

No. 7

PASADENA LOCAL SHOCKS
JANUARY - MARCH 1946

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
<u>January</u>						
1	15 56 32	32 43	117 25	B	3.3	Offshore west of San Diego; felt at San Diego (P, CGS).
5	16 53 37	33 53	117 22	C	2.5	Near Cajalco Reservoir
8	10 54 18	33 00	115 50	C	5.4	San Jacinto fault near Superstition Mts. Felt from Imperial Valley to San Diego.
9	14 52 43	32 00	115 50	C	3.5	San Jacinto fault near Superstition Mts.
9	15 40 54	33 08	116 20	C	3.0	Near Yaqui Well.
11	12 23 52	34 05	116 48	B	3.1	Mission Creek fault south of San Geronio Peak.
13	08 31 15	37 19	118 39	C	4.7	West of Bishop. Felt from Madera (Calif.) to Hawthorne (Nevada).
13	09 12 58	34 24	117 56	B	3.7	Southwest of Valyermo. Felt in Pasadena, Glendale, Los Angeles.
16	03 06 54	32 53	115 37	C	4.2	South of Superstition Mts.
17	04 21 41	34 48	118 58	B	3.4	San Andreas fault southwest of Lobe
26	06 34 35	34 02	116 36	B	3.2	South of Morongo Valley.
31	15 12 39	33 50	118 06	C	2.9	North of Los Alamitos. Felt, Southgate and Long Beach.
31	15 14 21	33 50	118 06	C	2.0	North of Los Alamitos.
31	15 24 58	33 51	118 16	D	2.1	Southwest of Dominguez.
31	23 45 06	34 07	115 53	B	3.0	East of 29 Palms.
<u>February</u>						
3	23 03 59	33 55	119 00	C	2.8	West of Point Dume
4	03 10 21	33 37	117 58	C	2.6	Off Newport Beach
5	08 04 35	33 28	116 38	B	3.6	San Jacinto fault southeast of Anza.
5	08 05 19	33 28	116 38	B	3.2	San Jacinto fault southeast of Anza.
6	02 18.5	32.2	115.4	D	3.6	Near Laguna Salada.
6	16 22 37	33 59	117 15	C	2.5	Near Riverside.
7	01 00 49	33 22	116 24	C	2.8	San Jacinto fault near Clark Lake.
7	01 01 35	33 22	116 24	C	2.3	San Jacinto fault near Clark Lake.
8	18 55 28	34 20	119 55	C	2.5	Near Santa Barbara
10	03 01 18	36 10	120 55	C	4.8	East of San Lucas. V at San Benito. Felt as far as Santa Cruz (CGS).
13	02 19 37	34 56	117 22	B	3.7	West of Barstow.
13	13 02 01	34 48	119 12	C	2.7	West of Tejon Pass.
14	22 16 45	34 04	117 31	B	2.8	Cajon Pass
15	06 23 35	33 10	116 20	B	2.9	South of Borego postoffice.
15	15 11 33	35 18	118 38	C	2.7	Near Caliente.
17	09 58 17	34 26	116 29	C	2.8	East of Old Woman Springs.
17	11 31 25	34 01	117 31	C	2.8	Near Mira Loma.
20	01 48 35	33 09	115 57	C	3.0	Northeast of Bailey Wells.
20	05 11 38	34 03	118 05	C	2.8	North of Montebello. Felt in Pasadena and Los Angeles.
23	21 22 08	34 12	116 55	C	2.9	Near Barton Flat. Felt near there.
23	22 07 52	34 24	117 48	C	4.1	Southeast of Valyermo. Felt there, at Little Rock and Acton, and from Sierra Madre to Glendale (CGS).



March

6	06 08.3	34.7	118.7	D	2.4	Southwest of Gorman
7	11 13 09	31 55	117 08	C	3.7	Northwest off Punta Banda, Baja Cal.
9	07 35 11	34 00	116 39	C	3.1	Mission Creek fault southeast of Morongo Valley.
11	10 46 00	34 20	116 29	C	2.7	Southwest of Old Woman Springs.
15	05 20 01	35 44	118 02.5	B	5	Near Walker Pass
15	05 49 36	35 44	118 02.5		6.3	Near Walker Pass; principal shock. For aftershocks during March see list below.
15	21 49 23	33 57	118 17	C	2.9	Southeast of Inglewood; on branch of Inglewood fault.
17	06 45 53	38.3	117.9	D	5.0	Two or three shocks. Southwest of Hawthorne, Nevada.
24	18 43 32	34 07	117 18	B	2.7	Near San Bernardino.
30	14 40 48	34 22	116 47	C	3.0	Southwest of Old Woman Springs.
31	05 52 23	33 21	116 59	C	3.2	West of Palomar.

Walker Pass Shocks March 15-31, 1946

Small shocks of this group were very numerous. The following shocks in the first 12 hours exceeded magnitude 4:

Date	Origin time	M
March 15	05 20 01	5.2
15	05 49 36	6.3
15	06 00 37	5.3
15	07 00 09	4.4
15	11 18 55	5.4
15	13 54 35	5.2
15	14 54 02	4.2

The following shocks after 17:20 on March 15 exceeded magnitude 3:

Date	Origin time	M	Date	Origin time	M	Date	Origin time	M
March 15	17 54 18	3.8	March 17	17 15 09	4.1	March 21	02 49 05	3.1
15	17 59 25	3.7	17	18 36 24	3.2	21	05 12 36	3.3
15	20 07 56	3.7	17	19 00 22	4.1	21	11 35 04	3.7
15	21 15 29	3.2	17	19 12 19	3.1	21	20 23 20	3.8
15	23 53 18	3.6	17	20 19 20	3.1	22	01 50 06	3.0
16	00 15 35	3.8	17	21 43 41	3.5	22	02 08 33	4.1
16	01 46 20	5.1	18	00 58 51	3.6	22	04 36 10	3.9
16	05 07 05	4.1	18	02 05 56	4.9	23	01 37 03	3.3
16	05 24 41	3.6	18	02 18 10	3.0	23	01 50 52	3.0
16	07 22 31	3.6	18	07 04 33	3.5	23	02 22 13	3.0
16	09 35 34	3.6	18	07 49 28	4.8	23	18 56 46	4.4
16	10 43 59	3.7	18	07 50 43	5.3	23	21 17 29	4.1
16	11 53 59	4.0	18	07 55 35	3.5	24	06 14 58	3.5
16	12 08 08	3.8	18	08 03 46	4.1	24	12 00 04	4.5
16	13 40 47	3.9	18	08 54 18	3.9	24	14 05 34	3.4
16	15 41 06	3.7	18	09 17 37	3.5	24	15 38 49	3.2
16	15 44 35	3.6	18	10 28 15	3.5	25	00 38 45	3.4
16	18 23 11	3.5	18	13 12 31	3.6	25	03 07 29	3.6
16	18 55 26	3.6	18	18 55 09	3.5	25	12 32 59	3.5
16	22 03 47	4.4	18	22 03 18	3.5	25	15 36 45	4.3
17	00 16 36	4.6	19	00 15 46	3.6	25	22 07 13	4.1
17	00 25 40	3.4	19	00 45 42	3.5	25	22 33 53	3.6
17	01 04 44	3.7	19	05 41 53	3.2	25	03 50 47	3.7
17	01 24 53	3.6	19	08 59 20	3.2	26	14 39 50	3.7
17	01 38 35	3.6	19	10 30 34	3.0	27	03 17 07	3.7
17	03 23 32	3.3	19	14 34 40	3.5	28	07 26 50	3.7
17	05 32 00	3.7	19	16 29 11	3.2	28	16 44 37	3.6
17	12 53 58	3.8	19	20 16 37	3.7	28	17 03 48	3.4
17	13 03 21	3.5	20	00 49 22	3.6	28	21 14 28	3.5
17	13 08 20	3.7	20	06 26 45	3.1	29	00 22 34	3.3
17	13 18 35	4.0	20	08 30 31	3.1			
17	16 38 00	3.5	20	13 26 06	3.0			

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PASADENA LOCAL SHOCKS
APRIL - JUNE

We are especially indebted to the Bureau of Water and Power in Los Angeles for reports of shocks felt at stations on the Los Angeles aqueduct, especially at Sand Canyon and Nine Mile stations which are near the active epicenter north of Walker Pass.

Date	P.S.T.	Lat.°	Long.	Q	M	Remarks
April						
1	08:09:24	34 13	117 25	C	2.8	Southwest of Devore
2	13:09:04	34 30	116 47	C	2.7	Northwest of Old Woman Springs
2	19:07:57	35.7	118.0	C	2.6	Felt, Sand Canyon
2	19:20:58	"	"	C	2.1	" " "
2	19:39:26	"	"	C	2.0	" " "
3	07:38:27	35.7	118.0	C	2.8	Felt, Sand Canyon (reported 08:40)
4	07:44:31	35.7	118.0	C	3.7	Felt at Nine Mile aqueduct station (reported 08:45)
5	19:59:25	35.7	118.0	C	3.2	Felt, Sand Canyon
7	00:28:31	35.7	118.0	C	3.8	Felt at Nine Mile and Sand Canyon
8	05:04:41	33 51	118 39	C	3.0	Santa Monica Bay
8	07:36:20	35.7	118.0	C	3.3	Felt at Sand Canyon (reported 07:21)
8	11:46			E	4.2	Head of Gulf of California?
8	16:35:47	35.7	118.0	C	2.1	Felt, Sand Canyon
8	19:14:28	35.7	118.0	C	2.7	Felt at Nine Mile and Sand Canyon
8	21:09:40	35.7	118.0	C	3.1	Felt at Nine Mile and Sand Canyon
9	02:17:53	35.7	118.0	C	3.7	
9	07:16:07	34 20	116 41	B	2.3	Prairie Fork, San Gabriel River Felt, Big Pines (near Wright Wood)
10	04:21:	35.7	118.0	C	2.6	Two shocks? Felt at Sand Canyon
11	15:35:40	35.7	118.0	C	3.6	Felt at Nine Mile and Sand Canyon
12	02:34:33	35.7	118.0	C	4.0	
12	12:02:37	35.7	118.0	C	3.8	
12	16:00:18	35.7	118.0	C	3.7	Felt at Sand Canyon
13	06:39:56	33 55	115 40	C	3.4	Pinto Basin, Little San Bernardino Mts.
13	07:46:57	35.7	118.0	C	3.6	
13	07:48:59	35.7	118.0	C	3.7	
13	23:00:26	33 43	116 45	C	2.9	Southwest of Idyllwild
14	17:58:27	33 59	116 32	C	3.6	Northwest of Whitewater
15	18:28:31	34 22	116 29	C	3.0	Southeast of Old Woman Springs
16	02:37:07	35.7	118.0	C	4.1	Felt, Sand Canyon
16	14:56:08	35.7	118.0	C	3.8	
18	17:14:50	35.7	118.0	C	3.1	
19	01:45:55	34 10	116 31	C	3.0	Northeast of Morongo Valley
19	07:55:13	33 53	117 18	B	3.4	Near Box Springs (h = 21) Felt at Riverside and Perris, (P, CGS)
19	14:38:50	34 08	117 16	C	2.7	Near San Bernardino
20	01:07:45	33 53	117 18	C	2.5	Near Box Springs
22	23:11:40	35.7	118.0	C	3.9	Felt, Sand Canyon
23	23:46:17	35.7	118.0	C	4.0	Felt at Grapevine aqueduct Sta.
25	16:53:44	34 06	116 41	C	3.0	East of San Geronio Peak
26	18:18.4	38.5	118	D	4.7	Region of Mina, Nevada
27	00:45:42	34 0	119 01	C	3.1	West of Point Dume
27	09:07:48	33 53	115 40	C	3.4	Pinto Basin
27	14:37:24	35.7	118.0	C	4.1	
27	19:55:29	34 08	116 34	C	3.4	North of Morongo Valley
28	09:31:23	33 52	115 42	C	4.4	Pinto Basin
29	09:17:55	34 41	119 13	C	2.8	Southeast of Cuyama Peak
29	21:08:53	33 53	115 38	C	3.5	Pinto Basin
30	23:37:46	33 56	115 45	C	3.2	Pinto Basin

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Date	P.S.T.	Lat.	Long.	Q	M	Remarks
<u>May</u>						
1	09:30:10	37 05	118 00	C	4.0	East of Tinemaha Felt at Deep Springs and Laws (CGS)
3	20:25:12	35.7	118.0	C	2.8	Felt at Nine Mile and Sand Canyon
3	21:44:52	35.7	118.0	C	2.6	Felt at Sand Canyon
5	01:03:43	35.7	118.0	C	4.2	Walker Pass
6	03:01:11	35.7	118.0	C	3.6	Felt at Sand Canyon
8	10:40:09	34 24	116 49	C	3.2	Near Old Woman Springs
8	16:13:59	33 53	117 18	C	3.5	Near Box Springs. Felt at Riverside, Perris, etc.
9	14:45:43	35.7	118.0	C	2.9	Felt, Sand Canyon
11	03:45:29	35.7	118.0	C	3.2	
11	18:46:46	34 00	116 05	C	3.3	Near Twenty-nine Palms
11	20:42:09	34 00	116 05	C	3.0	Near Twenty-nine Palms
12	10:19:05	33 53	117 18	B	3.5	Near Box Springs. Felt at Riverside
12	17:16:57	36 03	117 55	B	3.0	Near Haiwee. Felt there (CGS)
12	17:18:33	36 03	117 55	B	3.0	Felt at Haiwee, Aftershock
12	17:26:09	36 03	117 55	B	2.9	Felt at Haiwee. Aftershock
13	00:12:59	35.7	118.0	C	3.1	
13	00:53:34	34 00	116 42	B	2.9	North of Whitewater
13	03:38:21	35.7	118.0	C	3.0	
13	16:28:30	37 20	118 50	C	3.9	West of Bishop. Felt at Laws (CGS)
13	18:34:28	37 20	118 50	C	3.5	Aftershock
14	04:29:57	35.7	118.0	C	2.9	Felt, Nine Mile
14	06:32:58	35.7	118.0	C	2.3	Felt, Nine Mile
14	20:05:35	35.7	118.0	C	2.1	Felt, Sand Canyon
14	21:24:43	"	"	C	2.8	" " "
17	19:55:00	37 22	118 50	C	4.1	West of Bishop. Felt at Laws (CGS)
17	22:45:48	37 22	118 50	C	4.0	Aftershock
18	16:30:45	35.7	118.0	C	3.5	Felt at Sand Canyon
19	17:51:13	33 57	118 09	C	3.0	Northwest of Downey. Felt in Los Angeles and Pasadena
19	20:34:08	35.7	118.0	C	2.7	Felt at Sand Canyon
20	05:47:28	35 40	117 30	C	2.8	East of Inyokern
20	09:06:53	35.7	118.0	C	3.0	Felt, Sand Canyon
20	21:36.4	35.9	118.5	D		Felt at Kern River No. 3 Powerhouse north of Kernville. (CGS)
22	11:00:53	36 08	117 57	B	2.5	Very near Haiwee. Felt there
22	20:46:34	35.7	118.0	C	1.9	Felt, Sand Canyon
23	22:19:27	36 03	117 55	C	2.8	Near Haiwee
27	16:06:09	35.7	118.0	C	2.8	Felt, Sand Canyon
30	08:59:38	32.0	115.7	D	4.1	Region of Laguna Salada
31	00:47:54	35.7	118.0	C	3.3	

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Date	P.S.T.	Lat.	Long.	Q	M	Remarks
June						
1	03:06:31	34 25	118 50	C	4.1	Near Fillmore. Felt at Camarillo and as far as Los Angeles
1	12:28:50	35 53	117 22	C	3.5	Argus Mt.s
3	16:30:38	33 21	115 30	C	3.7	North of Miland
4	04:05:24	33 55	115 42	C	4.8	Pinto Basin, Little San Bernardino Mts. Felt at Needles and 15 miles west of Desert Center. (CGS)
4	06:48:20	33 55	115 42	C	3.9	Pinto Basin; aftershock
4	09:19:12	33 55	115 42	C	3.6	Pinto Basin; aftershock
5	13:59:36	35 35	118 20	C	4.3	Near Weldon. Felt at Bodfish, at Kernville, and on the aqueduct. (CGS)
5	16:06:44	35 35	118 20	C	3.7	Near Weldon. Felt at Bodfish and at aqueduct stations. (CGS)
9	05:21:36	34 06	116 50	C	2.8	South of San Geronimo Peak
9	06:39:47	34 07	116 36	C	3.4	North of Morongo Valley
9	13:43:	34 01	117 17	C	2.3	East of Riverside
9	19:04:47	33 56	115 44	C	2.9	Pinto Basin
9	20:26:44	35.7	118.0	C	2.2	Felt, Sand Canyon
10	06:04:13	35 44	118 02.5	C	3.7	Walker Pass aftershock
11	01:25:09	35.7	118.0	C	3.3	
12	10:40:16	35.7	118.0	C	3.3	
12	12:20:42	35 46	118 01	B	3.6	North of Walker Pass
13	17:26				2.6	Felt at Kern River Powerhouse No. 3
14	11:12:13	32 32	115 59	C	3.4	Southeast of Jacumba
15	11:46:53	32 36	116 19	C	4.8	Near Hipass. Felt over the southern part of San Diego County
15	16:39:35	31 41	115 18	C	4.2	Gulf of California
16	05:32:37	35.7	118.0	C	3.2	Felt, "early morning" at Sand Canyon
17	08:26:07	35.7	118.0	C	2.1	Felt, Sand Canyon
18	02:40:41	33 49	115 53	C	3.2	Pinto Basin
20	07:45:56	35.7	118.0	C	2.6	Felt, Sand Canyon
20	10:33:32	35.7	118.0	C	3.1	Felt, Sand Canyon
20	16:59:54	35.7	118.0	C	2.5	Felt, Sand Canyon fault
20	23:22:59	34 03	116 55	B	3.2	Near Forest Home; Mill Creek/
22	00:11:19	33 52	118 27	C	2.8	Near Gardens; Inglewood fault.
22	18:42:07	34 11	116 35	C	3.2	North of Morongo Valley
22	23:16:57	34 13	117 26	C	2.8	Near Devore, Cajon Pass
24	09:10:12	33 42	116 53	C	3.0	Near Hemet
25	07:10:14	33 52	115 43	C	3.1	Pinto Basin
25	12:25:19	35 45	117 32	C	3.4	West of Searles Lake
25	18:14:04	35 45	117 32	C	3.4	West of Searles Lake
26	05:18:14	34 38	118 51	C	3.4	South of Gorman
26	15:26:35	33 33	117 18	C	3.5	Near Box Springs
29	07:41:55	35.7	118.0	C	2.2	Felt, Sand Canyon
29	16:44:05	34 20	117 02	C	2.7	North of Big Bear Lake
29	21:22:18	34 02	118 18	C	2.4	Baldwin Hills, felt from Beverly Hills to Hawthorne
30	20:25:25	33 51	115 55	C	3.2	Pinto Basin

C. F. Richter
S. T. Martner

P. K. Bhattacharya
M. E. Denson

February 21, 1947

1947

PASADENA LOCAL SHOCKS

No. 9.

JULY, AUGUST AND SEPTEMBER 1946

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
<u>July</u>						
1	23:28:35	34 04	117 45	A	3.2	Near Pomona. Felt there. (CGS)
2	16:16:46	34 08	116 25	C	3.4	Northeast of Morongo Valley
3	06:49:58	34 04	117 45	B	2.4	Near Pomona. Felt there (CGS)
3	15:40:10	33 55	118 02	C	2.5	East of Norwalk
4	07:55:57	34 15	117 10	C	3.0	Near Lake Arrowhead
4	14:29:02	32 58	115 45	B	3.4	Near Superstition Mts.
5	02:44:32	37 20	119 05	C	3.1	Sierra Nevada, west of Bishop
5	03:15:24	34 01	115 36	C	3.5	Pinto Basin
5	05:16:20	33 59	115 55	C	3.7	Pinto Basin
5	09:19:08	34 04	117 45	B	2.7	Near Pomona
5	09:23:27	33 58	115 39	C	3.5	Pinto Basin
5	10:21:19	33 59	115 55	C	2.9	Pinto Basin
5	17:50:15	33 59	115 41	C	3.7	Pinto Basin
6	00:17:18	33 59	115 41	C	3.1	Pinto Basin
6	09:33:17	33 59	115 41	C	3.3	Pinto Basin
6	23:22:00	35.7	118.0	C	3.5	Felt at Sand Canyon (reported 23:55)
7	03:05:51	33 05	115 58	C	3.1	Near Bailey's Well
8	11:59:44	34 50	120 32	C	3.2	Near Casmalia
8	19:19:01	35 40	118 04	B	3.8	Walker Pass
11	05:24:41	33 56	115 40	C	3.6	Pinto Basin
13	04:00:33	35.7	117.6	C	3.4	East of Inyokern. Felt at Sand Canyon
17	08:38:02	35 41	117 35	C	3.5	Felt, Sand Canyon and Nine Mile
17	21:02:02	35 42	117 41	C	3.9	East of Inyokern. Felt at Jawbone Aq. Sta.
18	06:27:58	34 32	115 59	B	5.6	West of Bagdad. V at Amboy. Felt to distances over 200 km.
18	21:04:41	34 35	116 00	C	3.5	Aftershock
19	05:34:03	34 35	116 08	C	3.0	Aftershock
21	06:35:07	35 44	118 02	C	3.0	Felt, Nine Mile
21	14:55:31	35 44	118 02	C	3.5	Walker Pass
22	07:19:33	35 44	118 02	B	4.1	Felt at Haiwee, Little Lake and aqueduct stations
22	15:16:47	35 44	118 02	C	3.1	Walker Pass shock
23	03:25:58	35 50	118 00	C	3.4	Felt at Nine Mile
23	13:40:24	34 00	117 32	C	2.3	West of Riverside
23	16:19:08	35 06	119 05	B	4.0	North of Wheeler Ridge. Felt at Taft
23	16:23:08	35 05	119 04	C	3.0	Aftershock
25	04:28:06	35 44	118 02	C	3.0	Walker Pass
25	15:57:42	33 59	118 20	C	1.9	North of Inglewood
25	16:43:08	34 54	119 07	C	2.9	South of Wheeler Ridge
26	09:08:40	33 10	116 32	B	3.2	Southeast of Warner's
26	17:31:57	34 09	117 22	B	2.5	Near San Bernardino
27	03:13:55	33 55	115 50	C	3.3	Pinto Basin
27	21:14:11	35 40	117 50	C	3.2	Near Inyokern. Felt at Kern River Powerhouse No. 3
29	06:36:53	35 42	118 00	C	2.9	Walker Pass Aftershock
31	01:08:00	33 44	118 02	C	2.5	Near Sunset Beach
31	13:25:50	33 45	118 03	C	2.5	Near Sunset Beach

(continued on other side)



Date	P.S.T.	Lat.	Long.	Q	M	Remarks
<u>August</u>						
5	20:55:07	34 57	120 11	C	2.8	Near Santa Maria. Felt at Los Alamos
7	16:56:47	33 06	116 28	C	3.3	East of Julian
8	02:05:14	38 10	119 17	C	4.2	North of Mono Lake
8	03:15:05	38 10	119 17	D	3.6	Aftershock
8	03:17:09	38 10	119 17	D	3.3	Aftershock
10	06:32:52	34 04	117 45	B	2.5	Near Pomona
10	10:21:31	33 27	118 06	B	3.1	Near San Pedro Channel
10	13:28:28	36 29	117 55	B	3.0	Near Keeler north of Owens Lake
11	16:07:36			E	2.5	May be shock reported at Kern River powerhouse No. 1
12	04:43:18	35 44	118 02	C	2.9	Walker Pass
12	04:49:31	34 23	119 29	C	3.0	Near Carpinteria
12	15:08:26	35 03	117 20	C	3.2	Northwest of Barstow
14	02:00:57	34 33	116 00	B	3.4	West of Bagdad
14	08:32:04	35 44	118 02	C	3.0	Near Walker Pass
15	10:58:55	35 44	118 02	C	3.4	Near Walker Pass
15	11:01:08	33 55	116 15	C	4.0	Little San Bernardino Mts.
17	18:09:56	33 40	116 00	D	3.6	East of Thermal
18	01:57:57	34 23	117 37	B	3.3	San Andreas fault near Wrightwood
19	04:08:02	34 00	116 45	C	3.1	North of Cabazon
20	18:35:40	35 30	118 25	C	2.6	South of Isabella
20	19:38:16	35 30	118 25	C	2.7	South of Isabella
22	12:26:15	34 03	115 38	C	3.3	Pinto Basin
22	14:20:58	34 03	115 38	C	3.3	Pinto Basin
23	11:18:52	33 53	117 48	B	3.1	Near Yorba Linda
24	04:16:28	35 53	118 04	C	2.9	North of Walker Pass
27	21:47:33	35 44	118 12	C	3.3	North of Walker Pass. Felt at Kern River powerhouses
27	22:40:52	34 05	117 29	B	2.8	West of Fontana
30	03:11:18	33 14	115 42	C	3.5	West of Niland in Salton Sea
30	03:16:45	33 14	115 42	C	4.6	West of Niland in Salton Sea
30	13:47:32	33 18	115 37	C	3.7	Aftershock
31	01:10:13	35 37	118 00	C	4.2	South of Walker Pass. Felt on the Kern River and Tehachapi
<u>September</u>						
2	07:26			E	2.6	Felt at Trona (CGS)
2	02:09:47	34 11	119 37	C	3.0	Santa Barbara Channel
5	09:38:33	35 59	117 23	C	3.7	Argus Range
7	13:10:29	34 06	118 33	C	2.5	Near Santa Monica
10	15:55:21	34 08	117 20	C	2.4	Near San Bernardino
11	03:28:21	34 08	117 36	B	2.6	Near Alta Loma
13	08:13:07	35 36	117 40	C	3.5	East of Inyokern. Felt at Cantil (CGS)
14	01:03:27	35 40	117 59	C	3.4	East of Walker Pass
14	09:18:38	36 04	117 19	C	3.1	East of Haiwee, Argus Mts.
15	21:43:06	34 11	116 38	B	2.8	North of Morongo Valley.
17	02:35:34	35 40	118 05	C	3.0	Walker Pass
17	10:57:50	33 56	117 50	B	2.2	Near Olinda
18	03:18:29	32 53	116 07	C	2.9	Near Carrizo
18	22:35:44	35 50	119 40	C	3.2	Near Tulare Lake Basin
23	10:20:27	35 41	117 39	C	3.0	East of Inyokern
24	00:14:07	33 48	118 08	C	2.4	Near Signal Hill
24	17:13:35	33 48	118 08	C	2.4	Near Signal Hill
25	22:36:41	33 52	116 17	B	3.0	Near Thousand Palms
27	23:19:09	33 57	116 51	B	5.0	North of Banning (where intensity was VI). Felt over a wide area, including Los Angeles and San Diego
27	23:58:06	33 57	116 51	C	2.8	Aftershock
28	18:01:13	35 40	117 35	C	3.2	East of Inyokern
30	19:19:03	35 40	117 35	C	3.1	East of Inyokern
30	21:14:04	35 05	117 10	C	2.8	Northwest of Barstow

EARTHQUAKES OF MARCH 15, 1946
(Revised, October 1946)

The principal shock of this group originated at 05:49:36 a.m., P.S.T.=13:49:36 G.C.T.
Times of P were recorded as follows:

Haiwee	13 49 44.8	Santa Barbara	13 50 09.6
Tinemaha	50 01.9	Palomar	18.2
Mt. Wilson	03.0	Boulder City	18.4 (courtesy of
Pasadena	04.4	La Jolla	23.2 Dr. Carder)
Riverside	07.4	Berkeley	38 (courtesy of
			Prof. Byerly and
			Mr. Meeker.)

At Haiwee many of the aftershocks show an $\bar{S}-\bar{P}$ of about 6 seconds, indicating a distance of about 47 kilometers or 30 miles. Some aftershocks were recorded with a portable instrument at two stations:

- (1) Near Isabella at 35° 59.5' N., 118° 25.7' W.
- (2) East of Mojave at 35° 01.0' N., 118° 01.7' W.

Times at the permanent stations show that the aftershocks are from epicenters near the main shock, with differences enough to establish an appreciable linear extent of faulting.

Epicenter for the main shock: 35° 44' N., 118° 02.5' W., with O=13:49:36 G.C.T.

This point is north of Walker Pass and west of the surface trace of the major Sierra fault zone.

Times of P at Pasadena for the larger shocks of the group: (PST; for GCT add 8 hours)

March 15	05 21 29.6	Foreshock
	05 50 04.4	Main shock
	06 01 03.7	
	11 19 21.6	
	13 55 01.8	
March 16	01 46 46.6	
March 18	07 51 10.5	

The main shock was reported felt at least as far as Niland, in Imperial Valley, distant about 350 kilometers (220 miles) from the epicenter.

The foreshock at 05:21 was felt by many persons in the area of Pasadena and Los Angeles, but the intensity there was described as slight (II). The main shock in the same area was reported as notably stronger, with the effect of a long-period roll which set suspended objects swinging and nauseated sensitive persons (intensity III-IV). The strong-motion instrument at Pasadena recorded a maximum ground motion of about one millimeter with a period of about 2 seconds. The aftershocks at 11:19 and on March 16 at 01:46 were also felt in Los Angeles.

In the epicentral region the main shock reached intensity VIII of the modified Mercalli scale of 1931. Most of the more conspicuous effects could be referred to VII - damage to adobe structures, cracks in brick chimneys, fall of plaster. These were found in the region of Walker Pass and the South Fork of the Kern River, south and west of the epicenter.

In Sand Canyon, a few miles east of the epicenter, large boulders were rolled down onto the line of the Los Angeles Aqueduct. Part of the roof and sidewall were torn off by these boulders; this damage was repaired in about two days. Minor cracks were produced in the ground and in concrete along the aqueduct.

Magnitude - The above numbers refer to local intensity. The magnitude of the main shock on the scale in use at Pasadena has been determined as 6.3 from the strong-motion record and from comparison with aftershocks. A list of the larger shocks of this group to April 1 is given separately.

C. F. Richter October 1946

PASADENA LOCAL SHOCKS

No. 10

OCTOBER, NOVEMBER AND DECEMBER 1946

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
<u>October</u>						
3	20:32:41	35 02	117 32	C	3.6	Near Kramer, Mojave Desert
5	02:58:34	33 54	117 18	B	2.8	Box Springs
8	12:13:58	34 00	116 43	B	2.7	North of Whitewater
11	12:23:44	34 14	119 29	C	2.9	Santa Barbara Channel
14	02:39:18	35 42	117 57	C	3.4	Walker Pass
14	02:52:05	35 42	117 57	C	2.8	Walker Pass
14	14:27:06	34 03	117 20	C	2.4	Near Riverside
17	12:46:38	34 03	116 40	C	3.1	East of San Gorgonio Peak
19	19:59:11	35.6	116.9	D	3.0	Leach Trough, Mojave Desert
22	13:03:08	34 01	116 34	B	3.0	North of Whitewater
22	23:12:25	35 40	118 04	C	3.2	Near Walker Pass
23	23:54:58	33 22	116 24	C	3.0	West of Clark Dry Lake
24	10:26:50	34 22	119 37	C	2.7	Near Santa Barbara
25	07:54:00	35 45	118 04	C	3.0	Near Walker Pass
25	08:21:46	35 45	118 04	C	2.8	Near Walker Pass
28	14:02:38	33 25	116 54	B	3.7	North of Palomar. Felt at Palomar
28	14:27:21	33 25	116 54	C	3.0	Felt at Palomar.
29	03:34:58	35 25	117 41	C	3.6	Garlock fault, near Garlock
29	03:53:56	35 24	117 41	C	3.2	Garlock fault, near Garlock
30	19:12:35	34 14	117 06	B	2.8	East of Lake Arrowhead
<u>November</u>						
5	01:25:49	34 02	116 09	C	3.0	Southwest of Twenty-nine Palms
6	08:23:27	35 15	119 00	D	2.6	South of Bakersfield
7	13:09:55	35 55	118 12	D	2.9	South Fork Kern River
9	06:44:44	34 06	117 39	B	2.7	North of Ontario
9	21:12:12	33 14	116 32	C	3.3	Near Warner Springs. Felt, Borego Valley P.O. Slightly deeper than usual
10	11:10:08	34 01	116 59	C	2.8	Near Yucaipa
13	07:54:41	33 55	117 23	C	2.9	South of Riverside
16	12:31:01	34 05	117 25	C	2.8	North of Riverside
16	22:09:21	33 28	116 50	C	2.7	North of Palomar
17	11:39:34	33 10	116 00	C	3.4	North of Baileys Well
17	15:54:08	33 10	116 00	C	3.7	San Jacinto Fault
22	00:19:07	33 39	118 06	C	3.0	Off Huntington Beach
22	01:47:59	34 50	120 41	D	3.0	Off coast from Casimolia
24	13:30:14	36 36	117 52	C	3.8	North of Owens Lake
25	13:00:59	35 06	119 03	B	3.2	North of Wheeler Ridge
25	15:49:48	32 25	118 20	C	3.0	South of San Clemente Island
27	06:44:51	35 30	120 55	C	4.3	Near Cayucos. Felt in San Luis Obispo County and as far as Los Alamos
30	21:16:29	37 15	117 12	C	3.2	Near Gold Mt., Nevada
30	22:23:03	37 10	117 20	C	3.5	Near Gold Mt., Nevada

(continued on other side)

Date	P.S.T.	Lat.	Long.	Q	M	Remarks
December 1	03:54:35	37 12	117 19	C	3.3	Near Gold Mt., Nevada
2	05:38:50	33 56	116 41	B	3.6	Near Whitewater
5	15:10:20	34 40	117 09	C	2.6	Northeast of Victorville
6	15:02:41	34 12	117 03	C	2.6	East of Lake Arrowhead
6	18:02:29	37.3	117.3	D	4.1	Near Gold Mt., Nevada
7	20:06:32	33 58	116 22	C	2.7	Little San Bernardino Mountains
9	06:35:17	35 46	117 47	C	3.0	Near Brown
10	16:48:38	34 05	116 32	B	3.0	Morongo valley
10	17:44:05	34 05	116 32	B	2.9	Morongo Valley
12	16:40:01	34 10	119 32	C	3.5	Off Ventura
20	06:27:12	33 20	116 35	C	2.5	Near Warner's
22	12:17:41	33 58	118 14	C	2.2	Near Huntington Park. Felt, southwestern Los Angeles area
23	04:00:33	33 50	118 11	C	2.0	Near Signal Hill
25	08:49:56	34 42	116 49	C	2.5	South of Newberry
25	11:37:59	33 59	117 35	B	3.1	Southeast of Ontario
25	21:28:01	35.7	118.0	D	2.5	Walker Pass. Felt at Sand Canyon
26	23:06:23	37 31	119 00	C	3.8	Northwest of Bishop
27	00:22:59	37 31	119 00	C	3.3	Northwest of Bishop
27	22:41:17	33 27	117 46	D	2.0	Near Laguna Beach
28	06:26:58	34 03	118 03	C	1.8	Near Montebello
28	23:18:46	33 23	118 15	B	3.0	Southeast of Catalina Island
29	06:20:40	34 58	119 13	B	3.0	Southeast of Maricopa
30	10:57:04	33 47	117 17	C	2.7	Near Perris
C. F. Richter						
M. E. Denson						
June 4, 1947						