

PASADENA, LOCAL SHOCKS

No. 1

January, 1940

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
1	04:49:29	32°32'	116°11'	C	3.5	Lower California.
	10:42:29	33 25	116 48	C	3.5	East shore of Salton Sea.
3	23:15:32	34 01	117 16	C	2.5	Near Riverside.
4	00:07:11	33 18	116 18	C	4	Near Clark Lake.
	22:20:52	33 09	119 27	C	4	Near San Nicolas Island.
5	00:42:55	33 10	116 25	C	3	Near Verruga.
6	21:03:06	33 23	115 36	C	3.5	East of Salton Sea.
	23:12:41	33 23	115 36	C	3.5	Same as preceding.
10	19:40:21	33 47	118 08	B	3.5	Near Long Beach. Felt: Long Beach, Compton, Wilmington, etc. (P, USCGS). One small foreshock and 9 small aftershocks up to 11d 06h.
12	08:00:43	33 40	117 13	C	3	Near Lake Elsinore.
	23:49:07	33 47	118 08	B	4	Felt: Long Beach, Huntington Park, Compton, San Pedro, Southgate, Los Angeles, Inglewood, Alhambra, Glendale, etc. (P, CGS).
16	10:56:04	34 10	116 50	C	3.5	San Bernardino Mountains.
	17:52:57	34.6	116.9	D	2.5	Mojave Desert.
	20:26:35	35 00	117 00	C	3	Mojave Desert.
17	18:24:37	35 00	117 00	C	2.5	Mojave Desert.
	21:16:58	33 46	118 06	B	3	Near Long Beach. Felt: Seal Beach. (CGS).
	21:37:26	33 46	118 06	B	2.5	Same as preceding.
18	09:18:49	34 58	118 59	C	2.5	Vicinity of Wheeler Ridge.
19	02:06:00	33 25	116 25	C	3	West of Salton Sea.
26	06:28:30	35 37	118 12	B	3.5	Sierra Nevada vicinity of Weldon. Felt: Bodfish, Onyx. (CGS)
28	12:33:52	33 38	118 12	C	3	San Pedro Bay. Felt: Torrance. (CGS)
	17:59:11	33 07	116 25	C	3	Near Verruga.

February, 1940

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
4	08:02:08	34°18'	118°18'	B	3	Tejunga Canyon.
7	21:39.3	33.5	115.8	D	3	East of the Salton Sea?
8	00:06	40	122	D	6	Northern California. Felt.
	08:56:17	33 42	118 04	B	4	Off Bolsa Chica. Felt: Compton, Huntington Park, Los Angeles, Long Beach, Seal Beach, (P, CGS).
	17:53:00	33 00	116 15	B	3.5	Vallecito Mountains.
9	02:16:55	33 37	117 25	B	3	Near Lake Elsinore.
	03:11:44	33 20	117 05	B	3	Elsinore fault near Pala.
	03:44.8	33 28	116 35	C	2.5	Terwilliger Valley.
	03:48:58	33 20	117 05	B	3	Elsinore fault near Pala.
11	07:47:33	33 58	116 58	C	3.5	Near Cabezon. 2 shocks. The second very small.
	11:24:10	33 59	118 18	B	4	Southwest Los Angeles. Felt: Santa Monica, Hollywood, Venice, Redondo, etc. (P, CGS).
	13:12:01	33 59	118 18	B	2.5	Vicinity of Aguanga.
14	13:32:48	33 30	116 55	C	2.5	Elsinore fault near Alberhill.
19	04:06:58	33 42	117 26	B	4.5	Felt: Riverside, Palm Springs, San Juan Capistrano, San Bernardino, Hemet, Ontario, Pomona, Coachella Valley, etc. (P, CGS).
	04:17:31	33 42	117 26	C	3	Same as preceding.

Continued

No. 2

PASADENA, LOCAL SHOCKS

February, 1940 (Continued)

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
22	02:38:02	33 45	117 20	B	3.5	The Gavilan. Felt: Moreno, Riverside. (CGS)
24	01:38:00	37 30	118 32	C	4.5	Sierra Nevada north of Bishop. Felt at Owens River Gorge. (CGS)
25	01:48:37 13:23:47	37 30 33 40	118 32 117 33	C B	3.5 3	Same as preceding. Felt. (CGS) Northwest of Elsinore. Felt in Silverado Canyon. (P)
27	03:40:25	34 15	119 30	B	3	Santa Barbara Channel.
28	09:28:07	33 08	116 05	B	4.5	San Jacinto fault. Felt in San Diego and Brawley. (P, CGS)

March, 1940

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
2	02:28:15	33°42'	117°20'	C	3	Elsinore fault zone near Alberhill.
	05:27 ±	37	122	D	4	Felt at Santa Cruz. (P)
3	06:27:17	33 42	117 20	C	3.5	Elsinore fault near Alberhill.
5	09:06:04	34 03	117 20	C	2.5	Near Riverside.
8	02:40:46	33 28	116 35	B	3	Terwilliger Valley.
10	10:01.9±	37	115	D	5	Nevada.
	16:06	37	115	D	4.5	Nevada.
11	12:18:03	34 01	118 09	B	2.5	Southcoast Los Angeles.
12	03:39:40	34 07	117 25	B	2.5	Near Rialto.
13	03:19:50	35 15	116 57	C	3	Mojave Desert.
14	10:29:09	34 05	118 18	C	2.5	Santa Monica Mountains.
15	15:41:50	33 50	117 24	C	2.5	The Gavilan District.
20	02:22:23	33 08	116 05	B	3.5	San Jacinto fault west of the Salton Sea.
	17:21:09	33 45	117 15	B	3.5	Vicinity of Perris.
25	13:18.5±	36.8	117.1	D	4	Northern end of Death Valley.
27	03:06:19	33 46	119 07	C	3	Santa Barbara Channel.
29	01:47:01	34 40	118 25	C	3.5	San Andreas fault near Elizabeth Lake.
	20:09:23	33 47	118 08	B	2.5	Near Long Beach.

C. F. Richter

R. E. Rogers

PASADENA, LOCAL SHOCKS

April, 1940



Date	P.S.T.	Lat.	Long.	Q	M	Remarks
7	00:42.0	37°	115°	D	4.5	Nevada.
8	05:34:39	37 35	118 25	B	4	Mono County. Felt: Bishop, Dinuba, Laws, Lindsay, Visalia, etc. (P, CGS)
12	19:55:08	33 51	117 25	B	3	The Gavilan District.
17	17:03:14	33 10	116 25	C	3	Near Verruga.
18	10:34:44	34 04	117 23	B	4.5	Felt generally, San Bernardino to Glendale, etc. (P, CGS)
	13:21.6	33.2	115.5	D	3.5	Felt at Calipatria. (P)
	16:44:32	34 00	116 20	C	2.5	Little San Bernardino Mountains.
24	05:16:58	33 47	118 23	B	3.5	San Pedro Hills. Felt: Santa Monica, San Pedro, Redondo, etc. (P, CGS)
28	22:57.5	32	115	D*	3.5	Felt: Calexico and El Centro. (P, CGS)
	23:33.0	32	115	D*	3.5	Felt: Calexico and El Centro. (P)
29	00:48:00	32 44	115 27	C*	4	Felt at El Centro. (P, CGS)

*These shocks probably from same epicenter.

May, 1940

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
1	16:53:07	32°05'	116°40'	B	3.5	Lower California.
4	05:21:38	35.9	117.8	C	3	Coso Mountains east of Little Lake.
	08:00:22	34 19	118 24	B	2.5	Tujunga Canyon.
5	01:38:40	34 00	115 45	C	3	Pinto Mountains.
7	13:33:41	34 03	116 17	C	3	Little San Bernardino Mountains.
8	09:40:00	37 53	118 30	C	4	Mono County.
10	06:46:40	33 43	116 18	C	3.5	Near Indio. Felt at Thermal. (P)
17	21:03:59	34 03	116 17	B	5.5	Little San Bernardino Mountains. Felt generally up to 150 km. from epicenter. About 50 aftershocks of M 2.5 to 3 in 8 hours following. See list at end of report for other aftershocks.
18	01:15:12	34 36	118 54	C	4	North of Fillmore. Felt at Fillmore and Moorpark. (P)
	01:26:28	34 36	118 54	C	3	Felt at Fillmore. (P)
	20:36:40	32 44	115 27	B	6.5	Imperial Valley. Damage in all towns of Imperial Valley. About 50 aftershocks of M 3 in 8 hours following main shocks. See list at end of report for other aftershocks.
19	00:02	30?	115?	D	4.5	Gulf of California?
	10:06	30?	115?	D	4.5	Gulf of California?
	11:07	30?	115?	D	4.5	Gulf of California?
21	02:05:34	35 17	120 29	B	4	Slight damage at San Luis Obispo.
22	22:39:45	33 50	117 24	C	2.5	The Gavilan. Felt at Riverside. (CGS)
23	05:31:05	33 50	117 24	C	3	Felt at San Bernardino. (CGS)
26	00:50	31	115	D	4.5	Gulf of California?

Shocks originating near 34°03' 116°17' Little San Bernardino Mountains, recorded:

May	P.S.T.	M	May	P.S.T.	M	May	P.S.T.	M	May	P.S.T.	M
17	21:51:21	5.5	18	18:27:30	4.5	21	22:31:37	4	28	00:03:48	3.5
	22:04:31	4.5		19:51:45	4	22	06:10:05	4	31	21:27:00	4.5
	23:21:33	5	19	11:39:41	4	23	07:04:49	3.5		21:56:46	4
18	05:47:19	4.5	21	21:24:41	3.5	26	19:27:27	4		22:54:28	4.5
	18:26:02	4.5		22:03:55	3.5	27	07:37:03	3.5			

Correction: April 19d05h29m, 1939 should read 33°21' 117°53' C 3
 Jan. 1d10h42m, 1940 should read 33°25' 115°48' C 3.5

Preliminary Note

Imperial Valley earthquakes, May 1940.

The following are recorded times of P:

Palomar	04:37:04.9	May 19, G.C.T.
La Jolla	08.3	
Riverside	14.5	(Readings at Tucson and Boulder City
Pasadena	23.1	from original records, courtesy USCGS
Mt. Wilson	23.2	and USRS).
Boulder City	32.5	
Santa Barbara	41.3	
Haiwee	41.4	Position of Palomar: 33°21'N., 116°52'W.
Tucson	42.0	
Tinemaha	55.0	

Preliminary calculation yields origin time 04:36:40 May 19, G.C.T. (20:36:40 P.S.T., May 18), and epicenter at 32°44'N., 115°27'W. This point is southeast of El Centro. There was damage in all towns in Imperial Valley, much increased at Brawley by an aftershock at 05:50 G.C.T. (21:50 P.S.T.) Canals were also seriously damaged, with consequent interruption of water service and loss of crops, so that the total loss and damage may amount to as much as six million dollars. Nine persons were reported killed.

A nearly straight fault trace ruptured the surface for a known length of over 40 miles, extending from a point between Imperial and Brawley in a direction about S.35°E. crossing the international boundary about 8 miles east of Calexico and Mexicali. The trace passes within a few kilometers of the instrumental epicenter. The southwest side is uniformly displaced northwest with reference to the northeast side; vertical displacements are generally smaller, and change rapidly along the trace, with frequent reversals of throw.

Near the international boundary horizontal displacements are 15 feet or more, with vertical displacements up to 4 feet. Roads, railroads, fences, and canals are offset by these amounts.

No immediate foreshocks occurred. At 05:03:59 May 18, G.C.T. (21:03:59 May 17, P.S.T.) an earthquake originated near 34°03'N., 116°17'W. (not far from Twenty-nine Palms) This was felt over a wide area, but because of the desert location of the epicenter no damage resulted. Aftershocks of both this and the Imperial Valley shock continued for several weeks. During this period there were numerous shocks from other sources in Southern California. One of these, on June 4 at 10:35:10 G.C.T. (02:35:10 P.S.T.), with epicenter at 33°07'N., 116°35'W, (southeast of Warner's), damaged the canal system on the west side of Imperial Valley.

C. F. Richter

August 6, 1940.

Shocks originating near $32^{\circ}44'$ $115^{\circ}27'$ Imperial Valley, recorded:

May	P.S.T.	M	May	P.S.T.	M	May	P.S.T.	M	May	P.S.T.	M
18	20:48:47	4.5	18	22:33:20	5	19	05:40:58	4	21	06:00:35	3.5
	20:55	5.5		22:35:40	5.5+		07:30:33	4.5		13:30:47	4
	21:04	4.5		23:01:34	4.5		07:51:49	3.5	22	02:58:31	4.5
	21:44:37	4.5	19	00:55	4		22:27:17	3.5		10:35:07	3.5
	21:51	?		01:18	4		23:05:59	3.5		12:56:21	3.5
	21:51:34	5.5+		04:09:27	4	20	03:13:30	3.5		16:12:19	3
	21:57:17	4.5		05:06:43	4	21	04:41:54	3.5		19:18:17	3.5
	22:17:42	4.5									

June, 1940

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
2	21:42:8	38.6	117.8	D	4	Nevada.
4	02:35:10	33°07'	116°25'	B	5	Near Verruga. Felt: Warners, San Diego, Ramona, etc.
	02:36:56	33 07	116 25	C	4	Aftershock.
	02:49:36	33 07	116 25	C	3	Aftershock.
	03:14:42	33 07	116 25	C	3.5	Aftershock.
	03:56:57	33 07	116 25	C	3.5	Aftershock.
	Approximately 18 small aftershocks up to June 5d 0h					
5	00:27:27	33 50	117 24	B	4	Near Riverside. Felt: San Bernardino, Colton, Riverside, Fontana, Corona. (P, CGS)
	18:27:16	33 57	117 33	B	3.5	Near Riverside. Felt: Riverside, Etiwanda (CGS)
6	15:21:04	33 16	116 24	B	4	Near Clark Lake. Felt: Borego, Santa Ysabel, Cuyamaca Peak, El Centro. (CGS)
	15:28:26	32 54	115 13	C	3.5	Vicinity of Holtville.
7	02:25:23	34 53	117 00	B	3.5	Mojave Desert near Barstow.
	13:28:24	33 07	116 25	C	3	Near Verruga.
	16:30:01	33 59	118 18	B	3	Southwest Los Angeles. Felt: Inglewood, Hawthorne, Los Angeles.
16	01:25:04	34 33	120 47	C	4	Off Point Arguello. Felt at Los Alamos (CGS)
19	09:46:01	33 17	116 18	C	3.5	San Jacinto fault near Clark Lake.
23	21:30:12	33 33	118 21	C	3.5	San Pedro Channel. Felt: San Pedro, Seal Beach. (CGS)
24	21:13:37	33.8	117.9	C	2.5	Near Santa Ana.
26	00:56:00	36 05	120 19	C	3.5	Near Coalinga.
	23:05	31	115	D	4	Near head of Gulf of California.
27	20:06:42	34 33	120 47	C	3	Off Point Arguello.
29	03:05:26	34 13	116 35	C	3	Vicinity of Baldwin Lake.

Shocks originating near $34^{\circ}03'$ $116^{\circ}17'$ Little San Bernardino Mountains, were recorded:

June	P.S.T.	M	June	P.S.T.	M	June	P.S.T.	M
1	00:44:47	3	7	07:35:34	3.5	15	11:16:52	2.5
	22:13:09	4.5		13:46:13	3.5		11:33:50	2.5
5	06:03:54	3	8	09:10:32	4	17	16:12:55	2.5
6	06:09:58	3.5	10	18:35:10	3		22:14:33	3.5
	13:07:23	3	11	08:34:23	3	18	19:09:50	3.5
	14:21:14	4.5		11:51:18	4.5	20	02:20:39	3
	15:48:49	4		12:35:30	3.5	22	19:30:24	3
	15:56:36	4.5	13	08:53:58	3.5		23:07:08	3.5
	18:10:33	3.5	14	02:20:36	3.5	24	08:39:36	4
	18:24:09	3		05:57:40	3.5	27	10:16:52	3
7	01:48:25	3		13:58:50	4		16:44:41	3

No. 5

PASADENA, LOCAL SHOCKS

Shocks originating near $32^{\circ}44'$ $115^{\circ}27'$ Imperial Valley, were recorded:

June	P.S.T.	M	June	P.S.T.	M	June	P.S.T.	M
1	14:40:09	3	4	05:03:18	3.5	6	21:11.8±	3.5
	15:41:58	3		15:33'?	3		21:20:58	4
	15:54:14	4	5	13:12:23	3.5	25	20:54:44	3.5
	15:59:36	4.5		14:53:40	3.5	28	12:52:08	3.5

July, 1940

Date	P.S.T.	Lat.	Long.		Remarks
1	13:01:19	33°57'	116°27'	C 3	Little San Bernardino Mountains.
3	19:46:08	32 44	115 27	C 3.5	Imperial Valley.
6	17:50:51	34 06	117 20	B 3.5	Near Riverside. Felt: San Bernardino, Lytle Creek. (CGS)
7	10:43:00	31 40	115 05	C 5	Near head of Gulf of California. Felt at Lakeside. (CGS)
8	02:04:45	38 35	117 50	C 4.5	Near Mina, Nevada.
	02:57:40	37 27	119 00	C 5	Sierra, south of Mammoth. Felt in Yosemite. (P)
11	05:34.8±	32.9	117.5	D 2.5	Small shock off coast of San Diego County.
12	19:23:27	34 59	118 35	C 3	Garlock fault.
13	08:39:23	33 05	115 59	C 4	San Jacinto fault at Carrizo Creek.
	09:45:09	33 05	115 59	C 3.5	Same as preceding.
	14:50:49	33 05	115 59	C 3.5	Same as preceding.
	16:01:44	33 05	115 59	C 4	Same as preceding.
14	18:32:41	32 44	115 27	C 4	Imperial Valley.
15	12:47.3	33.9	116.5	D 2.5	Vallecito Mountains?
16	10:05.9	33.6	118.0	D 2.5	Off Huntington Beach?
17	10:28.0	33.6	118.0	D 2.5	Same as preceding.
19	20:01:13	33 42	118 04	B 4	Off Bolsa Chica. Felt: East Long Beach, Naples, Belmont. (P)
20	10:07:49	33 42	118 04	C 3	Off Bolsa Chica.
21	00:36:02	33 05	115 59	B 4.5	San Jacinto fault at Carrizo Creek.
	06:14:50±	37 27	119 00	C 3.5	Sierra, south of Mammoth. Felt at Benton. (CGS)
	14:15:40	37 27	119 00	C 3.5	Benton. (CGS)
	19:22:02	33 46	117 55	B 3	Near Santa Ana. Felt: Placentia, Yorba Linda. (P)
	22:24:14	33 59	118 23	B 3	Southwest Los Angeles. Felt: West Los Angeles, Beverly Hills, Santa Monica, Redondo, Inglewood, Hollywood. (P, CGS)
22	15:00:33	37 38	118 52	B 4.5	Felt in Long Valley and Benton, Mono County. (CGS)
	20:32:12	37 38	118 52	C 3.5	Long Valley.
26	15:02:25	34 03	116 17	C 3	Little San Bernardino Mountains.
	18:50:32	34 03	116 17	C 3.5	Same as preceding.
29	04:14:24	35 06	119 05	B 3.5	San Joaquin Valley south of Bakersfield.
	12:53:23	33 05	115 59	C 3.5	San Jacinto fault at Carrizo Creek.

August, 1940

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
1	11:31:40	34°03'	116°17'	C 4		Little San Bernardino Mountains.
4	10:15:20	34 03	116 17	B 4		Little San Bernardino Mountains.
6	07:33:53	34 50	119 13	B 3.5		Vicinity of Stauffer, Ventura County.
7	13:51:31	33 22	116 55	C 3		Near Palomar. Felt at Aguanga and Palomar. (CGS)
12	14:59:13	35 24	117 51	B 3.5		Garlock fault near Saltdale.
13	14:07:29	36 14	120 19	B 4		Near Oil City, Fresno County.

Continued

No. 6

PASADENA, LOCAL SHOCKS
August, 1940

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
Continued						
16	00:58:17	33°34'	117°59'	0	3	Off Newport Beach.
	06:20:20	33 57	118 38	C	3	Santa Monica Bay.
19	10:24:42	34 02	117 41	B	3	Near Chino. Felt at Upland. (CGS)
	15:04:21±	33 34	117 59	C	2.5	Off Newport Beach.
20	22:55.3±	39	117	D	3.5	Nevada.
23	13:29:31	34 35	117 23	B	3.5	Mojave Desert, vicinity of Victorville.
26	09:15:28	36 20	118 15	C	3.5	Sierra, about 40 km. northwest of Haiwee.
	14:49:32	35 33	116 59	C	3.5	Garlock fault about 35 km. southeast of Trona.
	22:40:19	33 59	118 18	C	2	Felt in Culver City.
27	20:53:41	36 02	118 30	B	3.5	Upper Kern River. Felt in that district. (P)
28	03:02:54	34 11	117 20	B	3	Arrowhead district.
30	08:34:09	32 44	115 27	C	3.5	Imperial Valley.
	22:39:01	33 47	118 08	B	3	Near Long Beach.
31	00:52:46	34 33	120 47	B	3.5	Off Point Arguello.
	09:36:32	34 03	116 17	C	3	Little San Bernardino Mountains.

September, 1940

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
1	20:30:21	33°34'	117°59'	B	3	Off Newport Beach.
4	22:58:48	34 03	116 17	B	3	Little San Bernardino Mountains.
5	01:33:10	34 03	116 17	C	3.5	Little San Bernardino Mountains.
	07:31:56	34 07	118 45	C	2.5	Vicinity of Cornell, Los Angeles County.
	22:08:03	34 03	116 17	C	2.5	Little San Bernardino Mountains.
7	02:36.5	36.5	121.5	D	3.5	Monterey County.
	02:38.6	36.5	121.5	D	3.5	Monterey County.
	05:02.1	36.5	121.5	D	4.5	Monterey County.
9	17:40:36	36 08	117 57	B	2.5	Near Haiwee.
11	16:06.5	31.7	115.1	D	4	Lower California.
	16:15.5	31.7	115.1	D	4.5	Lower California.
12	12:03:01	33 30	116 55	C	3	Agua Caliente fault vicinity of Aguanga.
13	03:59:57	32.1	114.3	C	5	Near head of Gulf of California.
	06:45:48	32 05	117 50	B	4.5	Off coast of Lower California.
	14:55:07	32 05	117 50	B	3.5	Same as preceding.
15	18:48:11	32 44	115 27	C	3	Imperial Valley.
17	20:23:24	33 49	118 27	B	3	Off Redondo Beach. Felt: Redondo, Hermosa, Torrance, Manhattan. (P)
18	17:33:11	34 00	116 30	B	3.5	Little San Bernardino Mountains.
19	00:20.6±	38	121	D	4	Central California?
20	04:21	37	114	D	4	Nevada.
	10:59	36	121	D	4	Monterey County.
21	21:31.3	34.0	118.3	C	2	Southwest Los Angeles City.
27	09:03	40	124	D	4.5	Felt at Eureka, California
29	21:09:47	34 03	116 17	C	2.5	Little San Bernardino Mountains.
30	22:25.3	33.3	116.3	C	3	Vicinity of Clark Lake.



No. 7

PASADENA, LOCAL SHOCKS
October, 1940

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
4	02:54:21	33°54'	118°19'	B	3	Southwest Los Angeles. Felt: San Fernando, Van Nuys, Wilshire district, Beverly Hills, Eagle Rock. (P)
6	10:19:53	33 08	116 05	B	4	San Jacinto fault west of Salton Sea.
	13:26:43	33 46	118 06	B	2.5	Near Long Beach.
7	16:39.8	33.1	116.1	C	3	West of Salton Sea.
9	05:01:23	33 30	116 55	C	3	Near Aguanga.
10	09:07:55	32 44	115 27	C	3.5	Imperial Valley.
	15:19:15	34 06	116 53	C	2.5	San Bernardino Mountains.
	19:38:16	34 20	116 56	B	3	San Bernardino Mountains.
	21:57:13	33 47	118 35	B	5	Santa Monica Bay. Felt generally to distances of 75-100 km. from epicenter. Minor damage at Redondo and Manhattan Beach.
	23:49:49	33 47	118 35	B	3.5	Santa Monica Bay.
11	15:01:04	37 10	118 19	C	3	Near Tinemaha.
	16:24:00	33 47	118 35	B	4	Santa Monica Bay.
	19:18:46	33 47	118 35	B	3.5	Santa Monica Bay.
	19:45.7	31.7	116.5	D	4	Off coast of Lower California.
13	03:54:51	32 56	116 25	C	3.5	Vallecito Mountains.
14	12:51:11	33 47	118 35	B	4	Felt: Venice, San Pedro, Los Angeles, Redondo, etc.
15	05:51:40	33 00	116 15	C	3	Vallecito Mountains.
16	09:52:13	33 08	116 05	C	4	San Jacinto fault west of Salton Sea.
	10:04:06	33 47	118 35	C	2.5	Santa Monica Bay.
17	02:18:07	32 44	115 27	C	4	Felt at El Centro and Brawley, Imperial Valley. (P)
20	14:18:45	34 33	120 47	C	3	Off Point Arguello.
	22:49:33	33 07	116 25	B	4.5	Agua Caliente fault near Aguanga.
	23:16:46	33 07	116 25	C	3	Same as preceding.
23	10:31:31	34 49	119 00	C	3	Vicinity of Stauffer, Ventura County.
26	03:21:23	33 00	116 15	C	3.5	Vallecito Mountains.
31	23:25:03	33 47	118 35	B	4	Santa Monica Bay. Felt in Los Angeles area.

R. E. Rogers

C. F. Richter

PASADENA, LOCAL SHOCKS
November, 1940

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
1	02:32.2	37.5	118.3	C	3.5	Near Shealy, Mono County?
	05:20:25	33 47	118 35	C	3	Santa Monica Bay. Felt at Redondo (P)
	12:00:46	33 38	118 12	B	4	San Pedro Bay. Felt: Long Beach, San Pedro, Seal Beach, Huntington Beach (P)
	18:58:26	33 47	118 35	B	4	Sta. Monica Bay. Felt: Sta. Monica, Redondo, Compton, etc. (P, CGS)
3	18:00:55	34 20	117 00	C	3	San Bernardino Mountains
4	22:04:35	33 57	118 08	B	3.5	Norwalk fault near Downey. Felt: Los Angeles, Beverly Hills, East Los Angeles, Monterey Park (P)
6	12:44:15	33 47	118 35	B	3	Sta. Monica Bay. Felt: Redondo, Hermosa, Manhattan Beach, Torrance. (P)
8	14:20:45	35 20	124 40	C	5	Off the coast of California
	22:56:48	34 20	117 00	B	3.5	San Bernardino Mts. Felt at Fawnskin (CGS)
10	02:25:10	34 21	119 46	C	4	Felt at Sta. Barbara, Goleta (P, CGS)
16	23:00:40	33 47	118 35	B	3	Sta. Monica Bay
17	01:41:36	33 08	116 18	C	3	Vicinity of Verruga
	12:05:51	33 55	118 13	C	3	Southwest Los Angeles. Felt there (P, CGS)
	13:23:43	35 00	119 30	C	3	Near Maricopa
19	08:47:43	32 45	116 00	C	3.5	Vicinity of Coyote Wells
22	04:36.9	33.1	116.0	D	3.5	San Jacinto fault near Carrizo Creek?
	21:52:58	33 10	116 08	B	3.5	San Jacinto fault west of Salton Sea
24	05:04:44	32 44	115 27	C	3.5	Imperial Valley. Felt at Brawley (CGS)
	06:22:57	34 45	117 50	C	2.5	Mojave Desert
25	22:27:21	33 47	118 35	B	2.5	Off Palos Verdes. Felt at Redondo (P)
29	00:20:26	34 30	116 42	C	3	Mojave Desert
	14:25.6	33.2	116.2	C	3	West of Salton Sea

Corrections to previous reports:

1939, June 24, 17:49, should read: 32°45'118°12' C 4.5

1940, April 18, 10h, should read: 10:43:44

May 23, 07:04:49 should read: May 24, 07:04:49

June 29, 03:05, should read: 33°56'116°41', near Cabezon

Sept. 1, 20h, should read: 22:30:21

Sept. 13, 03:59:57, should read: 03:49:57

Oct. 16, 10:04, should read: 33°57'118°35' C

December, 1940

3	18:16:17	33 56	116 41	B	3	Near Cabezon. Felt at East Highlands (CGS)
4	14:16:39	33 25	116 45	C	3	Vicinity of Palomar Mountain
7	02:33:10	34 48	117 05	B	3	Southwest of Barstow
	14:16:27	31 40	115 05	C	6	Near head of Gulf of California. Felt: Heber, Lakeside, Spring Valley, Jacumba, Calexico, San Diego. (P, CGS)
8	16:35:02	31 40	115 05	C	4	Aftershock
9	00:20:27	33 56	116 45	B	3	Near Cabezon. Felt: Banning, Beaumont, Cabezon, Palm Springs, San Geronio Pass (P, CGS)
	02:19.2	31 40	115 05	C	4	Near head of Gulf of California
12	17:39:53	34 01	117 26	C	2.5	Near Riverside. Slightly deeper than usual.
20	15:40.7	40	124	D	5.5	Felt at Eureka, Calif.
23	13:07:59	34 02	117 38	B	2.5	Blast(?) near Cucamonga(?)
24	03:45:06	36 00	118 24	B	3	Sierra, west of Haiwee
	13:44:35	33 37	118 00	B	3	Off Huntington Beach