CIRC. 736-C

GEOLOGICAL SURVEY CIRCULAR 736-C

Seismic Engineering Program Report, July–September 1976

Prepared on behalf of the
National Science Foundation
Grant CA-114

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1977

United States Department of the Interior

THOMAS S. KLEPPE, *Secretary*

Geological Survey

V. E. McKelvey, *Director*

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PREFACE

This Seismic Engineering Program Report is an informal document primarily intended to keep the ever-growing community of strong-motion data users apprised of the availability of data recovered by the Seismic Engineering Branch of the U.S. Geological Survey. The Seismic Engineering Program of strong-motion instrumentation is supported by the National Science Foundation (Grant CA-114) in cooperation with numerous Federal, State, and local agencies and organizations.

This issue contains a summary of all accelerograph records recovered from the National Strong-Motion Network during the period July 1 through September 30, 1976. Reports on the use of strong-motion recurrence intervals in the design and planning of accelerograph networks, and the current status of the strong-motion information retrieval system are presented, along with abstracts of recent reports, notes on numerous strong-motion information sources, and the availability of digitized data. The information presented in table 1 was recovered (although not necessarily recorded) during the past quarter. This procedure will be continued in future issues in order that the dissemination of strong-motion data may be as expeditious and current as practicable.

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July–September 1976

RECENT STRONG-MOTION RECORDS

by R. L. Porcella

Five accelerograph records were recovered from the U.S. Geological Survey's national strong-motion network during the third quarter of 1976. The network is administered by Seismic Engineering Branch (SEB) for the National Science Foundation and presently consists of 837 self-contained three-component accelerographs and 23 central recording units receiving 119 channels of data. These instruments are located in 36 of the 50 States, Puerto Rico, and throughout Central and South America.

During the years 1972-1975 inclusive, the network produced an average of 216 strong-motion records per year. For the first three quarters of 1976, SEB has collected only 35 accelerograms. The five records obtained during the period July 1 through September 30, 1976 all display peak accelerations of less than .05g, and thus are considered negligible in terms of strong ground motion. The records are summarized in table 1.

USE OF STRONG-MOTION RECURRENCE INTERVALS IN NETWORK PLANNING AND DESIGN

by R. B. Matthiesen

The development of an optimal national strong-motion network is currently being investigated through evaluation of strong ground motion recurrence intervals in all regions of the country. Two basic types of events are being considered: a low-amplitude, recurring strong-motion event, and a high-amplitude, relatively non-recurring event. This distinction is believed to be appropriate when allocating instrumentation both to areas where a high return on the investment in instruments and their maintenance can be reasonably assured and to areas where large events may not occur during the lifetime of an instrument but the benefits of obtaining records from these relatively nonrecurring events would be highly significant. Further, the separation of these two types of events involves the identification both of areas of high "strong-motion seismicity" and of "seismic gaps" or other patterns of seismicity associated with large, infrequently occurring events. The two classes of event have been defined in terms of their Modified Mercalli Intensity (MMI). Earthquakes of MMI VI and VII correspond to low-amplitude, recurring strong-motion events, and those of MMI VIII or greater are nonrecurring within the historic record in most parts of the country.

This evaluation of strong-motion recurrence intervals has been further augmented by plotting the numbers of events of MMI VI or greater that have occurred during the period 1870 to 1970 for each 1/2° by 1/2° area throughout the country (figure 1). This procedure affords a uniform measure of the relative recurrence of strong ground motions and of the significant trends in the relative distribution of these events (Matthiesen, 1976). The numerical values in figure 1 permit relative comparisons of the recurrence of strong- motion events to be made, and they generally support the details brought out by the study of the strong ground motions recorded at stations that have been installed for 30 or more years (table 2). A summary of the dollar cost per record at these same stations over the past 30 or more years is given in table 3.

As an indication of the extent of the regions in which strong-motion records could have been obtained on a somewhat recurring basis, the numbers of events within a 1 1/2° by 1 1/2° region around each 1/2° area were counted as representing the number of records that would have been obtained from an instrument in the 1/2° area. Regions where more than five events could have been recorded in the past 100 years are shown in figure 1. For simplicity of illustration, only the outline of these regions is shown. In the regions where there is a relatively high recurrence of MMI VI and VII events and occasional MMI VIII or higher events, detailed plans are being made for the development of regional networks for the study of the spectral characteristics of ground motion and its attenuation. This is widely recognized as being the most important engineering study to be conducted in each region. The sites for instruments used in these studies should be "free-field" sites on firm ground or rock.

Special arrays are being planned to obtain the data that may be used to study source mechanisms, strong ground motions, or structural response to such motion. Source mechanism studies can be planned only for those areas where the location of the source is sufficiently well defined by teleseismic studies that instruments can be located virtually on top of the source of future earthquakes. Special studies of local site effects (both the amplifying effect of surficial soil layers and the differences in motion at nearby points on the ground surface) should be conducted only in those regions where the recurrence of motion is sufficiently high to justify the added expense of such arrays. Soil failure studies (liquefaction or landslides) can be conducted only in those areas where sites are recognized at which soil failures are likely to occur. Studies of soil-structure interaction and of the response of representative types of structures should be conducted only in those areas where the expectation of a return of data at potentially damaging levels of motion is sufficiently high that the results may be used to improve structural design practice on a timely basis. A judgmental assessment as to which of these types of studies can be appropriately conducted in each of the regions has been summarized in table 4.

Reference: Matthiesen, R. B., 1976, Planning and design of strong-motion instrument networks: 8th Joint Meeting of the U.S.-Japan Panel on Wind and Seismic Effects, Washington, D.C., May 1976.

STRONG-MOTION INFORMATION RETRIEVAL SYSTEM

by A. M. Converse

The USGS data base management system, planned for computer storage and subsequent retrieval of information concerning strong-motion records, stations, and events, has reached a significant objective. The complete software package, based principally on the data base management system developed at the BKY computer center of the Lawrence Berkeley laboratory, is operational by remote terminal on a limited, trial set of data retrieval requests. Data subsets (e.g., records, stations, and events) can now be searched in much the same way that the event cards or station cards associated with the archival system can be searched in response to pertinent questions. Transfer of the required data from the archival cards into computer storage is continuing.

Long-range plans for the information retrieval system include: (1) documentation of the system so that updating may be performed on a routine basis; (2) modification so that almost any question regarding accelerograph records posed by an outside user may be answered; and (3) production of computer listings for all types of data report, ready for publication.

ABSTRACTS OF RECENT REPORTS

IMPACT OF A RIGID BODY ON AN ELASTIC HALFSPACE

by G. N. Bycroft

A Fourier synthesis of the steady-state vibrations of a rigid plate on an

elastic halfspace is used to determine the deceleration and penetration of a rigid body impacting an elastic halfspace over a flat circular area. In order to obtain a satisfactory solution, it is necessary to integrate to a large value of the frequency factor. The theoretical values are compared with some simple experiments on lead and Neoprene.
Reference: In press, Journal of Applied Mechanics.

ACCELEROGRAPH RECORDS FROM LIMA PERU

C. F. Knudson and V. Perez

Prior to 1972, Peru had only one accelerograph (C&GS) which was installed in downtown Lima during 1944. Although 22 earthquake records were obtained from this instrument between 1946 and 1972, only four of these produced significant records (records with peak accelerations greater than .05g). These four records were from the earthquakes of January 31, 1951, October 17, 1966, May 30, 1970, and November 29, 1971. Lima experienced three destructive earthquakes in 1974 on January 5, October 3, and November 9. Significant records from both the C&GS accelerograph and a new SMA-1 accelerograph located in Lima were obtained from all three earthquakes. The seven earthquakes that produced these ten records were of Richter magnitude 5 to 7.7, and their distances from the recording stations ranged from 73 km to 370 km. Many of the spectra from these 10 records confirm the presence of predominant short period components in the period range of 0.1 to 0.5 seconds.
Reference: In press, 6th World Conference on Earthquake Engineering, New Delhi, January 10-14, 1977.

RESPONSE TIME DURATION OF SELECTED UNITED STATES STRONG-MOTION EARTHQUAKE RECORDS

by V. Perez

The time duration spectra of the response envelope for 5 percent critical damped oscillators were calculated for the horizontal components of 27 U.S. earthquake records. Included among the records analyzed are the important accelerograms of El Centro, 1940, Olympia, 1949, and Taft, 1952, and a selection of accelerograms from earthquakes at San Francisco, 1957, Parkfield, 1966, and San Fernando, 1971. Time duration spectra are expressed in seconds or in the number of cycles, for periods ranging from 0.2 seconds to 4.0 seconds. The spectra portray the cumulative time for which the response equals or exceeds a chosen amplitude value. Limits or bounds on the number of cycles for levels of 20, 40, and 60 cm/sec are briefly discussed.
Reference: In press, 6th World Conference on Earthquake Engineering, New Delhi, January 10-14, 1977.

STRONG-MOTION ACCELEROGRAPH STATION LIST - 1976

This preliminary list includes all accelerograph stations installed through September 30, 1975 as part of the cooperative network maintained for the National Science Foundation. In addition, those stations installed and/or maintained by other organizations are included if sufficient information is available to the U.S. Geological Survey. Owing to the ever-changing nature of this information, the list is periodically updated for the purpose of providing the community of strong-motion data users with a reasonably good indication of the current status of the national network.

Information in this report includes the station name and/or address and geographical coordinates, site characteristics, type and size of structure, location of instruments(s), and the primary data sources. This information indicates the completeness of data for each site and may be used in preliminary studies or planning of further research studies. For detailed analyses of the records, including studies of the influence of site conditions, reference should be made to more extensive information that is contained in the station files or other sources. In the current list, much of the information is only partly complete.

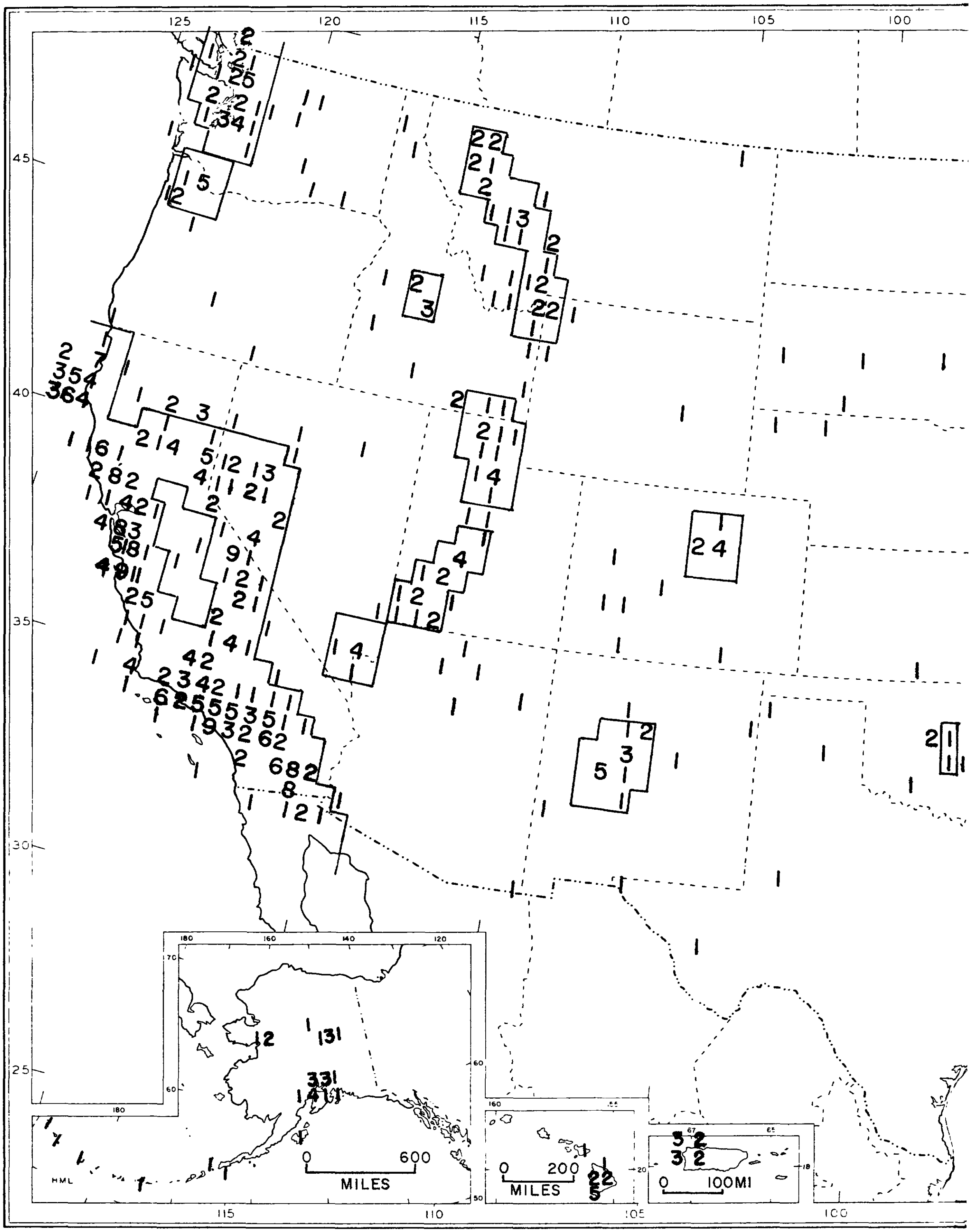
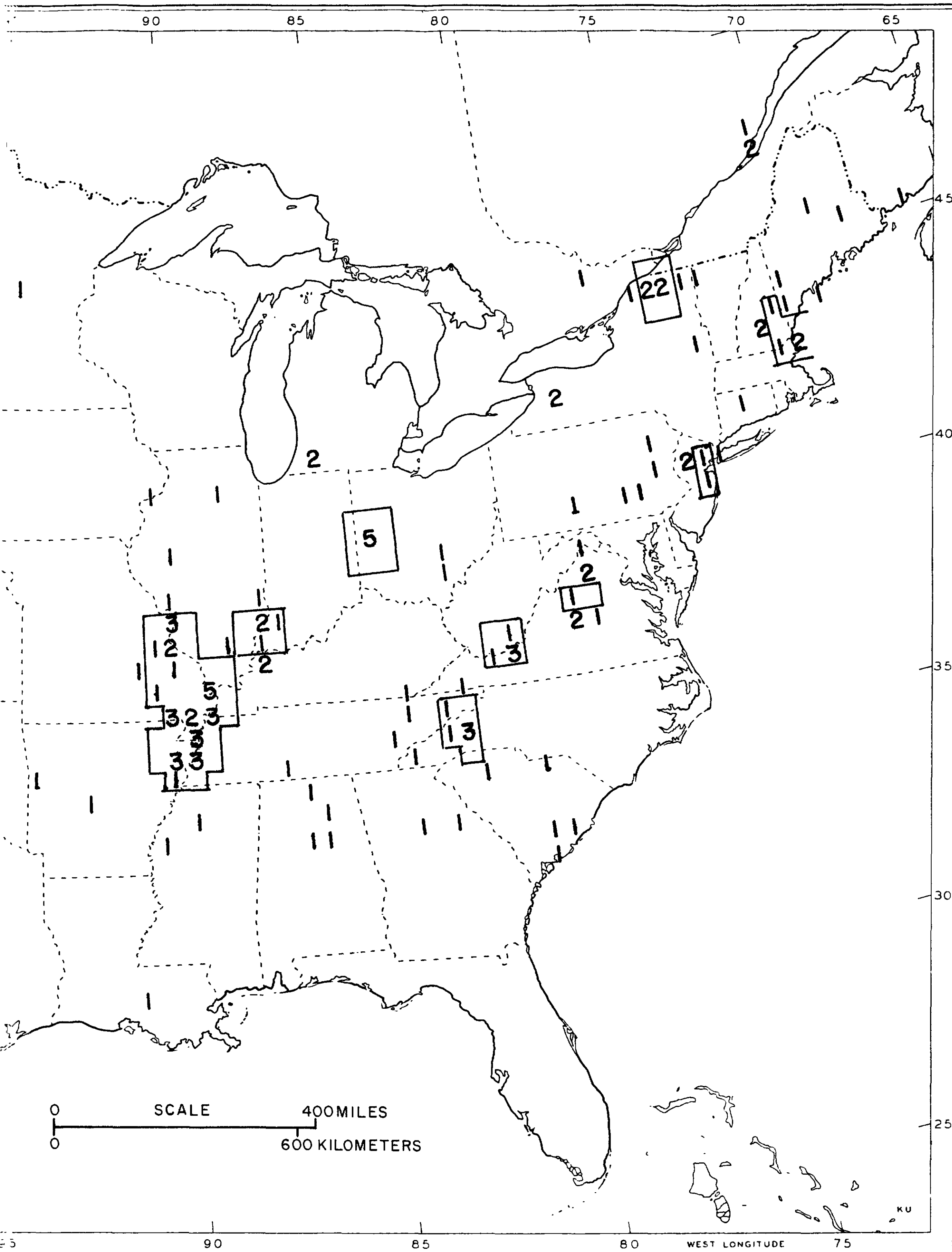


Figure 1.- Numbers of events



of intensity VI and greater.

As additional information is gathered and placed in the station files, it will be included in future station lists. Copies of this report may be obtained by writing to the Seismic Engineering Branch, Menlo Park.
Reference: U.S. Geol. Survey Open-file rept. 76-79, March 1976, 81 p.

STRONG-MOTION EARTHQUAKE ACCELEROGRAMS DIGITIZATION AND ANALYSIS, 1971 RECORDS

This is the first of a series of reports planned to include the results of digitization and routine analyses of strong-motion earthquake accelerograms published by the U.S. Geological Survey. Serving as a model for this effort is the collection of data reports published by the Earthquake Engineering Research Laboratory of the California Institute of Technology during the years 1969 - 1975 and covering the significant records of the period from 1933 up to the San Fernando earthquake of February 9, 1971. This report covers the significant records of 1971 subsequent to the San Fernando earthquake. The following five records are included:

1. Isabella Dam, California (auxiliary dam abutment), March 8, 1971.
2. Adak, Alaska, U.S. Naval Base (seismic vault), May 1, 1971.
3. Santiago, Chile, (University of Chile), July 9, 1971.
4. Ferndale City Hall, California, (ground level pier), September 12, 1971.
5. Lima, Peru, (Instituto Geofisico), November 29, 1971.

For a schedule of the estimated publication dates of subsequent data reports see the section titled Data Reports and Availability of Digitized Data. Copies of this report may be obtained by writing to the Seismic Engineering Branch, Menlo Park.
Reference: U.S. Geol. Survey Open-file rept. 76-609, July 1976, 117 p.

NOTES ON STRONG MOTION INFORMATION SOURCES

SECOND REPORT ON THE STRONG-MOTION INSTRUMENTATION PROGRAM

California Division of Mines and Geology Special Publication 48.

The State of California Strong Motion Instrumentation Program (SMIP) was established by the State Legislature in 1971 with the California Division of Mines and Geology (CDMG) designated the responsible managing agency. The objective of the program is to obtain detailed records of strong ground motion of representative soil and rock units during earthquakes, and of the response of various types of structures to those earthquake-generated motions. The processed results are made available to structural engineers for application to improvement of structure design for resistance to earthquake damage, thereby improving public safety and reducing property losses.

This report reviews CDMG's three years of management of the SMIP. It shows plans for completing instrument installations about the year 2035 and the program's gradual phasing from mainly instrument procurement and installation to entirely instrument maintenance. The present program plan was developed by the CDMG with guidance from the SMIP Advisory Board, in response to a recommendation by the Legislative Analyst. This plan calls for the deployment of a total of 1,864 instruments and instrument systems over a 60-year period at a total cost of about $12,000,000. The completed network is to consist of 520 instruments on "free-field" soil and rock sites including down-hole arrays; 400 instrument systems in selected buildings; and 944 instruments on dams, bridges, and various utility structures.

This report is available through CDMG Publication Sales, P.O. Box 2980, Sacramento, Calif. 95812.

STRONG-MOTION EARTHQUAKE ACCELEROGRAMS DIGITIZED AND PLOTTED DATA - UNCORRECTED ACCELEROGRAMS FROM THE FRUILI, ITALY EARTHQUAKE OF MAY 6, 1976 AND AFTERSHOCKS

Volume I, Part 1

Commissione CNEL-ENEL per lo studio dei problemi sismici connessi con la realizzazione de impianti nucleari.

This report is devoted entirely to the serious seismic events that struck an Italian region, the Fruili, in May 1976, causing several hundreds of casualties and the nearly total destruction of the inhabited areas located inside the epicentral zone.

This volume presents the uncorrected data relating to a first set of 25 accelerograms, which refer to the tremors that occurred within the first five days of the prolonged period of seismic activity that affected the region.

The information from the recorded accelerograms is being arranged in volumes in the same pattern adopted by the California Institute of Technology:

- Volume I - Print-outs and plots of the uncorrected digitized accelerograms
- Volume II - Print-outs and plots of base-line corrected accelerations, velocities, and displacements
- Volume III - Print-outs and plots of the response spectra.

Volume I, Part 1, available on request from:

Commissione CNEN-ENEL
Per Lo Studio Dei Problemi Sismici
c/o ENEL - Servizio Geotecnico
Viale Regina Margherita, 137
00198 Roma, Italy

SHEAR VELOCITIES AND NEAR-SURFACE GEOLOGIES AT ACCELEROGRAPH SITES THAT RECORDED THE SAN FERNANDO EARTHQUAKE

Report # UCLA-ENG 7653, June, 1976, Earthquake Laboratory, School of Engineering & Applied Science, University of California, Los Angeles

R. T. Eguchi, K. W. Campbell, C. M. Duke, A. W. Chow, J. Paternina

This report contains a compilation of refraction seismic surveys and geotechnical data on 33 sites selected within the Los Angeles, California area. The sites were chosen on the basis of two criteria; (1) their relative closeness to strong motion accelerographs that recorded the 1971 San Fernando earthquake, and (2) their geologic representativeness. The main areas of concentration for these surveys were Wilshire Blvd., Downtown Los Angeles, and Pasadena.

Using the refraction technique, shear wave velocities and layer thicknesses down to approximately 70 feet were determined. Geotechnical data on geology, age, lithology, and depth from several sources were compiled for each site. Also contained is a summary of new field techniques that were developed and applied during the course of the study.

This is an extension of an earlier report by Duke and others (1971) that provided seismic velocity and geologic data for 30 other sites in the San Fernando earthquake area.

Reference: Duke, C. M., Johnson, J. A., Kharraz, Y., Campbell, K. W., and Malpiede, N. A., 1973, Subsurface site conditions in the San Fernando earthquake area, *in* San Fernando, California, earthquake of February 9, 1971, Vol. I, Part B: U.S. Dept. Commerce, p. 785-799.

GEOTECHNICAL AND STRONG MOTION EARTHQUAKE DATA FROM U.S. ACCELEROGRAPH STATIONS FERNDALE, CHOLAME, AND EL CENTRO, CALIFORNIA

VOLUME I

Shannon & Wilson, Inc.
and Agbabian Associates
for
U.S. Nuclear Regulatory Commission

This report presents the results of an initial effort to evaluate the subsurface conditions of important seismograph stations by means of field and laboratory testing. In addition, geologic and seismologic data on the stations are compiled to provide the users of the report easy and unified access to this important information. Volume I includes the investigations performed at Ferndale, Parkfield (Cholame No. 2), and El Centro, California. As a continuation of this effort, similar investigations for other sites will follow this study. The results of these future studies will be published in subsequent volumes of this series.

Volume I is available from National Technical Information Service, Springfield, Virginia 22161. Price: printed copy $10.00; microfiche $2.25.

DATA REPORTS AND AVAILABILITY OF DIGITIZED DATA

The strong-motion records from the February 9, 1971 San Fernando earthquake and most of the significant records prior to that event have been digitized by the California Institute of Technology (CIT). Processing and analysis of the data have been presented in a series of reports containing 1) uncorrected digital data, 2) corrected accelerations, velocities, and displacements, 3) response spectra, and 4) Fourier amplitude spectra.

The digitization and analysis of the significant records subsequent to the San Fernando earthquake have been carried out by the USGS. Reports containing digitized data and spectra for the records collected since 1971 are being prepared. Estimates of the publication dates for these reports are as follows:

Records from 1972:	January 1977
Records from 1973:	March 1977
Records from 1974:	June 1977
Records from 1975:	September 1977

Table 5 presents a list of the records to be contained in each of these data reports.

The digitized data from the CIT digitization program are available from the Environmental Data Service (EDS) in the forms indicated below. The digital data from the subsequent years will be transferred to EDS for dissemination as soon as they have been verified and should be available from them at approximately the same time as the data reports are published.

* Volume I form of data (uncorrected) is available in punched card form (about 2000 cards each) for $20 per event and on magnetic tape (seven- or nine-track) for $60 per tape. The complete file of approximately 400 records is available on six magnetic tapes for $360.

* Inquiries should be addressed to:

National Geophysical and Solar-Terestrial Data Center
Code 62
EDS/NOAA

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Table 1 - *Summary of accelerograph records: July - September 1976*

Event	Station location: Name	Station location: Coord	S-t time[1] (sec)	Comp	Max accl[2] (g)	Duration[3] (sec)
11 August 1976 1525 GMT So. California 33.50N, 116.50W Magnitude 4.3	Puerta La Cruz Ground Sage Ground	33.580N 116.930W 33.320N 116.680W	Two small records obtained; three additional records recovered from Calif. Inst. Tech. stations (all records less than .05g max. acceleration).			
8 September 1976 Near Seattle, Wash. 0821 GMT 47.40N, 123.00W Magnitude 4.8	One small record obtained from the City/County Building in Tacoma.					
13 September 1976 1608 GMT Cape Mendocino 40.18N, 124.46W Magnitude 4.0	One small record obtained from Ferndale City Hall.					
Between June 4 and September 9, 1976 Near Livermore	One small record (<.05g) recovered from roof station at Livermore VA Hospital.					

1 S-wave minus trigger time.

2 Unless otherwise noted, maximum acceleration recorded at ground or basement level. Data from the records are summarized only if the maximum acceleration is greater than 0.05 g at ground stations or greater than 0.10 g at upper floors of buildings.

3 Duration for which peaks of acceleration exceed 0.10 g.

Table 2 - *Recurrence times for stations installed >30 years*

[Parentheses indicate that figure is the result of marginally sufficient data. Dash indicates insufficient data available to allow a statistically meaningful conclusion.]

Total number years	Number of records	Maximum accel cm/sec^2	Station Location	Years/Event		
				$a > 25$	$a > 50$ (a in cm/sec^2)	$a > 100$
40	45	274	Ferndale	1.5	3	6
40	11	230	Eureka	8	(15)	-
40	3	124	Golden Gate Park	-		
39	6	52	Alexander Building	(20)	-	
39	11	48	Southern Pacific Bldg	(10)	-	
40	6	45	Oakland City Hall	(12)	-	
40	6	56	Berkeley	(15)	-	
41	4	138	San Jose	-		
30	32	191	Hollister	2	4	8
40	9	172	Santa Barbara	10	-	
40	3	100	Westwood	-		
40	7	220	Hollywood	(30)	-	
40	9	110	Occidental Bldg	14	-	
41	11	210	Vernon	10	20	-
41	10	250	Long Beach	10	(25)	-
40	4	100	Pasadena	-		
40	10	46	Colton	12	(25)	-
41	24	314	El Centro	3	6	12
41	9	30	San Diego	(20)	-	
40	13	38	Bishop	8	-	
36	7	42	Hawthorne, Nev.	10	-	
38	12	115	Helena, Mont.	-		

Table 3 - *Summary of costs per record*

Station location	Maximum accel cm/sec²	Cost/record in dollars		
		a > 25	a > 50	a > 100
		a in cm/sec²		
Ferndale	274	600	1200	2400
Eureka	230	3200	(6000)	-
Golden Gate Park	124	-		
Alexander Building	52	(8000)	-	
Southern Pacific Bldg	48	4000	-	
Oakland City Hall	45	(4800)	-	
Berkeley	56	(6000)	-	
San Jose	138	-		
Hollister	191	800	1600	3200
Santa Barbara	172	4000	-	
Westwood	100	-		
Hollywood	220	(12000)	-	
Occidental Bldg	110	5600	-	
Vernon	210	4000	8000	-
Long Beach	250	4000	(10000)	-
Pasadena	100	-		
Colton	46	5000	(10000)	-
El Centro	314	1200	2400	4800
San Diego	30	(8000)	-	
Bishop	38	3200	-	
Hawthorne, Nev.	42	4000	-	
Helena, Mont.	115	-		

Table 4 - *Studies to be planned in active regions*

[Zero indicates that such studies should be planned although the rate of return is expected to be low. X indicates that the rate of return is expected to be high from well-planned studies.]

Region	Type of studies				
	Source mechanism	Ground motion			Structural response
		Spectral attenuation	Site effects	Soil failure	
New Madrid, MO	X	X	0		X
Socorro, NM		0			
Utah - Montana		0			
Puget Sound		X			0
Mendocino		X	X	X	0
North Coast	0	0			
Bay to Cholame	X	X	X	X	X
Central Coast	0	0			
Transverse Ranges	0	X	0		X
Imperial Valley	X	X	0		0
Kern Canyon		0			
Sierra - Nevada		0			
Alaska		0			0
Hawaii	0	X	0		0

Table 5 - *Records being processed for data reports*

Date of event	Station location	Maximum accel. (1) (g)
	1972	
January 3, 1972	Managua, Nicaragua; Esso Refinery	0.15
January 5, 1972	Managua, Nicaragua; Esso Refinery	0.22
	Managua, Nicaragua; National University	0.12
March 4, 1972	Bear Valley, Calif.; Melendy Ranch barn	0.15
March 22, 1972	Bear Valley, Calif.; Melendy Ranch barn	0.16
July 30, 1972	Sitka, Alaska; Magnetic Observatory	0.11
August 27, 1972	Beverly Hills, Calif.; 8383 Wilshire (2)	0.15
	Beverly Hills, Calif.; 9100 Wilshire (2)	0.12
	Los Angeles, Calif.; 6300 Wilshire (2)	0.10
	Los Angeles, Calif.; 6420 Wilshire (2)	0.15
September 4, 1972	Bear Valley, Calif.; CDF Fire Station	0.18
	Bear Valley, Calif.; Melendy Ranch barn	0.48
	Bear Valley, Calif.; Stone Canyon East	0.18
December 23, 1972	Managua, Nicaragua; Esso Refinery	0.39
Aftershock B	Managua, Nicaragua; Esso Refinery	0.17
Aftershock C	Managua, Nicaragua; Esso Refinery	0.32
	1973	
February 21, 1973	Port Hueneme, Calif.; U.S. Naval Laboratory	0.13
March 31, 1973	Managua, Nicaragua; National University	0.60
April 26, 1973	Kilauea, Hawaii; Namakani Paio Campground	0.17
August 8, 1973	Ferndale, Calif.; Old City Hall	0.14
September 16, 1973	Berryessa, Calif.; CDF Fire Station	0.18
	1974	
January 5, 1974	Lima, Peru; Zarate Station	0.16
	Lima, Peru; Geophysical Institute	0.11
January 31, 1974	Gilroy, Calif.; Gavilan College, Bldg. 10	0.16
February 11, 1974	Los Angeles, Calif.; 420 S. Grand (2)	0.10
	Los Angeles, Calif.; 525 S. Flower, No. Tower (2)	0.13
	Los Angeles, Calif.; 700 W. 7th (2)	0.18
	Los Angeles, Calif.; 533 S. Fremont (2)	0.25
	Los Angeles, Calif.; 420 S. Grand (2)	0.10
August 14, 1974	Pacoima Dam, abutment	0.12
	Vasquez Rocks Park, Calif.	0.10
October 3, 1974	Lima, Peru; Dr. Huaco residence	0.18
	Lima, Peru; Geophysical Institute	0.21
November 9, 1974	Lima, Peru; La Molina Station	0.14
November 28, 1974	Hollister, Calif.; City Hall	0.17
	San Juan Bautista, Calif.; 24 Polk St.	0.12
	Gilroy, Calif.; Gavilan College Bldg. 10	0.14
December 6, 1974	Imperial, Calif.; Imperial Valley College Adm. Bldg.	0.11

See footnotes at end of table.

Table 5 - *Records being processed for data reports* - Continued

Date of event	Station location	Maximum accel. (1) (g)
	1975	
January 11, 1975	Petrolia, Calif.; General Store	0.10
	Cape Mendocino,Calif.; Petrolia	0.19
January 23, 1975	Imperial, Calif.; Imperial Valley College Adm. Bldg.	0.11
March 6, 1975	Bear Valley, Calif.; Melendy Ranch East	0.18
May 6, 1975	Shelter Cove, Calif.; Station 2 Power Plant Yard	0.18
June 7, 1975	Ferndale, Calif.; Old City Hall	0.19
	Cape Mendocino, Calif.; Petrolia	0.22
	Petrolia, Calif.; General Store	0.19
	Shelter Cove, Calif.; Station 2 Power Plant Yard	0.10
June 19, 1975	El Centro Array, Calif.; Station 6, 551 Huston	0.10
June 20, 1975	El Centro Array, Calif.; Station 6, 551 Huston	0.13
	Holtville, Calif.	0.15
August 1, 1975	Oroville Dam, Calif.; Crest	0.13
	Oroville Dam, Calif.; Seismograph station	0.11
August 2, 1975	Pleasant Valley Pumping Plant, Calif.	0.08
	Pleasant Valley, Calif.; Switchyard	0.13
September 13, 1975	Parkfield Grade, Calif.; Jack Varian Ranch	0.14
	Vineyard Canyon, Calif.	0.18
November 14, 1975	Ferndale, Calif.; Old City Hall	0.18
	Cape Mendocino, Calif.; Petrolia	0.13
	Petrolia, Calif.; General Store	0.10
November 29, 1975 0335 (local time)	Hilo, Hawaii; UH Cloud Physics Lab.	0.15
November 29, 1975 0447 (local time)	Honokaa, Hawaii; Central Service Bldg.	0.11

(1) Maximum acceleration at ground or basement level.
(2) The records from the upper levels of these buildings are being digitized.