

PASADENA LOCAL SHOCKS

No. 1

January, February and March 1948

Date	P.S.T.	lat.	Long.	Q	M	Remarks
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Note: Times in this report are Pacific Standard Time. Add one hour for California daylight-saving time after 2 a.m. March 14

January

3	17:30:35	35 50	117 44	C		3.5 North of Inyokern. Felt at Sand Canyon (CGS)
3	22:18:34	33 15	116 29	C		3.1 East of Warner Springs
4	01:44:15	33 51	118 30	C		2.5 Off Redondo Beach
5	09:55:06	33 15	116 29	C		3.6 East of Warner Springs
6	13:01:09	34 56	116 27	C		3.0 South of Manix
6	13:09:40	33 38	116 02	C		3.4 North of Mecca
8	09:34:56	33 17	118 24	C		2.7 South of Avalon
11	04:19:38	34 56	116 50	B		2.9 Near Yermo
11	17:19:12	33 05	115 58	C		3.8 West of Brawley
12	02:00:53	33 12	115 56	C		3.0 Near Kane Springs
12	09:52:13	35 10	116 51	C		3.9 North of Yermo
19	05:35:58	34 08	118 14	C		1.3 Near Glendale
21	15:29:01	34 10	116 58	B		2.6 Near Seven Oaks
28	22:23:43	34 13	116 04	C		2.9 North of Twenty-nine Palms
30	23:43:44	33 44	118 10	B		2.1 Near Long Beach

January 21. Explosion at Colton quarry. Stated in press as 2:10 p.m. No clear record.

February

1	03:48:22	34 56	116 43	C		3.3 East of Yermo
1	09:00.9	34 25	119 55	C		3.0 Near Santa Barbara
1	09:25:52	34 33	118 40	C		2.6 Northwest of Castaic
1	11:46:55	34 02	117 32	B		2.2 Near Mira Loma
1	11:49:59	34 02	117 32	B		2.4 Near Mira Loma
3	10:05:46	33 10	116 22	C		2.9 South of Borego Valley
3	11:05:54	33 10	116 22	C		2.9 South of Borego Valley
3	14:03:28	34 02	117 32	C		2.9 Near Mira Loma
3	15:36:47	33.8	120.8	D		3.6 Off San Miguel Island
5	12:44:34	33 11	117 32	B		3.5 North of Etiwanda
5	13:04:59	34 12	117 32	B		2.3 North of Etiwanda
5	22:28:43	35 12	119 05	C		2.9 South of Bakersfield
6	05:14:13	37 13	117 54	C		4.2 East of Big Pine. Felt at Bishop, Laws and Tinemaha (CGS)
6	15:36:20	33 00	116 02	C		3.1 Southeast of Borego Valley
7	02:55:48	37 13	117 54	C		3.3 East of Big Pine.
9	20:14:42	32.8	115.2	D		3.6 Imperial Valley
10	14:24:30	33 43	116 00	C		3.8 East of Coachella. Felt there (CGS)
10	19:29:28	36 05	118 48	B		4.6 East of Porterville. Felt in the southern Sierra Nevada and eastern San Joaquin Valley.
13	13:27:12	34 16	119 11	C		2.9 North of Oxnard
15	00:04:05	35 55	120 24	C		3.5 Near Parkfield
15	03:07:04	34 15	116 18	B		2.8 Northwest of Twenty-nine Palms
16	10:29:29	34 16	116 18	B		3.1 Northwest of Twenty-nine Palms
17	18:23:47	35 03	116 48	C		2.4 North of Yermo
17	23:24:42	35 03	116 48	C		2.4 North of Yermo
18	03:55:13	33 59	117 33	B		2.3 Near Mira Loma (CGS)
18	05:38:50	33 59	117 33	B		3.3 Near Mira Loma. Felt at Riverside
18	05:42:24	33 59	117 33	B		2.5 Near Mira Loma
19	04:28:09	33 59	117 33	B		2.1 Near Mira Loma
19	11:36:42	33 53	118 05	C		2.9 Southeast of Bellflower. Felt at Compton and Bellflower
19	20:21:24	33 55	118 13	A		3.6 Near Lynwood. Generally felt in and about Los Angeles
21	11:31:20	33 51	118 12	C		2.3 North of Long Beach
21	13:30:56	34 22	119 11	C		2.7 West of Santa Paula (CGS)
23	19:03:39	33 59	117 32	B		3.4 Near Mira Loma. Felt at Riverside

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
<u>February</u>						
24	00:15:10	32 30	118 33	C	5.3	Felt at San Diego, Avalon and a few inland points. South of San Clemente Island. (CGS)
24	01:15:53	33 02	116 30	C	2.6	East of Cuyamaca
24	14:36:44	30.9	115.2	D	4.4	Near San Felipe, Baja California
25	15:44:22	32 30	118 33	C	3.1	South of San Clemente Island
25	16:48:51	32 34	118 38	C	3.2	South of San Clemente Island
25	19:59:19	32 11	118 54	C	4.0	South of San Clemente Island
26	03:24:12	32 11	118 54	C	3.9	South of San Clemente Island
26	06:30:48	32 34	118 38	C	3.0	South of San Clemente Island
26	16:26:08	33 53	118 16	B	2.4	Southwest of Compton
26	22:21:31	32 11	118 54	C	4.9	Felt at San Diego. South of San Clemente Island
28	09:24:43	34 07	116 14	C	3.6	West of Twenty-nine Palms
29	21:05:59	34 12	117 30	B	2.3	North of Etiwanda
29	23:40:19	33 44	118 01	C	2.4	Near Westminster
<u>March</u>						
1	00:12:13	34 10	117 32	B	4.7	North of Etiwanda. Maximum reported intensity VI. Felt as far as Santa Monica, San Juan Capistrano, Indio, Barstow and Mojave (CGS).
1	00:17:47	34 10	117 32	B	2.4	North of Etiwanda
1	01:05:43	34 10	117 32	B	2.5	North of Etiwanda
2	15:59:13	34 36	117 12	C	2.7	Near Victorville. Blast?
3	07:59:51	34 06	117 38	B	3.5	Near Upland
3	09:41:04	33 18	118 06	C	2.6	East of Santa Catalina Island
3	11:32:52	33 41	117 57	C	2.8	Near Huntington Beach. Felt at Westminster (CGS)
3	22:06:29	34 01	117 33	B	2.6	Near Mira Loma
4	01:00:27	33 10	115 29	C	3.5	Near Calipatria
4	01:03:19	33 10	115 29	C	3.5	Near Calipatria
4	11:25:40	34 13	117 32	B	2.8	North of Etiwanda
5	23:43:25	33 59	117 19	B	2.2	East of Riverside
6	01:11:42	32.7	115.8	D	3.5	South of Plaster City
7	02:53:08	33 52	117 49	C	2.1	Near Olive
7	04:42:44	33 04	116 23	C	3.6	North of Vallecito
7	05:11:20	34 58	116 25	C	3.1	East of Manix
9	23:22:38	34 59	116 57	C	3.3	North of Barstow
10	15:24:34	34 26	119 44	C	2.6	Near Santa Barbara
13	06:21:38	34 17	116 45	C	2.6	East of Big Bear Lake
14	14:55:33	31 26	119 30	C	3.9	Off Baja California. Edge of continental slope.
14	15:01:42	33 15	116 21	B	3.0	Borego Valley
14	19:15:16	32 32	118 36	C	3.1	South of San Clemente Island
14	19:44:56	35 05	118 29	C	2.6	Near Tehachapi
15	19:46:51	33 55	117 19	B	3.1	Near Riverside. Felt there (CGS)
15	23:04:26	33 55	117 19	C	3.0	Near Riverside. Felt there (cgs)
16	16:02:24	33 01	115 41	D	3.3	Near Westmorland
18	01:35:05	34 24	119 36	C	2.8	East of Santa Barbara
18	06:45:53	34 12	116 45	C	2.7	Near Ludlow
19	18:24:53	35 15	119 25	C	2.9	Near Taft
20	09:34:59	35 15	119 25	C	3.2	Near Taft
22	17:25:52	33 51	118 23	B	2.4	Near Redondo Beach
23	03:59:14	35 15	119 25	C	3.3	Near Taft
25	11:39:17	32 45	116 25	C	3.3	Laguna Mountains
25	13:13:54	34 38	117 08	B	2.6	Northeast of Victorville. Blast?
25	14:52:20	34 25	119 25	C	2.6	Near Carpinteria
25	20:22:48	33 57	116 21	C	2.9	Little San Bernardino Mountains
26	07:27:36	34 10	116 48	B	2.7	Near Big Bear Lake
29	03:06:00	34 14	117 32	B	2.2	North of Etiwanda
29	03:20:03	34 14	117 32	B	2.1	North of Etiwanda
29	05:42:45	34 14	117 32	B	2.8	North of Etiwanda
30	08:25:36	34 05	116 49	C	3.4	Near Mount San Geronio

PASADENA LOCAL SHOCKS

No. 2

April, May and June 1948

Date	P. S. T.	Lat.	Long.	Q	M	Remarks
Note: Times in this report are Pacific Standard Time. Add one hour for California daylight saving time.						
<u>April</u>						
1	16:58:08	34 00	116 26	C	2.7	Little San Bernardino Mountains
2	06:36:18	34 02	117 21	B	2.2	Near Riverside
3	07:00:56	34 53	119 01	C	3.4	West of Gorman
5	00:10:07	33 46	118 00	C	2.5	Near Westminster
5	02:28:46	33 37	117 24	B	3.0	Near Elsinore. Felt at Elsinore and Wildomar (CGS).
6	07:48:57	33 46	118 27	C	2.5	Off Point Vicente
11	07:55:48	35.1	116.9	D	2.7	Near Yermo
12	03:34				2	Small record at Haiwee. Felt at Sand Canyon (CGS)
13	10:57:42	34 31	117 41	C	2.1	Near Wrightwood
14	06:29:04	34 04	117 21	C	2.7	Northeast of Riverside
16	01:35:03	34 00	118 56	B	3.3	Off Point Dume
16	06:28:42	33 55	117 26	B	2.5	Near Arlington
16	14:26:24	34 01	118 58	B	4.7	Southeast of Point Mugu. Felt from Santa Barbara to Los Angeles. Sharp at Malibu Beach. VI at Oxnard, Camarillo, Cornell and Somis (CGS)
16	16:01:20	34 31	117 08	C	2.5	Near Victorville. Blast?
16	16:32:57	34 01	118 58	C	2.9	Near Point Mugu
16	17:23:42	34 01	118 58	C	3.5	Near Point Mugu
16	18:45:30	34 01	118 58	C	2.7	Near Point Mugu
16	20 07 47				2.7	Near Point Mugu?
17	15:56:11	34 39	117 46	C	2.2	Near Palmdale
17	18:12:57	33 15	116 17	C	3.1	Near Borego
17	23:33:54	34 04	116 27	B	3.2	Morongo Valley
19	00:09:40	34 02	117 38	B	2.3	Near Chino
20	02:03:45	35 18	118 58	C	2.9	South of Bakersfield
20	17:30:57	33 58	118 05	C	1.8	Near Montebello. Felt? (CGS)
23	07:23:43	34 06	120 56	C	3.7	Off San Miguel Island
23	07:23:54	32 37	116 08	C	3.3	Near Jacumba
24	15:21:25	34 10	117 32	B	2.7	North of Etiwanda. h = 24 km.
25	11:11:56	34 07	116 53	C	3.1	Near Mount San Geronio
25	12:00:24	34.9	116.6	D	3.0	Near Manix
29	02:59:55	34 03	118 16	B	1.9	Central Los Angeles
29	13:44:59	33 59	116 46	C	3.5	North of Whitewater. Felt there (CGS)
29	21:26:33	33 04	116 29	C	2.8	Near Julian
30	04:52:31	33 47	117 17	B	2.8	Near Perris
<u>May</u>						
1	02:11:15	34 12	117 01	C	2.6	Northeast of Highlands
4	22:47:06	34 27	119 43	B	2.7	Near Santa Barbara
5	09:19:54	34 14	116 21	C	3.6	Near Twenty-nine Palms
6	21:16:32	34 59	118 25	C	2.7	South of Tehachapi
8	20:29:44	34 55	116 25	C	3.1	South of Manix
9	03:10				2.7	Felt at Los Alamos (CGS) Recorded at Santa Barbara
9	19:49:25	32 05	117 00	C	4.0	Off Ensenada
13	00:52:29	34 23	118 20	B	2.5	Southeast of Lang
14	00:21:43	34 03	117 30	C	2.5	Near Etiwanda
15	04:27:02	32 30	115 40	C	3.5	Southwest of Calexico
21	07:38:20	33.0	123.5	D	4.8	About 500 km. west of San Diego

(continued on next page)

PASADENA LOCAL SHOCKS
(continued)

Date	P. S. T.	Lat.	Long.	Q	M	Remarks
<u>May</u>						
24	02:38:20	33 35	118 01	B	3.6	Off Newport Beach. Felt, Long Beach and Huntington Beach
25	16:47:06	34 08	117 05	B	2.4	East of Highlands
25	20:51:40	34 48	117 08	B	2.8	Southwest of Barstow
25	21:20:28	33 07	116 20	B	3.5	Near Santa Ysabel
26	11:35:12	35 42	118 02	B	4.1	Near Walker Pass
26	13:06:42	33 11	118 39	B	3.0	West of Catalina Island
27	15:23:18	33 47	116 15	C	3.2	Near Indio
28	16:42:03	35 30	118 30	C	3.0	Near Bodfish
31	03:30:08	34 02	117 17	B	2.6	Near Redlands. Accompanied by smaller shocks down to M = 0.6
31	11:09:23	35 30	118 30	C	2.9	Near Bodfish. Felt at Weldon (CGS)
31	21:33:01	34 57	116 30	D	3.0	Southeast of Manix
<u>June</u>						
3	23:27.2	32.0	115.0	D	4.6	Head of Gulf of California
5	14:55:11	32.0	115.0	D	3.8	Head of Gulf of California
7	07:52:22	37 12	118 42	C	4.2	West of Big Pine. Felt at Bishop Independence and Laws (CGS)
7	20:02:15	34 22	119 07	B	3.1	Near Santa Paula
7	20:04:24	34 22	119 07	B	2.6	Near Santa Paula
7	20:12:49	34 22	119 07	B	2.5	Near Santa Paula
7	20:35:10	34 22	119 07	B	2.7	Near Santa Paula
7	20:51:17	34 22	119 07	B	2.8	Near Santa Paula
9	05:36:24	33 16	116 22	B	3.2	Near Borego postoffice
10	06:46:30	34 01	117 25	B	2.9	Very near Riverside. Colton blast?
11	19:00:32	33 16	116 22	C	2.7	Near Borego postoffice
12	10:49:37	34 15	118 40	C	2.8	Near Santa Susana
13	13:34:20	33 59	118 19	B	1.8	Near Inglewood
16	04:36:35	37 19	118 46	C	3.8	West of Bishop
16	16:53:47	36 07	117 52	B	3.4	Near Haiwee. Nine shocks felt at Haiwee. About 40 smaller shocks recorded
16	16:55:49	36 07	117 52	B	3.0	Near Haiwee
16	17:10:14	36 07	117 52	B	2.6	Near Haiwee
18	02:24:25	33 30	118 12	B	2.7	San Pedro Channel
20	13:29:50	33 26	116 36	C	3.5	Southwest of Santa Rosa Mountain
23	09:37:29	33 50	116 18	C	2.8	Near Thousand Palms
23	19:43:54	33 12	116 31	C	3.2	Near Warners
24	10:06:06	33 28	117 46	B	3.8	Near Laguna Beach
24	19:15:42	33 54	116 56	B	2.8	Near Banning
25	14:12:21	33 58	117 39	B	3.0	Near Chino
26	11:10:28	35 49	118 03	B	3.0	North of Walker Pass
26	11:32:25	34 58	116 32	C	3.0	Near Manix
30	05:45:57	33 59	116 46	B	2.7	North of Cabazon

George G. Shor, Jr.
C. F. Richter

August 8, 1948

PASADENA LOCAL SHOCKS



No. 3

July, August and September 1948

Date	P. S. T.	Lat.	Long.	Q	M	Remarks
Note: Time in this report are Pacific Standard Time, Add one hour for California daylight saving time.						
<u>July</u>						
1	05:35:13	34 10	116 52	B	2.8	North of Big Bear
1	18:17:46	35 36	118 01	C	2.8	South of Walker Pass
1	23:50:21	33 30	117 08	B	3.0	Near Temecula
4	10:44:21	32 54	116 03	C	3.8	Near Carrizo
4	10:48:50	32 54	116 03	C	3.3	Near Carrizo
4	10:51:09	32 54	116 03	C	3.4	Near Carrizo
7	03:10:20	34 48	117 26	B	2.9	Northwest of Helendale
8	12:53:30	34 56	116 31	C	2.9	Near Manix
9	15:30:40	32 48	117 12	C	2.5	Near La Jolla
14	03:05:37	34 40	120 55	C	3.2	Northwest of Point Arguello
14	15:52:18	34 56	116 31	C	2.9	Near Manix
14	21:32:49	35 45	117 55	C	3.0	Near Walker Pass. Felt at Weldon
16	21:26:31	34 33	120 03	C	3.4	Near Santa Ynez
17	17:03:48	34 04	117 49	B	3.6	Near San Dimas. Felt at Pomona (slightly at Riverside).
18	02:27:09	31 55	116 10	C	3.3	Baja California
18	12:40:07	34 45	117 58	C	2.4	Near Westminster
20	01:35:20	35 02	118 58	C	3.0	Near Wheeler Ridge
20	10:12:03	34 02	119 10	C	2.6	Off Point Mugu
24	22:20:53	34 03	118 22	C	2.2	Near Cluver City
25	21:39:26	34 16	117 14	B	3.0	Near Arrowhead. Felt in San Bernardino
26	09:50:00	35 34	118 05	C	4.5	South of Walker Pass. Felt at Weldon
27	12:01:55	33 27	117 04	C		North of Pala
27	17:30:53	35 55	120 25	C	3.6	Near Parkfield
28	03:10:55	33 58	116 56	C	2.4	North of Beaumont
29	00:34:15	33 35	118 33	C	2.8	San Pedro Channel
29	05:16:23	35 07	120 28	C	3.4	North of Santa Maria
30	09:24:54	34 10	116 48	C	3.6	North of Mt. San Geronio
<u>August</u>						
2	17:55:57	34 11	118 10	B	2.1	Near Pasadena
2	18:04:59	34 11	118 10	B	1.9	Near Pasadena
2	18:05:06	34 11	118 10	B	2.0	Near Pasadena
2	18:08:54	34 11	118 10	B	1.9	Near Pasadena
2	20:51:59	34 11	118 10	B	2.0	Near Pasadena
2	20:56:15	34 11	118 10	B	1.8	Near Pasadena. Four similar smaller shocks recorded.
3	22:24:55	35.1	117.1	D	2.8	Near Barstow
3	23:39:05	37 25	118 57	C	3.3	Near Mammoth Lake
4	02:22:57	35 55	120 20	C	3.6	Near Parkfield
5	05:50:19	34 50	116 36	C	2.9	North of Troy, California
5	08:30:55	33 50	116 21	C	3.0	Near Thousand Palms
5	20:22:57	37 27	118 35	C	4.3	West of Bishop. Felt there
6	15:20:03	38 07	119 33	D	3.3	West of Mono Lake
9	21:47:53	34 29	117 51	C	2.2	Near Devil's Punch Bowl
12	06:56:33	34 43	116 35	C	3.0	South of Troy
14	04:06:58	34 20	119 02	C	2.7	Near Santa Paula
14	19:00:06	34 00	116 33	B	3.2	Near Morongo Valley
16	07:39:17	33 54	116 25	C	3.2	Northwest of Thousand Palms

PASADENA LOCAL SHOCKS
(continued)

Date	P. S. T.	Lat.	Long.	Q	M	Remarks
<u>August</u>						
18	06:21:40	33 58	118 22	C	3.0	Near Inglewood
19	21:42:40	34 52	116 33	C	2.8	Near Troy, California
22	02:05:14	32 30	117 05	C	3.0	Near Tijuana
22	17:53:13	34 58	116 33	C	2.8	Near Manix
23	02:04:02	35 00	116 53	C	2.9	Northeast of Barstow
27	15:35:06	32 23	119 00	C	3.1	Near Santa Barbara Island
28	05:31:59	34 02	117 31	A	3.2	Near Mira Loma. Felt at Riverside
28	20:59:17	34 25	116 41	C	2.7	Near Old Woman Springs
29	03:25:57	36 48	116 33	C	3.4	Southeast of Beatty, Nevada
30	11:02:21	36 33	116 10	C	4.0	Southeast of Beatty, Nevada
31	00:48:59	34 12	117 29	B	2.8	Cajon Pass
31	21:58:05	34 01	117 07	B	2.7	Near Redlands
<u>September</u>						
2	07:46:12	34 58	117 00	C	2.7	Near Barstow
3	15:42:26	34 20	119 32	C	3.9	Near Santa Barbara. Felt at Santa Barbara
4	21:34:31	33 51	117 53	C	2.3	Near Anaheim
8	19:29	37 26	118 46	C	3.6	Near Mammoth Lakes
9	20:03:27	33 23	117 26	B	2.6	Near San Clemente
11	04:17:39	36 43	119 20	C	2.9	East of Sanger. VI at Miramonte
11	08:30:43	34 15	118 46	C	2.7	Near Santa Susana
11	14:03:11	34 00	116 42	B	3.1	North of Whitewater
14	22:30:06	33 42	118 00	B	2.3	Near Huntington Beach
16	03:25:31	35 00	118 30	C	2.7	South of Tehachapi
16	09:48:14	35 00	118 30	C	3.0	South of Tehachapi
16	11:22:58	33 45	116 55	C	3.2	Near San Jacinto
17	07:41:01	34 24	119 37	C	3.1	Near Santa Barbara
18	15:54:15	33 59	116 21	C	3.8	Near Morongo Valley
23	16:54:26	34 40	118 40	C	2.5	Near Tejon Pass
25	10:13:09	35 20	117 50	D	2.7	Near Randsburg
26	09:14:03	35 20	117 50	D	2.8	Near Randsburg
28	20:06:48	35 30	118 58	C	4.2	Northeast of Bakersfield.
	Reported felt generally from Bakersfield and Porterville east to Weldon. Maximum VI					
29	18:27:22	33 58	119 00	B	3.3	Off the coast near Point Mugu
30	12:49:17	33 58	119 02	C	3.1	Off the coast
30	13:27:43	33 58	119 01	C	2.8	Off the coast
30	17:11:21	36 50	116 27	D	3.6	East of Beatty, Nevada

Correction to previous report:
For 1948 June 7 07:52:22 read 07:05:22

C. F. Richter

H. J. Jones

PASADENA LOCAL SHOCKS



No. 4

October, November and December 1948

Date	P. S. T.	Lat.	Long.	Q	M	Remarks
Note: Times in this report are Pacific Standard Time. Add one hour for California daylight saving time.						

October

1	06:04:18	33 05	115 10	D	3.6	East of Calipatria
2	15:07:44	34 08	117 37	A	3.4	Near Claremont
2	18:46:28	34 11	117 35	A	4.0	Near Claremont
2	19:34:38	34 10	117 36	A	2.7	Near Claremont
3	12:08:51	34 45	116 40	C	2.9	South of Troy
4	06:22:10	34 01	119 00	C	3.8	Off coast - near Point Mugu
5	13:12:54	34 21	118 50	C	2.7	Near Fillmore
6	12:16:41	33 51	117 20	B	3.1	Near Riverside
8	17:06:00	33 54	118 26	B	2.5	Near El Segundo
11	10:29:34	33 59	117 31	B	3.0	Near Riverside
11	15:02:05	34 15	116 30	B	3.6	North of Morongo Valley
12	09:59:29	35 40	117 40	D	2.8	Near Inyokern? Felt at Weldon
12	10:32:41	34 12	116 30	C	2.7	North of Morongo Valley
13	04:05:48	32 50	118 35	B	3.0	Near San Clemente Island
13	16:57:22	35 50	118 28	C	2.7	South of Fairview. Felt at Kern River No. 3 Powerhouse
19	06:14:15	33 32	117 43	B	2.8	Near Laguna Beach
19	17:21:20	33 18	116 28	C	2.8	Near Warner Springs
21	22:13:02	34 20	118 50	C	2.8	Near Fillmore
21	23:59:17	34 19	116 58	C	2.7	Near Big Bear Lake
23	22:25:06	34 04	117 24	A	2.2	Near Bloomington
27	18:27:03	35 01	119 02	D	2.8	Near Wheeler Ridge
28	19:04:59	34.1	120.4	D	3.4	Off the coast. Felt at Arlight
29	03:22:26	34 14	117 00	C	2.8	Near Big Bear Lake
29	03:26:16	34 18	117 05	B	2.4	Near Big Bear Lake
29	15:59:07	34 10	117 13	C	3.1	Near Patton
30	22:03:26	34 20	117 04	C	3.0	Near Big Bear Lake

November

2	11:06:45	35 22	119 35	C	2.9	Near Santa Barbara
6	09:26:35	32 56	115 37	C	3.3	Near Brawley
6	10:06:10	32 56	115 37	C	3.4	Near Brawley
6	12:47:00	32 58	115 37	C	3.5	Near Brawley
10	15:56:13	35 02	115 52	B	4.1	North of Barstow
11	16:25:00	34 10	116 30	C	3.6	North of Morongo Valley
13	14:55:34	33 18	117 50	C	2.5	Off coast near Capistrano Beach
14	01:19:22	33 58	117 37	C	2.3	Near Chino
14	04:30:42	33 51	118 23	C	2.3	Near Redondo Beach
14	14:12:35	34 06	116 21	C	2.7	East of Morongo Valley
17	14:32:21	34 38	117 10	B	2.5	Near Victorville
19	15:02:06	34 04	117 26	B	2.2	Near Bloomington
19	15:12:36	34 04	117 26	B	2.0	Near Bloomington
19	18:38:06	34 04	117 26	B	2.3	Near Bloomington
22	01:47:59	33 02	116 24	B	3.3	Near Vallecito
25	01:38:37	34 15	116 45	B	2.7	Near Baldwin Lake
25	15:44:55	32 59	116 22	B	2.9	Near Vallecito
25	21:49:06	33 43	118 37	C	2.4	Off Point Vicente
27	04:38:59	34 22	116 56	C	2.5	Near Big Bear Lake
27	14:05:35	35 43	117 50	C	3.3	Near Inyokern
28	07:45:26	34 45	116 33	D	2.7	Near Troy
28	21:36:57	34 05	117 24	B	2.9	Near Bloomington
29	16:53:03	34 02	117 20	B	2.5	Near Loma Linda
29	23:20:37	33 10	116 28	B	2.6	Near Yaqui Well
29	23:32:04	34 19	116 41	C	2.6	Near Old Woman Springs
30	01:54:53	33 10	116 28	B	2.6	Near Yaqui Well
30	05:56:05	34 00	118 50	C	2.5	Near Point Dume

PASADENA LOCAL SHOCKS
(continued)



Date	P.S.T.	Lat.	Long.	Q	M	Remarks
<u>December</u>						
1	07:20:38	34 03	118 03	C	2.4	Near Montebello
2	00:58:13	33 56	118 08	C	2.0	Near Downey
3	22:44:20	34 26	119 43	C	2.8	Near Santa Barbara
4	15:32:51	34 25	119 30	C	2.7	East of Santa Barbara
4	15:43:17	33 53	116 20	B	6.7	For remarks and list of aftershocks see end of this issue.
6	20:40.9	32.3	115.0	D	3.7	Near the head of the Gulf of Calif.
7	22:46:00	34 57	117 00	B	2.5	Near Barstow
8	21:07:43	33 05	116 29	B	3.0	Near Julian
10	06:44:30	34 03	117 23	B	2.2	Near Riverside
10	14:28.5	32.7	115.6	D	3.4	Near Calexico. Small shock from same source 7m earlier
10	15:06:24	33 50	117 11	C	2.7	Perris
10	17:54:55	34 16	117 09	C	3.0	Near Green Valley Lake
11	02:47:57	33 12	116 17	B	3.5	Near Borego Springs
11	11:04:27	34 20	117 00	B	2.8	North of Big Bear Lake
16	07:41:17	35 04	117 00	B	2.7	Near Barstow
18	15:45:17	34 57	116 57	B	4.4	Near Barstow. Felt at Victorville, Hinkley, Helendale
19	06:42:04	35 04	117 00	C	2.6	Near Barstow
19	13:44:34	35 00	116 51	C	2.6	Near Barstow
19	20:42:46	35.8	121.5	C	4.5	Off coast near Piedras Blancas Point
25	20:08:52	32 07	115 30	C	3.5	Baja California. Near Volcano Lake
27	03:19:04	34 00	116 03	C	4.0	South of Twenty-nine Palms. Possibly a second shock is involved.
27	18:27				4.7	Largest of group of foreshocks; felt at Reno and Verdi, Nevada
28	04:53:41	33 29	116 42	B	4.0	Near Palomar. Felt at Oak Grove and Borego Valley
29	04:53:29	39.5	120.2		6.0	Epicenter and origin time by USCGS. Felt in Nevada and California. Damage in Verdi and Reno, Nevada
29	14:09:22	34 59	116 34	C	2.7	Near Manix
30	23:49:27	34 56	117 07	C	2.3	Near Barstow
31	04:36:50	33 51	118 22	B	2.2	Near Redondo Beach
31	06:17:23	36.2	121.7	D	3.9	Foreshock of next. Felt at San Luis Obispo (press)
31	06:35:38	36.2	121.7	D	4.6	Felt in the coastal area from Monterey Bay to Point Arguello. Maximum intensity VI at San Simeon and Piedras Blancas Point (USCGS)
31	15:39:57	35 31	117 28	C	2.6	Northeast of Randsburg.
31	16:35:52	36.2	121.7	D	3.8	Aftershock of 06h
31	17:17.9	36.9	121.6	D	4.5	Felt from San Francisco and Oakland to Big Sur and King City. Slight damage at Santa Cruz. Intensity VII on the Pajaro River near the epicenter (USCGS)

Charles F. Richter
S. Norman Domenico

April 28, 1949

Earthquake of December 4, 1948



Reports collected by the U.S.C.G.S. indicate that this shock was felt over an area of about 55000 sq. mi. (140000 km²) in California, Arizona and Nevada. Minor damage occurred in the towns of Palm Springs, Desert Hot Springs, and Indio. Maximum intensity VIII (horses and children thrown off their feet, large cracks opened) was reported in the area about 33°55' N. 116°25' W. This is near the Mission Creek fault, a northwest-southeast trending branch of the San Andreas fault system. Times of recorded first motion (those at Boulder City, Pierce Ferry and Tucson from original records of contact copies, by courtesy of the U.S.C.G.S.) are as follows:

	P.S.T.		
Palomar	15:43:30.8	Santa Barbara	15:44:01.4
Riverside	32.3	Pierce Ferry	02.9
La Jolla	40.3	Tinemaha	11.4
Mt. Wilson	42.4	Tucson	29.2
Pasadena	43.1		
Boulder City	55.7		
Haiwee	57.5		

Aftershocks were recorded by a portable seismometer set up by Mr. F. E. Lehner at four localities in the epicentral area. A temporary station for continuous recording was operated at Desert Hot Springs (33°57.7' N. 116°30.0' W.) from December 10, 1948 to March 24, 1949. An investigation of these shocks is in progress.

Shocks originating in the region of Desert Hot Springs, of magnitude 3.0 and over, December 4 - 31 inclusive, 1948:

	P.S.T.	M		P.S.T.	M
Dec. 4	15:43	6.7	Dec. 6	07:59	3.0
	15:46	3.9		20:49	3.3
	15:58	3.7		12:06	3.0
	16:03	3.4	Dec. 7	14:55	3.0
	16:07	4.9		00:38	3.0
	16:10	3.1		11:34	3.2
	16:27	3.1	Dec. 8	17:27	3.2
	16:40	4.4		01:18	3.1
	16:42	4.6		02:59	3.5
	16:46	3.6	Dec. 10	08:53	3.0
	16:51	4.4		12:09	3.1
	17:06	3.6		12:43	4.4
	17:16	3.5		21:19	3.1
	17:33	3.4		23:13	3.1
	18:21	3.1		23:22	3.1
	19:27	3.0	Dec. 11	08:12	4.5
	20:36	3.1		10:15	3.3
	21:21	3.4	Dec. 13	00:19	3.1
	23:48	3.4		02:14	3.1
Dec. 5	00:26	3.0		07:01	3.2
	00:33	3.0	Dec. 15	07:10	3.0
	01:28	3.9		08:42	3.8
	04:25	3.0		14:57	3.2
	04:51	3.7	Dec. 16	13:08	3.1
	05:18	3.5		06:31	3.0
	05:20	3.2	Dec. 22	15:00	3.2
	05:29	3.5		15:27	3.2
	14:26	3.1	Dec. 24	01:25	3.3
	16:46	3.0		15:36	3.5
	18:46	4.3	Dec. 26	21:24	3.0
	18:51	3.2			

Seismological Laboratory
220 N. San Rafael Avenue
Pasadena 2, California

Additional data on shocks felt October-December 1947:

October 12	23:25:07.	Felt at Van Nuys, Malibu (press), Santa Monica and Latigo Canyon (CGS).
October 13	06:06:48	Felt at Palm Springs (CGS)
November 7	19:02:08	Felt at Riverside (CGS)
November 9	18:22:55	Felt at Ludlow (CGS)
November 18	13:59:05	VI on San Nicolas Island (CGS)
November 25	09:09:24	Felt, Palm Springs (CGS)
December 16	01:21:03	Felt, San Lucas (CGS)
December 18	11:30:06	Felt, Parkfield (CGS)
December 18	16:42:50	Felt, Parkfield (CGS)
December 30	11:19:14	Felt, Barstow (CGS)

Charles F. Richter

June 4, 1948