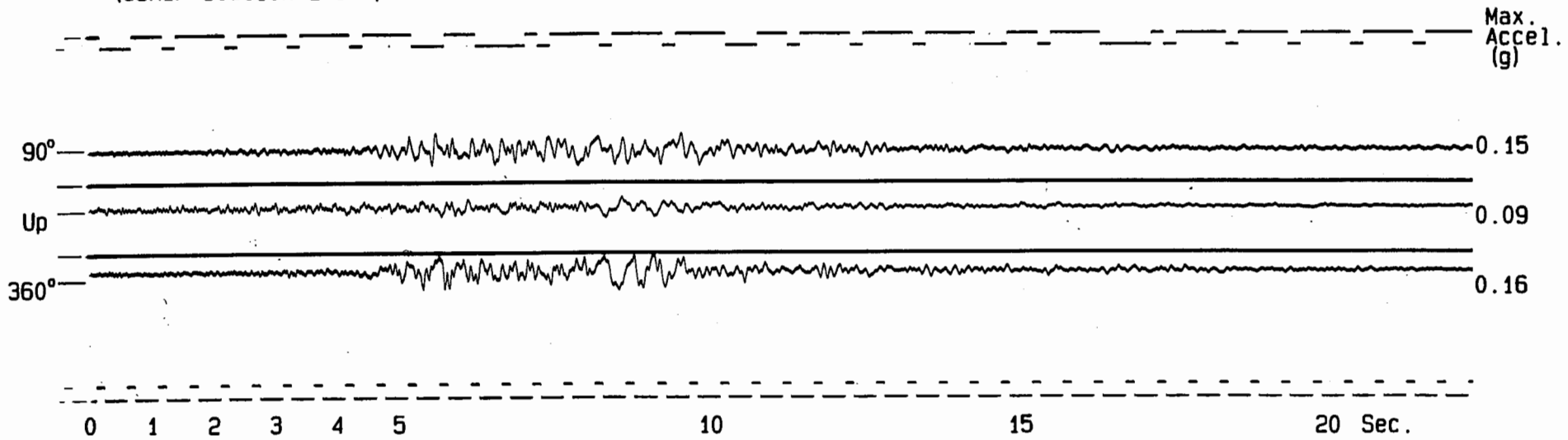
Tehachapi - Valley Blvd. & Curry St.
(CSMIP Station 34487)

Record 34487-S4829-94027.02



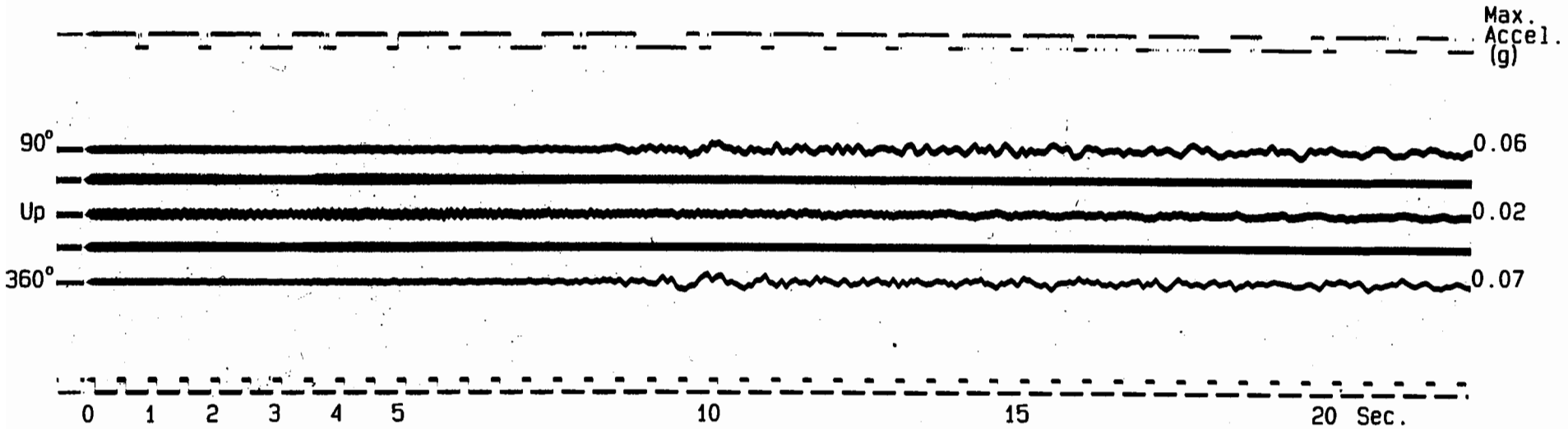
Vasquez Rocks Park
(CSMIP Station 24047)

Record 24047-S1820-94021.02



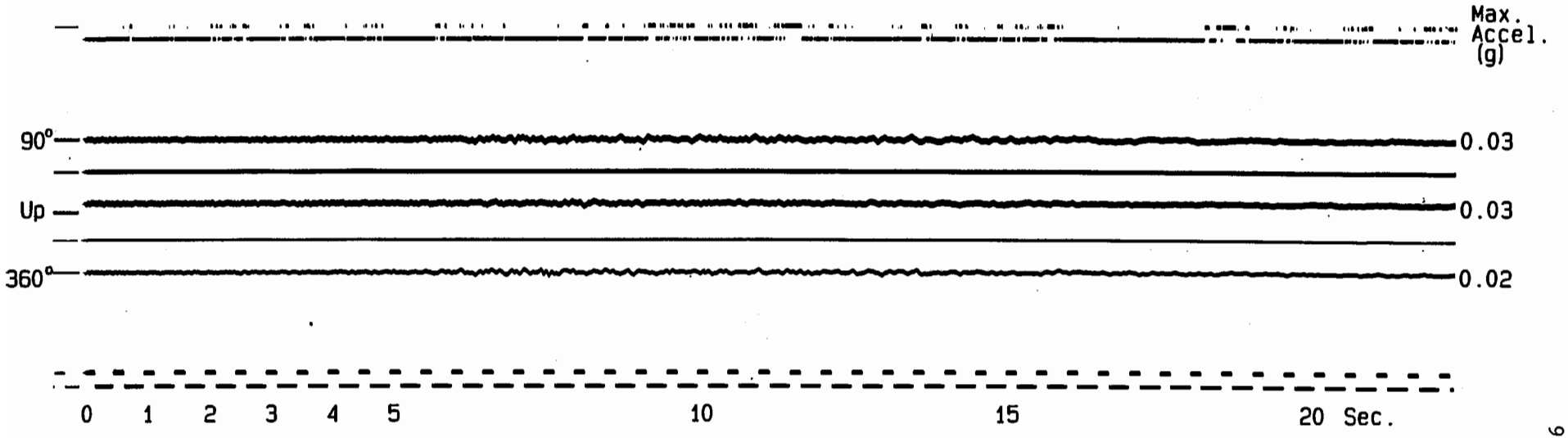
Ventura - Harbor & California
(CSMIP Station 25340)

Record 25340-S2770-94025.06

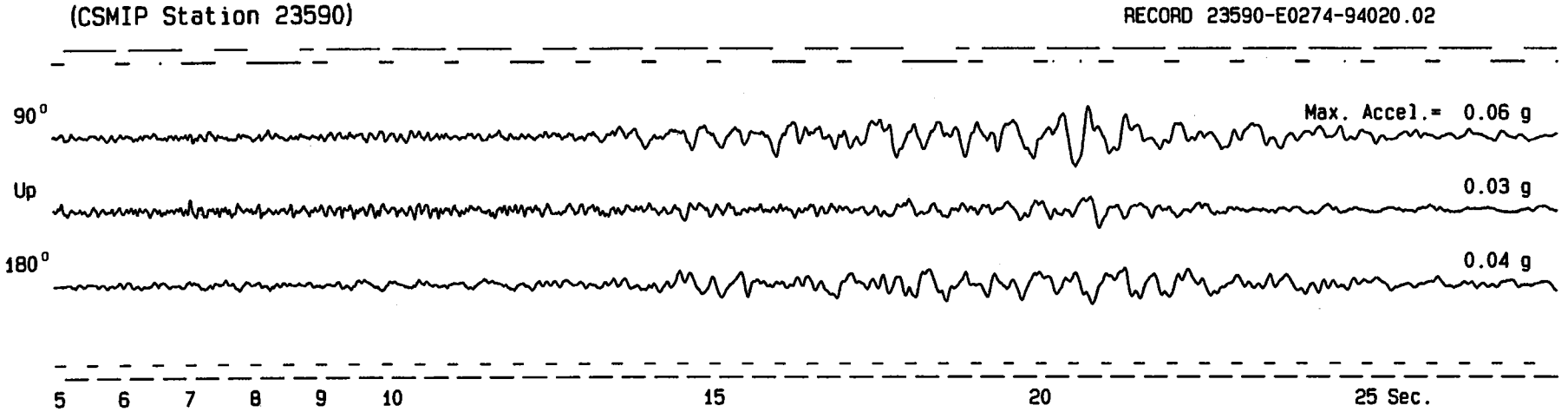


Wheeler Gorge
(CSMIP Station 25090)

Record 25090-S1814-94034.02

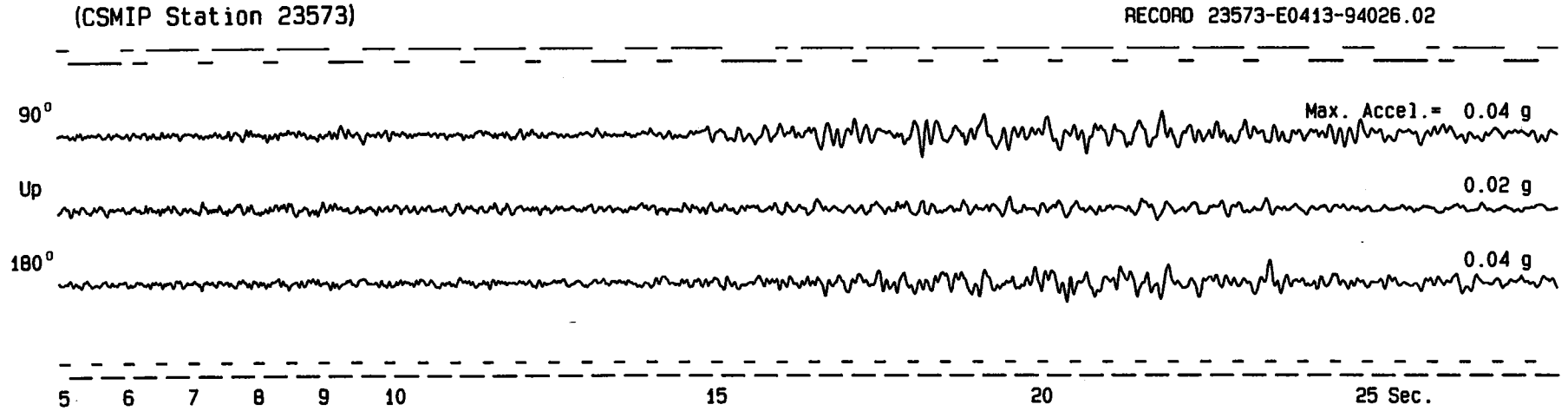


Wrightwood - Jackson Flat
(CSMIP Station 23590)



This record plotted with 4x vertical exaggeration.

Wrightwood - Neilson Ranch
(CSMIP Station 23573)



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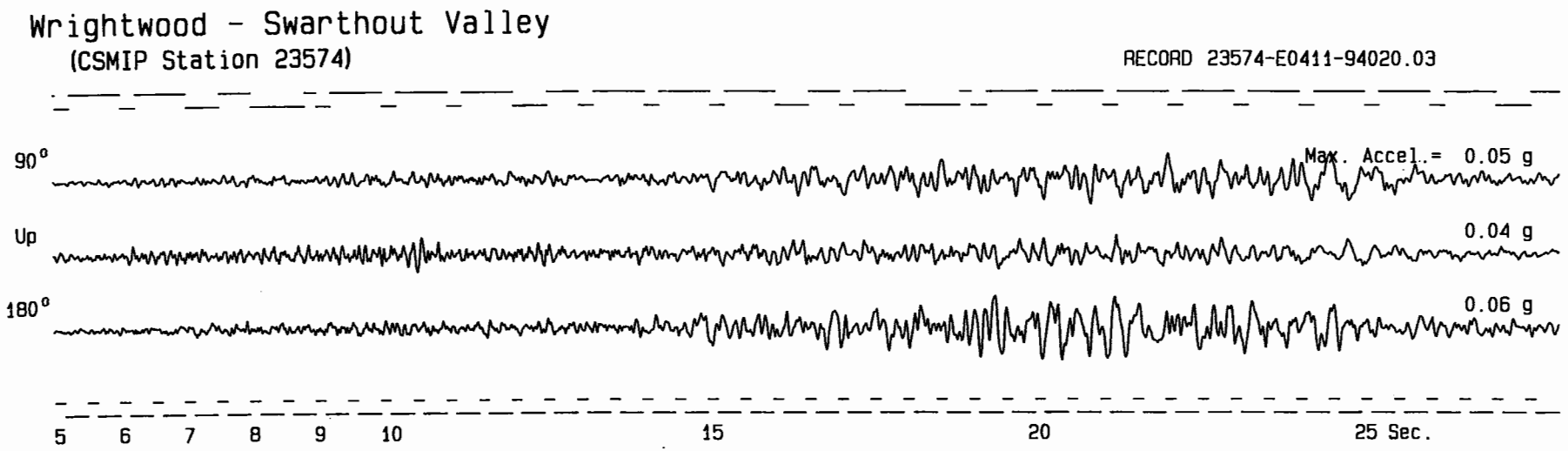

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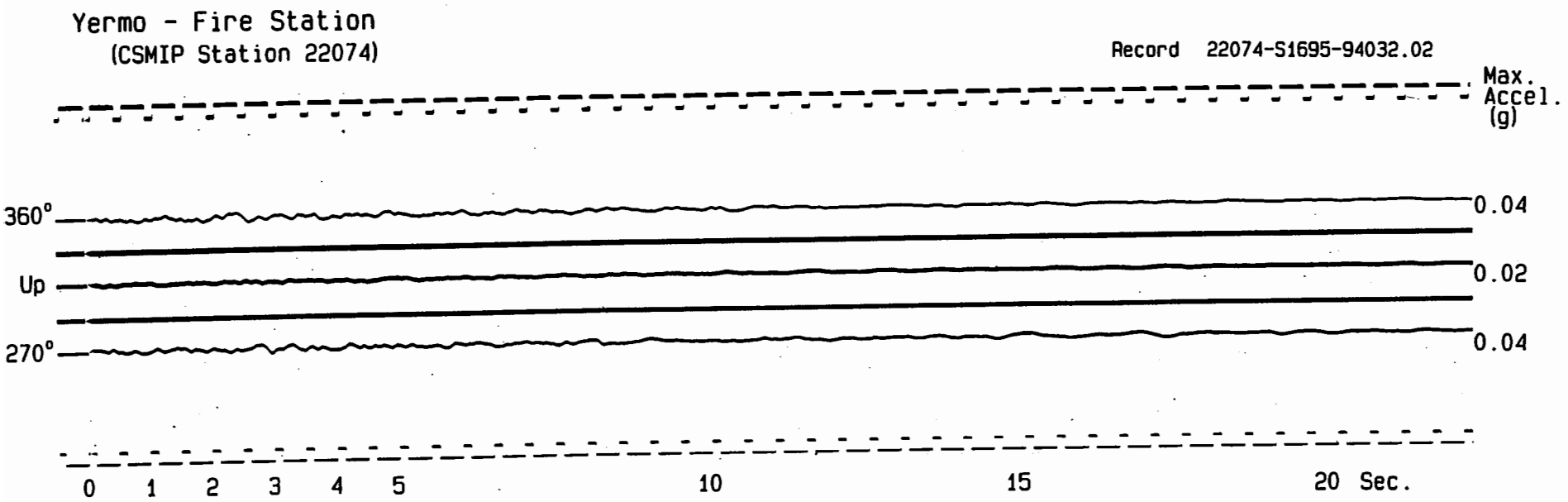

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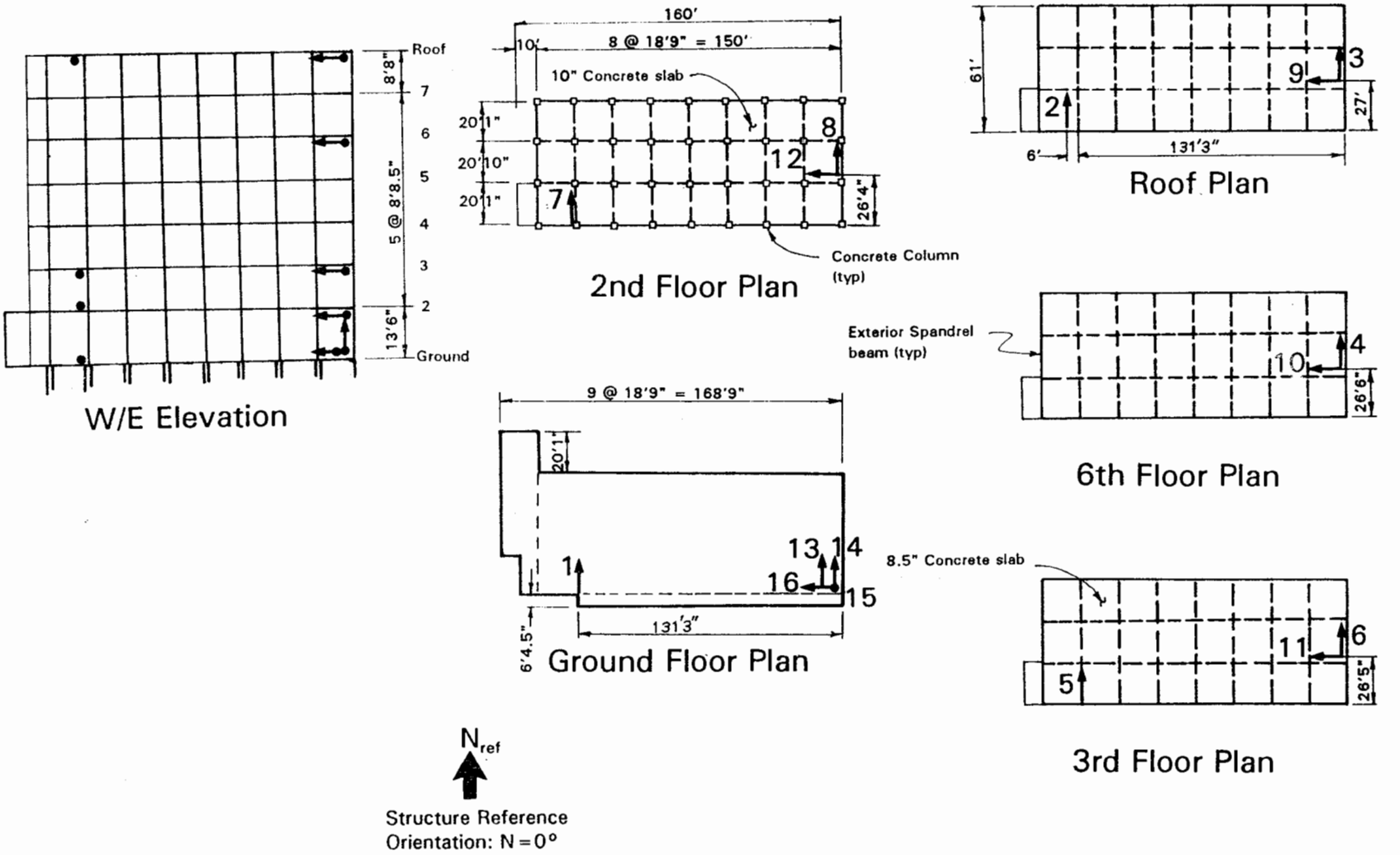
Van Nuys - 7-story Hotel
(CSMIP Station No. 24386)

No. of Stories above/below ground: 7/0
Plan Shape: Rectangular
Base Dimensions: 151′ x 63′
Typical Floor Dimensions: 151′ x 63′
Design Date: 1965
Construction Date: 1966

Vertical Load Carrying System:
8″ or 10″ concrete slabs supported by concrete columns, and spandrel beams at the perimeter.
Lateral Force Resisting System:
Interior concrete column-slab frames and exterior concrete column-spandrel beam frames.
Foundation Type: Concrete friction piles.

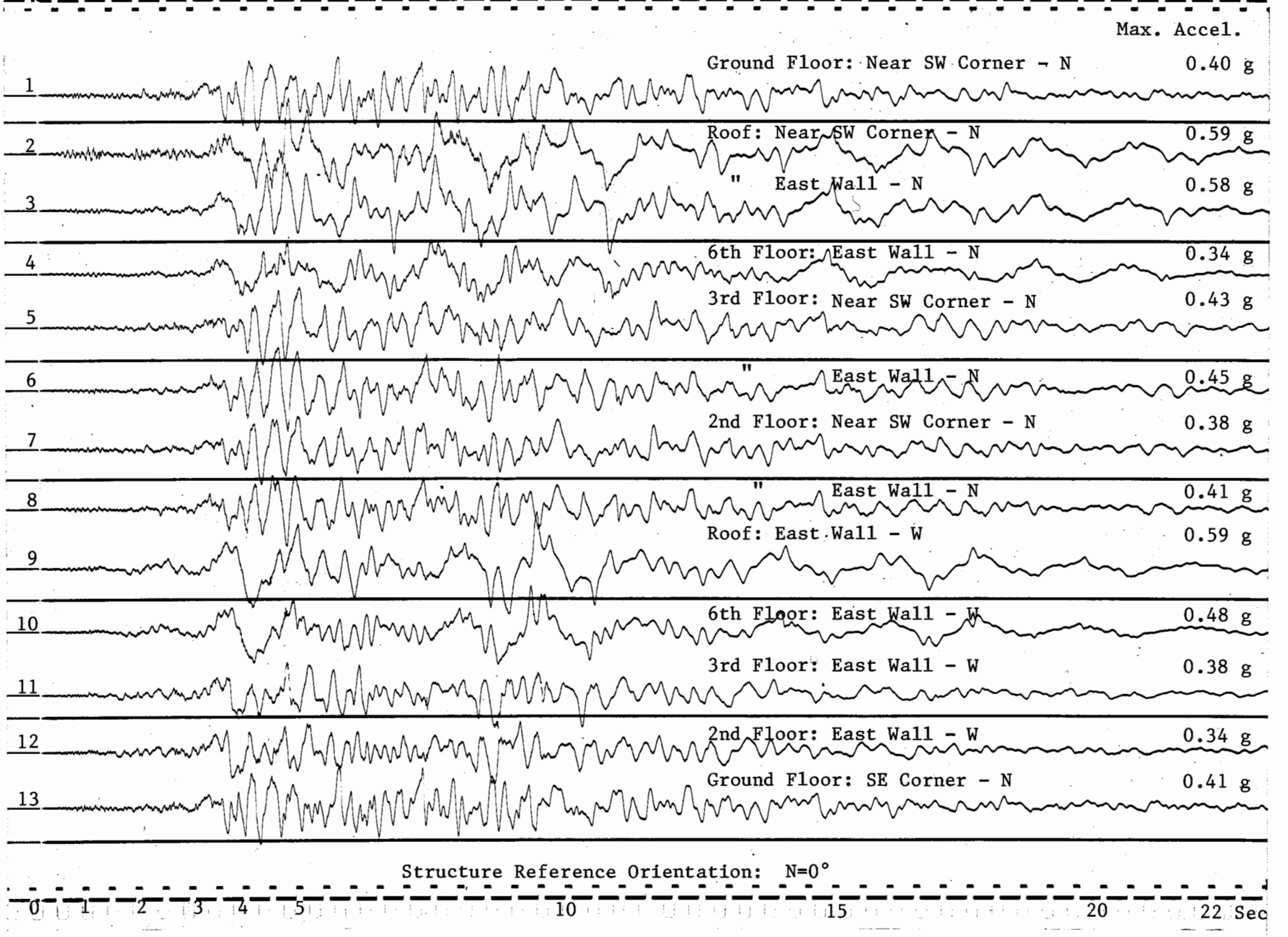
Van Nuys - 7-story Hotel
(CSMIP Station No. 24386)

SENSOR LOCATIONS



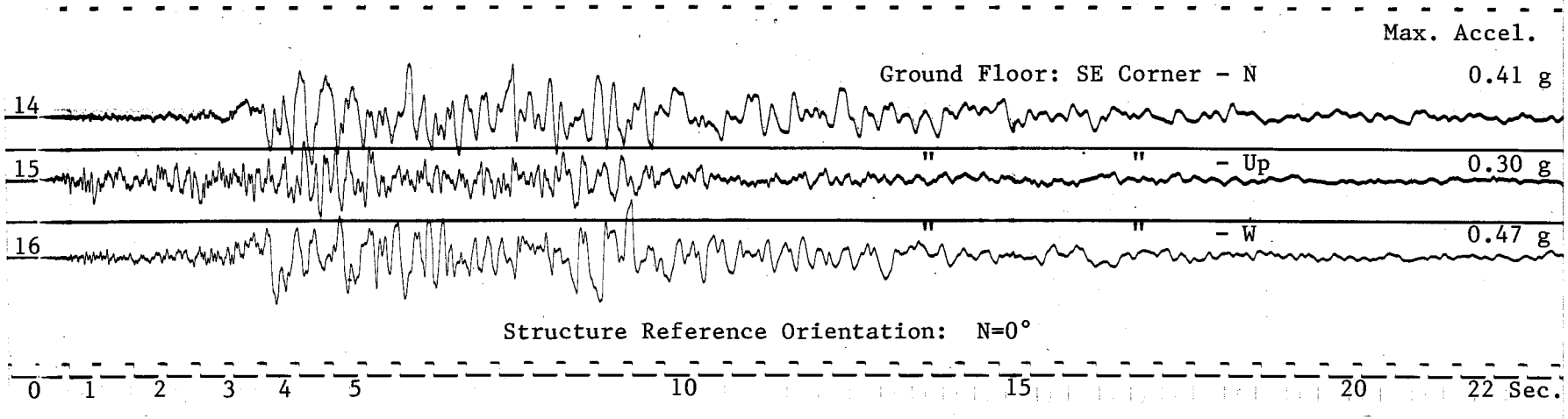
Van Nuys - 7-story Hotel
(CSMIP Station 24386)

Record 24386-C0198-94018.02



Van Nuys - 7-story Hotel
(CSMIP Station 24386)

Record 24386-S3487-94018.02



Sherman Oaks - 13-story Commercial Building
(CSMIP Station No. 24322)

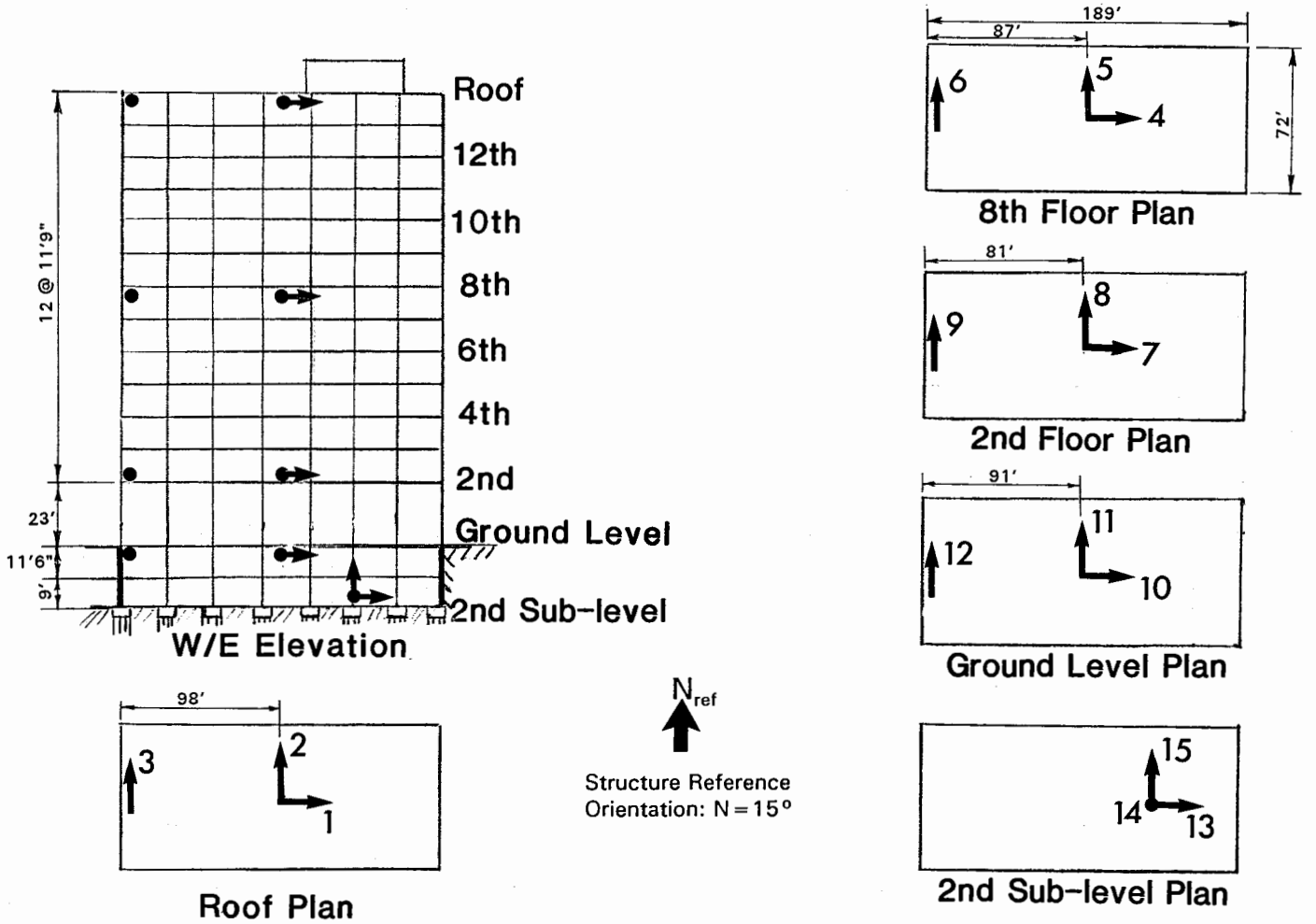
No. of Stories above/below ground: 13/2
Plan Shape: Rectangular
Base Dimensions: 209′ x 125′
Typical Floor Dimensions: 193′ x 75′
Design Date: 1964

Vertical Load Carrying System:
4.5″ thick one-way concrete slabs supported by concrete beams, girders and columns.
Lateral Load Carrying System:
Moment resisting concrete frames in both directions for the upper stories; concrete shear walls in the basements.
Foundation Type: Concrete piles.

Sherman Oaks - 13-story Commercial Bldg.

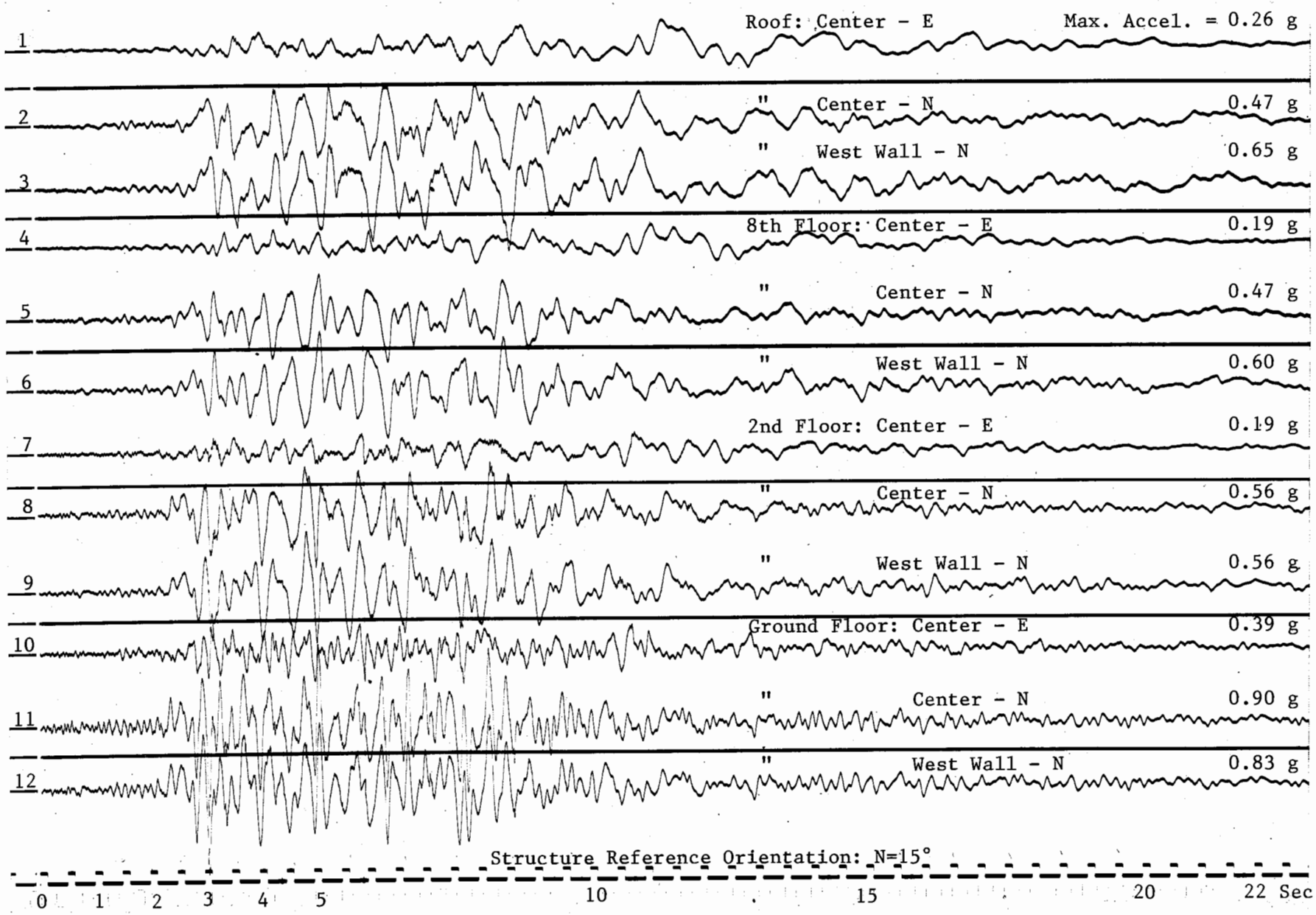
(CSMIP Station No. 24322)

SENSOR LOCATIONS



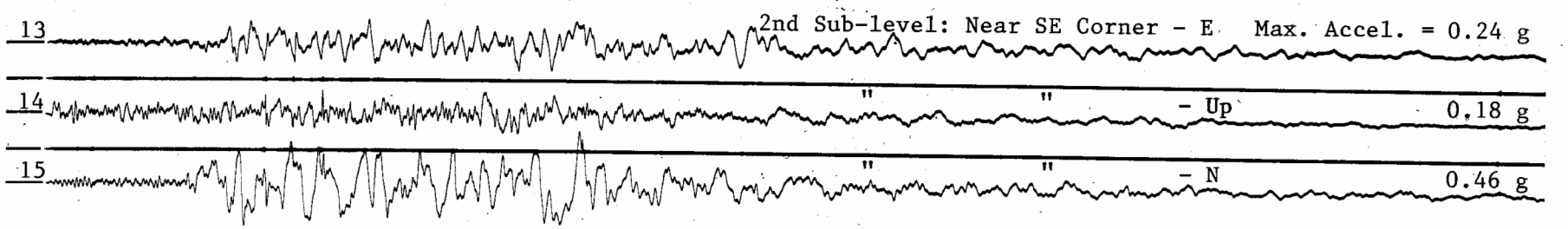
Sherman Oaks - 13-story Commercial Bldg.
(CSMIP Station 24322)

Record 24322-C0160-94018.02



Sherman Oaks - 13-story Commercial Bldg.
(CSMIP Station 24322)

Record 24322-S2789-94018.02



Structure Reference Orientation: N=15°

0 1 2 3 4 5 10 15 20 22 Sec.

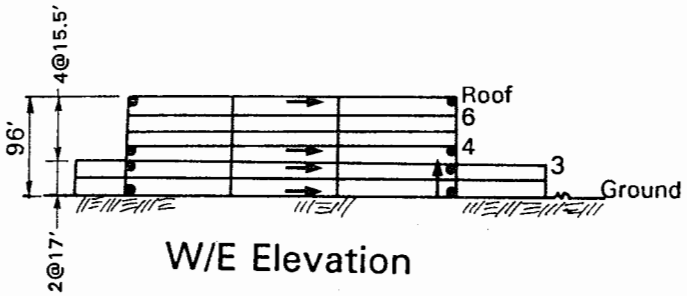
Sylmar - 6-story County Hospital
(CSMIP Station No. 24514)

No. of Stories above/below ground: 6/0
Plan Shape:
Rectangular (lower two stories)
Cross-shaped (upper four stories)
Base Dimensions: 452′ x 302′
Typical Floor Dimensions: 101′ x 302′
Design Date: 1976
Construction Date: 1977-86

Vertical Load Carrying System:
Concrete slab over metal deck supported by steel frames.
Lateral Force Resisting System:
Concrete shear walls in lower two stories; steel shear walls at the perimeter of upper four stories.
Foundation Type: Spread footings.

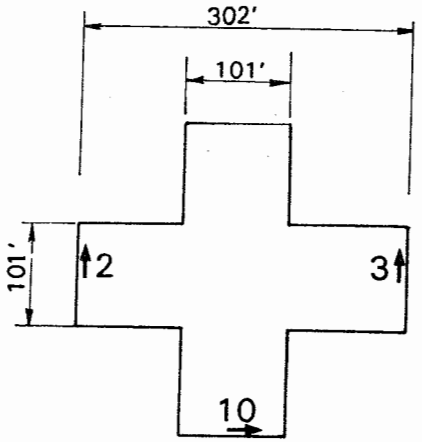
Sylmar - 6-story County Hospital
(CSMIP Station No. 24514)

SENSOR LOCATIONS

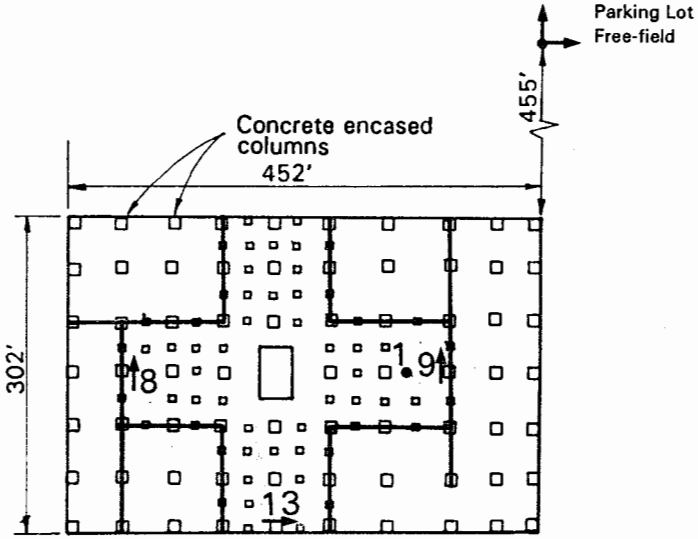


W/E Elevation

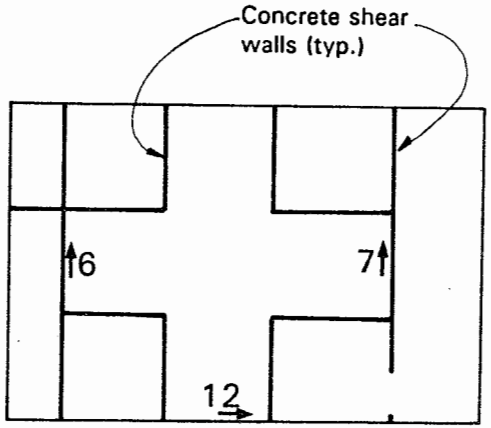
Structure Reference
Orientation: N = 356°



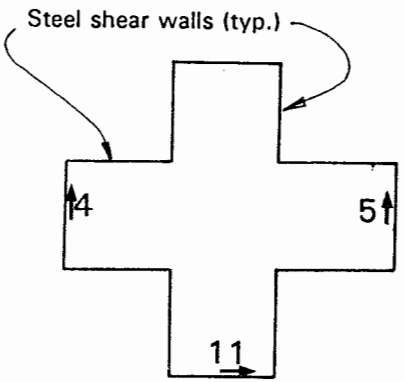
Roof Plan



Ground Floor Plan



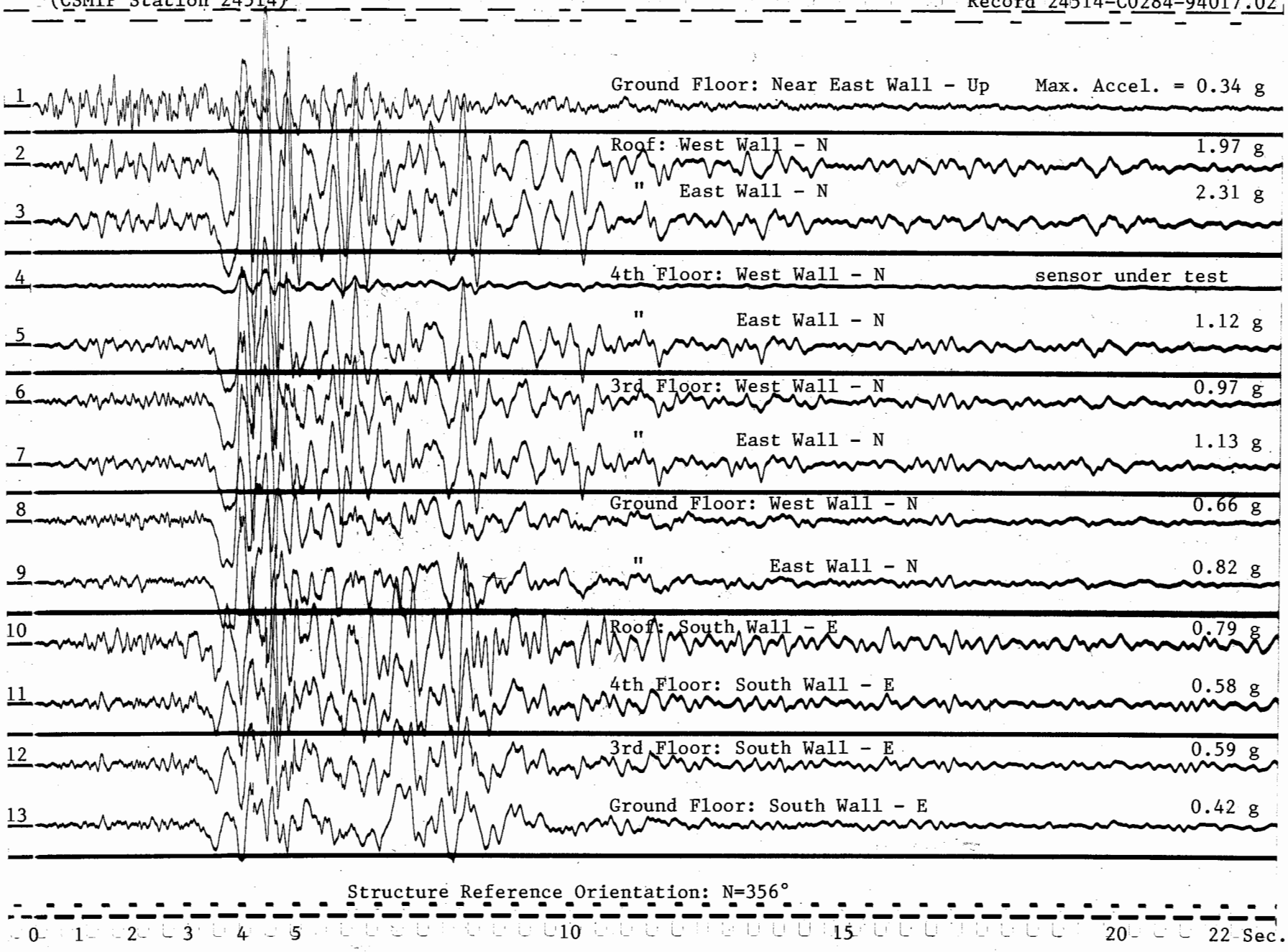
3rd Floor Plan



4th Floor Plan

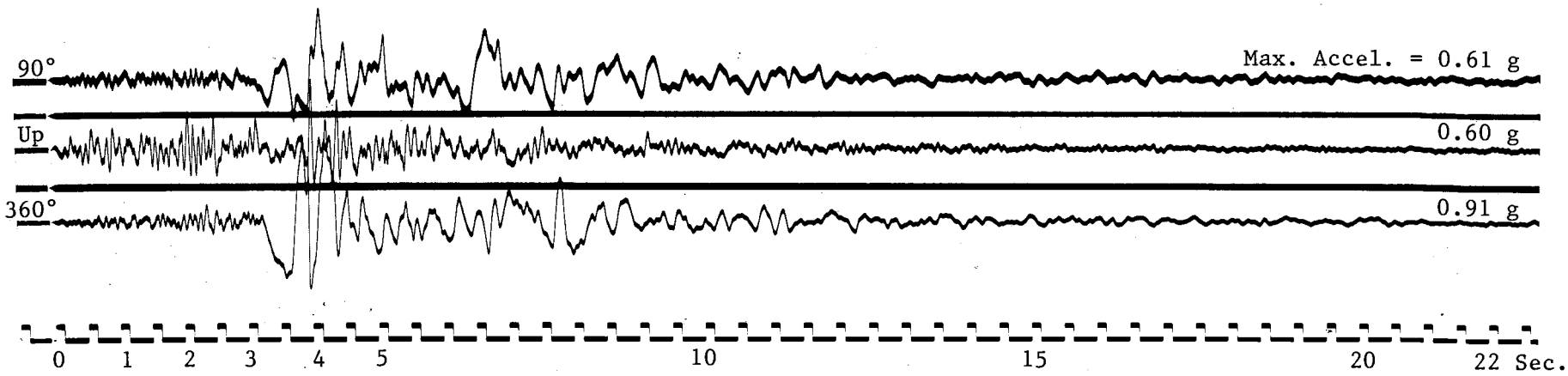
Sylmar - 6-story County Hospital
(CSMIP Station 24514)

Record 24514-C0284-94017.02



Sylmar - 6-story County Hospital Parking Lot
(CSMIP Station 24514)

Record 24514-S5254-94017.03



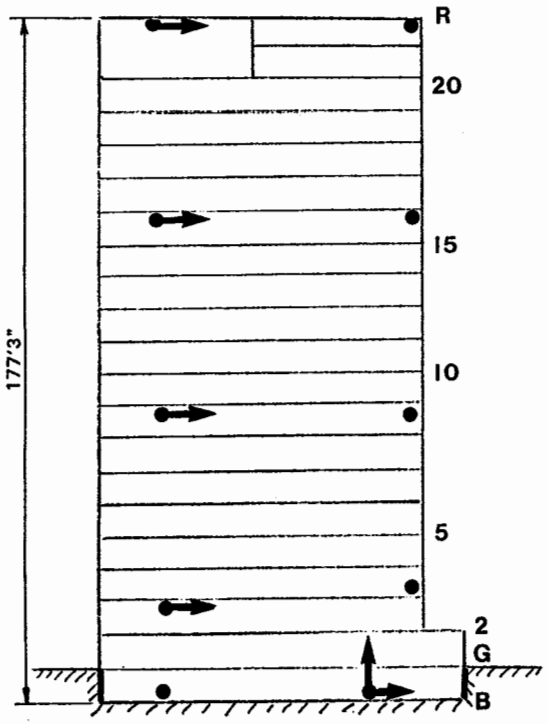
North Hollywood - 20-story Hotel
(CSMIP Station No. 24464)

No. of Stories above/below ground: 20/1
Plan Shape: Rectangular
Base Dimensions: 199′ x 96′
Typical Floor Dimensions: 184′ x 58′
Design Date: 1967
Construction Date: 1968

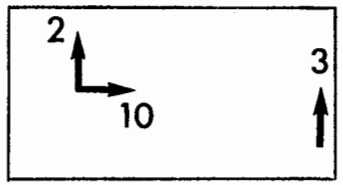
Vertical Load Carrying System:
4.5″ to 6″ concrete slabs supported by concrete beams and columns.
Lateral Force Resisting System:
Ductile moment resisting concrete frames in upper stories; concrete shear walls in the basement.
Foundation Type: Spread footings.

North Hollywood - 20-story Hotel
(CSMIP Station No. 24464)

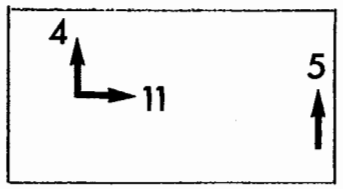
SENSOR LOCATIONS



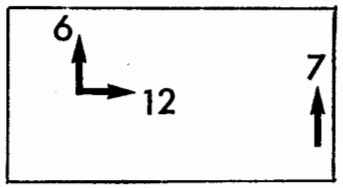
W/E Elevation



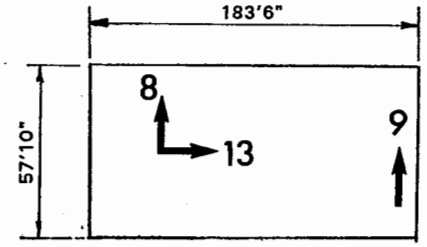
Roof Plan



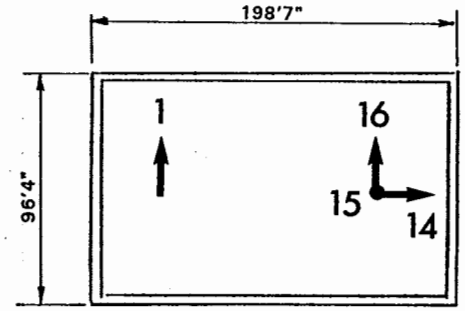
16th Floor Plan



9th Floor Plan



3rd Floor Plan

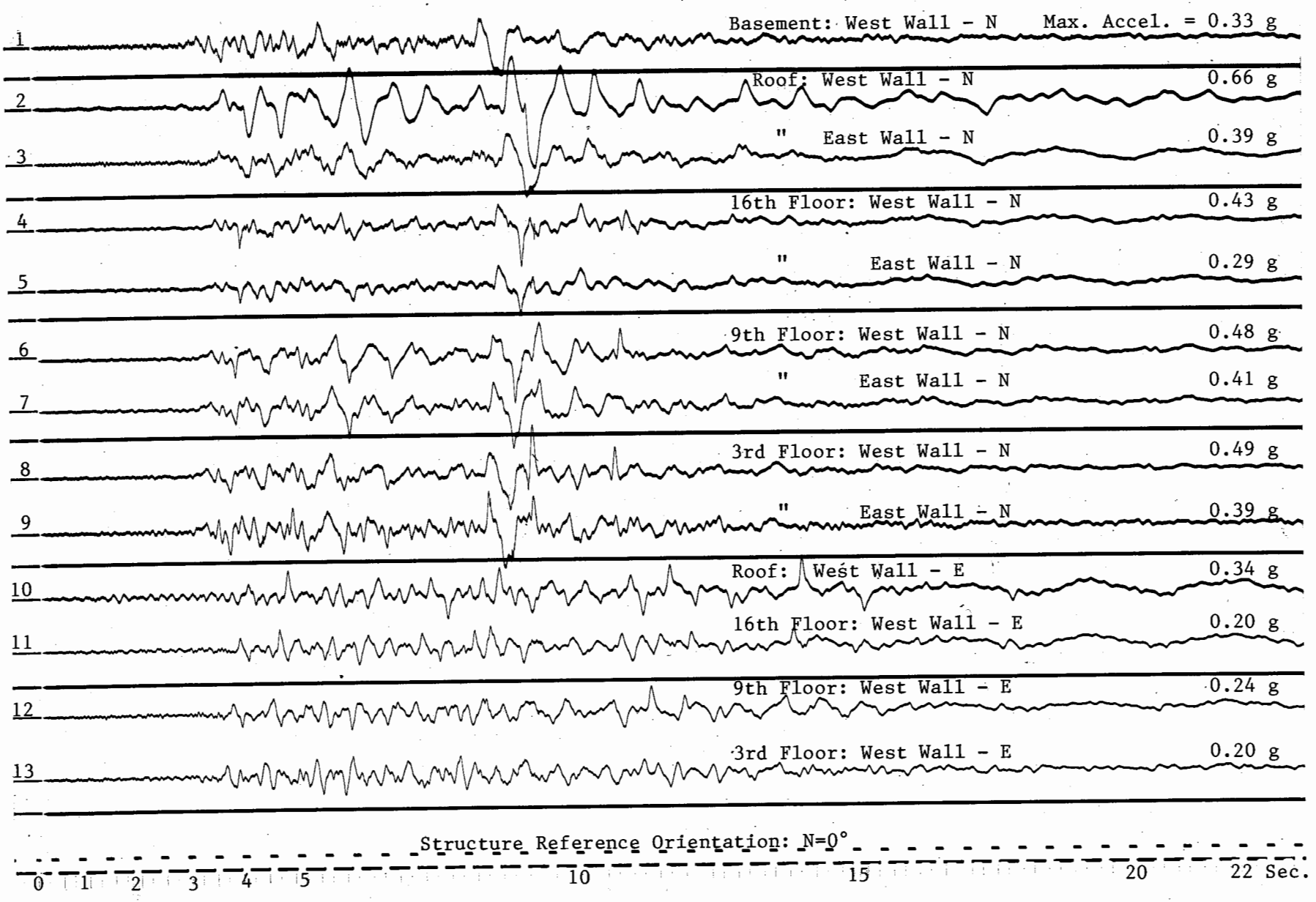


Basement Plan

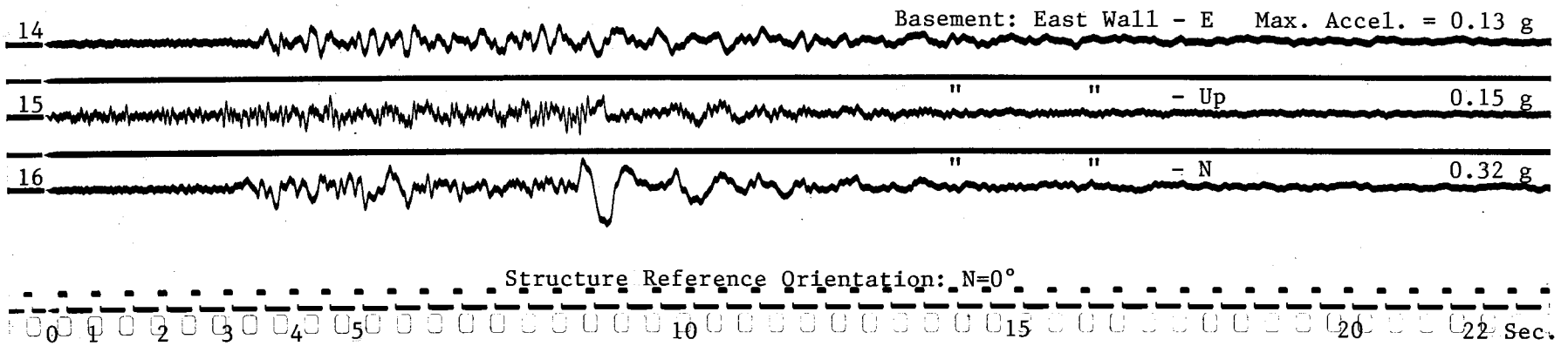
Structure Reference
Orientation: N= 0°

North Hollywood - 20-story Hotel
(CSMIP Station 24464)

Record 24464-C0219-94018.02



North Hollywood - 20-story Hotel
(CSMIP Station 24464) Record 24464-S3485-94018.02



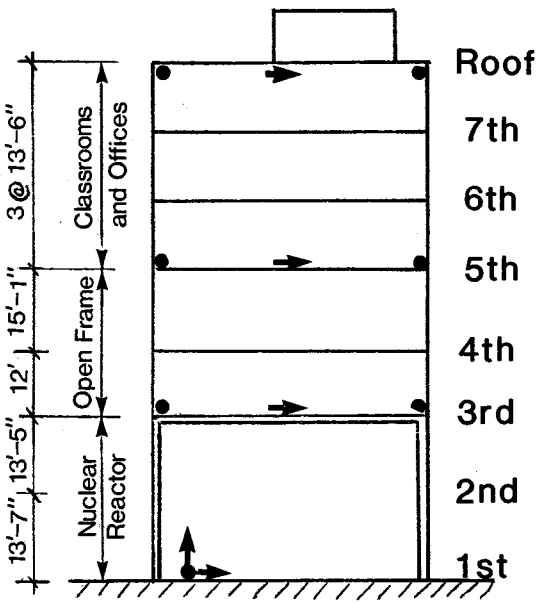
Los Angeles - 7-story UCLA Math-Science Bldg.
(CSMIP Station No. 24231)

No. of Stories above/below ground: 7/0
Plan Shape: Rectangular
Base Dimensions: 60′ x 48′
Typical Floor Dimensions: 60′ x 48′
Design Date: 1969

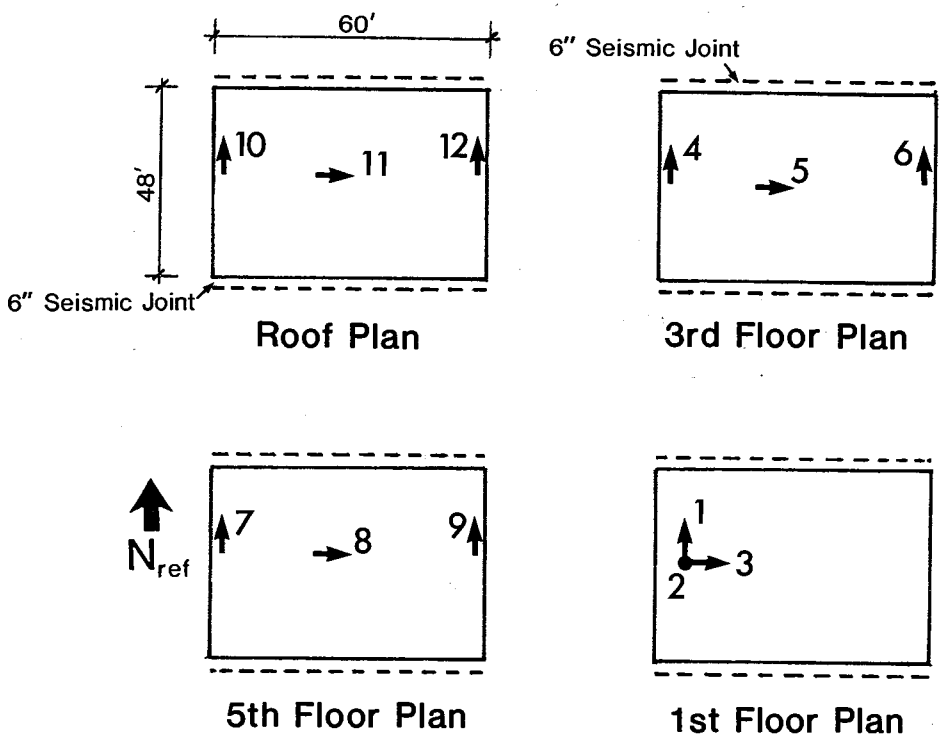
Vertical Load Carrying System:
2.5″ concrete slab over metal deck supported by steel framers at 5th, 6th, 7th floors and roof; thick concrete slab supported by concrete walls at 3rd floor.
Lateral Load Carrying System:
Thick concrete shear walls between Levels 1 and 3; moment resisting steel frames above.

Los Angeles - 7-story UCLA Math-Science Bldg.
(CSMIP Station No. 24231)

SENSOR LOCATIONS



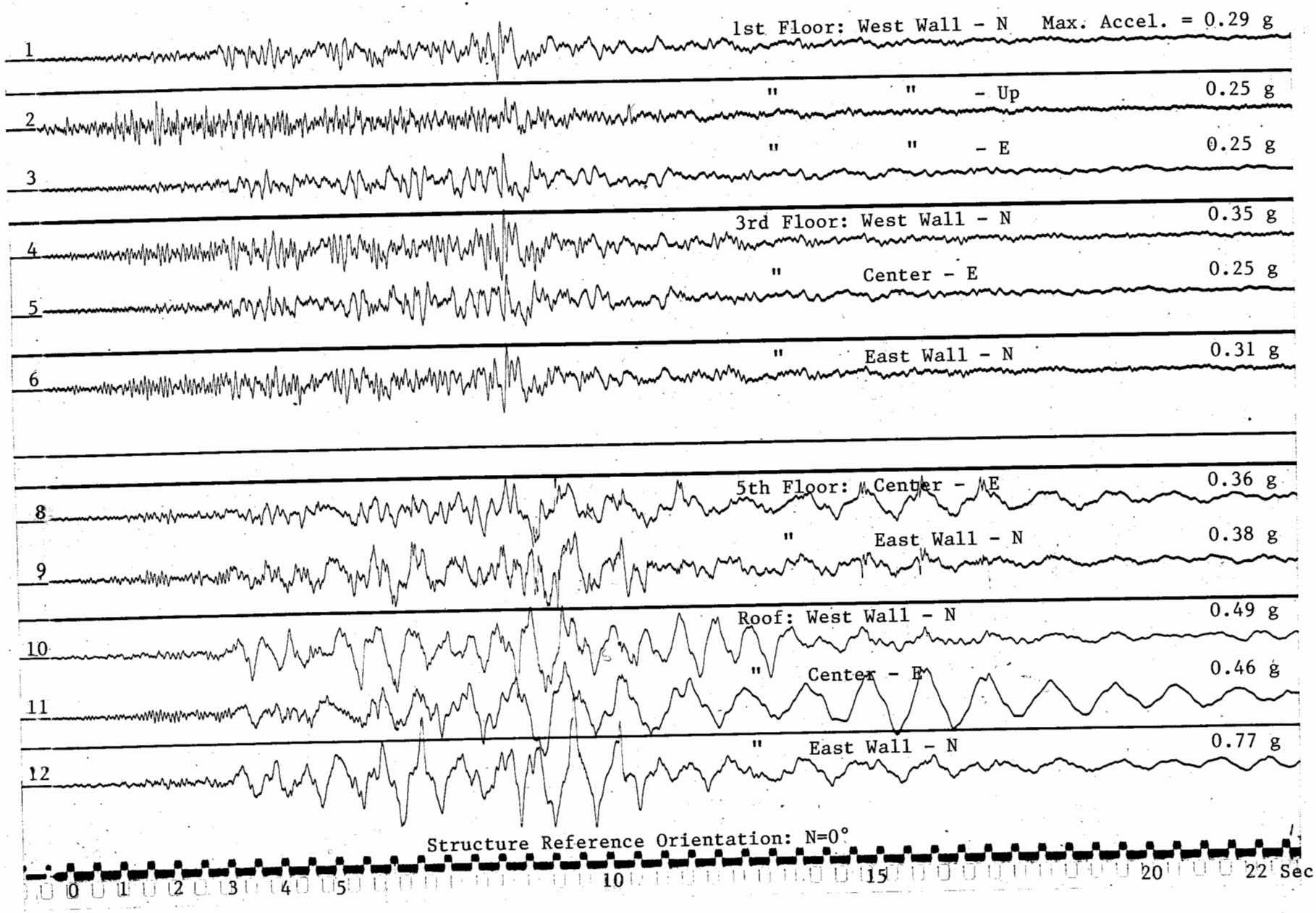
W/E Elevation



Structure Reference
Orientation: N = 0°

Los Angeles - 7-story UCLA Math-Science Bldg.
(CSMIP Station 24231)

Record 24231-C0113-940118:02



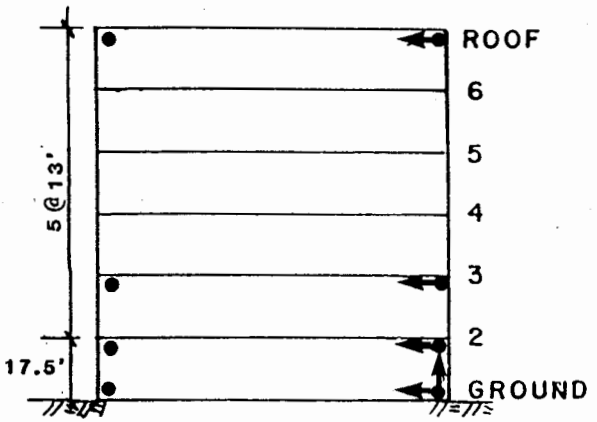
Burbank - 6-story Commercial Building
(CSMIP Station No. 24370)

No. of Stories above/below ground: 6/0
Plan Shape: Rectangular
Base Dimensions: 120′ x 120′
Typical Floor Dimensions: 120′ x 120′
Design Date: 1976
Construction Date: 1977

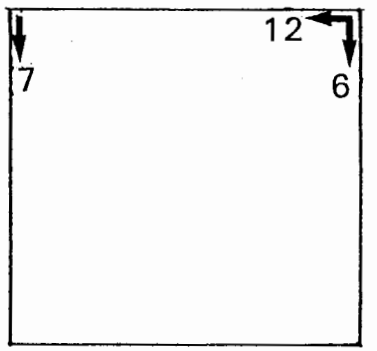
Vertical Load Carrying System:
3″ concrete slab over metal deck supported by steel frames.
Lateral Force Resisting System:
Perimeter moment resisting steel frames.
Foundation Type:
Concrete caissons (approx. 32′ deep).

Burbank - 6-story Commercial Bldg.
(CSMIP Station No. 24370)

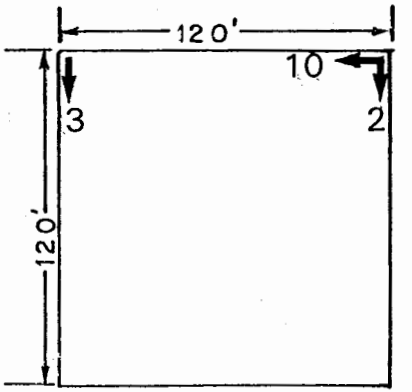
SENSOR LOCATIONS



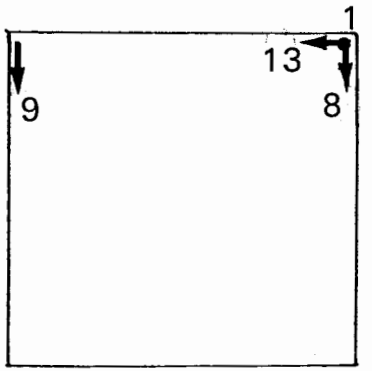
S/N Elevation



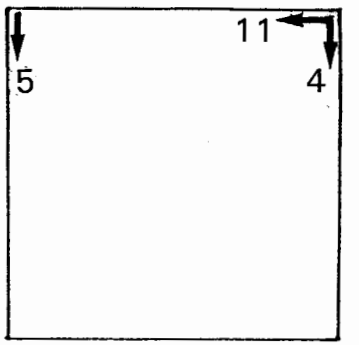
2nd Floor Plan



Roof Plan



Ground Floor Plan



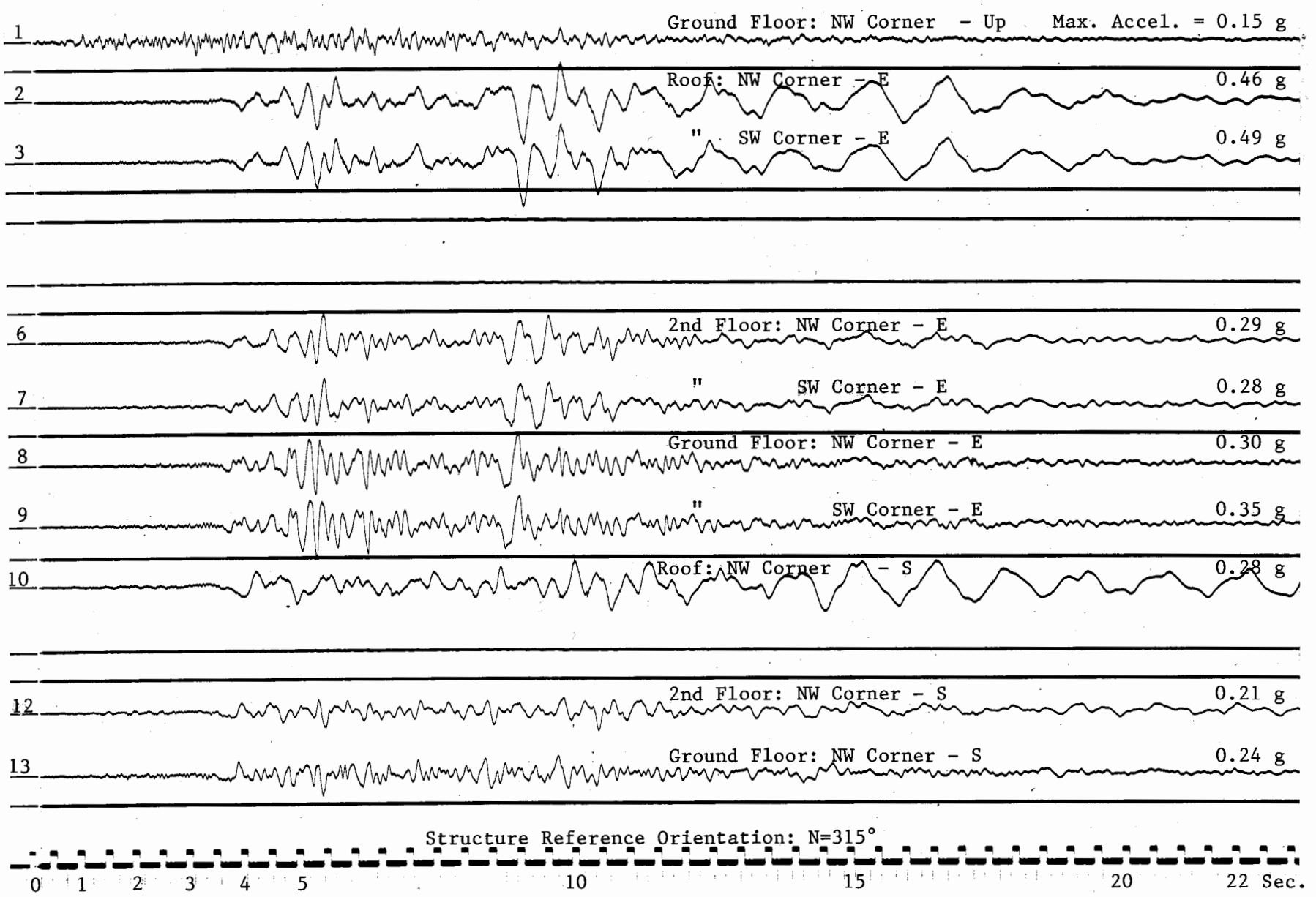
3rd Floor Plan

N_{ref}

Structure Reference
Orientation: N= 315°

Burbank - 6-story Commercial Bldg.
(CSMIP Station 24370)

Record 24370-C0196-94018.02



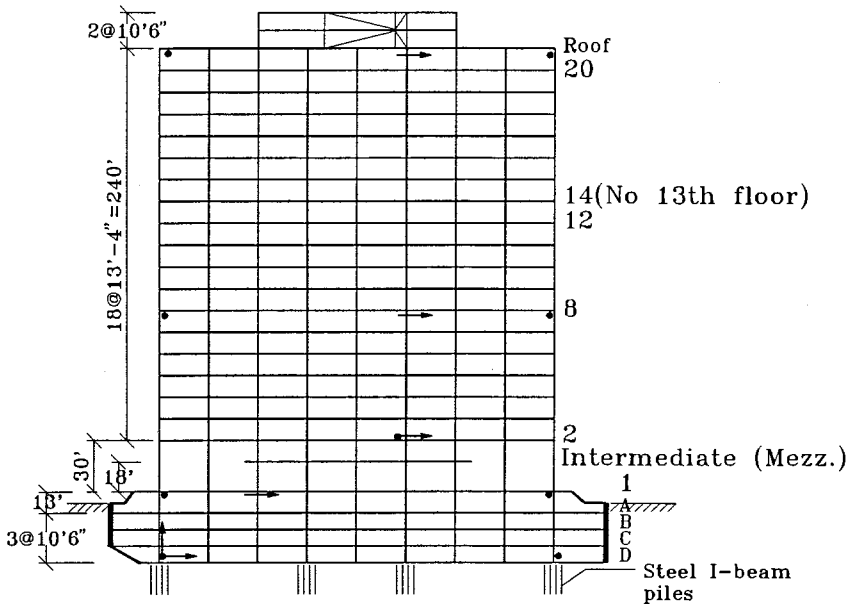
Los Angeles - 19-story Office Bldg.
(CSMIP Station No. 24643)

No. of Stories above/below ground: 19/4
Plan Shape: Rectangular
Base Dimensions: 303′ x 318′
Typical Floor Dimensions: 240′ x 110′
Design Date: 1966-67
Construction Date: 1967

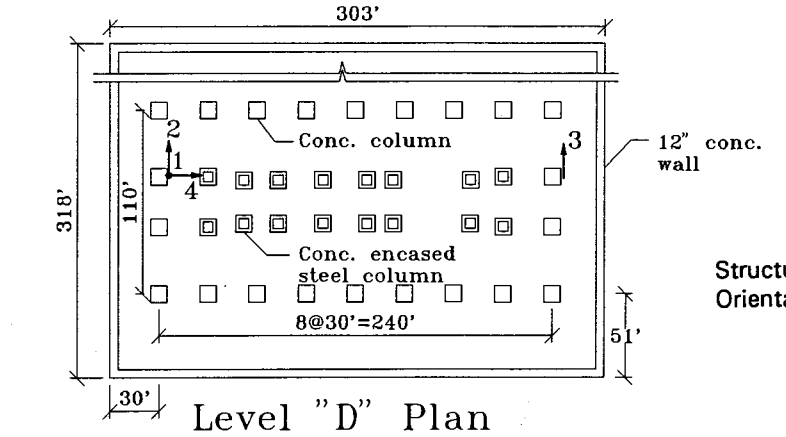
Vertical Load Carrying System:
4.5″ RC slab supported on steel frames.
Lateral Load Carrying System:
Moment resisting steel frames in the longitudinal and X-braced steel frames in the transverse direction.
Foundation Type:
72′ long, driven, steel I-beam piles.

Los Angeles - 19-story Office Bldg.
(CSMIP Station No. 24643)

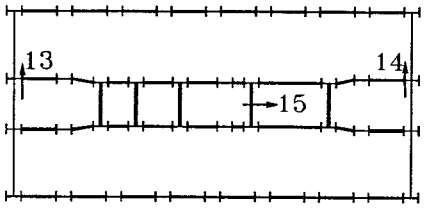
SENSOR LOCATIONS



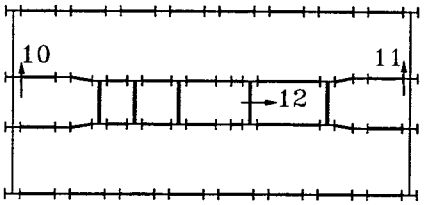
W/E Elevation



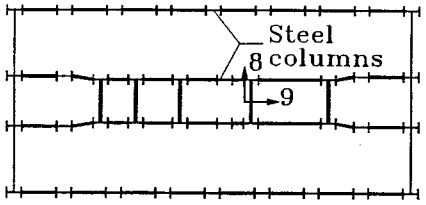
Level "D" Plan



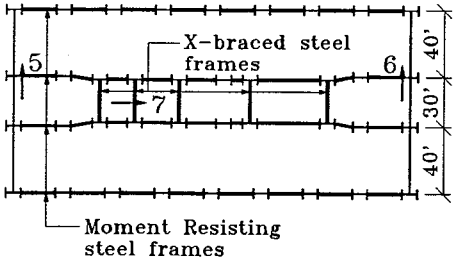
Roof Plan



8th Floor Plan



2nd Floor Plan



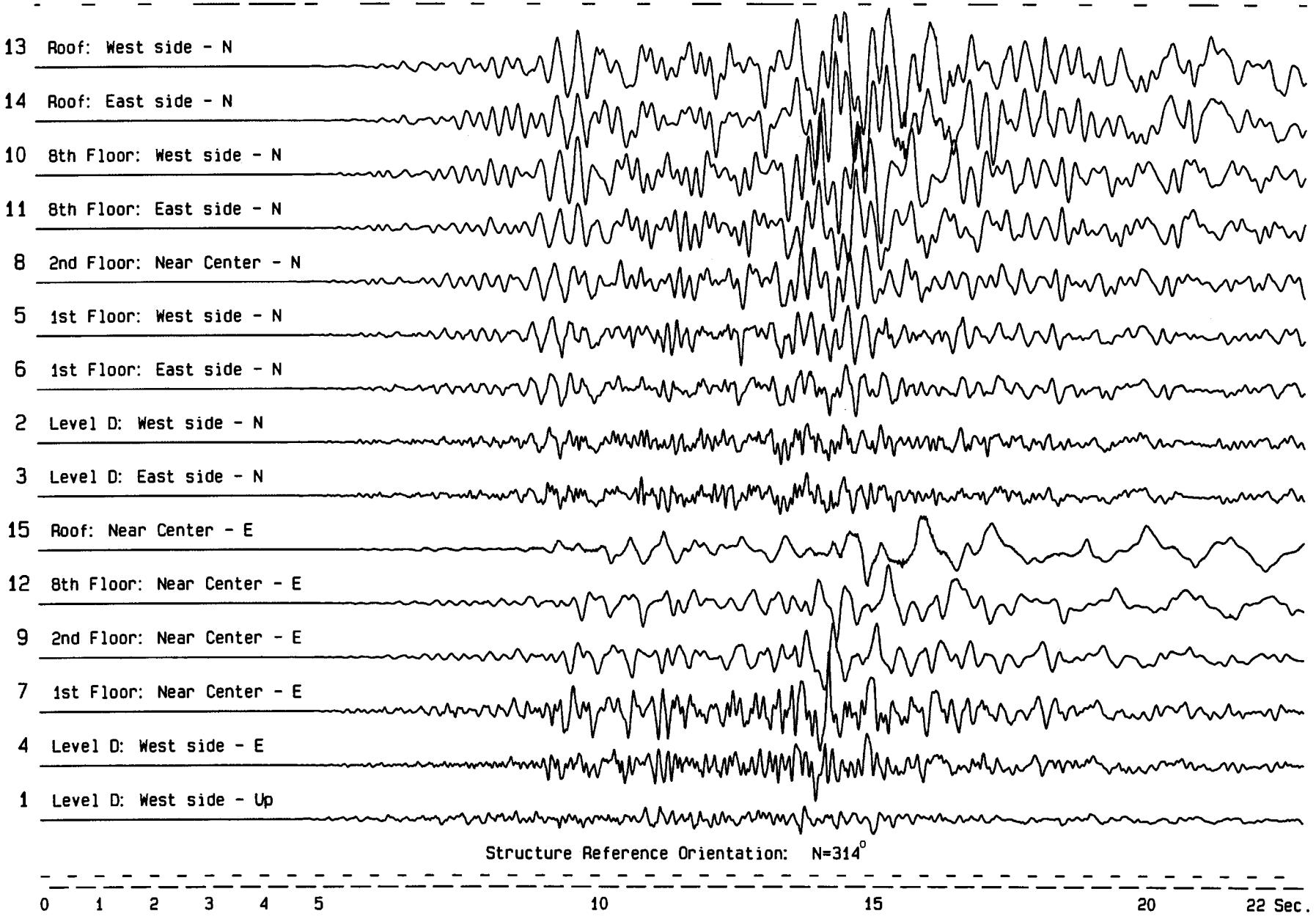
1st Floor Plan

N_{ref}

Structure Reference Orientation: N=314°

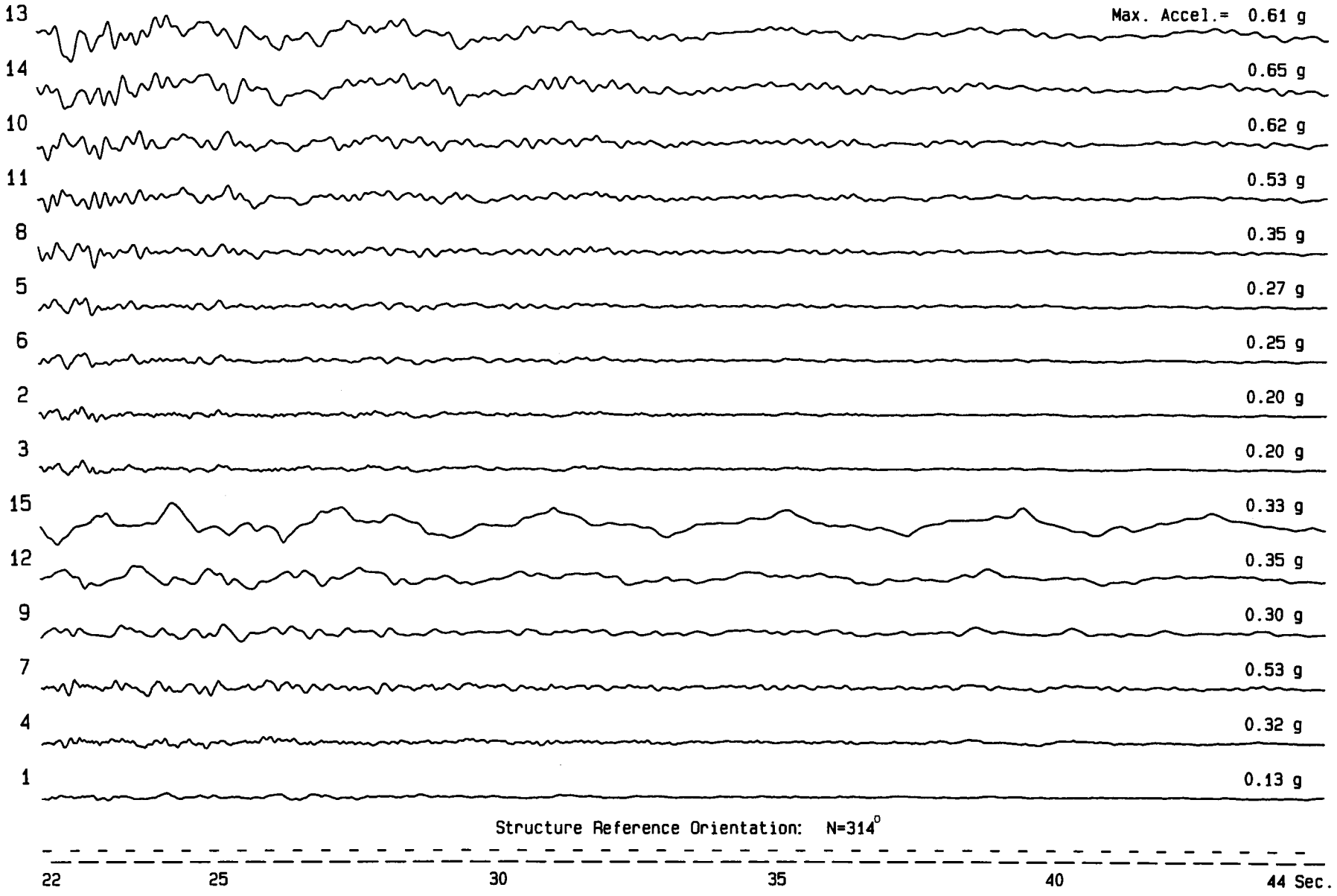
Los Angeles - 19-story Office Bldg.
(CSMIP Station 24643)

RECORD 24643-CS133-94017.05

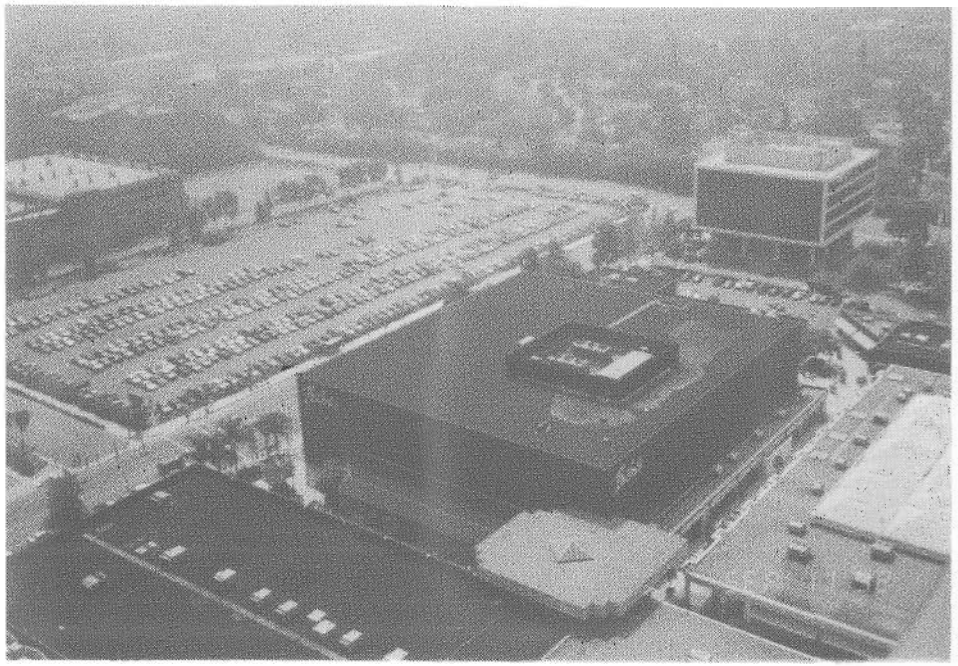


Los Angeles - 19-story Office Bldg.
(CSMIP Station 24643)

RECORD 24643-CS133-94017.05



Los Angeles - 3-story Commercial Building
(CSMIP Station No. 24332)

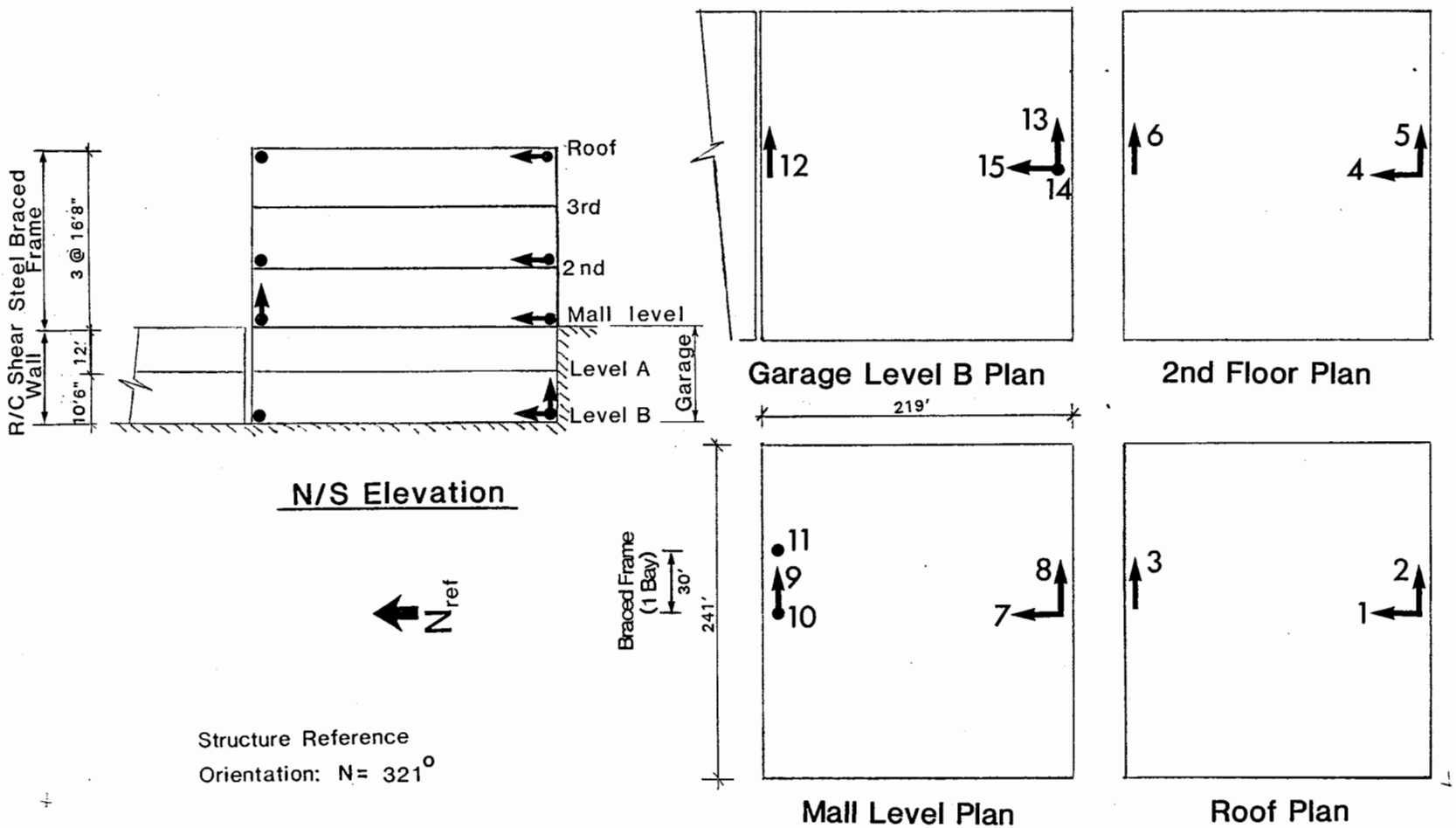


No. of Stories above/below ground: 3/2
Plan Shape: Rectangular
Base Dimensions: 520′ x 227′
Typical Floor Dimensions: 241′ x 219′
Design Date: 1974
Construction Date: 1975-76

Vertical Load Carrying System:
3.25″ light-weight concrete slab over metal deck in upper three stories; 18″ thick waffle slab in the basement.
Lateral Force Resisting System:
Steel braced frames in upper three stories; concrete shear walls in the basement.
Foundation Type:
Spread footings and drilled bell caissons.

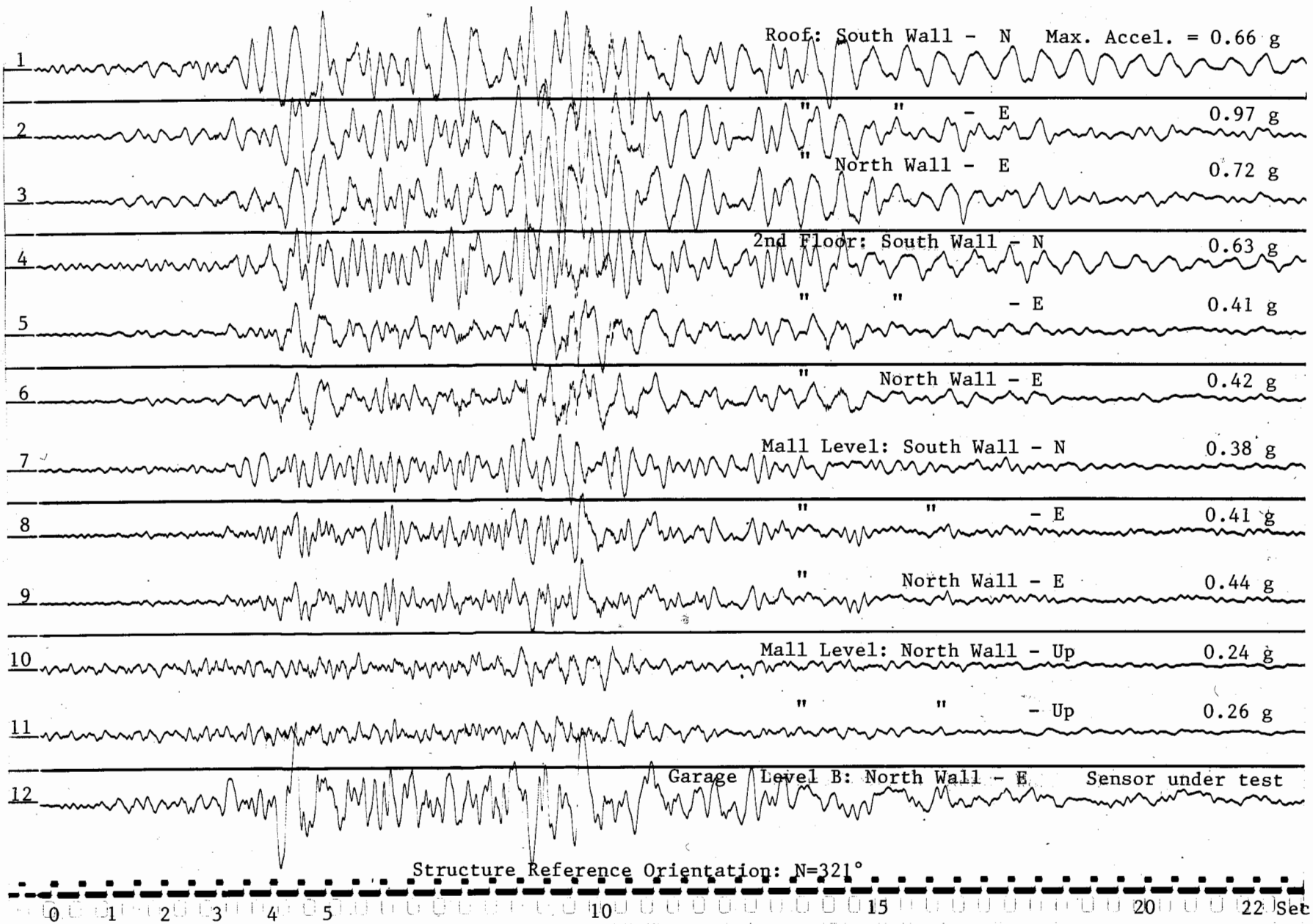
Los Angeles - 3-story Commercial Bldg.
(CSMIP Station No. 24332)

SENSOR LOCATIONS

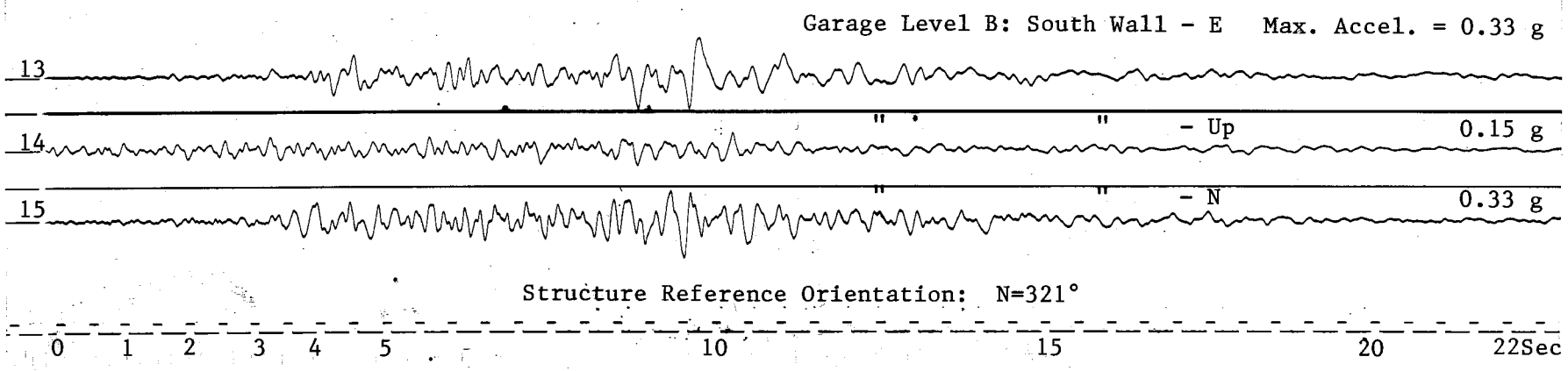


Los Angeles - 3-story Commercial Bldg.
(CSMIP Station 24332)

Record 24332-C0142-94021.02



Los Angeles - 3-story Commercial Bldg.
(CSMIP Station 24332) Record 24332-S2790-94021.02



Burbank - 10-story Residential Building
(CSMIP Station No. 24385)

No. of Stories above/below ground: 10/0
Plan Shape: Rectangular
Base Dimensions: 215′ x 75′
Typical Floor Dimensions: 215′ x 75′
Design Date: 1974
Construction Date: 1974

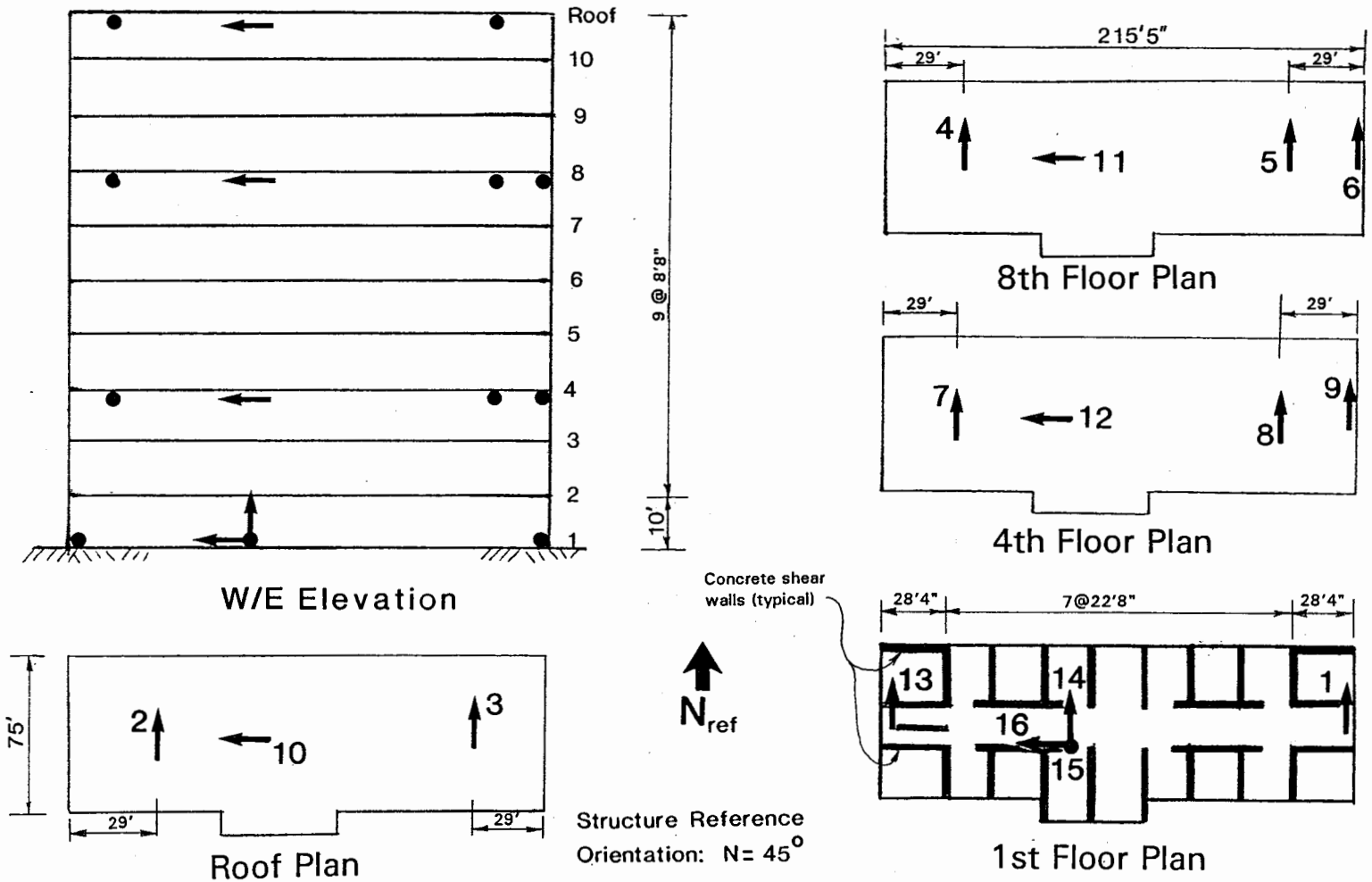
Vertical Load Carrying System:
Precast and poured-in-place concrete floor slabs supported by precast concrete bearing walls.

Lateral Force Resisting System:
Precast concrete shear walls in both directions.

Foundation Type:
Concrete caissons (25′ to 35′ deep).

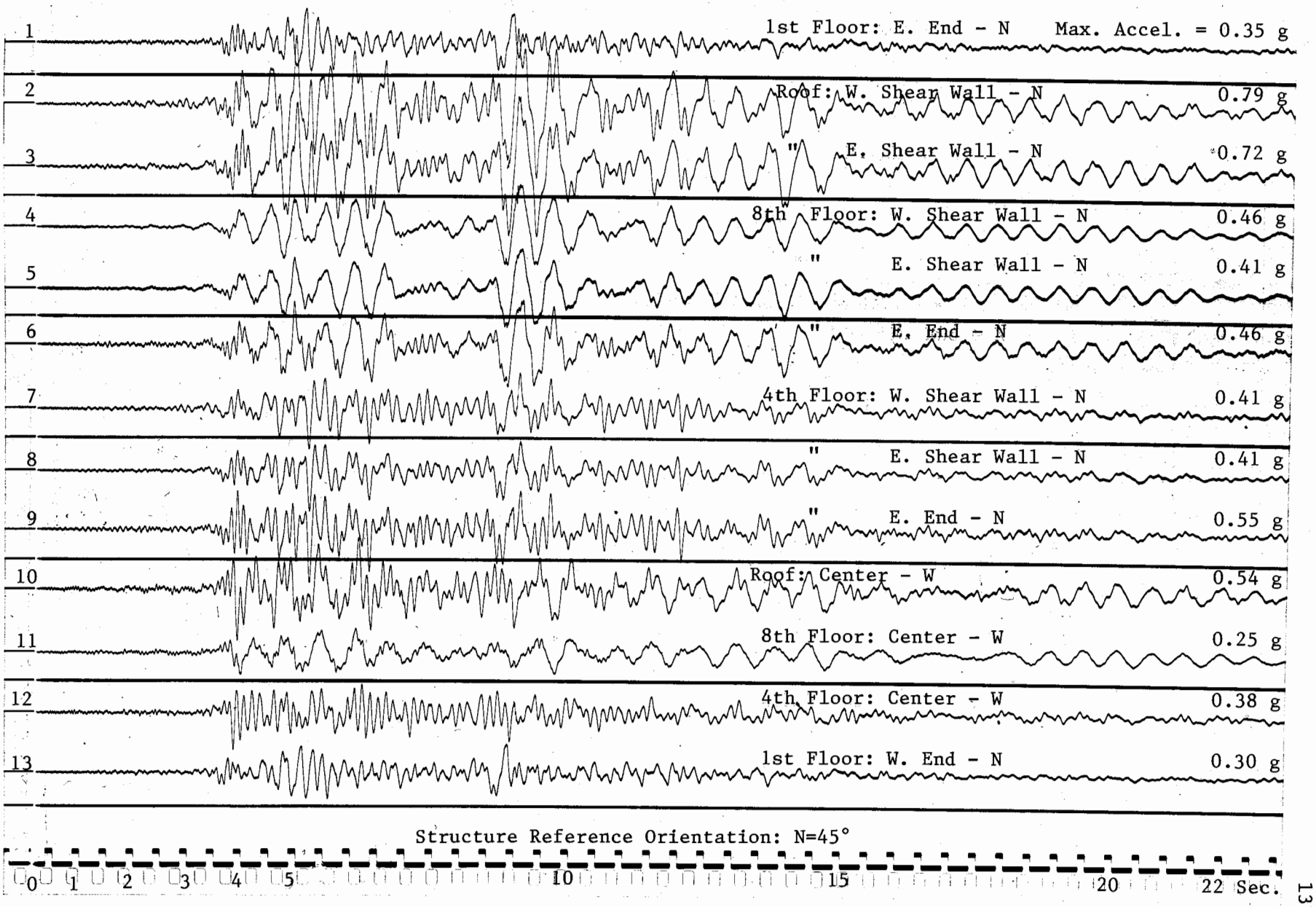
Burbank - 10-story Residential Bldg.
(CSMIP Station No. 24385)

SENSOR LOCATIONS



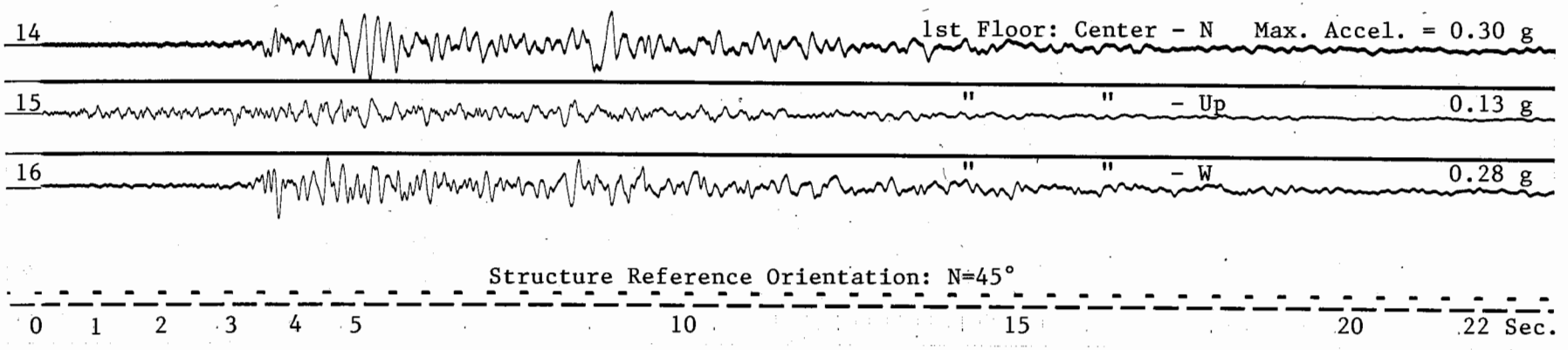
Burbank - 10-story Residential Bldg.
(CSMIP Station 24385)

Record 24385-C0193-94017.02



Burbank - 10-story Residential Bldg.
(CSMIP Station 24385)

Record 24385-S3486-94017.02



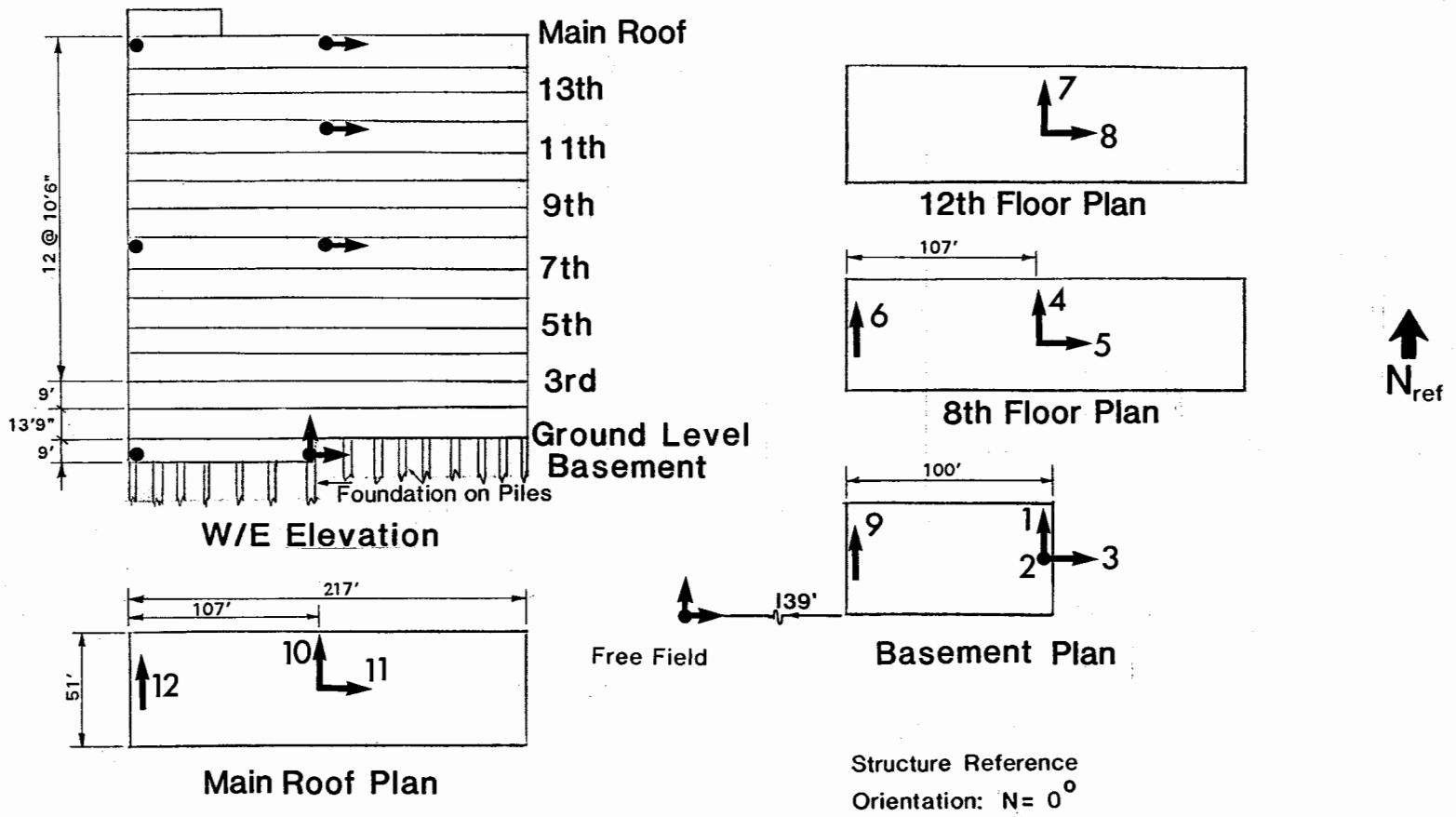
Los Angeles - Hollywood Storage Bldg.
(CSMIP Station No. 24236)

No. of Stories above/below ground: 14/1
Plan Shape: Rectangular
Base Dimensions: 217′ x 51′
Typical Floor Dimensions: 217′ x 51′
Design Date: 1925

Vertical Load Carrying System:
8″ concrete slabs supported by concrete frame.
Lateral Force Resisting System:
Reinforced concrete frames in both directions.
Foundation Type: Concrete piles.

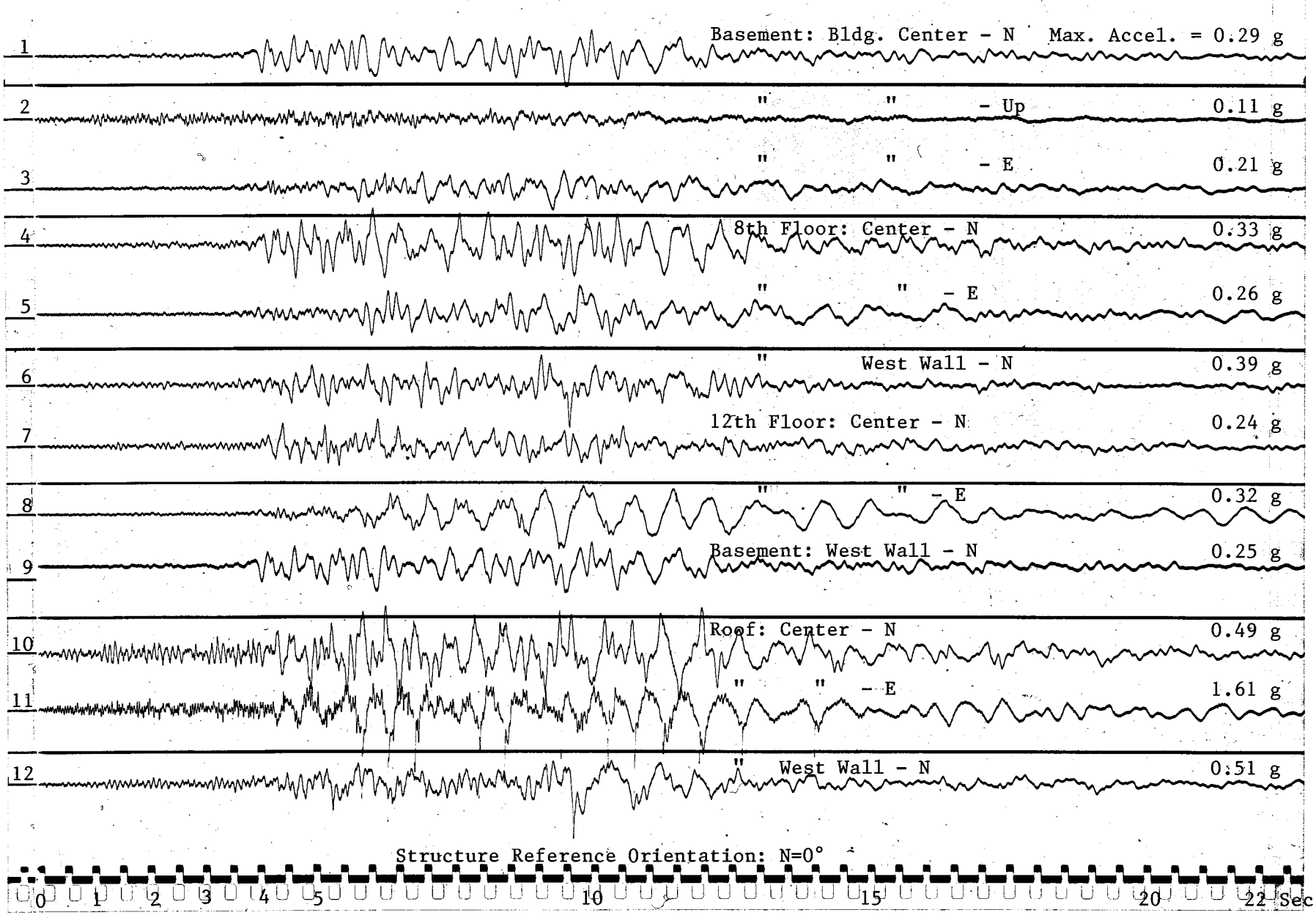
Los Angeles - Hollywood Storage Bldg.
(CSMIP Station No. 24236)

SENSOR LOCATIONS

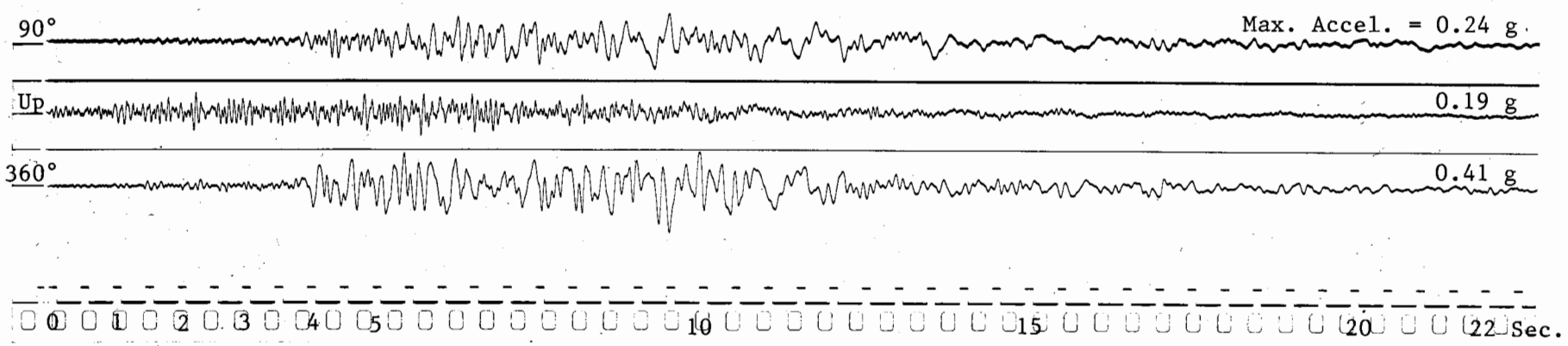


Los Angeles - Hollywood Storage Bldg.

(CSMIP Station 24236) Record 24236-C0124-94018.02



Los Angeles - Hollywood Storage Bldg. FF
(CSMIP Station 24303) Record 24303-S2774-94018.02



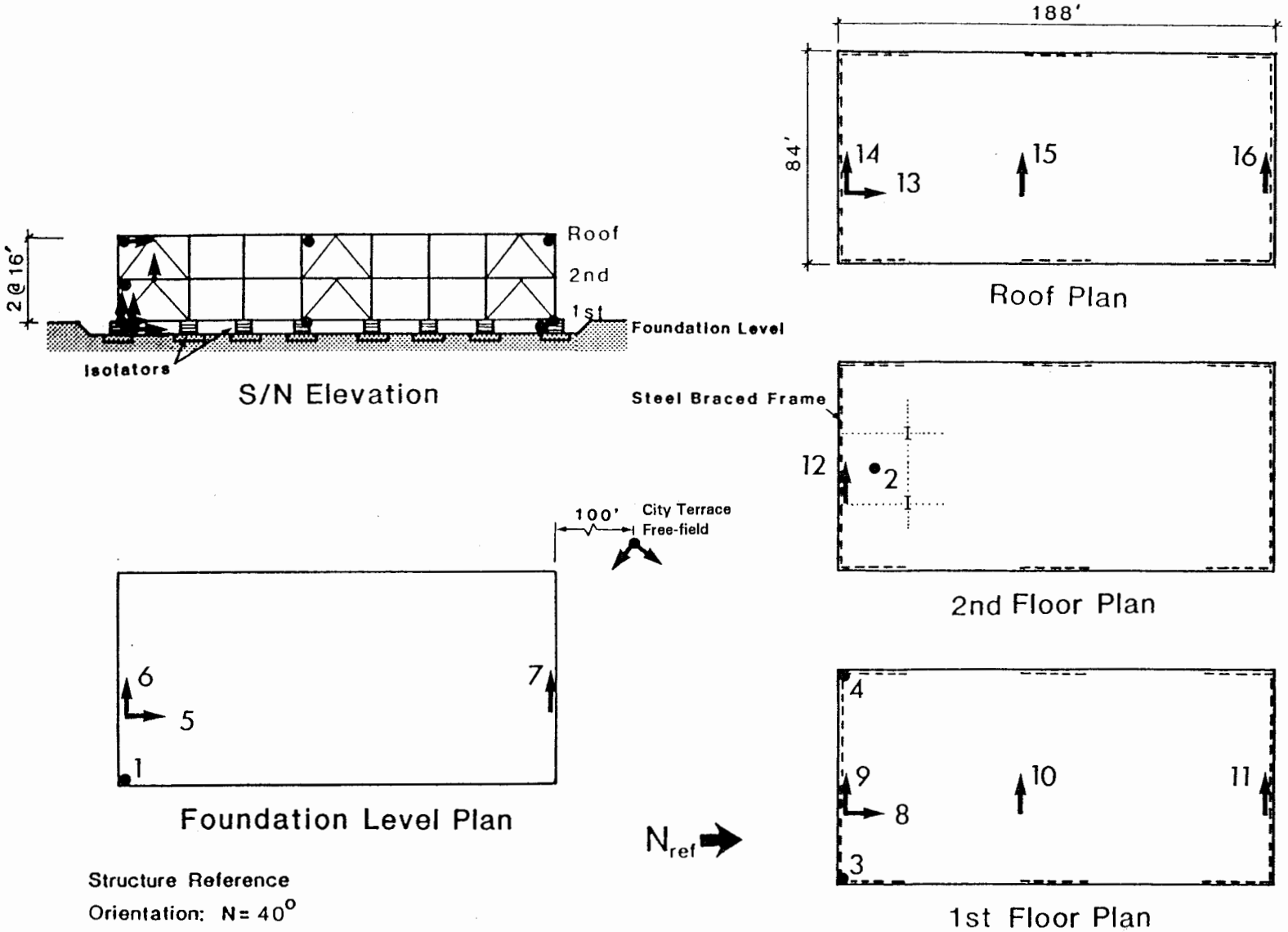
Los Angeles - 2-story Fire Command Control Bldg.
(CSMIP Station No. 24580)

No. of Stories above/below ground: 2/0
Plan Shape: Rectangular
Base Dimensions: 188′ x 84′
Typical Floor Dimensions: 188′ x 84′
Design Date: 1988
Construction Date: 1989-90

Vertical Load Carrying System:
Steel vented roof decking and steel decking with 3″-4″ concrete fill at 1st and 2nd floors, supported by steel frames and rubber bearings.
Lateral Force Resisting System:
Perimeter braced (Chevron) steel frames isolated by elastomeric bearings.
Foundation Type: Spread footings.

Los Angeles - 2-story Fire Command Control Bldg.
(CSMIP Station No. 24580)

SENSOR LOCATIONS

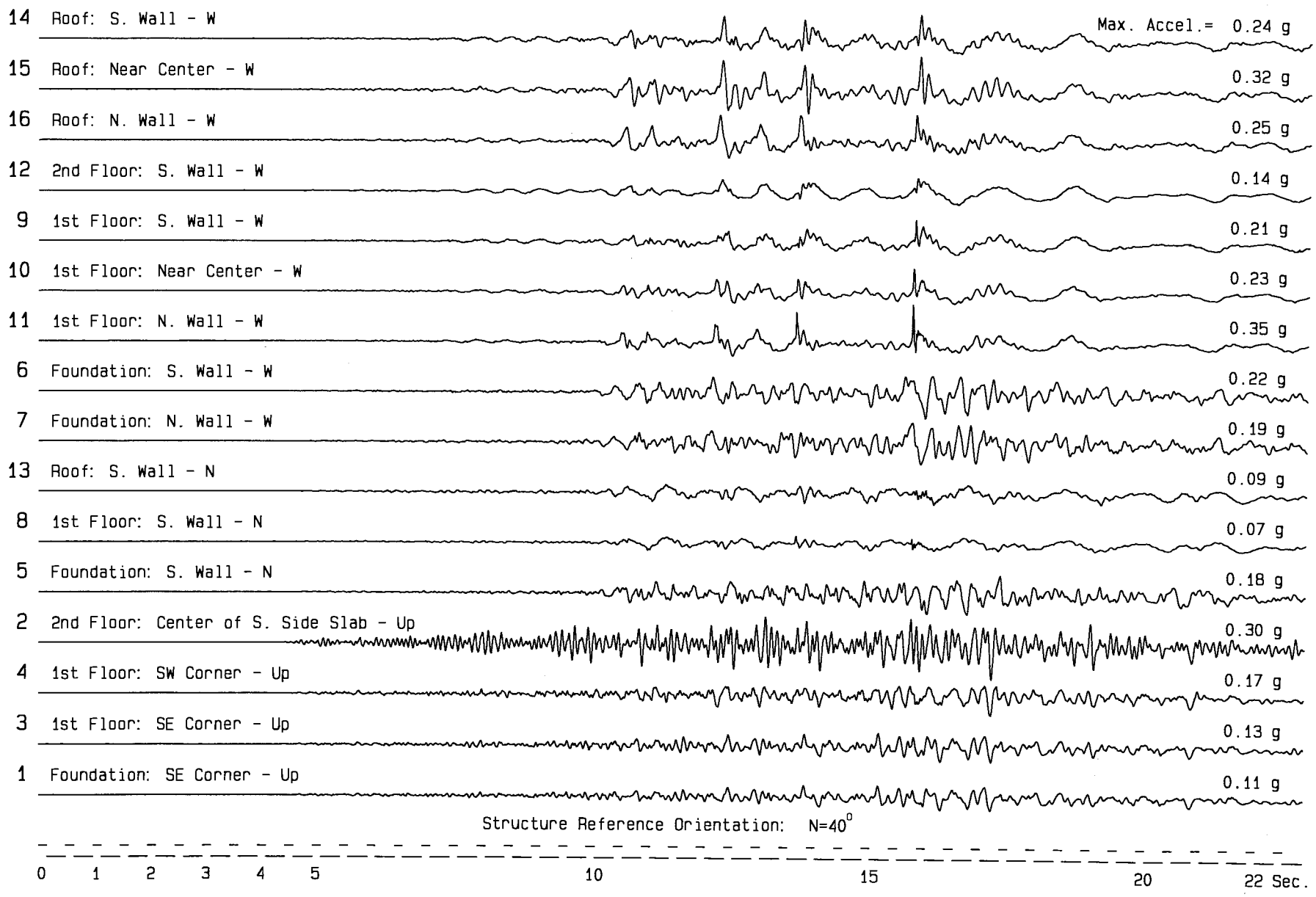


Structure Reference
Orientation: N= 40°

Los Angeles - 2-story Fire Command Control Bldg.

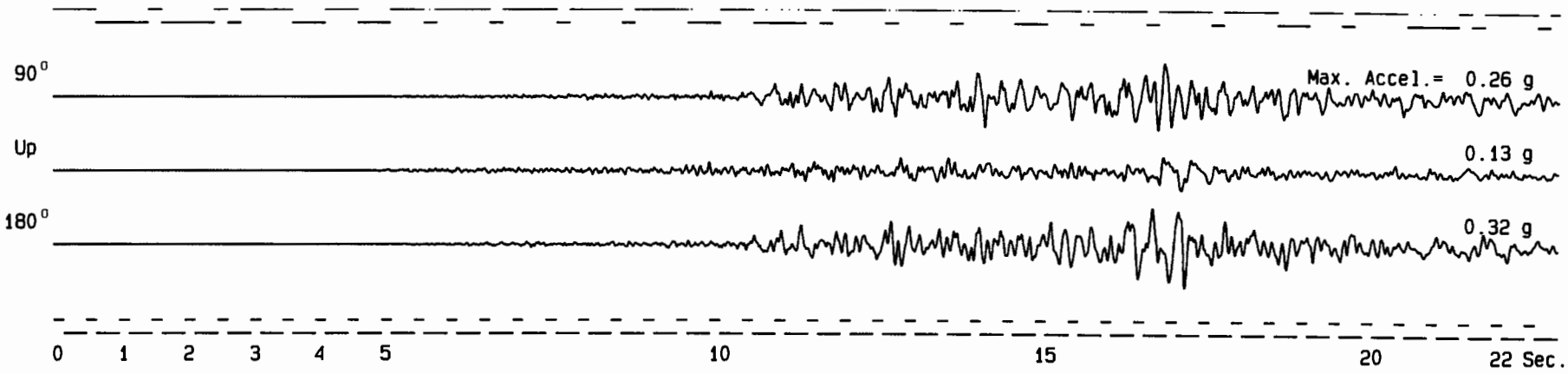
(CSMIP Station 24580)

RECORD 24580-CS104-94017.03

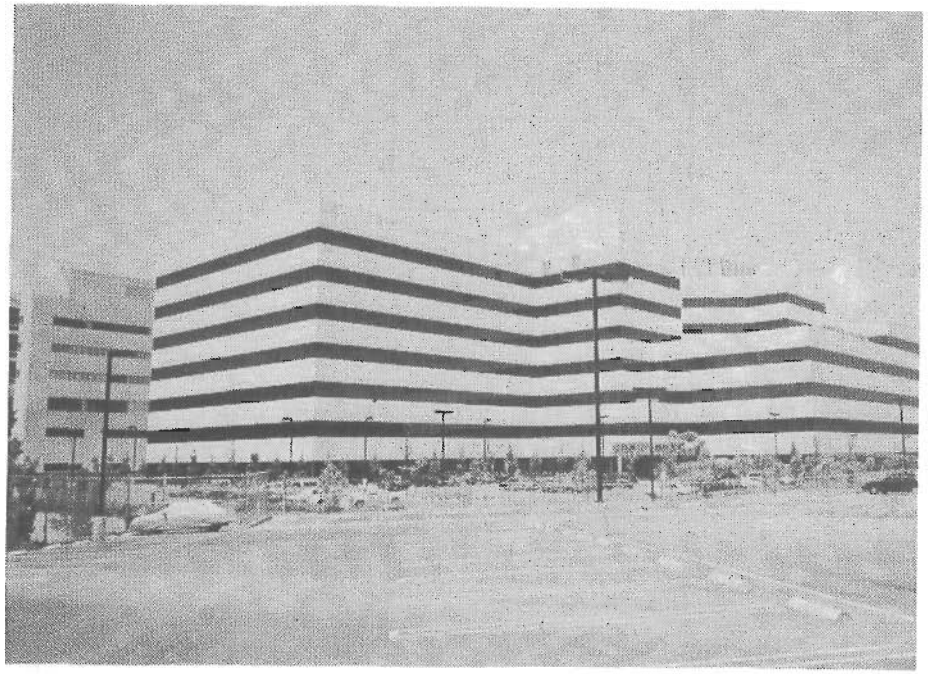


Los Angeles - City Terrace
(CSMIP Station 24592)

RECORD 24592-E0248-94018.02



Los Angeles - 7-story University Hospital
(CSMIP Station No. 24605)

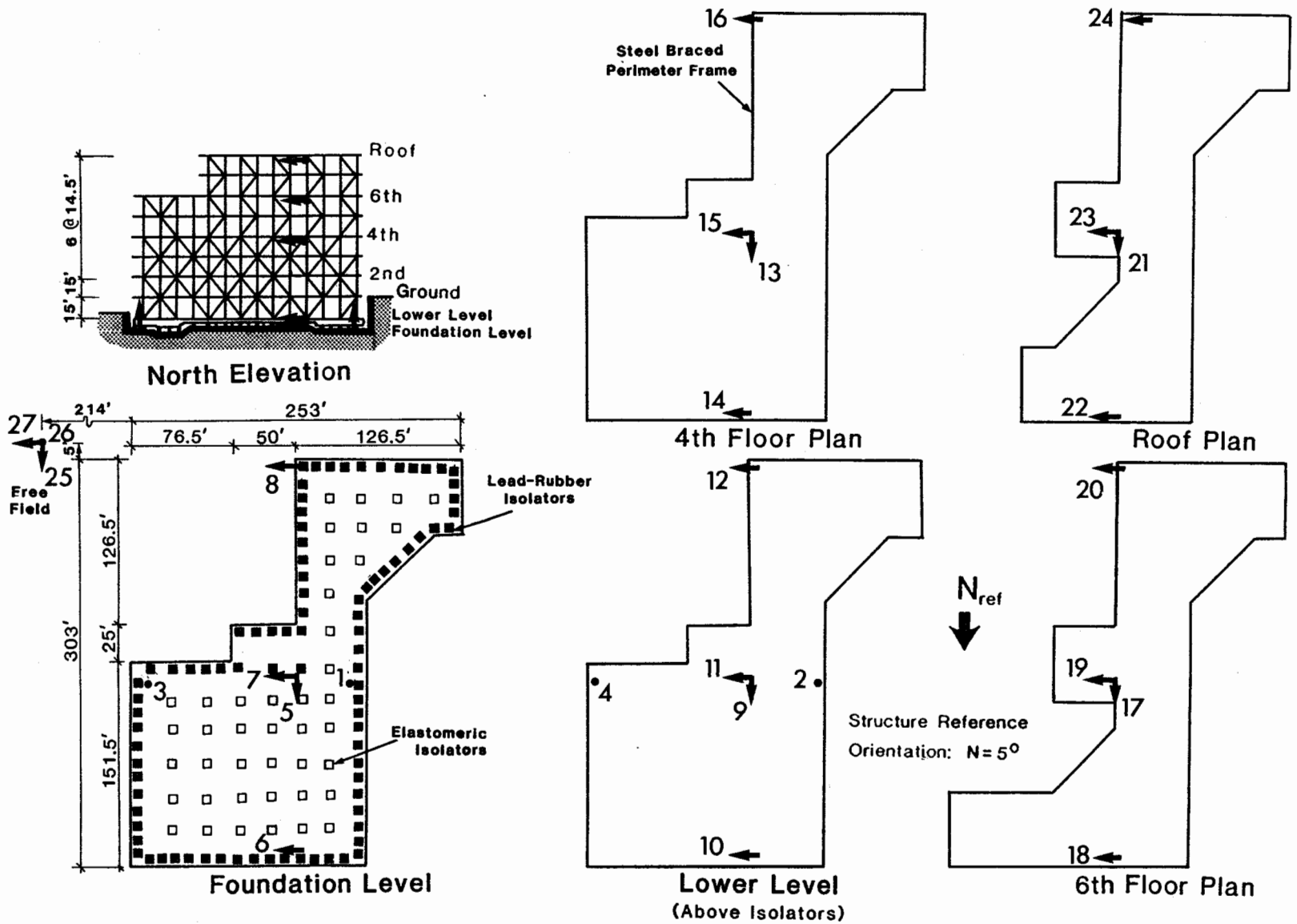


No. of Stories above/below ground: 7/1
Plan Shape: "S" shaped
Base Dimensions: 363′ x 253′
Typical Floor Dimensions: 303′ x 253′
Design Date: 1988
Construction Date: 1989-91

Vertical Load Carrying System:
Concrete slabs over steel deck supported by steel frames and rubber isolators.
Lateral Force Resisting System:
Diagonally braced perimeter steel frames isolated by lead-rubber and elastomeric isolators.
Foundation Type:
Continuous and isolated spread footings.

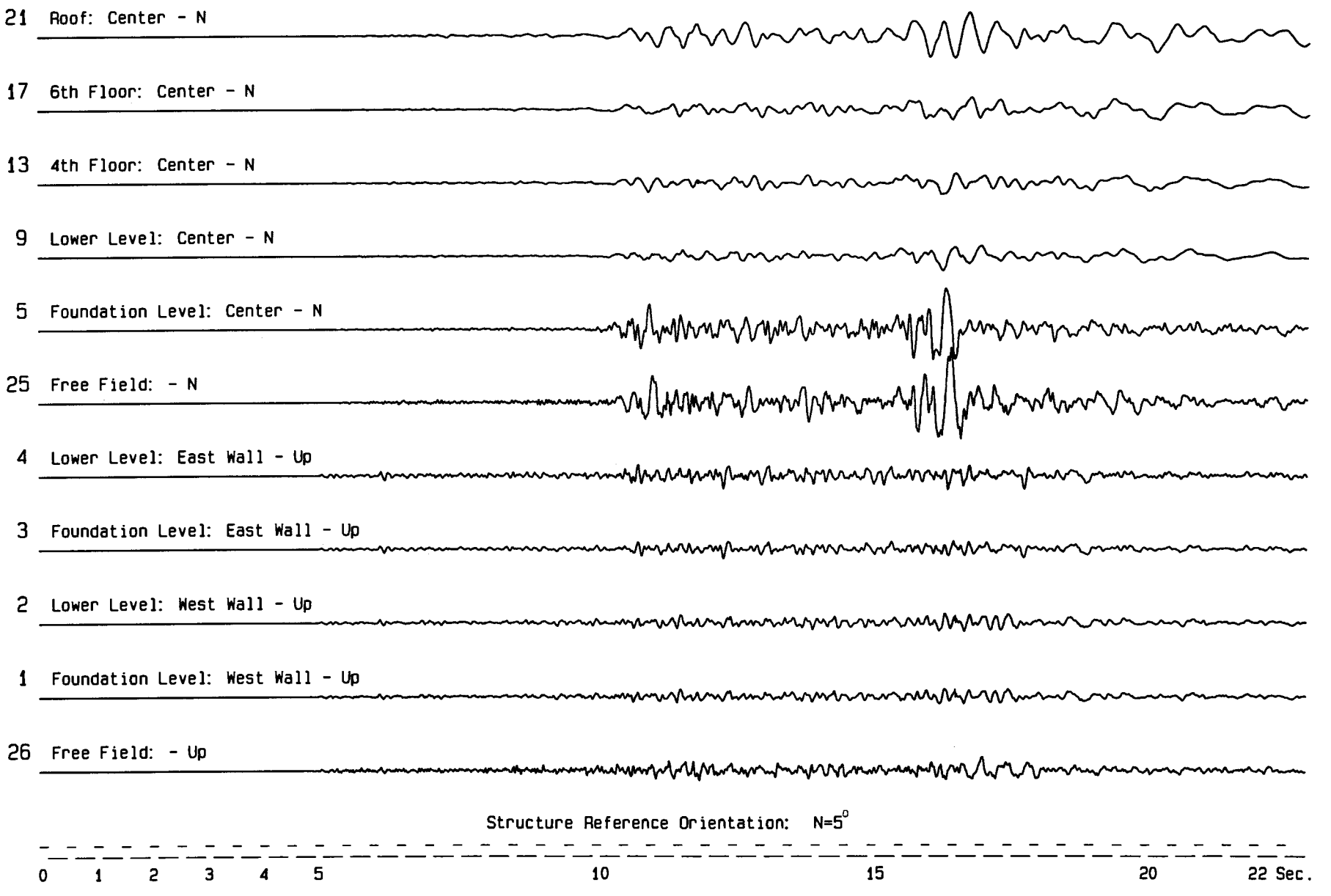
Los Angeles - 7-story University Hospital
(CSMIP Station No. 24605)

SENSOR LOCATIONS



Los Angeles - 7-story University Hospital
(CSMIP Station 24605)

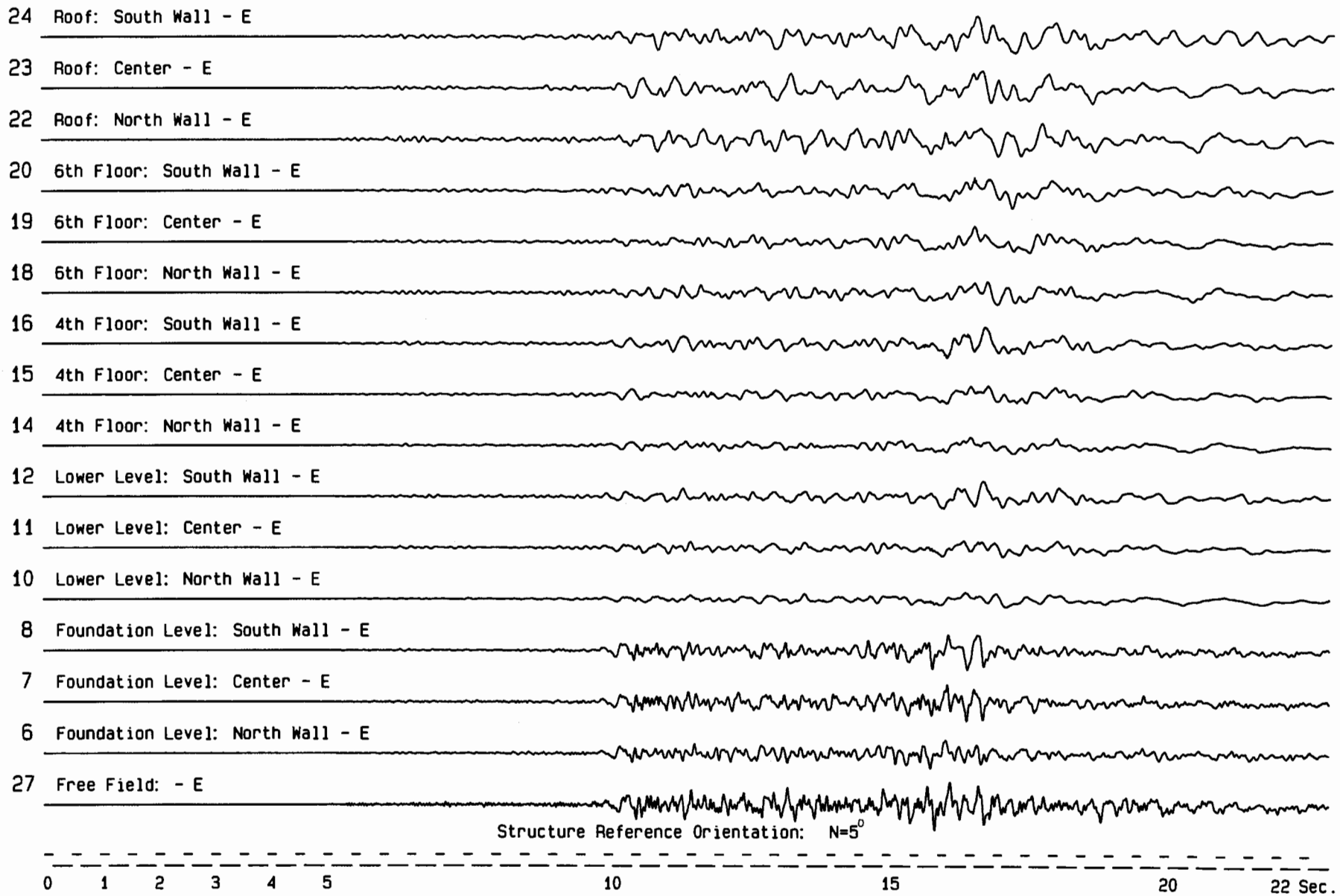
RECORD 24605-C0115-94017.02



Los Angles - 7-story University Hospital

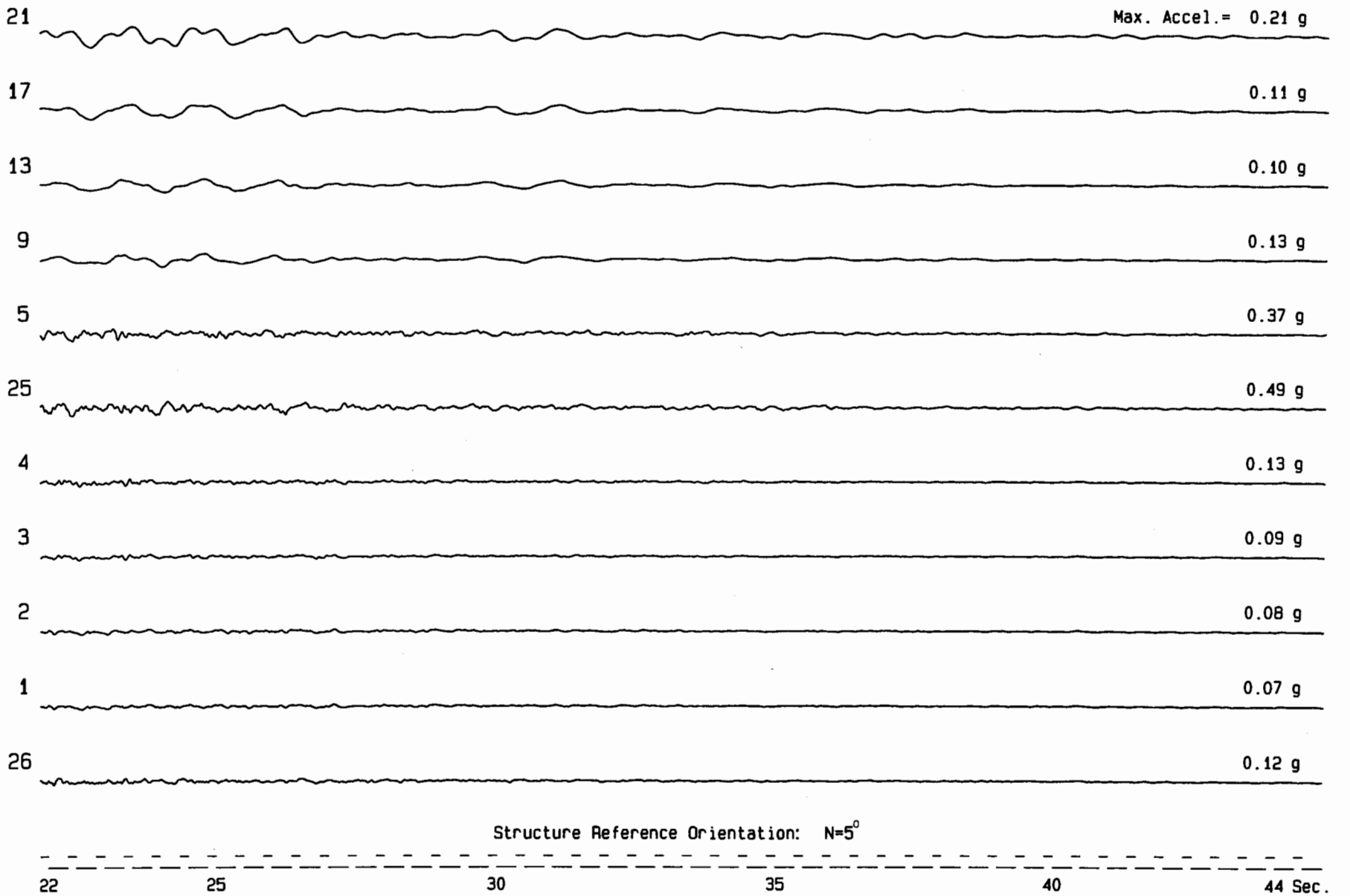
(CSMIP Station 24605)

RECORD 24605-C0115-94017.02



Los Angeles - 7-story University Hospital
(CSMIP Station 24605)

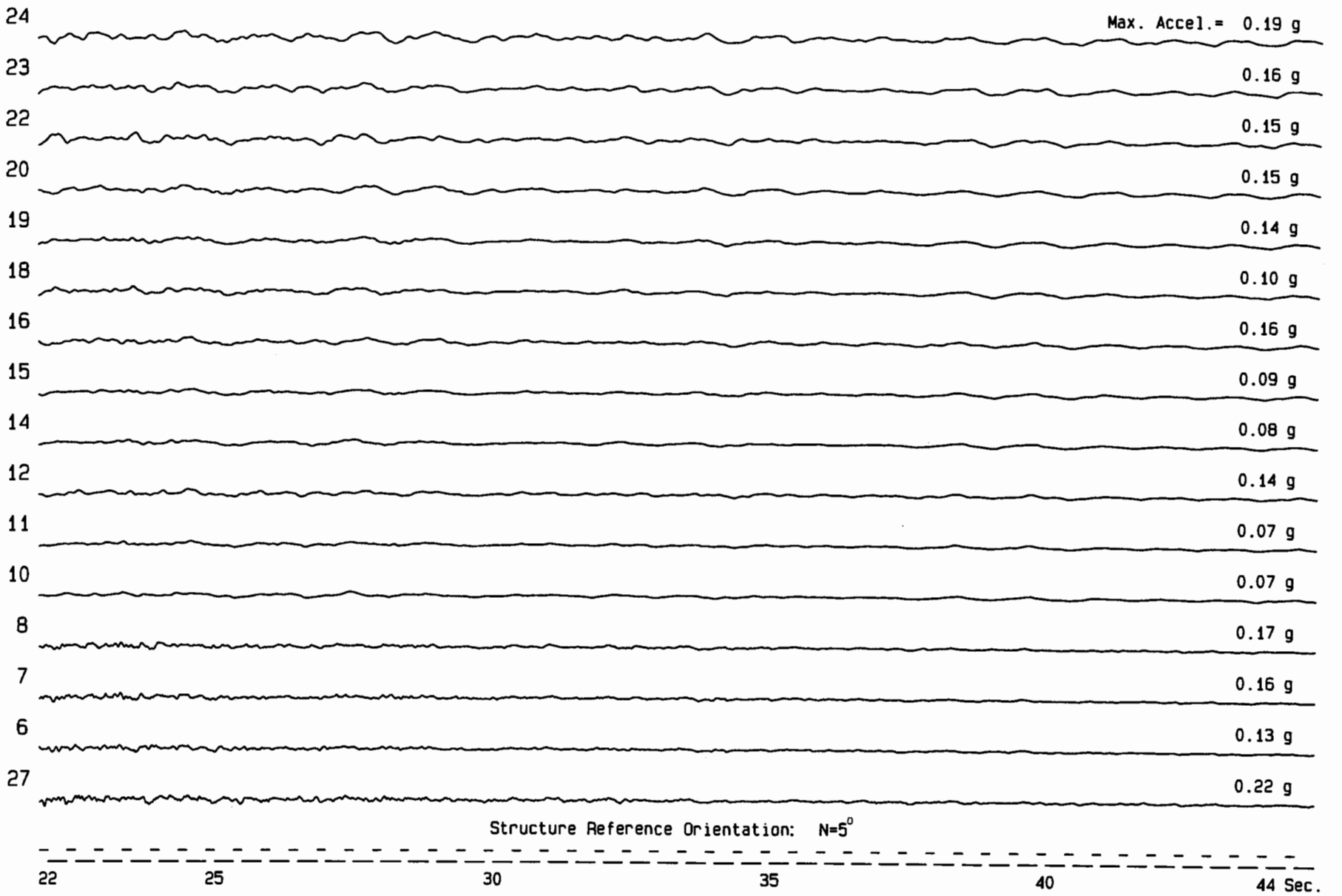
RECORD 24605-C0115-94017.02



Los Angles - 7-story University Hospital

(CSMIP Station 24605)

RECORD 24605-C0115-94017.02



Los Angeles - 6-story Parking Structure
(CSMIP Station No. 24655)

No. of Stories above/below ground: 6/0
Plan Shape: Rectangular
Base Dimensions: 259′ x 306′
Typical Floor Dimensions: 259′ x 306′
Design Date: 1975 & 78
Construction Date: 1977 & 79

Note: Upper three stories were added in 1979

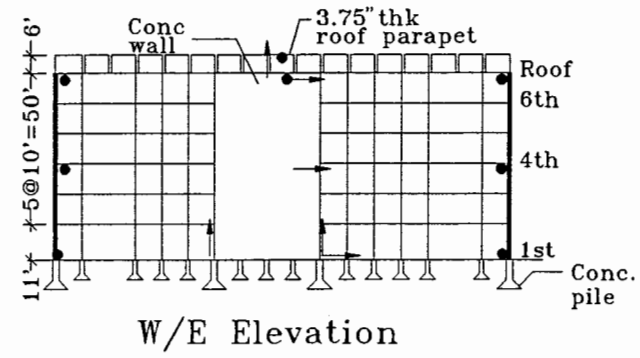
Vertical Load Carrying System:
5.75″ concrete slabs and 5″ post-tensioned concrete slabs supported by precast concrete beams and columns.

Lateral Force Resisting System:
Six cast-in-place concrete shear walls in N/S direction and two cast-in-place concrete shear walls in E/W direction.

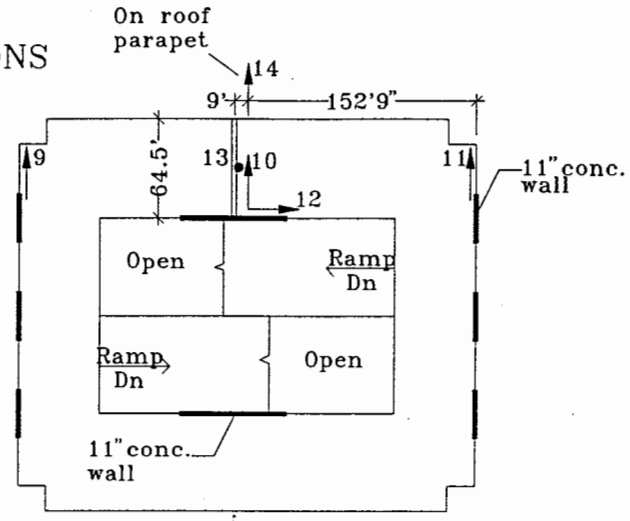
Foundation Type: Drilled concrete caissons.

Los Angeles - 6-story Parking Structure
(CSMIP Station No. 24655)

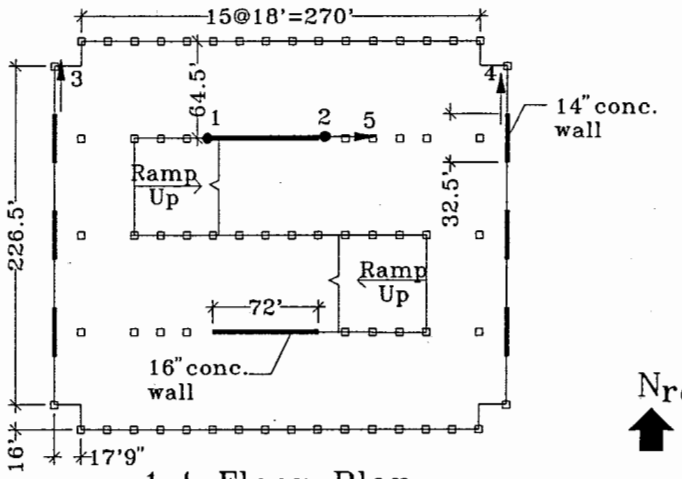
SENSOR LOCATIONS



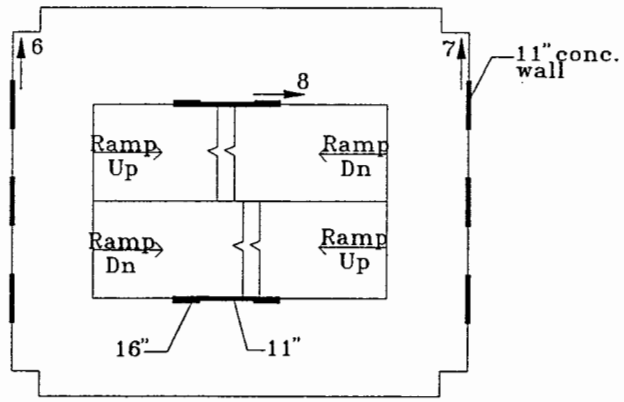
W/E Elevation



Roof Plan



1st Floor Plan



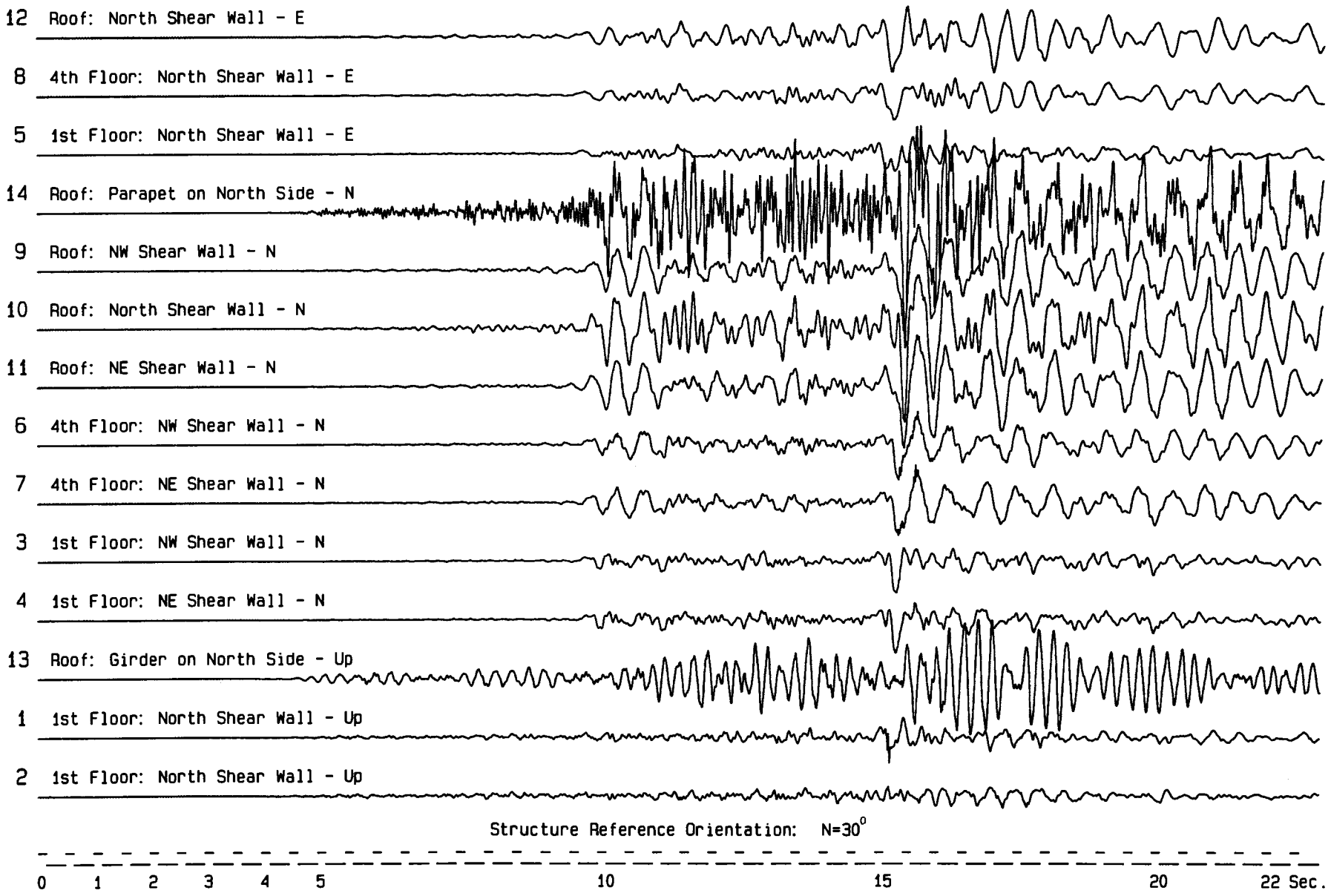
4th Floor Plan

Structure Reference Orientation: N=30°

Los Angeles - 6-story Parking Structure

(CSMIP Station 24655)

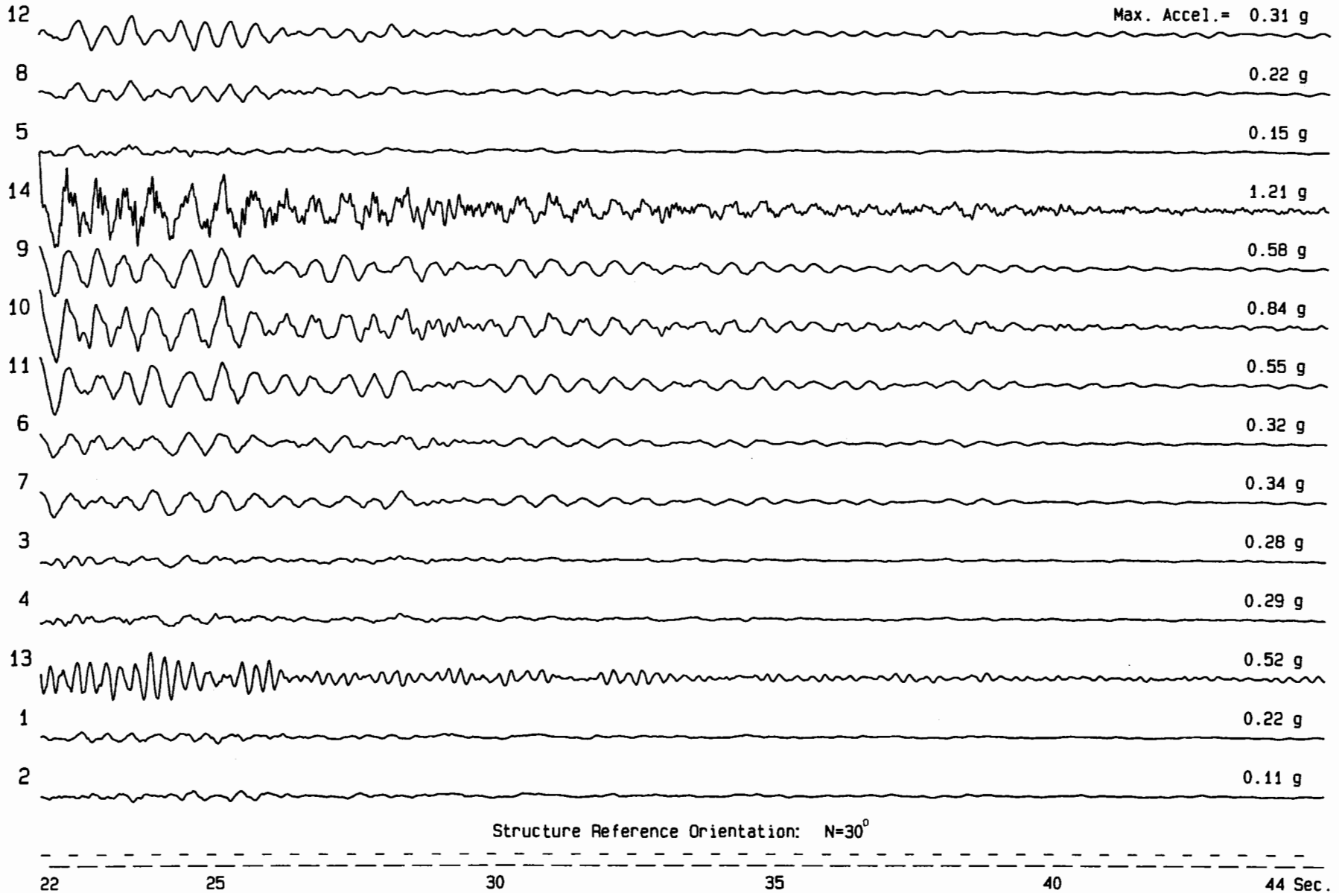
RECORD 24655-C0103-94017.03



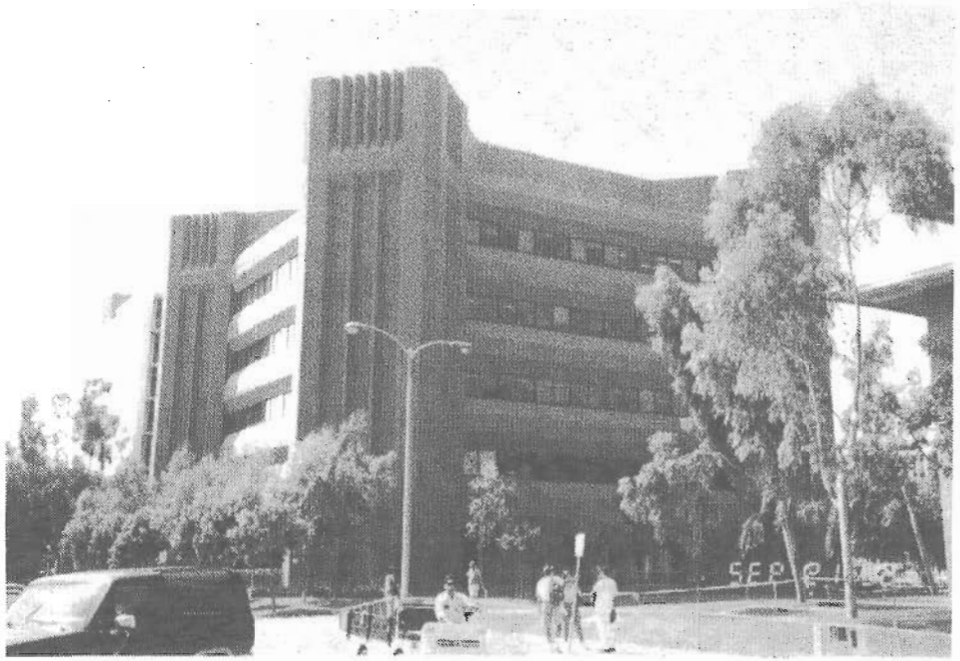
Los Angeles - 6-story Parking Structure

(CSMIP Station 24655)

RECORD 24655-C0103-94017.03



Los Angeles - 6-story Office Bldg.
(CSMIP Station No. 24652)



No. of Stories above/below ground: 5/1
Plan Shape: Square
Base Dimensions: 94′ × 94′
Typical Floor Dimensions: 94′ × 94′
Design Date: 1988
Construction Date: 1989

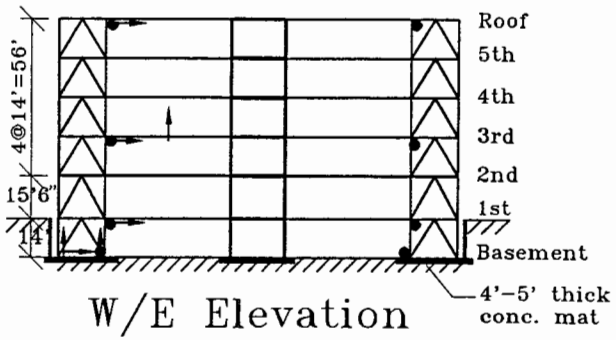
Vertical Load Carrying System:
Concrete slabs over metal deck supported by steel frames.

Lateral Force Resisting System:
Chevron type steel braced frames for lateral resistance; steel moment frames for torsional resistance.

Foundation Type:
Mat foundations for four towers; spread footings elsewhere.

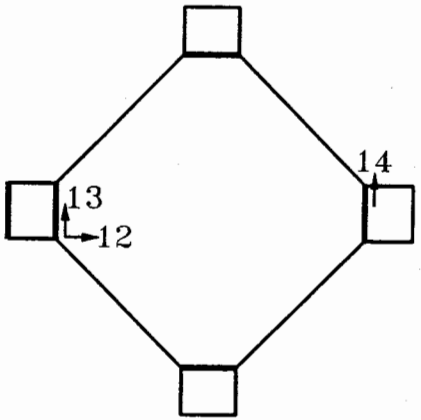
Los Angeles - 6-story Office Bldg.
(CSMIP Station No. 24652)

SENSOR LOCATIONS

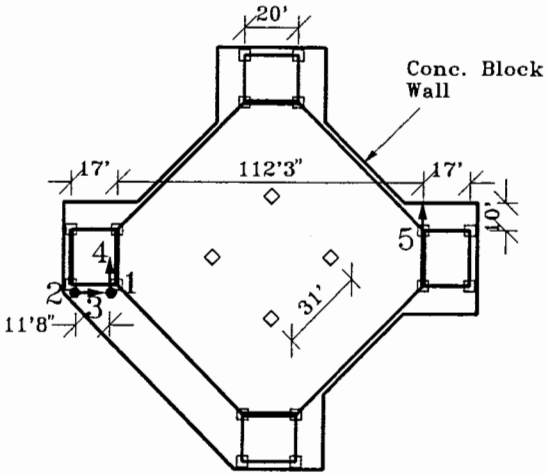


W/E Elevation

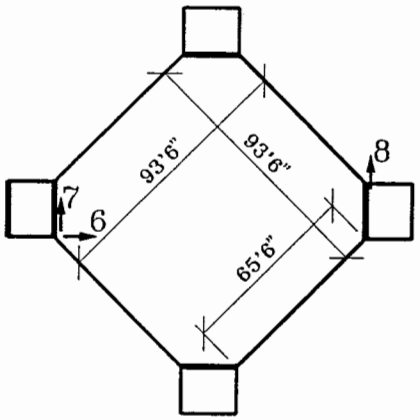
Structure Reference Orientation: N=345°



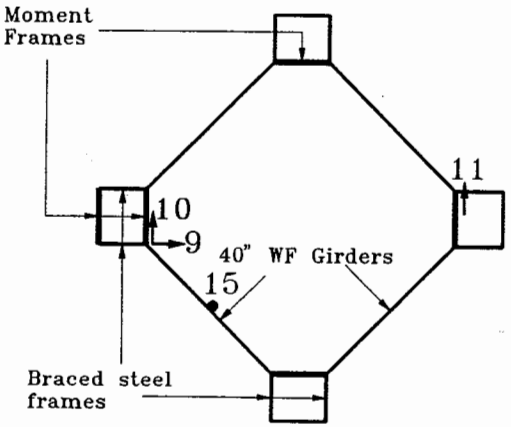
Roof Plan



Basement Plan



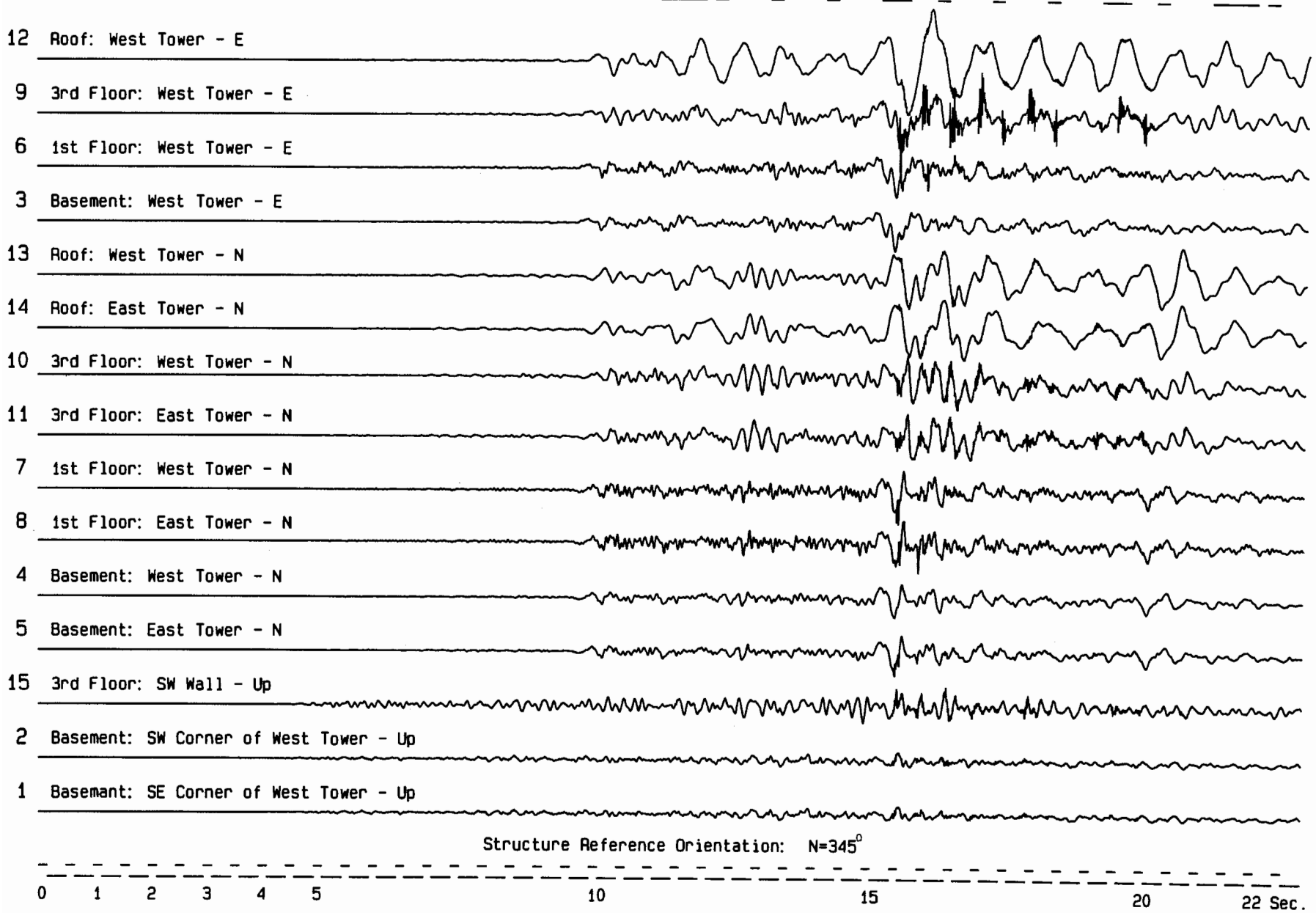
1st Floor Plan



3rd Floor Plan

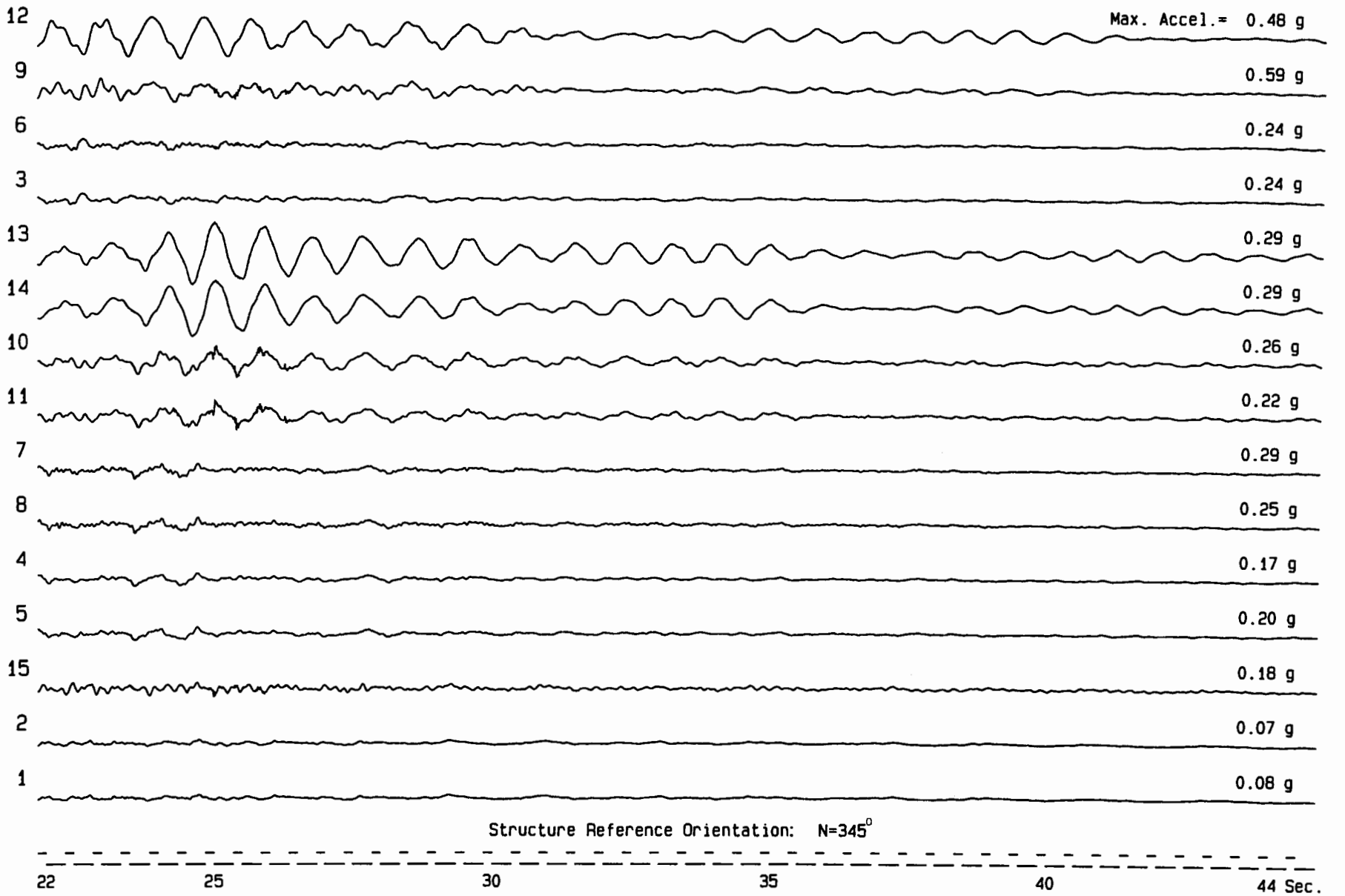
Los Angeles - 6-story Office Bldg.
(CSMIP Station 24652)

RECORD 24652-CS102-94017.03



Los Angeles - 6-story Office Bldg.
(CSMIP Station 24652)

RECORD 24652-CS102-94017.03



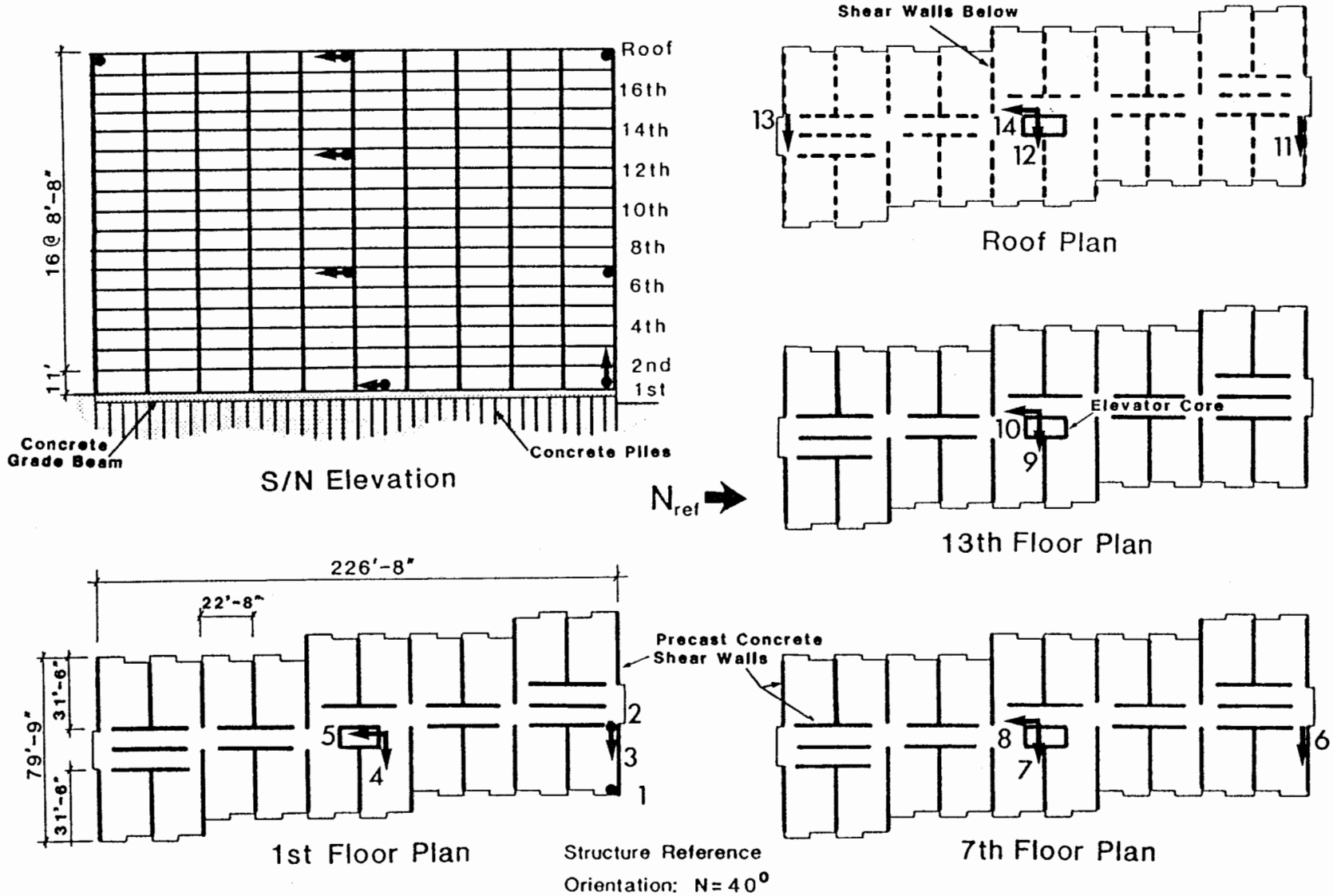
Los Angeles - 17-story Residential Bldg.
(CSMIP Station No. 24601)

No. of Stories above/below ground: 17/0
Plan Shape: Rectangular
Base Dimensions: 227′ x 80′
Typical Floor Dimensions: 227′ x 80′
Design Date: 1980
Construction Date: 1982

Vertical Load Carrying System:
4" or 8" precast, pretensioned concrete slabs supported by precast concrete walls.
Lateral Force Resisting System:
Distributed precast concrete shear walls.
Foundation Type:
Concrete drilled piles (44″ - 54′ long).

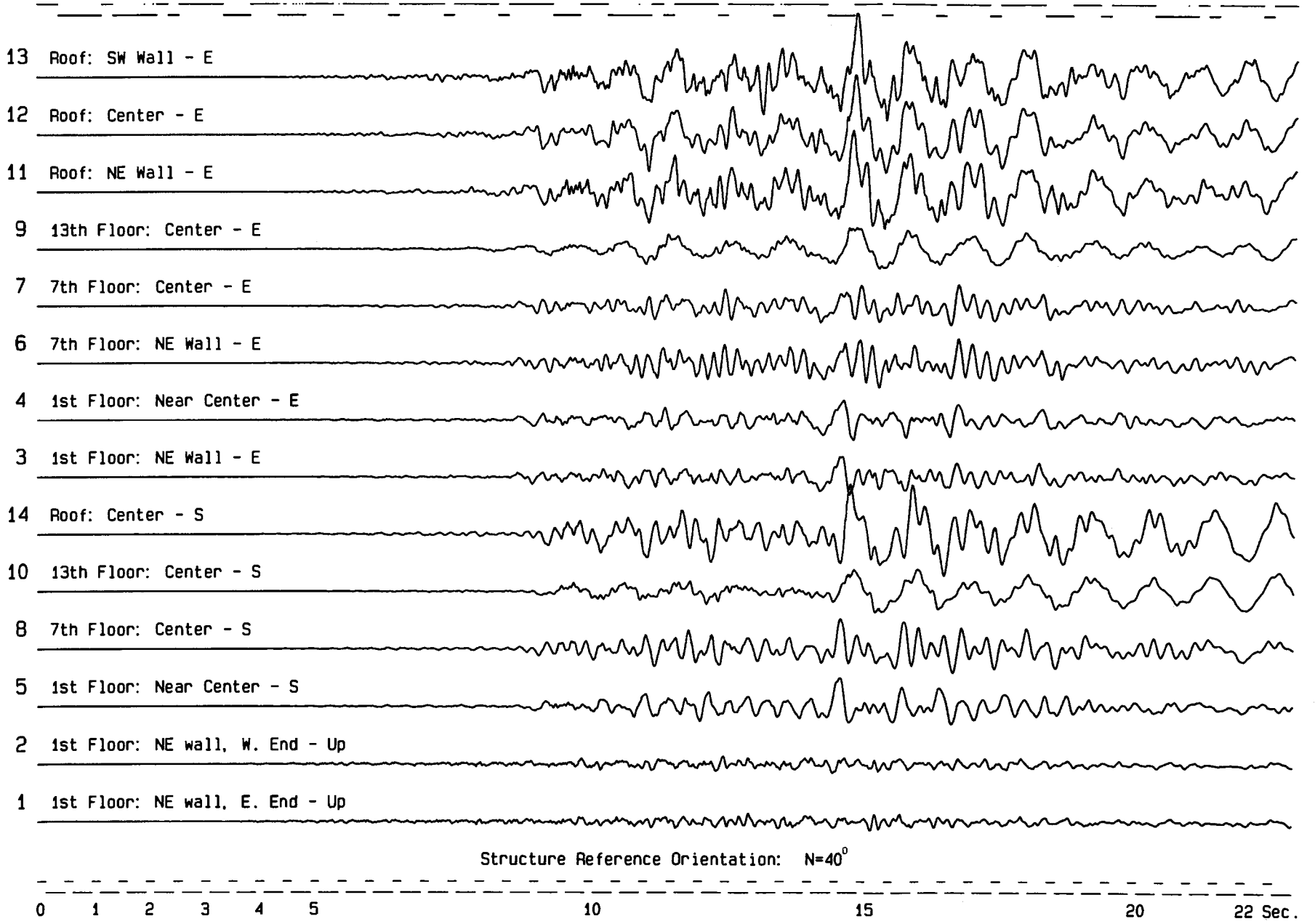
Los Angeles - 17-story Residential Bldg.
(CSMIP Station No. 24601)

SENSOR LOCATIONS



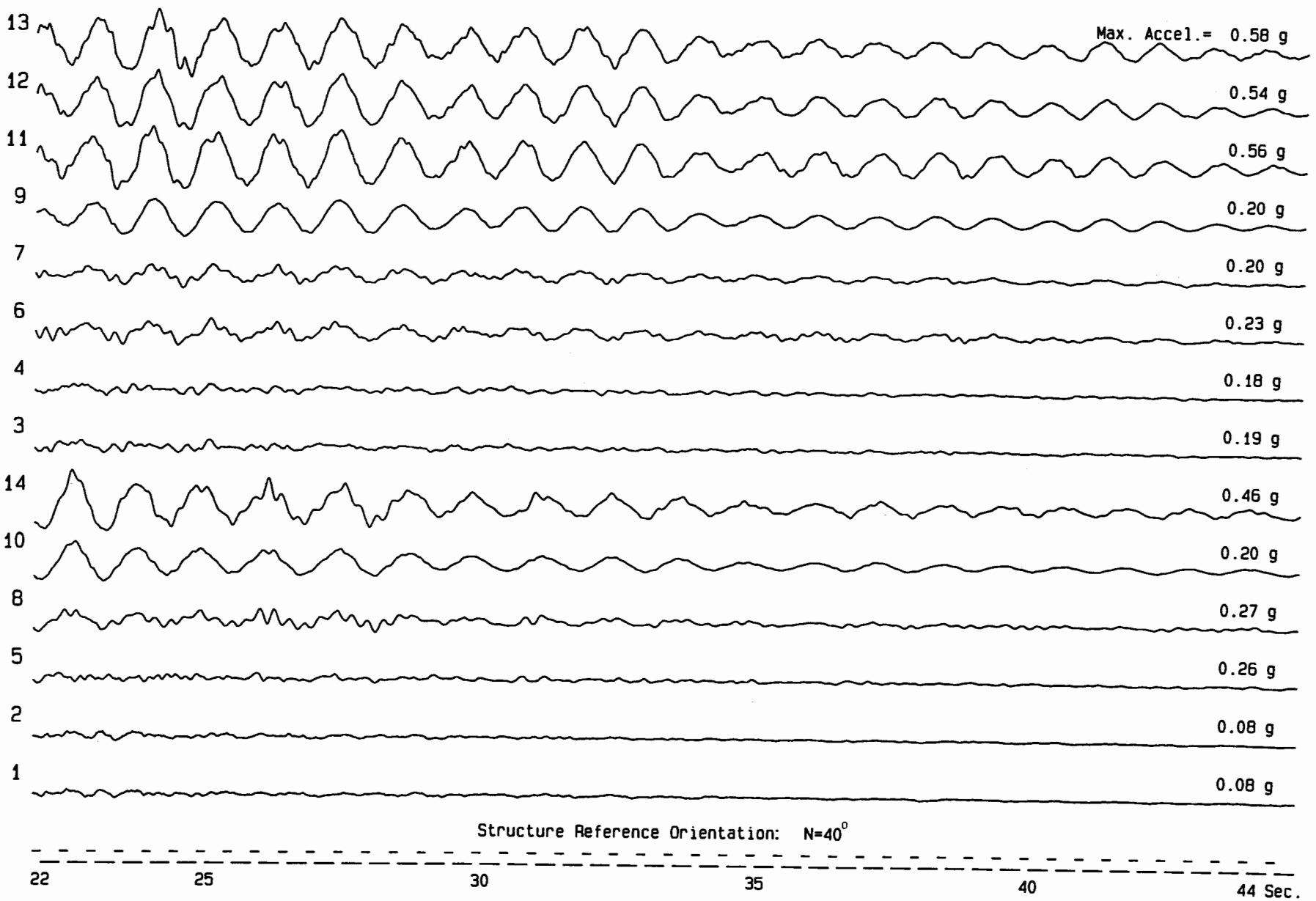
Los Angeles - 17-story Residential Bldg.
(CSMIP Station 24601)

RECORD 24601-CS111-94019.03



Los Angeles - 17-story Residential Bldg.
(CSMIP Station 24601)

RECORD 24601-CS111-94019.03



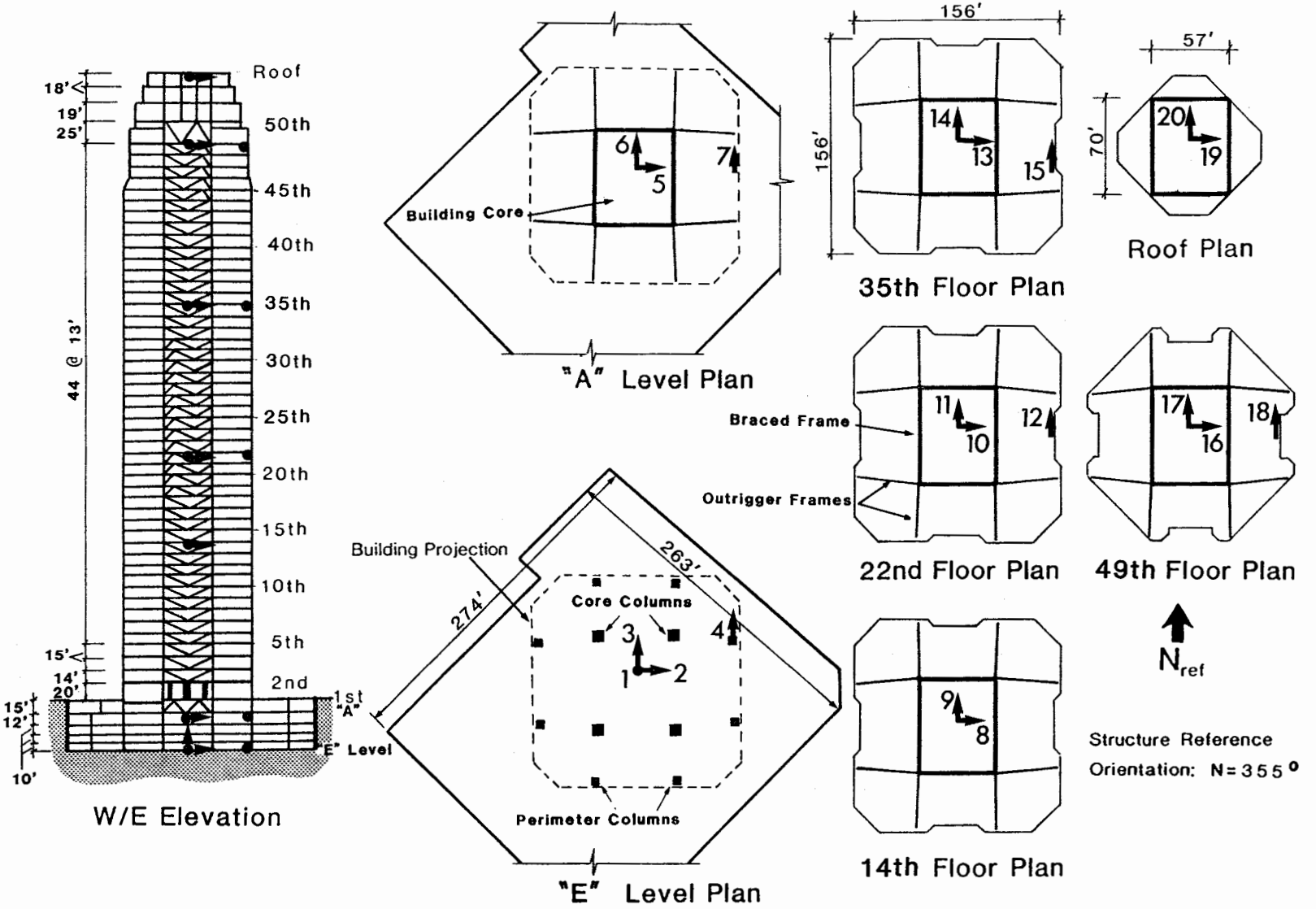
Los Angeles - 52-story Office Bldg.
(CSMIP Station No. 24602)

No. of Stories above/below ground: 52/5
Plan Shape: Square with clipped corners
Base Dimensions: 274′ x 263′
Typical Floor Dimensions: 156′ x 156′
Design Date: 1988
Construction Date: 1988-90

Vertical Load Carrying System:
3″-7″ concrete slabs on steel deck supported by steel frames.
Lateral Force Resisting System:
Concentrically braced steel frame at the core with moment resisting connections and outrigger moment frames in both directions.
Foundation Type:
Concrete spread footings (9′ to 11′ thick).

Los Angeles - 52-story Office Bldg.
(CSMIP Station No. 24602)

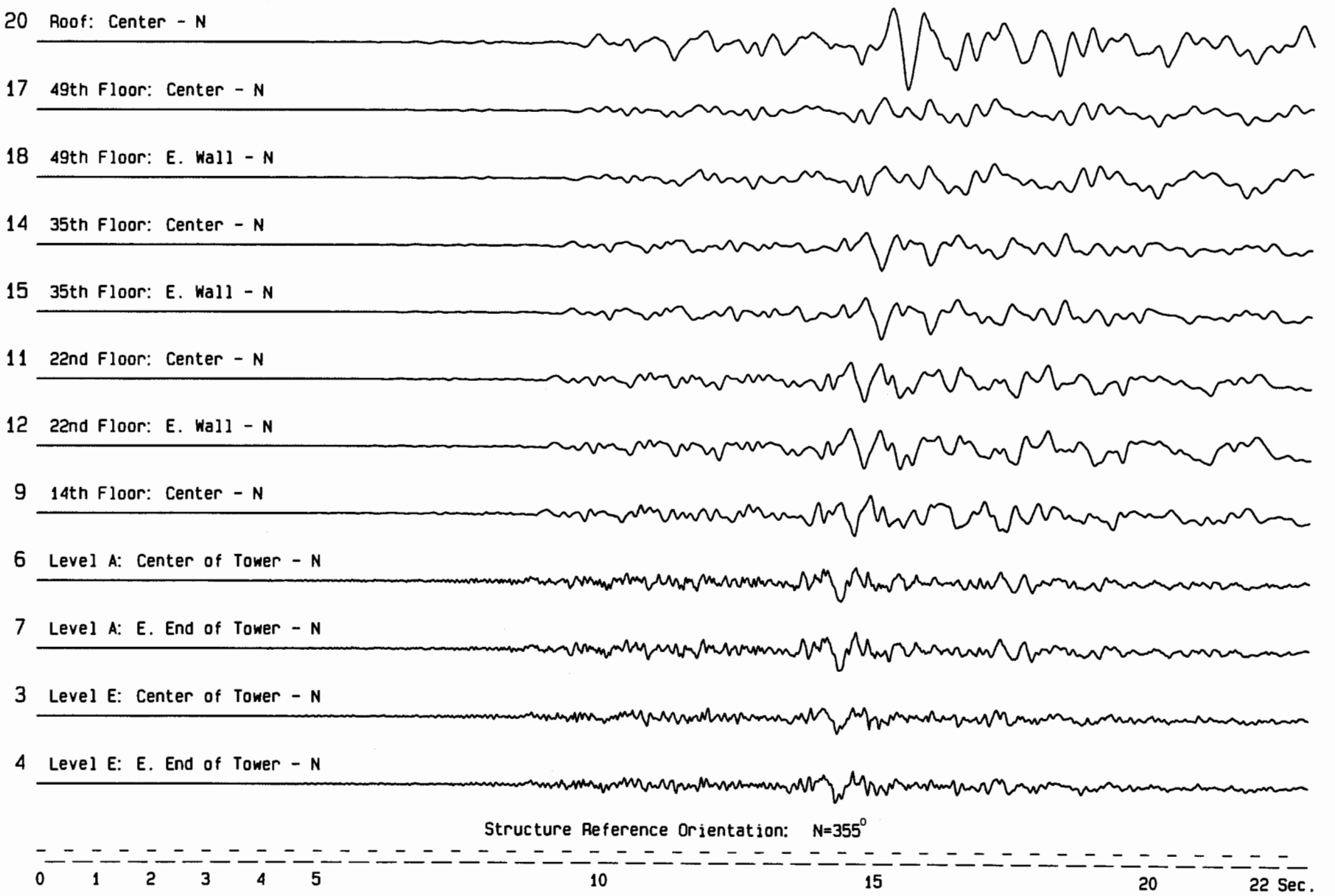
SENSOR LOCATIONS



Los Angeles - 52-story Office Bldg.

(CSMIP Station 24602)

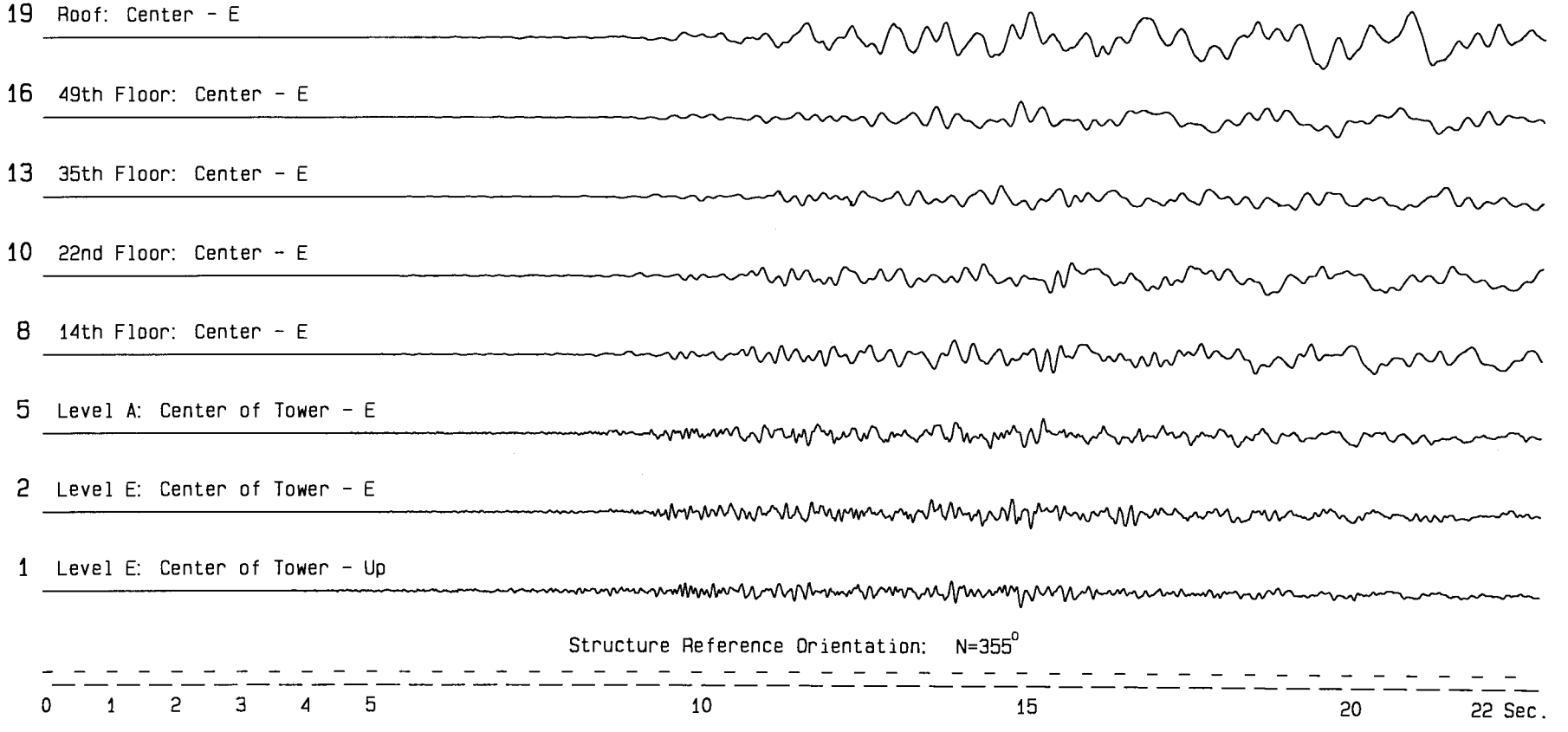
RECORD 24602-CS112-94019.02



Los Angeles - 52-story Office Bldg.

(CSMIP Station 24602)

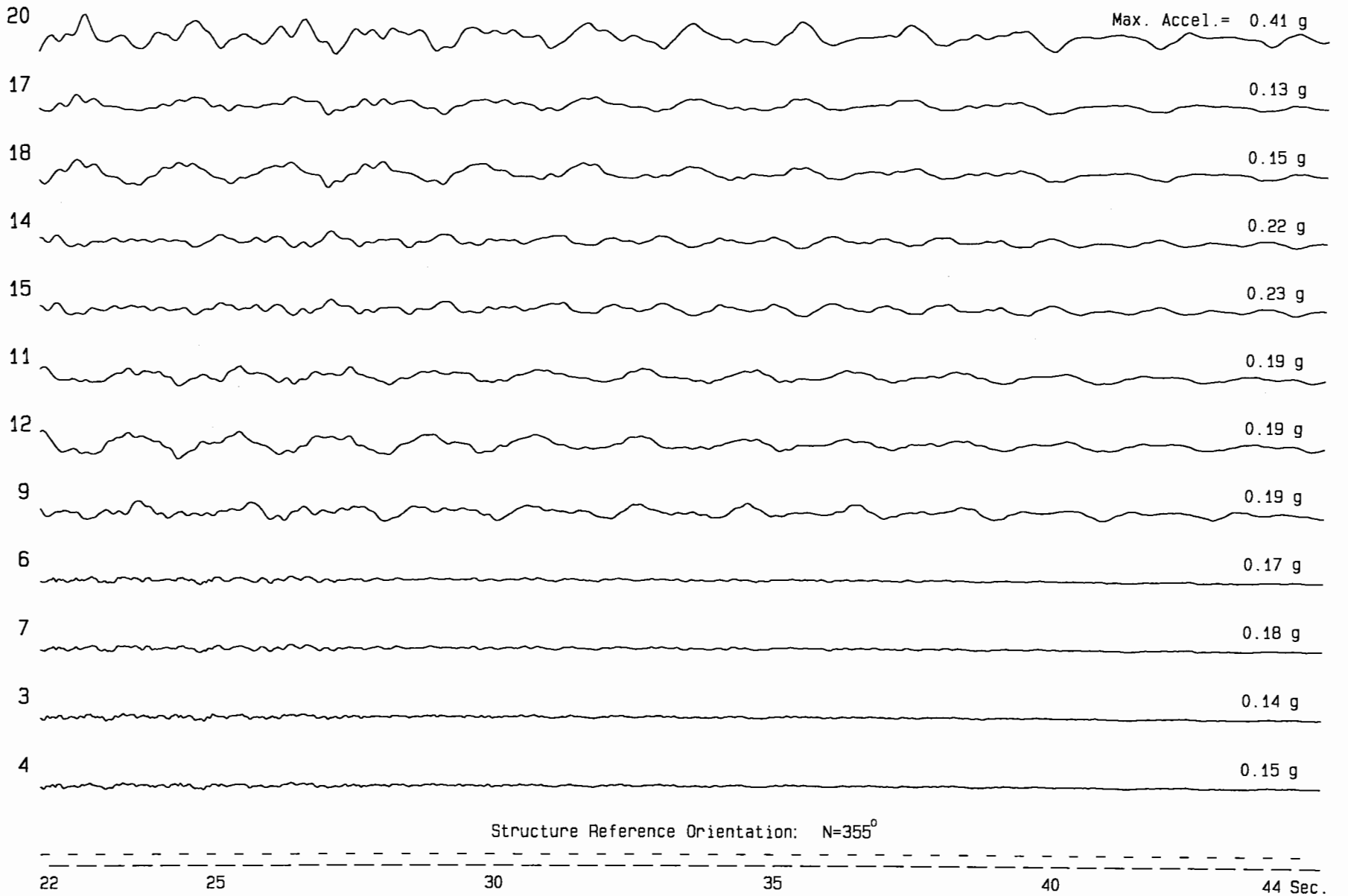
RECORD 24602-CS112-94019.02



Los Angeles - 52-story Office Bldg.

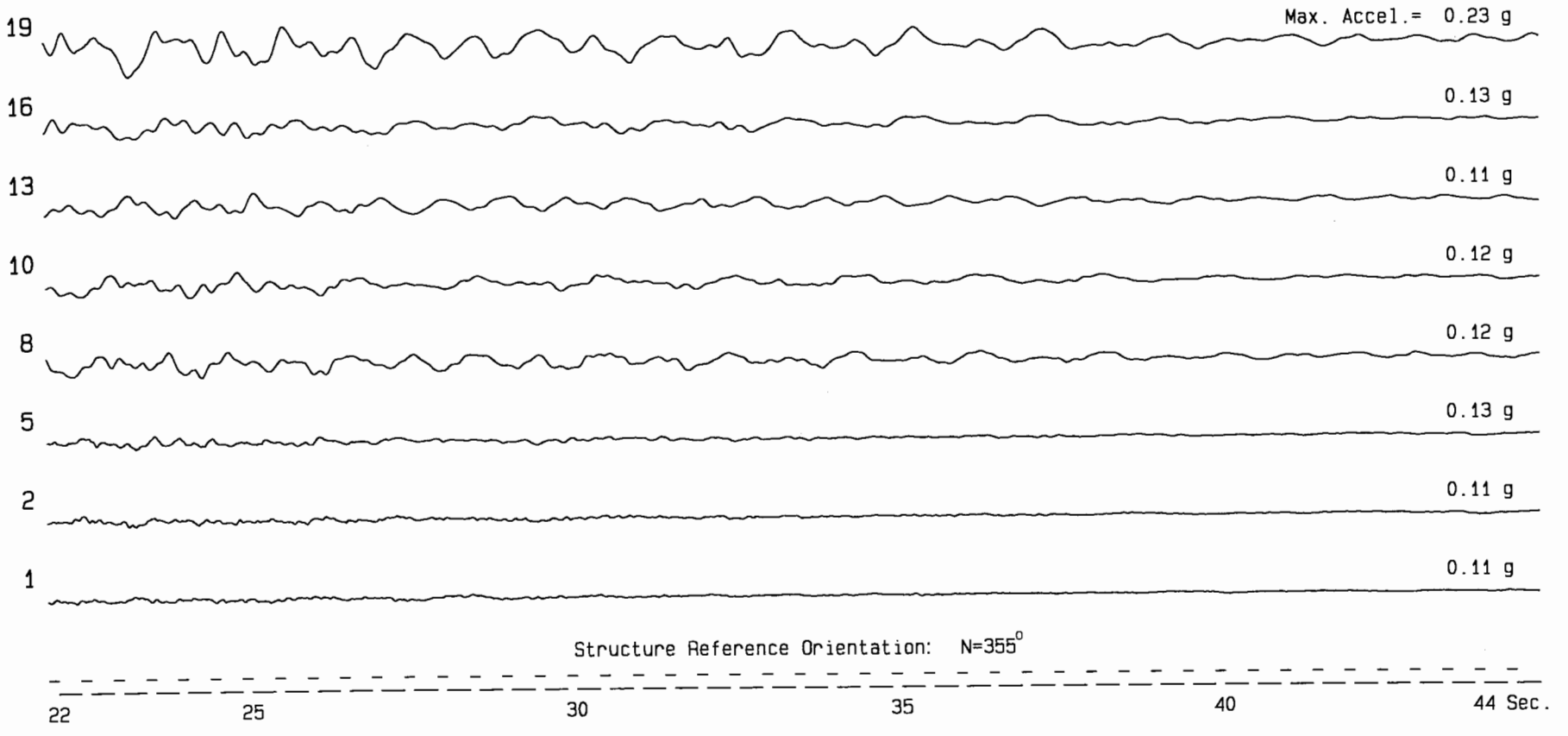
(CSMIP Station 24602)

RECORD 24602-CS112-94019.02



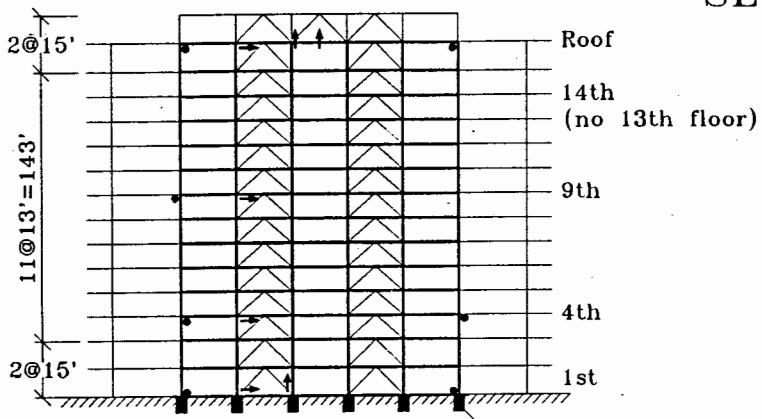
Los Angeles - 52-story Office Bldg.
(CSMIP Station 24602)

RECORD 24602-CS112-94019.02



El Segundo - 14-story Office Bldg.
(CSMIP Station No. 14654)

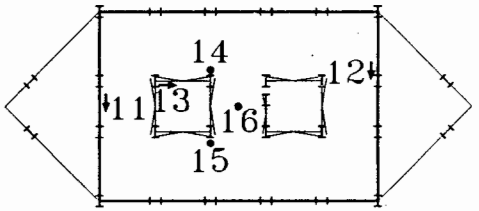
SENSOR LOCATIONS



S/N Elevation

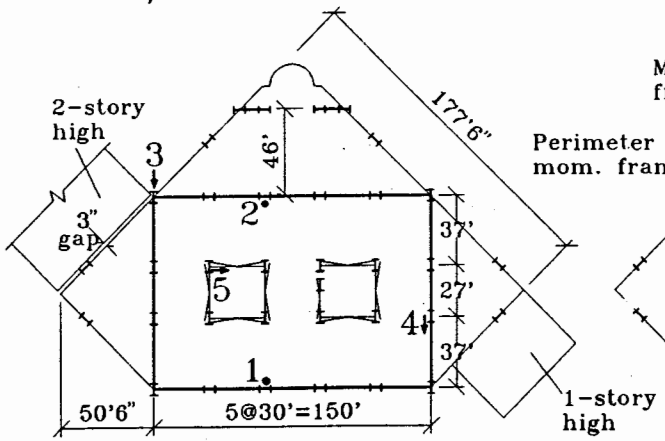
Nref

Structure Reference
Orientation: N≈315°

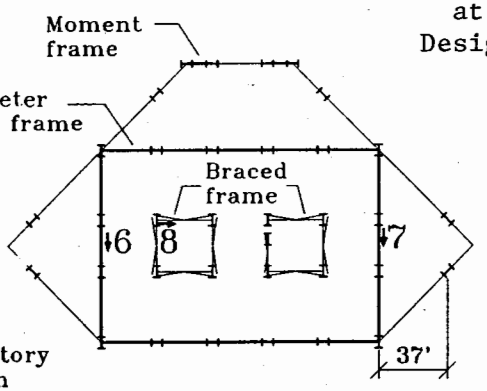


Roof Plan

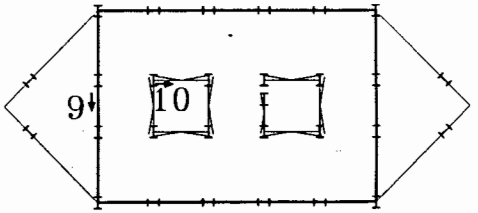
Braced steel frames in
the cores and steel moment frames
at the perimeter.
Design date: 1985



1st Floor Plan



4th Floor Plan

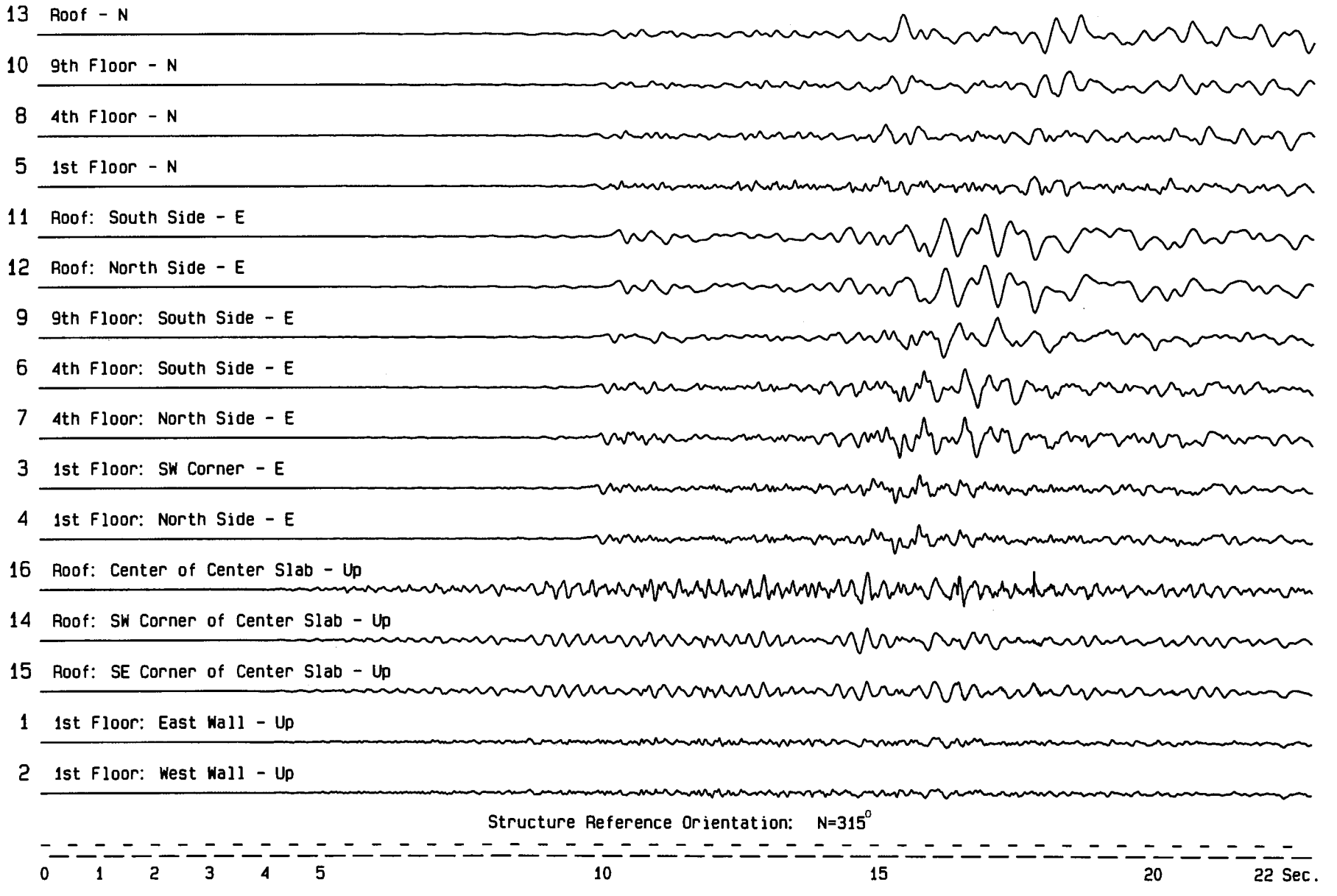


9th Floor Plan

El Segundo - 14-story Office Bldg.

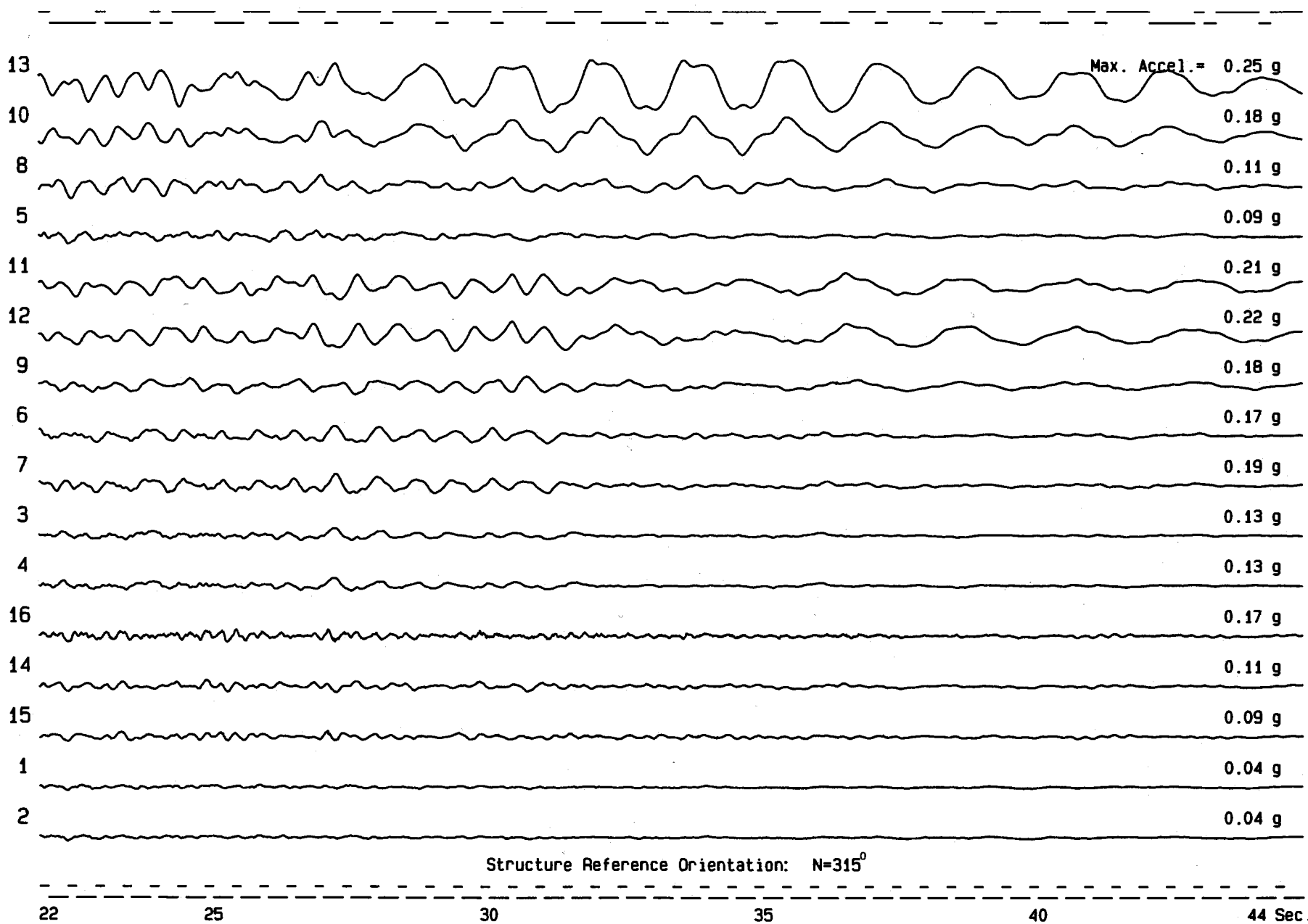
(CSMIP Station 14654)

RECORD 14654-CS107-94017.06



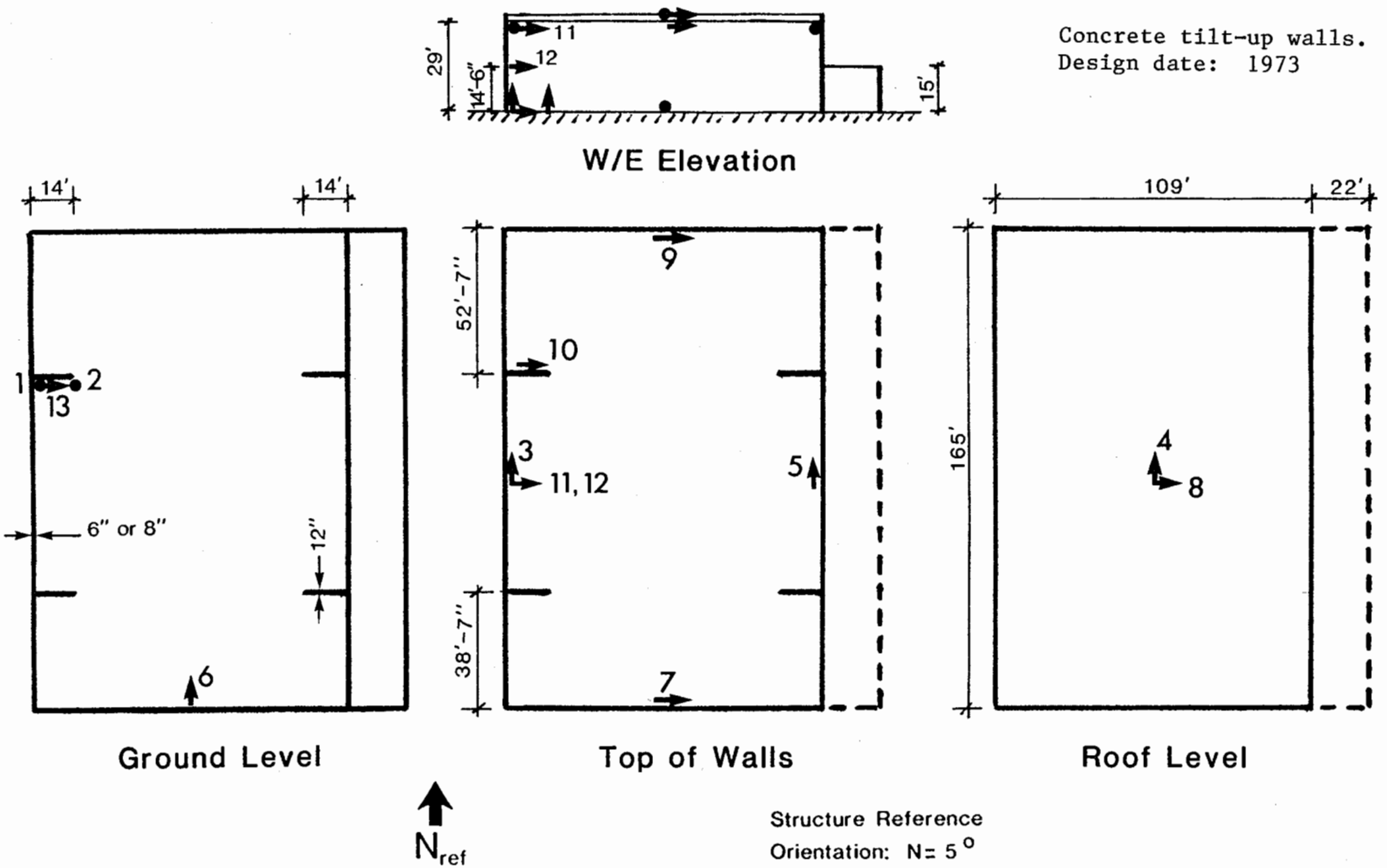
El Segundo - 14-story Office Bldg.
(CSMIP Station 14654)

RECORD 14654-CS107-94017.06



Colton - 1-story School Gym
(CSMIP Station No. 23540)

SENSOR LOCATIONS

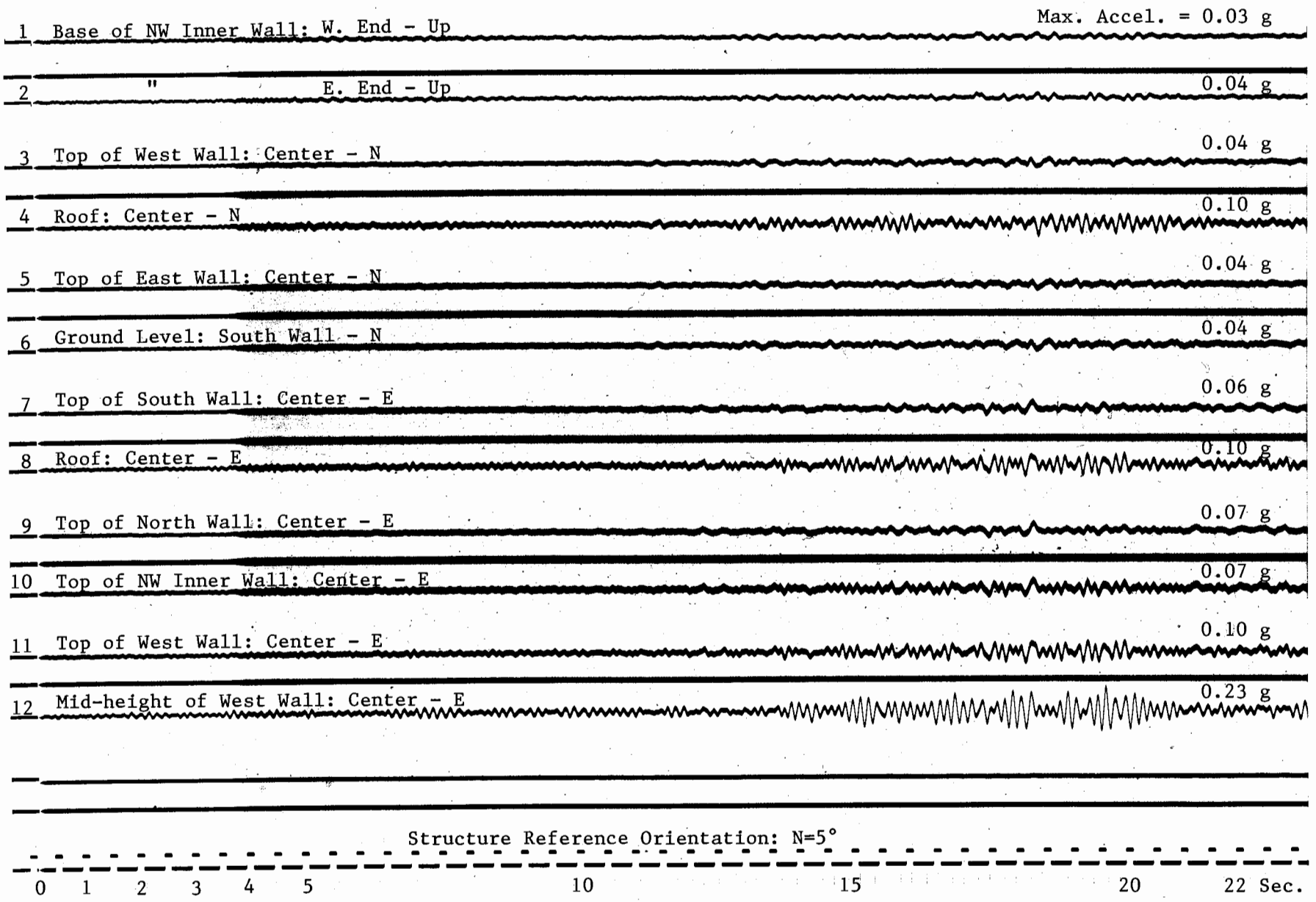


Concrete tilt-up walls.
Design date: 1973

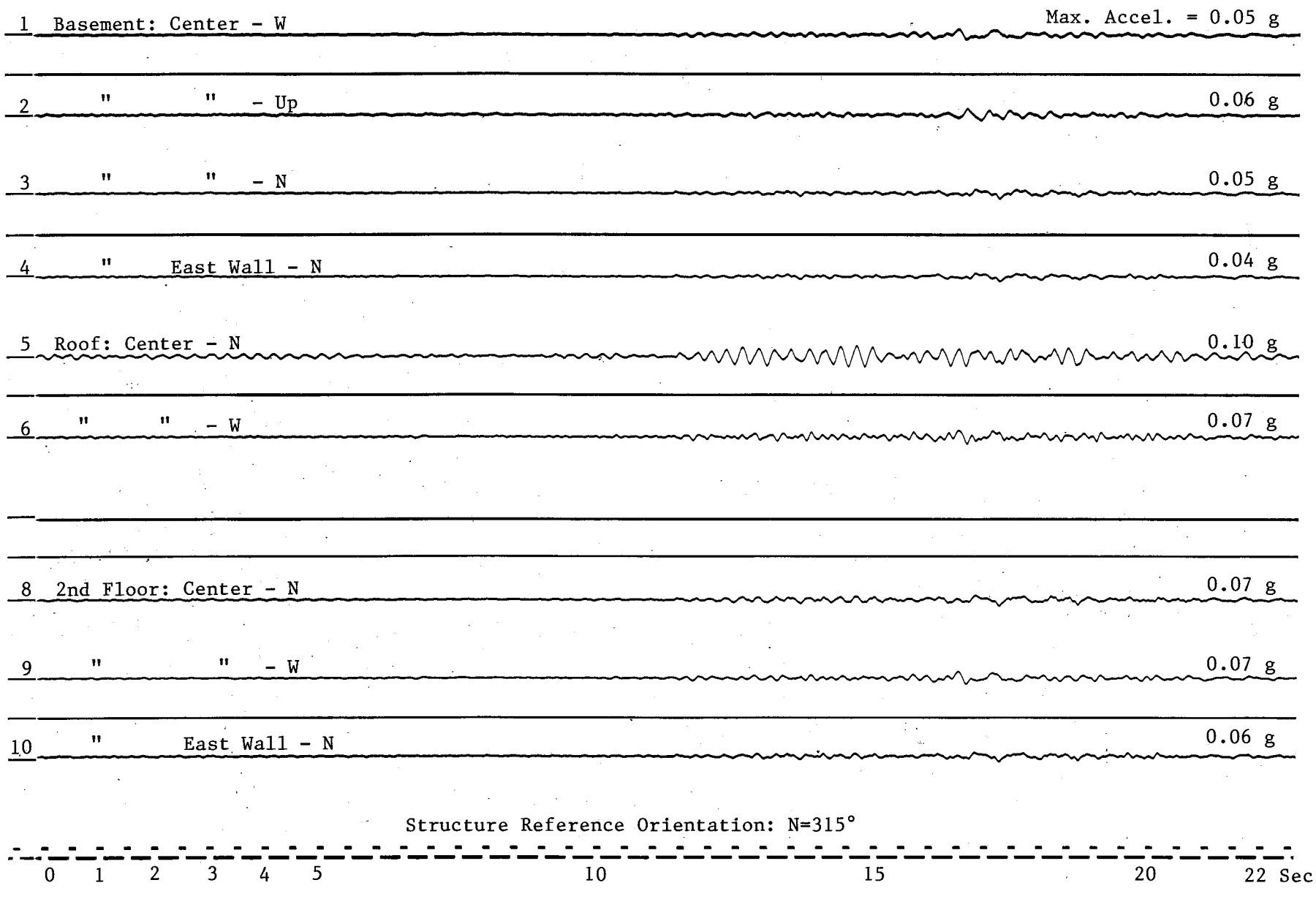
Structure Reference
Orientation: N= 5°

Colton - 1-story School Gym
(CSMIP Station 23540)

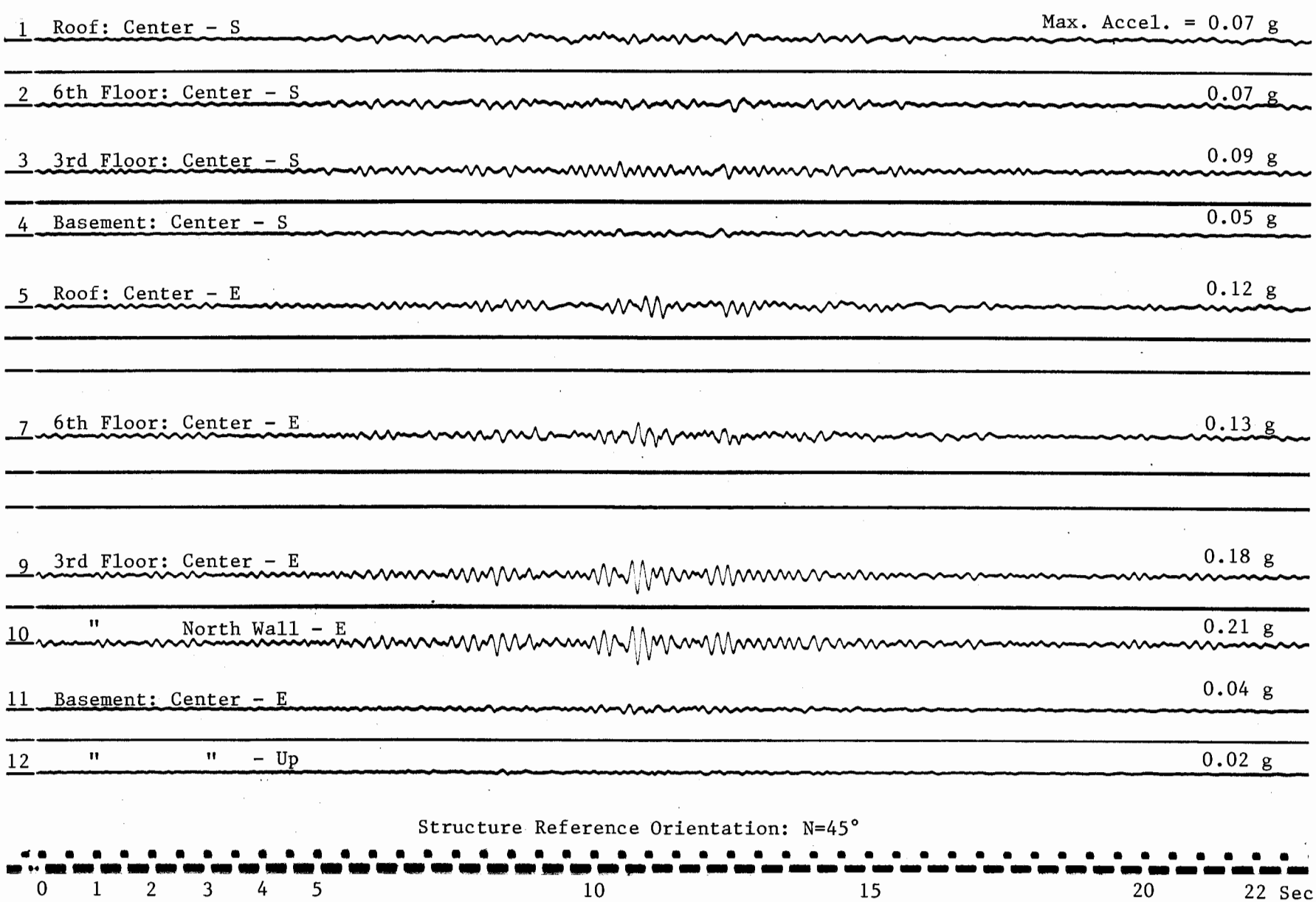
Record 23540-C0286-94027.02



Hemet - 4-story Hospital (concrete shear walls, design date: 1965)
(CSMIP Station 12267) Record 12267-C0126-94027.02

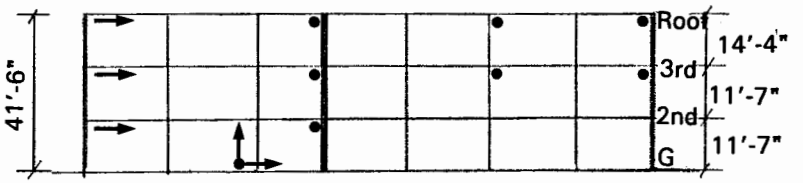


Irvine - 8-story Engineering Bldg. (concrete & steel frames; Design date: 1967)
(CSMIP Station 13329) Record 13329-C0137-94026.02



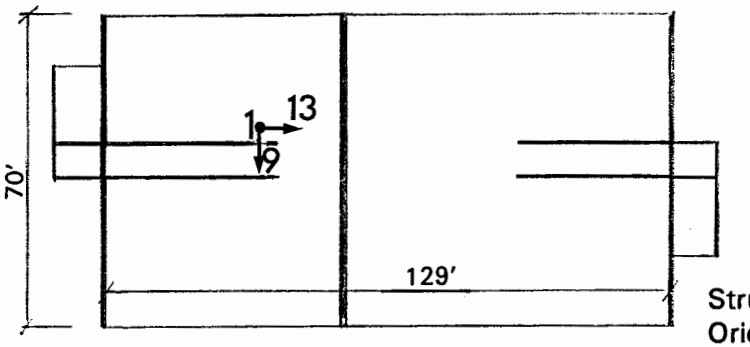
Lancaster - 3-story Office Bldg.
(CSMIP Station No. 24517)

SENSOR LOCATIONS



S/N Elevation

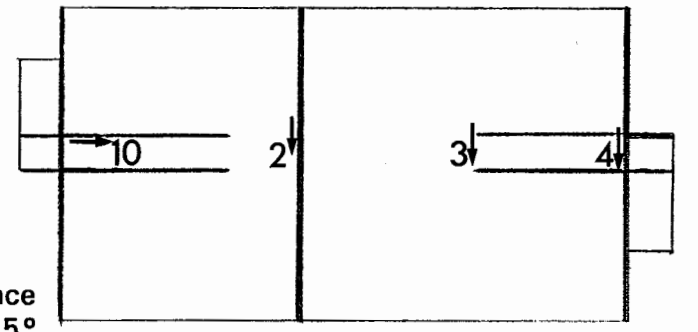
Block masonry shear walls with
plywood floor and roof diaphragms.
Design date: 1975



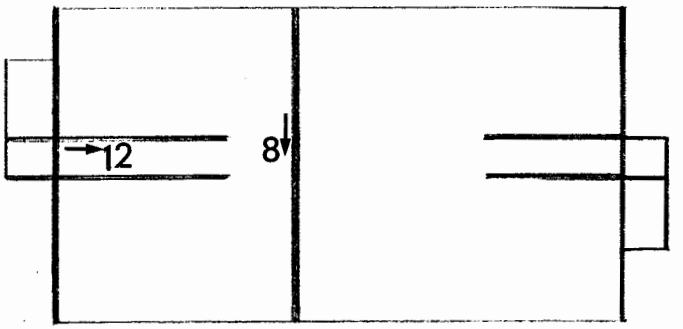
Ground Level Plan

N_{ref}

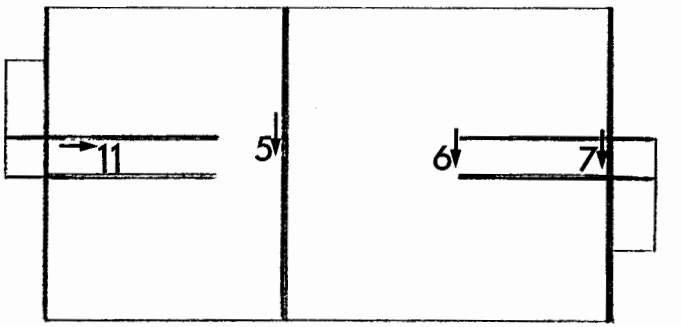
Structure Reference
Orientation: N = 25°



Roof Plan



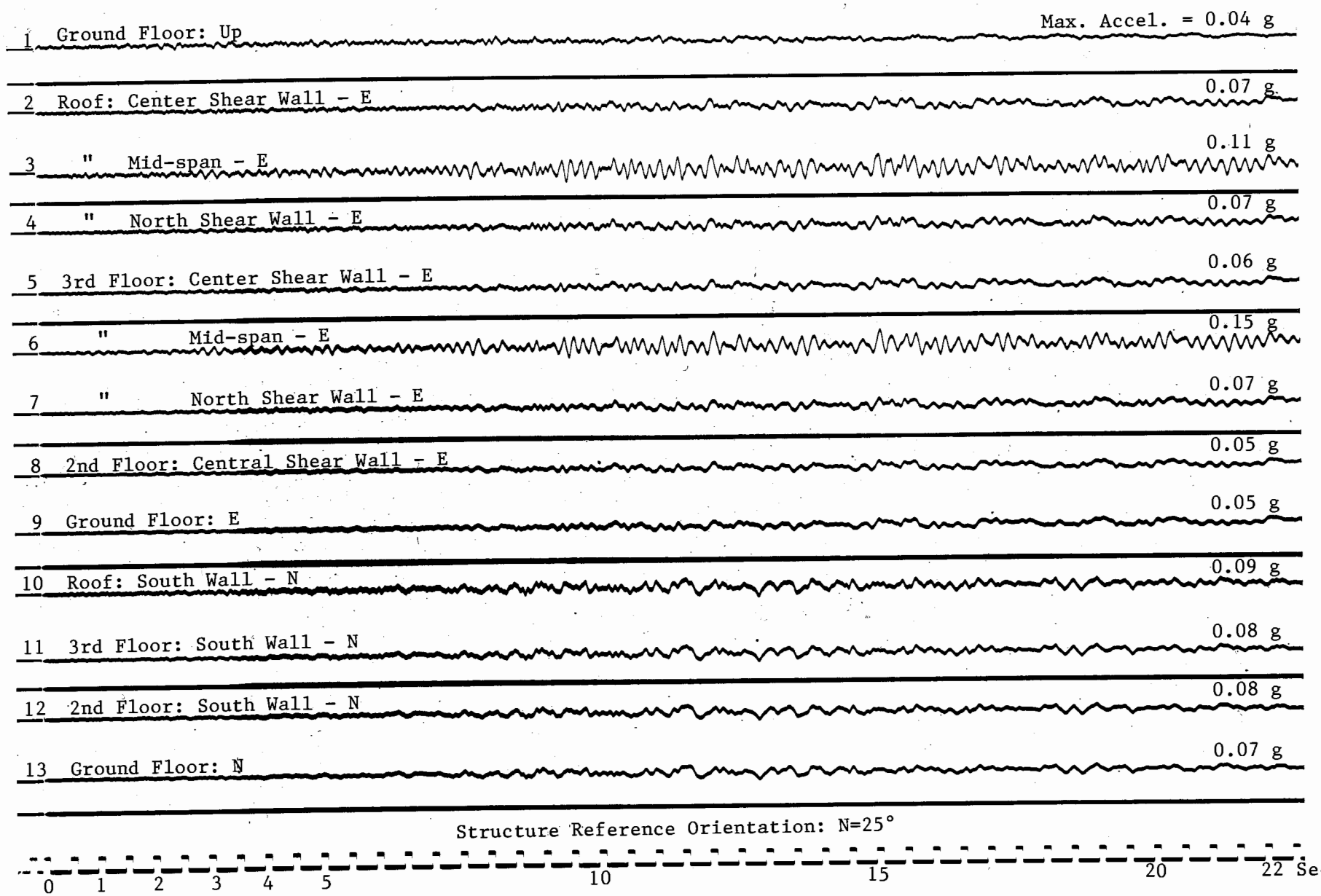
2nd Floor Plan



3rd Floor Plan

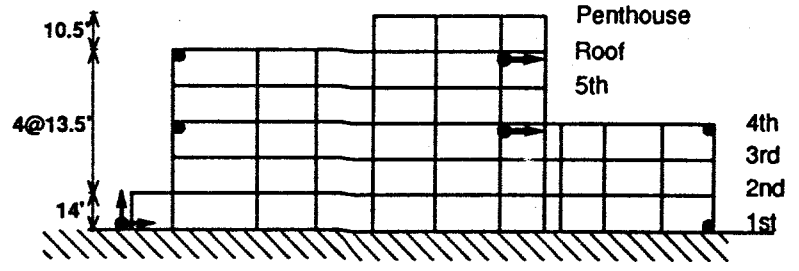
Lancaster - 3-story Office Bldg.
(CSMIP Station 24517)

Record 24517-C0280-94026.02

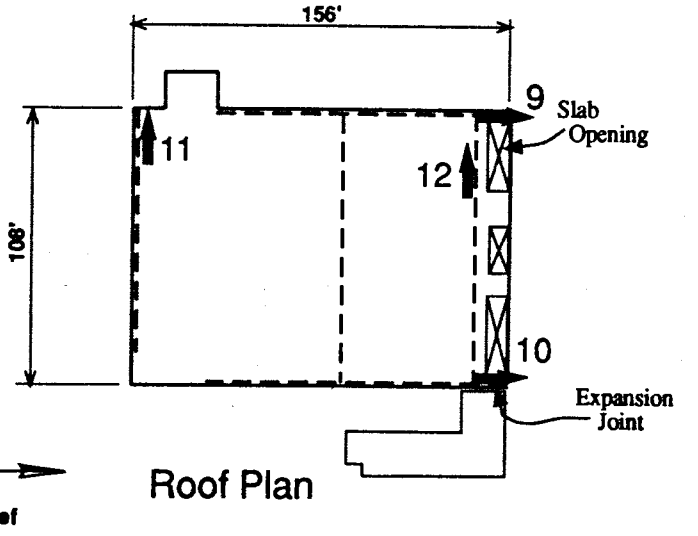


Lancaster - 5-story Hospital
(CSMIP Station No. 24609)

SENSOR LOCATIONS

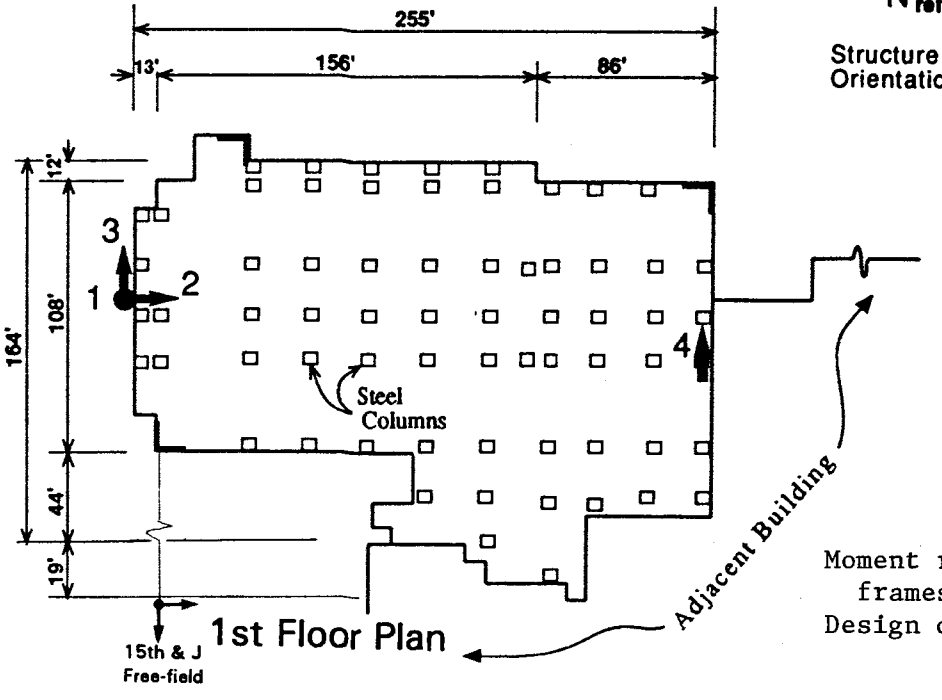


S/N Elevation

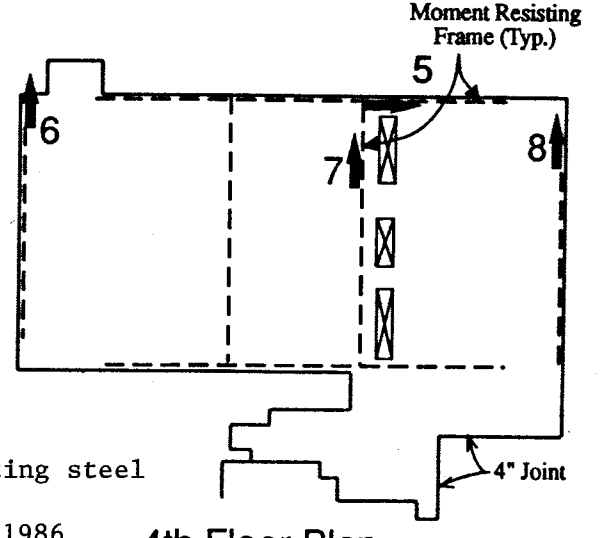


Roof Plan

Structure Reference Orientation: N = 25°



1st Floor Plan

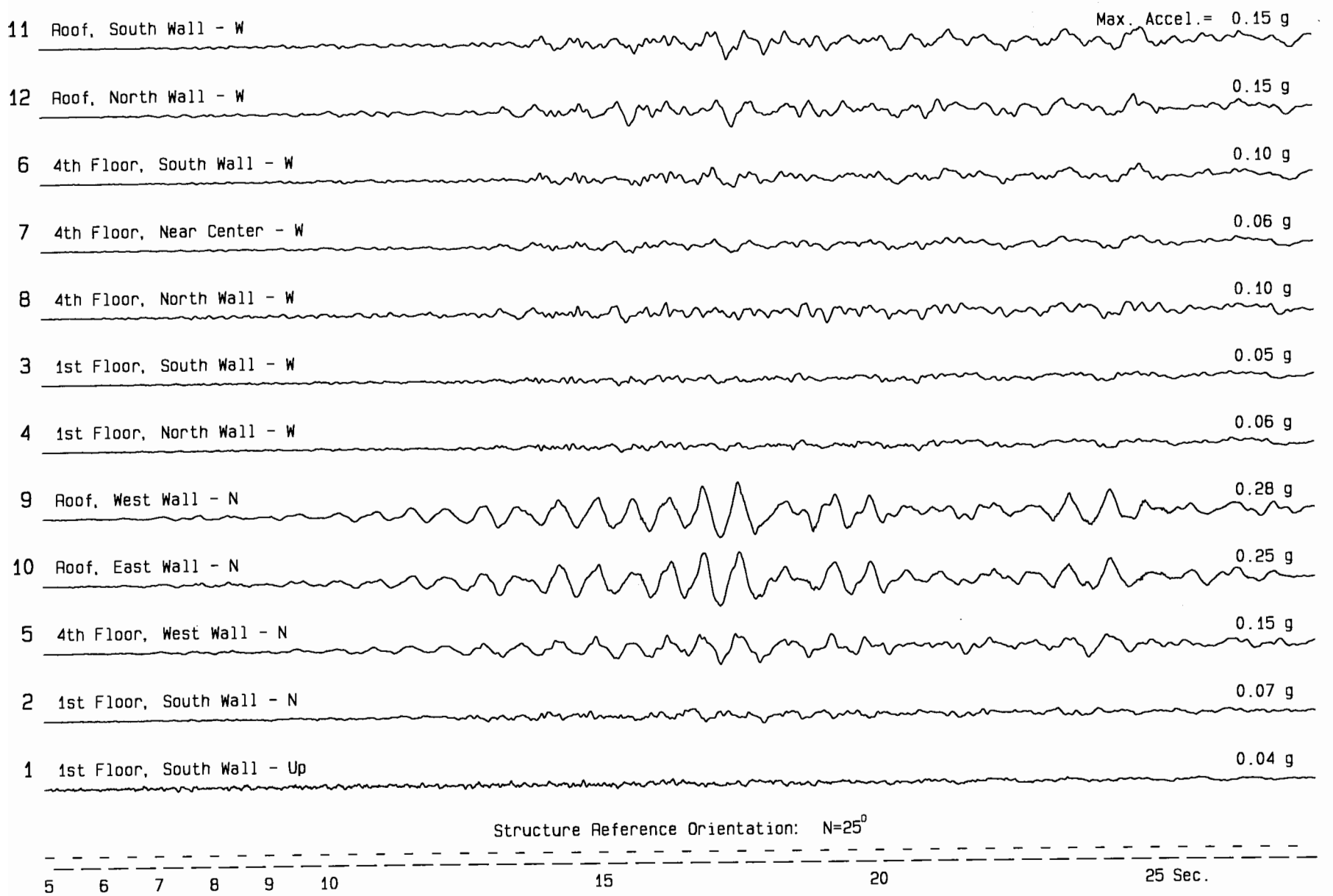


4th Floor Plan

Moment resisting steel frames.
Design date: 1986

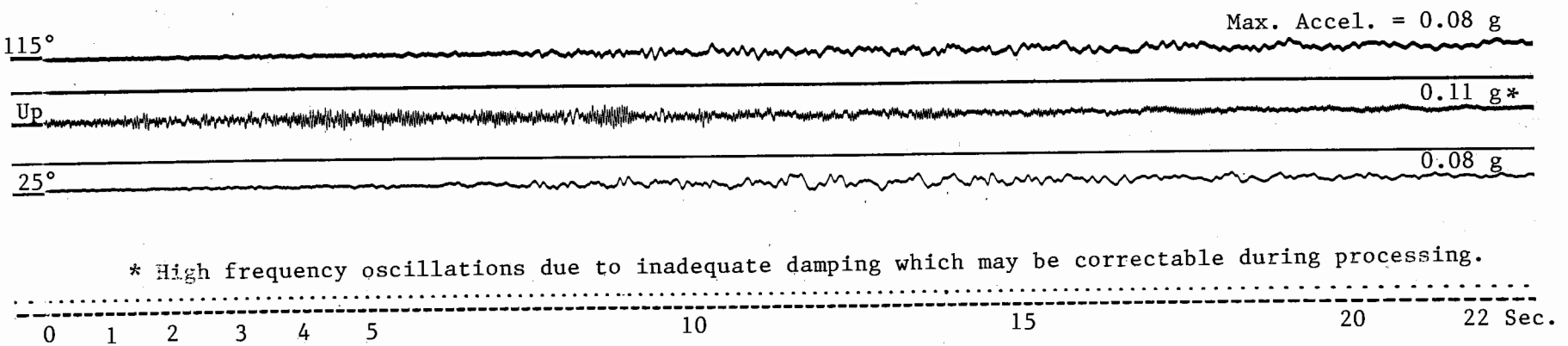
Lancaster - 5-story Hospital
(CSMIP Station 24609)

RECORD 24609-CS119-94021.02



Lancaster - 15th & J
(CSMIP Station 24526)

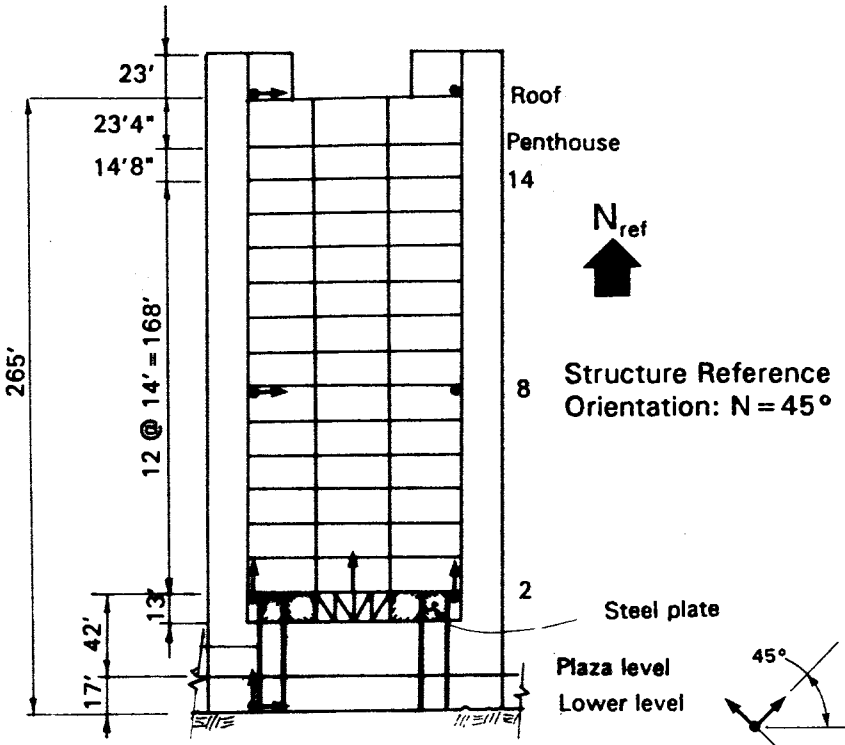
Record 24526-S1866-94026.03



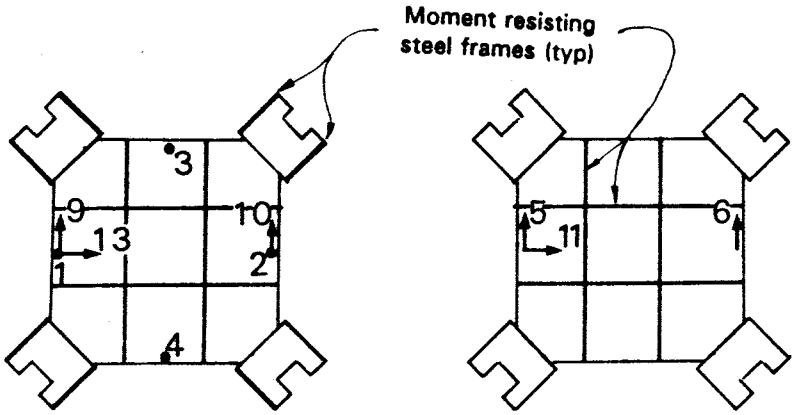
* High frequency oscillations due to inadequate damping which may be correctable during processing.

Long Beach - 15-story Govt. Office Bldg.
(CSMIP Station No. 14533)

SENSOR LOCATIONS

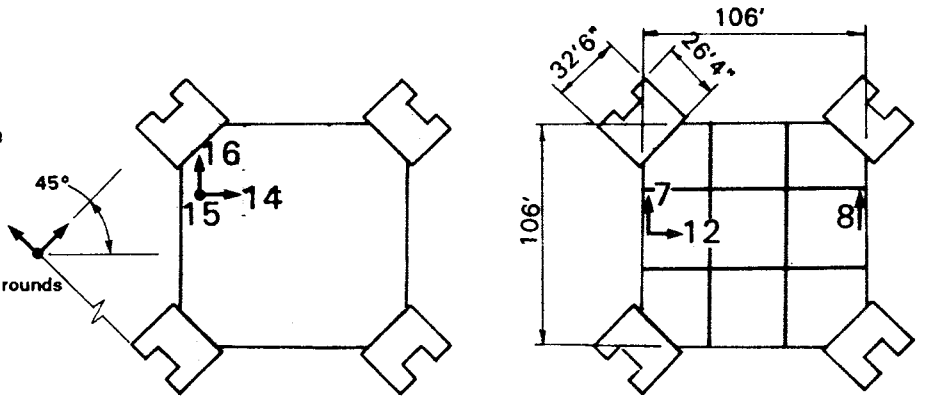


W/E Elevation



2nd Floor Plan

Roof Plan

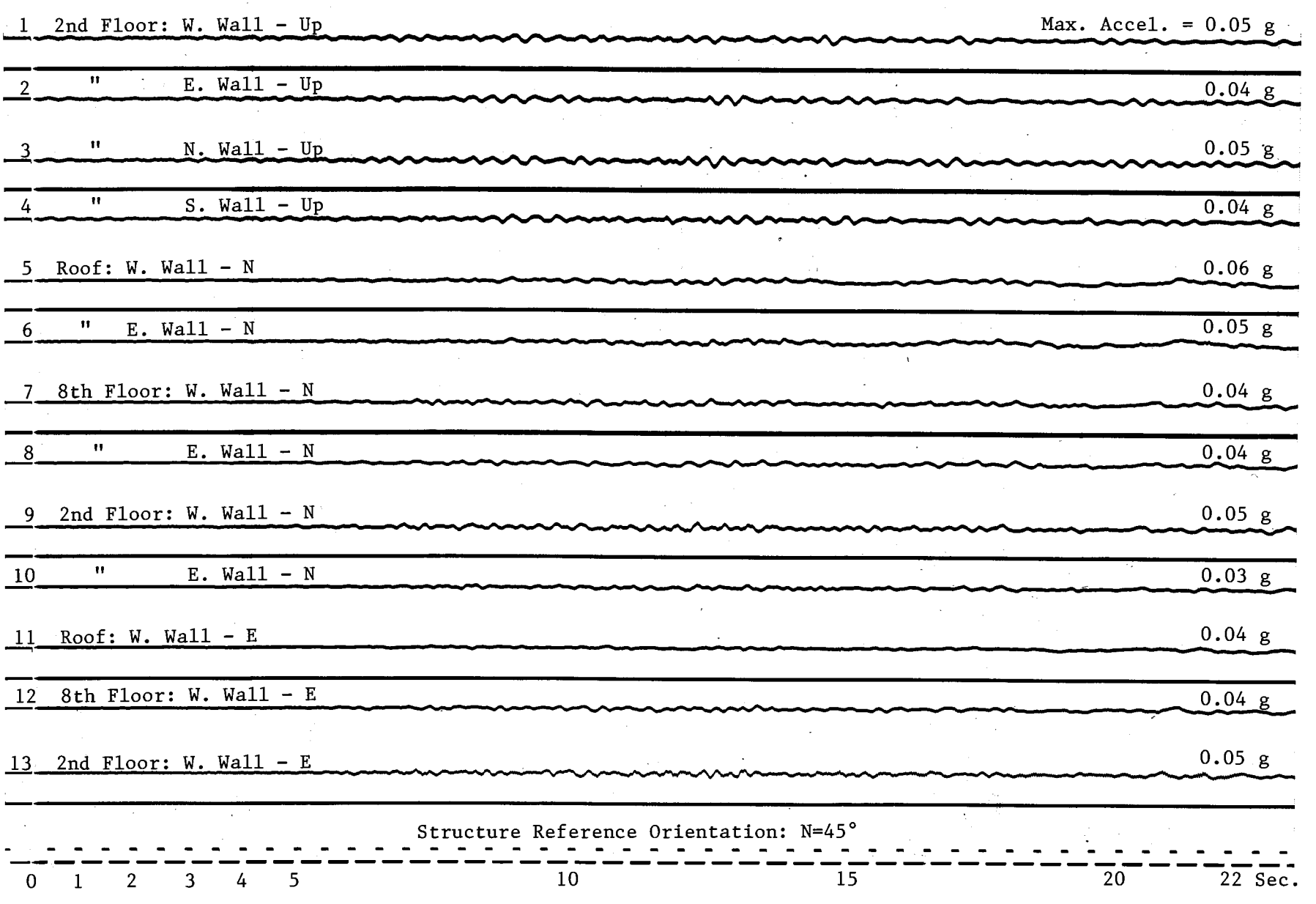


Lower Level Plan

8th Floor Plan

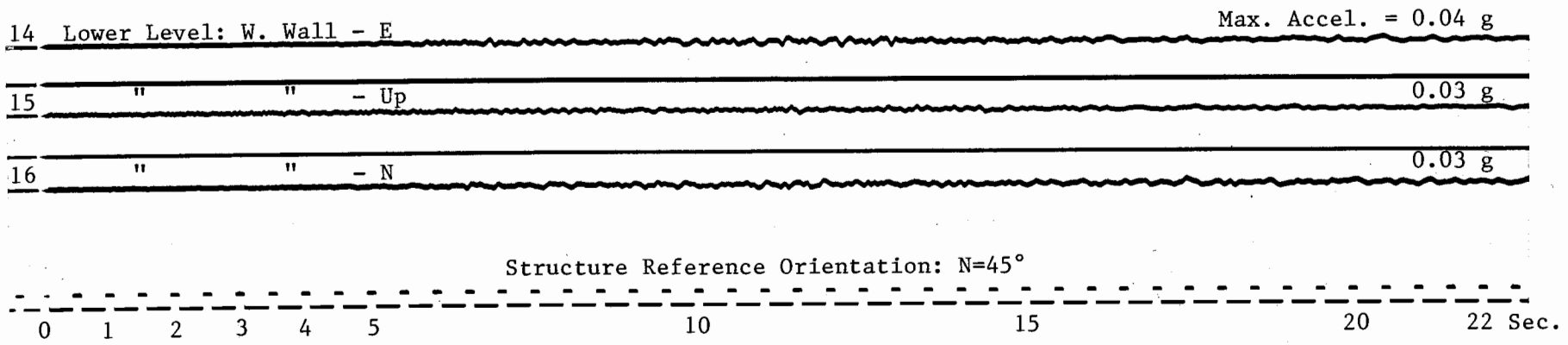
Steel moment frames.
Design date: 1973

Long Beach - 15-story Government Office Bldg. (Channels 1-13)
(CSMIP Station 14533) Record 14533-C0287-94020.02



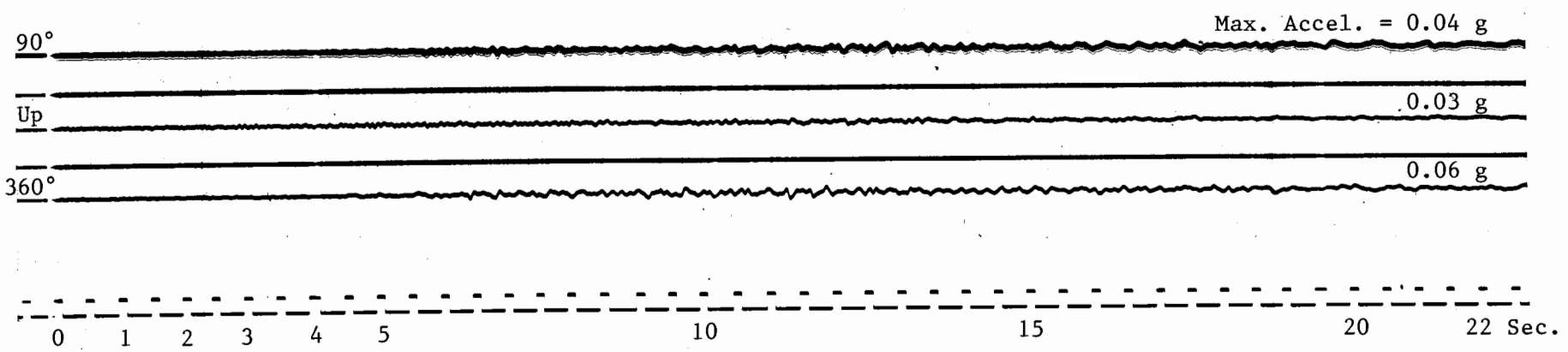
Long Beach - 15-story Government Office Bldg. (Channels 14-16)
(CSMIP Station 14533)

Record 14533-S2614-94020.02



Long Beach - City Hall Grounds
(CSMIP Station 14560)

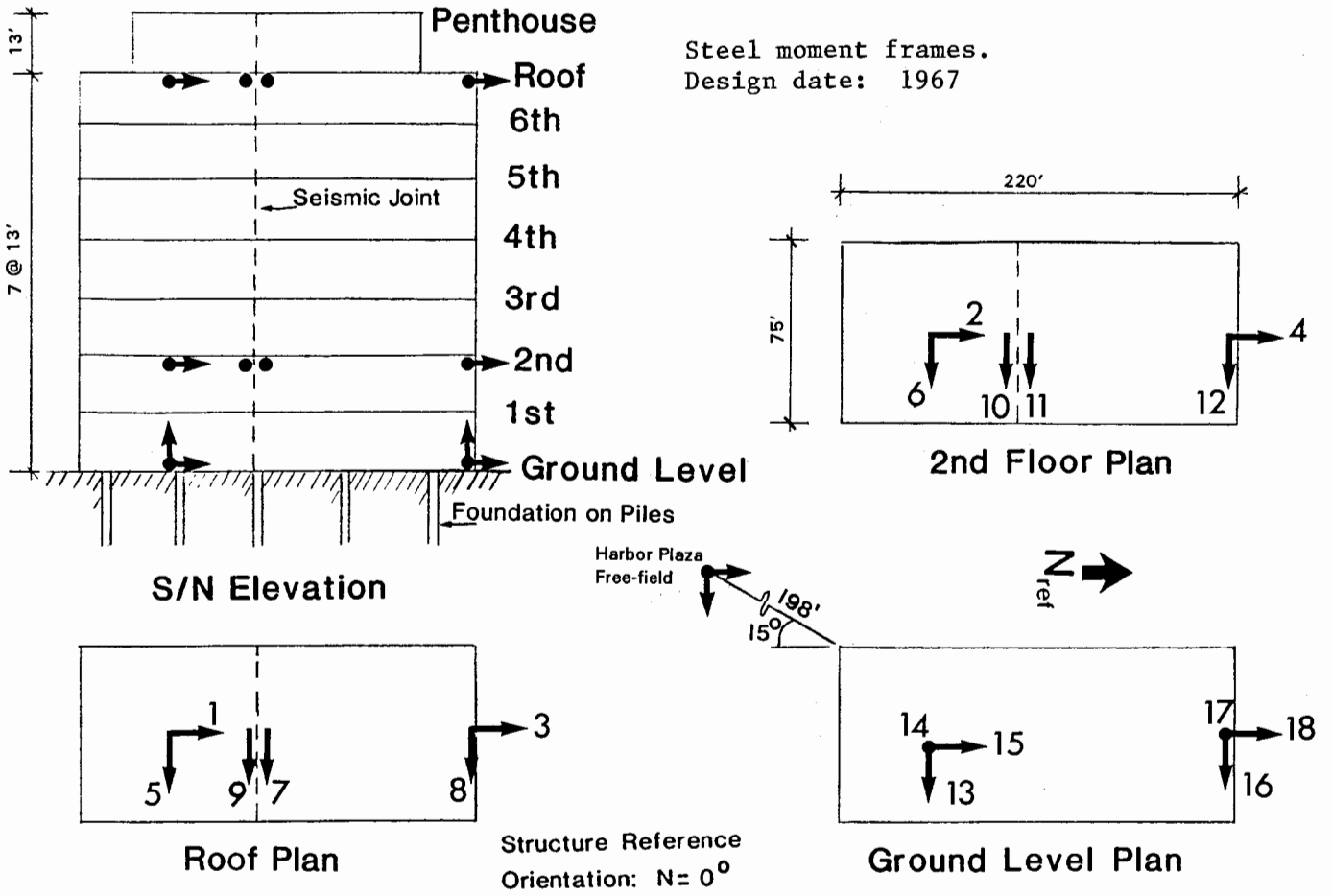
Record 14560-S2615-94020.02



Long Beach - 7-story Office Bldg.
(CSMIP Station No. 14323)

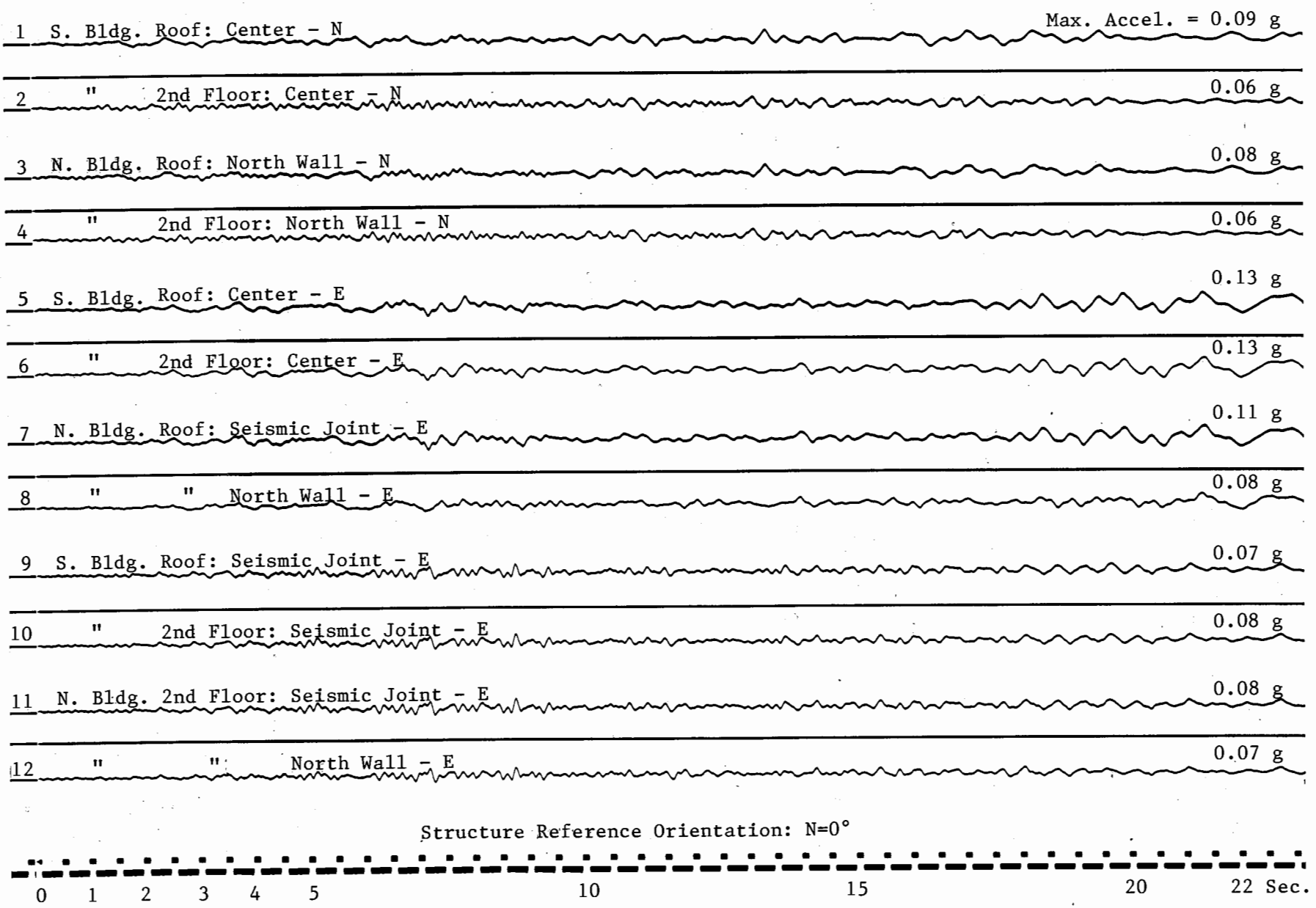
SENSOR LOCATIONS

Steel moment frames.
Design date: 1967



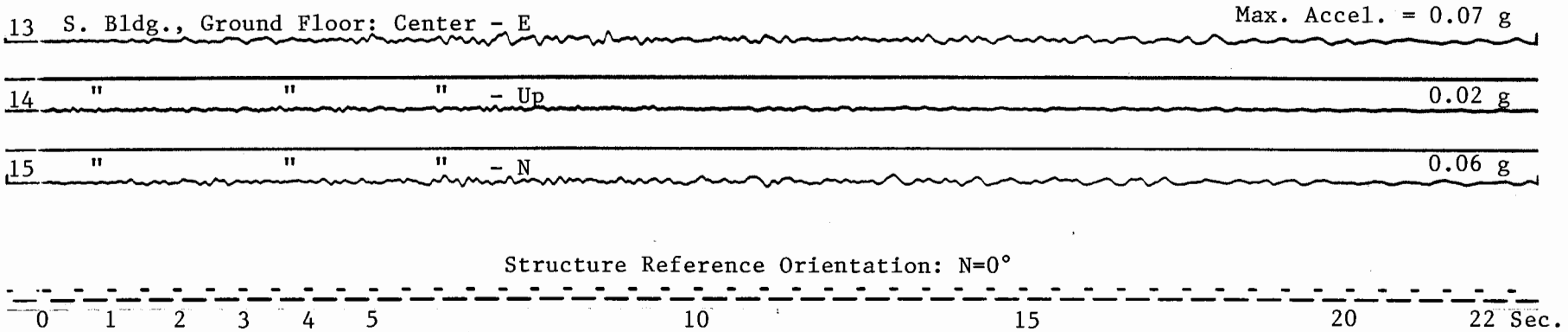
Long Beach - 7-story Office Bldg. (Channels 1-12)
(CSMIP Station 14323)

Record 14323-C0154-94025.02



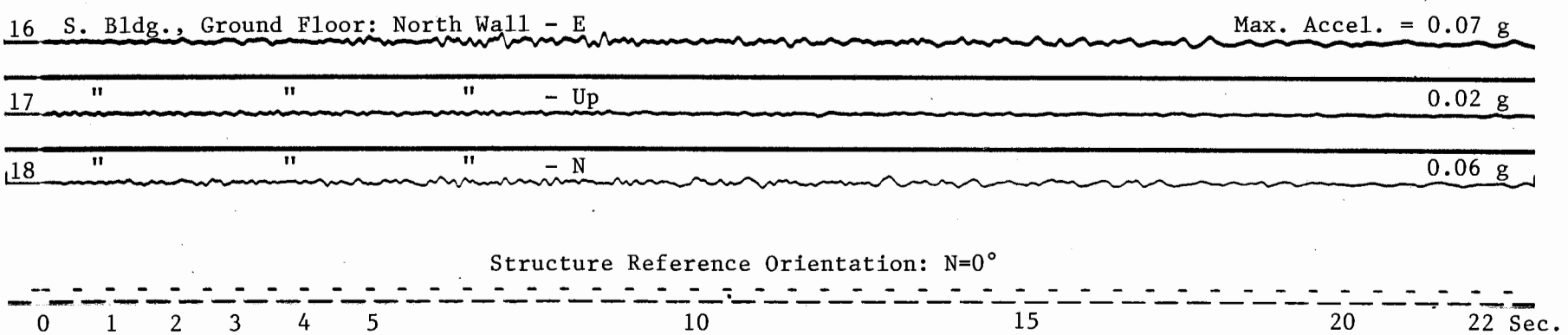
Long Beach - 7-story Office Bldg. (Channels 13-15)
(CSMIP Station 14323)

Record 14323-S2787-94025.02



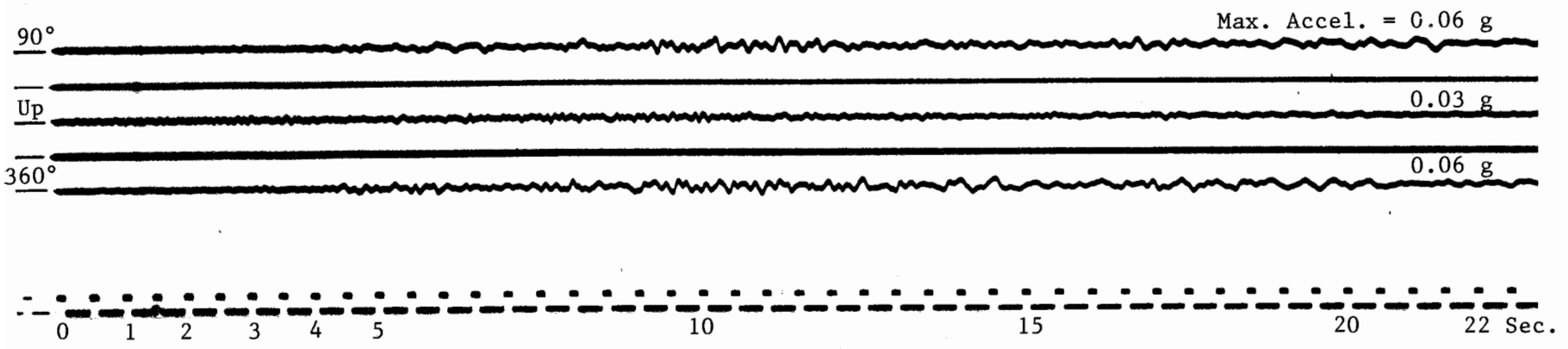
Long Beach - 7-story Office Bldg. (Channels 16-18)
(CSMIP Station 14323)

Record 14323-S2788-94025.02



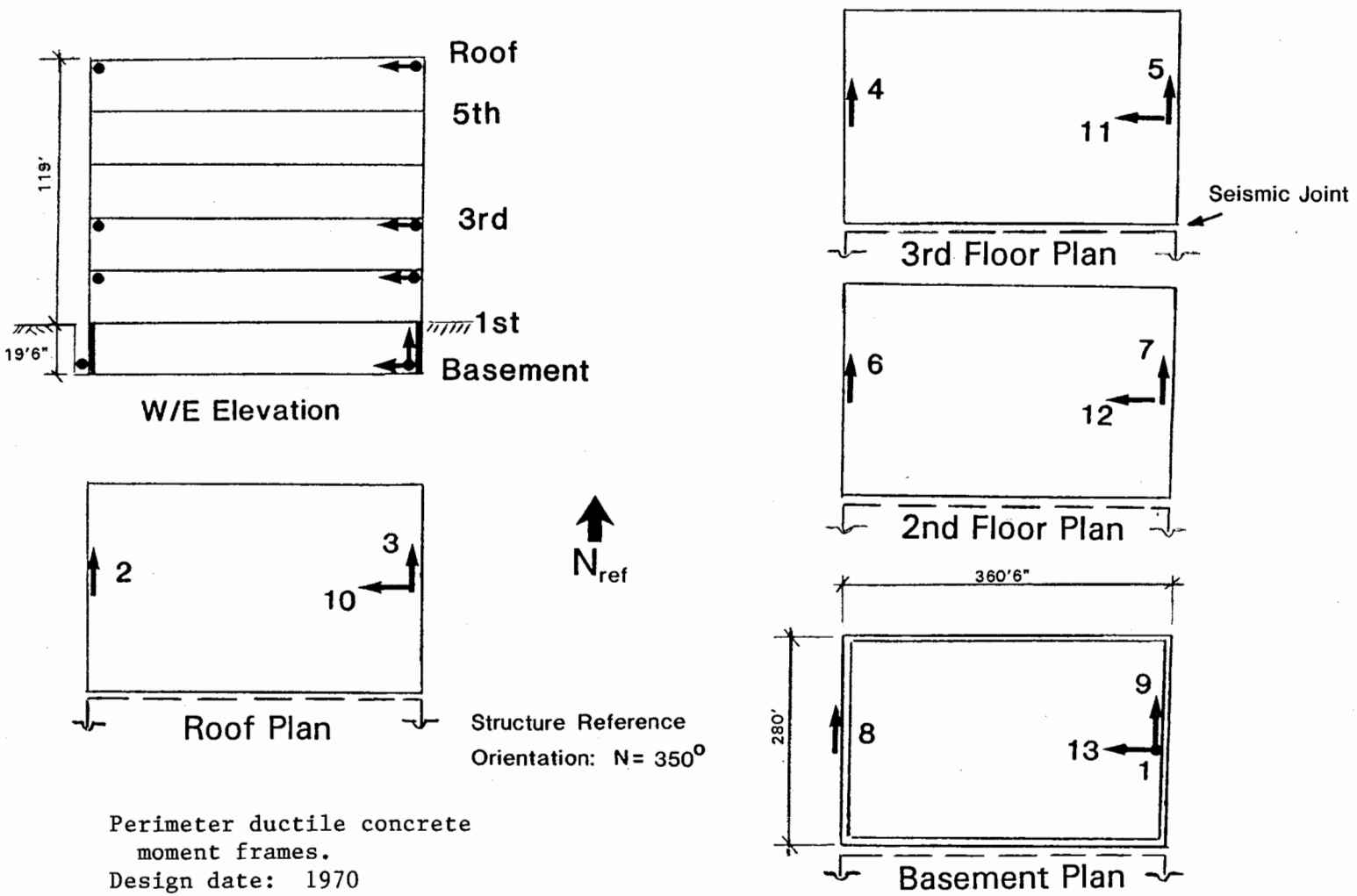
Long Beach - Harbor Plaza
(CSMIP Station 14395)

Record 14395-S4377-94025.02



Los Angeles - 5-story Warehouse
(CSMIP Station No. 24463)

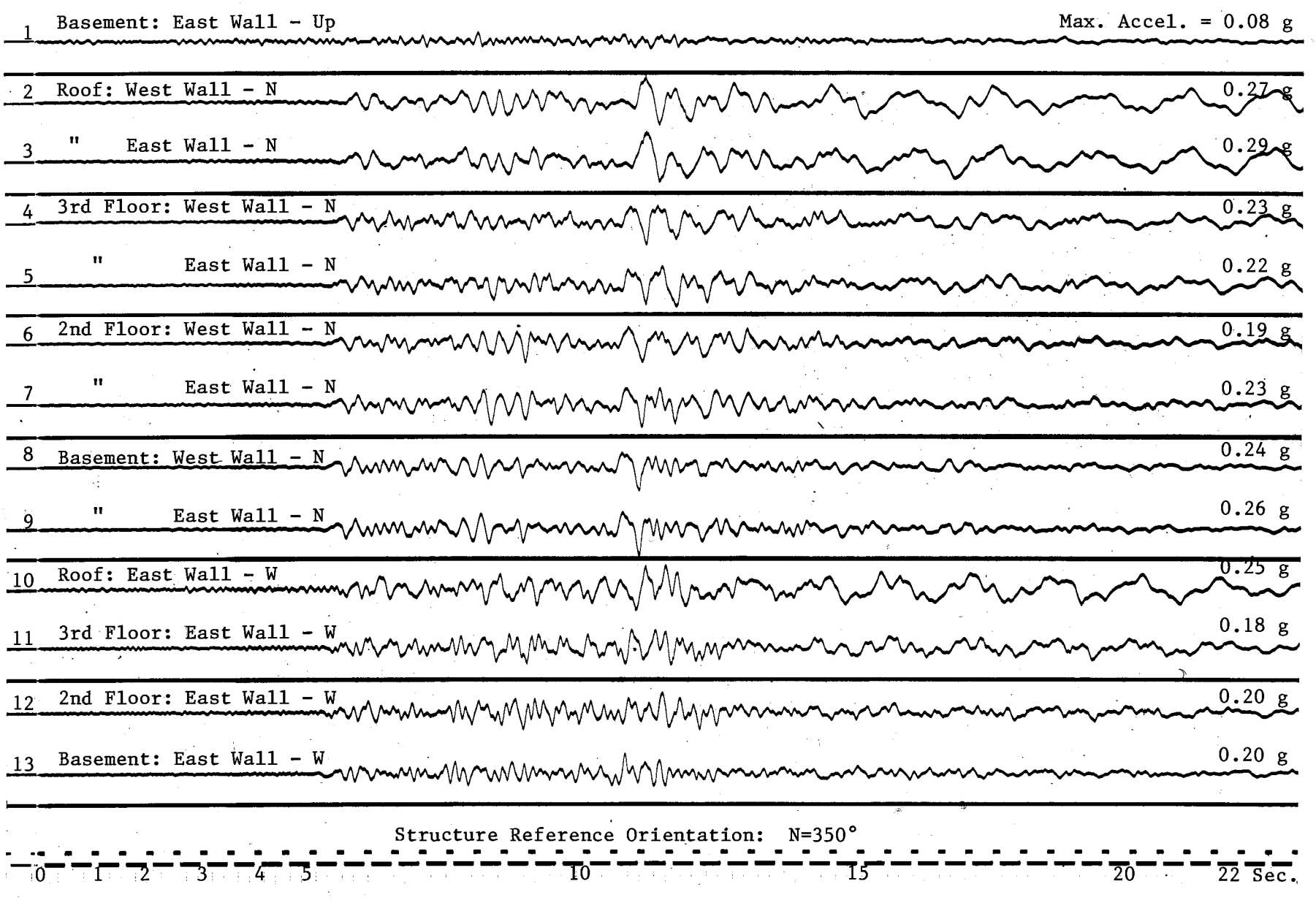
SENSOR LOCATIONS



Perimeter ductile concrete
moment frames.
Design date: 1970

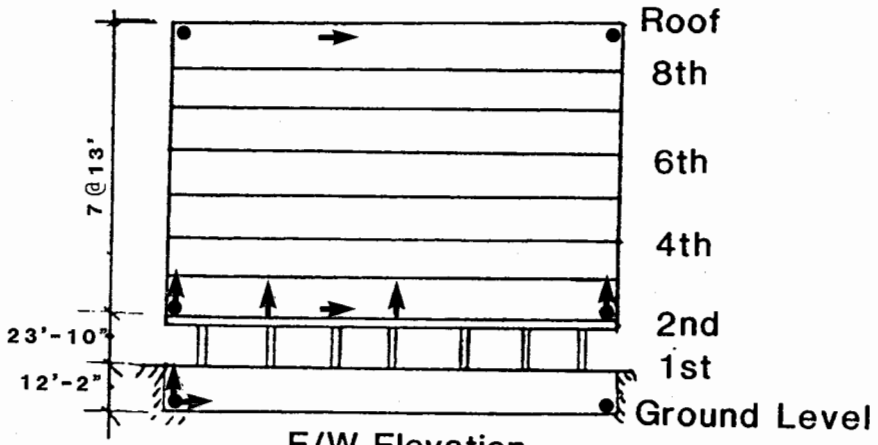
Los Angeles - 5-story Warehouse
(CSMIP Station 24463)

Record 24463-C0218-94019.02

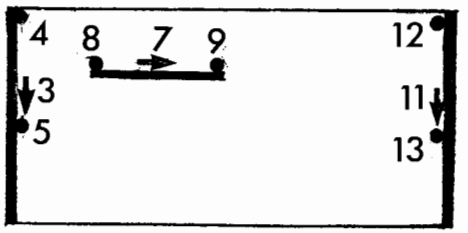


Los Angeles - 8-story CSULA Admin. Bldg.
(CSMIP Station No. 24468)

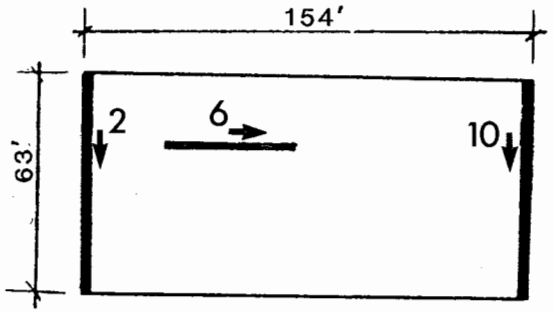
SENSOR LOCATIONS



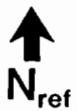
E/W Elevation



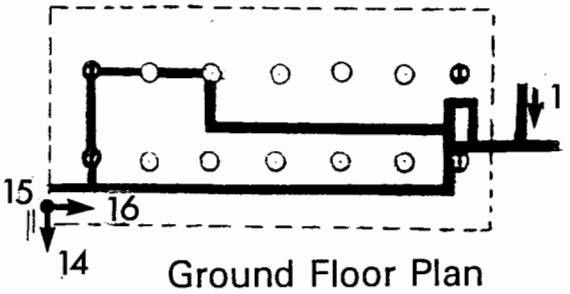
2nd Floor Plan



Roof Plan



Structure Reference
Orientation: N= 0°

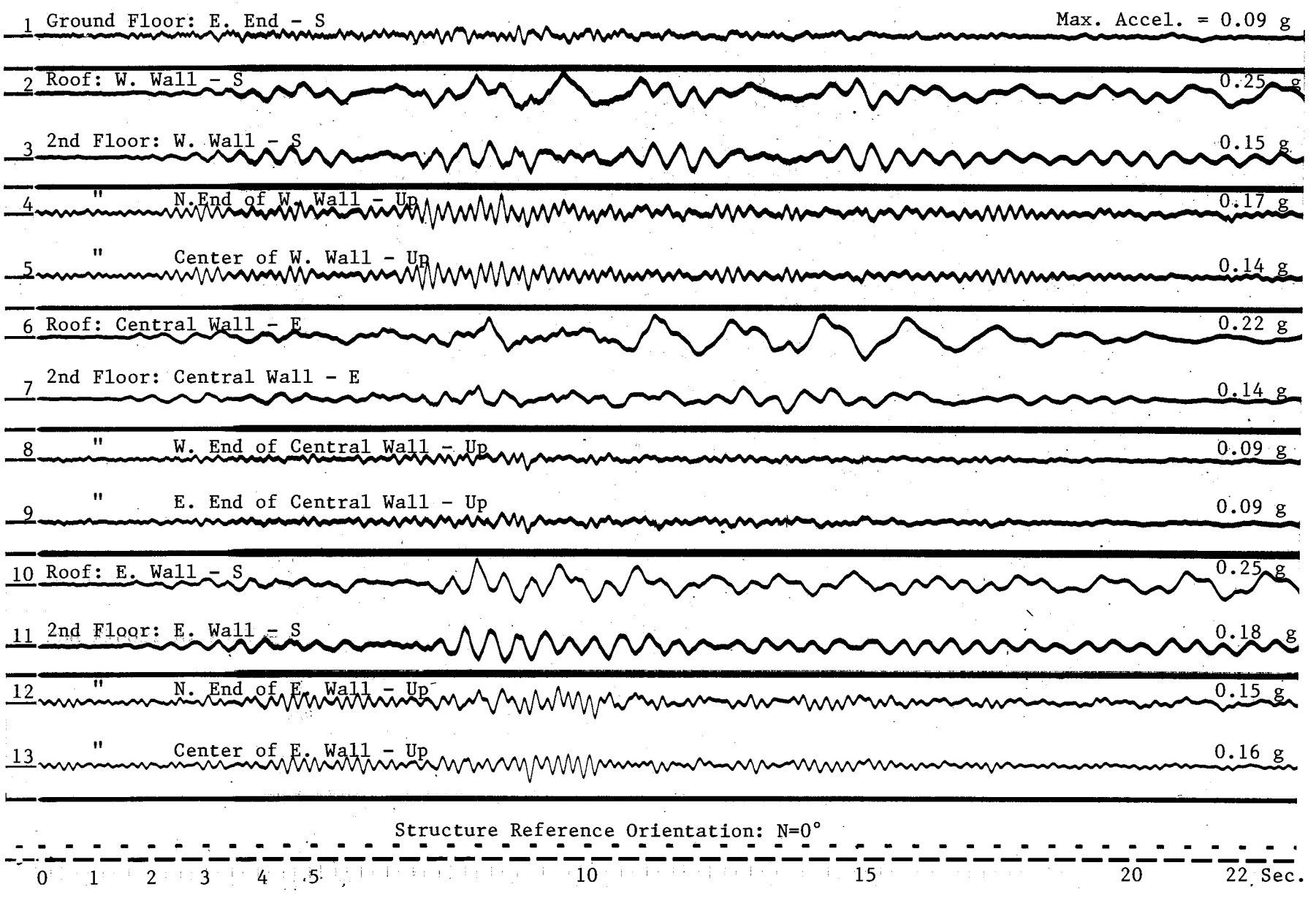


Ground Floor Plan

Composite steel/concrete columns in the first story and concrete shear walls in 2nd-8th stories.
Design date: 1967

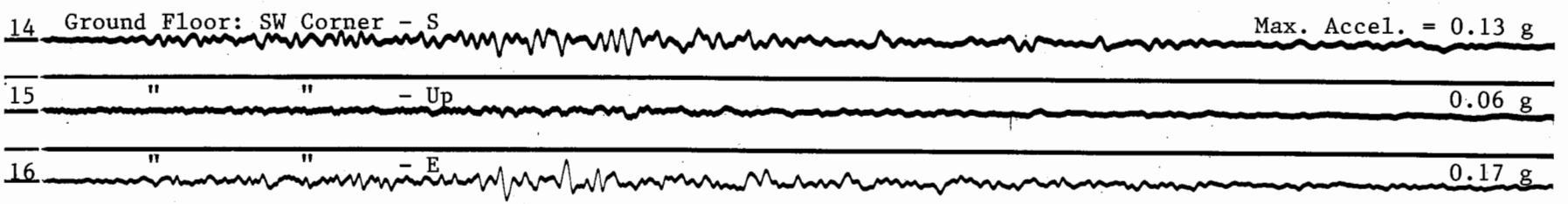
Revised: 7/91

Los Angeles - 8-story CSULA Admin. Bldg.
(CSMIP Station 24468) Record 24468-C0222-94019.02

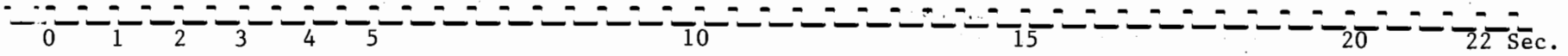


Los Angeles - 8-story CSULA Admin. Bldg.
(CSMIP Station 24468)

Record 24468-S1602-94019.02

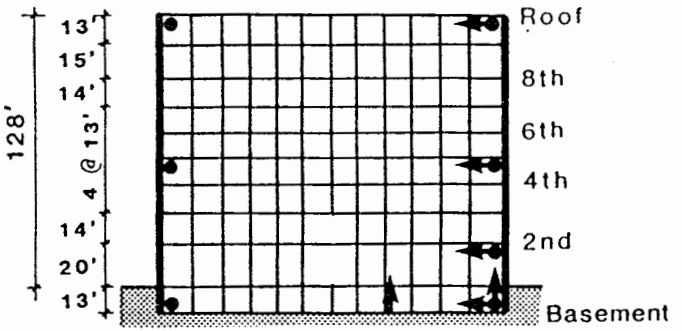


Structure Reference Orientation: N=0°

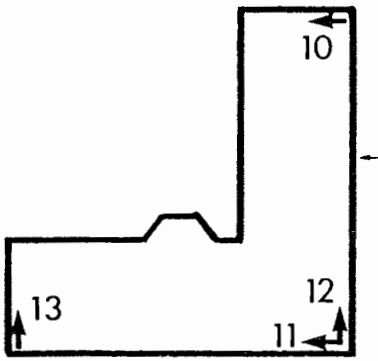


Los Angeles - 9-story Office Bldg.
(CSMIP Station No. 24579)

SENSOR LOCATIONS

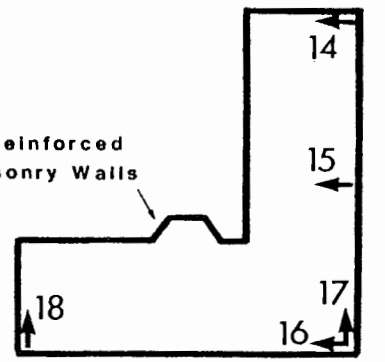


W/E Elevation

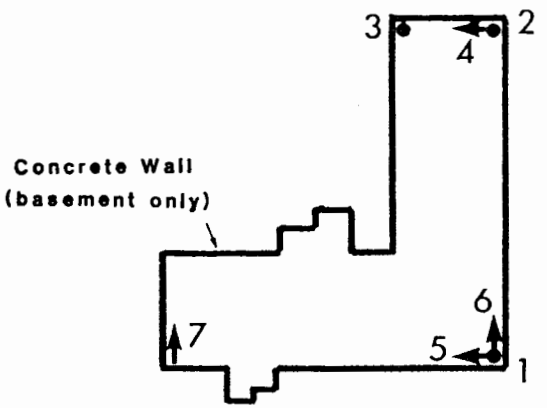


5th Floor Plan

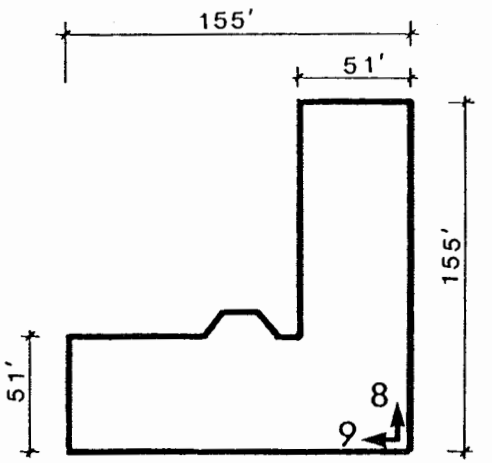
Unreinforced Masonry Walls



Roof Plan



Basement Plan



2nd Floor Plan

N_{ref}

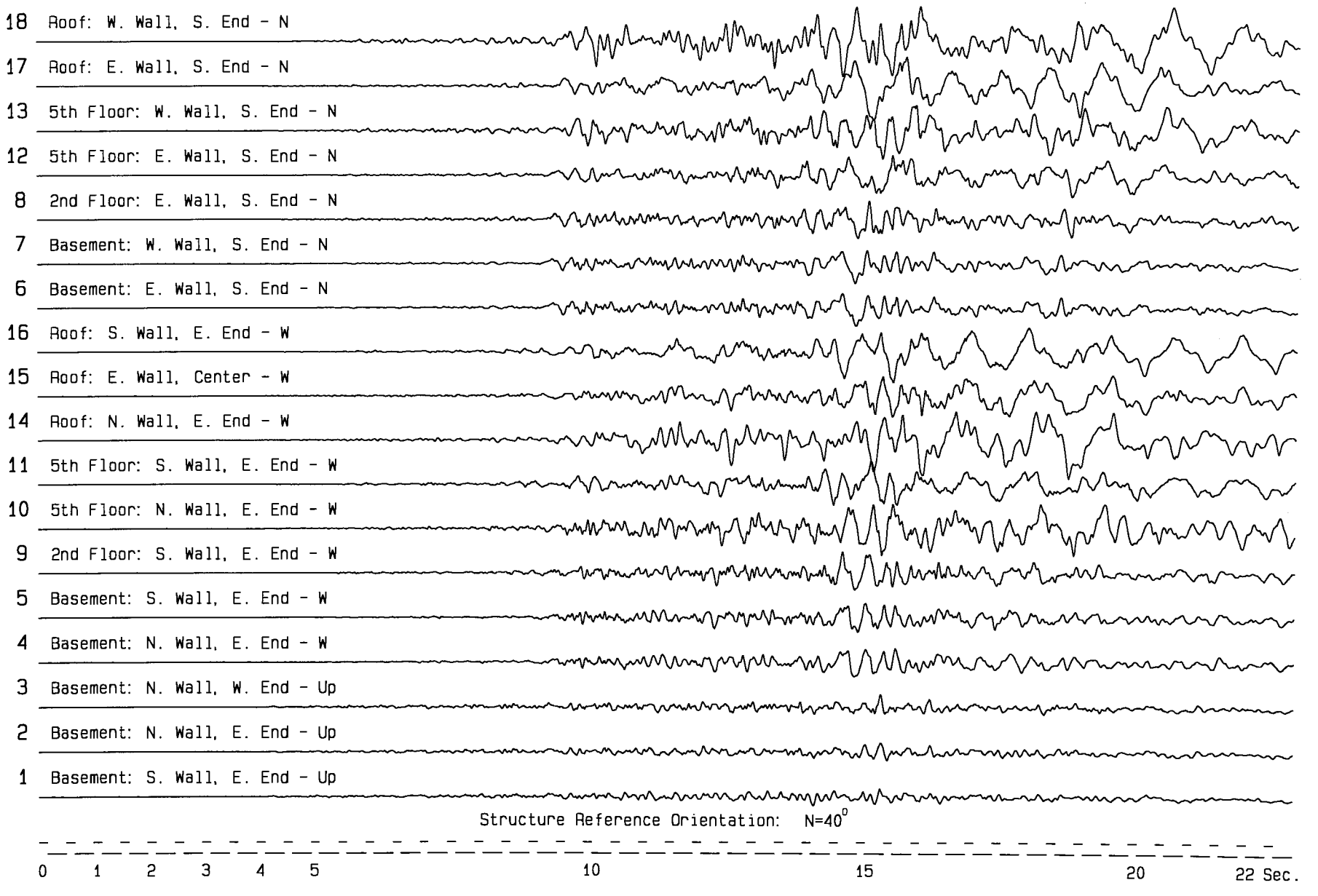
Structure Reference
Orientation: N = 40°

Concrete frames with URM
infill walls.
Design date: 1923

Los Angeles - 9-story Office Bldg.

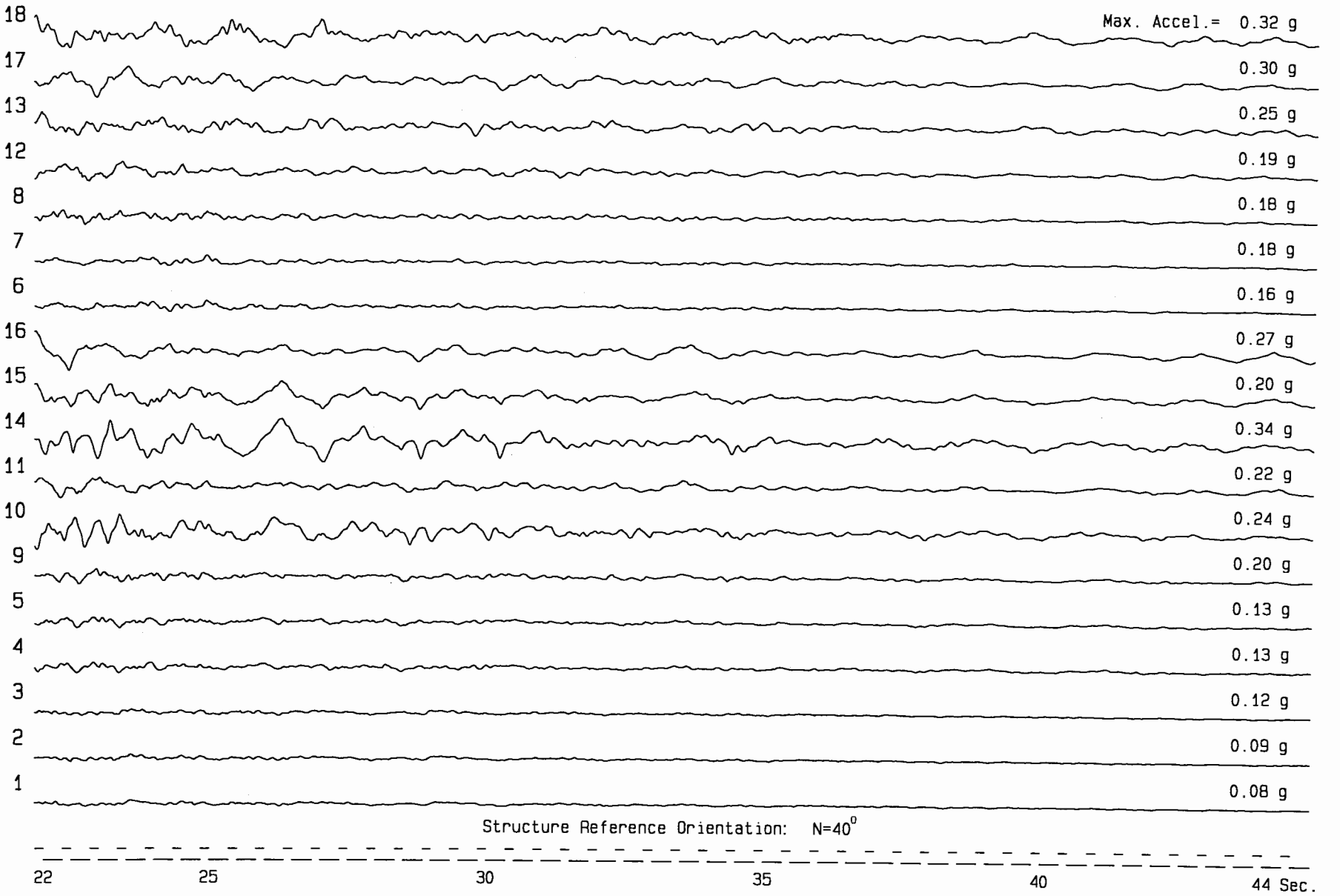
(CSMIP Station 24579)

RECORD 24579-CS103-94019.02



Los Angeles - 9-story Office Bldg.
(CSMIP Station 24579)

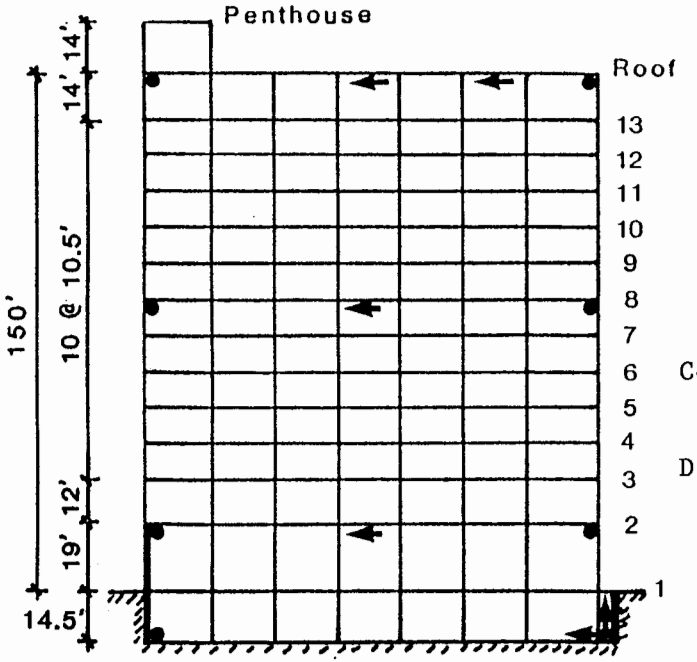
RECORD 24579-CS103-94019.02



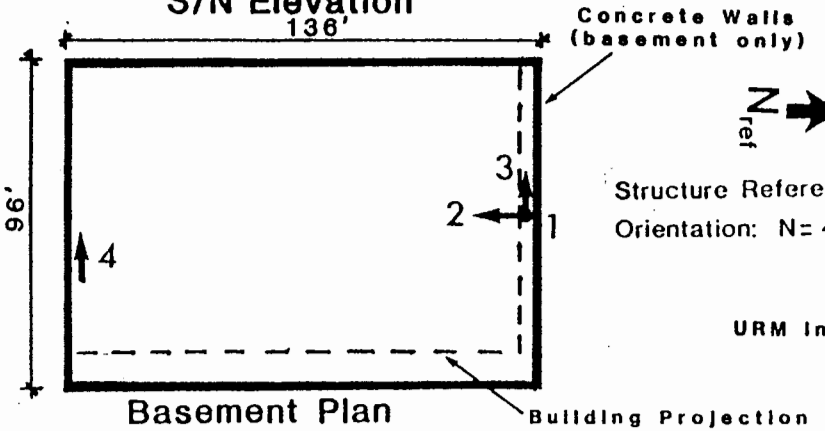
Los Angeles - 13-story Office Bldg.

(CSMIP Station No. 24567)

SENSOR LOCATIONS



S/N Elevation

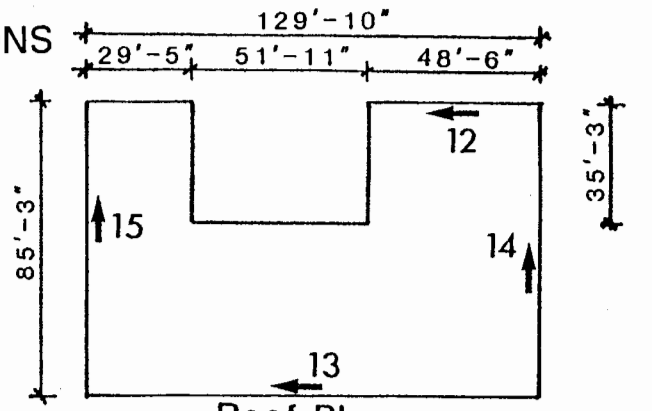


Basement Plan

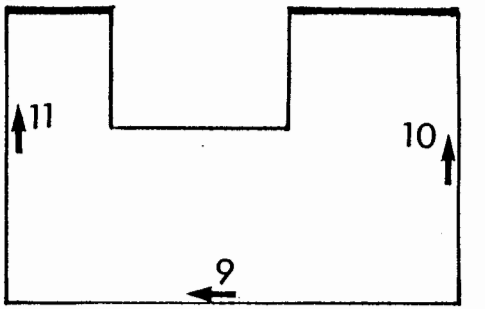
Composite steel/concrete frame with URM infill walls.
Design date: 1912

N_{ref}

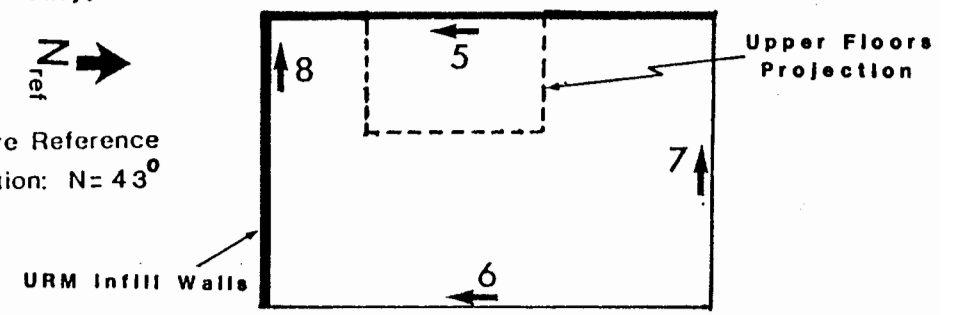
Structure Reference Orientation: N= 43°



Roof Plan



8th Floor Plan

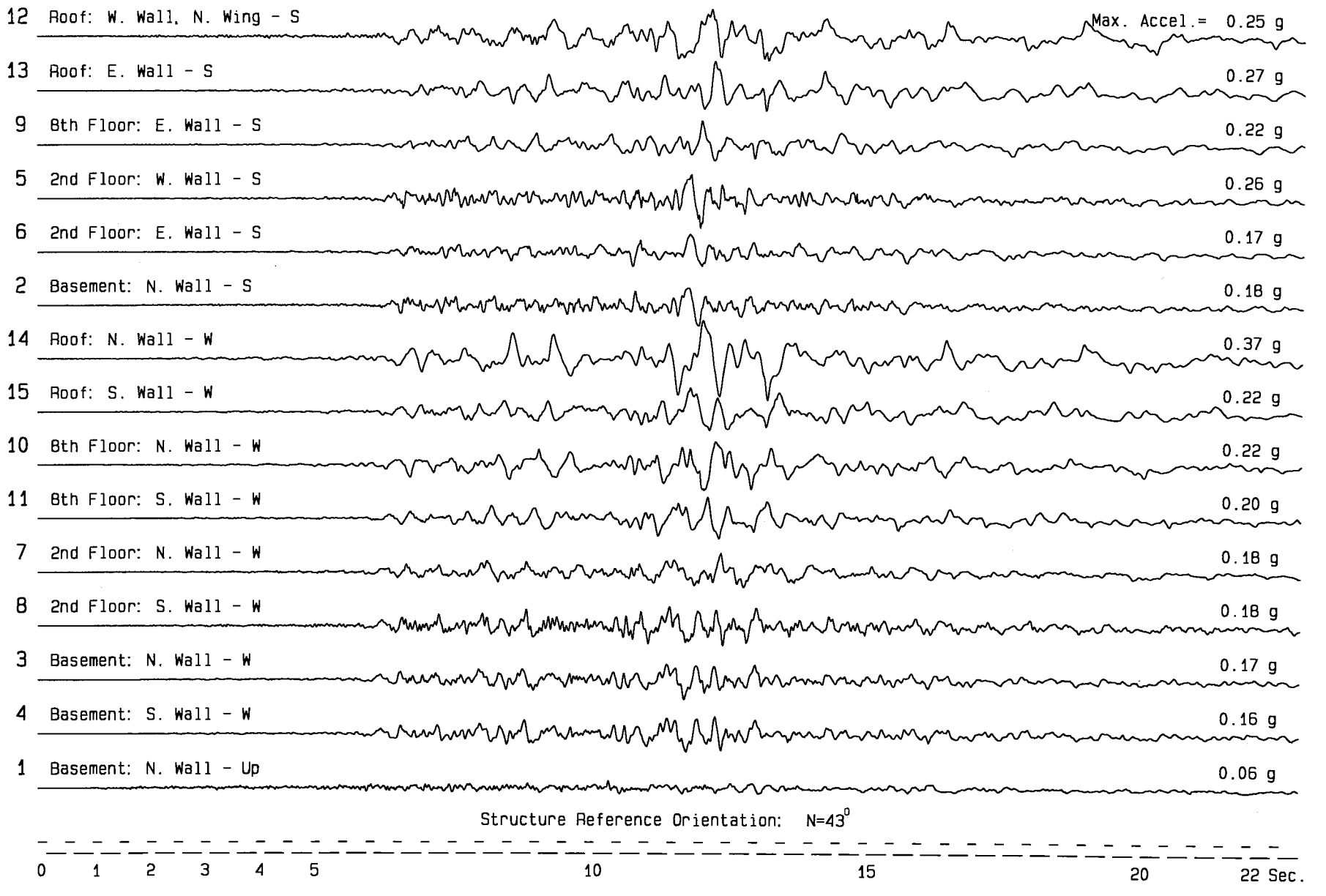


2nd Floor Plan

Los Angeles - 13-story Office Bldg.

(CSMIP Station 24567)

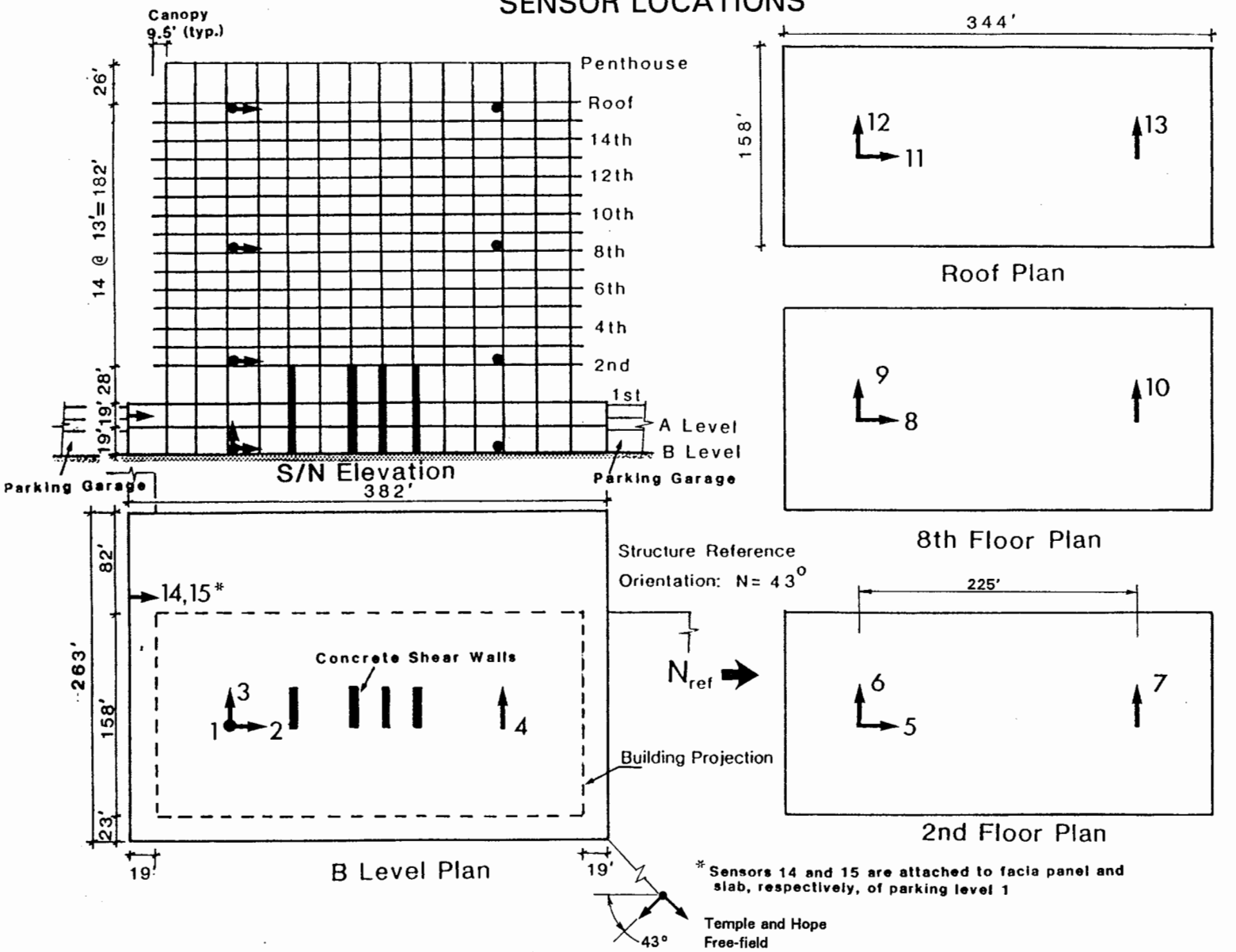
RECORD 24567-CD111-94019.03



Los Angeles - 15-story Govt. Office Bldg.
(CSMIP Station No. 24569)

Steel moment frames.
Design date: 1961

SENSOR LOCATIONS

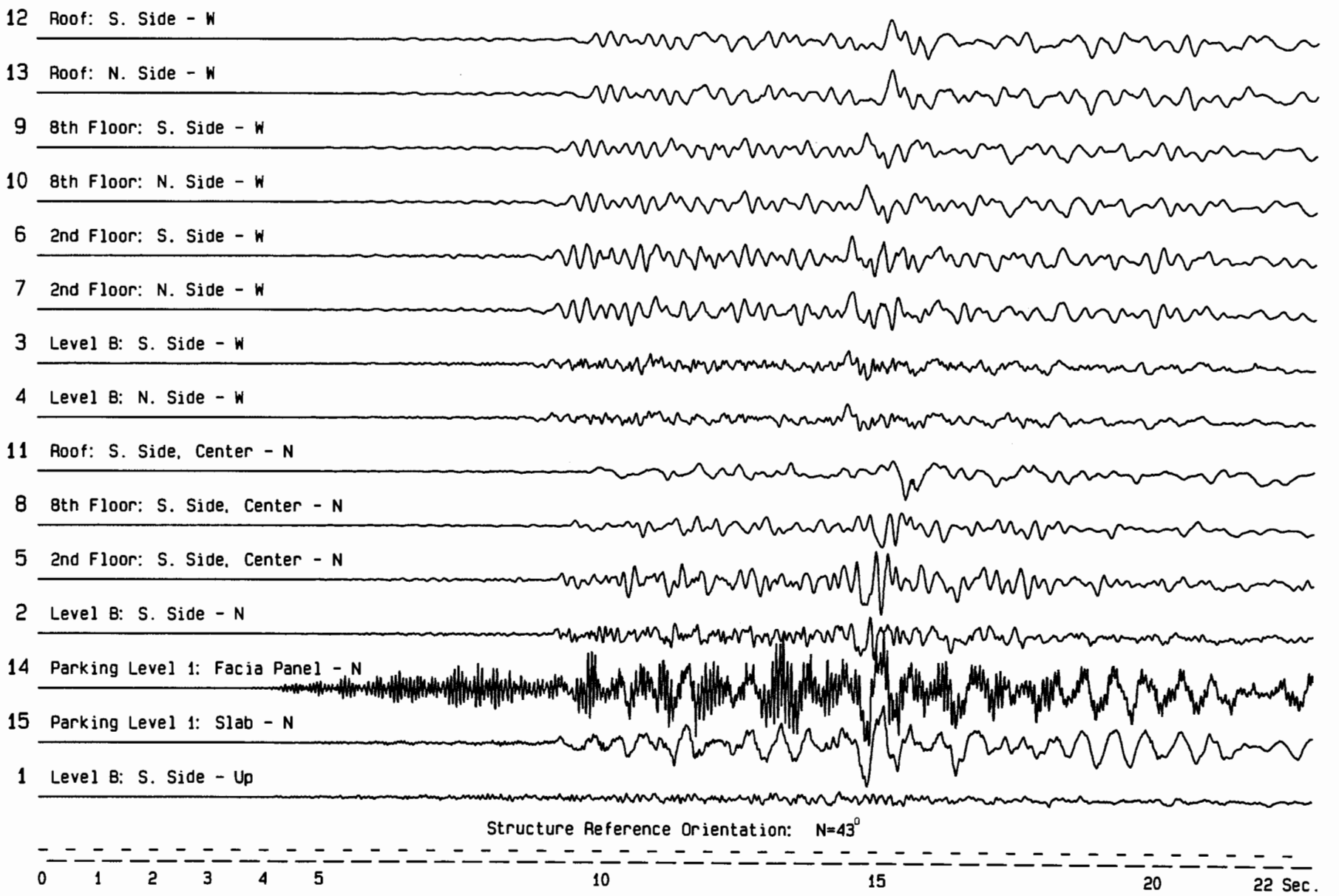


* Sensors 14 and 15 are attached to facia panel and slab, respectively, of parking level 1

Los Angeles - 15-story Govt. Office Bldg.

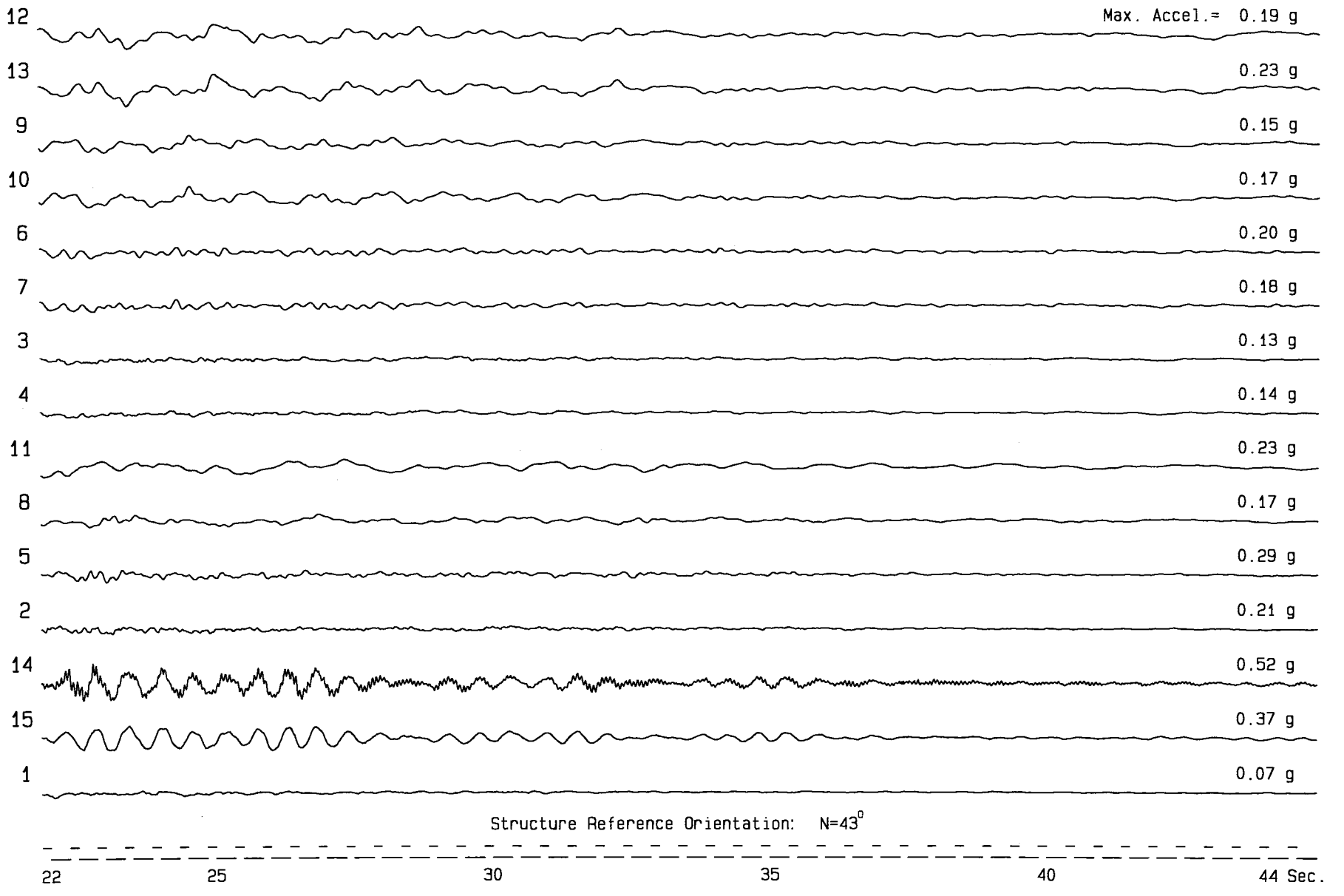
(CSMIP Station 24569)

RECORD 24569-C0102-94017.02



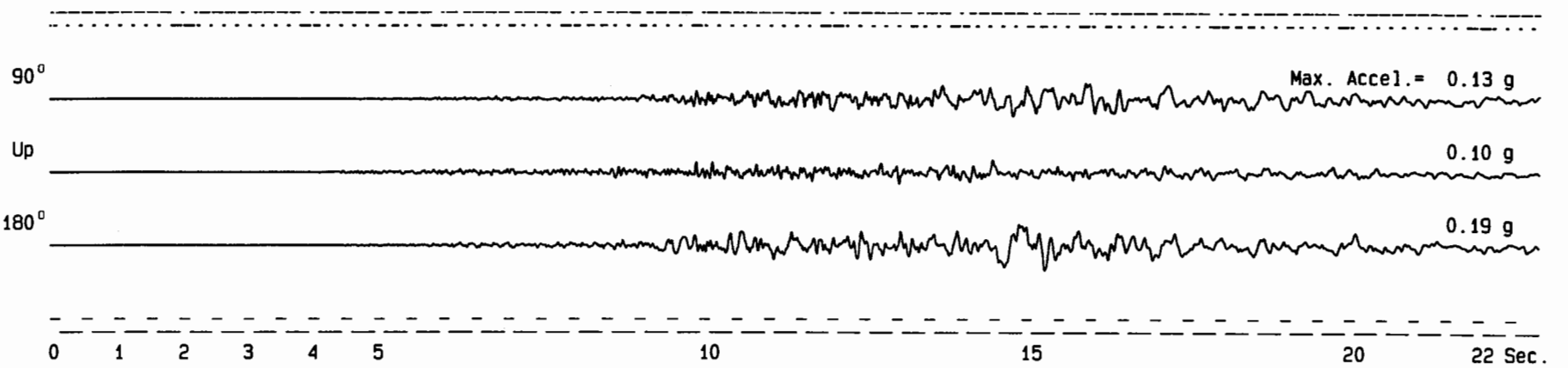
Los Angeles - 15-story Govt. Office Bldg.
(CSMIP Station 24569)

RECORD 24569-C0102-94017.02



Los Angeles - Temple & Hope
(CSMIP Station 24611)

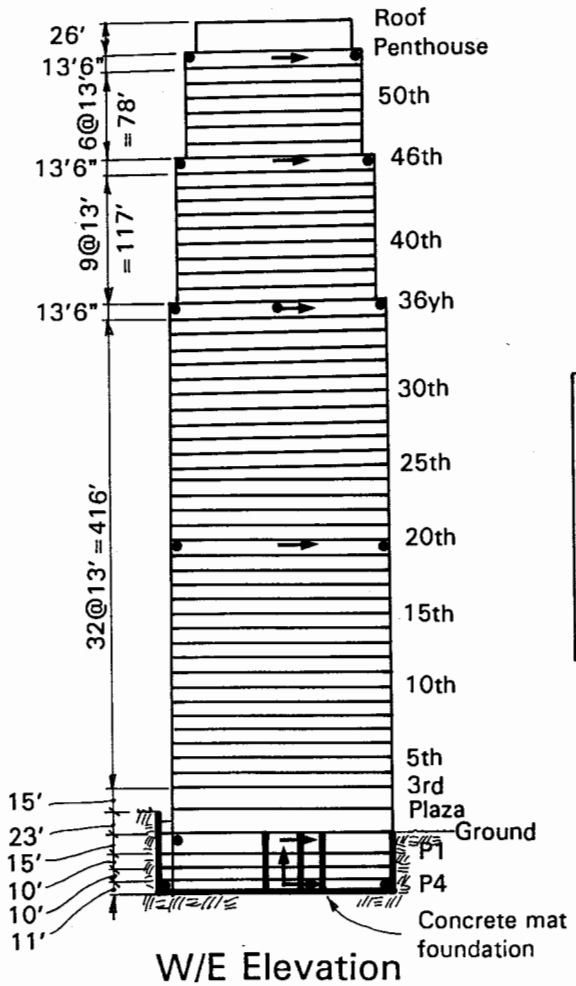
RECORD 24611-E0275-94018.02



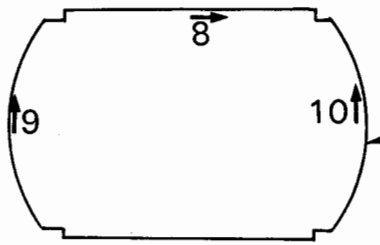
Los Angeles - 54-story Office Bldg.

(CSMIP Station No. 24629)

SENSOR LOCATIONS



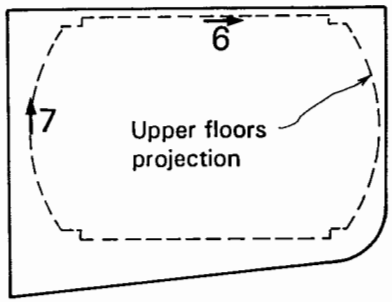
W/E Elevation



20th Floor Plan

Moment resisting perimeter steel frames

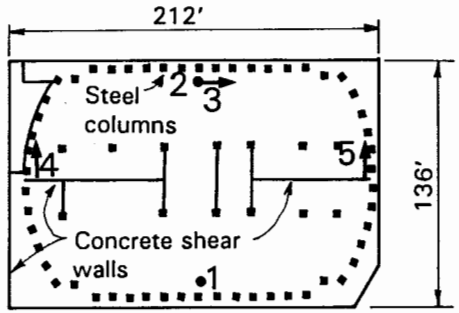
Design date: 1988



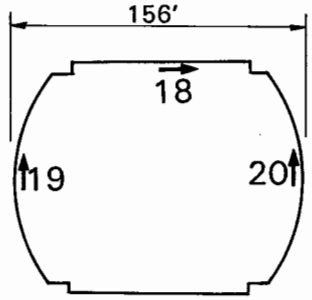
Ground Floor Plan

Structure Reference Orientation: N = 40°

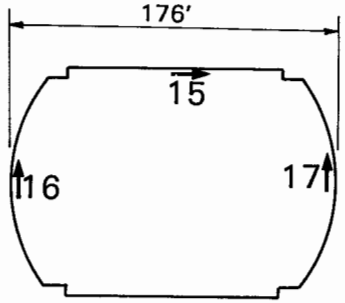
N_{ref}



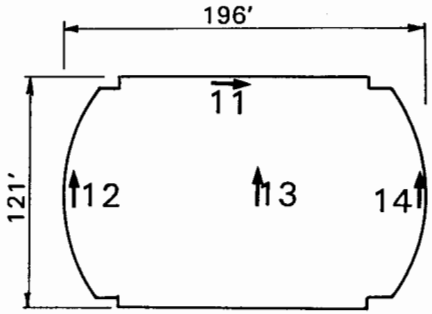
P4 Level Plan



Penthouse Plan



46th Floor Plan

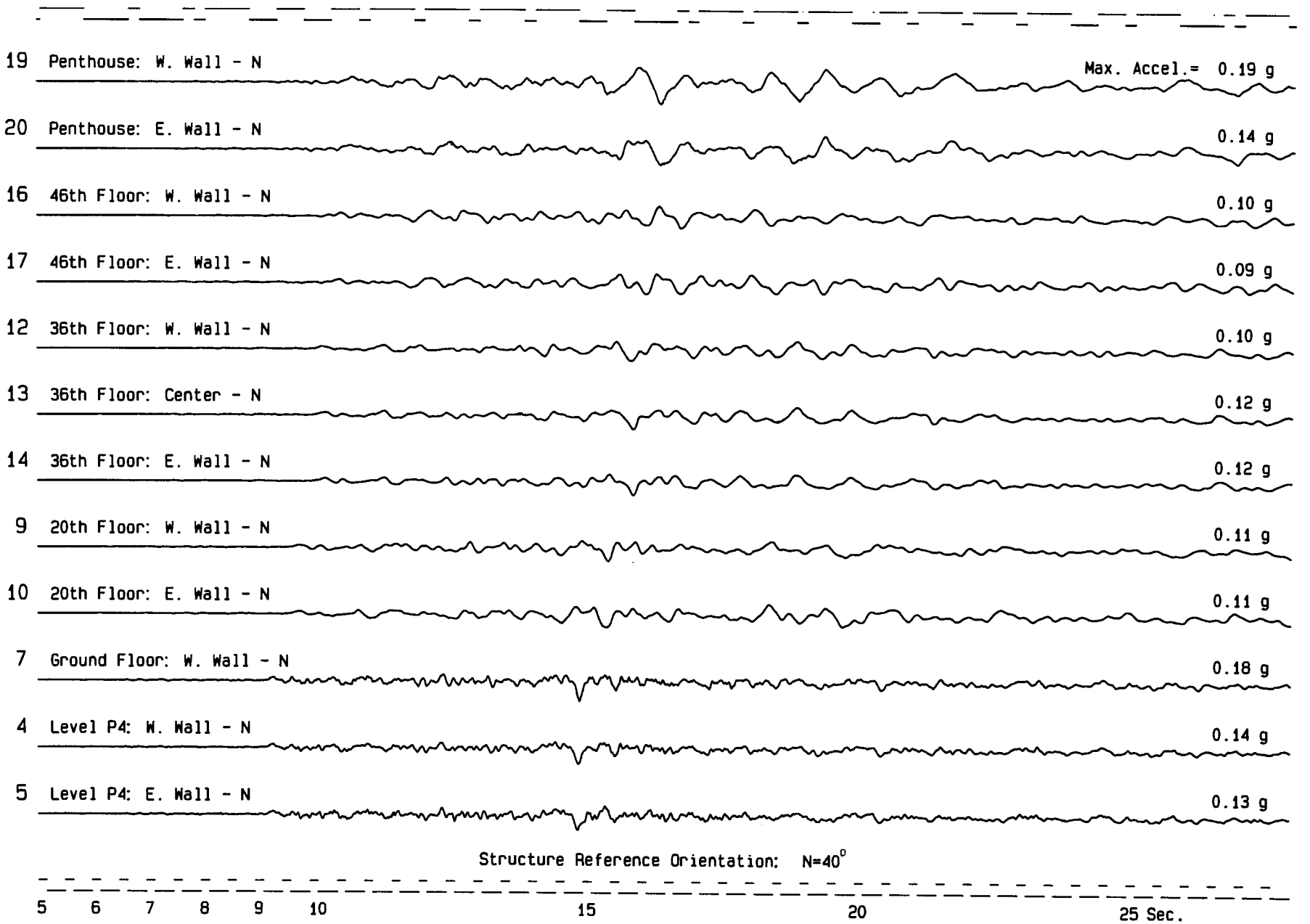


36th Floor Plan

Los Angeles - 54-story Office Bldg.

(CSMIP Station 24629)

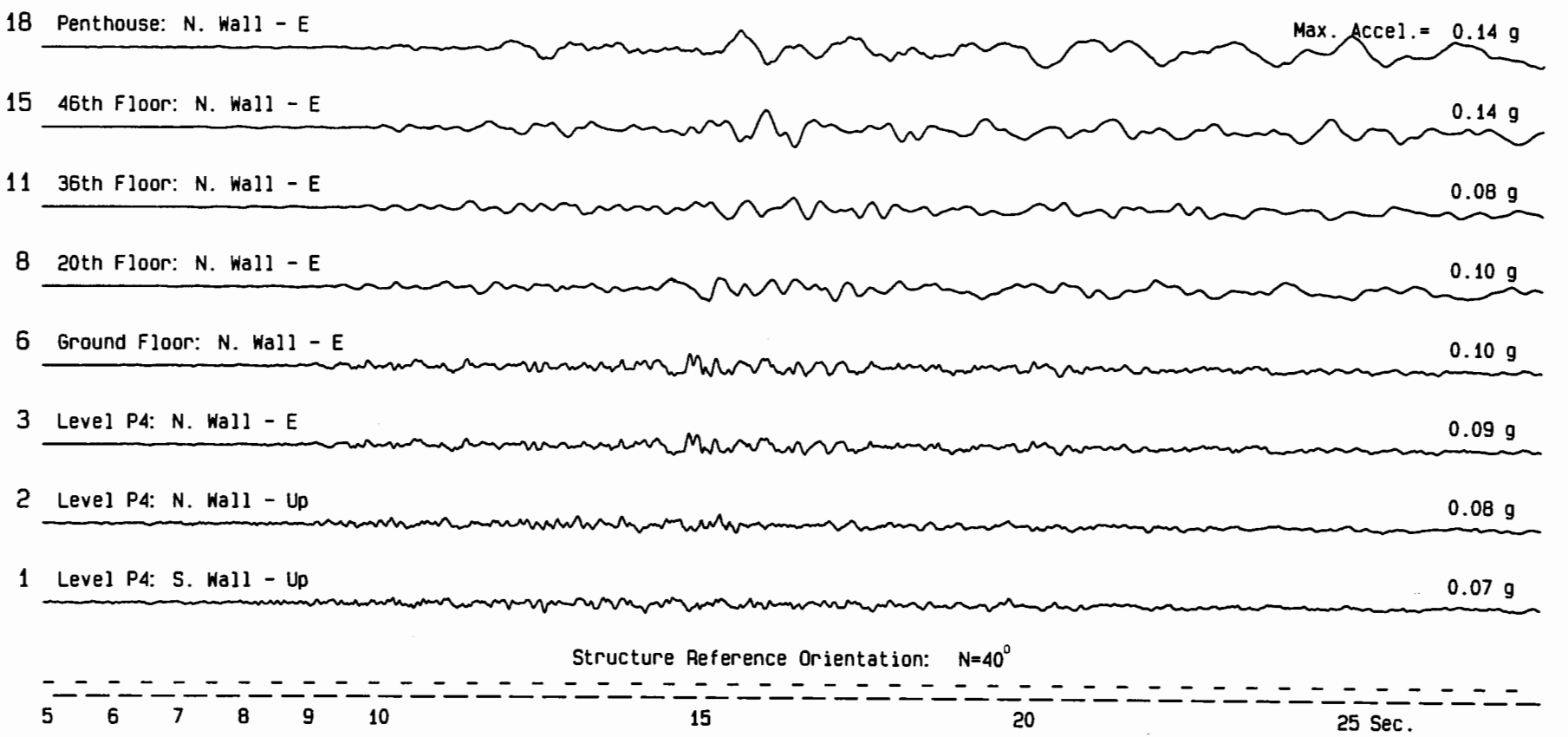
RECORD 24629-CS125-94020.02



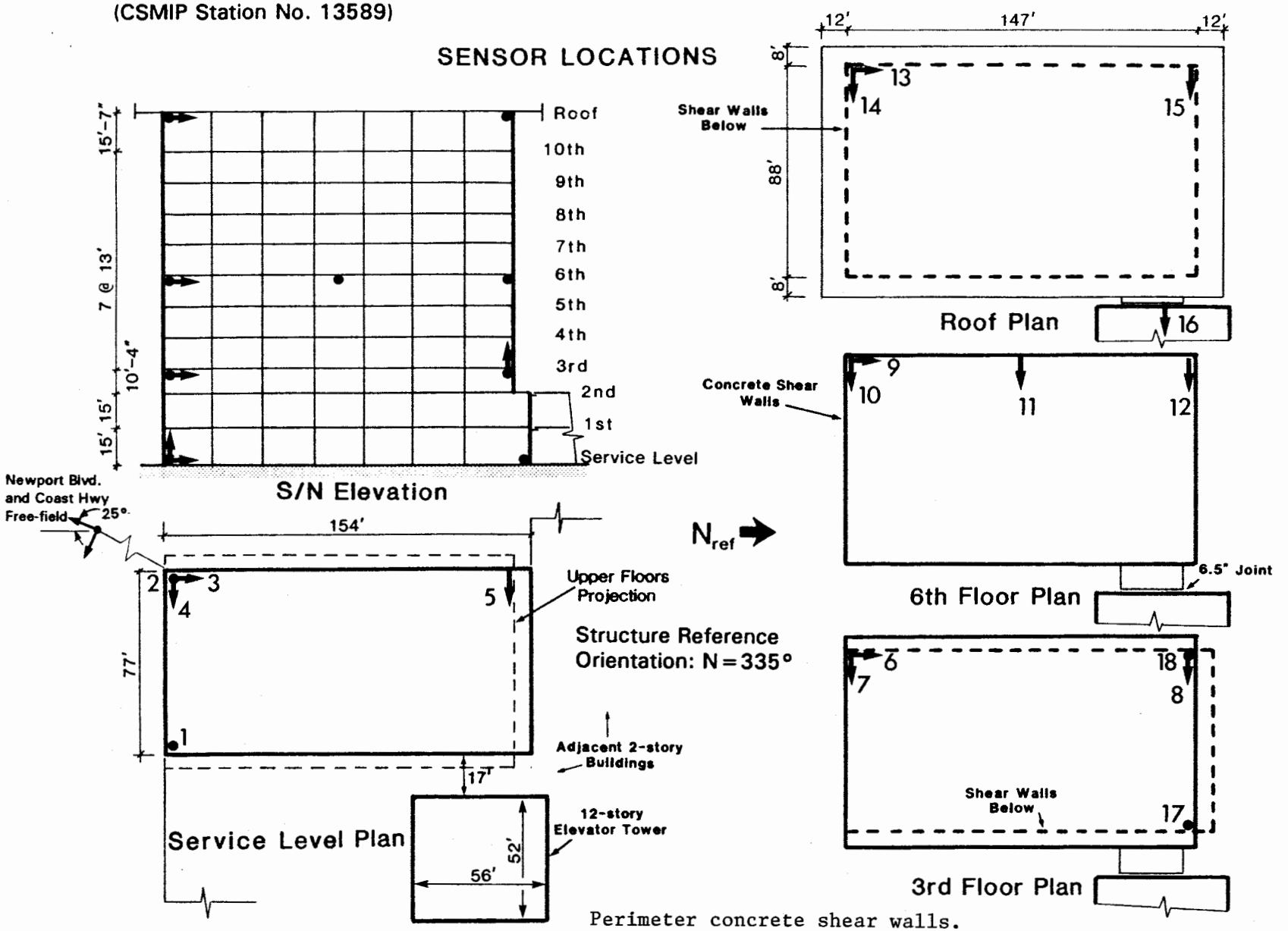
Los Angeles - 54-story Office Bldg.

(CSMIP Station 24629)

RECORD 24629-CS125-94020.02



Newport Beach - 11-story Hospital
(CSMIP Station No. 13589)

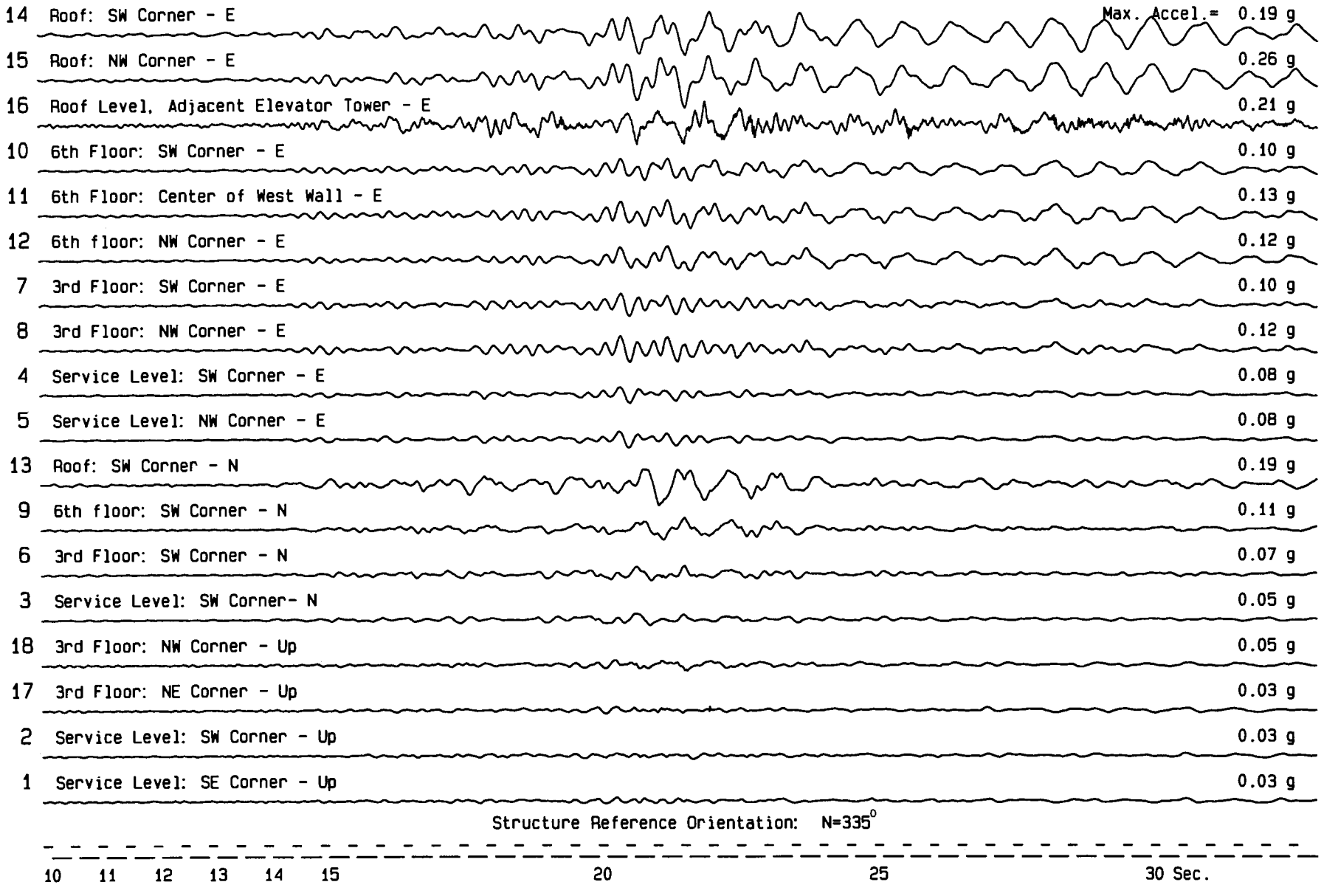


Perimeter concrete shear walls.
Design date: 1971

Newport Beach - 11-story Hospital

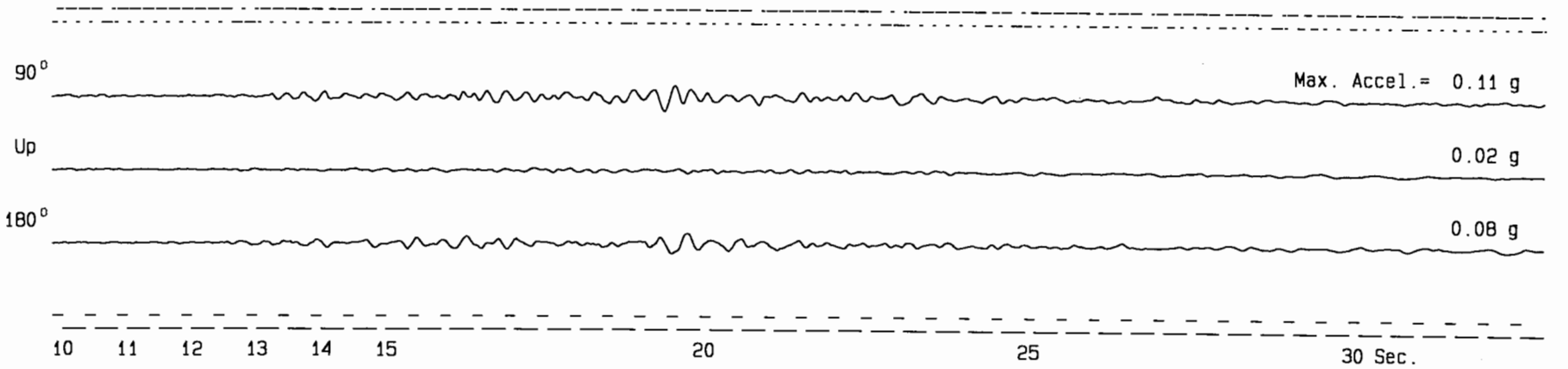
(CSMIP Station 13589)

RECORD 13589-CS108-94026.02



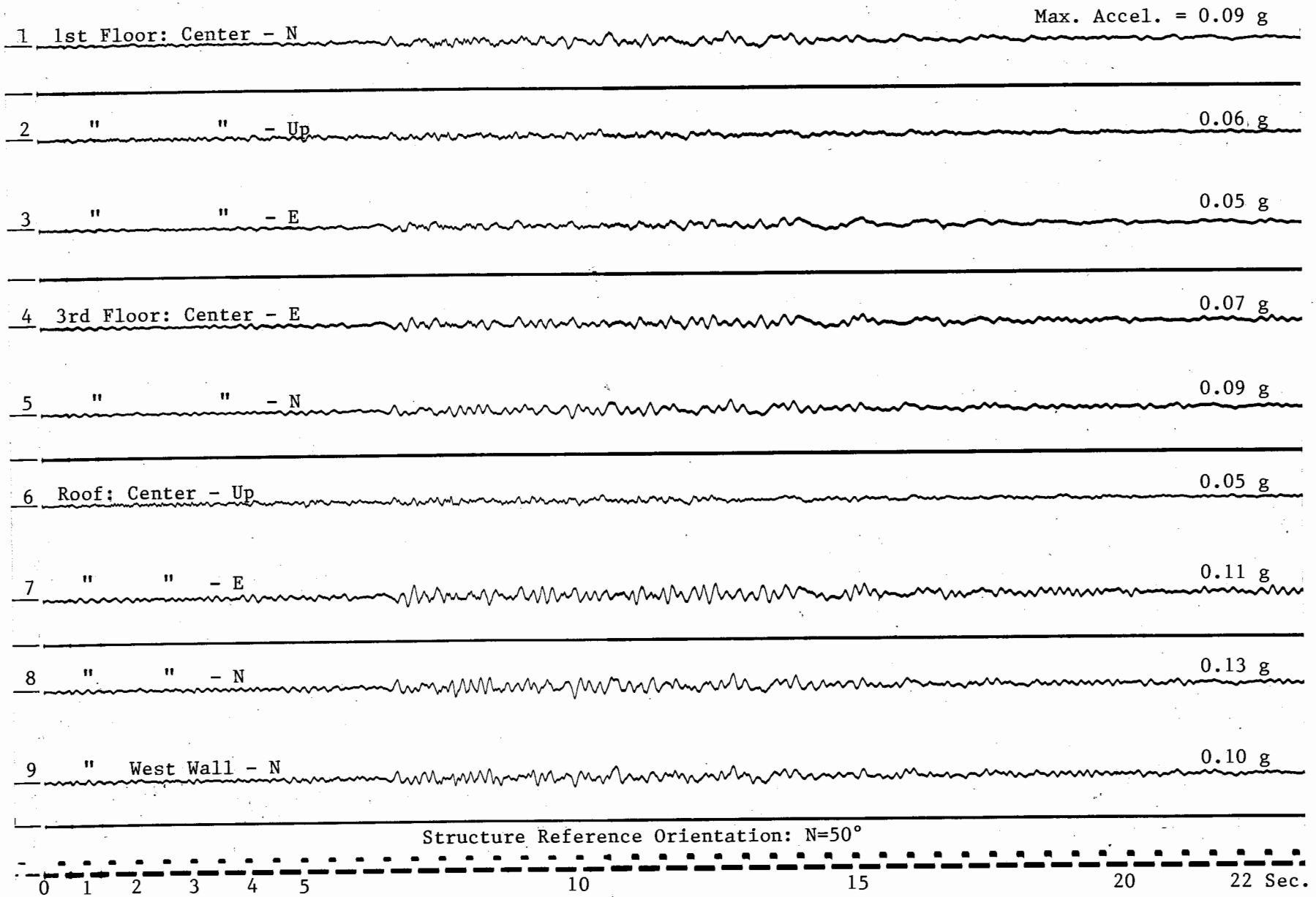
Newport Beach - Newport Blvd. & Coast Highway
(CSMIP Station 13610)

RECORD 13610-E0277-94026.02



Palmdale - 4-story Hotel (Masonry shear walls; Design date: 1971)
(CSMIP Station 24232)

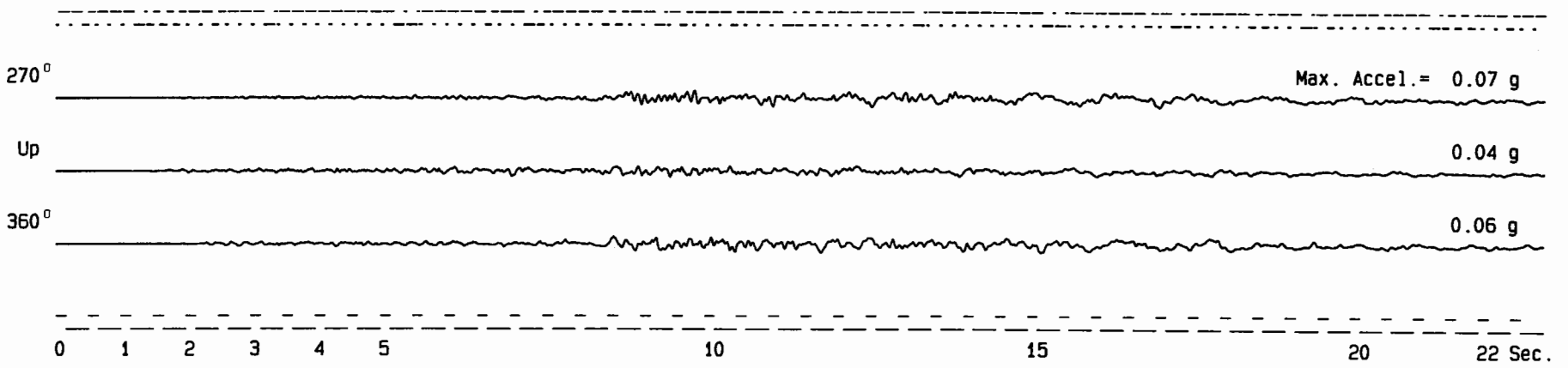
Record 24232-C0121-94025.02



Palmdale - Hwy 14 & Palmdale Blvd.

(CSMIP Station 24521)

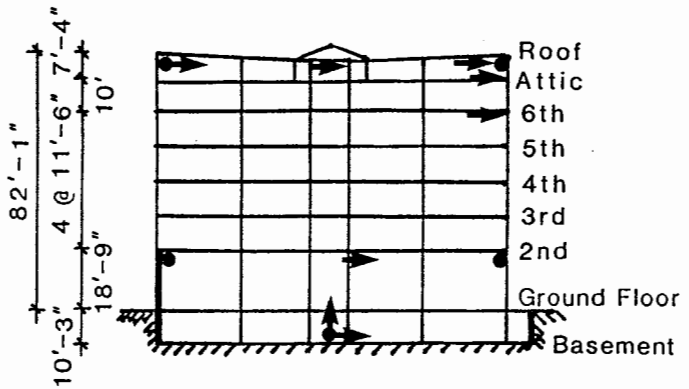
RECORD 24521-D0268-94025.03



Pasadena - 6-story Office Bldg.

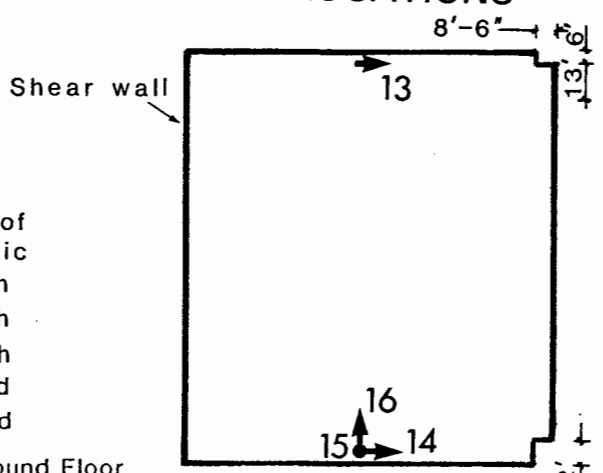
(CSMIP Station No. 24541)

SENSOR LOCATIONS

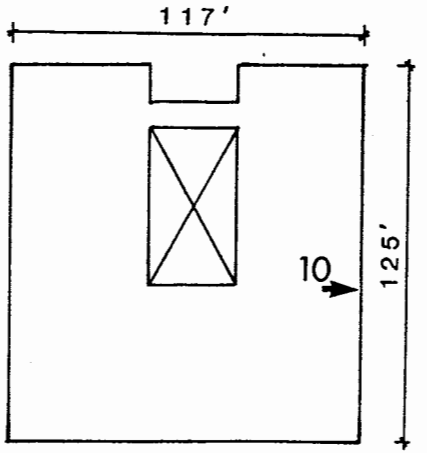


W/E Elevation

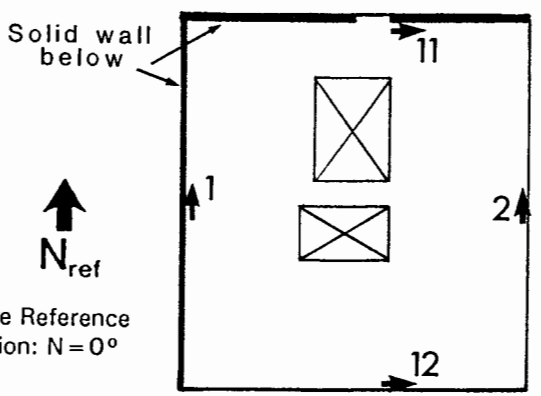
Steel frames with URM infill walls.
Design date: 1906



Basement Plan

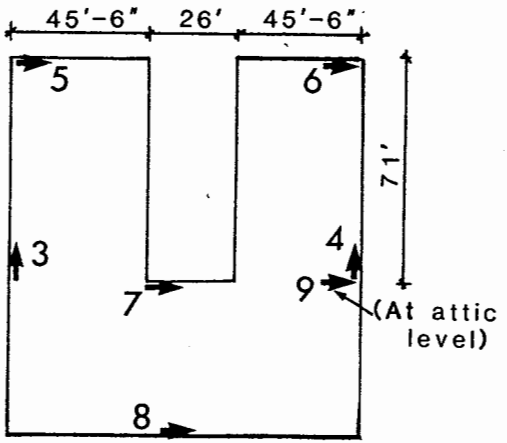


6th Floor Plan



Structure Reference Orientation: N = 0°

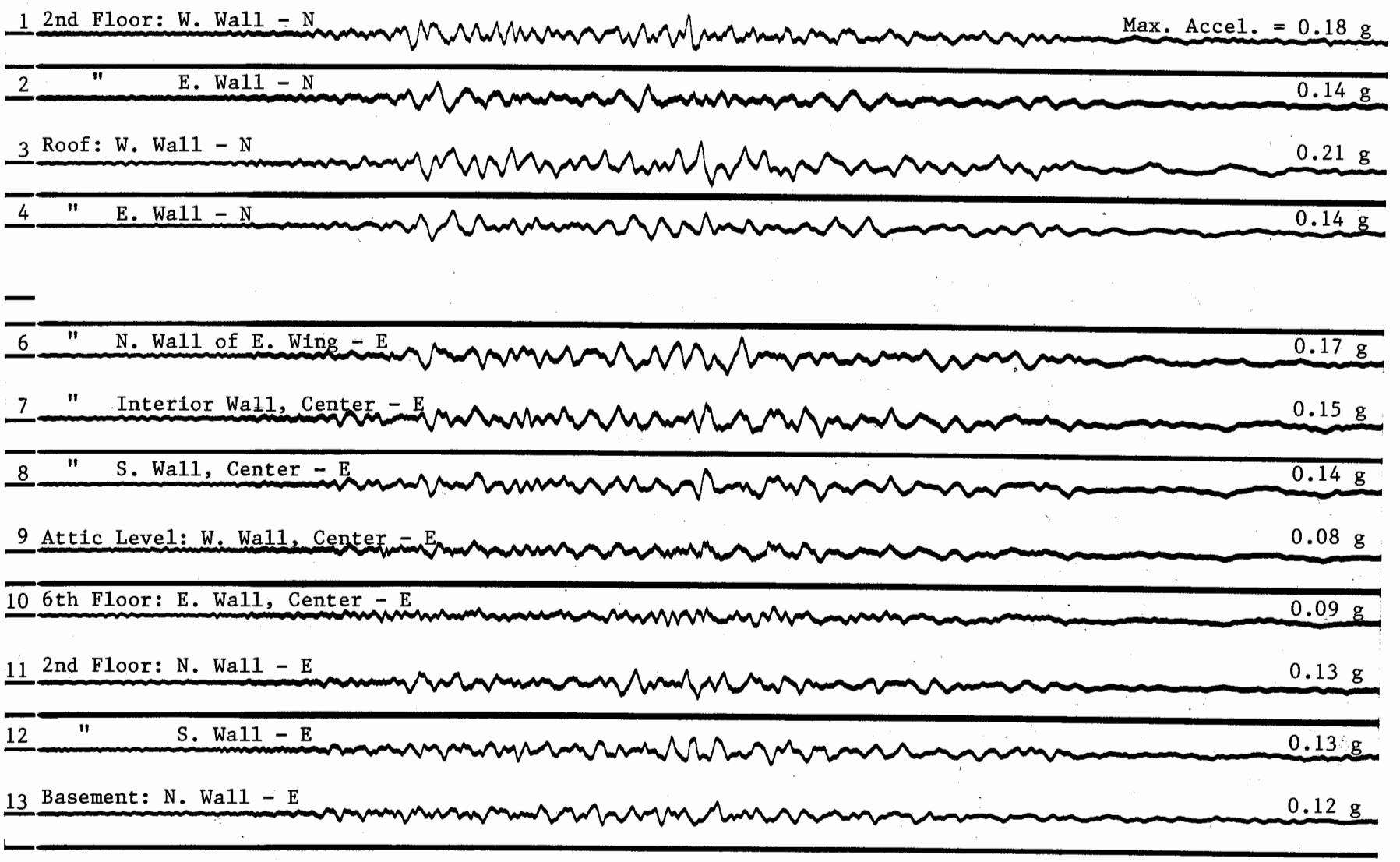
2nd Floor Plan



Roof Plan

Pasadena - 6-story Office Bldg.
(CSMIP Station 24541)

Record 24541-C0281-94020.02

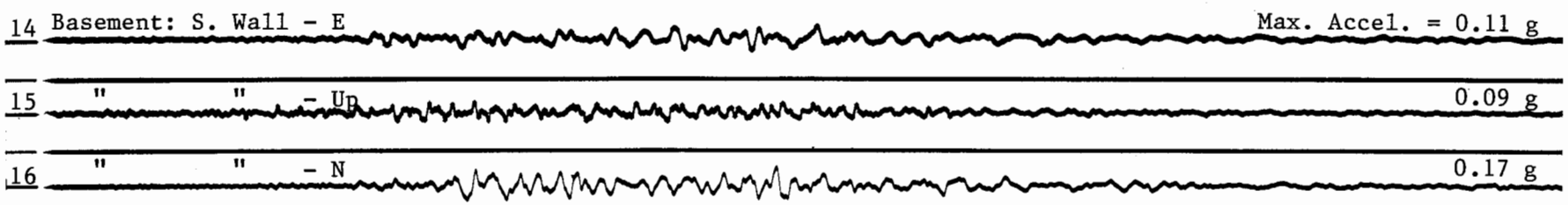


Structure Reference Orientation: N=0°

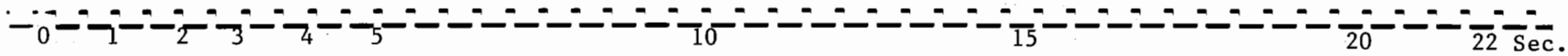
0 1 2 3 4 5 10 15 20 22 Sec.

Pasadena - 6-story Office Bldg.
(CSMIP Station 24541)

Record 24541-S1869-94020.02

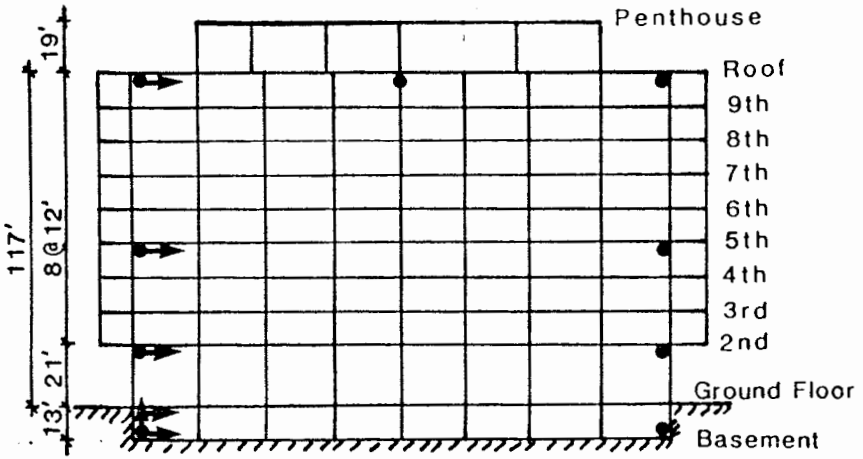


Structure Reference Orientation: N=0°



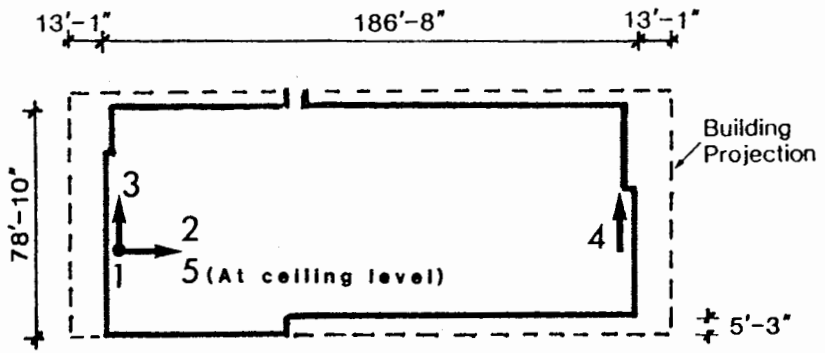
Pasadena - 9-story Commercial Bldg.
(CSMIP Station No. 24571)

SENSOR LOCATIONS



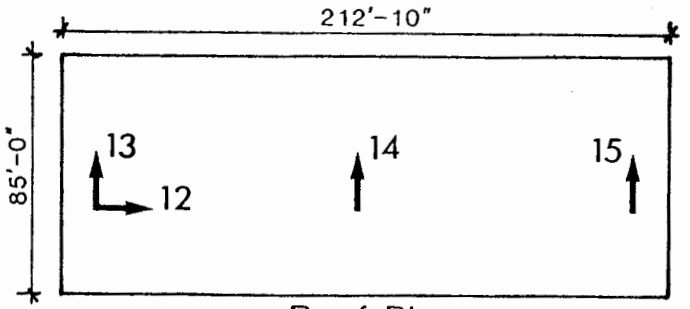
N/S Elevation

Concrete flat slabs and concrete columns.
Design date: 1963

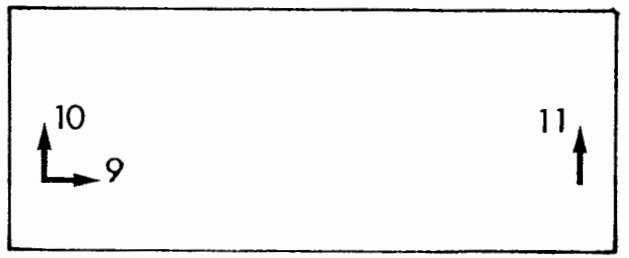


Basement Plan

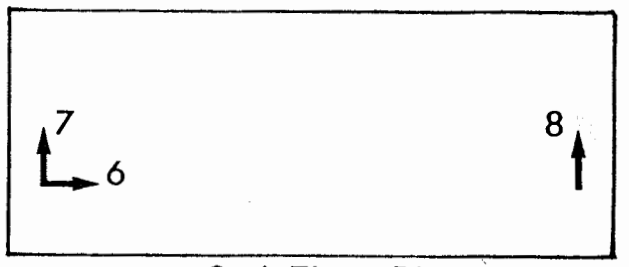
Structure Reference Orientation: N= 0°



Roof Plan



5th Floor Plan

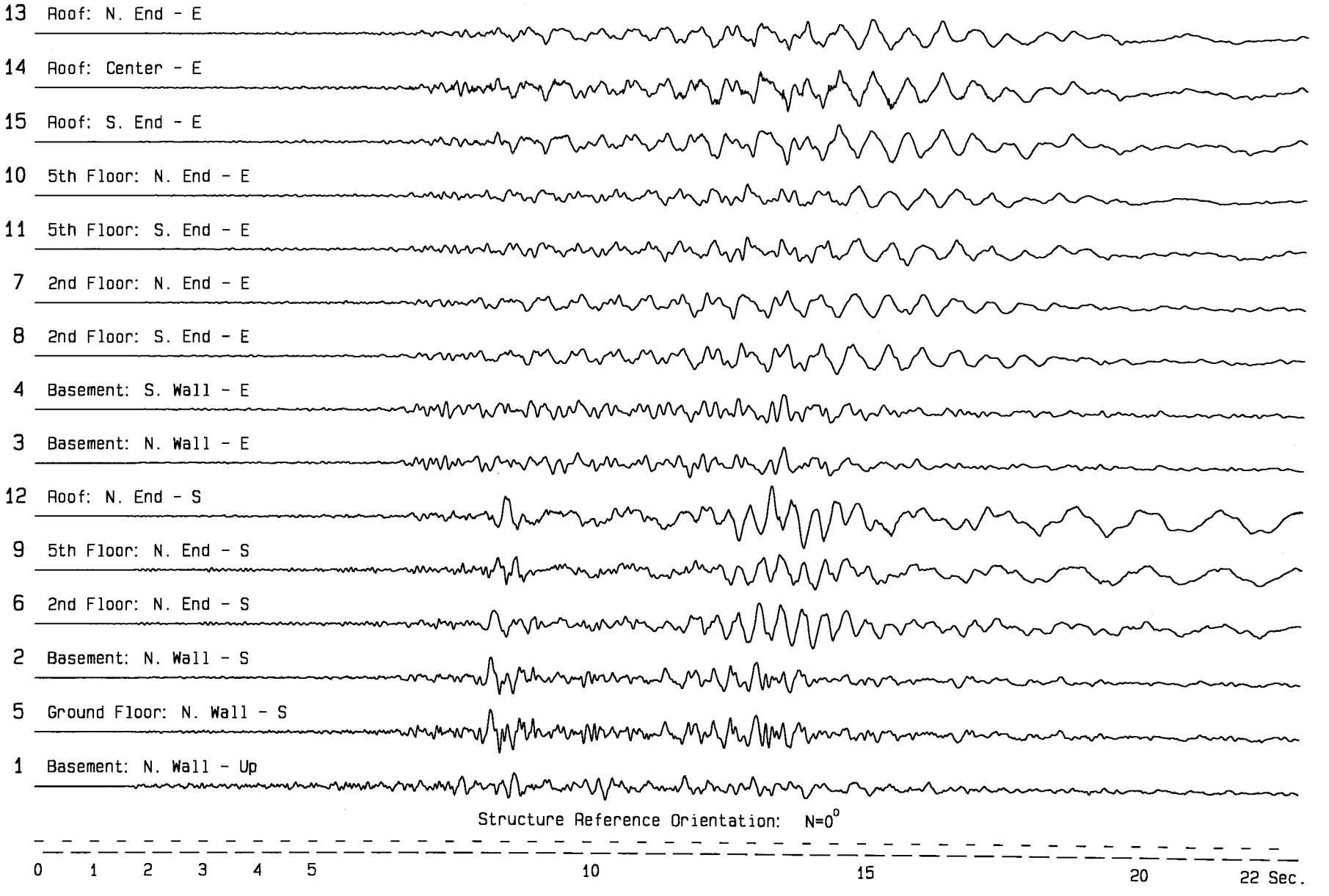


2nd Floor Plan

Pasadena - 9-story Commercial Bldg.

(CSMIP Station 24571)

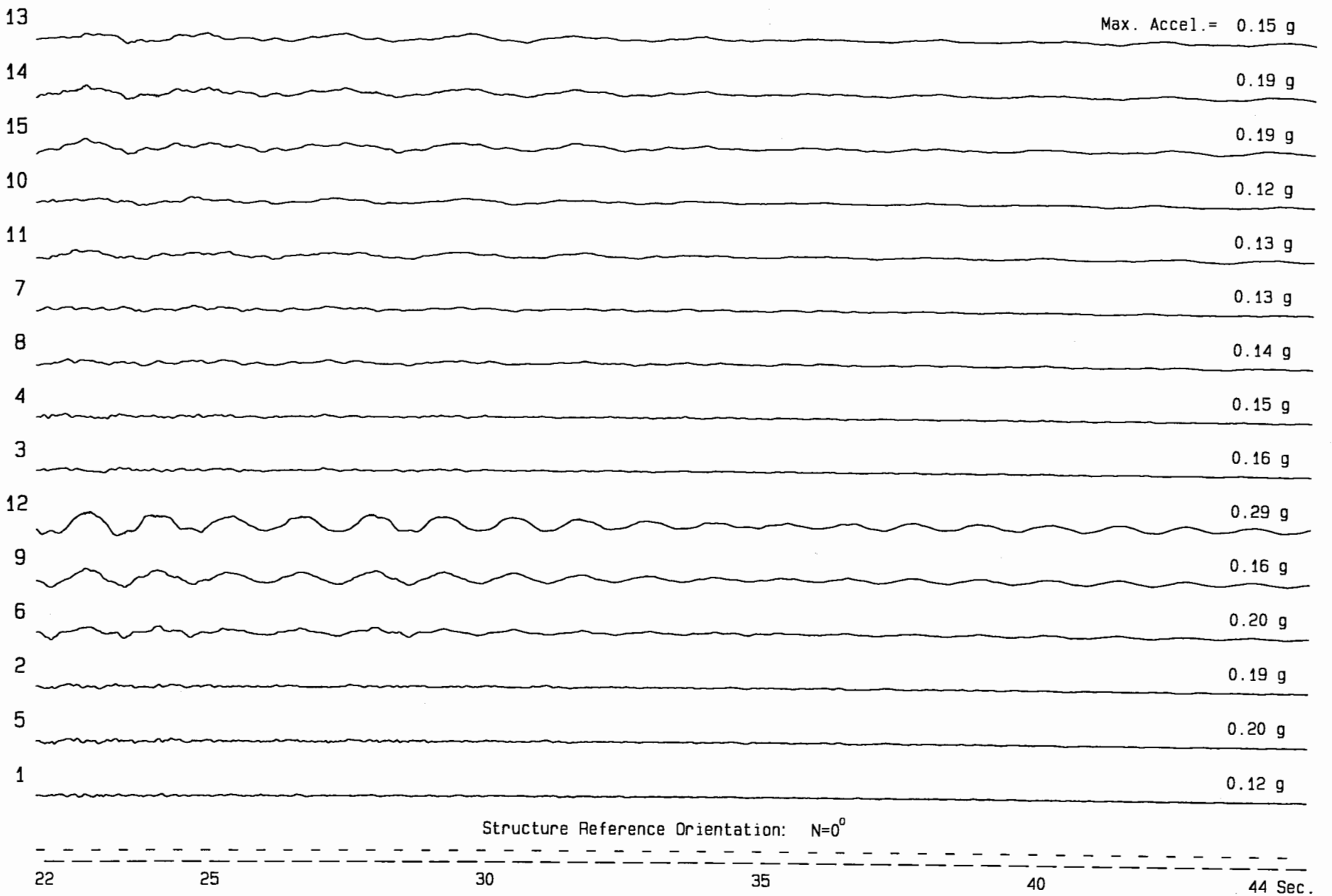
RECORD 24571-CD112-94019.03



Pasadena - 9-story Commercial Bldg.

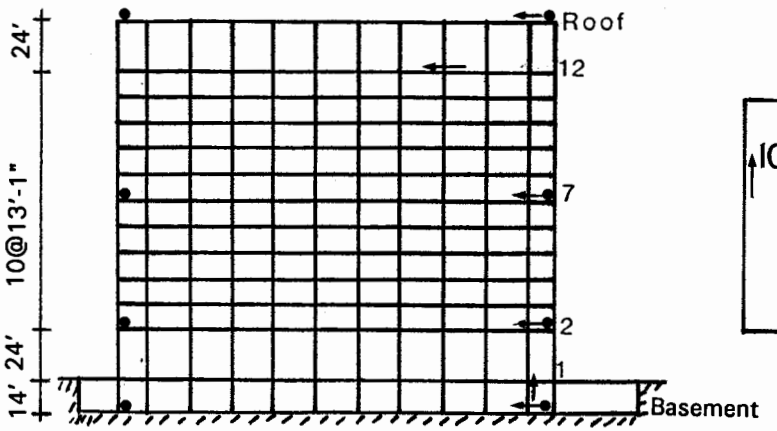
(CSMIP Station 24571)

RECORD 24571-CD112-94019.03

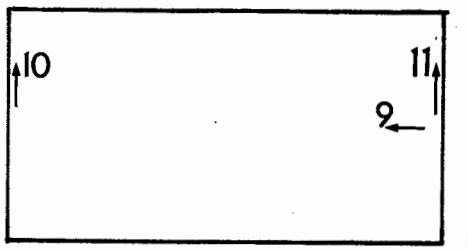


Pasadena - 12-story Commercial/Office Bldg.
(CSMIP Station No. 24546)

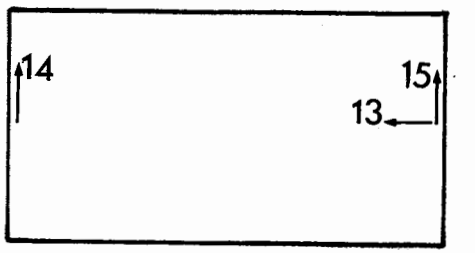
SENSOR LOCATIONS



W/E Elevation

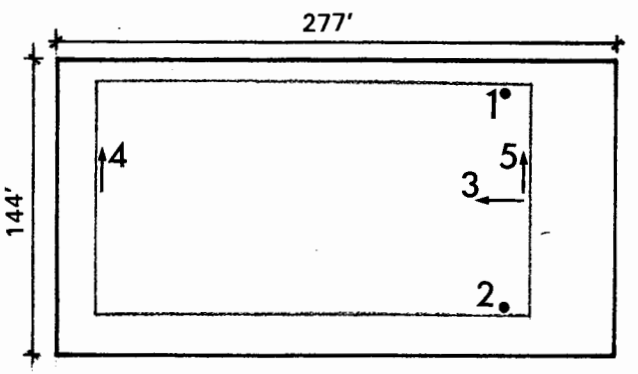


7th Floor Plan

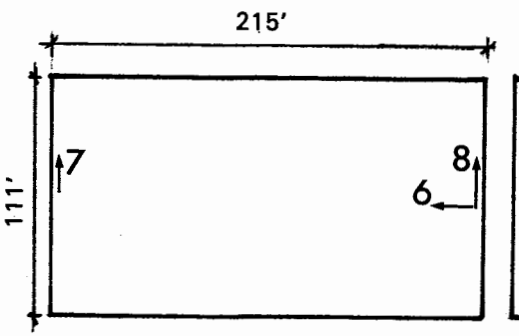


Roof Plan

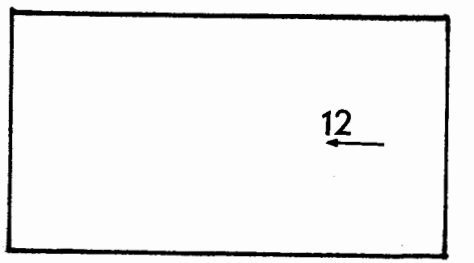
N_{ref} Structure Reference Orientation: N = 0°



Basement Plan



2nd Floor Plan



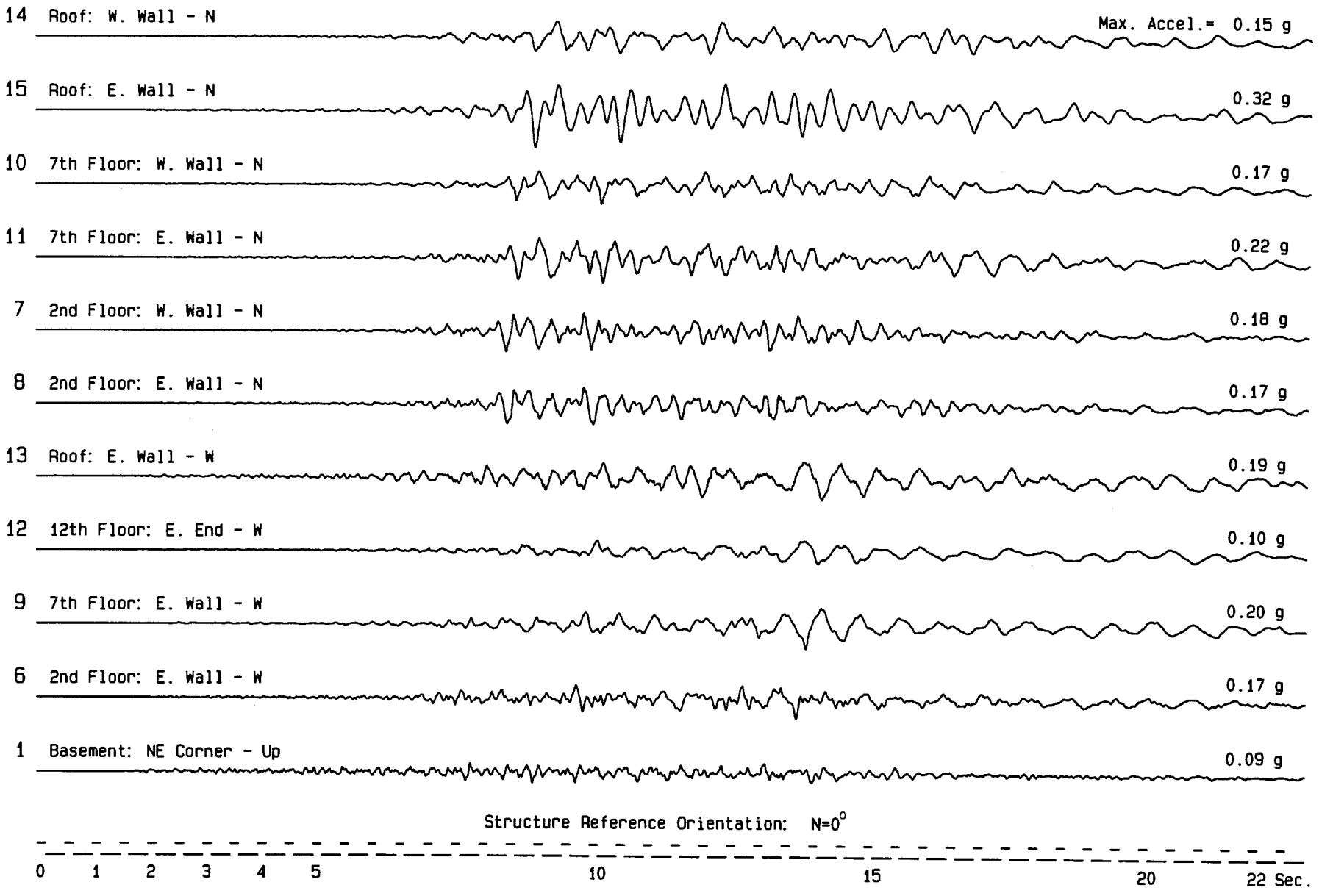
12th Floor Plan

Moment resisting steel frames at the perimeter and the core of the bldg.
Design date: 1971

Pasadena - 12-story Commercial/Office Bldg.

(CSMIP Station 24546)

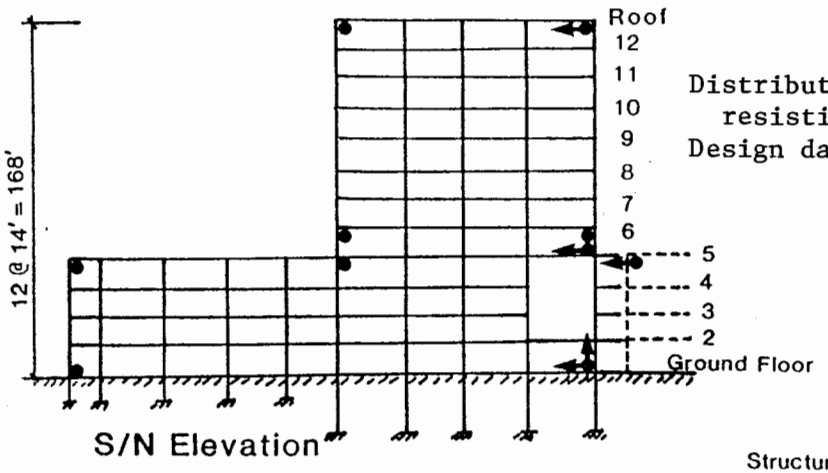
RECORD 24546-CD108-94020.09



Pasadena - 12-story Office Bldg.

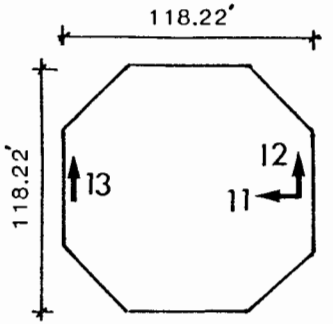
(CSMIP Station No. 24566)

SENSOR LOCATIONS

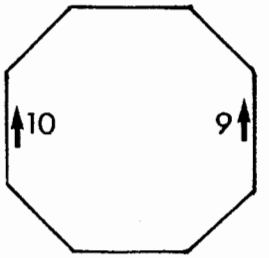


S/N Elevation

Distributed moment resisting steel frames.
Design date: 1972



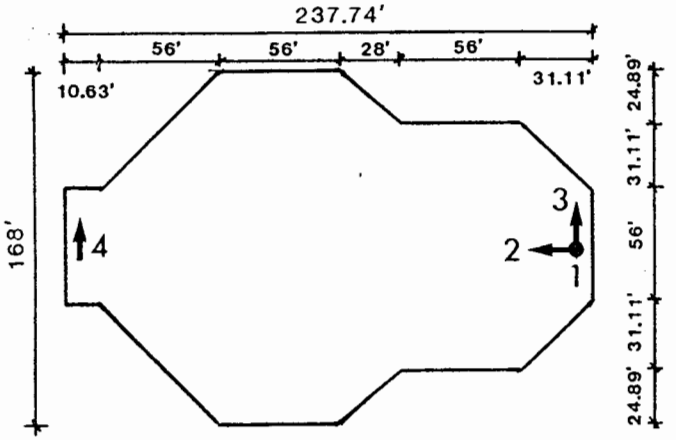
Roof Plan



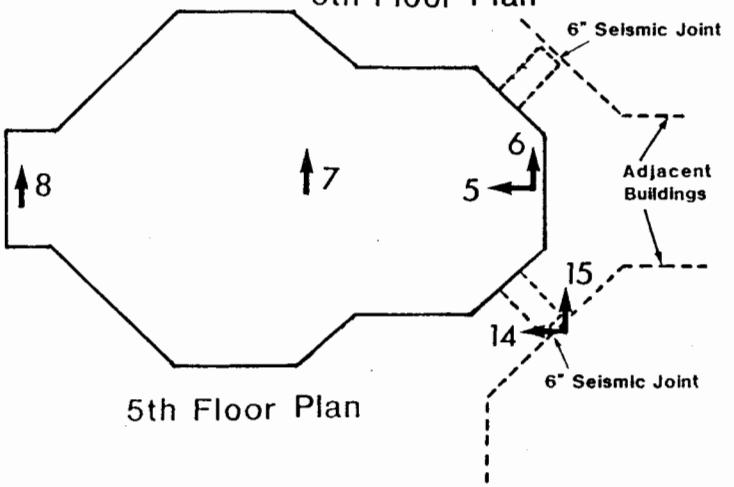
6th Floor Plan

N_{ref}

Structure Reference Orientation: N= 0°



Ground Floor Plan

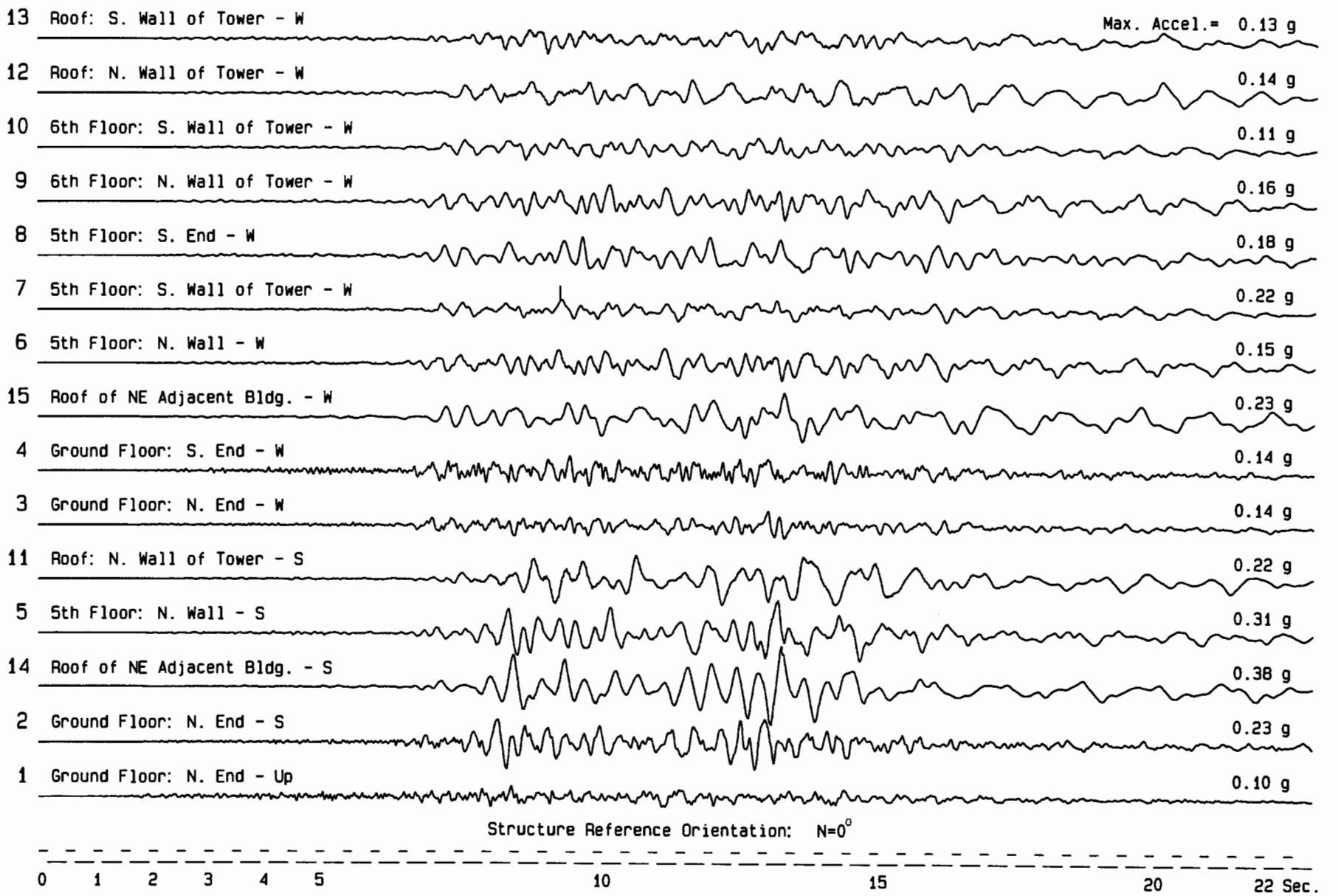


5th Floor Plan

Pasadena - 12-story Office Bldg.

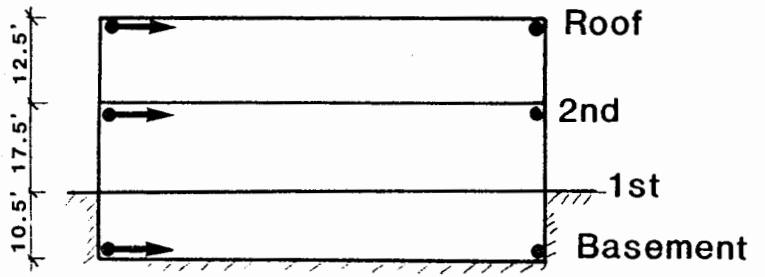
(CSMIP Station 24566)

RECORD 24566-CD110-94019.02

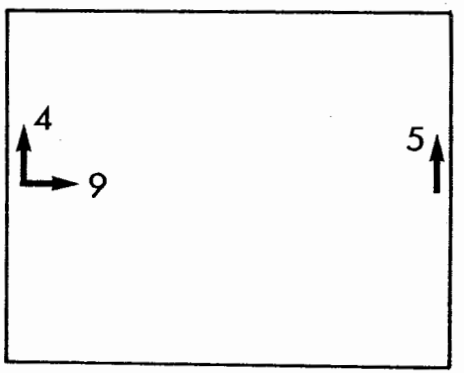


Pomona - 2-story Commercial Bldg.
(CSMIP Station No. 23511)

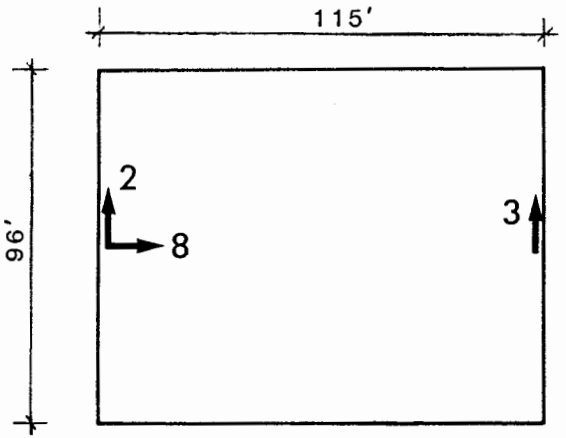
SENSOR LOCATIONS



S/N Elevation

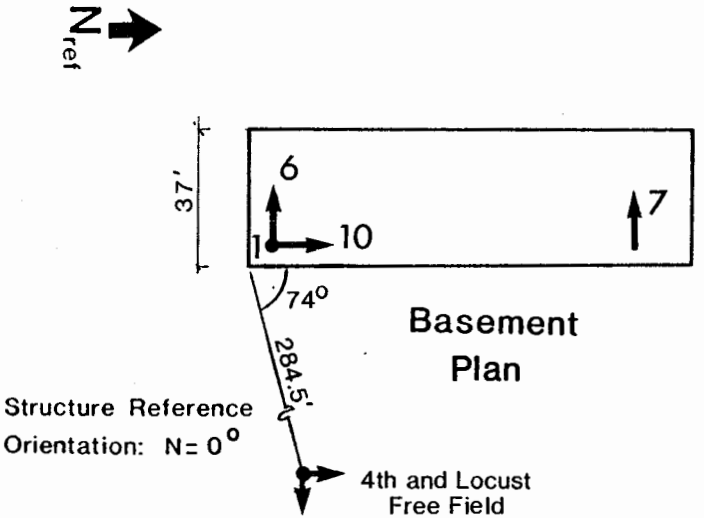


2nd Floor Plan



Roof Plan

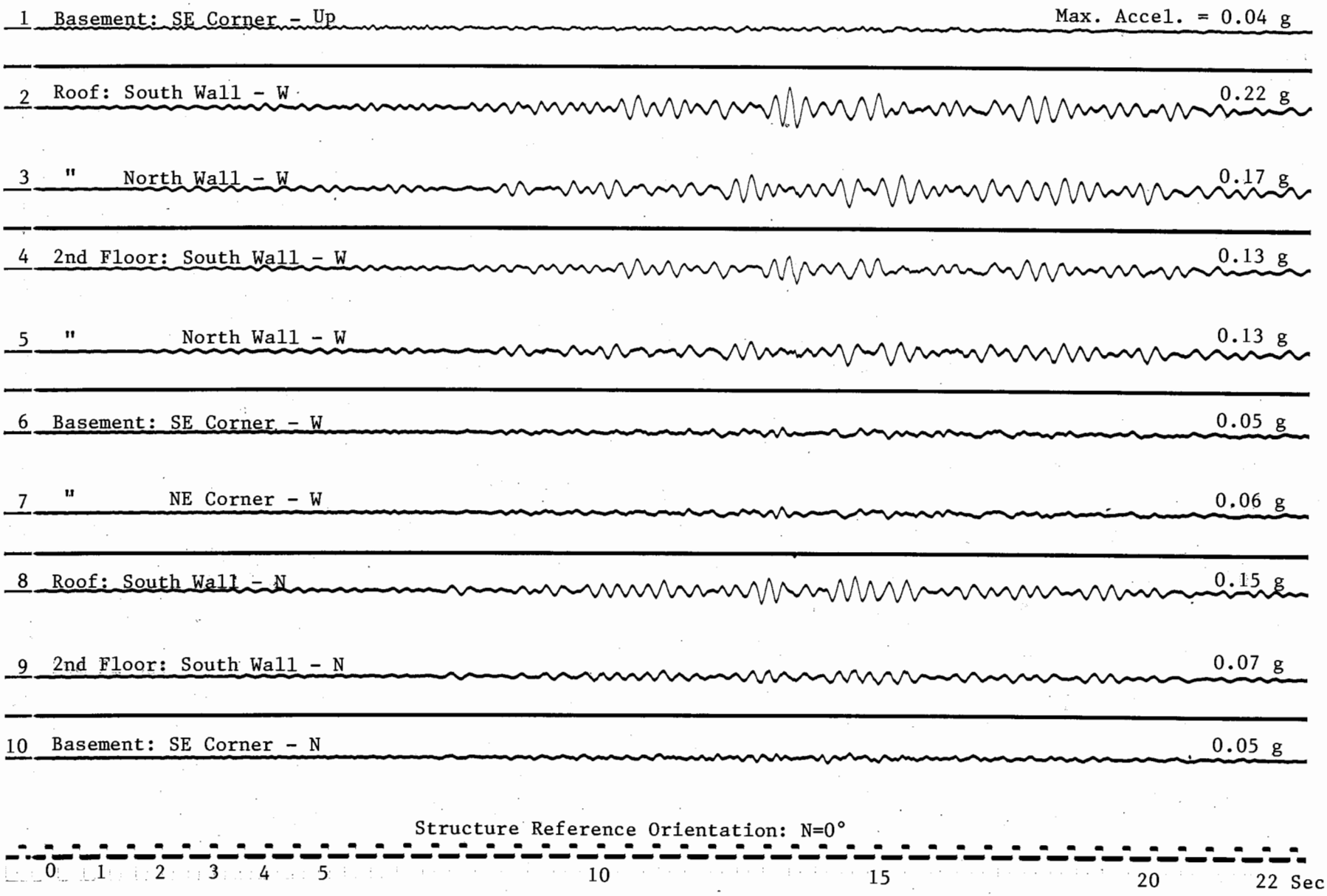
Perimeter ductile concrete moment frames.
Design date: 1971



Basement Plan

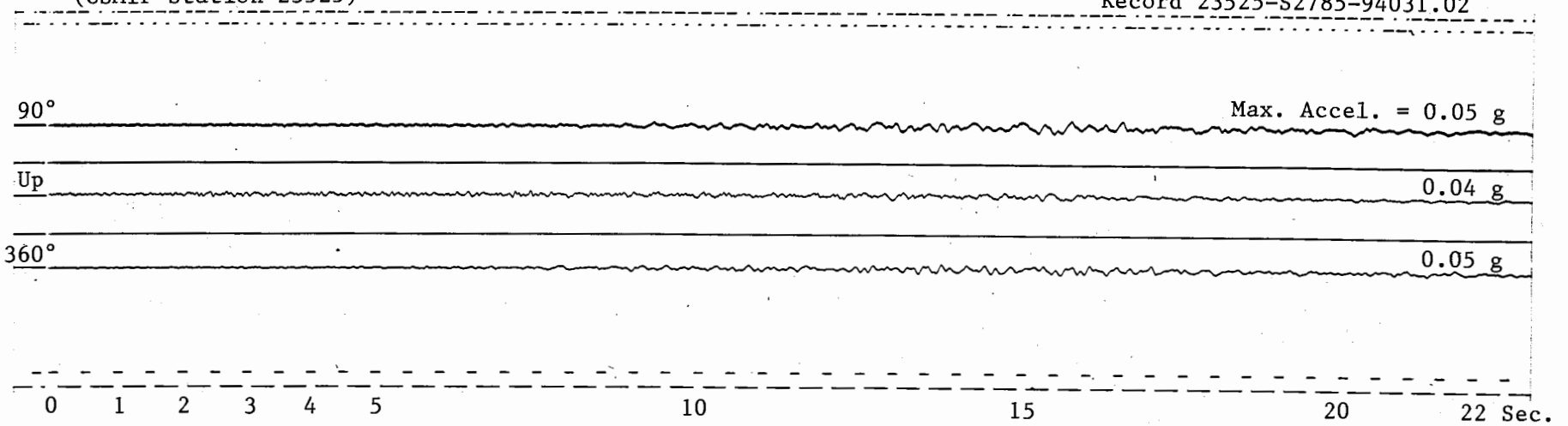
Pomona - 2-story Commercial Bldg.
(CSMIP Station 23511)

Record 23511-C0117-94031.02



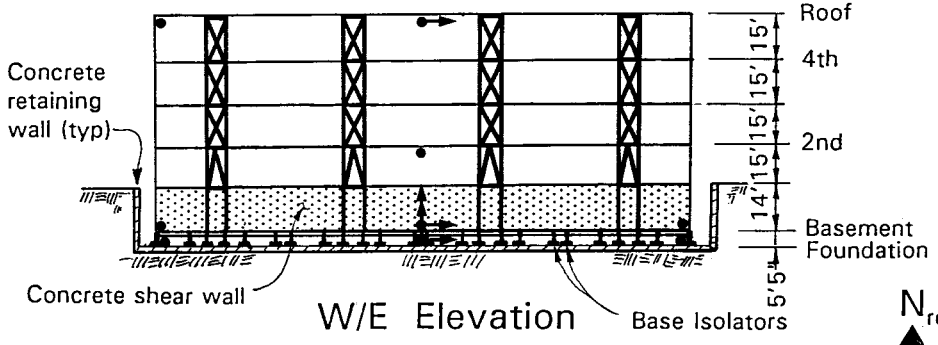
Pomona - 4th & Locust
(CSMIP Station 23525)

Record 23525-S2785-94031.02

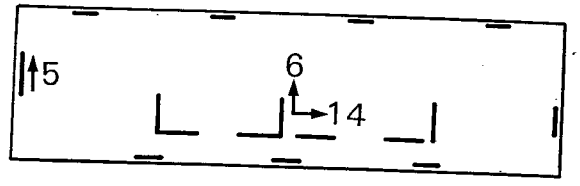


Rancho Cucamonga - Law and Justice Center
(CSMIP Station No. 23497)

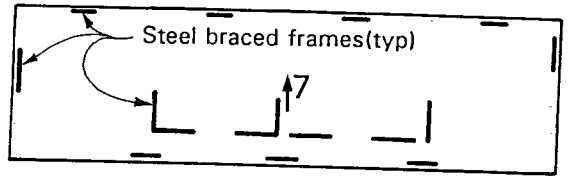
SENSOR LOCATIONS



W/E Elevation



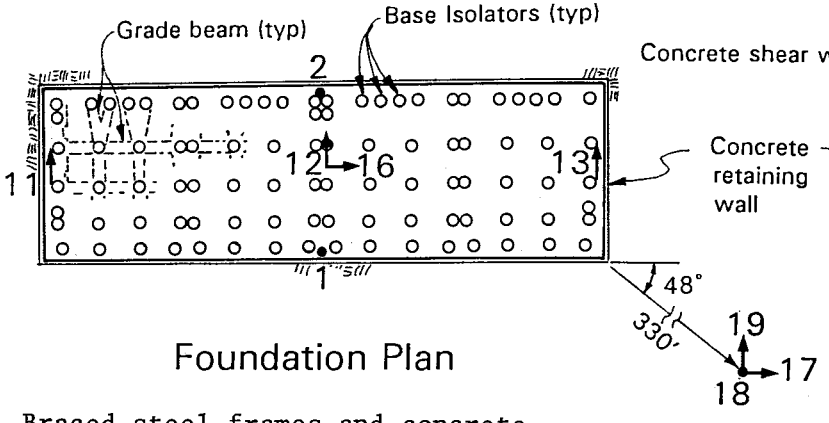
Roof Plan



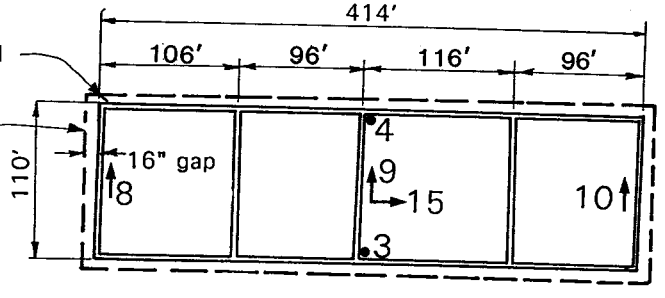
2nd Floor Plan

N_{ref}

Structure Reference Orientation: N = 0°



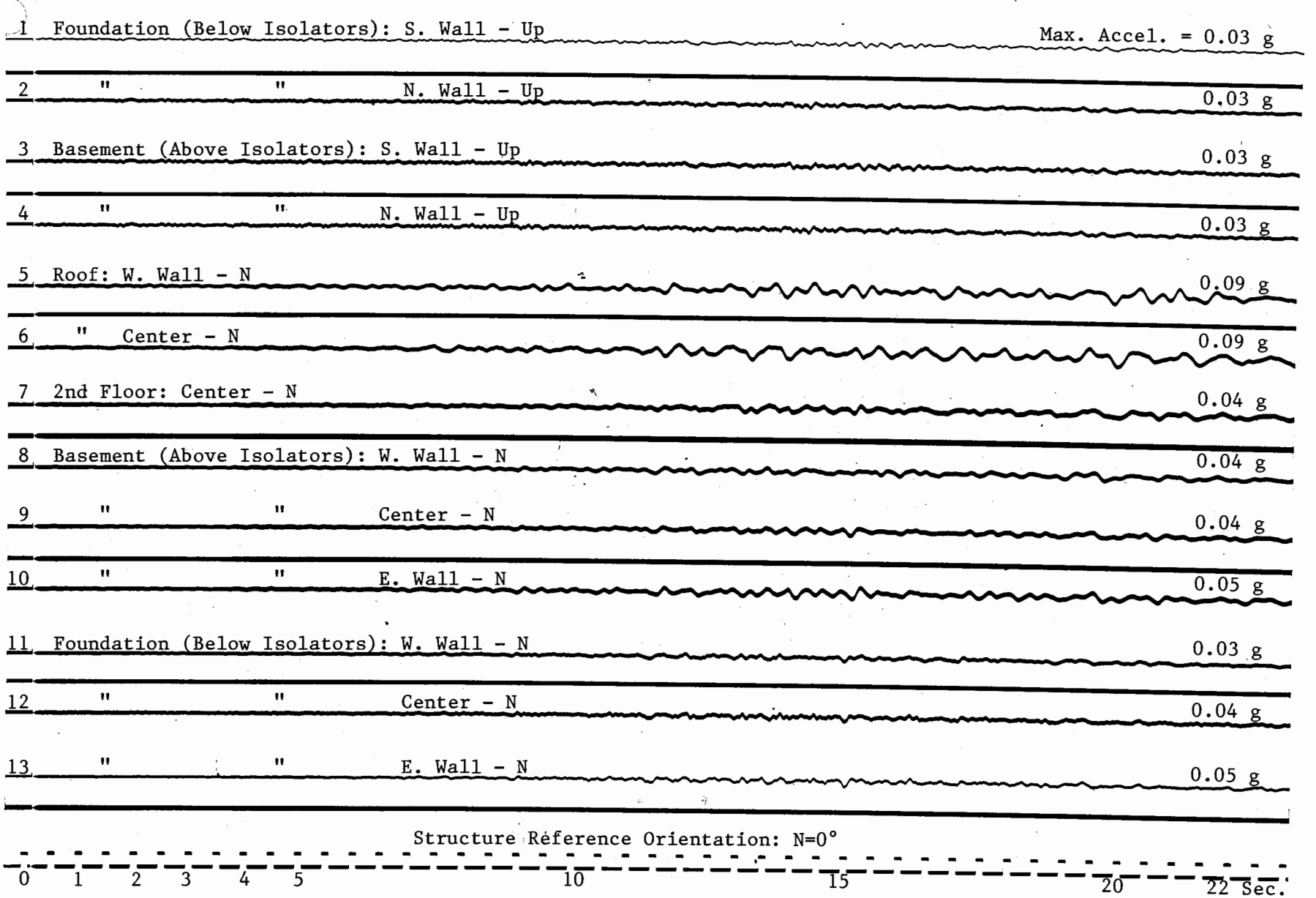
Foundation Plan



Basement Plan

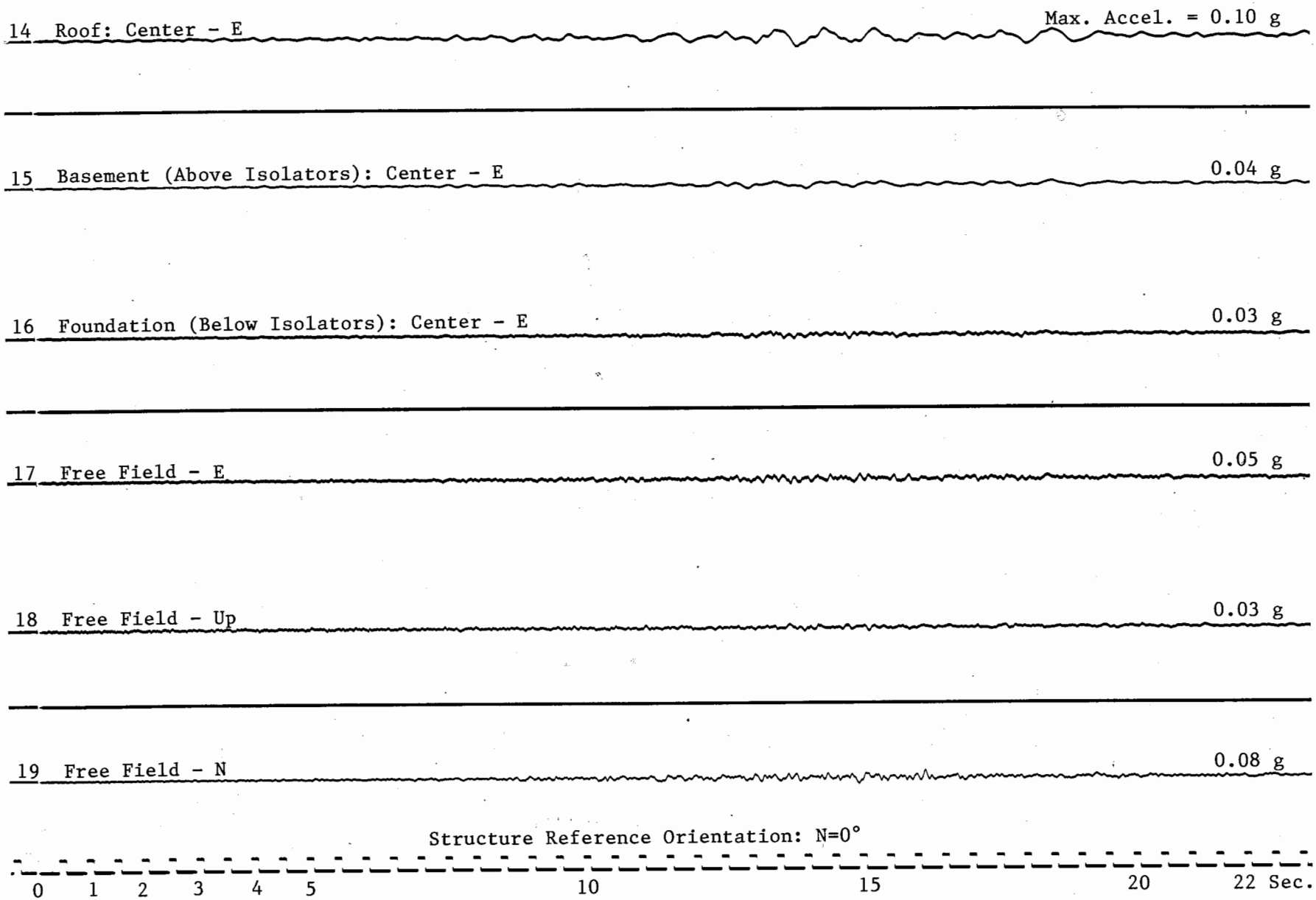
Braced steel frames and concrete shear walls isolated by elastomeric bearings.
Design date: 1983

Rancho Cucamonga - Law & Justice Center (Channels 1-13)
(CSMIP Station 23497) Record 23497-C0273- 94021.02



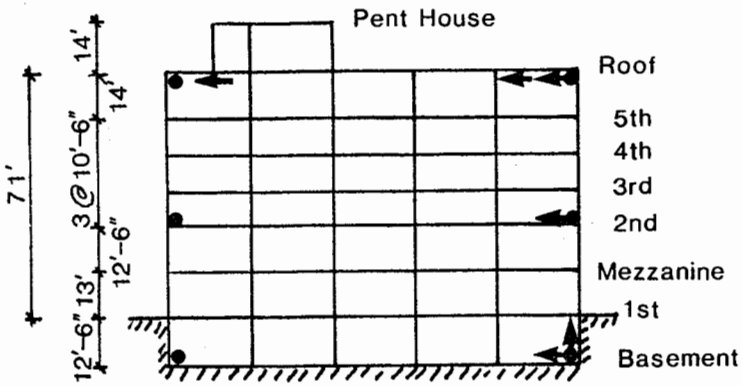
Rancho Cucamonga - Law & Justice Center (Channels 14-19)
(CSMIP Station 23497)

Record 23497-C0118-94021.02



Pomona - 6-story Commercial Bldg.
(CSMIP Station No. 23544)

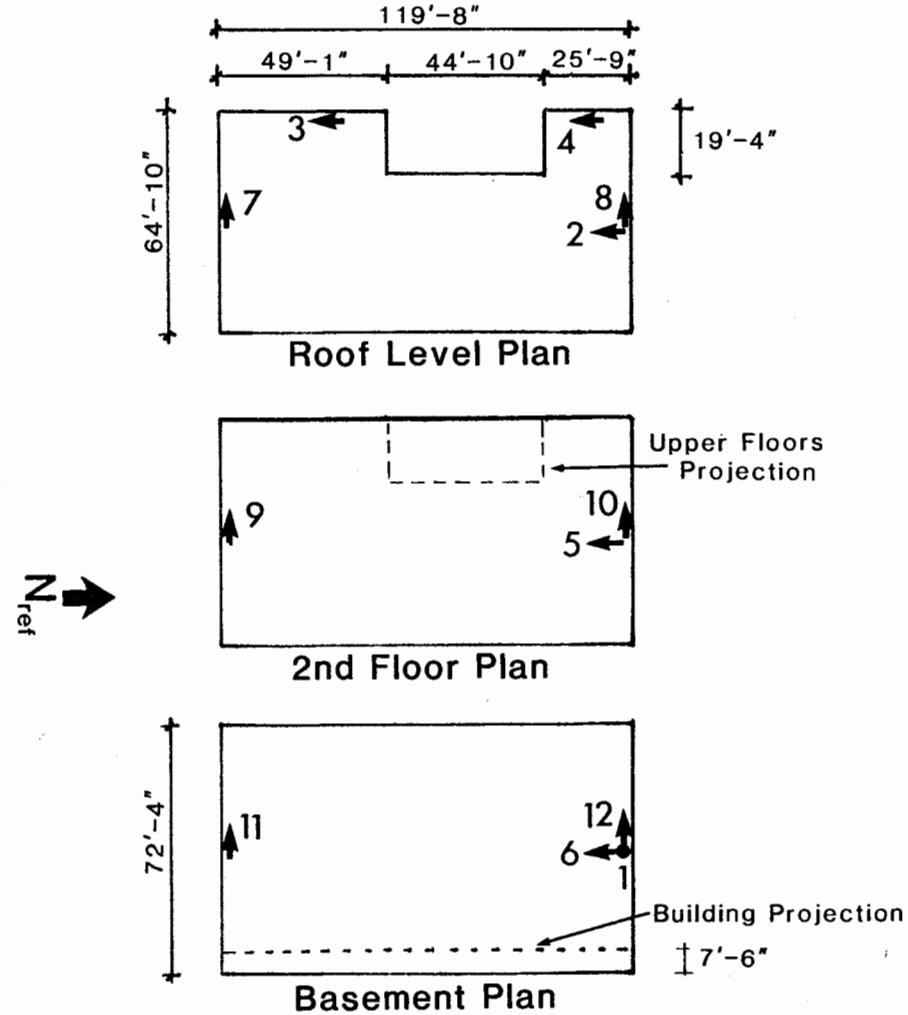
SENSOR LOCATIONS



S/N Elevation

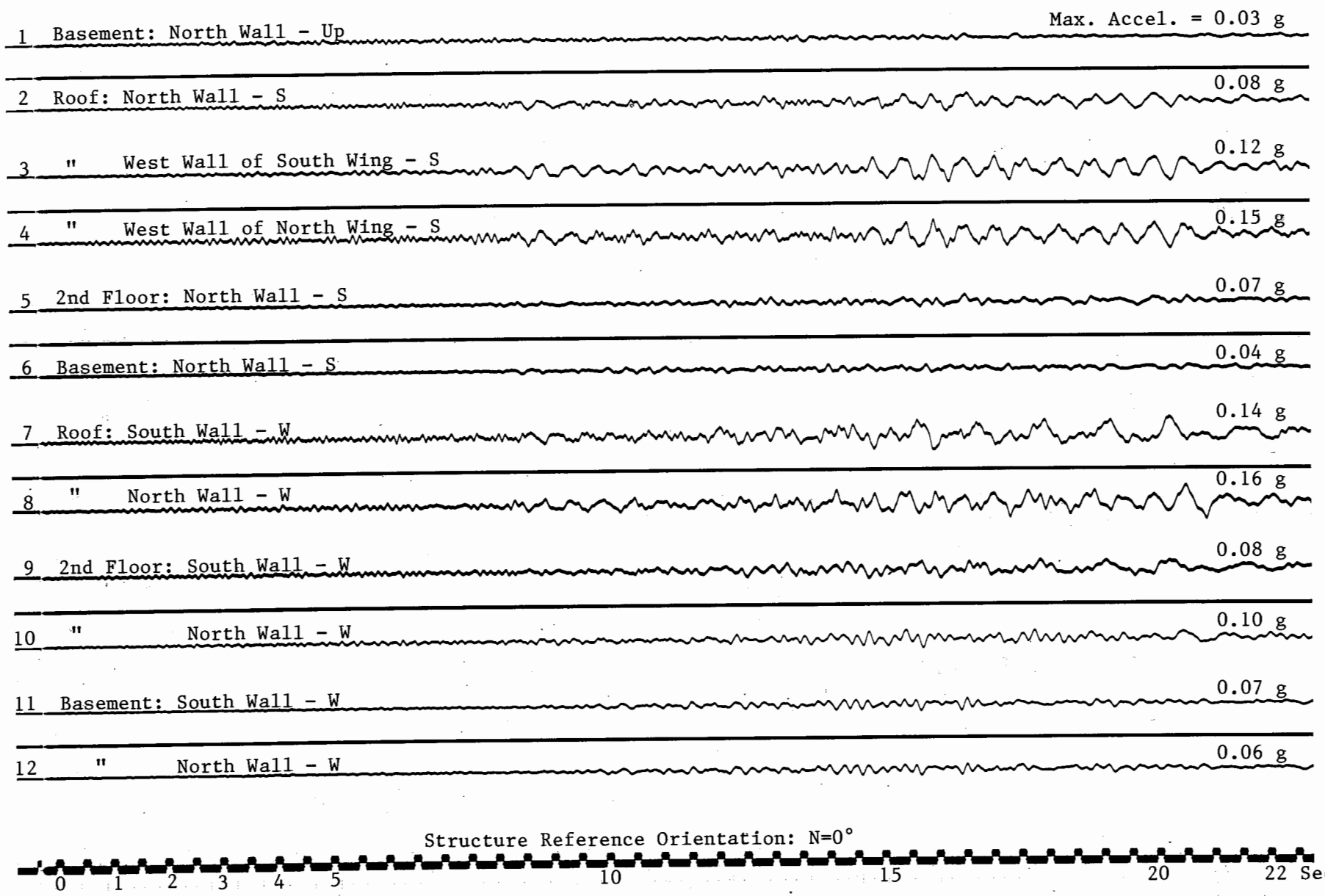
Concrete frames with URM
infill walls.
Design date: 1923

Structure Reference
Orientation: N= 0 °



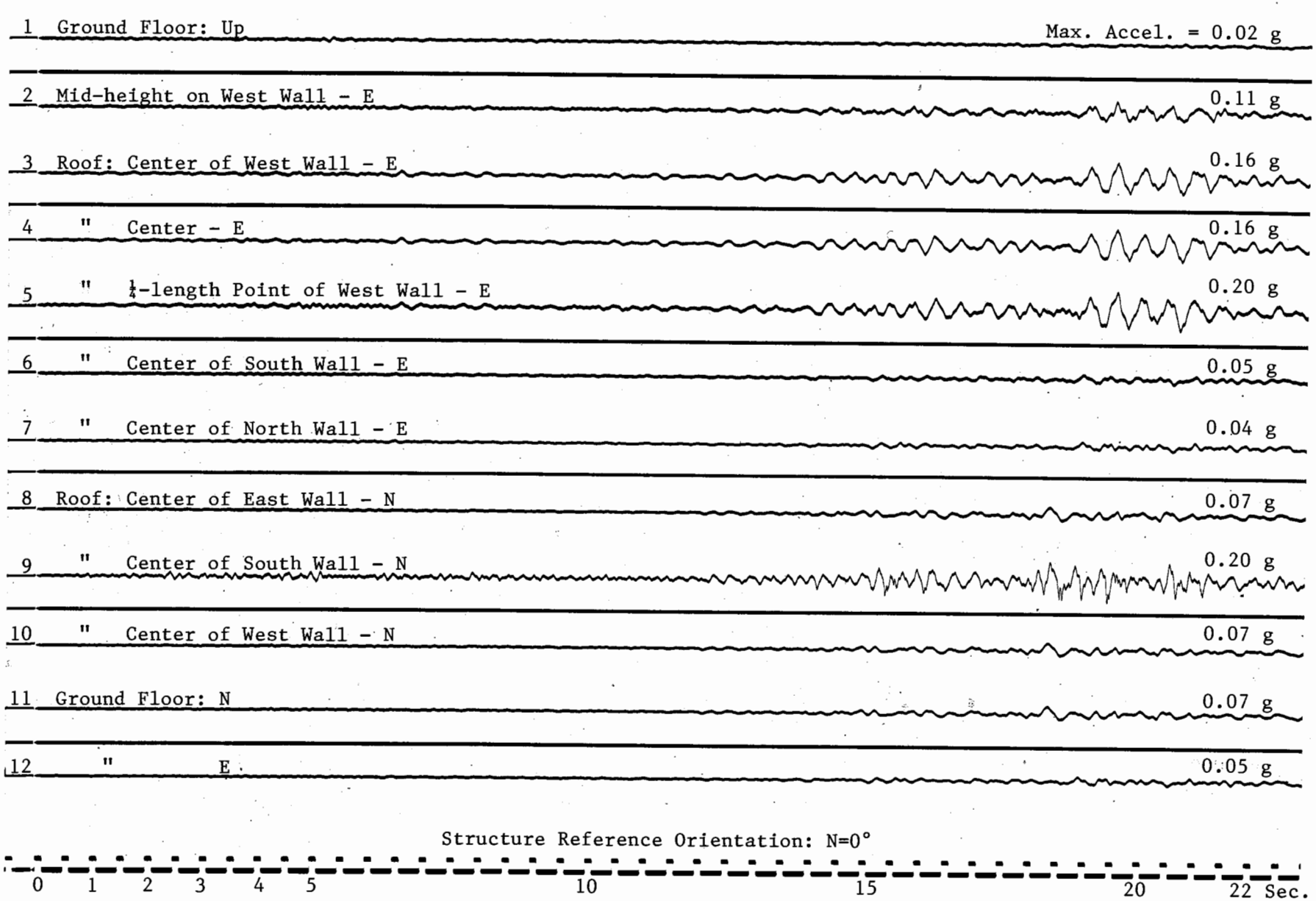
Pomona - 6-story Commercial Bldg.
(CSMIP Station 23544)

Record 23544-C0108-94032.02



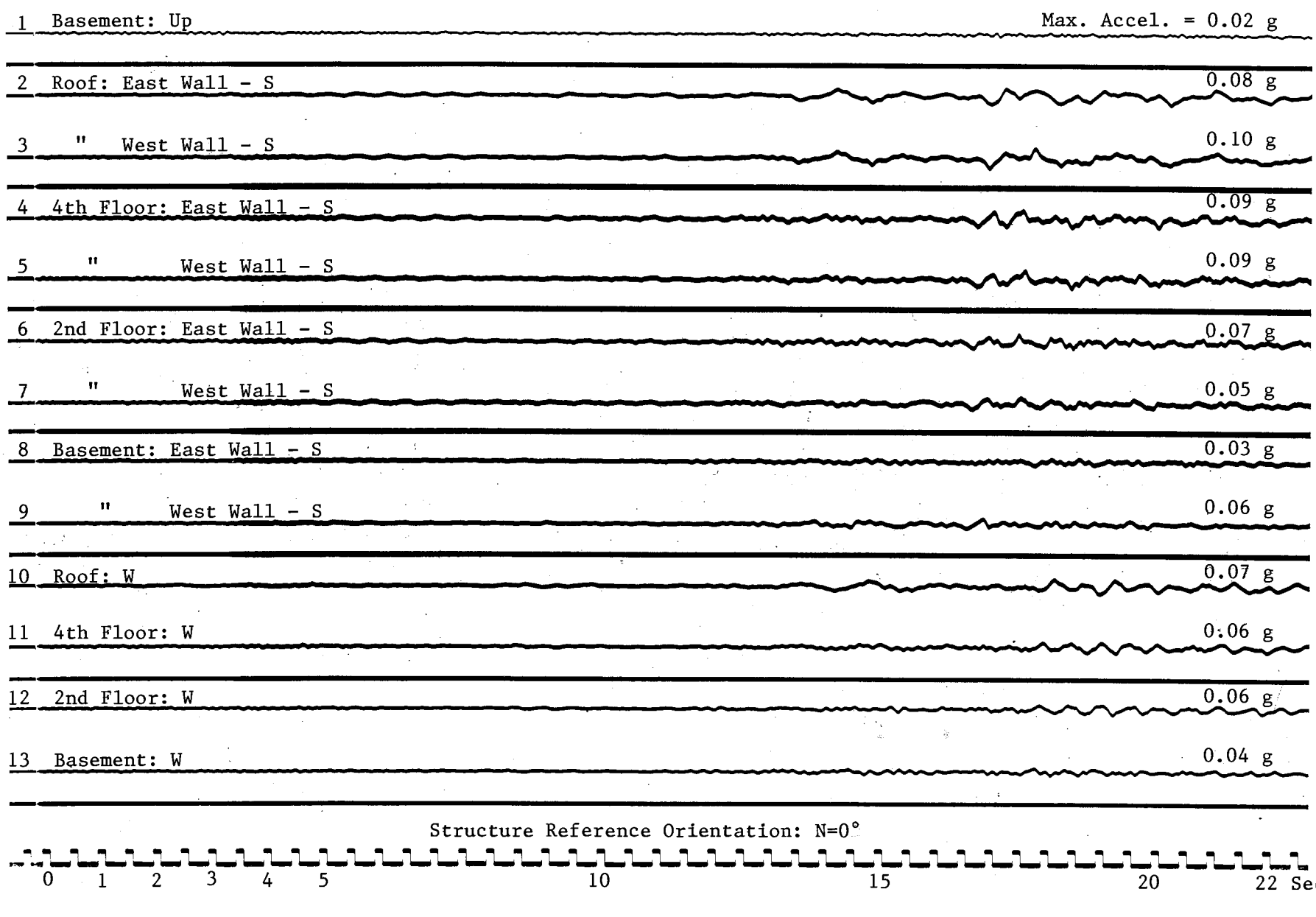
Redlands - 1-story Warehouse (Concrete tilt-up walls; Design date: 1971)
(CSMIP Station 23495)

Record 23495-C0115-94027.02



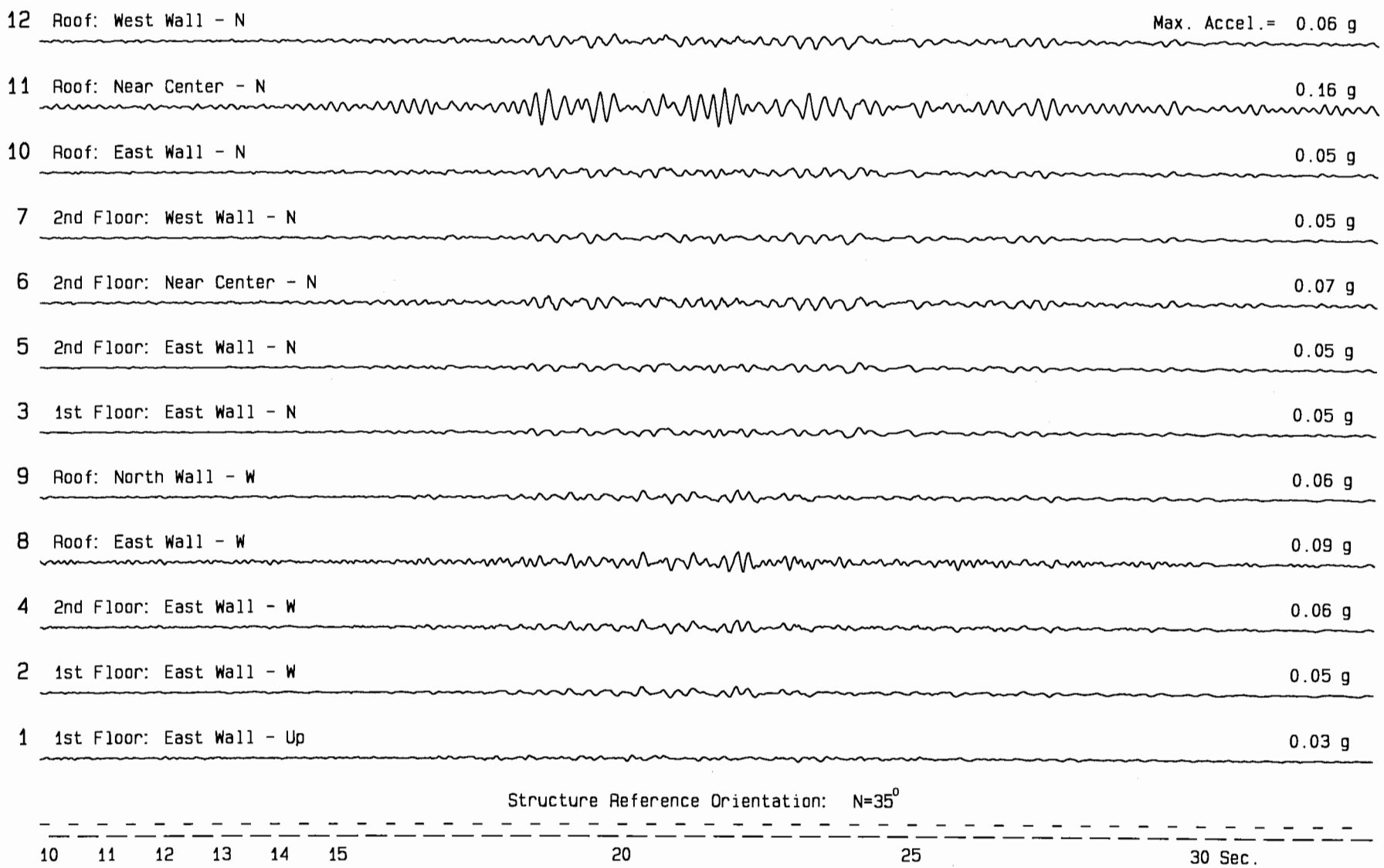
Structure Reference Orientation: N=0°

Redlands - 7-story Commercial Bldg. (Perimeter steel moment frames; Design date: 1980)
(CSMIP Station 23481) Record 23481-C0245-94027.02

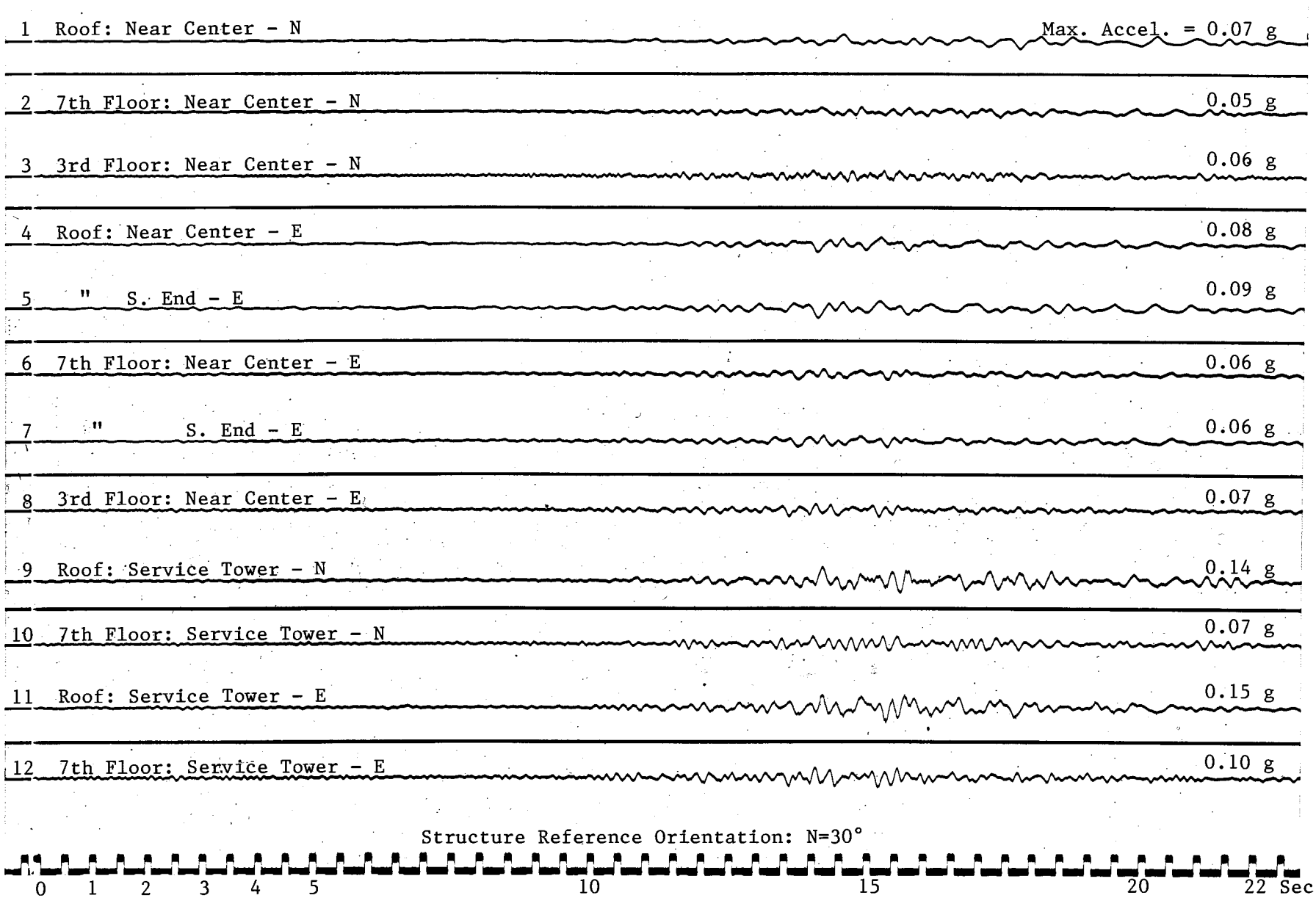


Riverside - 2-story Government Office Bldg.

(CSMIP Station 13620) (Reinforced concrete block walls; Design date:1950) RECORD 13620-CS122-94031.02

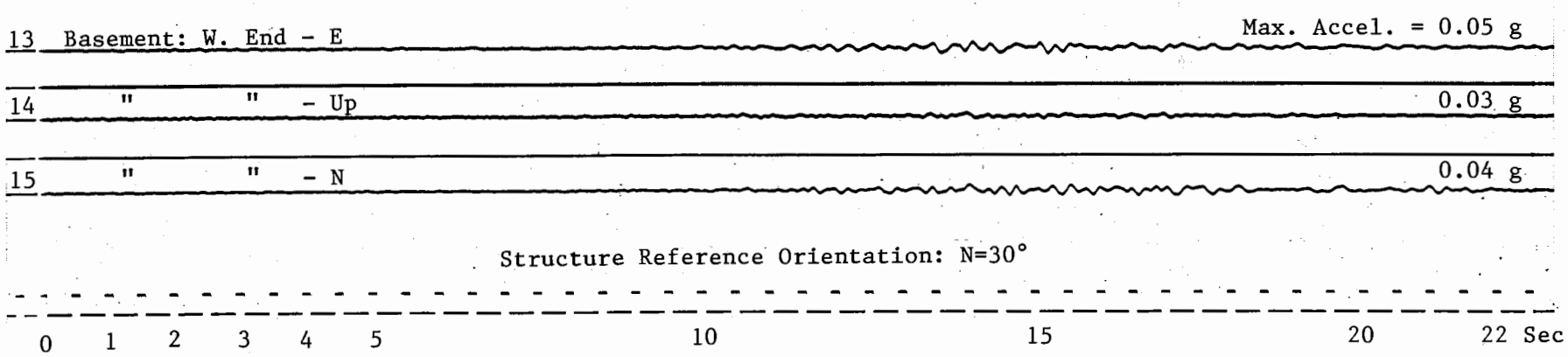


Riverside - 13-story Government Office Bldg. (Channels 1-12)
(CSMIP Station 13312) Record 13312-C0153-94028.02



Riverside - 13-story Government Office Bldg. (Channels 13-15)
(CSMIP Station 13312)

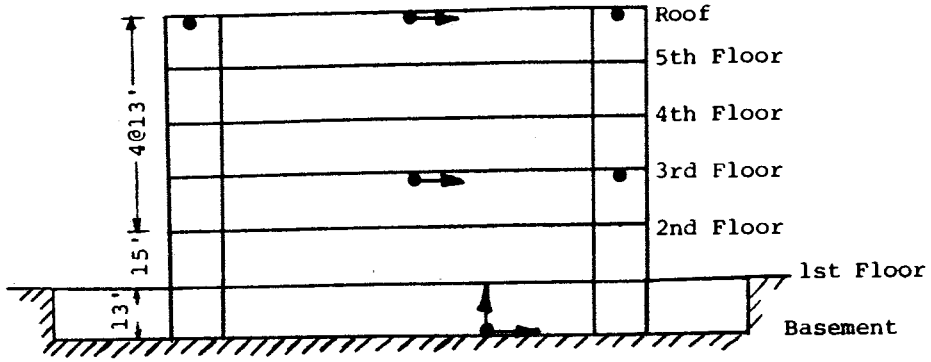
Record 13312-S1701-94028.02



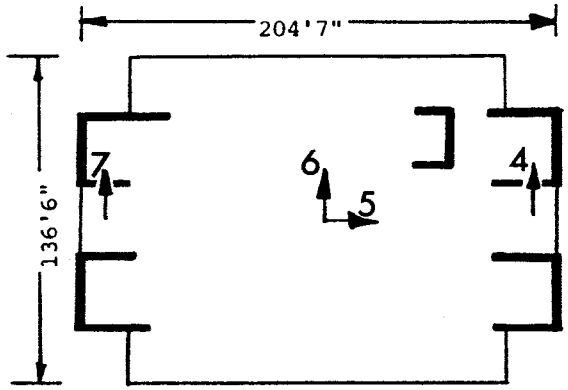
Braced steel frames and concrete shear walls.
Design date: 1972

San Bernardino - 5-story CSUSB Library
(CSMIP Station No. 23285)

SENSOR LOCATIONS



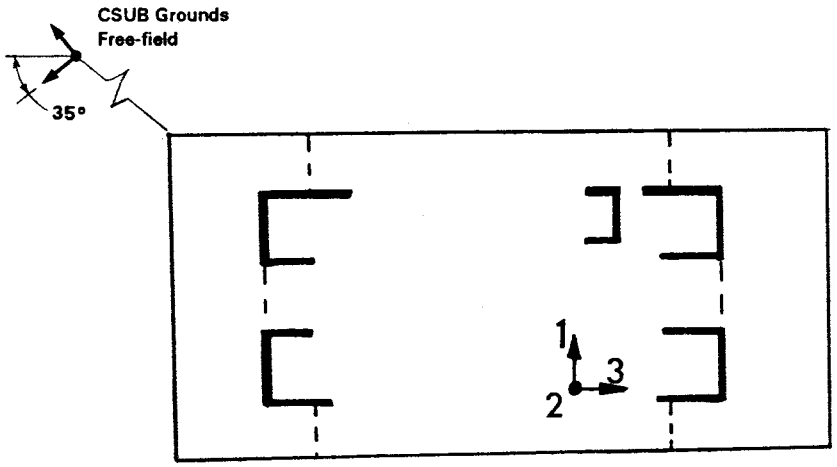
North/South Section



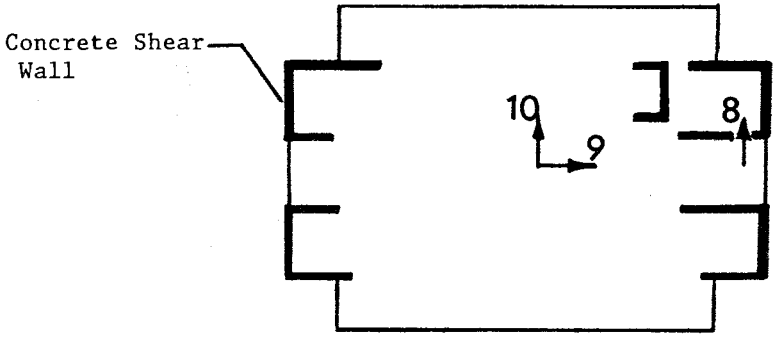
Roof Plan

Concrete shear walls.
Design date: 1968

Structure Reference
Orientation: N = 35°



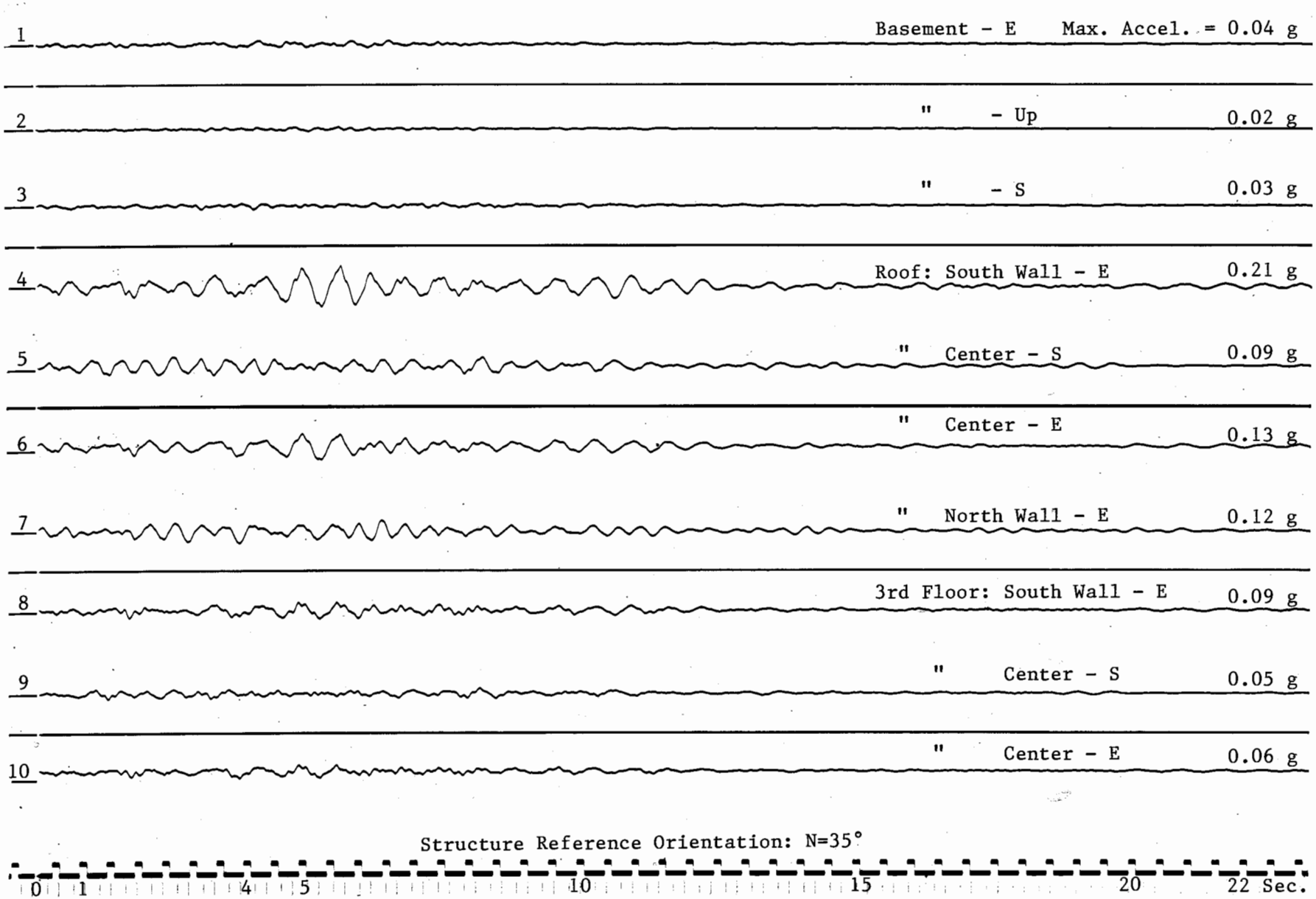
Basement Plan



3rd Floor Plan

San Bernardino -5-story CSUSB Library
(CSMIP Station 23285)

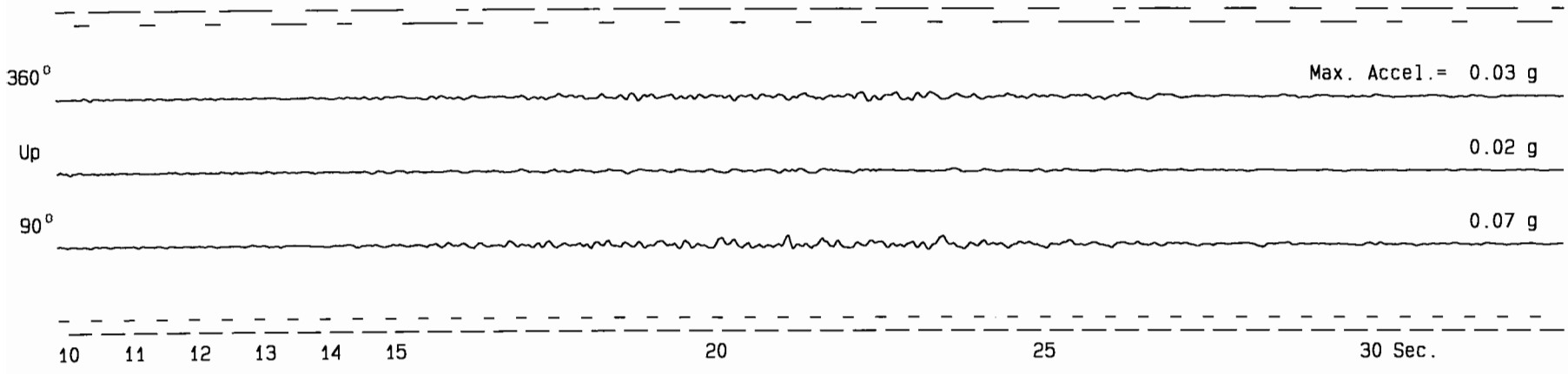
Record 23285-C0133-94026.02



San Bernardino - CSUSB Grounds

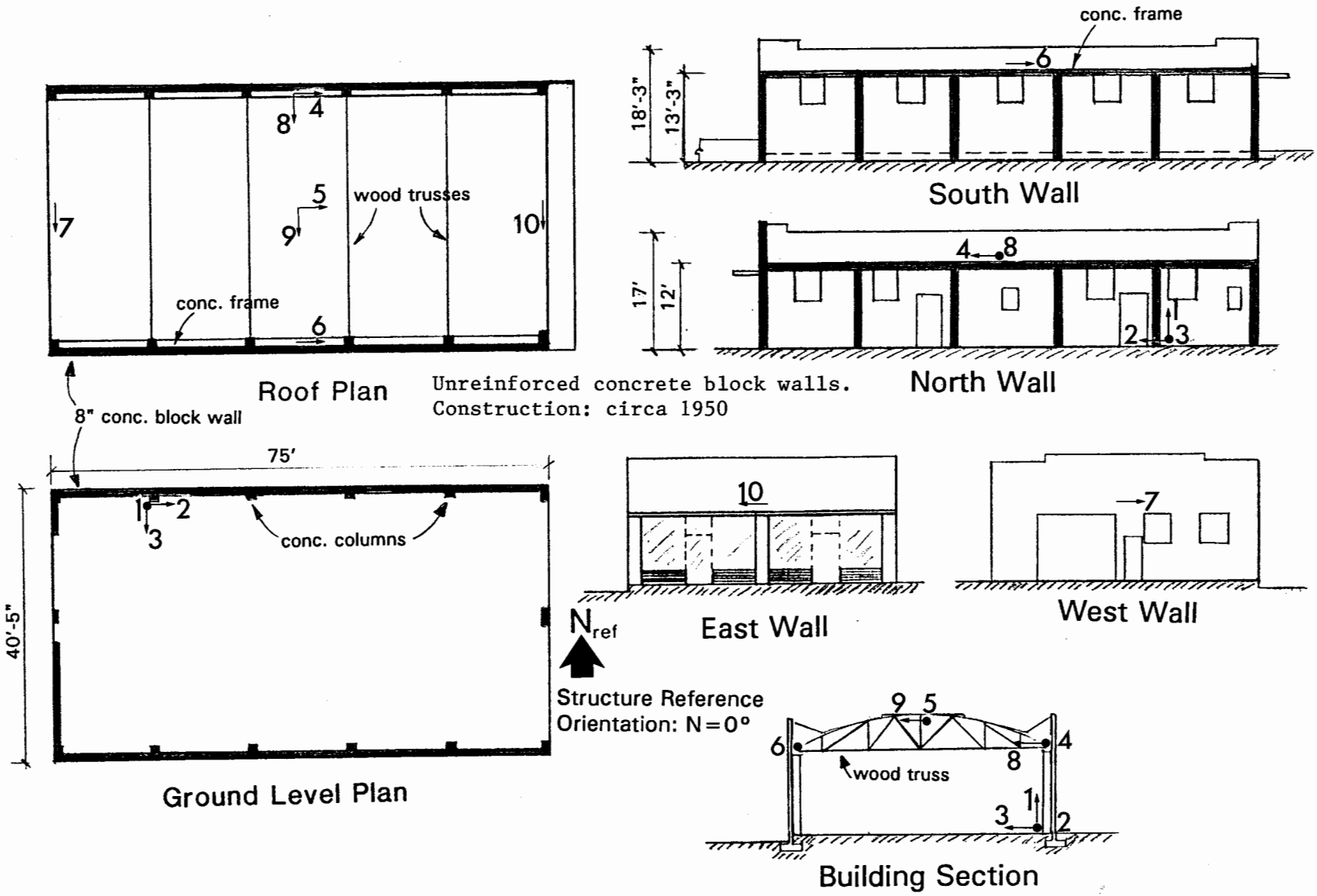
(CSMIP Station 23672)

RECORD 23672-F0224-94026.02



San Bernardino - 1-story Commercial Bldg.
(CSMIP Station No. 23622)

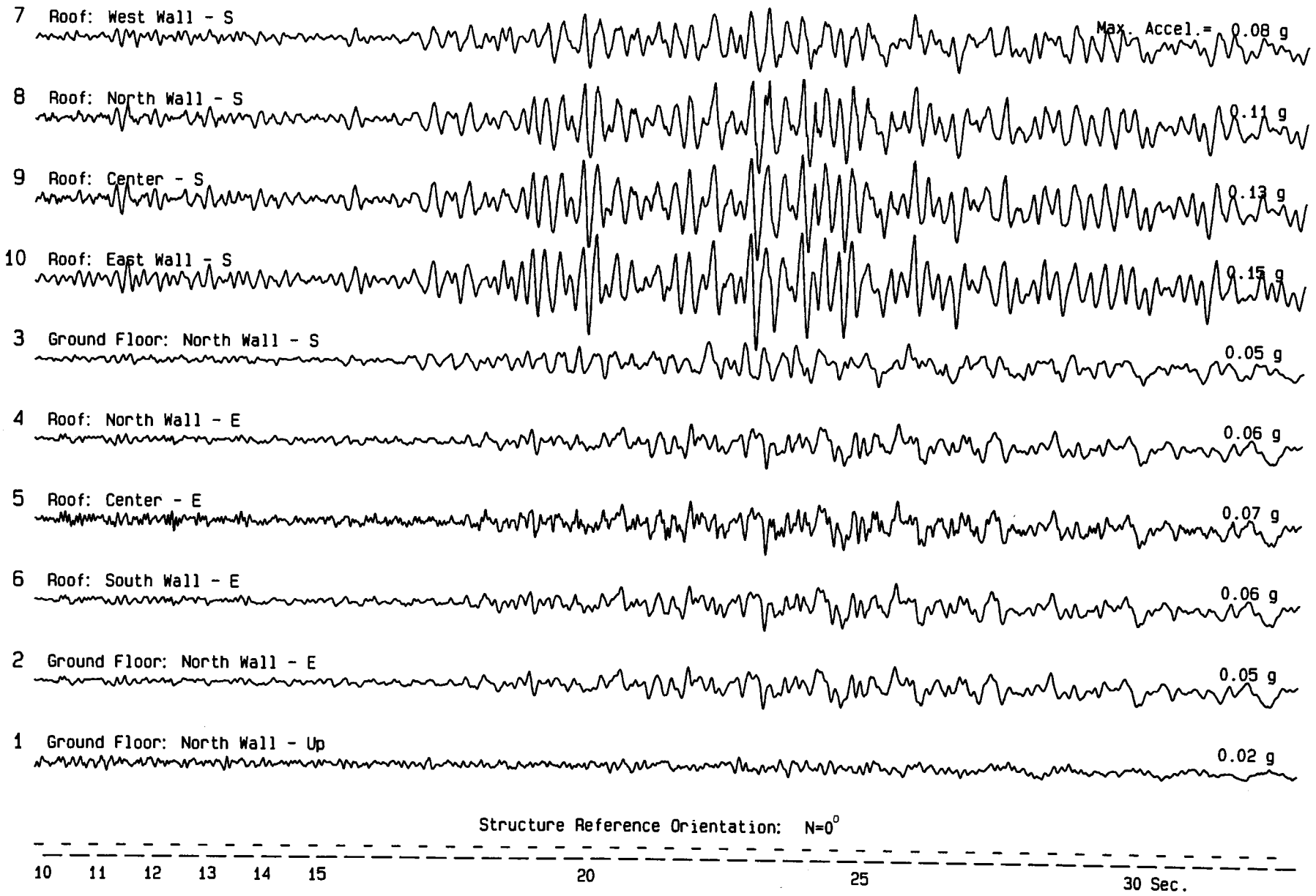
SENSOR LOCATIONS



Unreinforced concrete block walls.
Construction: circa 1950

San Bernardino - 1-story Commercial Bldg.
(CSMIP Station 23622)

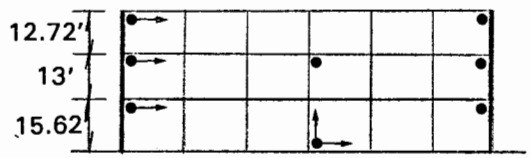
RECORD 23622-CS124-94017.02



This page plotted with 4.0x vertical exaggeration.

San Bernardino - 3-story Office Bldg.
(CSMIP Station No. 23516)

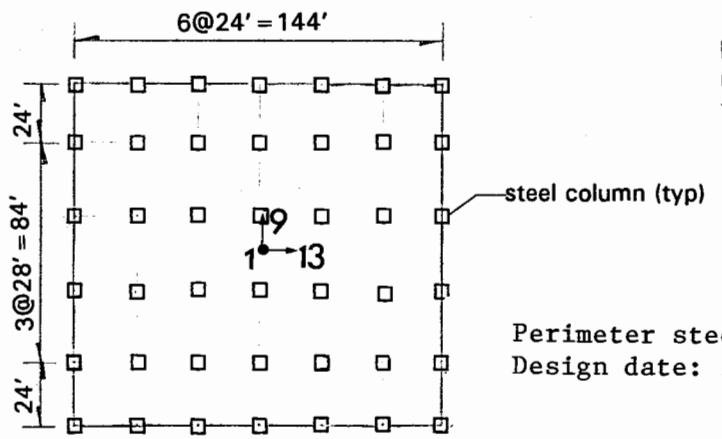
SENSOR LOCATIONS



S/N Elevation

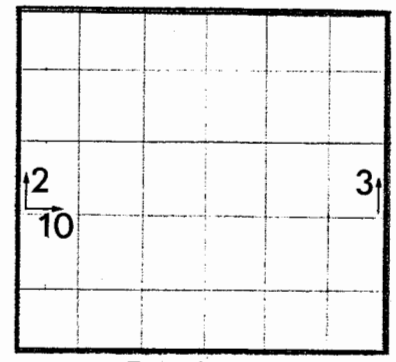
Structure Reference Orientation: N = 0°

N_{ref}

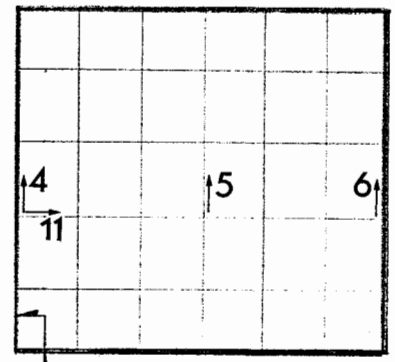


Ground Level Plan

Perimeter steel moment frames.
Design date: 1983

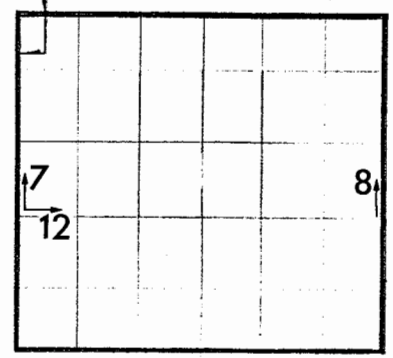


Roof Plan



3rd Floor Plan

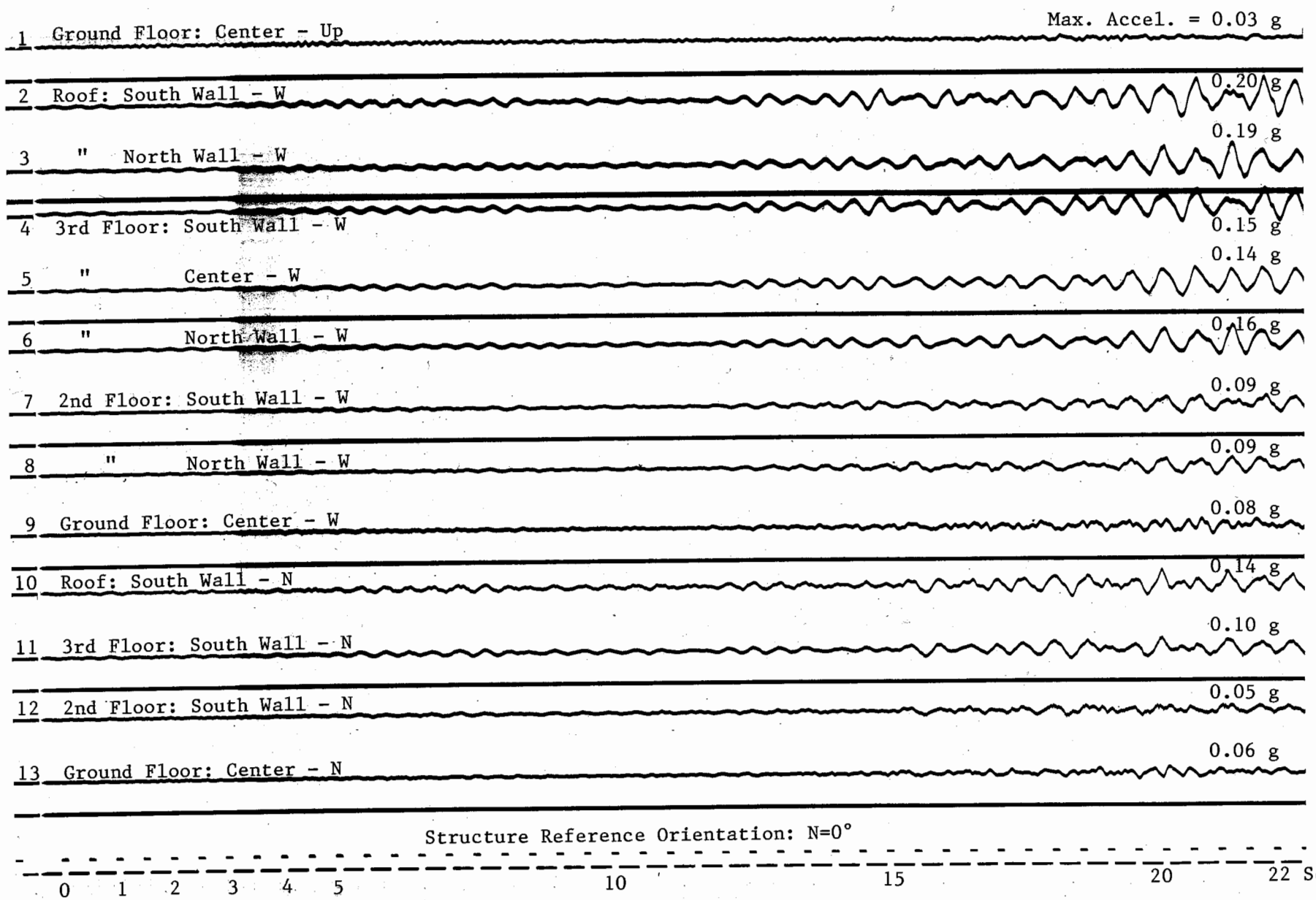
Perimeter moment resisting steel frames



2nd Floor Plan

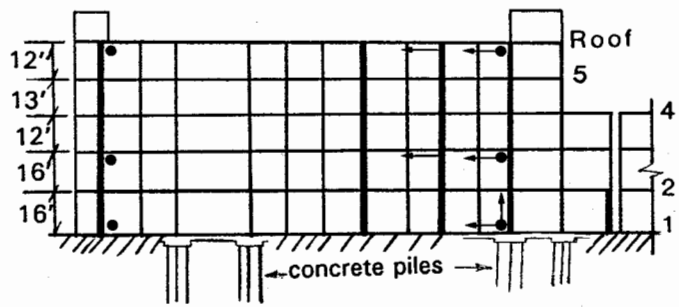
San Bernardino - 3-story Office Bldg.
(CSMIP Station 23516)

Record 23516-C0277-94027.02

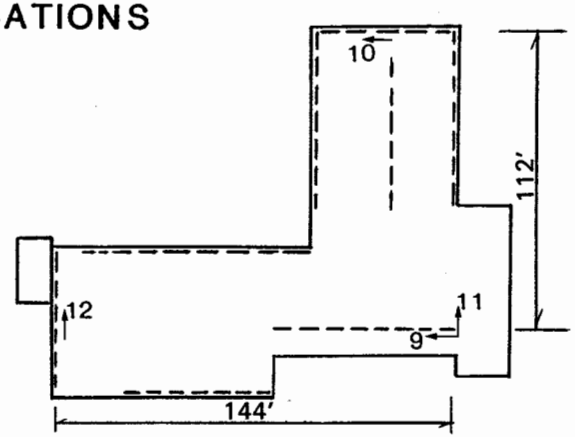


San Bernardino - 5-story Hospital
(CSMIP Station No. 23634)

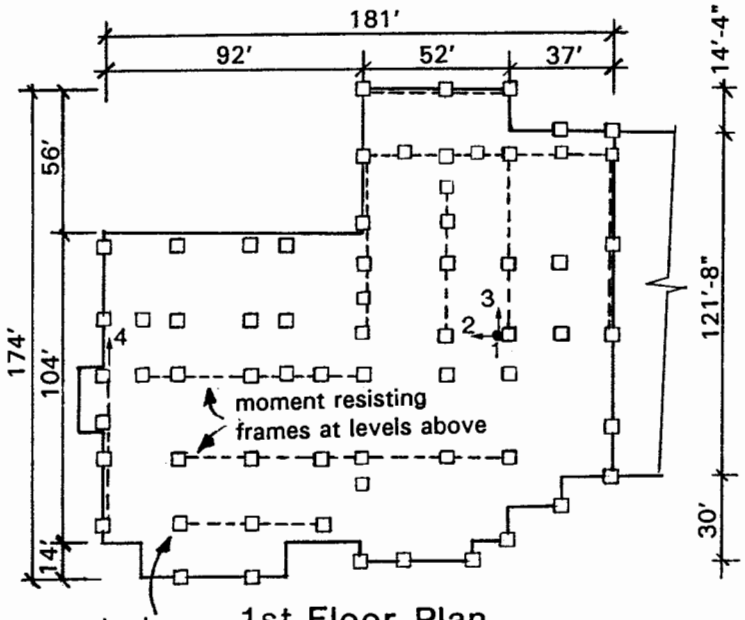
SENSOR LOCATIONS



N/S Elevation



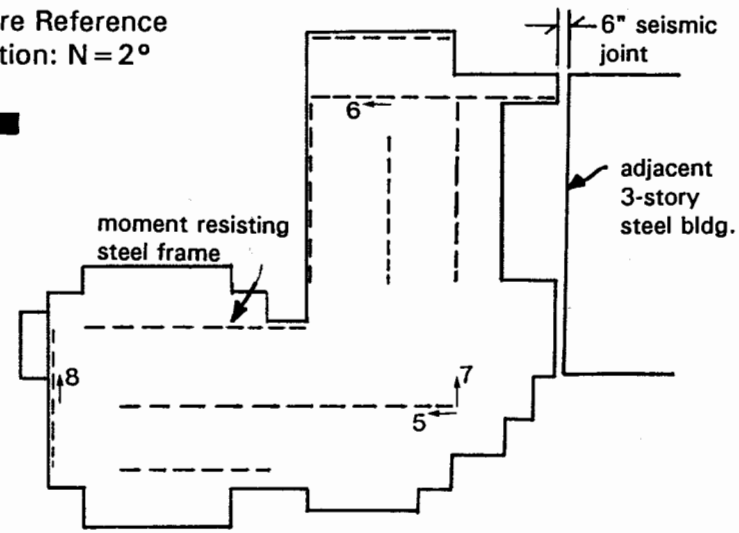
Roof Plan



1st Floor Plan

Structure Reference
Orientation: N = 2°

N_{ref}



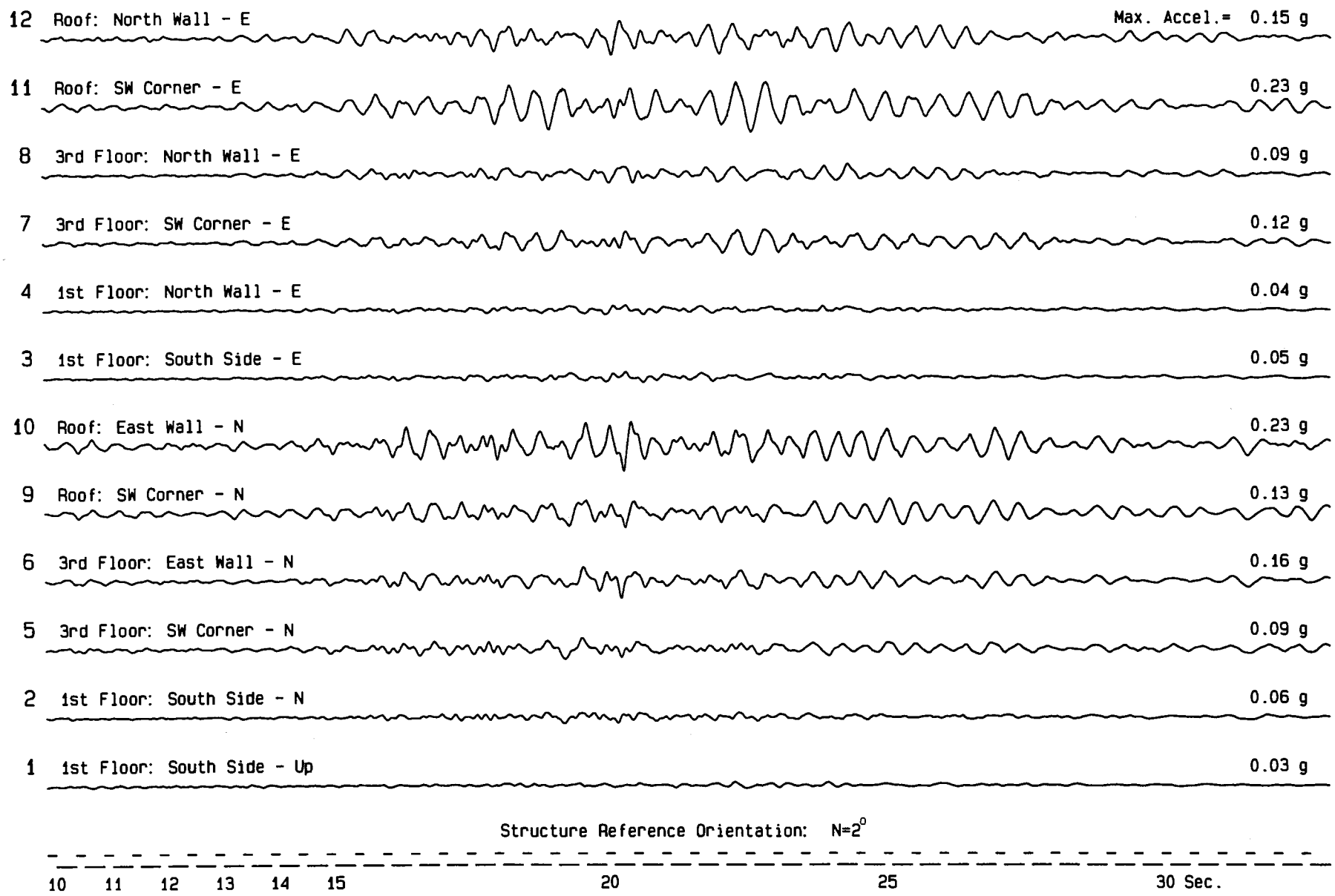
3rd Floor Plan

Steel moment frames.
Design date: 1986

San Bernardino - 5-story Hospital

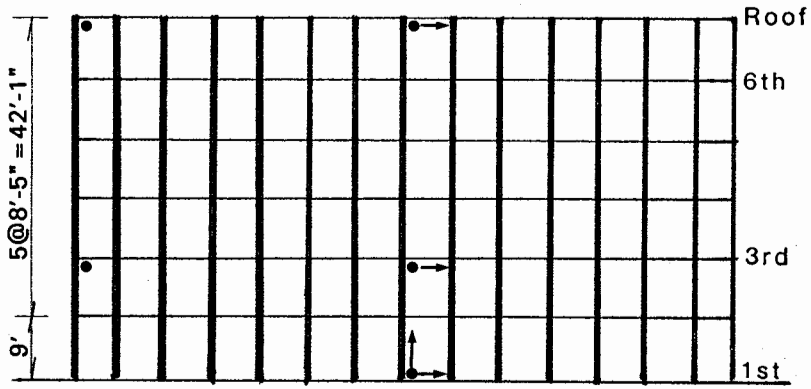
(CSMIP Station 23634)

RECORD 23634-CS126-94021.02



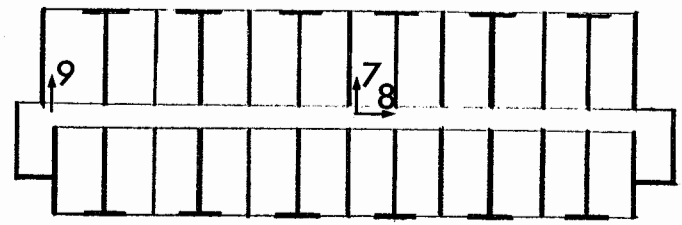
San Bernardino - 6-story Hotel
(CSMIP Station No. 23287)

SENSOR LOCATIONS



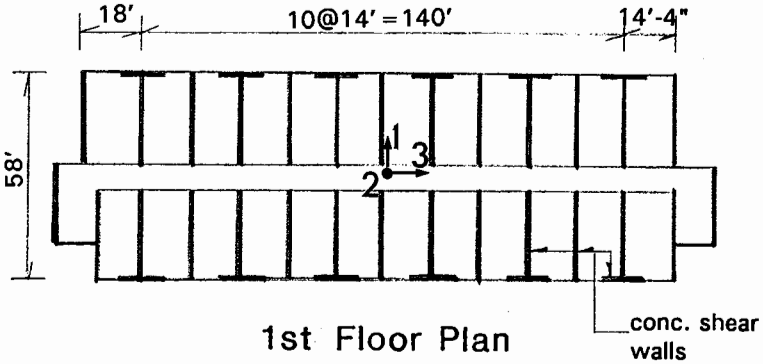
N/S Elevation

Concrete shear walls.
Design date: 1970

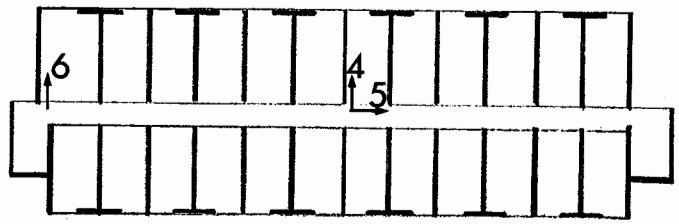


Roof Plan

N_{ref} Structure Reference Orientation: N = 0°

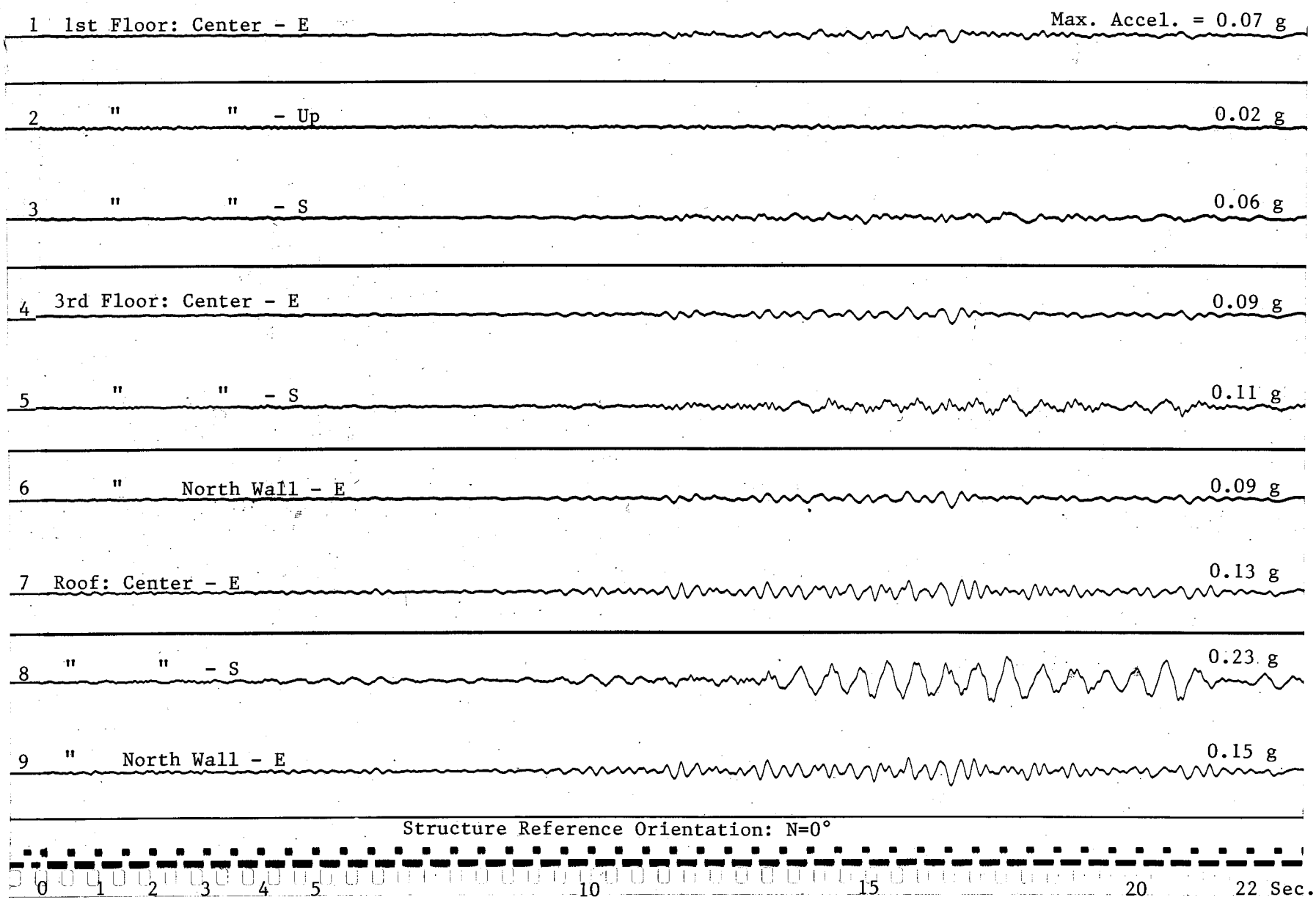


1st Floor Plan



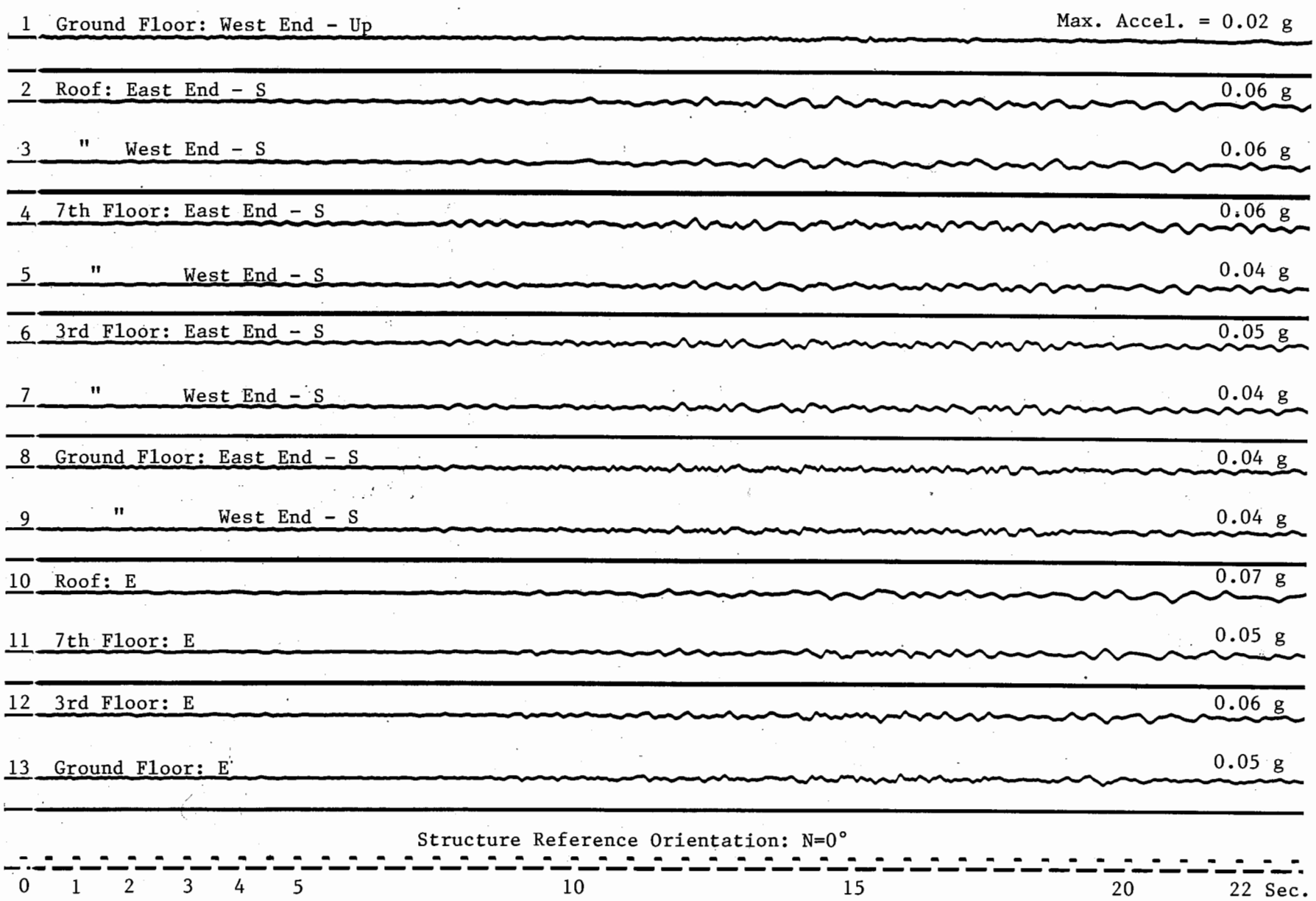
3rd Floor Plan

San Bernardino - 6-story Hotel
(CSMIP Station 23287) Record 23287-C0134-94027.02

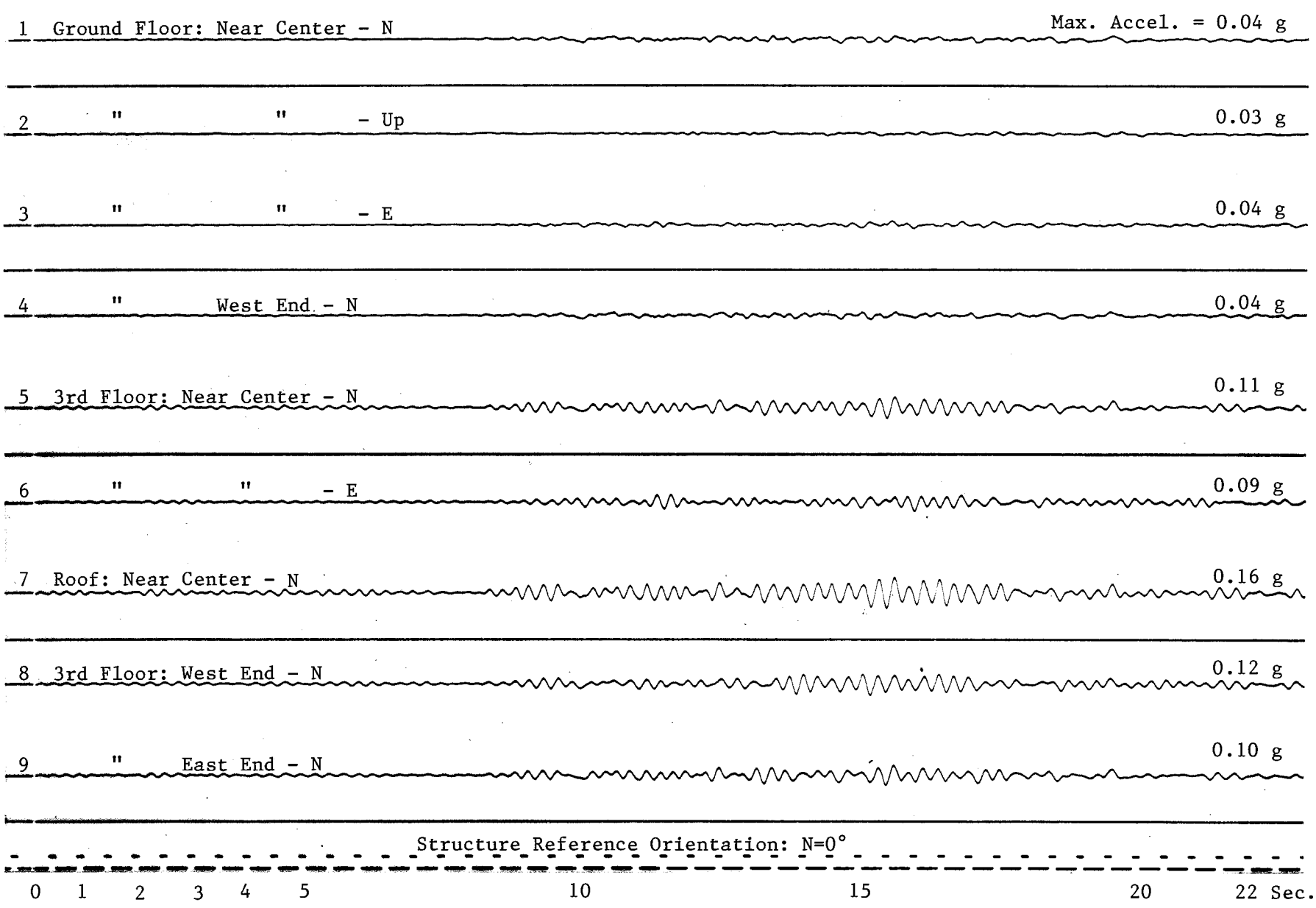


San Bernardino - 9-story Commercial Bldg. (Steel moment frames; Design date: 1974)
(CSMIP Station 23515)

Record 23515-C0278-94027.02



Santa Barbara - 3-story UCSB Office Bldg. (Concrete shear walls; Design date: 1960 & 1975)
(CSMIP Station 25213) Record 25213-C0176-94033.02



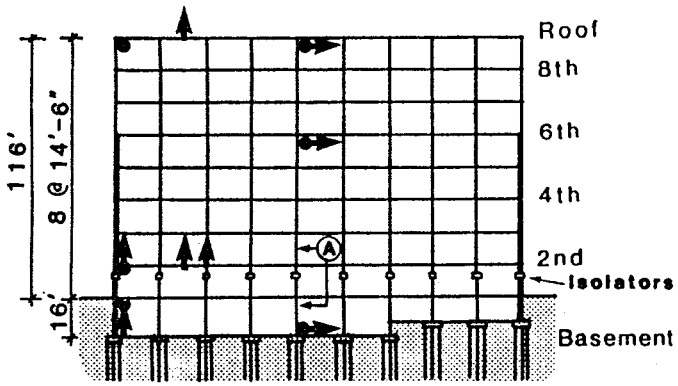
Seal Beach - 8-story Office Bldg.

(CSMIP Station No. 14578)

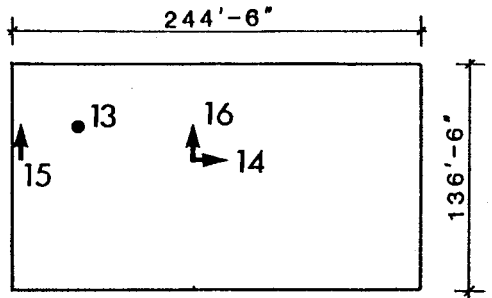
Concrete moment frames retrofitted with exterior ductile concrete moment frames and base isolation.
Construction date: 1967 and 1990

Structure Reference
Orientation: N= 0°

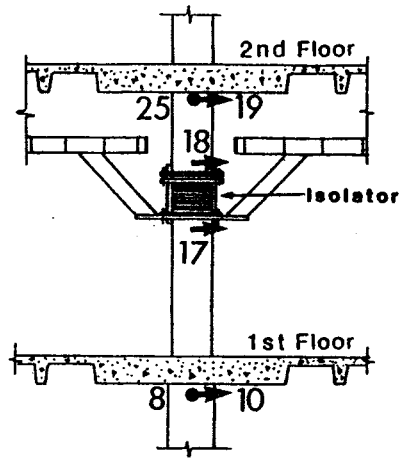
SENSOR LOCATIONS



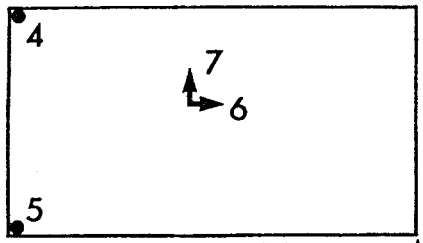
W/E Elevation



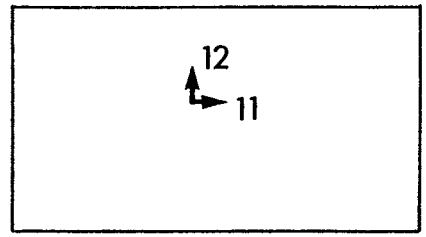
Roof Level Plan



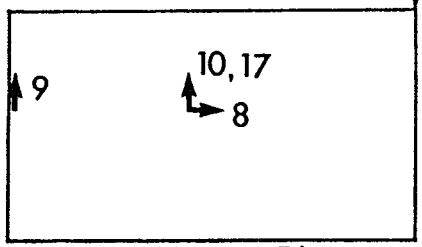
Section A



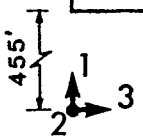
Basement Plan

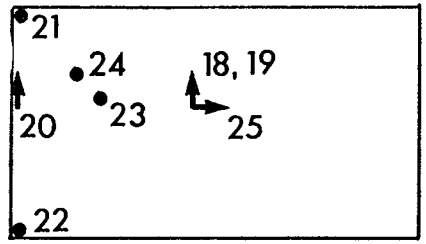


6th Floor Plan



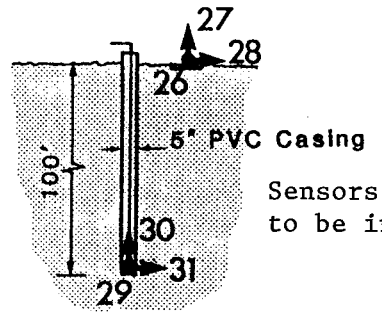
1st Floor Plan





2nd Floor Plan

N_{ref}

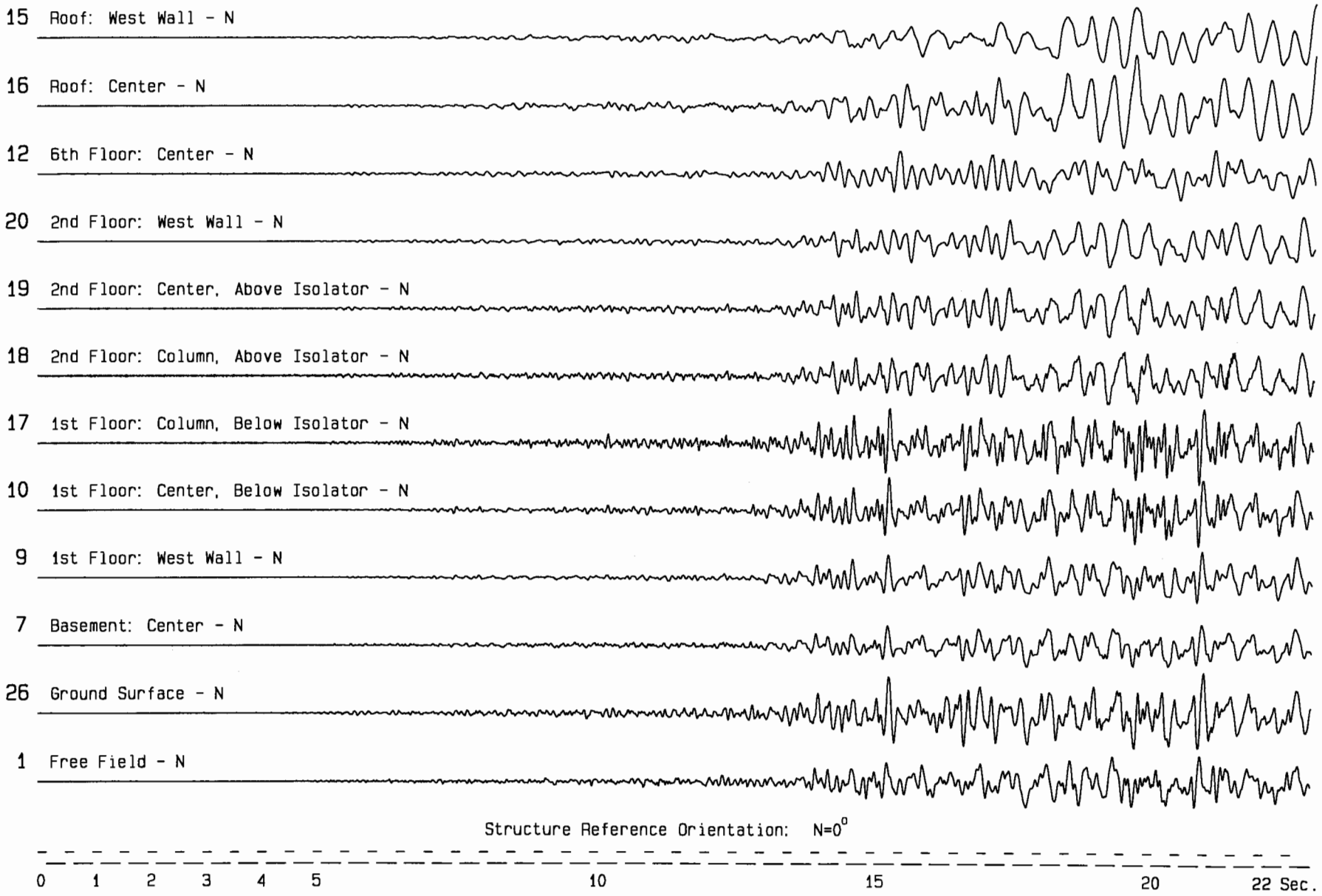


Sensors 29-31 to be installed.

Downhole & Surface

Seal Beach - 8-story Office Bldg.
(CSMIP Station 14578)

RECORD 14578-CS101-94017.02

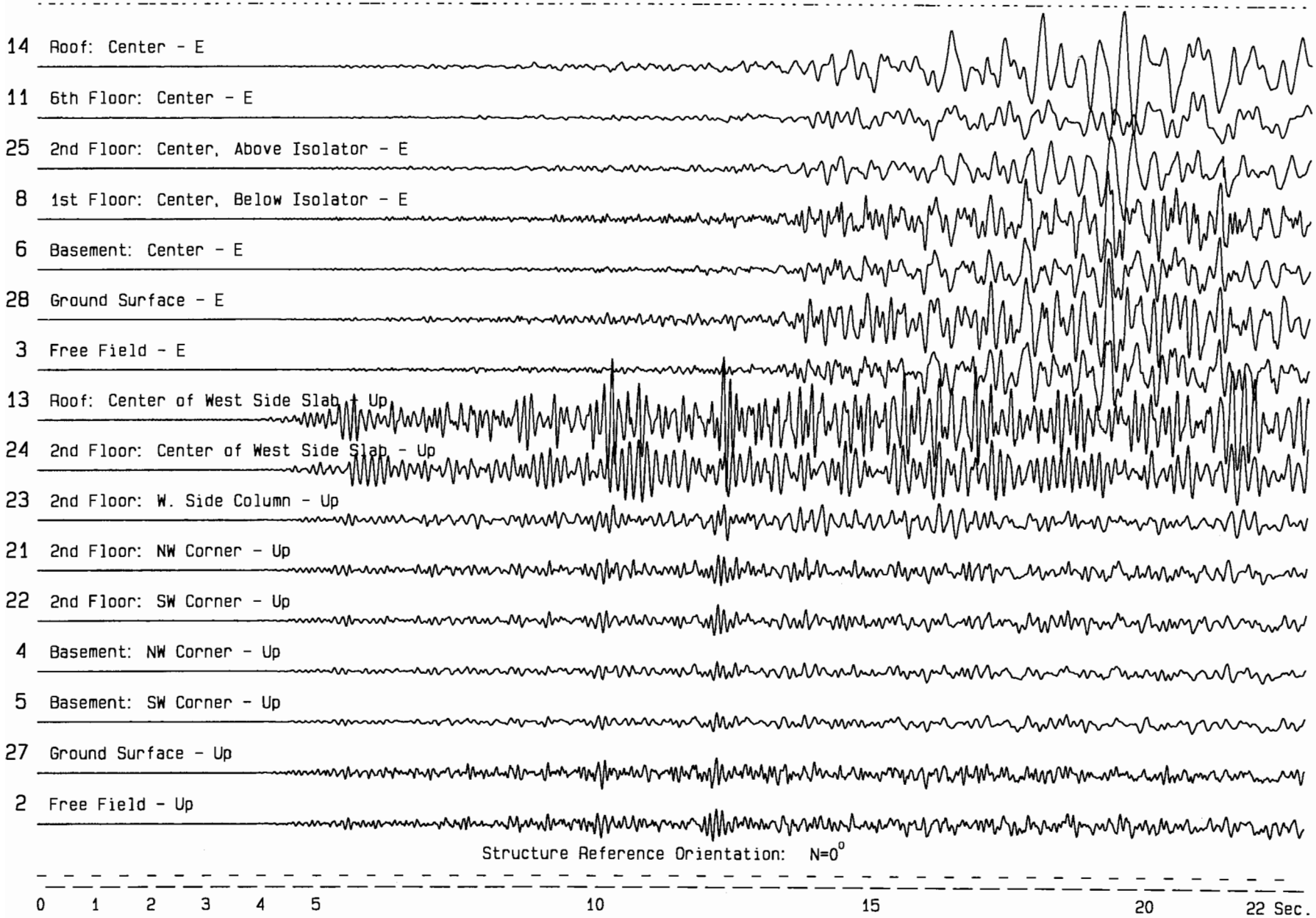


This page plotted with 4.x vertical exaggeration.

Seal Beach - 8-story Office Bldg.

(CSMIP Station 14578)

RECORD 14578-CS101-94017.02



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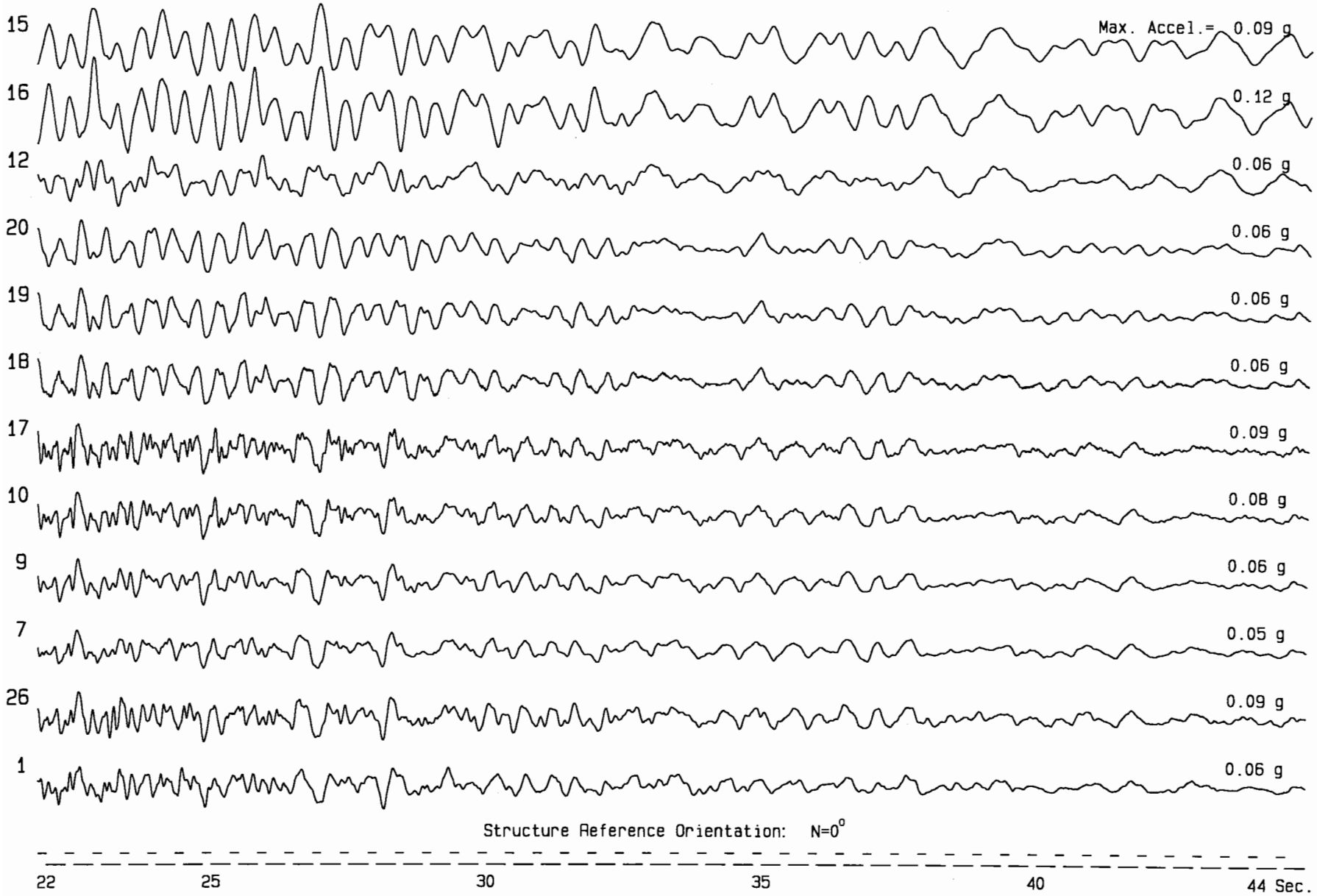
Seal Beach - 8-story Office Bldg.
(CSMIP Station 14578)

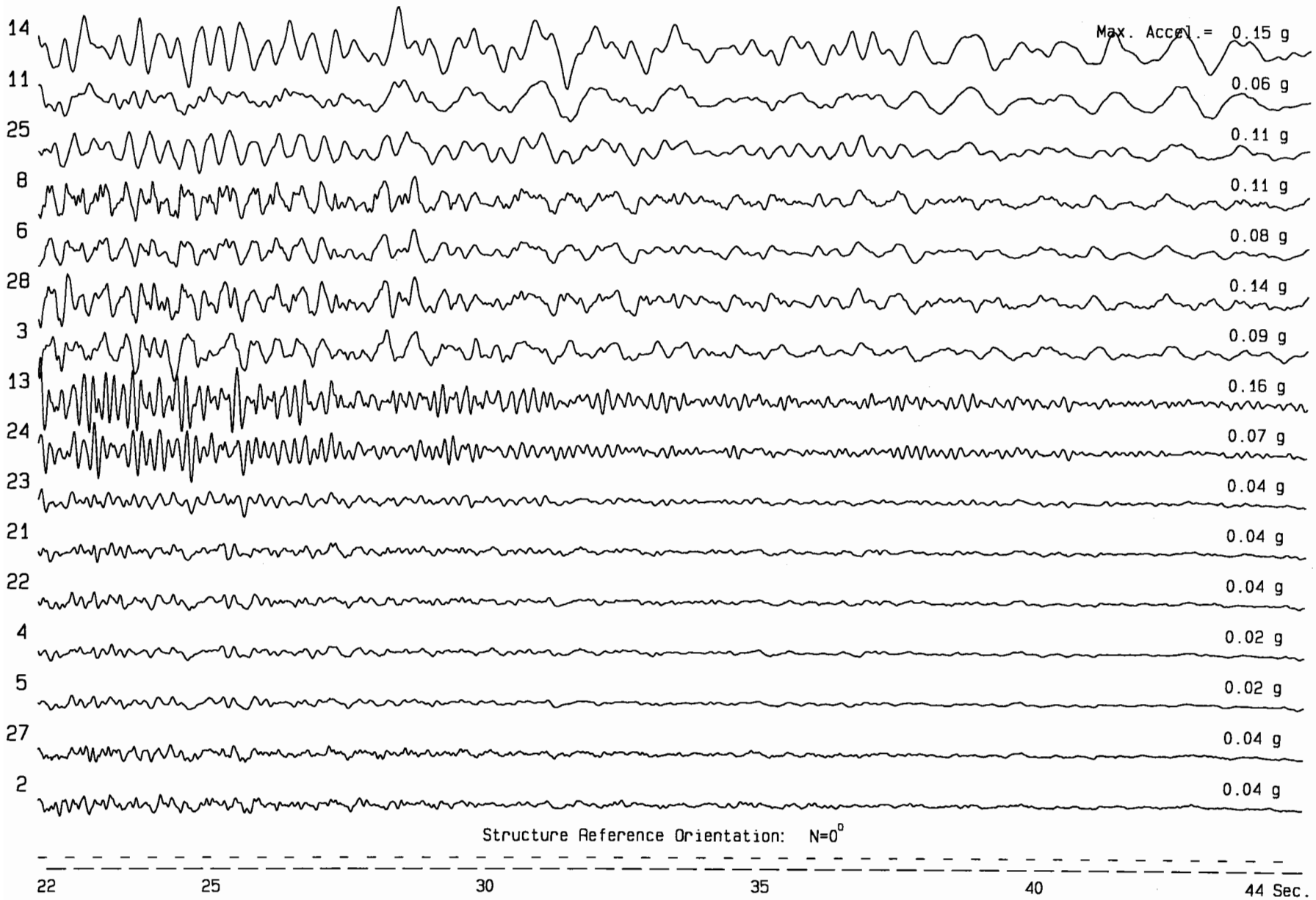
RECORD 14578-CS101-94017.02



This page plotted with 4.x vertical exaggeration.

Seal Beach - 8-story Office Bldg.
(CSMIP Station 14578)

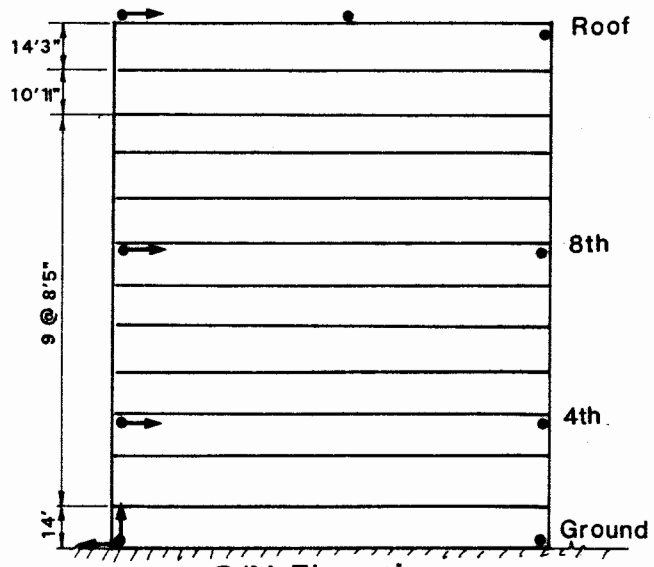
RECORD 14578-CS101-94017.02



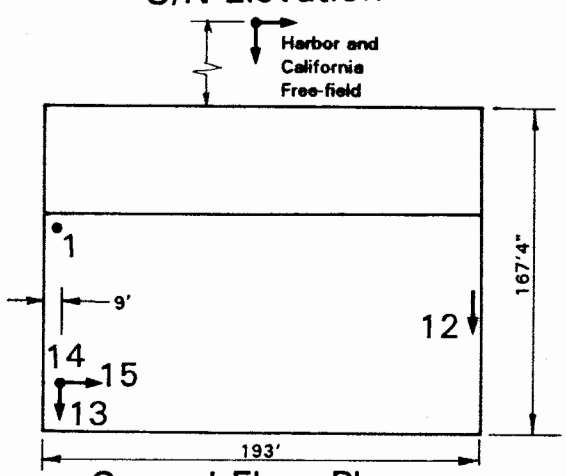
This page plotted with 4.x vertical exaggeration.

Ventura - 12-story Hotel
(CSMIP Station No. 25339)

SENSOR LOCATIONS



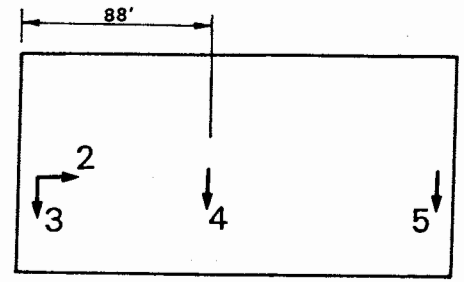
S/N Elevation



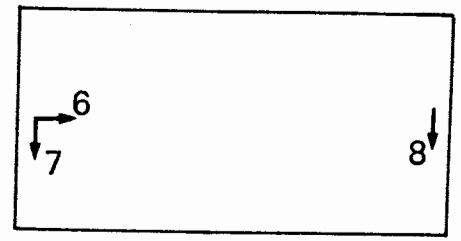
Ground Floor Plan

N_{ref}

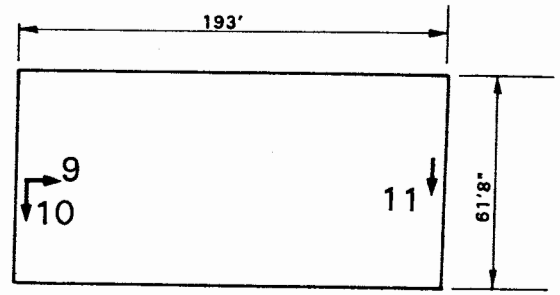
Structure Reference
Orientation: N = 0°



Roof Plan

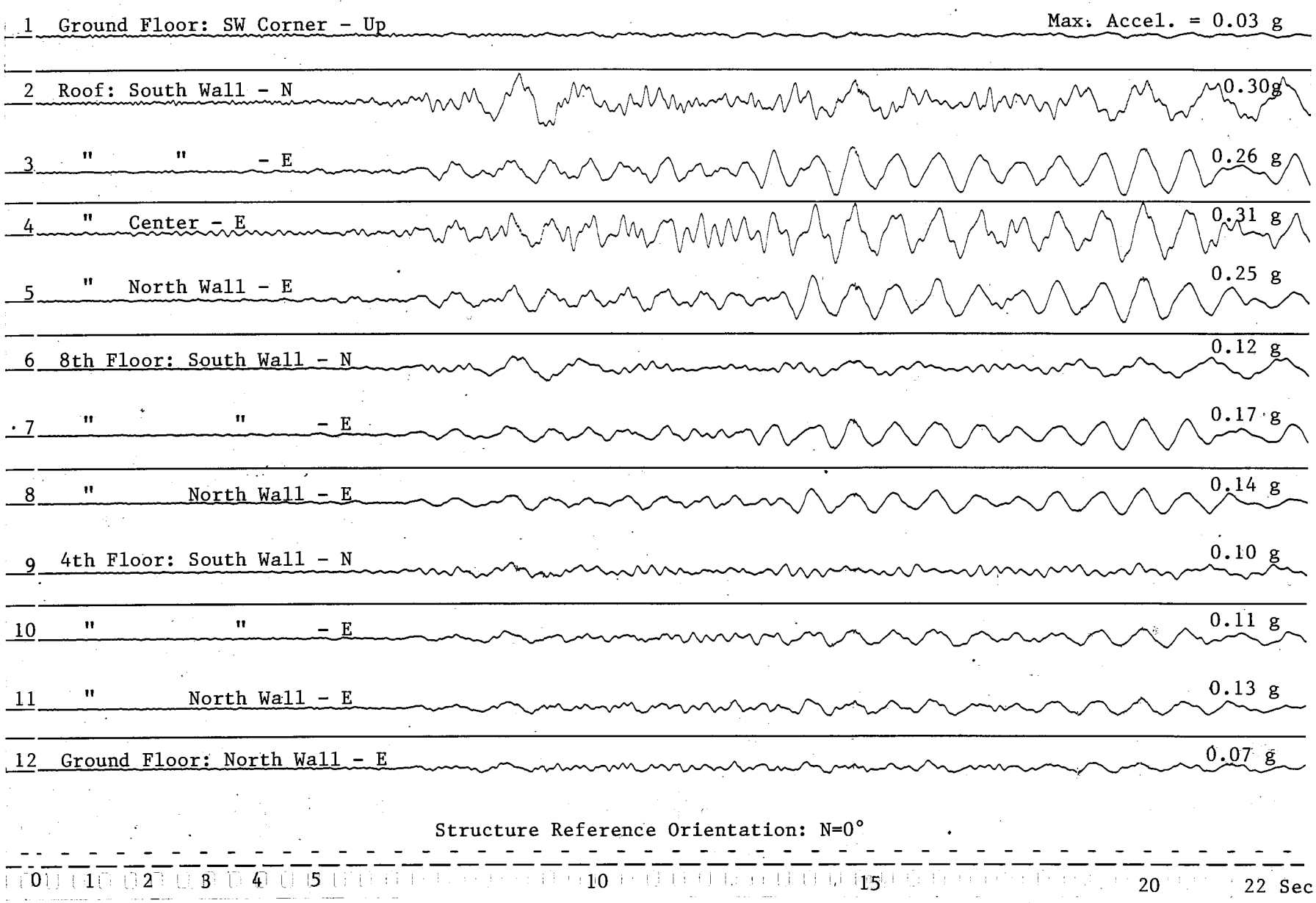


8th Floor Plan



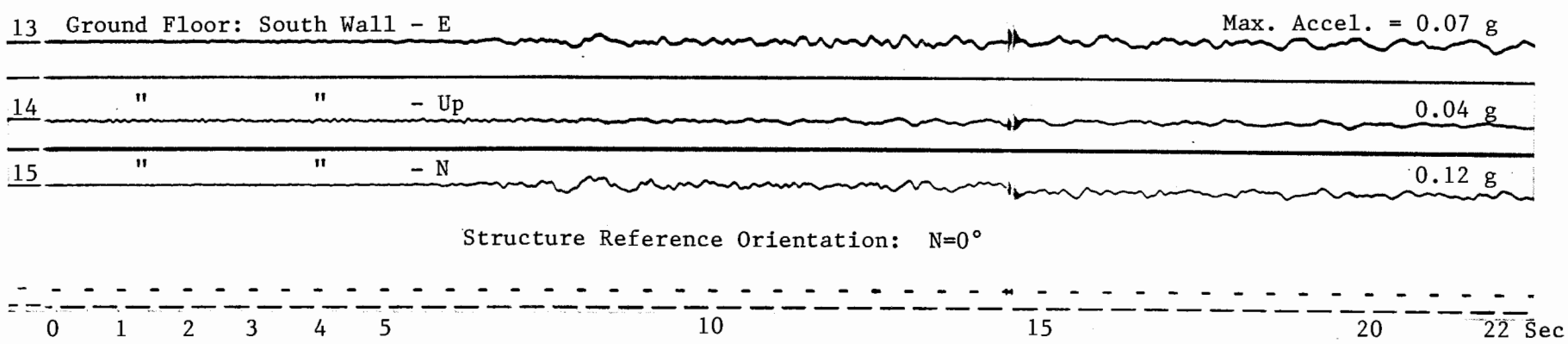
4th Floor Plan

Ventura - 12-story Hotel
(CSMIP Station 25339) Record 25339-C0177-94025.02



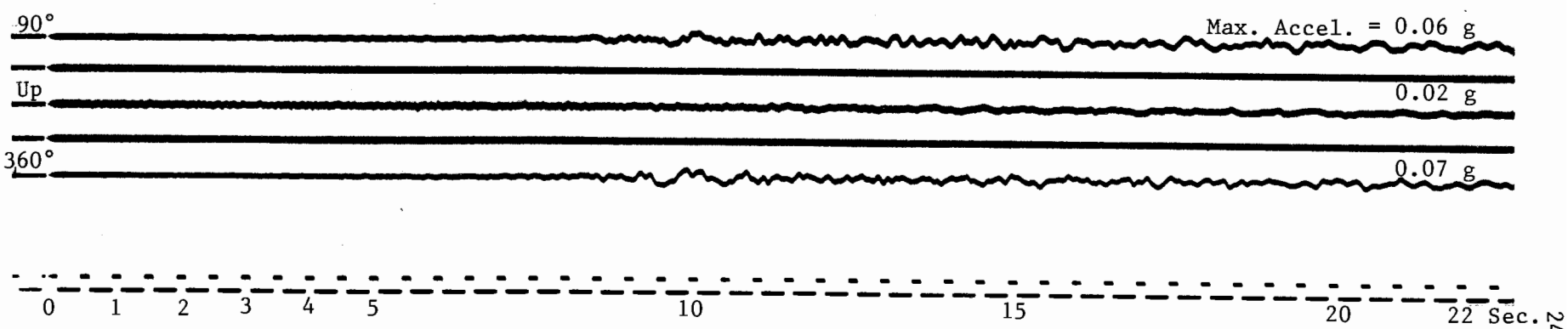
Ventura - 12-story Hotel (Channels 13-15)
(CSMIP Station 25339)

Record 25339-S1699-94025.02



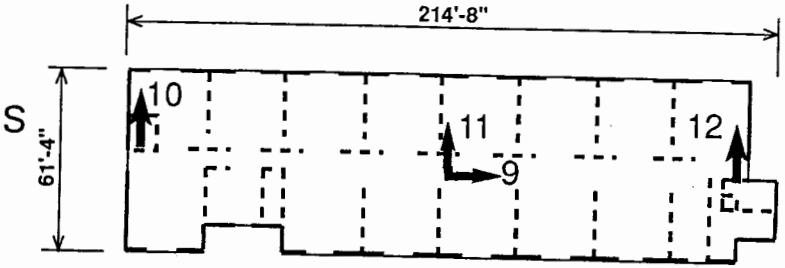
Ventura - Harbor & California
(CSMIP Station 25340)

Record 25340-S2770-94025.06

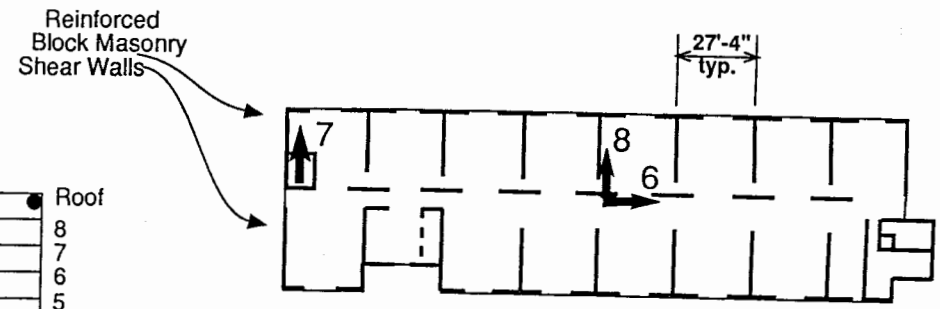


Whittier - 8-story Hotel
(CSMIP Station No. 14606)

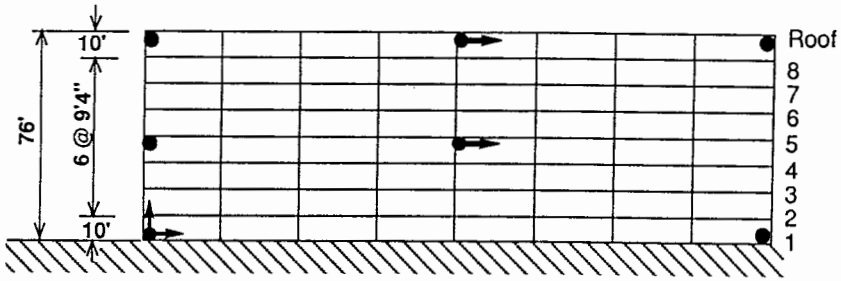
SENSOR LOCATIONS



Roof Plan

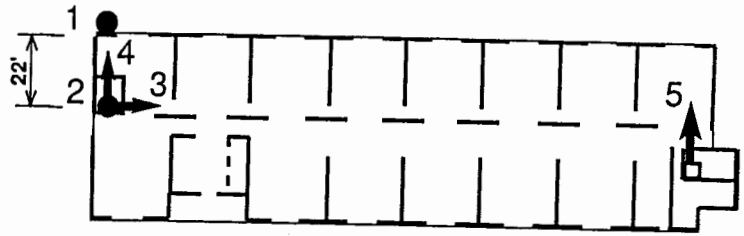


5th Floor Plan



W/E Elevation

Reinforced concrete block shear walls.
Design date: 1984



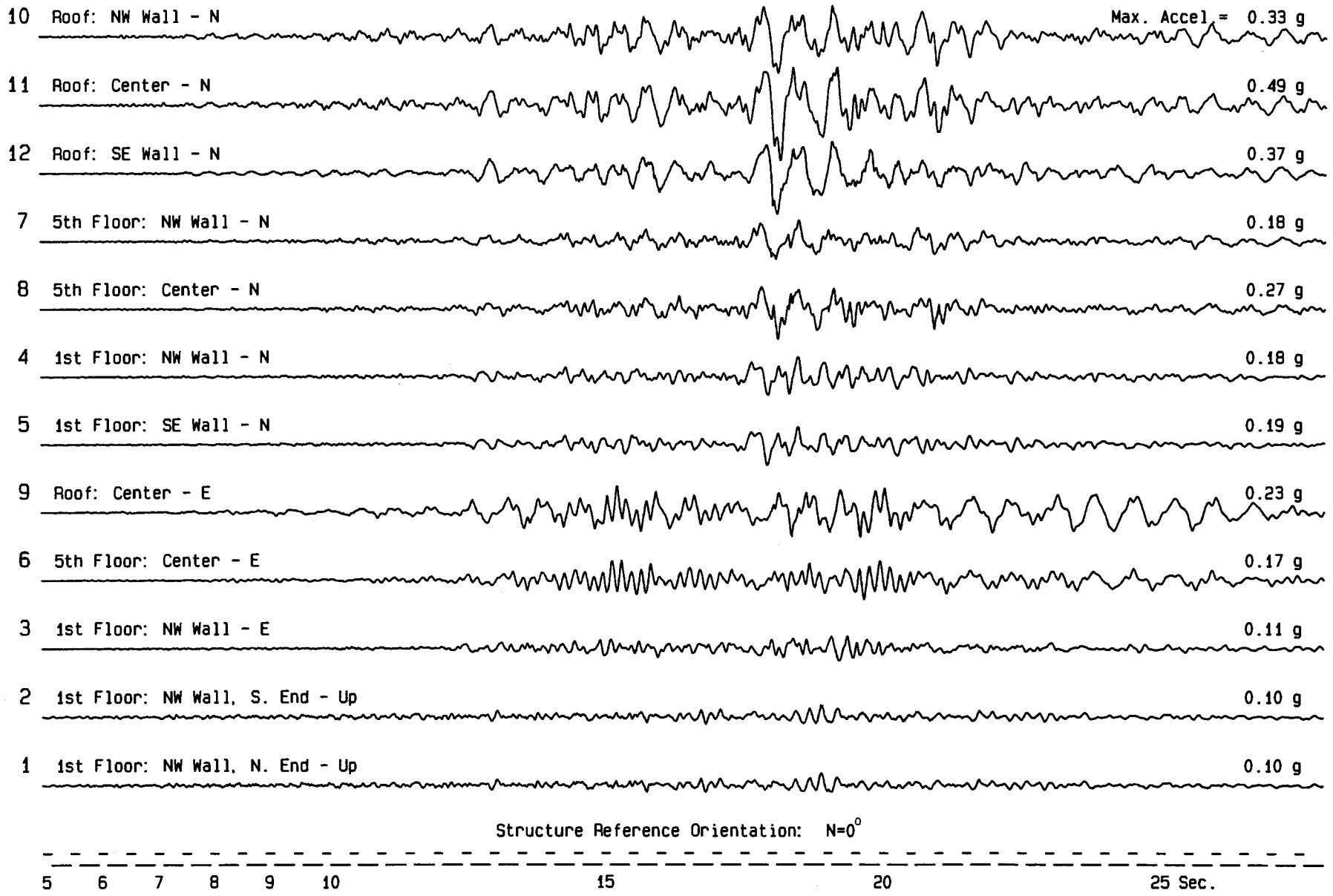
1st Floor Plan

Structure Reference
Orientation: N = 0°

Whittier - 8-story Hotel

(CSMIP Station 14606)

RECORD 14606-CS118-94020.02



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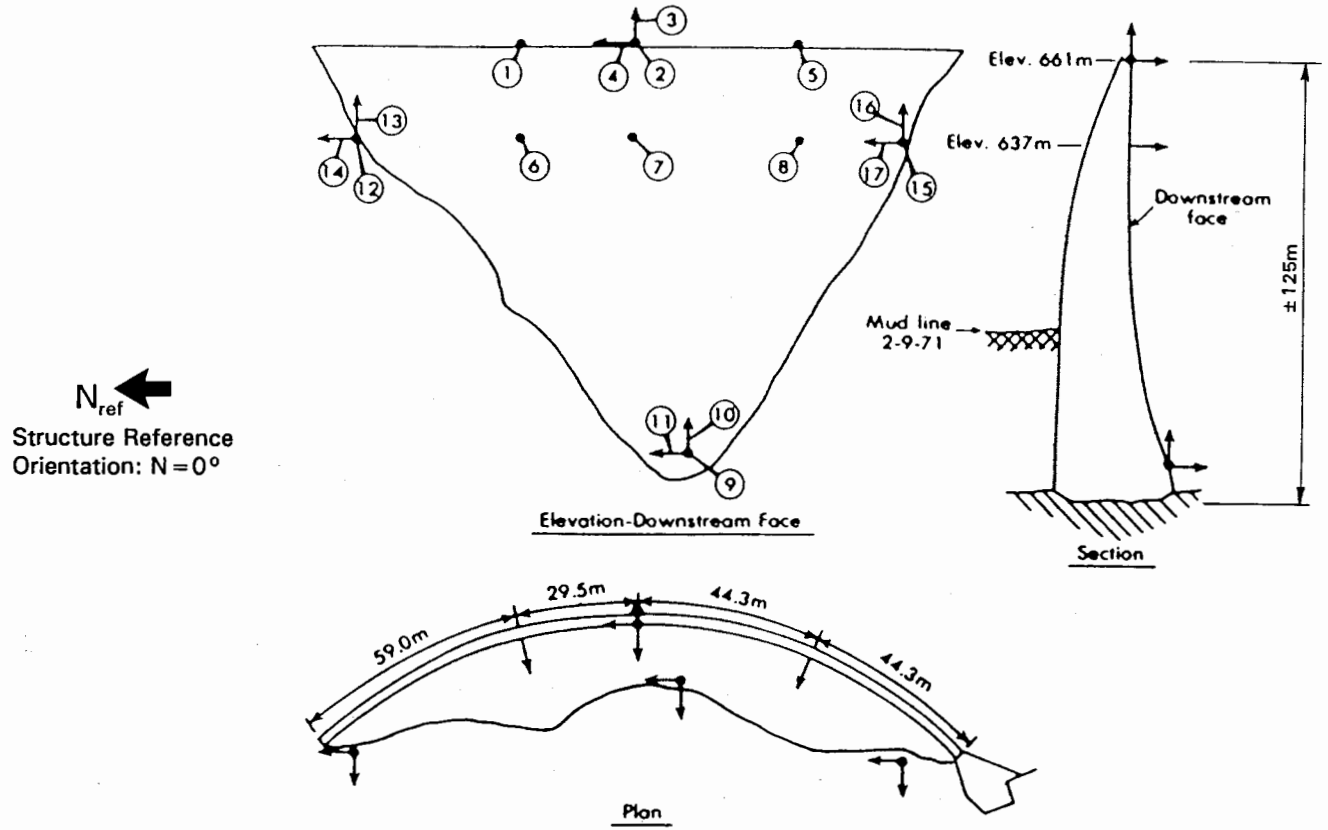
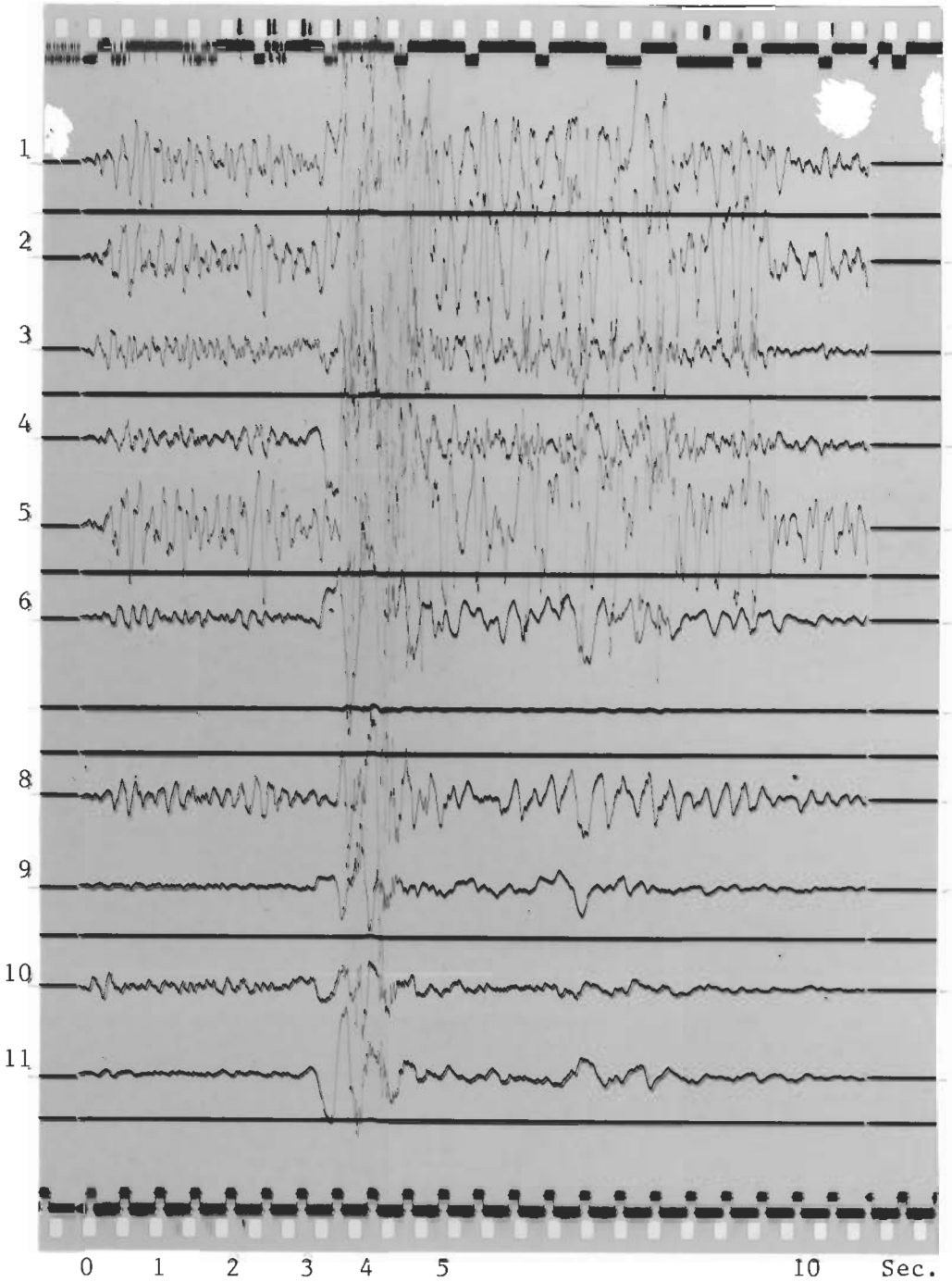
Pacoima Reservoir - Pacoima Dam
(CSMIP Station No. 24207)

SENSOR LOCATIONS



Pacoima Reservoir - Pacoima Dam
(CSMIP Station 24207) (Channels 1-11)

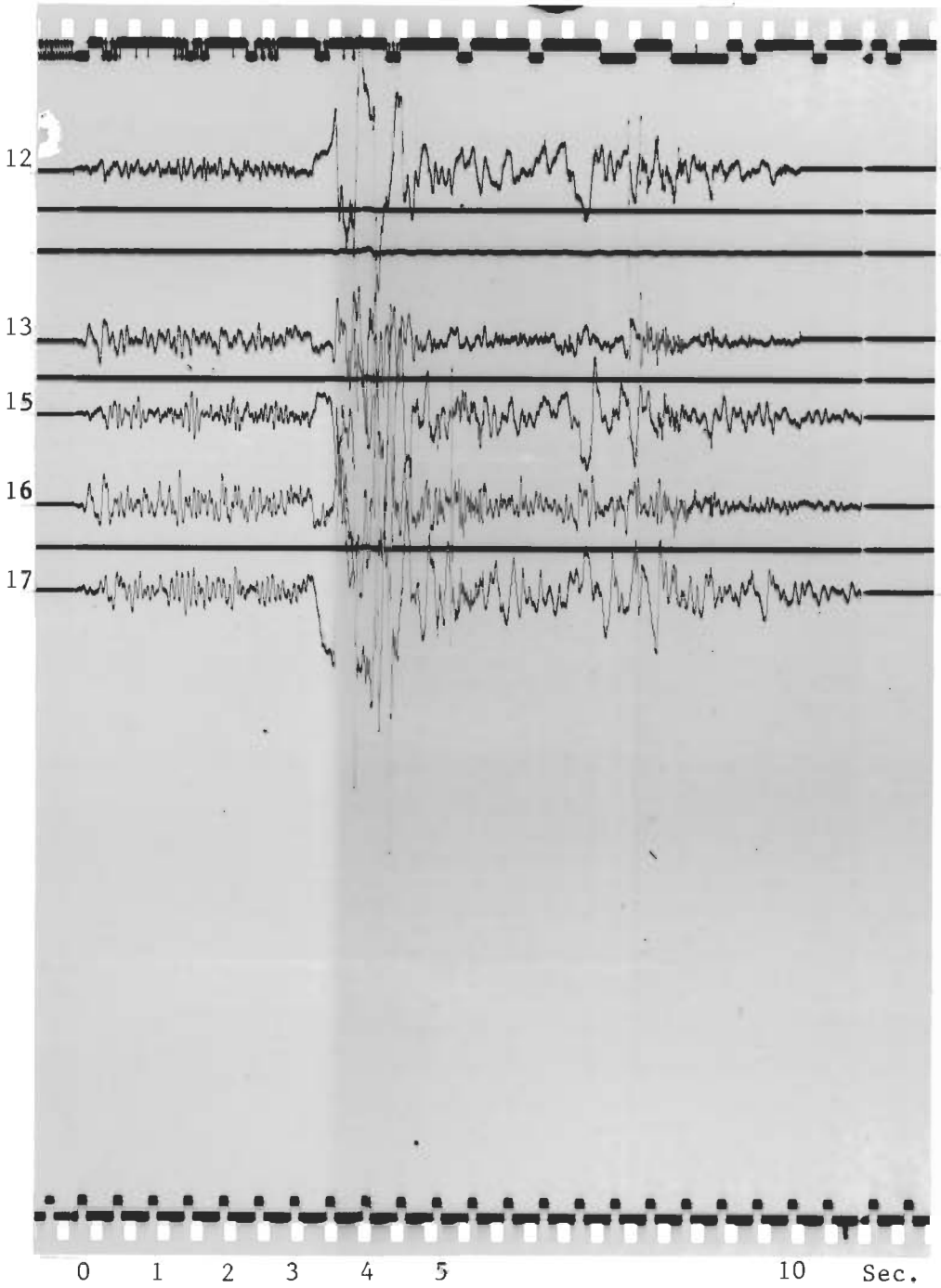


	Max. Accel.	
1	>1.42 g*	Crest: Right 1/6-length Point - T#
2	2.01 g	" Center - T
3	>1.60 g*	" " - Up
4	1.76 g	" " - R#
5	2.32 g	" Left 1/4-length Point - T
6	2.33 g	80% Height: Right 1/6-length Point - T
8	1.59 g	" Left 1/4-length Point - T
9	0.49 g	Dam Base: T
10	0.43 g	" Up
11	0.54 g	" R

* Final Values will be determined during digitization.

\# R,T = Radial, Transverse to Dam Crest

Pacoima Reservoir - Pacoima Dam
(CSMIP Station 24207) (Channels 12-17)



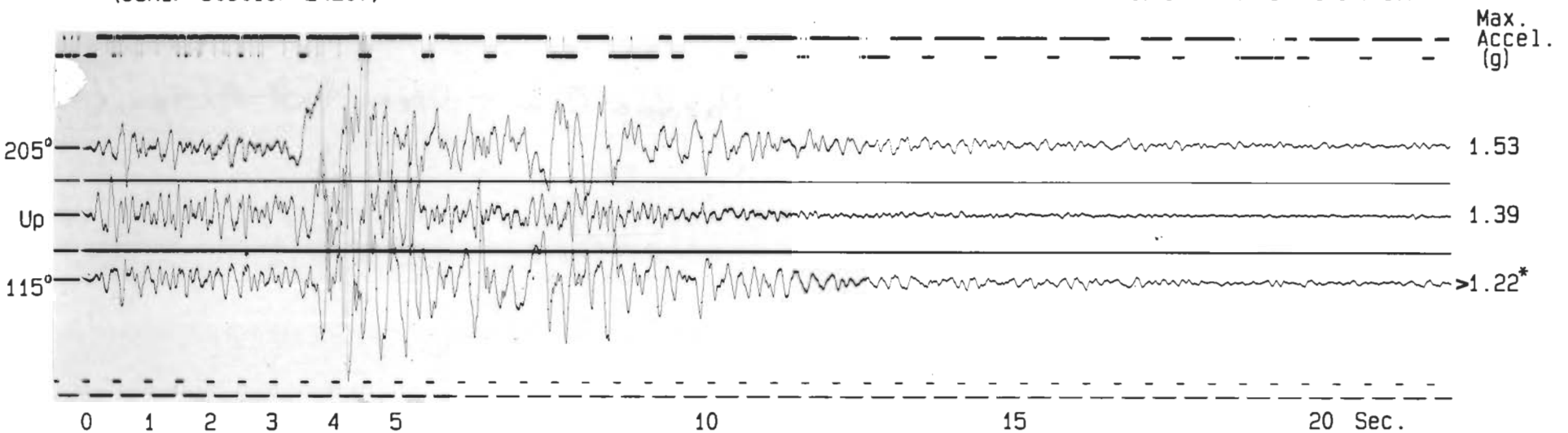
	Max. Accel.		
12	>1.04 g*	Right (North) Abutment	- W
13	≥1.83 g*	"	- Up
15	1.54 g	Left (South) Abutment	- W
16	1.40 g	"	- Up
17	≥2.04 g*	"	- N

Structure Reference Orientation: N=0°

* Final Values will be determined during digitization.

Pacoima Dam - Upper Left Abutment
(CSMIP Station 24207)

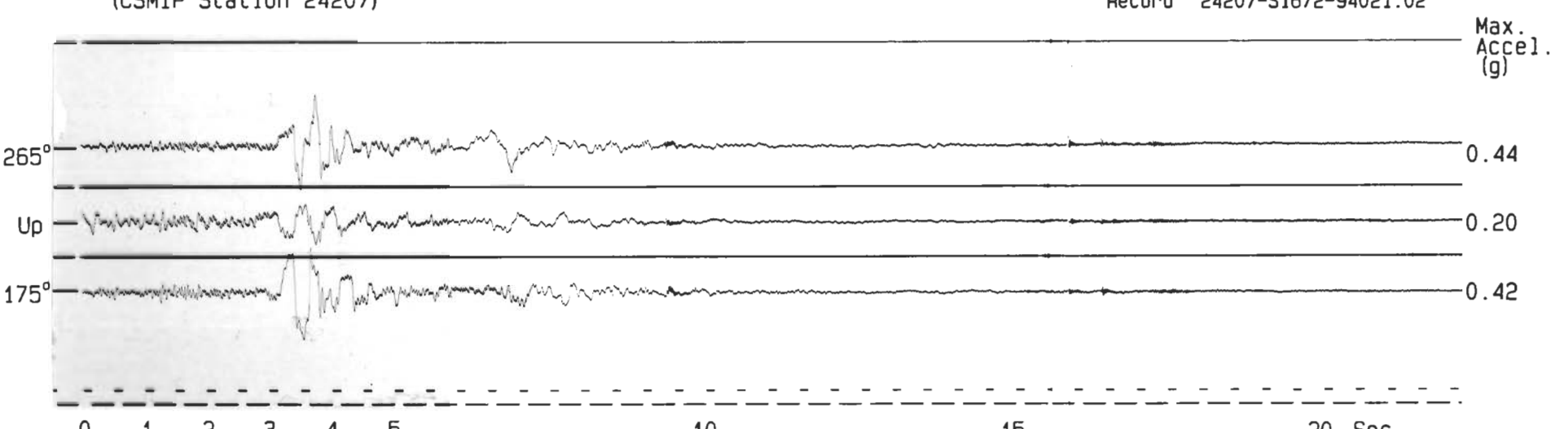
Record 24207-S2485-94021.02



* Final value will be determined during digitization.

Pacoima Dam - Downstream
(CSMIP Station 24207)

Record 24207-S1672-94021.02



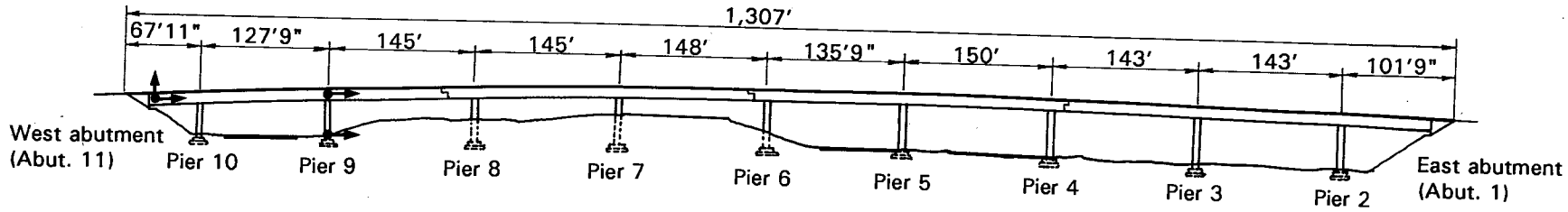
Los Angeles - I10/405 Interchange Bridge
(CSMIP Station No. 24670)

No. of Spans: 10
Total Length: 1037′
Width of Deck: 34′
Plan Shape: Curved
Design Date: 1961
Construction Date: 1963
(retrofit: 1991)

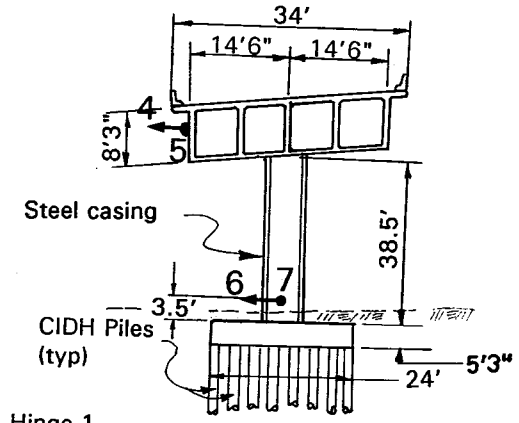
Superstructure Type:
4-cell continuous concrete box-girder.
Substructure Type:
Open end seated abutments and single concrete column bents.
Foundation Type:
Cast-in-drilled hole (CIDH) concrete piles.

Los Angeles - I10/405 Interchange Bridge
(CSMIP Station No. 24670)

SENSOR LOCATIONS

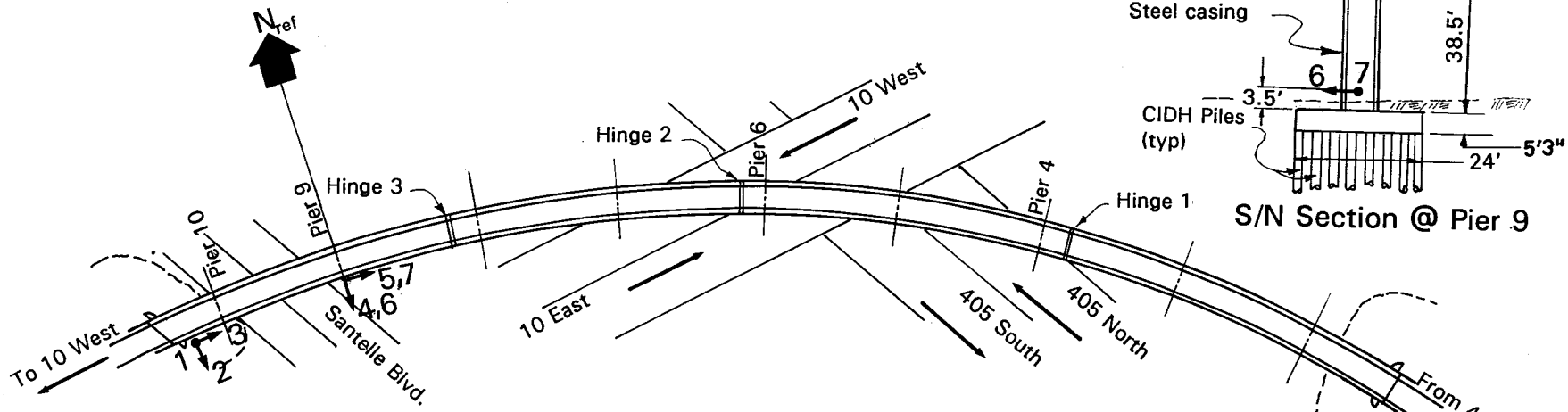


Elevation



S/N Section @ Pier 9

Structure Reference
Orientation: N = 10°



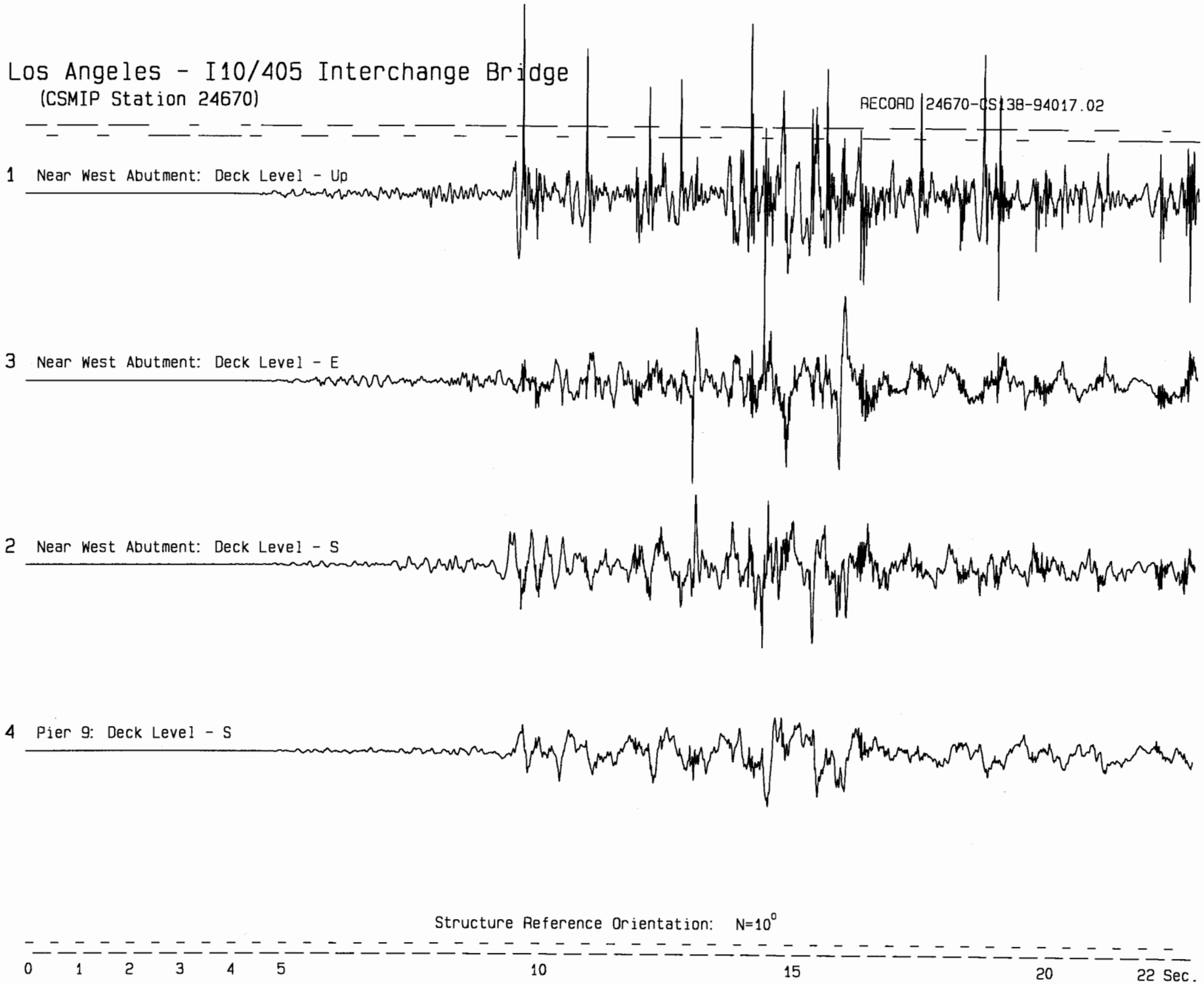
Plan

West abutment

Sensors 6 & 7 mounted on column;
Other sensors mounted on deck

East abutment

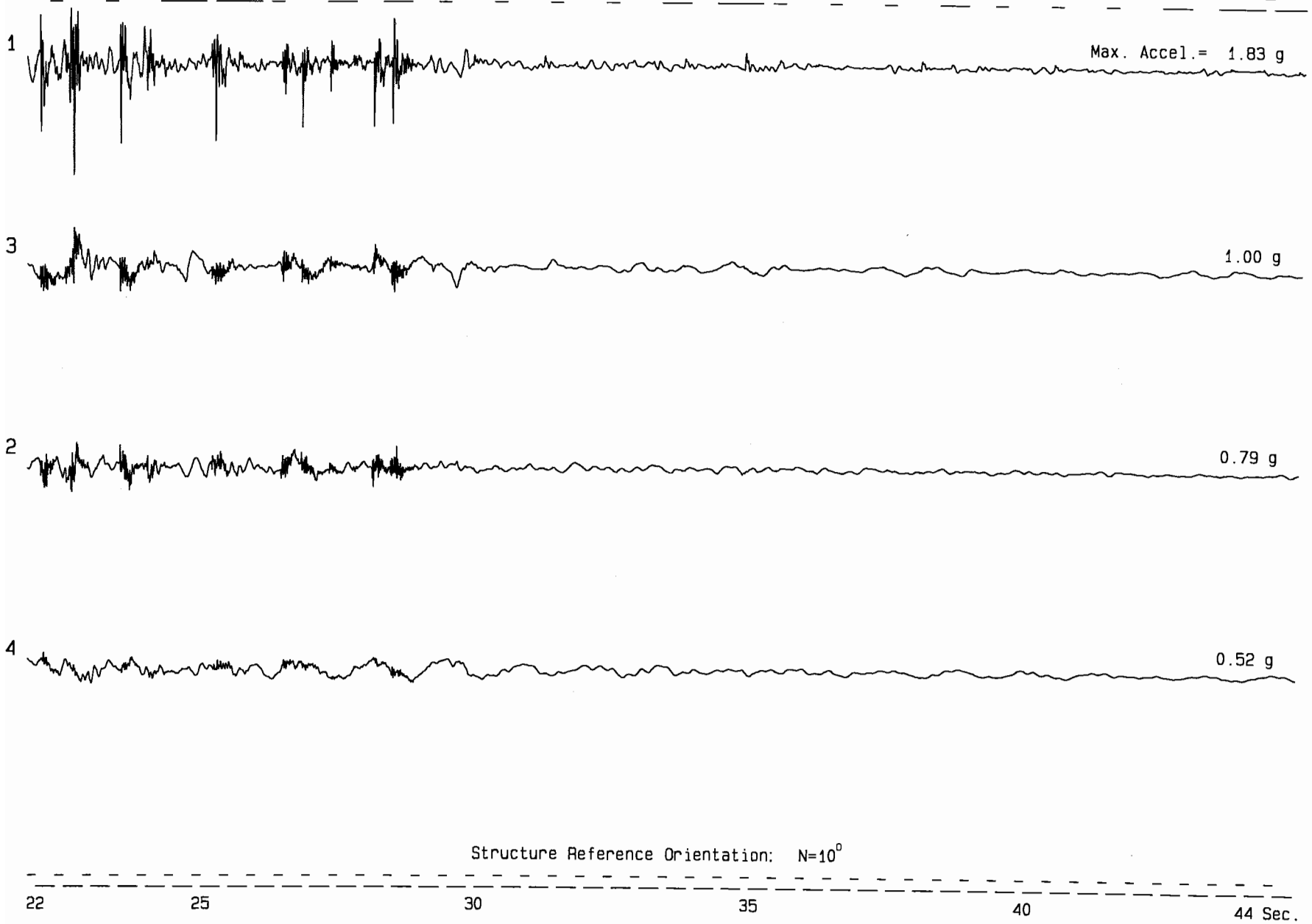
8/12/93


Los Angeles - I10/405 Interchange Bridge
(CSMIP Station 24670)
RECORD 24670-CS138-94017.02
1 Near West Abutment: Deck Level - Up
3 Near West Abutment: Deck Level - E
2 Near West Abutment: Deck Level - S
4 Pier 9: Deck Level - S
Structure Reference Orientation: N=10°
0 1 2 3 4 5 10 15 20 22 Sec.

Los Angeles - I10/405 Interchange Bridge

(CSMIP Station 24670)

RECORD 24670-CS138-94017.02



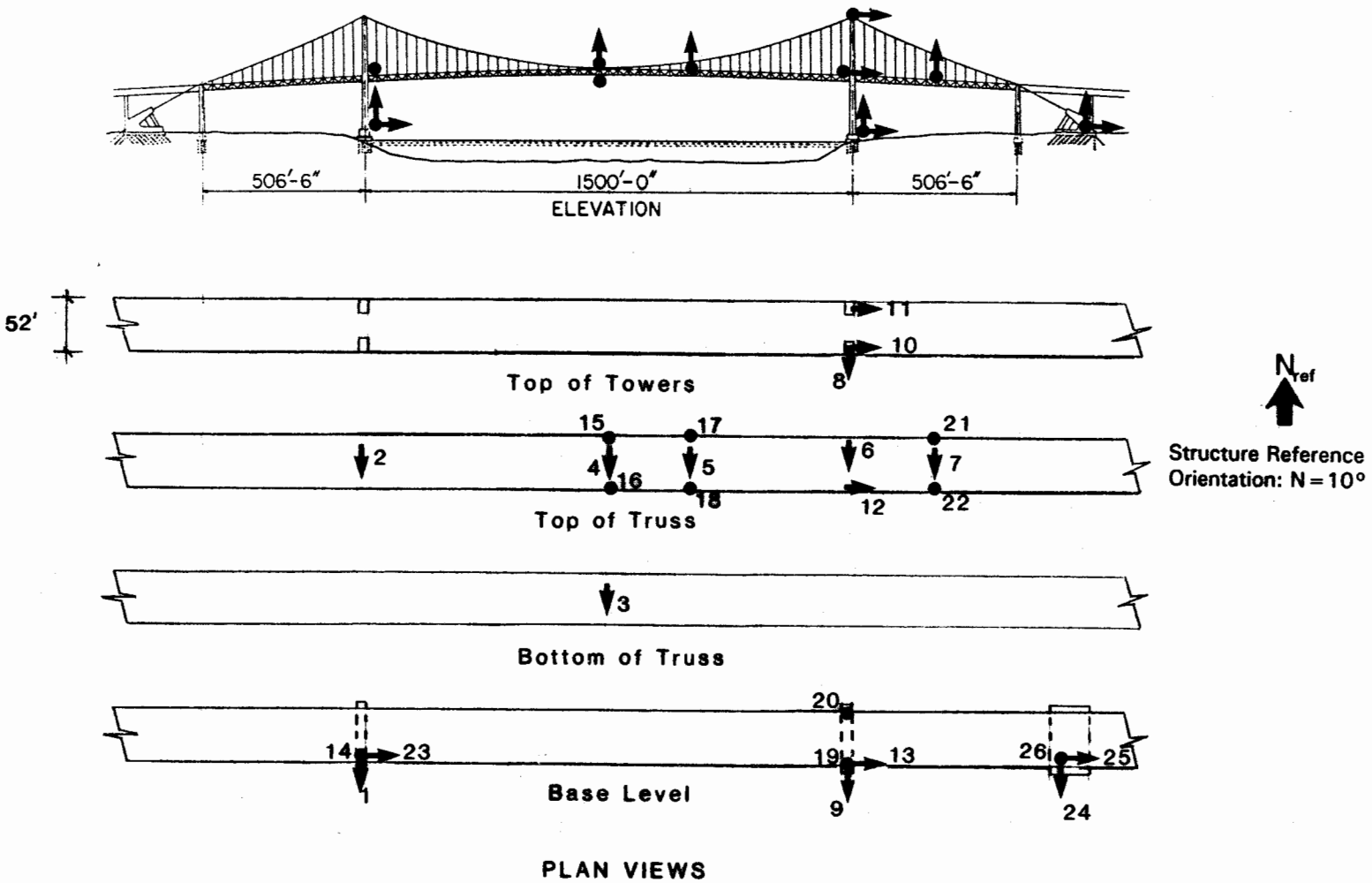
Los Angeles - Vincent Thomas Bridge
(CSMIP Station No. 14406)

No. of Spans and Length:
1500′ suspended center span and two 506′ suspended side spans; 20 approach spans (150′ to 230′)
Width: 52′
Design Date: 1959
Construction Date: 1964

Superstructure Type:
Steel suspension for center and side spans; steel girders for approach spans; lightweight concrete deck supported by stiffening trusses on suspended spans.
Substructure Type:
Steel columns; two cross-braced legs per bent.
Foundation Type: Piles.

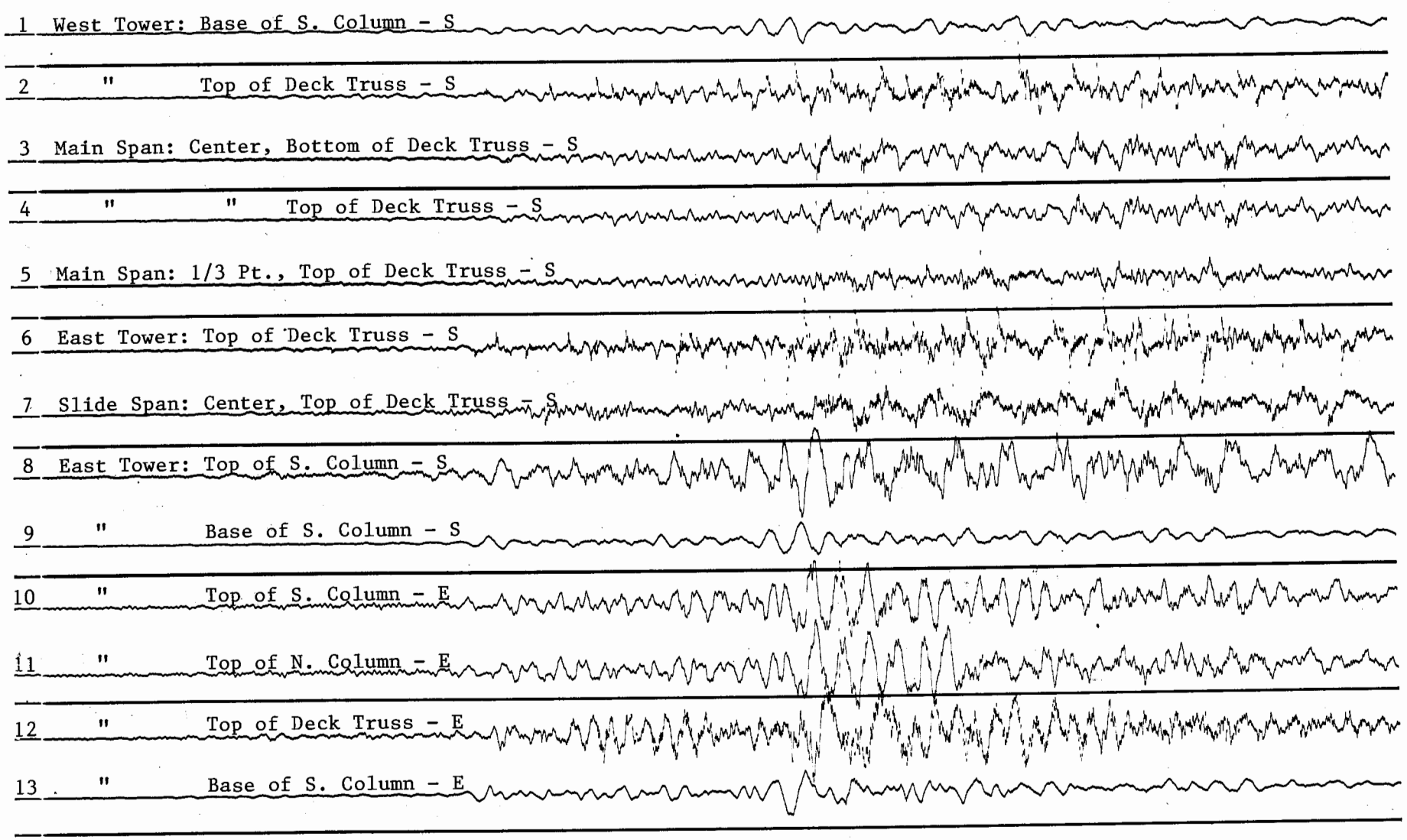
Los Angeles - Vincent Thomas Bridge
(CSMIP Station No. 14406)

SENSOR LOCATIONS



Los Angeles - Vincent Thomas Bridge
(CSMIP Station 14406) (Channels 1-13)

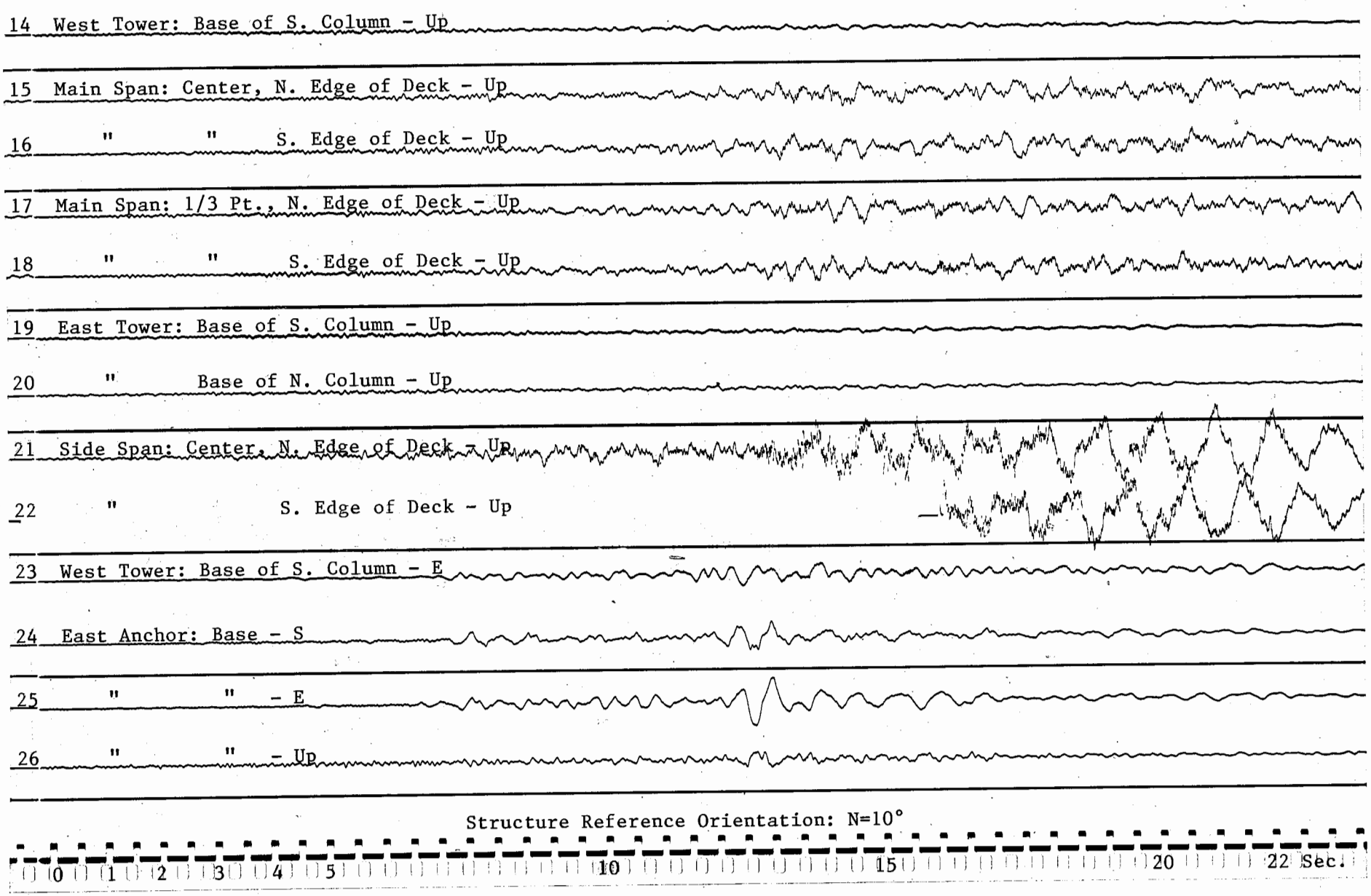
Record 14406-C0200-94020.2



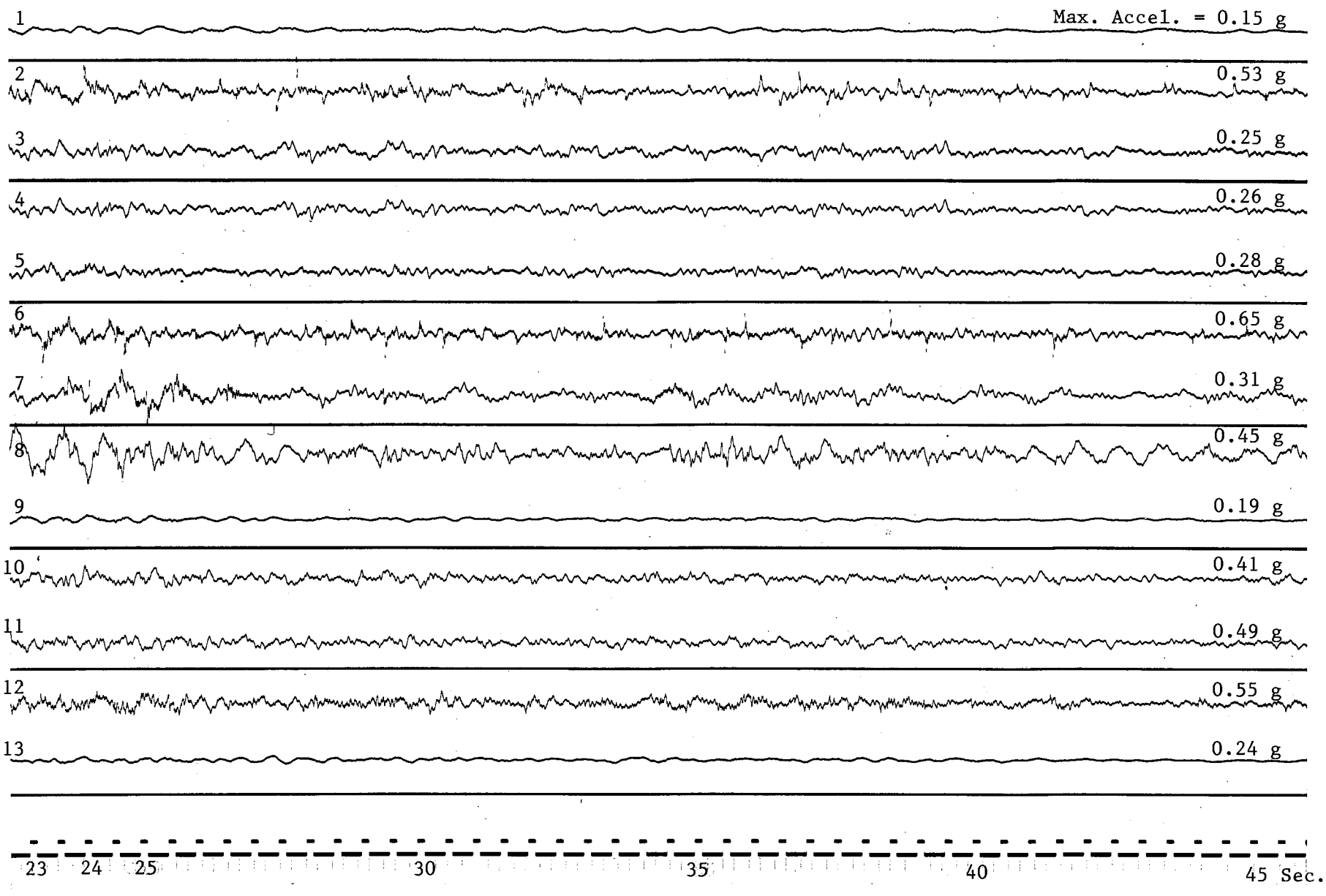
Structure Reference Orientation: N=10°

0 1 2 3 4 5 10 15 20 22 Sec.

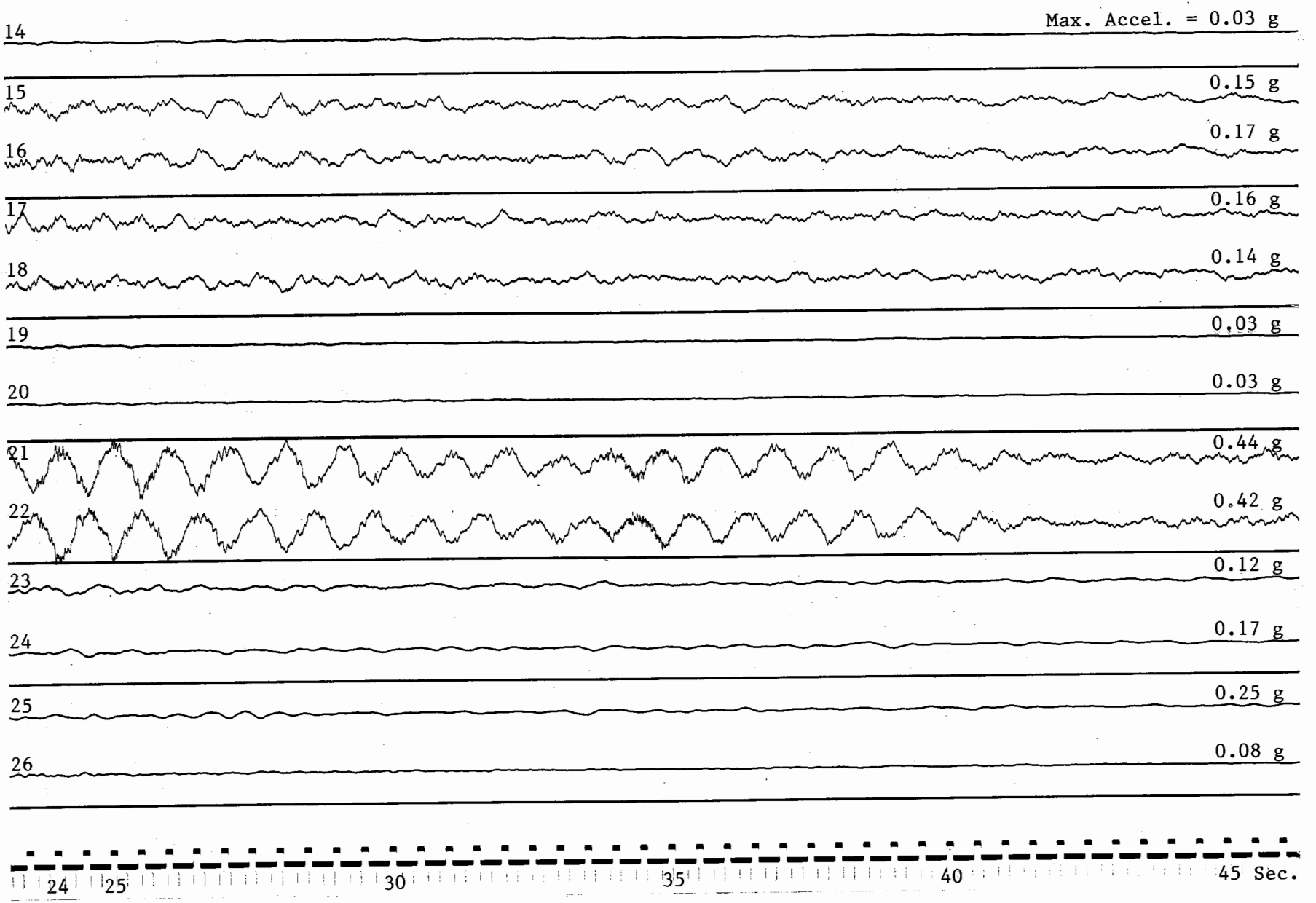
Los Angeles - Vincent Thomas Bridge
(CSMIP Station 14406) (Channels 14-26) Record 14406-C0201-94020.02



Los Angeles - Vincent Thomas Bridge
(CSMIP Station 14406) (Channels 1-13) Record 14406-C0200-94020.2

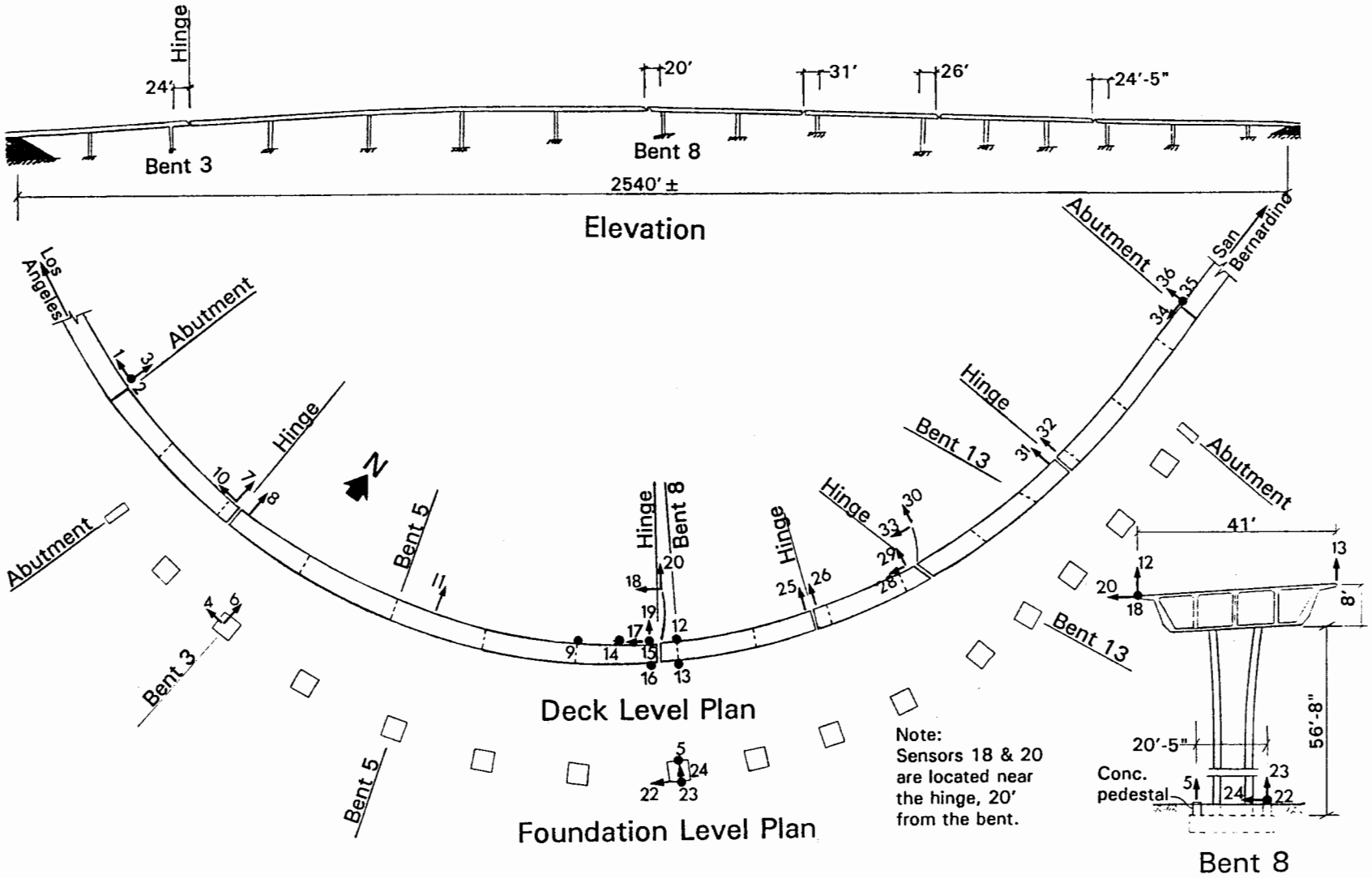


Los Angeles - Vincent Thomas Bridge
(CSMIP Station 14406) (Channels 14-26) Record 14406-C0201-94020.02



San Bernardino - I10/215 Interchange
(CSMIP Station No. 23631)

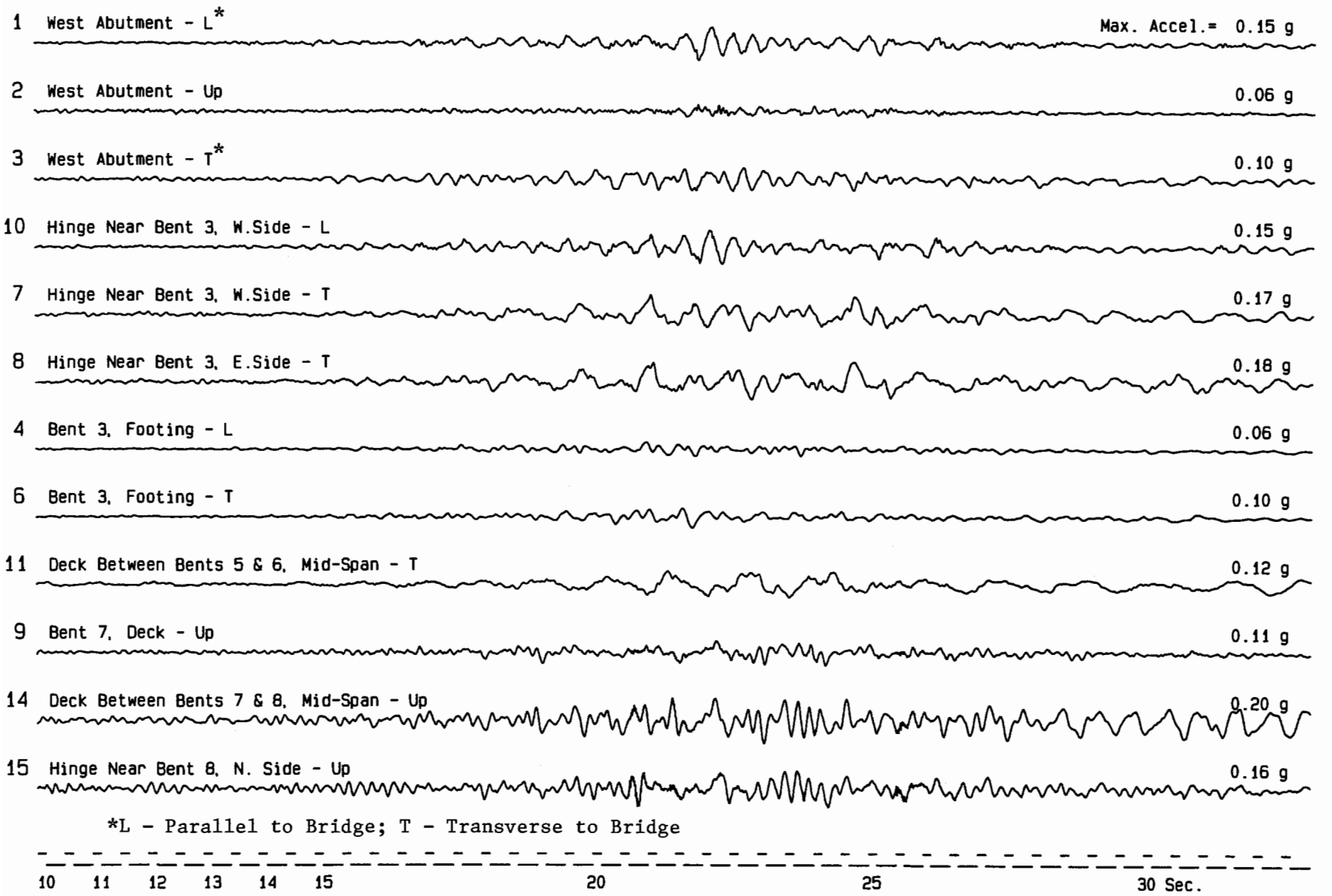
SENSOR LOCATIONS



San Bernardino - I10/215 Interchange

(CSMIP Station 23631)

RECORD 23631-CS117-94017.07

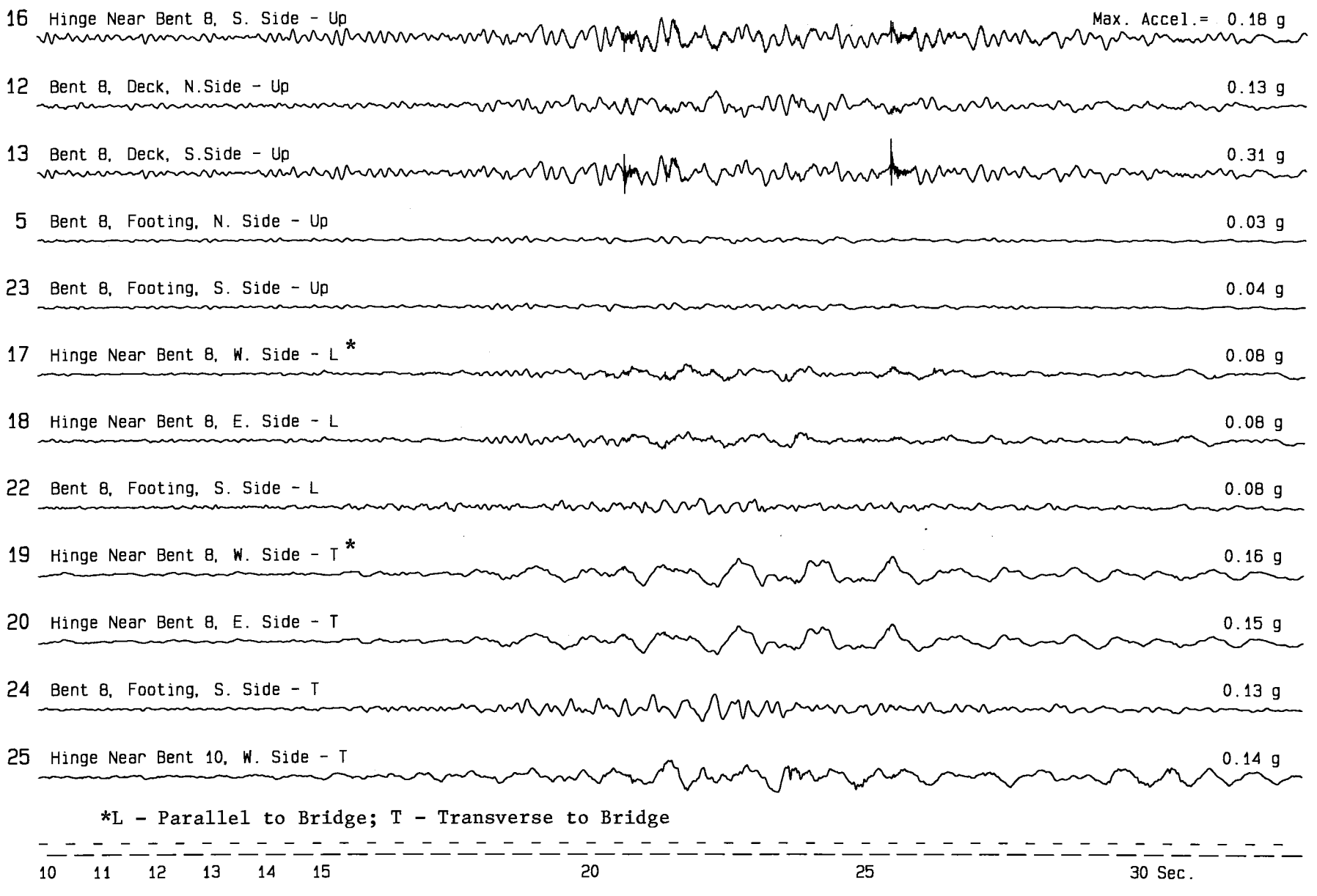


*L - Parallel to Bridge; T - Transverse to Bridge

San Bernardino - I10/215 Interchange

(CSMIP Station 23631)

RECORD 23631-CS117-94017.07

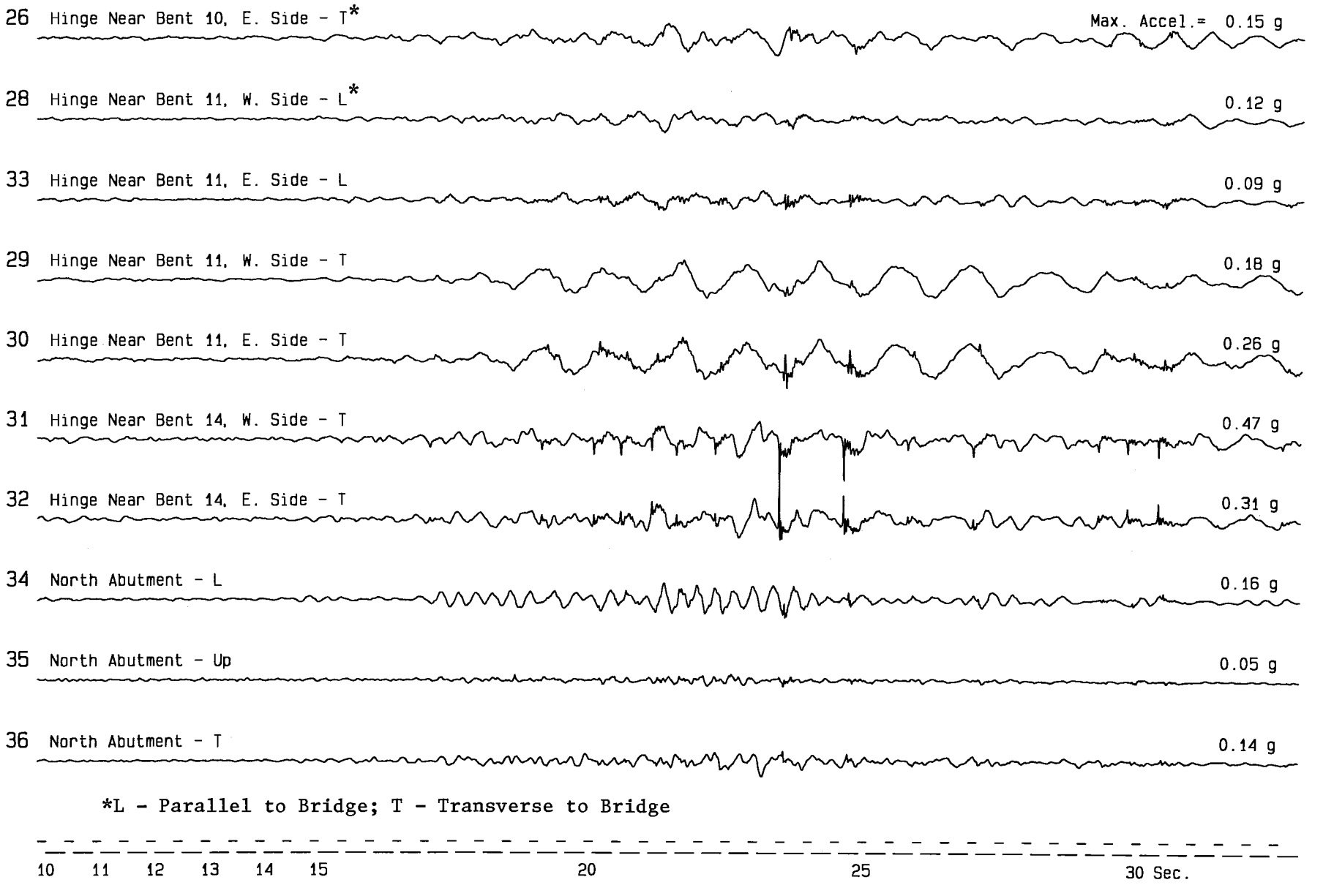


*L - Parallel to Bridge; T - Transverse to Bridge

San Bernardino - I10/215 Interchange

(CSMIP Station 23631)

RECORD 23631-CS117-94017.07

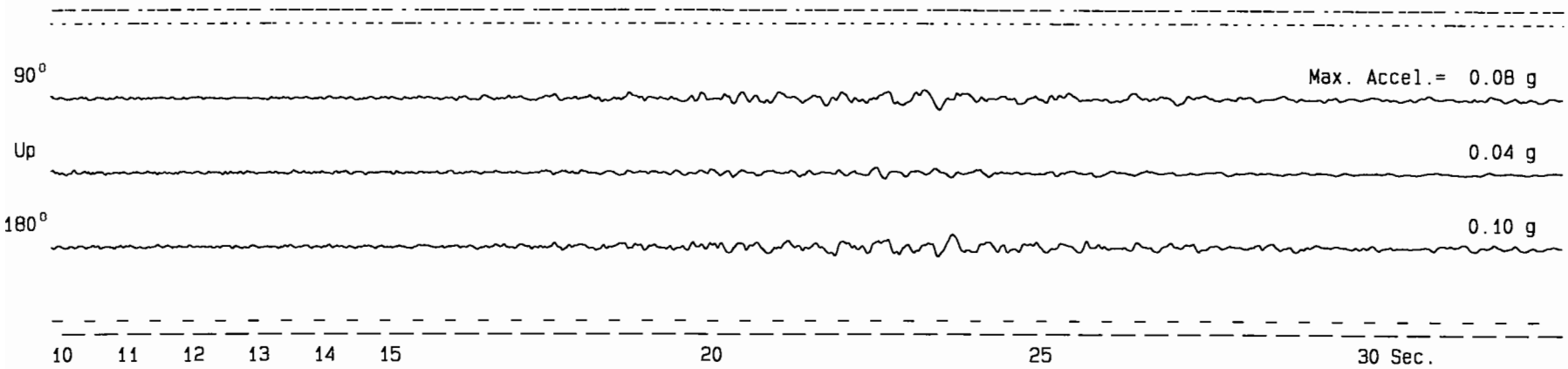


*L - Parallel to Bridge; T - Transverse to Bridge

San Bernardino - E & Hospitality

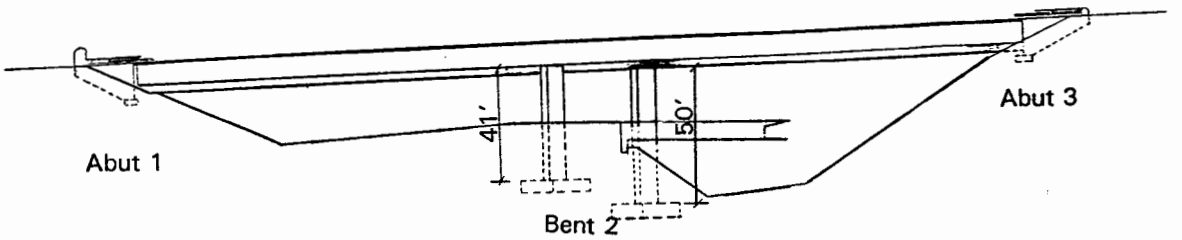
(CSMIP Station 23542)

RECORD 23542-E0557-94018.08

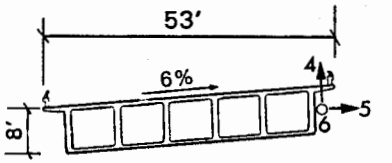


Devore - I15/215 Interchange Bridge
(CSMIP Station No. 23650)

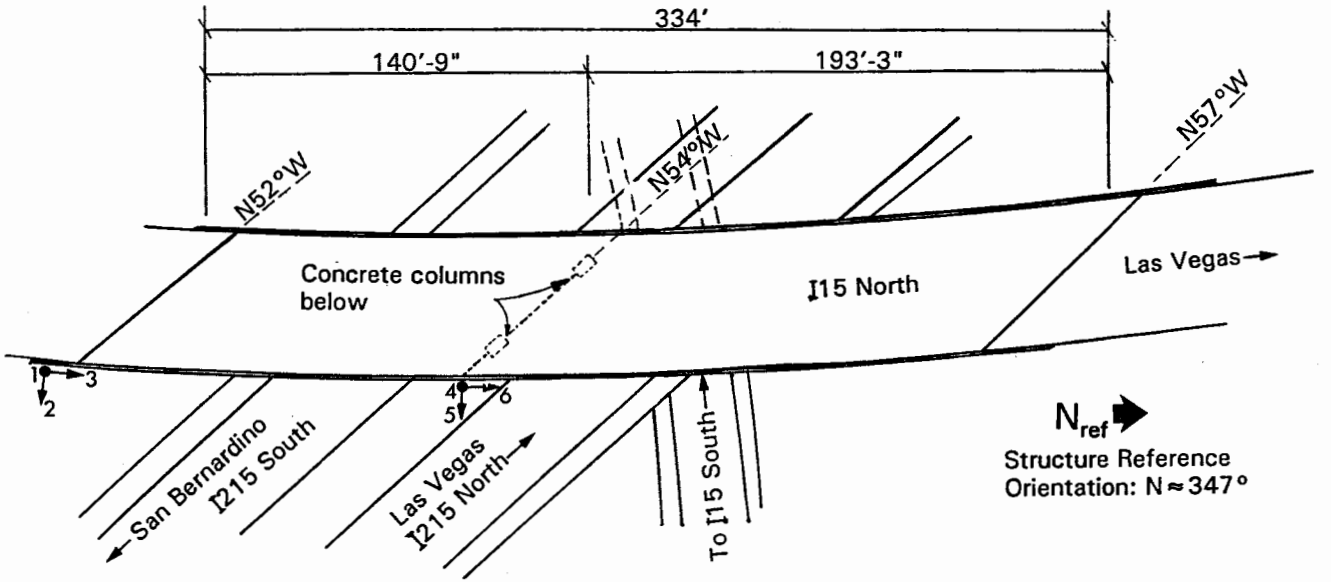
SENSOR LOCATIONS



East Elevation



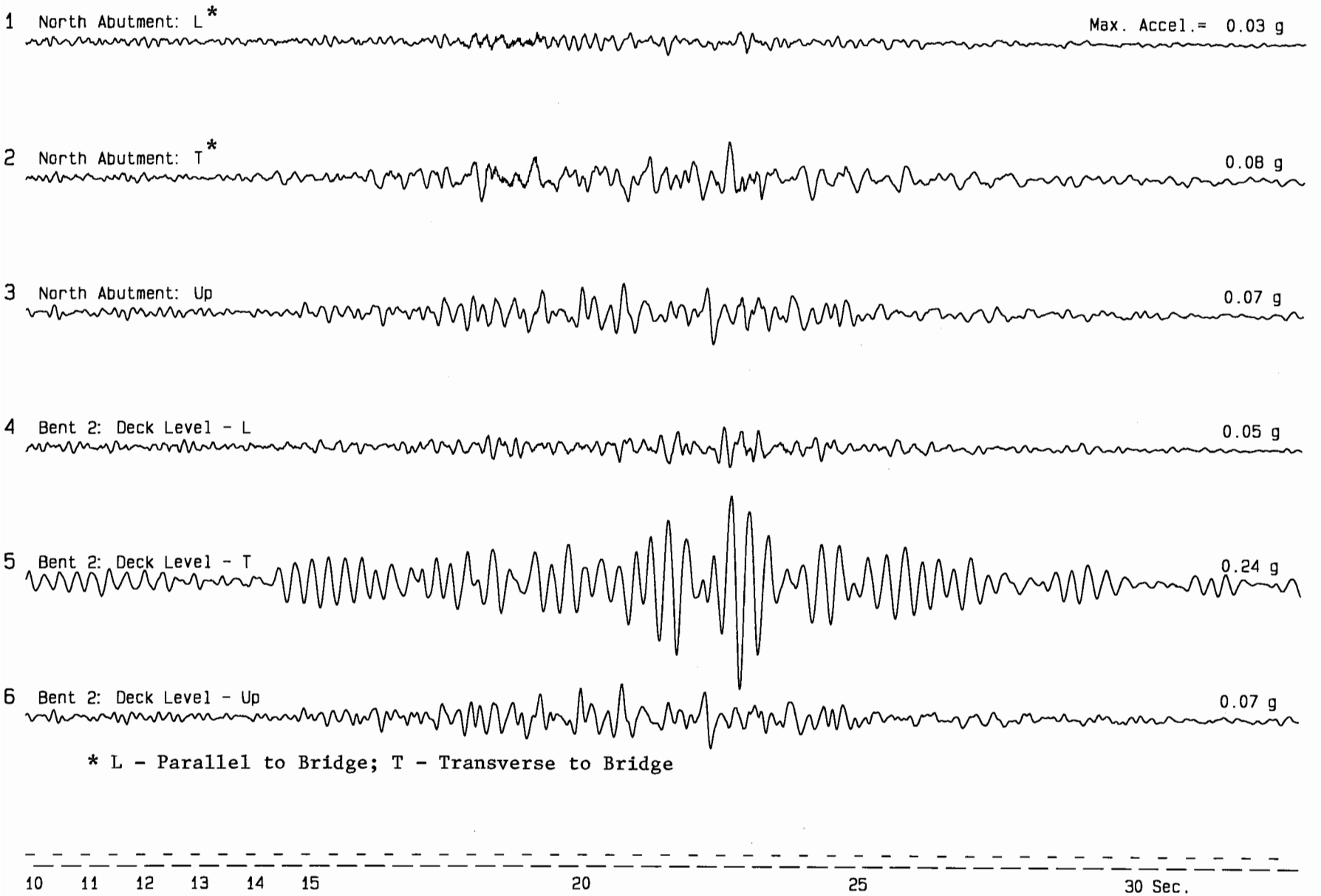
W/E Section of Deck



Plan

Devore - I15/215 Interchange Bridge
(CSMIP Station 23650)

RECORD 23650-CS135-94021.04

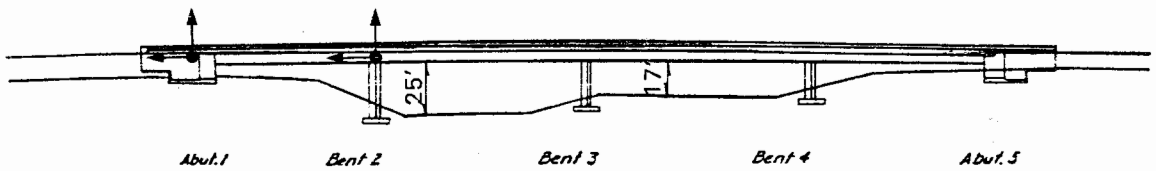


* L - Parallel to Bridge; T - Transverse to Bridge

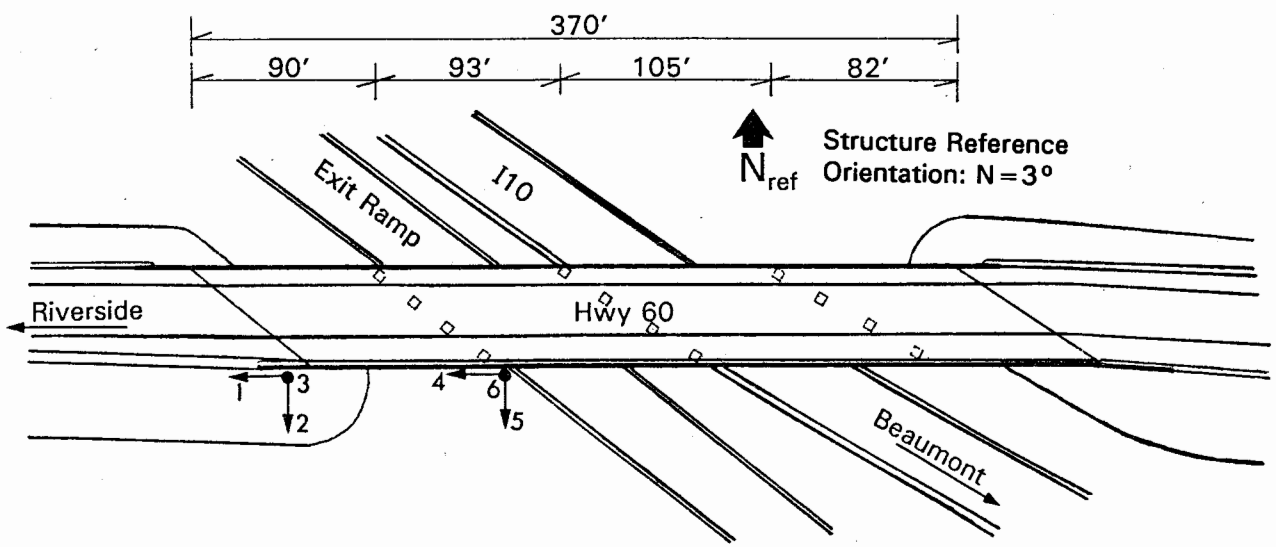
This page plotted with 4.x vertical exaggeration.

Beaumont - I10/60 Interchange Bridge
(CSMIP Station No. 12649)

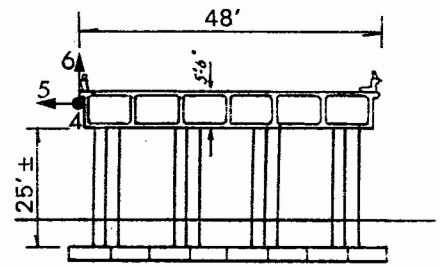
SENSOR LOCATIONS



Elevation



Plan

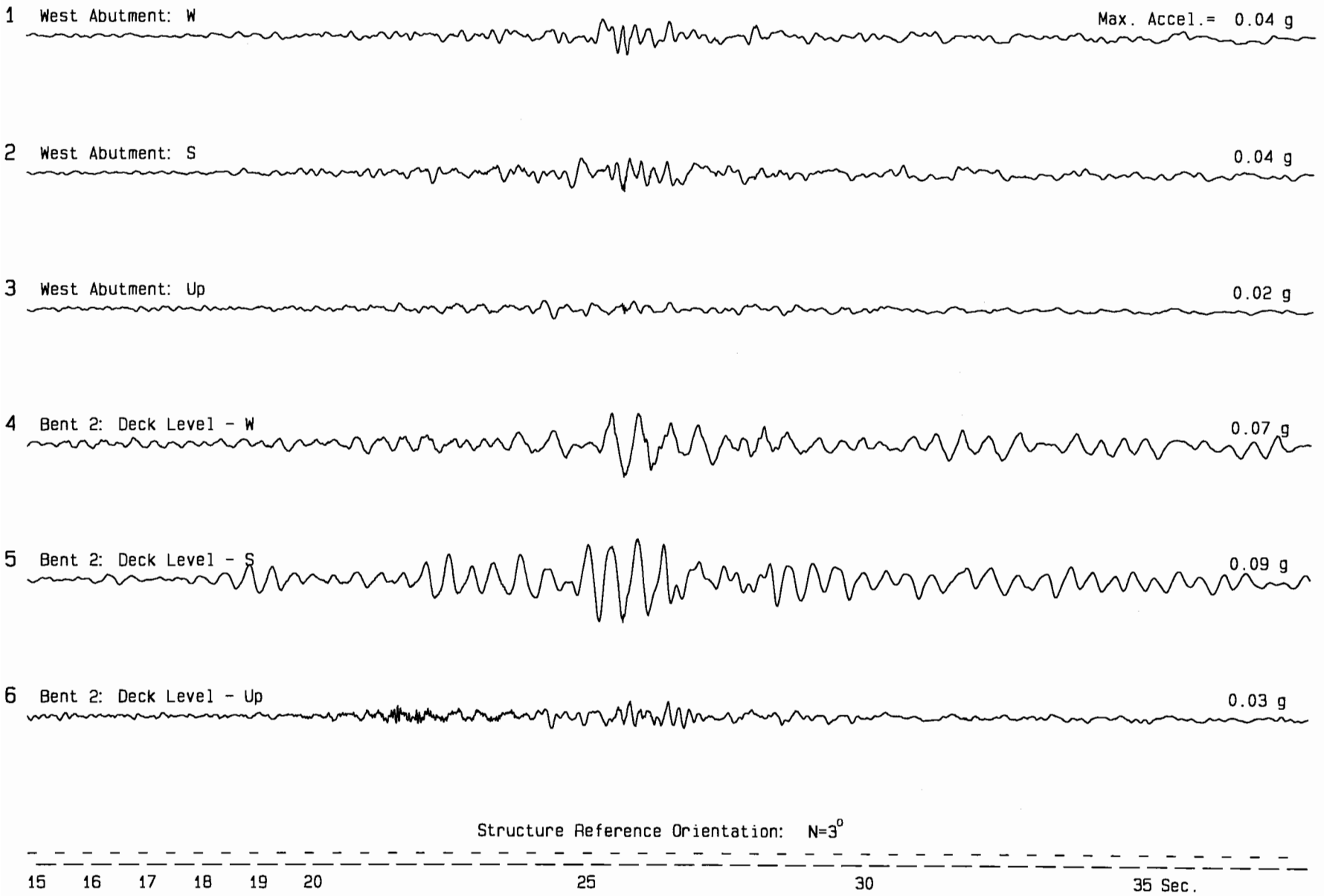


S/N Section at Bent 2

Beaumont - I10/60 Interchange Bridge

(CSMIP Station 12649)

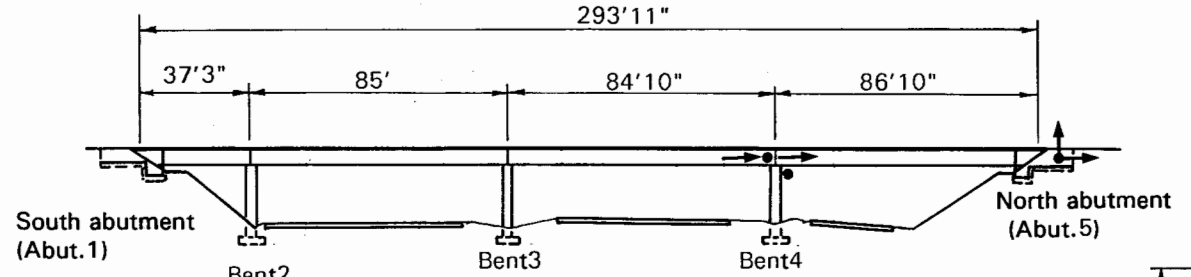
RECORD 12649-CS134-94021.02



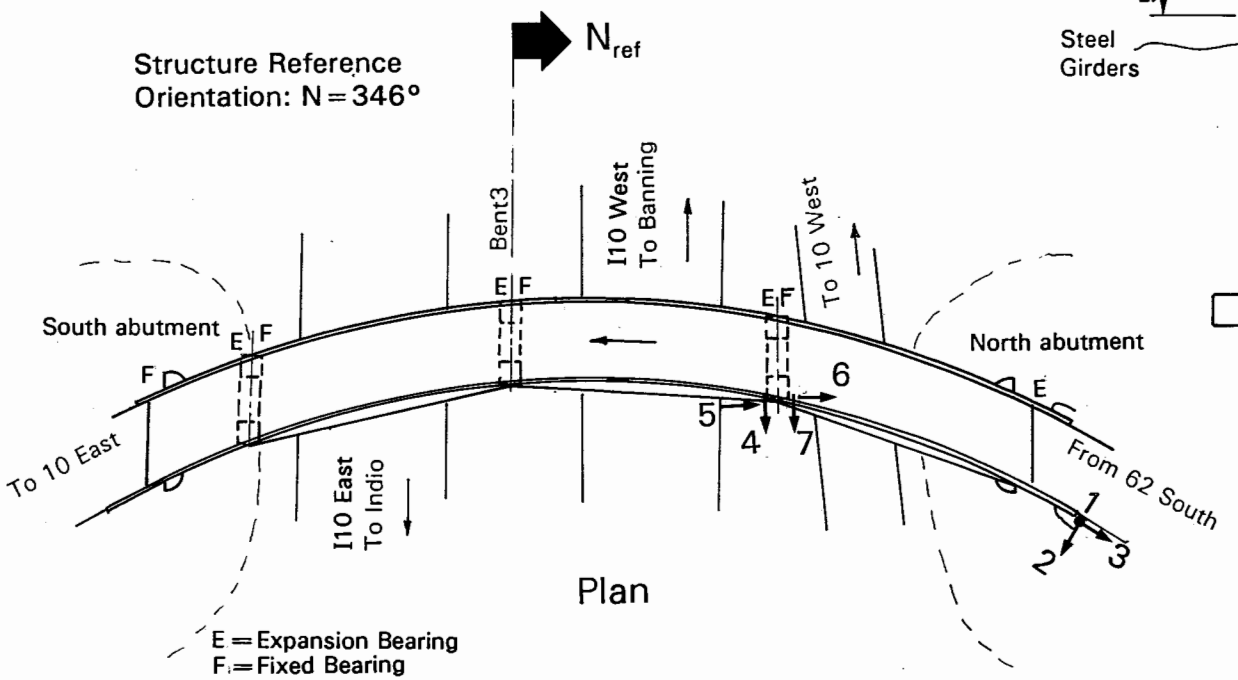
This page plotted with 4.0x vertical exaggeration.

North Palm Springs - I10/62 Interchange Bridge
(CSMIP Station No. 12666)

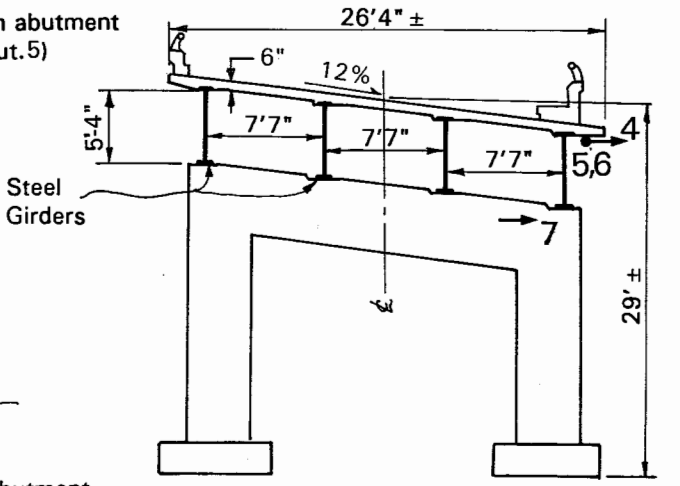
SENSOR LOCATIONS



Elevation



Plan



W/E Section @ Bent 4

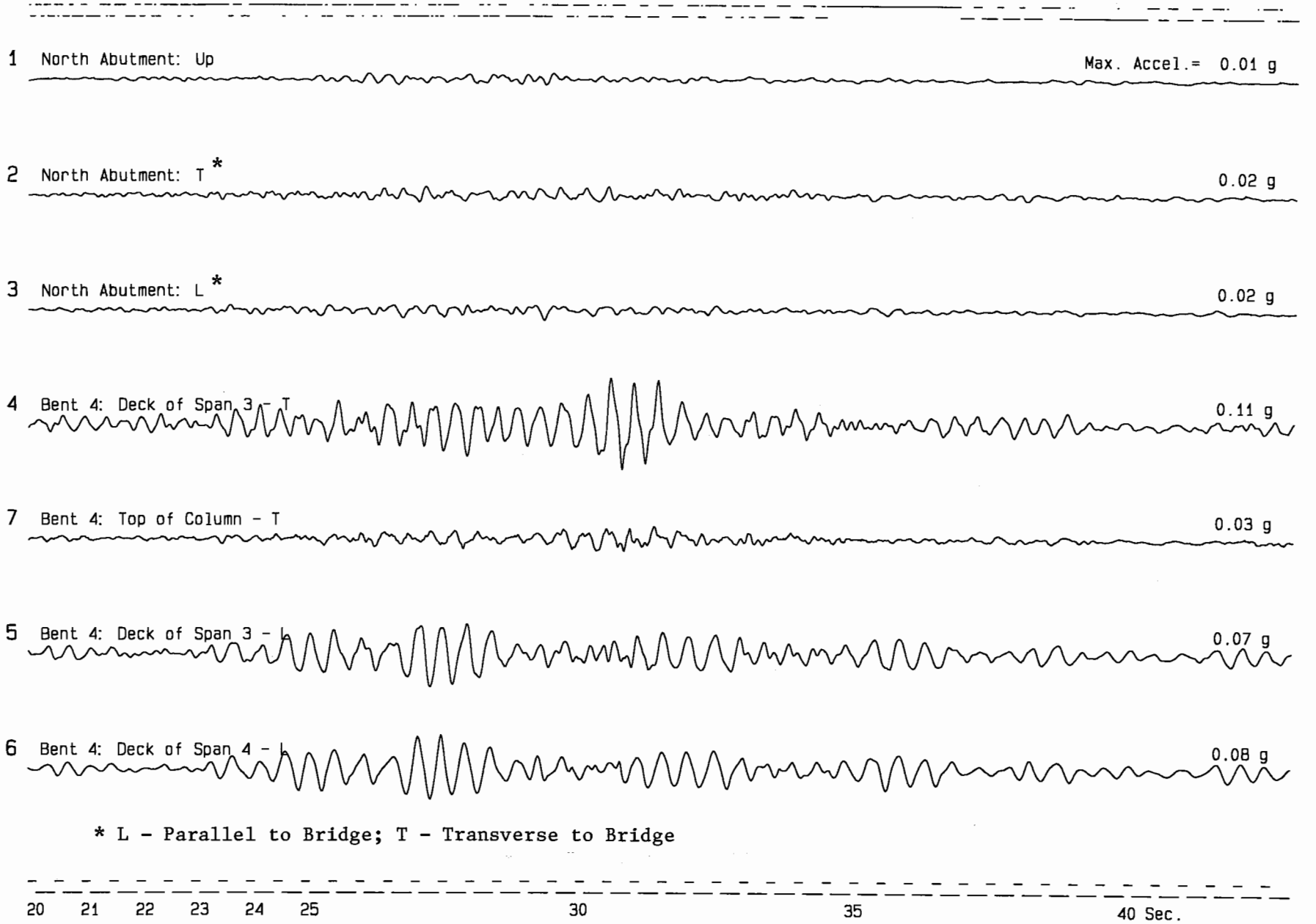
Sensors 4 & 5 mounted on span 3
Sensor 6 mounted on span 4

6/30/93

North Palm Springs - I10/62 Interchange Bridge

(CSMIP Station 12666)

RECORD 12666-CS137-94021.05



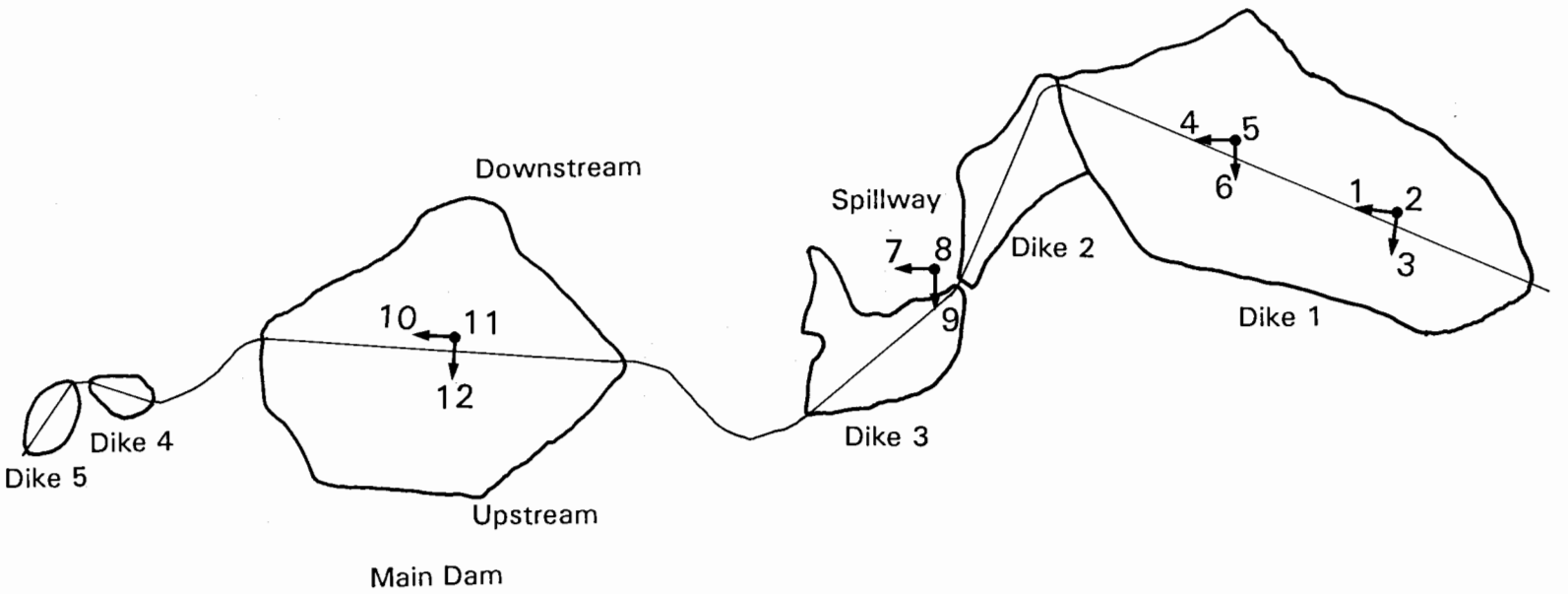
* L - Parallel to Bridge; T - Transverse to Bridge

This page plotted with 4.x vertical exaggeration.

Wood Ranch Reservoir - Main Dam and Dikes

(CSMIP Station No. 24251)

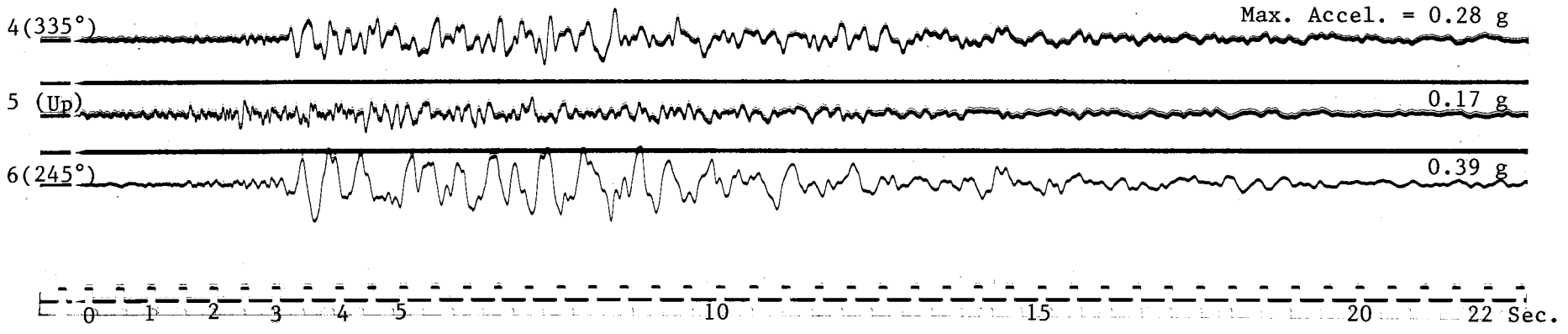
SENSOR LOCATIONS



Structure Reference
Orientation: N = 65°

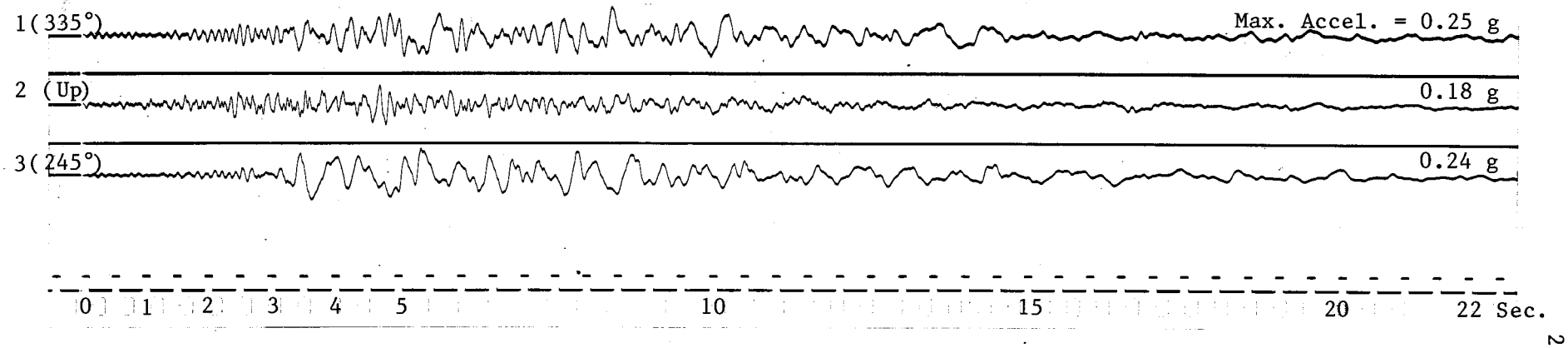
Wood Ranch Reservoir - Main Dam and Dikes
(CSMIP Station 24251) Record 24251-S2573-94020.02

Dike 1: Right Crest



Wood Ranch Reservoir - Main Dam and Dikes
(CSMIP Station 24251) Record 24251-S2574-94020.02

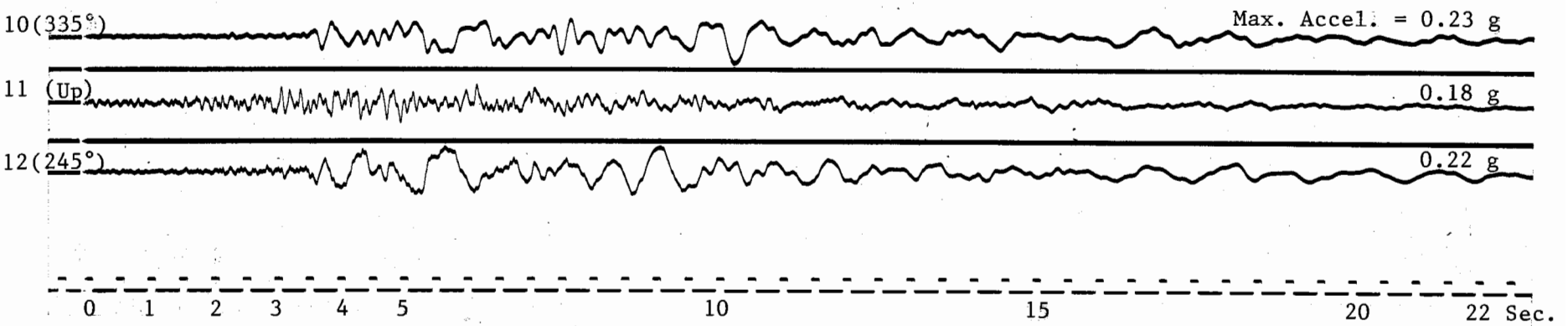
Dike 1: Left Crest



Wood Ranch Reservoir - Main Dam and Dikes
(CSMIP Station 24251)

Record 24251-S2586-94020.02

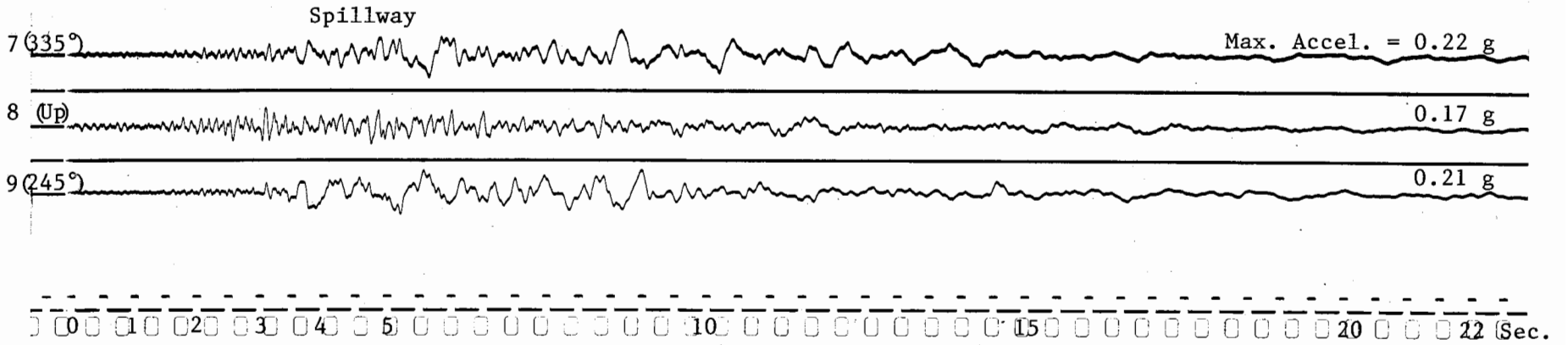
Main Dam: Center Crest



Wood Ranch Reservoir - Main Dam and Dikes
(CSMIP Station 24251)

Record 24251-S2457-94020.02

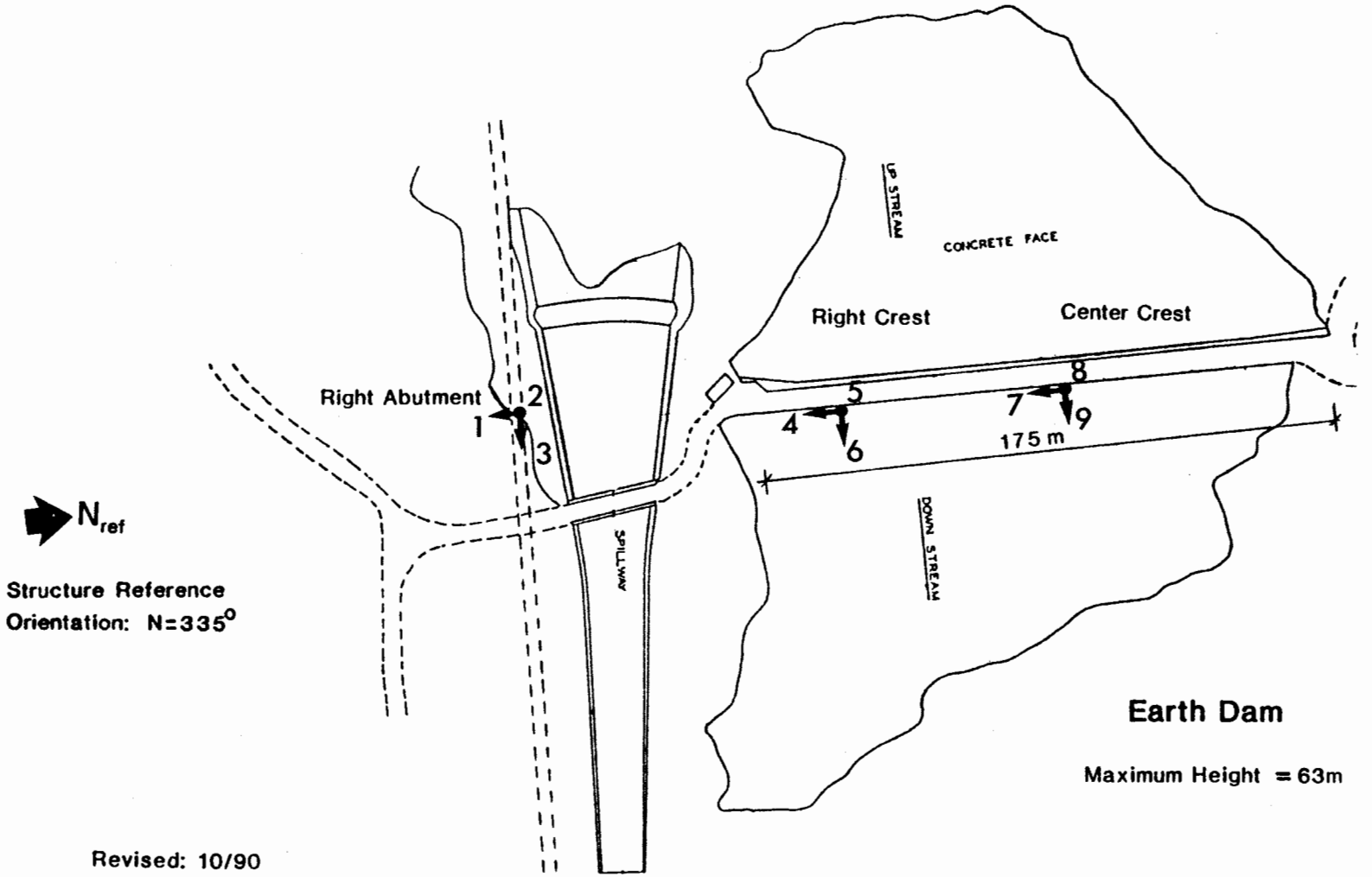
Spillway



Cogswell Reservoir – Cogswell Dam

(CSMIP Station No. 23210)

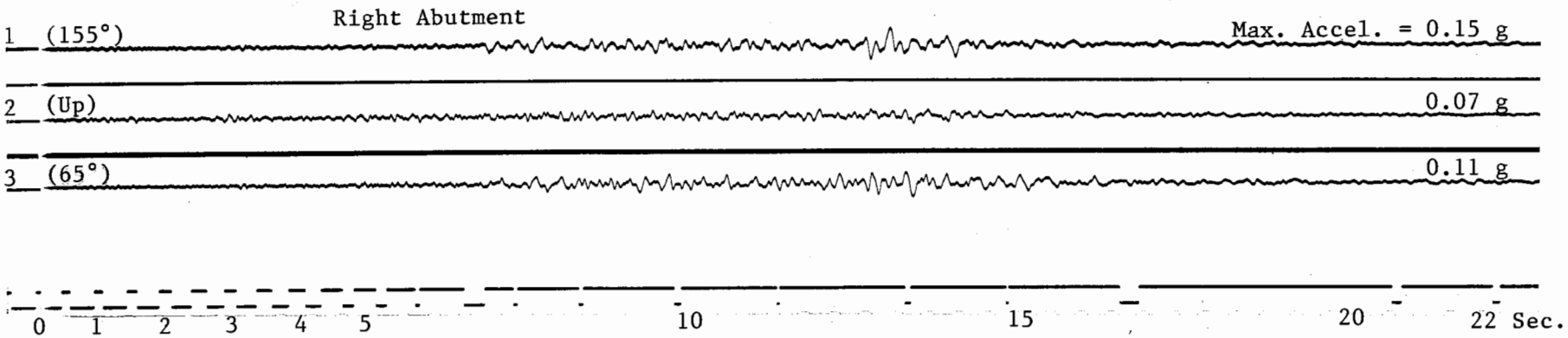
SENSOR LOCATIONS



Revised: 10/90

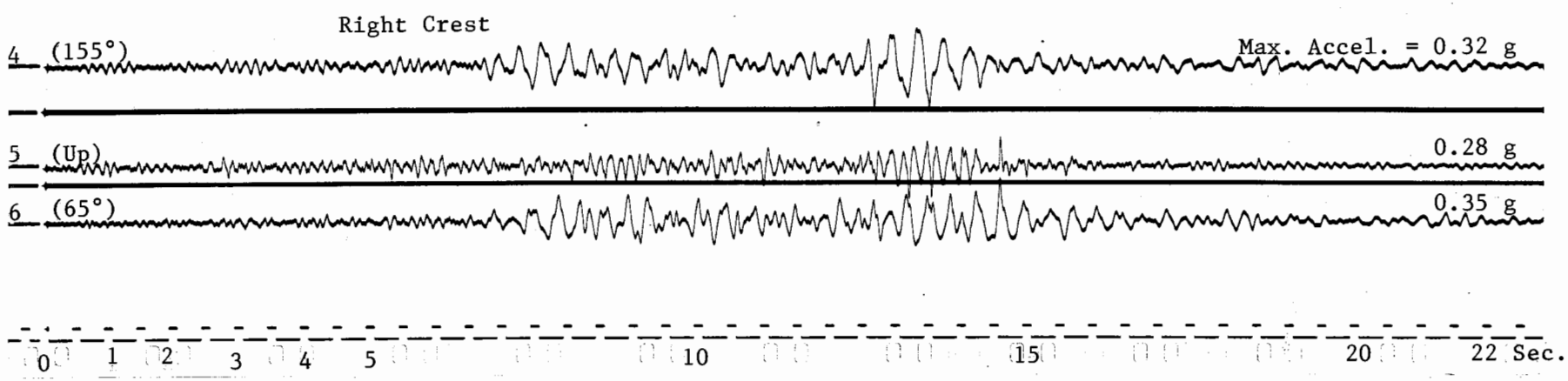
Cogswell Reservoir - Cogswell Dam
(CSMIP Station 23210)

Record 23210-S1867-94020.02



Cogswell Reservoir - Cogswell Dam
(CSMIP Station 23210)

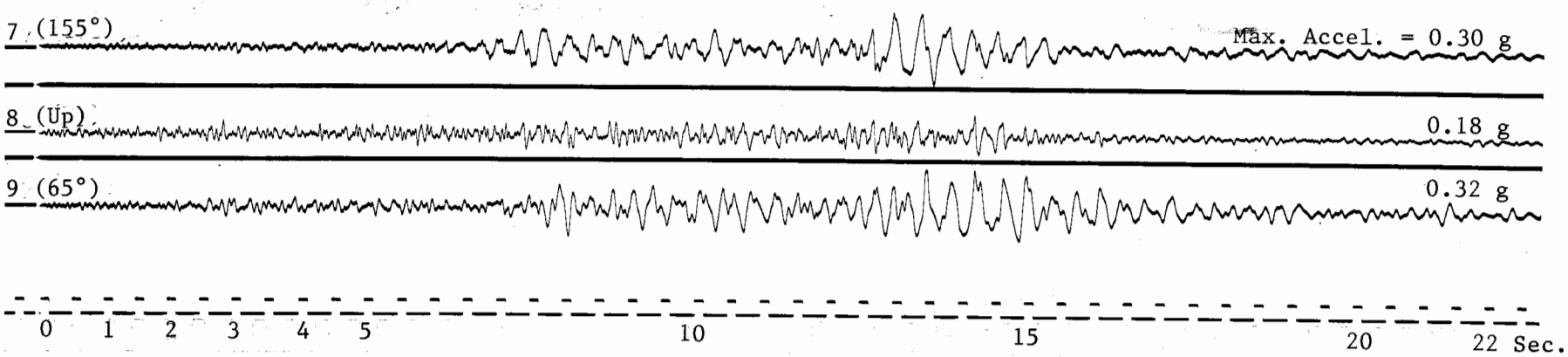
Record 23210-S1680-94020.02



Cogswell Reservoir - Cogswell Dam
(CSMIP Station 23210)

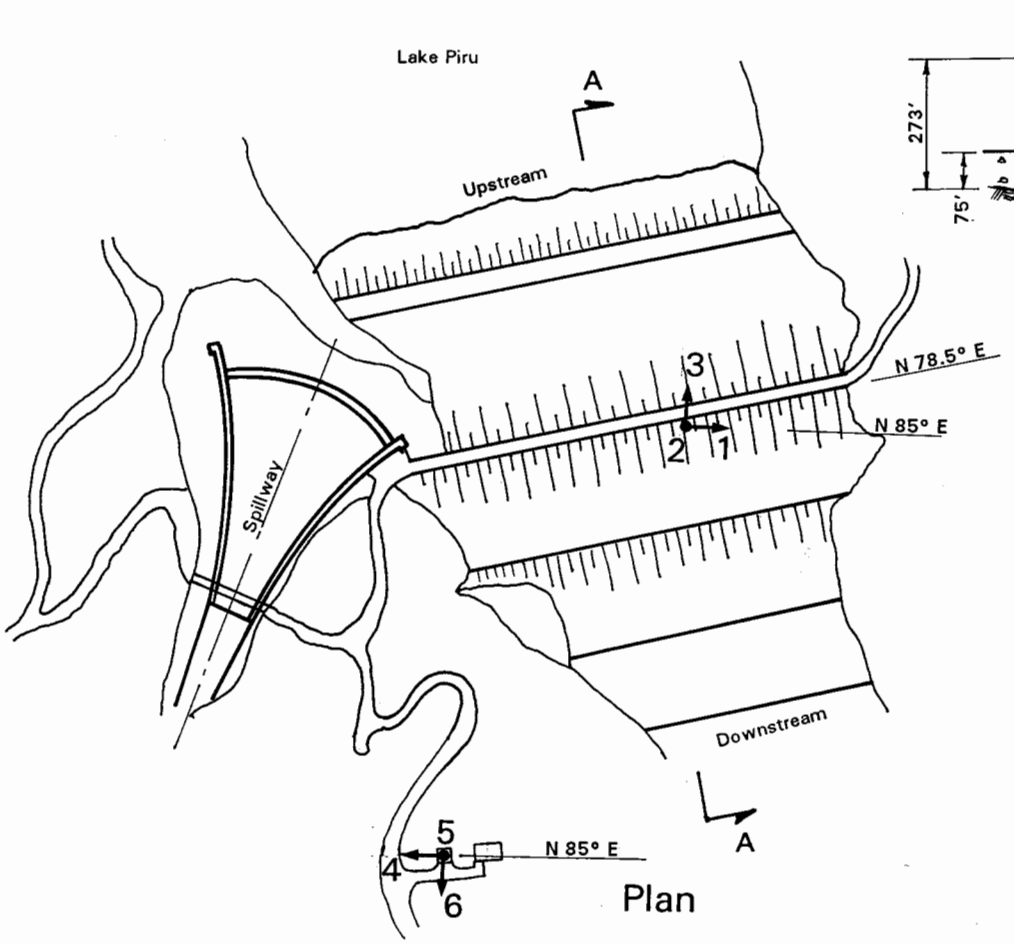
Record 23210-S1713-94020.02

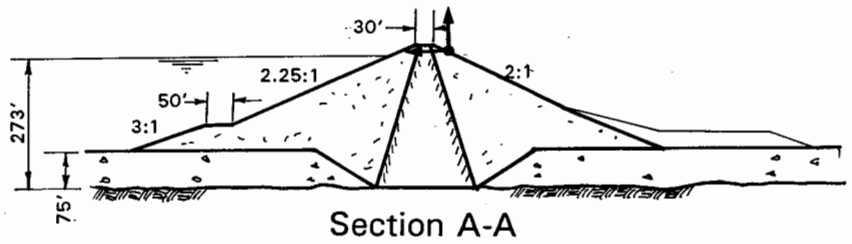
Center Crest



Lake Piru - Santa Felicia Dam
(CSMIP Station No. 24280)

SENSOR LOCATIONS

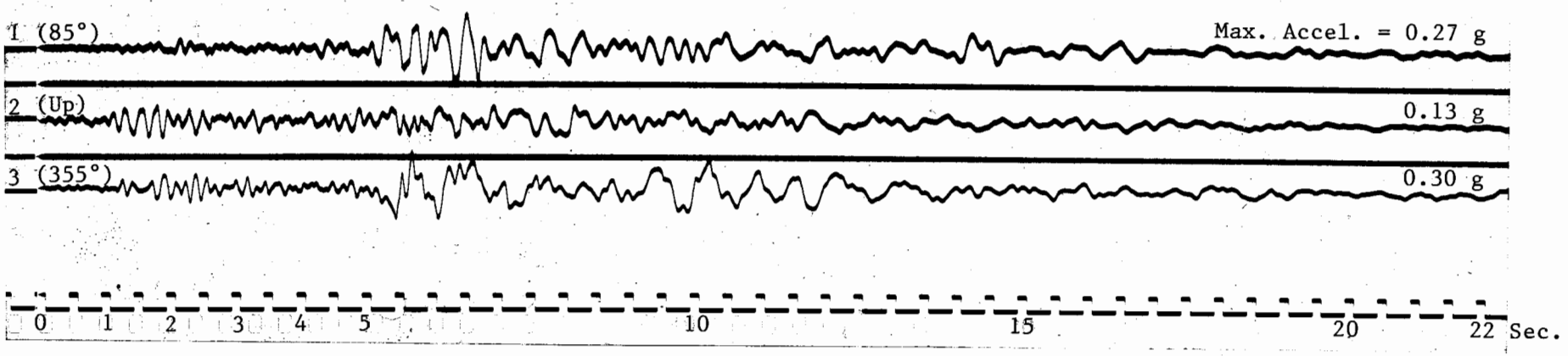




Lake Piru - Santa Felicia Dam
(CSMIP Station 24280)

Record 24280-S6224-94025.02

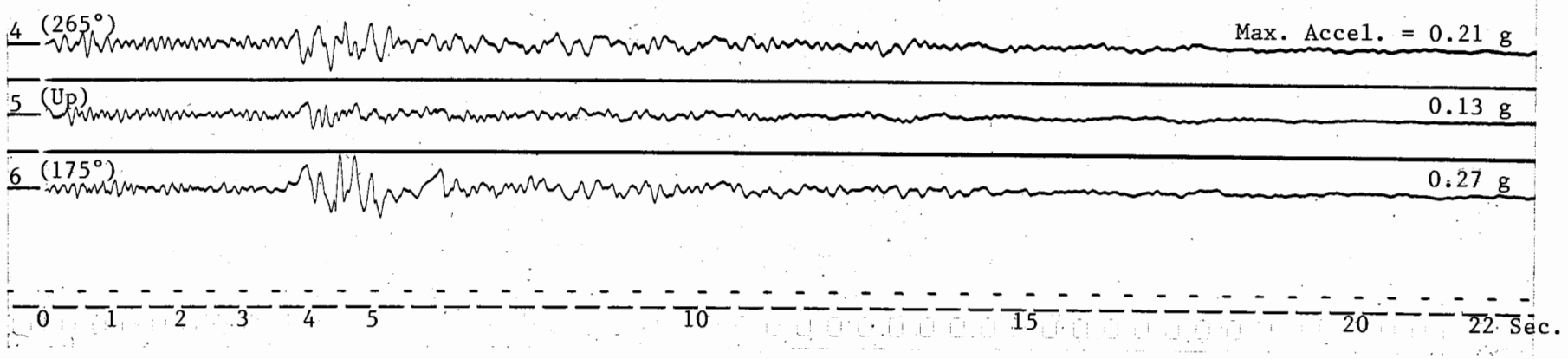
Center Crest



Lake Piru - Santa Felicia Dam
(CSMIP Station 24280)

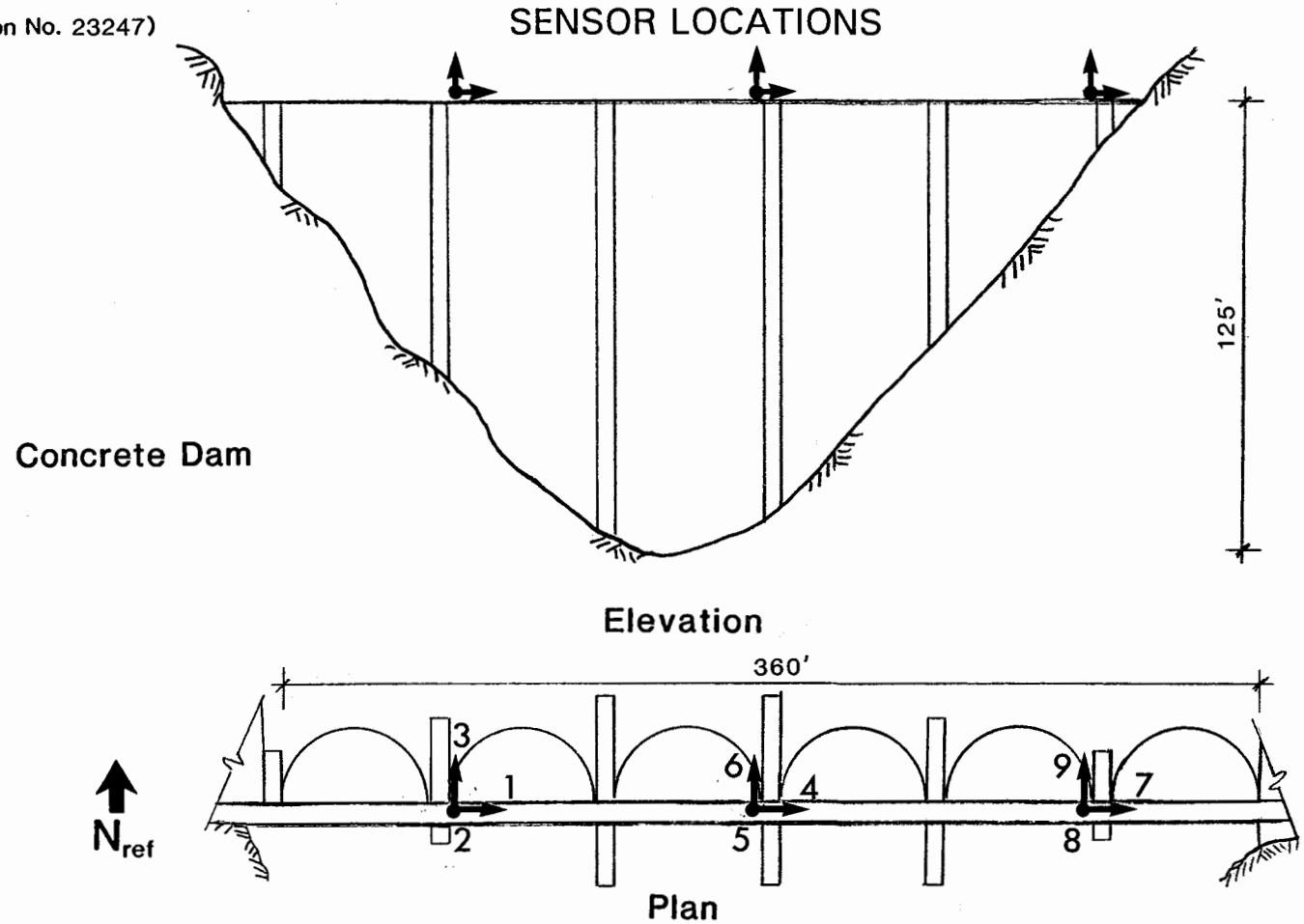
Record 24280-S2510-94025.02

Downstream



Big Dalton Reservoir – Big Dalton Dam

(CSMIP Station No. 23247)

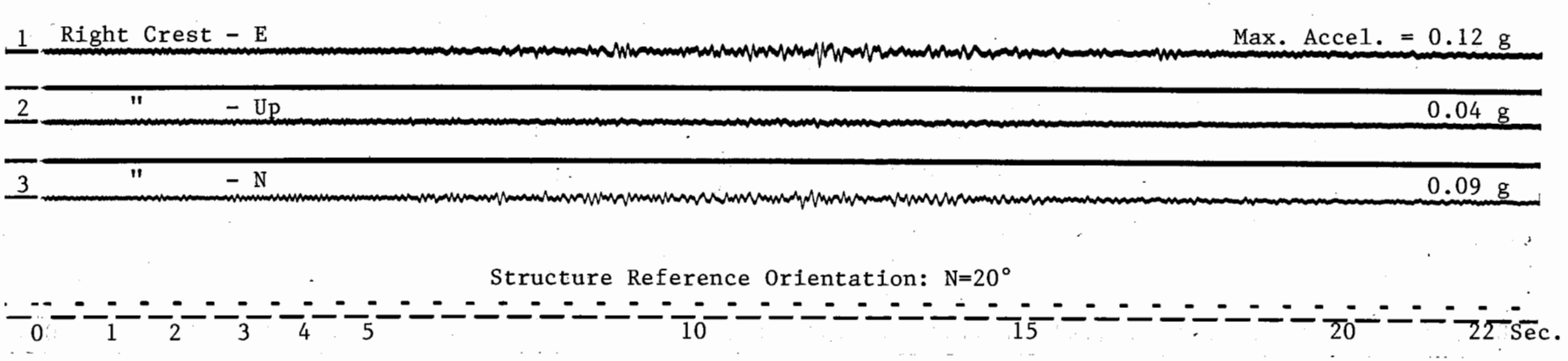


Structure Reference
Orientation: N= 20°

Revised: 7/91

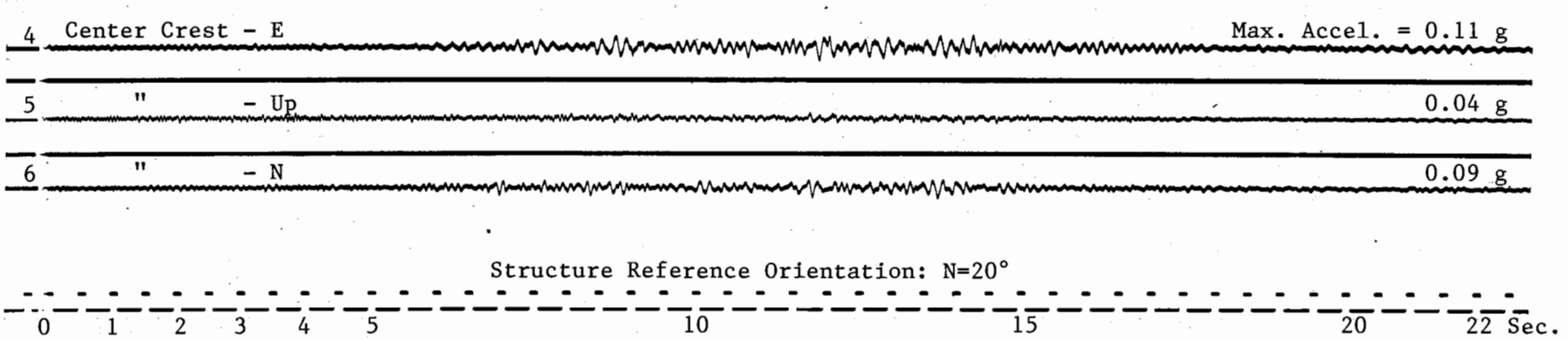
Big Dalton Reservoir - Big Dalton Dam
(CSMIP Station 23247)

Record 23247-S2488-94021.02

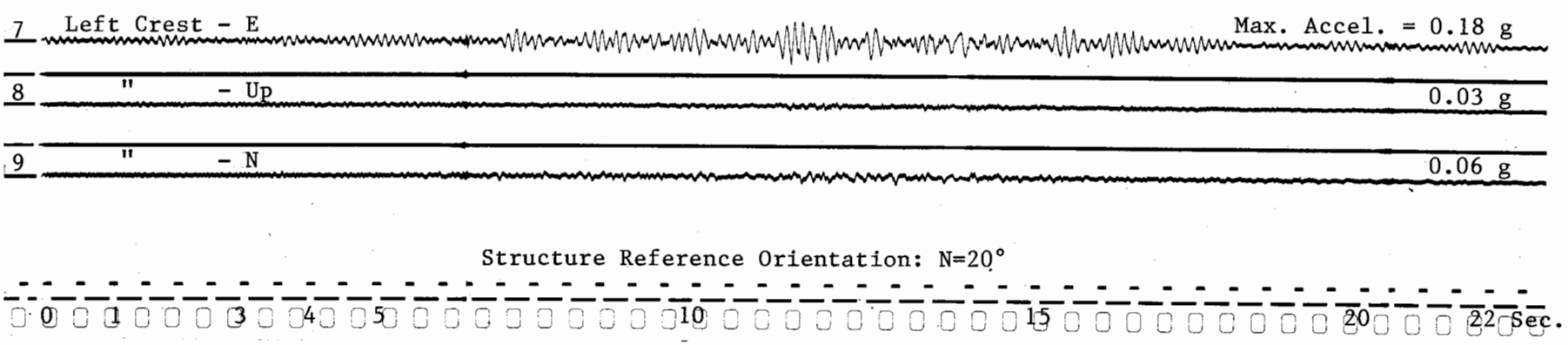


Big Dalton Reservoir - Big Dalton Dam
(CSMIP Station 23247)

Record 23247-S2492-94021.02



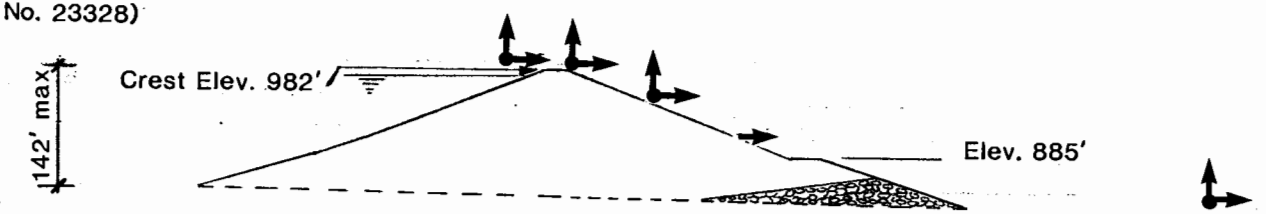
Big Dalton Reservoir - Big Dalton Dam
(CSMIP Station 23247) Record 23247-S-1575-94021.02



Structure Reference Orientation: N=20°

Puddingstone Reservoir – Puddingstone Dam

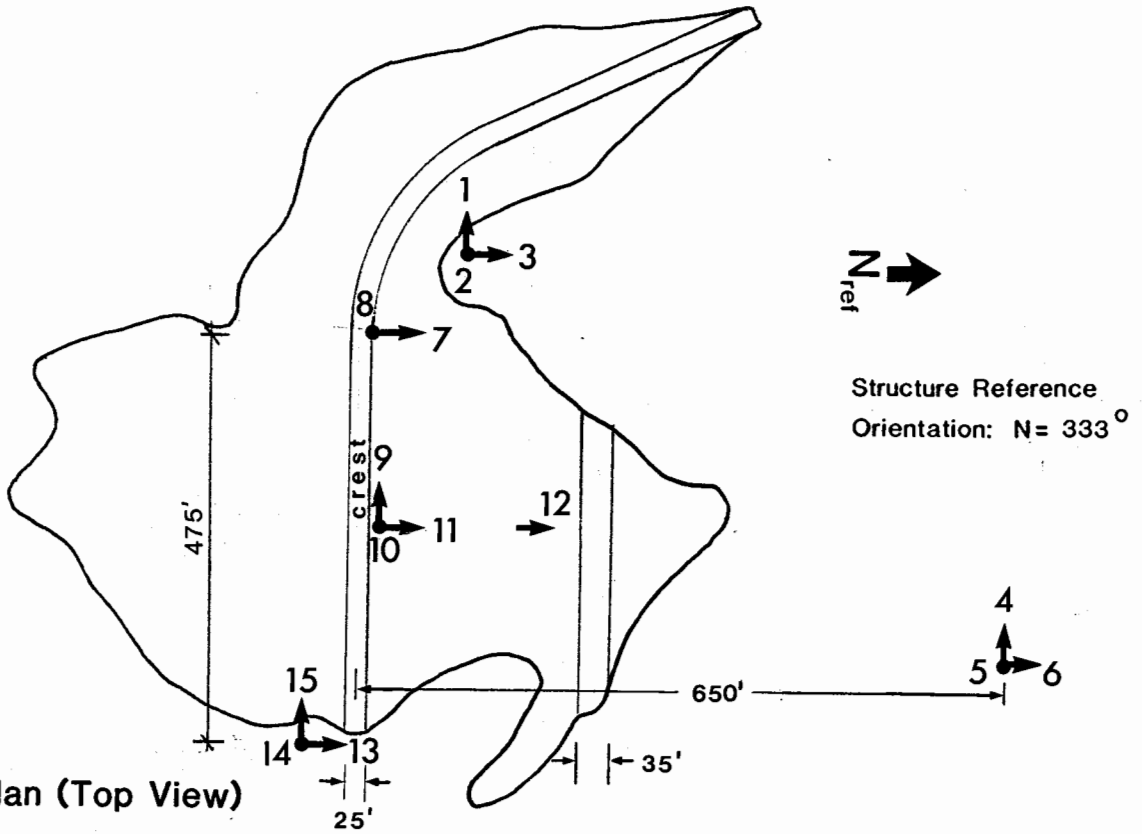
(CSMIP Station No. 23328)



S/N Section

SENSOR LAYOUT

Earth Dam

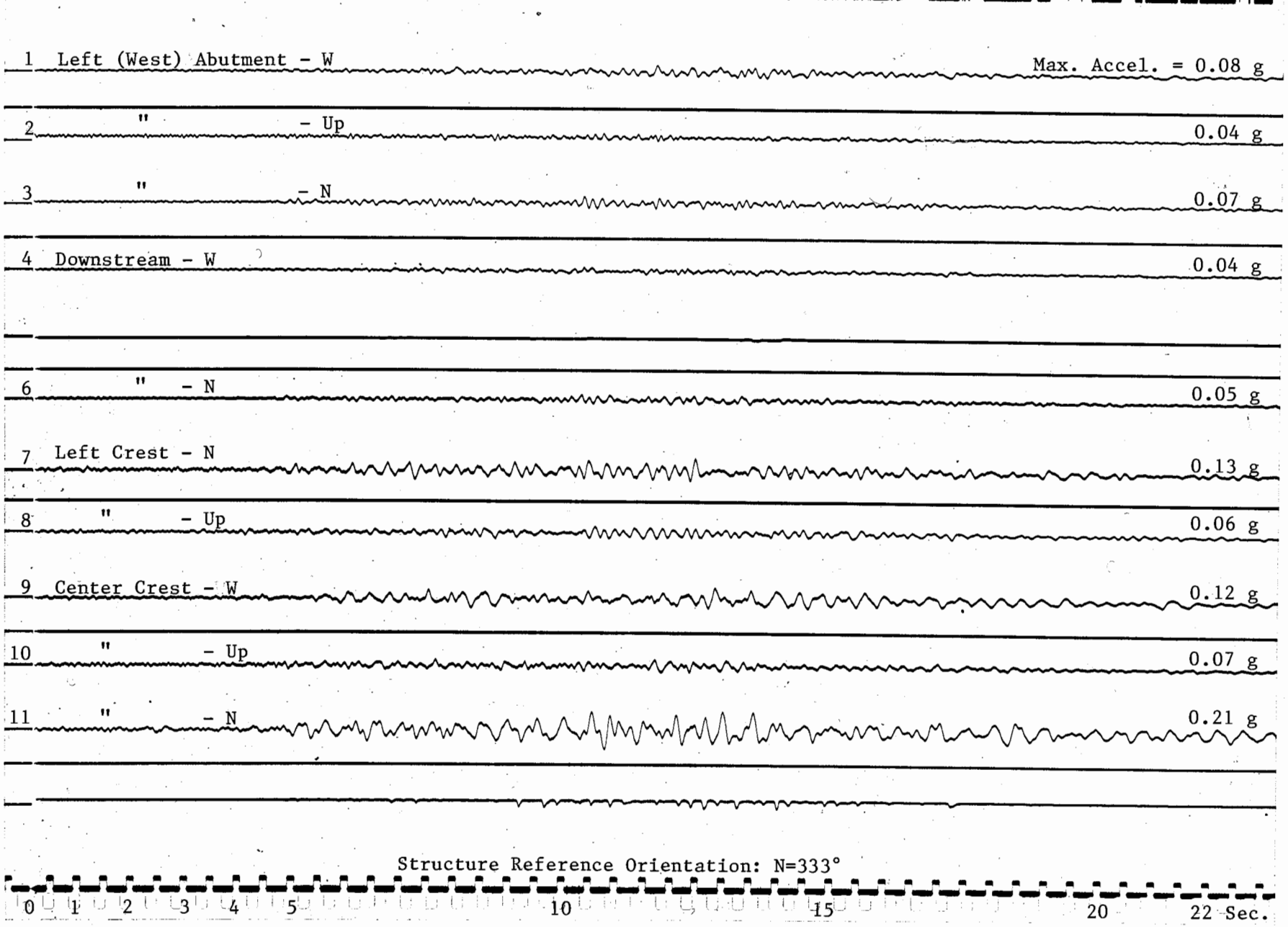


Structure Reference
Orientation: N= 333°

Plan (Top View)

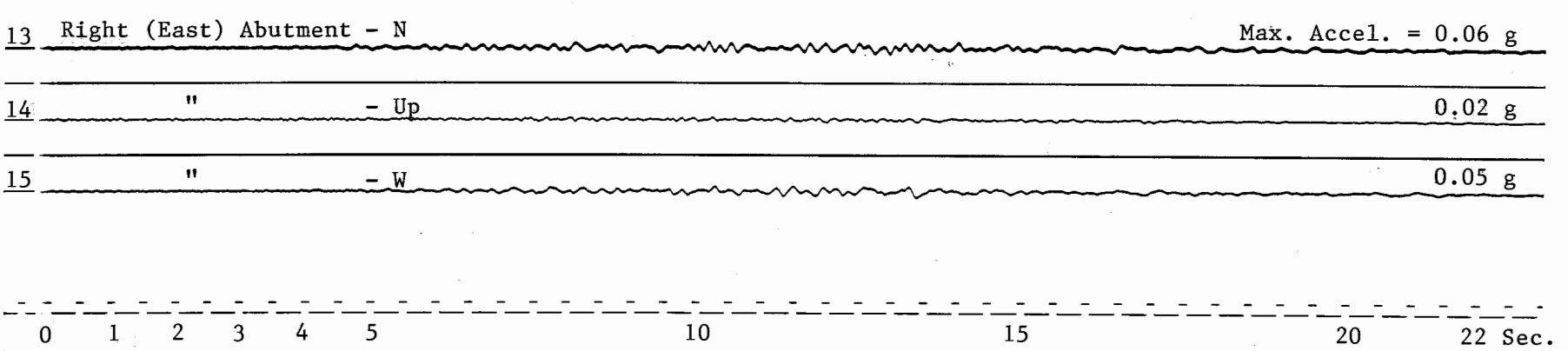
Puddingstone Reservoir - Puddingstone Dam
(CSMIP Station 23328)

Record 23328-C0172-94031.02



Puddingstone Reservoir - Puddingstone Dam
(CSMIP Station 23328)

Record 23328-S2513-94031.02

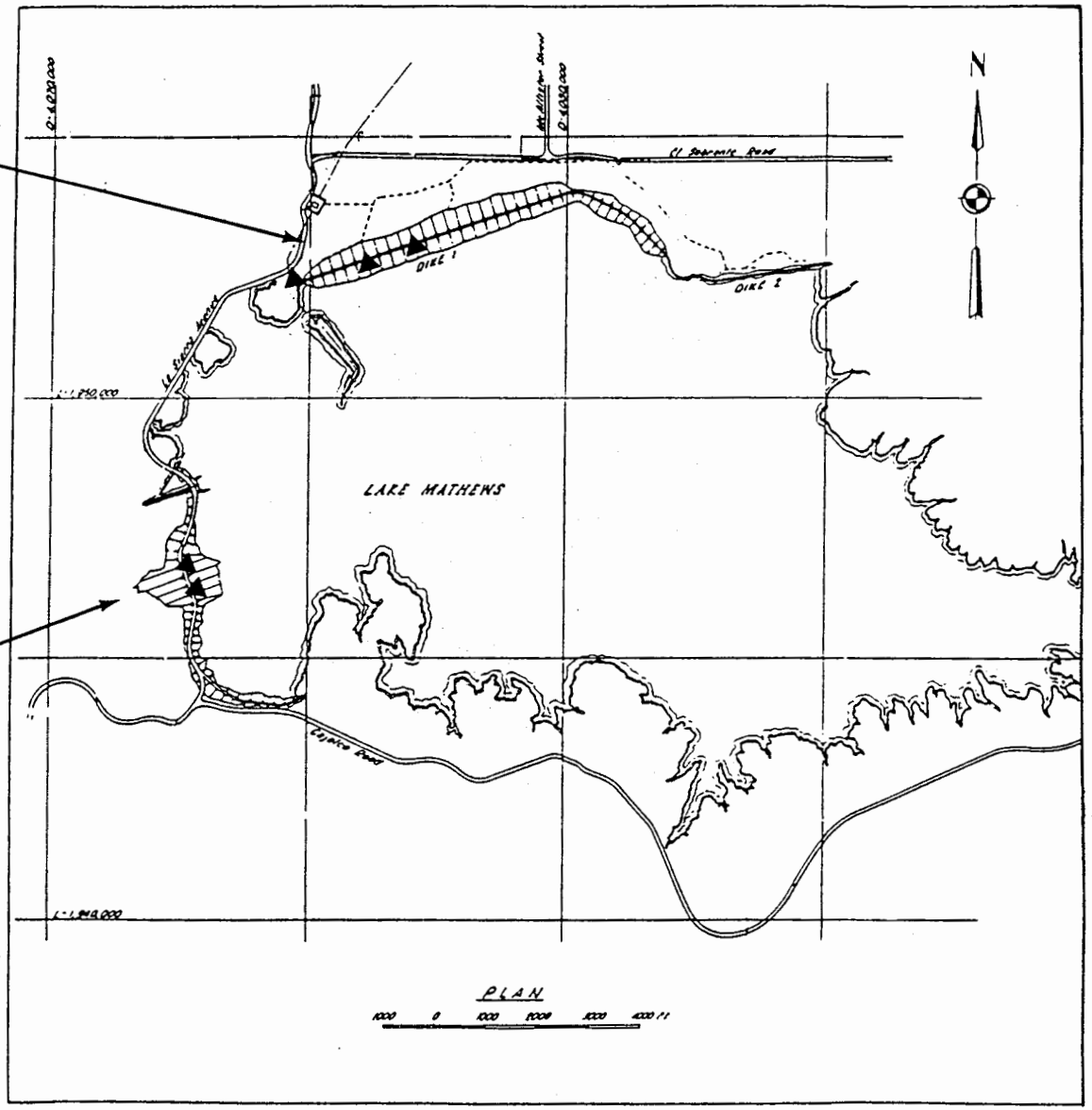


Lake Mathews – Main Dam and Dike 1

Lake Mathews - Dike 1
(CSMIP Station No. 13326)
3 triaxial accelerographs
Earthen dike, crest length
approximately 5700 feet,
height approx. 120 feet

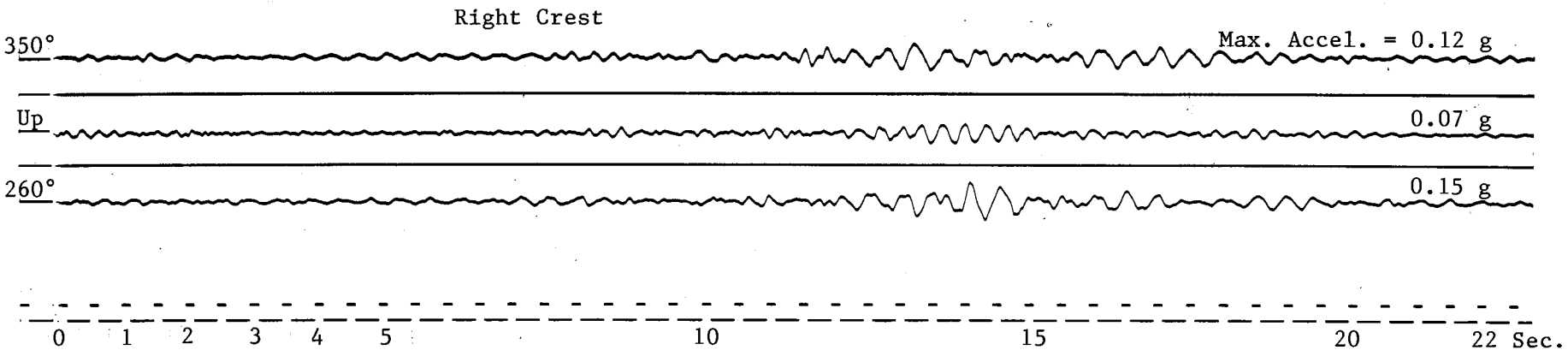
Lake Mathews - Main Dam
(CSMIP Station No. 13313)
2 triaxial accelerographs
Earthen dam, crest length
approximately 1000 feet,
height approx. 200 feet

▲ - locations of triaxial
accelerographs



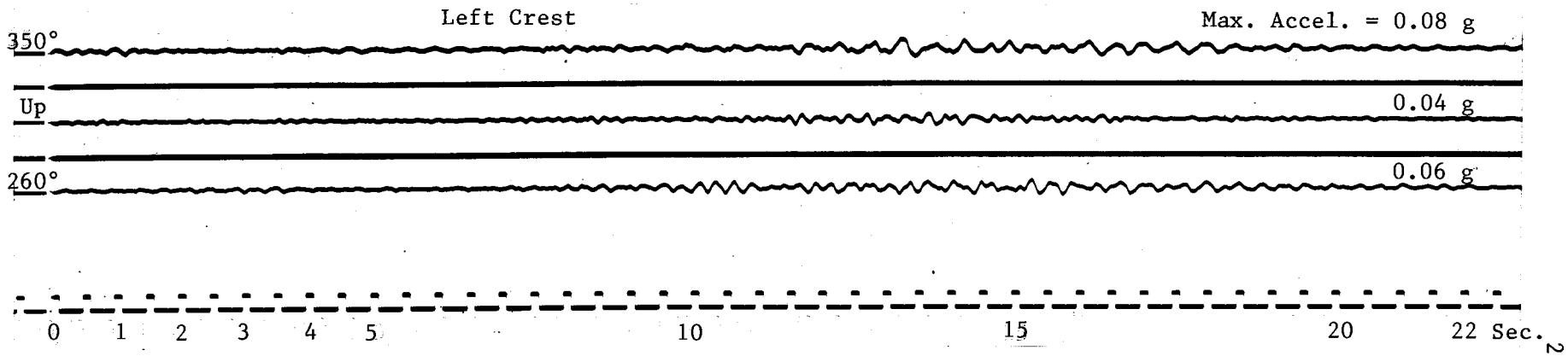
Lake Mathews - Main Dam
(CSMIP Station 13313)

Record 13313-S1578-94032.02



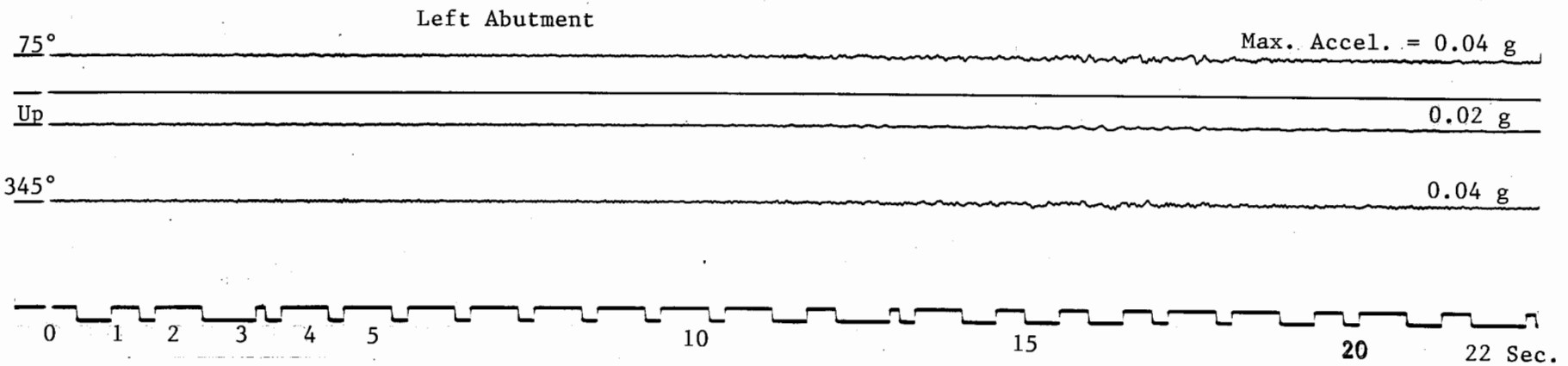
Lake Mathews - Main Dam
(CSMIP Station 13313)

Record 13313-S2566-94032.02



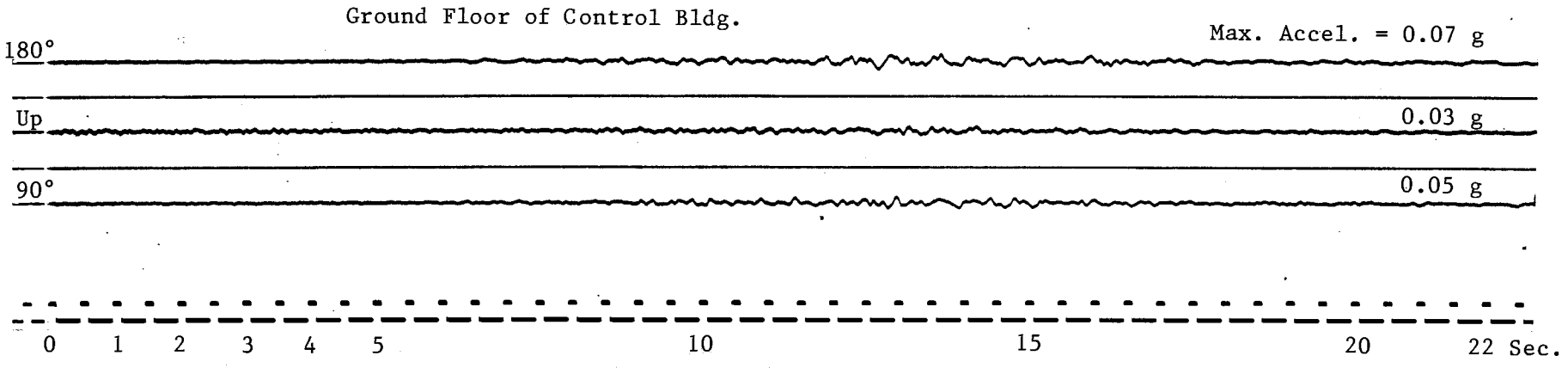
Lake Mathews - Dike 1
(CSMIP Station 13326)

Record 13326-R0470-94032.02



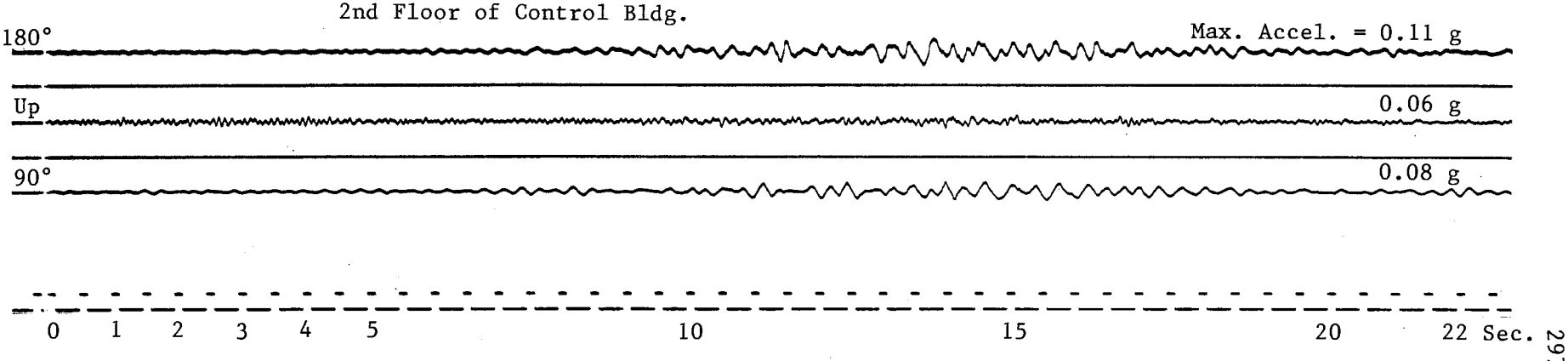
Etiwanda - Power Plant
(CSMIP Station 23466)

Record 23466-S3494-94024.02



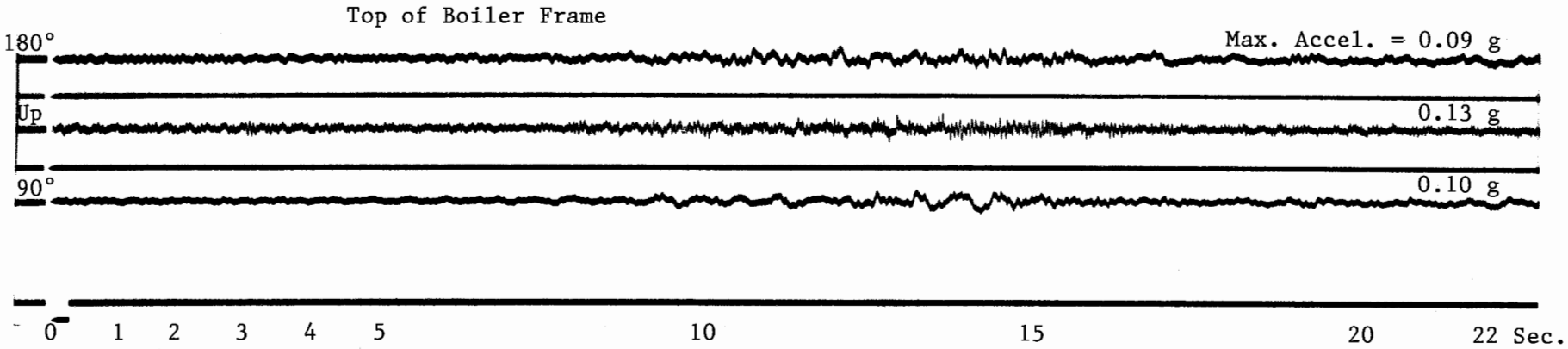
Etiwanda - Power Plant
(CSMIP Station 23466)

Record 23466-S3497-94024.07



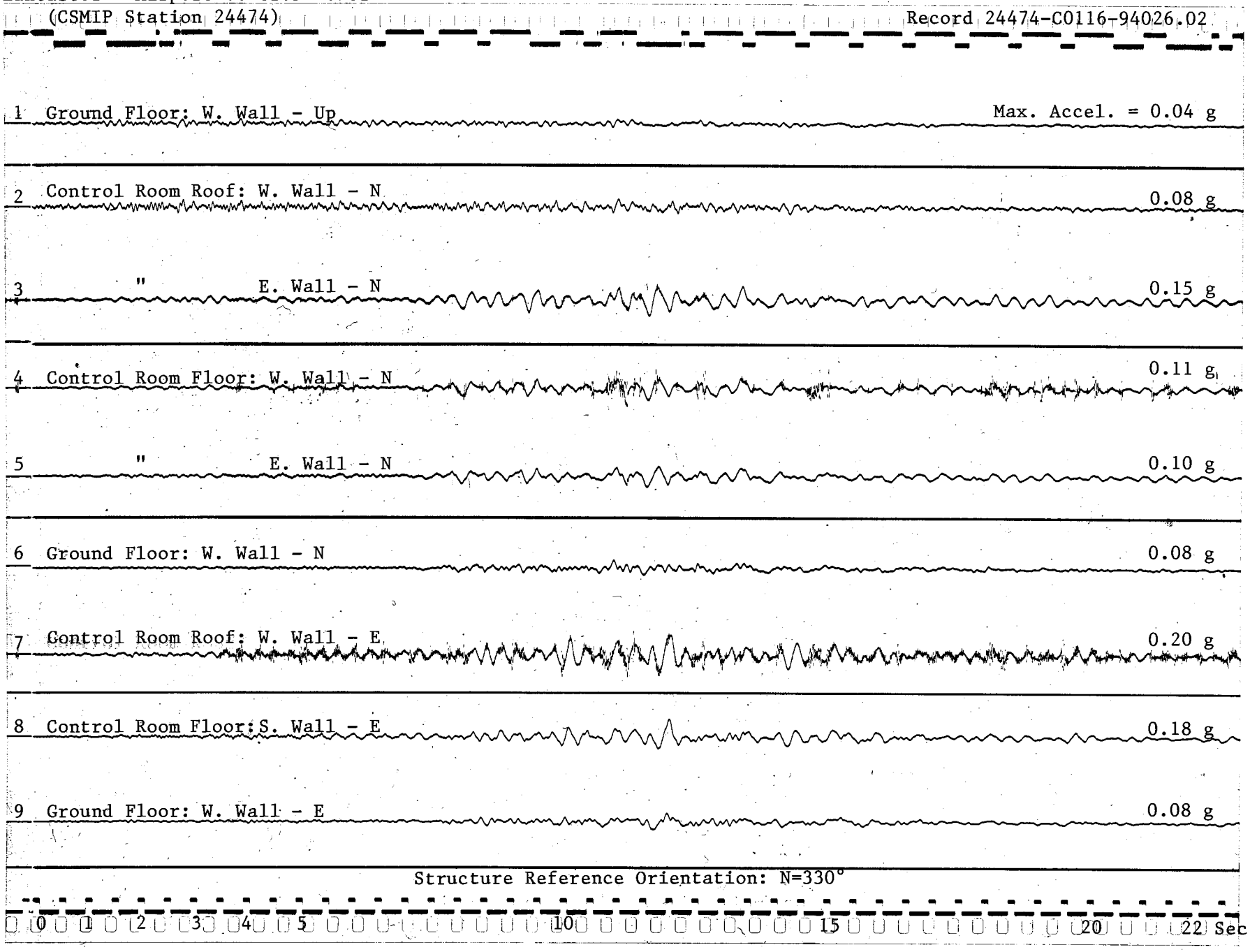
Etiwanda - Power Plant
(CSMIP Station 23466)

Record 23466-S3499-94024.16



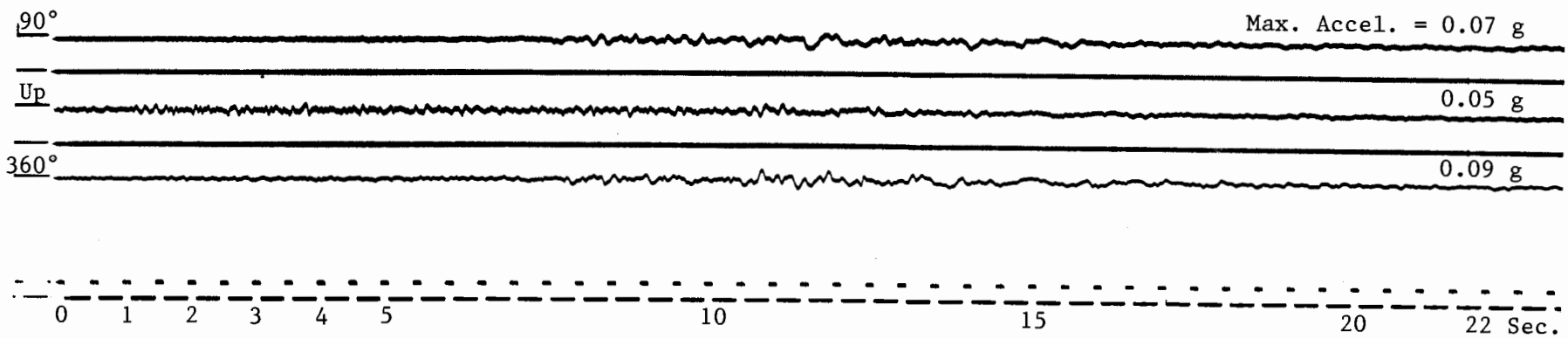
Lancaster - Airport Control Tower

(CSMIP Station 24474) Record 24474-C0116-94026.02



Lancaster - Fox Airfield Grounds
(CSMIP Station 24475)

Record 24475-S4819-94026.02



LIST OF CSMIP REPORTS AND DATA TAPES

California Department of Conservation
Division of Mines and Geology
Office of Strong Motion Studies
California Strong Motion Instrumentation Program (CSMIP)

AVAILABLE REPORTS:

Title	Number
I. Earthquake Data Reports:	
CSMIP Strong-Motion Records from the Big Bear, California Earthquakes of June 28, 1992	OSMS 92-10
CSMIP Strong-Motion Records from the Landers, California Earthquakes of June 28, 1992	OSMS 92-09
CSMIP Strong-Motion Records from the Petrolia, California Earthquakes of April 25-26, 1992	OSMS 92-05
Quick Report on CSMIP Strong-Motion Records from the April 22, 1992 Desert Hot Springs, California Earthquake	OSMS 92-03
Summary of CSMIP Strong-Motion Records for the August 17, 1991 Earthquake near Petrolia, California	OSMS 91-09
CSMIP Strong-Motion Records from the Sierra Madre, California Earthquake of 28 June 1991	OSMS 91-03
Quick Report on CSMIP Strong-Motion Records for the February 28, 1990 Earthquake near Upland, California	OSMS 90-02
CSMIP Strong-Motion Records from the Santa Cruz Mountains (Loma Prieta), California Earthquake of 17 October 1989	OSMS 89-06
CSMIP Strong-Motion Records from the Superstition Hills, Imperial County, California Earthquakes of 23 and 24 November 1987	OSMS 87-06
CSMIP Strong-Motion Records from the Whittier, California Earthquake of 1 October 1987	OSMS 87-05
CSMIP Strong-Motion Records from the Chalfant Valley, California Earthquakes of July and August 1986	OSMS 86-06
CSMIP Strong-Motion Records from the Palm Springs, California Earthquake of 8 July 1986	OSMS 86-05
Selected Accelerograms from the Redlands, California Earthquake of October 2, 1985	OSMS 85-02
CSMIP Strong-Motion Records from the Bishop, California Earthquake of 23 November 1984	OSMS 84-12

Title	Number
CDMG Strong-Motion Records from the Morgan Hill, California Earthquake of 24 April 1984	OSMS 84-7
Preliminary Summary of CDMG Strong-Motion Records from the 2 May 1983 Coalinga, California Earthquake	OSMS 83-5.2
Strong-Motion Records from the Mammoth Lakes, California Earthquake of 6 January 1983	OSMS 83-1.1
Strong-Motion Records Recovered from the Mammoth Lakes, California Earthquake of 30 September 1981	OSMS 81-10.1
Strong-Motion Records Recovered from the Westmorland, California Earthquake of 25 April 1981	OSMS 81-5.1
Strong-Motion Records Recovered from the Trindad-Offshore, California Earthquake of 8 November 1980	OSMS 80-11.1
Strong-Motion Records from the Livermore Earthquakes of 24 and 26 January 1980	PR 28
Strong-Motion Records from the Mammoth Lakes Earthquakes of May 1980	PR 27
Compilation of Strong-Motion Records and Preliminary Data from the Imperial Valley Earthquake of 15 October 1979	PR 26
Compilation of Strong-Motion Records from the Coyote Lake Earthquake of 6 August 1979	PR 25
Compilation of Strong-Motion Records Recovered from the Bishop, California Earthquake of 4 October 1978	OSMS 78-7.1
Compilation of Strong-Motion Records Recovered from the Santa Barbara Earthquake of 13 August 1978	PR 22
Catalog of Strong Motion Accelerograph Records Recovered by Office of Strong Motion Studies before January 1, 1982	SR 154
Catalog of Strong Motion Accelerograph Records Recovered by Office of Strong Motion Studies During 1982	SR 154A

II. Processed Data Reports:

Processed CSMIP Strong-Motion Records from the Northridge, California Earthquake of January 17, 1994: Release No. 1	OSMS 94-06B
Processed data for Los Angeles - City Hall East Bldg. from the Whittier Earthquake of 1 October 1987	OSMS 93-11
Plots of the Processed Data for San Francisco - Golden Gate Bridge from the Gilroy Area Earthquake of 16 January 1993	OSMS 93-10

Title	Number
Processed Strong-Motion Records from the CSMIP/NSF Treasure Island Geotechnical Array for the Gilroy Earthquake of 16 January 1993	OSMS 93-09
Processed CSMIP Strong-Motion Records from the Landers and Big Bear, California Earthquakes of 28 June 1992: San Bernardino - I10/215 Interchange	OSMS 93-08
Processed CSMIP Strong-Motion Records from the Landers, California Earthquake of June 28 1992: Release No. 3	OSMS 93-01
Processed CSMIP Strong-Motion Records from the Landers, California Earthquake of 28 June 1992: Release No. 2	OSMS 92-13
Processed CSMIP Strong-Motion Data from the Cape Mendocino /Petrolia Earthquake of April 25, 1992: Release No. 1	OSMS 92-12
Plots to Accompany Data Set: Landers Preliminary Processed Strong-Motion Data for the Landers Earthquake of 28 June 1992: Release No.1	OSMS 92-11
Plots of the Accompany Tape: BERKELEY86 (Building Response Data Set)	OSMS 92-02
Plots of the Accompany Tape: SIERRAMADRE91-INT1 (Ground, Building, and Lifeline Structure Response Data Set)	OSMS 92-01
Plots of the Accompany Tape: PALMSPRINGS86-IB, and B (Building Response Data Set)	OSMS 91-16
Plots of the Accompany Tape: LIVERMORE80 (Ground and Building Response Data Set)	OSMS 91-15
Plots of the Accompany Tape: LEXINGTON88-89 (Lifeline Structure Response Data Set)	OSMS 91-14
Plots of the Accompany Tape: ALUMROCK88 (Building Response Data Set)	OSMS 91-13
Plots of the Accompany Tape: WHEELERRIDGE88 (Lifeline Structure Response Data Set)	OSMS 91-12
Plots of the Accompany Tape: CHALFANT86 (Ground and Lifeline Structure Response Data Set)	OSMS 91-11
Plots of the Accompany Tape: WHITTIER87-CALTECH (Ground Response and Building Response Data Set)	OSMS 91-10
Plots of the Accompany Tapes: LOMAPRIETA89-IL, and L (Lifeline Structure Response Data Set)	OSMS 91-08
Plots of the Accompany Tapes: LOMAPRIETA89-IB1, IB2, IB3, IIB1, IIB2, and IIIB (Building Response Data Set)	OSMS 91-07
Plots of the Accompany Tapes: LOMAPRIETA89-IG, and G (Ground Response Data Set)	OSMS 91-06

Title	Number
Third Interim set of CSMIP Processed Strong-Motion Records from the Santa Cruz Mountains (Loma Prieta) Earthquake	OSMS 90-05
Processed Strong-Motion Data from the Base-Isolated San Bernardino County Law &Justice Center for the Upland earthquake of February 28, 1990	OSMS 90-03
Second Interim Set of CSMIP Processed Strong-Motion Records from the Santa Cruz Mountains (Loma Prieta) Earthquake of October 17, 1989	OSMS 90-01
Plots of the Processed Data for the Interim Set of 14 Records from the Santa Cruz Mountains (Loma Prieta) Earthquake of October 17, 1989	OSMS 89-08
Processed Strong-Motion Data from the Whittier, California Earthquake of 1 October 1987; Part I Ground-Response Records	OSMS 89-03
The Cerro Prieto, Baja California Earthquake of February 6, 1987 and Processed Strong-Motion Data	OSMS 87-04
Processed Strong Motion Data from the Palm Springs Earthquake of 8 July 1986; Part I Ground-Response Records	OSMS 87-01
Processed Strong Motion Data from the San Salvador Earthquake of October 10, 1986	OSMS 86-07
Processed Data from the Strong-Motion Record Obtained at a Base-Isolated Building in Rancho Cucamonga, California during the Redlands Earthquake of 2 October 1985	OSMS 86-01
Processed Data from Strong-Motion Records of the Morgan Hill Earthquake of 24 April 1984: Part I Ground-Response Records	OSMS 85-04
Processed Data from Strong-Motion Records of the Morgan Hill Earthquake of 24 April 1984: Part II Structural-Response Records	OSMS 85-05
Processed Data from the Strong-Motion Records of the Imperial Valley Earthquake of 15 October 1979.	SP 65
Processed Data from the San Juan Bautista 101/156 Separation Bridge and the San Juan Bautista Freefield Records from the Coyote Lake Earthquake 6 August 1979	SP 64
Processed Data from the Gilroy Array and Coyote Creek Records, Coyote Lake, California, Earthquake 6 August 1979	PR 24
Processed Data from the Strong-Motion Records of the Santa Barbara Earthquake of 13 August 1978. (in three volumes)	SR 144

III. **Other Reports:**

Standard Tape Format of CSMIP Strong-Motion Data Tapes	OSMS 85-03

AVAILABLE STRONG-MOTION DATA TAPES:

Tape Name	Description
PUGETSOUND65	Puget Sound, Washington Earthquake of 29 April 1965; Vol. 1, 2 and 3 data from two buildings.
SANTBARB78	Santa Barbara earthquake of 13 August 1978.
IMPERIAL79	Imperial Valley earthquake of 15 October 1979, County Services Bldg. and other CSMIP stations.
COYOTE79A	Coyote Lake earthquake of 6 August 1979, Gilroy Array stations.
COYOTE79B	Coyote Lake earthquake of 6 August 1979, San Juan Bautista overpass and nearest free-field station.
COYOTE79C	Coyote Lake earthquake of 6 August 1979, Halls Valley station.
LIVERMORE80	Livermore earthquakes of 24 and 27 January 1980; data from 5 ground-response and 2 buildings for the earthquake on the 24th and data from 6 ground-response and 2 buildings for the earthquake of the 27th.
MAMMOTH80A	Mammoth Lakes earthquakes of 25 May 1980 at 09:34 and 09:49 PDT.
MAMMOTH80B	Mammoth Lakes earthquakes of 25 May 1980 at 12:45 and 13:36 PDT.
MAMMOTH80C	Mammoth Lakes earthquakes of 26 May 1980 at 11:58 PDT and 27 May 1980 at 07:51 PDT.
WESTMOR81	Westmorland earthquake of 26 April 1981.
COALINGA83	Coalinga earthquake of 2 May 1983, 16:43 PDT; Vol. 2 and 3 data for 47 records.
COALINGA83-IA	Coalinga earthquake of 2 May 1983, Vol. 1 data for first 22 records.
COALINGA83-IB	Coalinga earthquake of 2 May 1983, Vol. 1 data for remaining 25 records.
COALINGA83AS	Vol. 2 and 3 data for eight aftershocks of the Coalinga 2 May 1983 earthquake. The aftershocks occurred between 8 May and 11 September 1983, and were of magnitude (ML) 4.3 - 6.0.
COALINGA83AS-I	Vol. 1 data for the Coalinga aftershock records included on the tape COALINGA83AS.
RIODEL8083	Processed data from the Highway 101 Overpass at Rio Dell for the earthquakes of: 8 Nov 1980 (6.9ML Trinidad-Offshore); 16 Dec 1982 (4.4ML Rio Dell) and 24 Aug 1983 (5.5ML Cape Mendocino Offshore).
MAMMOTH83	Mammoth Lakes earthquakes of 7 Jan 1983 at 01:38 and 03:24 GMT.

Tape Name	Description
MORGANHILL84-IG	Morgan Hill earthquake of 24 April 1984; Vol. 1 data from 19 ground-response stations.
MORGANHILL84-G	Morgan Hill earthquake of 24 April 1984; Vol. 2 and 3 data from 19 ground-response stations.
MORGANHILL84-IS	Morgan Hill earthquake of 24 April 1984; Vol. 1 data from 7 buildings and one bridge.
MORGANHILL84-S	Morgan Hill earthquake of 24 April 1984; Vol. 2 and 3 data from 7 buildings and one bridge.
REDLANDS85	Redlands earthquake of 2 October 1985; data from the Law & Justice Building at Rancho Cucamonga.
BERKELEY86	Berkeley Hills earthquake of 29 March 1986; data from a 2-story Hospital in Berkeley.
HOLLISTER86	Hollister earthquake of 26 January 1986; data from 2 ground-response stations and Hollister - 1-story Warehouse.
MTLEWIS86	Mt. Lewis earthquake of 31 March 1986; data from 1 ground-response station and 3 buildings.
SANSALVADOR86	San Salvador earthquake of October 10, 1986; data from 9 stations.
PALMSPRINGS86-IG	Palm Springs earthquake of 8 July 1986; Vol. 1 data from 18 ground-response stations.
PALMSPRINGS86-G	Palm Springs earthquake of 8 July 1986; Vol. 2 and 3 data from 18 ground-response stations.
PALMSPRINGS86-IB	Palm Springs earthquake of 8 July 1986; Vol. 1 data from 5 buildings.
PALMSPRINGS86-B	Palm Springs earthquake of 8 July 1986; Vol. 2 and 3 data from 5 buildings.
CHALFANT86	Chalfant earthquake sequence of July 1986 at 9 stations including Lake Crowley - Long Valley Dam.
CERROPRIETO87	Cerro Prieto, Baja California earthquake of February 6, 1987; data from 1 ground-response station.
WHITTIER87-IG	Whittier earthquake of 1 October 1987; Vol. 1 data 36 from 36 ground-response stations.
WHITTIER87-G	Whittier earthquake of 1 October 1987; Vol. 2 and 3 data from 36 ground-response stations.
WHITTIER87-IB1	Whittier earthquake of 1 October 1987; Vol. 1 data from first 10 of the 18 buildings.
WHITTIER87-IB2	Whittier earthquake of 1 October 1987; Vol. 1 data from last 8 of the 18 buildings.
WHITTIER87-IIB	Whittier earthquake of 1 October 1987; Vol. 2 data from all 18 buildings.
WHITTIER87-IIIB	Whittier earthquake of 1 October 1987; Vol. 3 data from all 18 buildings.

Tape Name	Description
WHITTIER87-L	Whittier earthquake of 1 October 1987; Vol. 1, 2 and 3 data from 3 lifeline structures (1 bridge and 2 dams).
WHITTIER87-CALTECH	Whittier earthquake of 1 October 1987; Vol. 1, 2 and 3 data from 10 Caltech Stations.
WHITTIER87-CITYHALL	Whittier Earthquake of 1 October 1987; Vol. 1, 2 and 3 data from the Los Angeles City Hall East Building.
WHEELERRIDGE88	Wheeler Ridge area earthquake of 10 June 1988; data from California Division of Water Resources station at Edmonston Pumping Plant (basement).
ALUMROCK88	Alum Rock earthquake of 12 June 1988; data from Milpitas - 2-story Industrial Building.
LEXINGTON88-89	Lake Elsman earthquakes of 27 June 1988 and 8 August 1989; data from Lexington Dam.
UPLAND90-INTERIM	Upland earthquake of 28 February 1990; Vol. 1, 2 and 3 data from the base-isolated San Bernardino County Law & Justice Center.
LOMAPRIETA89-IG	Loma Prieta earthquake of 17 October 1989; Vol. 1 data from 44 ground-response stations.
LOMAPRIETA89-G	Loma Prieta earthquake of 17 October 1989; Vol. 2 and 3 data from 44 ground-response stations.
LOMAPRIETA89-IB1	Loma Prieta earthquake of 17 October 1989; Vol. 1 data from first 10 of 30 buildings.
LOMAPRIETA89-IB2	Loma Prieta earthquake of 17 October 1989; Vol. 1 data from middle 10 of 30 buildings.
LOMAPRIETA89-IB3	Loma Prieta earthquake of 17 October 1989; Vol. 1 data from last 10 of 30 buildings.
LOMAPRIETA89-IIB1	Loma Prieta earthquake of 17 October 1989; Vol. 2 data from first 15 of 30 buildings.
LOMAPRIETA89-IIB2	Loma Prieta earthquake of 17 October 1989; Vol. 2 data from last 15 of 30 buildings.
LOMAPRIETA89-IIIB	Loma Prieta earthquake of 17 October 1989; Vol. 3 data from all 30 buildings.
LOMAPRIETA89-IL	Loma Prieta earthquake of 17 October 1989; Vol. 1 data from all 7 lifeline structures.
LOMAPRIETA89-L	Loma Prieta earthquake of 17 October 1989; Vol. 2 and 3 data from all 7 lifeline structures.
SIERRAMADRE91-INT1	Sierra Madre earthquake of 28 June 1991; Vol. 1, 2 and 3 data from the 7 ground-response, 3 buildings and 1 lifeline station.
CAPEMENDOCINO92-INT1	Cape Mendocino/Petrolia Earthquake of April 25,1992; Vol. 1, 2 and 3 data from 6 ground-response and 1 lifeline structure (Rio Dell - Hwy 101/Painter St. Overpass).

Tape Name	Description
LANDERS92-INT1	Landers, California Earthquake of 28 June 1992; Vol. 1, 2 and 3 data from 6 ground-response stations.
LANDERS92-INT2	Landers, California Earthquake of 28 June 1992; Vol. 1, 2 and 3 data from 6 ground-response and 2 buildings.
LANDERS92-INT3	Landers, California Earthquake of 28 June 1992; Vol. 1, 2 and 3 data from 10 ground-response stations.
LANDERS92-INT4	Landers and Big Bear, California Earthquakes of 28 June 1992; Vol. 1, 2 and 3 data from the San Bernardino - I10/215 Interchange.
GOLDENGATE93	Gilroy Area Earthquake of 16 January 1993; Vol. 1, 2 and 3 data from the temporary instrumentation on the San Francisco - Golden Gate Bridge.
TREASUREISLAND93	Gilroy Area Earthquake of 16 January 1993; Vol. 1, 2 and 3 data from the CSMIP/NSF Treasure Island Geotechnical Array.
NORTHRIDGE94-INT1	Northridge earthquake of 17 January 1994; Vol. 1, 2 and 3 data from 5 ground-response stations.

Footnotes:

Each tape contains Vol. 1 data (uncorrected acceleration), Vol. 2 data (corrected acceleration, velocity and displacement) and Vol. 3 data (response and Fourier amplitude spectra) unless otherwise specified. The magnetic tapes are provided at cost. Included with each tape is a copy of either the processed data report (if available) or the plots of the data.

The Vol. 2 and 3 data are also available on floppy disks for use in personal computers. Requests for the reports, data tapes, data disks and/or for additional information should be addressed to:

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