Table S2. Summary of Boulanger et al. (2012) SPT liquefaction case history data

Data Point	Earthquake	Site	M_w	a_{max} (g)	Liquefied?	depth (m)	z_{gwt} (m)	σ_{vo} (kPa)	σ'_{vo} (kPa)	γ_t above gwt (kN/m3)	γ_t below gwt (kN/m3)	N_m	$N_{1.60}$	V_s (m/s)	G_{max} (kPa)	C_B	C_E	C_N	C_R	C_S	FC (%)	$N_{1.60cs}$	r_d	K_σ	MSF	CSR	CSR*	$CRR_{M7.5}$	φ (°)	K_o	σ'_{mo} (kPa)	Primary source of data
2	1944 Tohnankai earthquake M=8.1 - Dec 7	Komei	8.1	0.2	Yes	5.2	2.1	98	68	18.1	18.9	5.9	8.2	125.69	30437	1	1.17	1.25	0.95	1	10	9.3	0.98	1.04	0.85	0.182	0.207	0.113	32.8	0.46	43.44	Kishida (1969), Seed et al (1984),
3	1944 Tohnankai earthquake M=8.1 - Dec 7	Ienaga	8.1	0.2	Yes	4.3	2.4	80	61	18.1	18.9	2.3	3.4	99.63	19122	1	1.17	1.32	0.95	1	30	8.7	0.99	1.07	0.85	0.144	0.159	0.109	28.2	0.53	41.75	Kishida (1969), Seed et al (1984),
4	1944 Tohnankai earthquake M=8.1 - Dec 7	Meiko	8.1	0.2	Yes	3.7	2.1	69	39	18.1	18.9	1	1.7	73.65	10451	1	1.17	1.7	0.85	1	27	6.9	0.99	1.08	0.85	0.225	0.245	0.098	25.8	0.56	27.67	Kishida (1969), Seed et al (1984),
5	1948 Fukui earthquake M=7.3 - June 28	Shonenji Temple	7	0.4	Yes	4	1.2	75	48	18.1	19.6	8	11.8	121.94	29707	1	1.17	1.48	0.85	1	0	11.8	0.96	1.07	1.14	0.39	0.318	0.131	35.4	0.42	29.48	Kishida (1969), Seed et al (1984),
6	1948 Fukui earthquake M=7.3 - June 28	Takaya 45	7	0.35	Yes	7.5	3.7	141	104	18.1	19.6	17.3	21.1	182.11	66261	1	1.3	0.99	0.95	1	4	21.1	0.9	0.99	1.14	0.283	0.251	0.220	40.5	0.35	58.93	Kishida (1969), Seed et al (1984),
7	1964 Niigata earthquake M=7.6 - June 16	Arayamotomachi	7.6	0.09	Yes	3.3	1	63	41	18.1	19.6	2.6	4.7	92.53	17106	1	1.22	1.7	0.85	1	5	4.7	0.98	1.07	0.97	0.089	0.086	0.084	29.7	0.50	27.46	Yasuda & Tohno (1988), Cetin et al.
8	1964 Niigata earthquake M=7.6 - June 16	Cc17-1	7.6	0.16	Yes	7	0.9	132	72	17.5	19	8	9.9	134.26	34913	1	1.09	1.2	0.95	1	2	9.9	0.94	1.03	0.97	0.179	0.178	0.117	34.1	0.44	45.11	Kishida (1966), Seed et al (1984),
9	1964 Niigata earthquake M=7.6 - June 16	Cc17-2	7.6	0.16	Yes	5.3	0.9	85	43	15	16.2	7.9	12.7	116.20	22298	1	1.09	1.55	0.95	1	8	13	0.96	1.09	0.97	0.199	0.188	0.140	35.9	0.41	26.18	Kishida (1966), Seed et al (1984),
10	1964 Niigata earthquake M=7.6 - June 16	Kawagishi-cho	7.6	0.162	Yes	3.8	2	71	53	18.1	19.6	4.5	6.8	111.73	24940	1	1.22	1.45	0.85	1	5	6.8	0.98	1.05	0.97	0.136	0.133	0.097	31.7	0.48	34.45	Ishihara & Koga (1981)
11	1964 Niigata earthquake M=7.6 - June 16	Old Town -1	7.6	0.18	No	7	1.8	132	81	16	20	18	22.7	168.85	58122	1	1.21	1.1	0.95	1	2	22.7	0.94	1.03	0.97	0.179	0.178	0.244	41.3	0.34	45.35	Koizumi (1966), Seed et al (1984),
12	1964 Niigata earthquake M=7.6 - June 16	Old Town -2	7.6	0.18	No	10.1	1.8	190	109	16	19.5	20	23.5	187.41	69813	1	1.21	0.97	1	1	2	23.5	0.9	0.99	0.97	0.184	0.191	0.258	41.7	0.34	60.68	Koizumi (1966), Seed et al (1984),
13	1964 Niigata earthquake M=7.6 - June 16	Rail Road-1	7.6	0.16	Yes	10.1	0.9	190	100	17	19	10	11	154.18	46039	1	1.09	1.01	1	1	2	11	0.9	1	0.97	0.178	0.182	0.125	34.8	0.43	61.92	Koizumi (1966), Seed et al (1984),
14	1964 Niigata earthquake M=7.6 - June 16	Rail Road-2	7.6	0.16	Marginal	10.1	0.9	190	100	17	19	16	17.5	170.57	56350	1	1.09	1.01	1	1	2	17.5	0.9	1	0.97	0.178	0.182	0.179	38.7	0.37	58.31	Koizumi (1966), Seed et al (1984),
15	1964 Niigata earthquake M=7.6 - June 16	River Site	7.6	0.16	Yes	4.6	0.6	86	47	17	19	6	9.4	112.24	24400	1	1.09	1.52	0.95	1	0	9.4	0.97	1.07	0.97	0.183	0.176	0.114	33.7	0.44	29.61	Ishihara et al. (1979), Seed et al
16	1964 Niigata earthquake M=7.6 - June 16	Road Site	7.6	0.18	No	6.1	2.4	115	79	17	20	12	14.1	150.28	46041	1	1.09	1.13	0.95	1	0	14.1	0.95	1.03	0.97	0.162	0.162	0.149	36.8	0.40	47.46	Ishihara et al. (1979), Seed et al
17	1964 Niigata earthquake M=7.6 - June 16	Showa Br 2	7.6	0.16	Yes	4.3	0	80	39	0	18.5	4	7	97.73	18010	1	1.09	1.7	0.95	1	10	8.2	0.97	1.08	0.97	0.21	0.199	0.106	31.8	0.47	25.29	Takada et al (1965), Seed et al (1984),
18	1964 Niigata earthquake M=7.6 - June 16	Showa Br 4	7.6	0.18	No	6.1	1.2	115	67	16	19.5	27	35.5	174.86	60777	1	1.21	1.14	0.95	1	0	35.5	0.95	1.1	0.97	0.191	0.178	1.233	46.6	0.27	34.52	Takada et al (1965), Seed et al (1984),
19	1968 earthquake M=7.5 - April 1	Hososhima	7.5	0.242	No	2.895	2	53	45	17.3	19.6	8	12.1	120.88	29192	1	1.22	1.46	0.85	1	36	17.6	0.98	1.1	1	0.185	0.168	0.180	35.6	0.42	27.55	Iai et al (1989)
20	1968 Tokachi-Oki earthquake M=8.3 - May 16	Aomori Station	8.3	0.213	Yes	5.7	0	95	38	0	16.7	9	16.5	118.34	23842	1	1.22	1.58	0.95	1	3	16.5	0.98	1.1	0.81	0.335	0.376	0.169	38.2	0.38	22.35	Yasuda & Tohno (1988), Cetin et al
21	1968 Tokachi-Oki earthquake M=8.3 - May 16	Hachinohe -2	8.3	0.23	No	6.1	2.1	115	76	16.5	20	28	35.3	182.45	67863	1	1.21	1.1	0.95	1	5	35.3	0.98	1.08	0.81	0.221	0.254	1.181	46.6	0.27	39.20	Ohsaki (1970), Seed et al. (1984),
22	1968 Tokachi-Oki earthquake M=8.3 - May 16	Hachinohe -4	8.3	0.23	No	4	0.9	75	45	16.5	19.5	16	23	140.05	38990	1	1.21	1.4	0.85	1	5	23	0.99	1.1	0.81	0.246	0.276	0.249	41.4	0.34	25.14	Ohsaki (1970), Seed et al. (1984),
23	1968 Tokachi-Oki earthquake M=8.3 - May 16	Hachinohe-6	8.3	0.23	Yes	4	0.6	75	42	17	19	6	9.1	108.82	22936	1	1.09	1.63	0.85	1	5	9.1	0.99	1.08	0.81	0.265	0.304	0.112	33.5	0.45	26.55	Ohsaki (1970), Seed et al. (1984),
24	1968 Tokachi-Oki earthquake M=8.3 - May 16	Nanaehama1-2-3	8.3	0.2	Yes	4	0.9	75	45	16.5	19.5	5	7.6	108.28	23305	1	1.17	1.52	0.85	1	20	12	0.99	1.08	0.81	0.213	0.244	0.132	32.3	0.47	28.96	Kishida (1970), Seed et al. (1984),
25	1971 San Fernando earthquake M=6.6 - Feb 9	Juvenile Hall	6.61	0.45	Yes	6.1	4.6	112	96	18	20	3.5	3.9	122.60	30643	1	1.13	1.03	0.95	1	55	9.5	0.92	1.01	1.26	0.312	0.246	0.115	28.8	0.52	65.14	Bennett (1989), Seed et al (1984),
26	1971 San Fernando earthquake M=6.6 - Feb 9	Van Norman	6.61	0.45	Yes	6.1	4.6	112	96	18	20	7.3	8.1	143.59	42035	1	1.13	1.03	0.95	1	50	13.7	0.92	1.01	1.26	0.312	0.245	0.146	32.7	0.46	61.40	Bennett (1989), Seed et al (1984),
27	1975 Haicheng earthquake M=7.0 - Feb 4	Panjin Chemical Fertilizer Plant	7	0.2	Yes	8.2	1.5	155	89	18.1	18.9	9.1	7.6	137.99	36686	1	0.83	1.07	0.95	1	67	13.2	0.89	1.01	1.14	0.203	0.175	0.142	32.3	0.47	57.27	Shengcong & Tatsuoka (1984), Seed
28	1975 Haicheng earthquake M=7.0 - Feb 4	Shuang Tai Zi River Sluice Gate	7	0.2	No	8.2	1.5	158	92	16	20	9	8.9	144.60	42630	1	1	1.05	0.95	1	50	14.6	0.89	1.01	1.14	0.199	0.172	0.153	33.3	0.45	58.29	Shengcong & Tatsuoka (1984), Seed
29	1975 Haicheng earthquake M=7.0 - Feb 4	Ying Kou Glass Fibre Plant	7	0.3	Yes	7.8	1.5	147	85	18.1	18.9	13	13.3	153.13	45177	1	1	1.08	0.95	1	48	19	0.9	1.02	1.14	0.304	0.26	0.194	36.3	0.41	51.45	Shengcong & Tatsuoka (1984), Seed
30	1975 Haicheng earthquake M=7.0 - Feb 4	Ying Kou Paper Plant	7	0.3	Yes	8.2	1.5	158	92	17	20	11	11	150.98	46472	1	1	1.05	0.95	1	5	11	0.89	1.01	1.14	0.298	0.259	0.125	34.8	0.43	56.97	Shengcong & Tatsuoka (1984), Seed
31	1976 Guatemala earthquake M=7.5 - Feb 4	Amatitlan B-1	7.5	0.135	Yes	10.4	1.5	139	86	10	14	6	5	122.29	21343	1	0.75	1.1	1	1	3	5	0.89	1.01	1	0.126	0.125	0.086	30.0	0.50	57.33	Seed et al (1979, 1984), Cetin et al
32	1976 Guatemala earthquake M=7.5 - Feb 4	Amatitlan B-2	7.5	0.135	Marginal	4.6	2.4	55	34	10	14	8	9.7	100.79	14499	1	0.75	1.7	0.95	1	3	9.7	0.97	1.1	1	0.138	0.126	0.116	33.9	0.44	21.35	Seed et al (1979, 1984), Cetin et al
33	1976 Guatemala earthquake M=7.5 - Feb 4	Amatitlan B-3&4	7.5	0.135	No	10.7	3.4	137	71	10	14	16	14.3	143.25	29285	1	0.75	1.19	1	1	3	14.3	0.89	1.04	1	0.149	0.144	0.150	36.9	0.40	42.57	Seed et al (1979, 1984), Cetin et al
34	1976 Tangshan earthquake M=7.6 - July 27	Coastal Region	7.6	0.13	Yes	4.5	1.1	87	54	18.9	19.6	9	11.7	124.89	31166	1	1	1.37	0.95	1	12	13.8	0.97	1.06	0.97	0.13	0.125	0.146	35.3	0.42	33.20	Shengcong & Tatsuoka (1984), Seed
35	1976 Tangshan earthquake M=7.6 - July 27	Le Ting L8-14	7.6	0.2	Yes	4.4	1.5	81	53	16.5	19.5	9.7	11.5	126.27	31694	1	1	1.39	0.85	1	12	13.5	0.97	1.07	0.97	0.194	0.186	0.144	35.2	0.42	32.65	Shengcong & Tatsuoka (1984), Seed
36	1976 Tangshan earthquake M=7.6 - July 27	Luan Nan-L1	7.6	0.22	No	3.5	1.1	62	38	16	18.5	19.3	24.4	133.60	33660	1	1	1.49	0.85	1	5	24.4	0.98	1.1	0.97	0.226	0.211	0.276	42.1	0.33	21.02	Shengcong & Tatsuoka (1984), Seed
37	1976 Tangshan earthquake M=7.6 - July 27	Luan Nan-L2	7.6	0.22	Yes	3.5	1.1	56	32	13	17.5	5.9	8.5	98.77	17403	1	1	1.7	0.85	1	3	8.5	0.98	1.1	0.97	0.241	0.225	0.108	33.0	0.45	20.37	Shengcong & Tatsuoka (1984), Seed
38	1976 Tangshan earthquake M=7.6 - July 27	Qing Jia Ying	7.6	0.35	Yes	5.3	0.9	102	59	16	20	17	20.1	146.73	43890	1	1	1.24	0.95	1	20	24.6	0.96	1.09	0.97	0.378	0.357	0.281	40.0	0.36	33.69	Shengcong & Tatsuoka (1984), Seed
39	1976 Tangshan earthquake M=7.6 - July 27	Tangshan City	7.6	0.5	No	5.3	3.1	98	75	17	20.5	30	31.6	177.09	65536	1	1	1.11	0.95	1	10	32.7	0.96	1.07	0.97	0.405	0.389	0.721	45.1	0.29	39.56	Shengcong & Tatsuoka (1984), Seed
40	1976 Tangshan earthquake M=7.6 - July 27	Yao Yuan Village	7.6	0.2	Yes	6.1	0.9	118	67	16.5	20	9	10.5	132.53	35807	1	1	1.22	0.95	1	20	15	0.95	1.05	0.97	0.218	0.214	0.156	34.5	0.43	41.71	Shengcong & Tatsuoka (1984), Seed
41	1977 Argentina earthquake M=7.4 - Nov 23	San Juan B-1	7.5	0.2	Yes	8.2	4.6	142	106	16	19	9	6.3	141.33	38686	1	0.75	0.97	0.95	1	20	10.7	0.92	1	1	0.16	0.161	0.123	31.2	0.48	69.37	Idriss et al (1979), Seed et al (1984),
42	1977 Argentina earthquake M=7.4 - Nov 23	San Juan B-3	7.5	0.2	Yes	11.1	6.7	199	156	17.3	18.9	13	7.6	170.11	55748	1	0.75	0.78	1	1	5	7.6	0.87	1	1	0.169	0.169	0.102	32.3	0.47	100.38	Idriss et al (1979), Seed et al (1984),
43	1977 Argentina earthquake M=7.4 - Nov 23	San Juan B-4	7.5	0.2	No	3.7	1.2	63	39	15	18	14	14.3	118.05	25571	1	0.75	1.6	0.85	1	4	14.3	0.98	1.1	1	0.204	0.186	0.150	36.9	0.40	23.38	Idriss et al (1979), Seed et al (1984),
44	1977 Argentina earthquake M=7.4 - Nov 23	San Juan B-5	7.5	0.2	No	3.1	2.1	53	44	16.5	18.5	14	13.6	122.03	28084	1	0.75	1.53	0.85	1	3	13.6	0.98	1.09	1	0.154	0.142	0.145	36.5	0.41	26.55	Idriss et al (1979), Seed et al (1984),
45	1977 Argentina earthquake M=7.4 - Nov 23	San Juan B-6	7.5	0.2	Yes	5.2	1.8	90	56	15	18.5	6	5.8	108.68	22276	1	0.75	1.36	0.95	1	50	11.4	0.96	1.06	1	0.198	0.187	0.128	30.8	0.49	36.90	Idriss et al (1979), Seed et al (1984),
46	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Arahama (A-9)	6.5	0.1	No	6.4	0.9	121	67	18	19	10	12.8	138.10	36937	1	1.09	1.23	0.95	1	0	12.8	0.9	1.04	1.34	0.105	0.076	0.138	36.0	0.41	40.75	Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
47	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Hiyori-18 (site C)	6.5	0.14	No	5.2	2.4	98	71	18	19.5	9	11.1	137.18	37404	1	1.09	1.19	0.95	1	20	15.5	0.93	1.04	1.34	0.116	0.084	0.160	34.9	0.43	43.92	Tsuchida et al (1980), Seed et al (1984), Cetin et al (2000)
48	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Ishinomaki-2	6.5	0.12	No	3.5	1.4	66	45	17	20	3.7	5.5	99.96	20370	1	1.09	1.61	0.85	1	10	6.7	0.96	1.07	1.34	0.109	0.076	0.096	30.5	0.49	29.78	Ishihara et al (1980), Seed et al (1984), Cetin et al (2000)
49	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Kitawabuchi-2	6.5	0.14	No	3.4	3.1	62	59	18	20	11	12.3	133.62	36398	1	1	1.32	0.85	1	5	12.3	0.96	1.05	1.34	0.092	0.065	0.135	35.7	0.42	36.06	Iwasaki et al (1981), Seed et al(1984), Cetin et al (2000)
50	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Nakajima-18 (site A)	6.5	0.14	No	6.1	2.4	115	79	17	20	12	14.1	150.28	46041	1	1.09	1.13	0.95	1	3	14.1	0.91	1.03	1.34	0.12	0.088	0.149	36.8	0.40	47.46	Tsuchida et al (1979, 1980), Tohno & Yasuda (1981), Tokimatsu & Yoshimi (1983), Seed et al (1984), Cetin et al (2000)
51	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Nakamura Dyke N-4	6.5	0.12	Yes	2.8	0.5	53	30	17	19.5	4.7	6.9	92.40	16972	1	1	1.7	0.85	1	5	6.9	0.97	1.1	1.34	0.128	0.087	0.098	31.7	0.47	19.48	Iwasaki & Tokida (1980), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
52	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Nakamura Dyke N-5	6.5	0.12	No	3.4	1.3	63	42	17	19.5	7	9.6	110.42	24238	1	1	1.61	0.85	1	4	9.6	0.96	1.08	1.34	0.112	0.078	0.115	33.9	0.44	26.40	Iwasaki & Tokida (1980), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
53	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Oiiri-1	6.5	0.14	No	6.4	4.3	106	85	16	18	9	9.4	141.49	36733	1	1	1.1	0.95	1	5	9.4	0.9	1.02	1.34	0.102	0.075	0.114	33.7	0.44	53.55	Iwasaki (1986), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
54	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Shiomi-6 (Site D)	6.5	0.14	No	4	2.4	75	60	18	19.5	6	7.5	120.04	28641	1	1.09	1.34	0.85	1	10	8.6	0.95	1.05	1.34	0.108	0.077	0.109	32.2	0.47	38.66	Tsuchida et al (1979, 1980), Tohno & Yasuda (1981), Tokimatsu & Yoshimi (1983), Seed et al (1984), Cetin et al (2000)
55	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Yuriage Br-1	6.5	0.12	No	4.3	1.8	80	56	17.5	19.5	4	5.4	105.97	22320	1	1	1.41	0.95	1	10	6.5	0.94	1.05	1.34	0.105	0.075	0.095	30.4	0.49	37.11	Iwasaki (1986), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
56	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Yuriage Br-2	6.5	0.12	No	2.5	1.2	46	34	17	19.5	10.1	16.2	115.52	26525	1	1.12	1.68	0.85	1	7	16.3	0.96	1.1	1.34	0.112	0.076	0.167	38.0	0.38	20.05	Iwasaki (1986), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
57	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Yuriage Br-3	6.5	0.12	No	4.3	0.3	80	42	18.5	18.5	8	11.8	113.64	24354	1	1	1.56	0.95	1	12	13.9	0.94	1.09	1.34	0.142	0.097	0.147	35.4	0.42	25.80	Iwasaki (1986), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
58	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Yuriagekami-1	6.5	0.12	No	5.5	1.8	99	63	17	18.5	2	2.5	94.30	16770	1	1	1.31	0.95	1	60	8.1	0.92	1.04	1.34	0.113	0.081	0.105	27.1	0.54	43.89	Iwasaki et al (1984), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
59	1978 Miyagiken-Oki earthquake M=6.5 - Feb 20	Yuriagekami-2	6.5	0.12	No	4.3	0.9	80	47	17	19	11	15.1	125.52	30513	1	1	1.45	0.95	1	0	15.1	0.94	1.08	1.34	0.125	0.086	0.157	37.4	0.39	27.98	Iwasaki et al (1984), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
60	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Arahama (A-9)	7.7	0.2	Yes	6.4	0.9	121	67	18	19	10	12.8	138.10	36937	1	1.09	1.23	0.95	1	0	12.8	0.95	1.04	0.95	0.223	0.225	0.138	36.0	0.41	40.75	Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
61	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Hiyori-18 (site C)	7.7	0.24	Yes	5.2	2.4	98	71	18	19.5	9	11.1	137.18	37404	1	1.09	1.19	0.95	1	20	15.5	0.96	1.04	0.95	0.207	0.21	0.160	34.9	0.43	43.92	Tsuchida et al (1979, 1980), Seed et al (1984), Cetin et al (2000)
62	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Ishinomaki-2	7.7	0.2	Yes	3.5	1.4	66	45	17.3	19.7	3.7	5.5	99.96	20065	1	1.09	1.61	0.85	1	10	6.7	0.98	1.07	0.95	0.186	0.184	0.096	30.5	0.49	29.78	Ishihara et al (1980), Seed et al (1984), Cetin et al (2000)
63	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Ishinomaki-4	7.7	0.2	No	4.5	1.4	87	57	18.1	20	14.2	20.9	145.67	43263	1	1.21	1.28	0.95	1	10	22	0.97	1.08	0.95	0.188	0.183	0.233	40.4	0.35	32.35	Ishihara et al (1980), Seed et al (1984), Cetin et al (2000)
64	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Kitawabuchi-2	7.7	0.28	Yes	3.4	3.1	62	59	18	19.5	11	12.3	133.62	35488	1	1	1.32	0.85	1	5	12.3	0.98	1.05	0.95	0.187	0.187	0.135	35.7	0.42	36.06	Iwasaki et al (1981), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
65	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Kitawabuchi-3	7.7	0.28	No	4.8	3.1	90	73	18.5	19.5	13.2	17.6	153.50	46836	1	1.21	1.16	0.95	1	0	17.6	0.97	1.04	0.95	0.216	0.22	0.180	38.8	0.37	42.53	Iwasaki et al (1981), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
66	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Nakajima 2	7.7	0.24	No	4.6	2.4	86	65	18	19.5	10	12.7	136.95	37283	1	1.09	1.23	0.95	1	26	17.8	0.97	1.05	0.95	0.2	0.2	0.182	35.9	0.41	39.57	Tsuchida et al (1979, 1980), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
67	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Nakajima-18 (site A)	7.7	0.24	Yes	6.1	2.4	115	79	18	19.5	12	14.1	150.28	44890	1	1.09	1.13	0.95	1	3	14.1	0.96	1.03	0.95	0.217	0.223	0.149	36.8	0.40	47.46	Tsuchida et al (1979, 1980), Seed et al (1984), Cetin et al (2000)
68	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Nakamura Dyke N-1	7.7	0.32	No	3.4	0.9	63	39	17.5	19	19	26.2	137.41	36572	1	1.12	1.45	0.85	1	4	26.2	0.98	1.1	0.95	0.329	0.315	0.321	42.9	0.32	21.30	Iwasaki & Tokida (1980), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
69	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Nakamura Dyke N-4	7.7	0.32	Yes	2.8	0.5	53	30	18.1	18.9	4.7	6.9	92.40	16450	1	1	1.7	0.85	1	5	6.9	0.99	1.1	0.95	0.346	0.332	0.098	31.7	0.47	19.48	Iwasaki (1986), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
70	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Nakamura Dyke N-5	7.7	0.32	Yes	3.4	1.3	63	42	18	19	7	9.6	110.42	23616	1	1	1.61	0.85	1	4	9.6	0.98	1.08	0.95	0.306	0.299	0.115	33.9	0.44	26.40	Iwasaki (1986), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
71	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Oiiri-1	7.7	0.24	Yes	6.4	4.3	106	85	15.5	19	9	9.4	141.49	38774	1	1	1.1	0.95	1	5	9.4	0.95	1.02	0.95	0.185	0.192	0.114	33.7	0.44	53.55	Iwasaki et al (1978), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
72	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Shiomi-6 (Site D)	7.7	0.24	Yes	4	2.4	75	60	18	19.5	6	7.5	120.04	28641	1	1.09	1.34	0.85	1	10	8.6	0.98	1.05	0.95	0.19	0.192	0.109	32.2	0.47	38.66	Tsuchida et al (1979, 1980), Tohno & Yasuda (1981), Tokimatsu & Yoshimi (1983), Seed et al (1984), Cetin et al (2000)
73	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Yuriage Br-1	7.7	0.24	Yes	4.3	1.8	80	56	17.5	19.5	4	5.4	105.97	22320	1	1	1.41	0.95	1	10	6.5	0.97	1.05	0.95	0.216	0.218	0.095	30.4	0.49	37.11	Iwasaki et al (1978), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
74	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Yuriage Br-2	7.7	0.24	Yes	2.5	1.2	46	34	17.3	19.7	10.1	16.2	115.52	26797	1	1.12	1.68	0.85	1	7	16.3	0.99	1.1	0.95	0.212	0.203	0.167	38.0	0.38	20.05	Iwasaki et al (1978), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
75	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Yuriage Br-3	7.7	0.24	Yes	4.3	0.3	80	42	18	18.5	8	11.8	113.64	24354	1	1	1.56	0.95	1	12	13.9	0.97	1.09	0.95	0.293	0.282	0.147	35.4	0.42	25.80	Iwasaki (1986), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
76	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Yuriage Br-5	7.7	0.24	No	7.3	1.2	138	78	17.5	19	17	20.1	162.34	51043	1	1.12	1.11	0.95	1	17	24	0.94	1.04	0.95	0.26	0.263	0.268	40.0	0.36	44.54	Iwasaki (1986), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
77	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Yuriagekami-1	7.7	0.24	Yes	5.5	1.8	99	63	17	18.5	2	2.5	94.30	16770	1	1	1.31	0.95	1	60	8.1	0.96	1.04	0.95	0.236	0.239	0.105	27.1	0.54	43.89	Iwasaki & Tokida (1980), Iwasaki et al (1984), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
78	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Yuriagekami-2	7.7	0.24	Yes	4.3	0.9	80	47	17	19	11	15.1	125.52	30513	1	1	1.45	0.95	1	0	15.1	0.97	1.08	0.95	0.258	0.251	0.157	37.4	0.39	27.98	Iwasaki & Tokida (1980), Iwasaki et al (1984), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
79	1978 Miyagiken-Oki earthquake M=7.7 - June 12	Yuriagekami-3	7.7	0.24	No	5.5	2.1	103	70	18	19	20	24.6	163.18	51575	1	1.12	1.16	0.95	1	0	24.6	0.96	1.06	0.95	0.22	0.22	0.281	42.2	0.33	38.66	Iwasaki & Tokida (1980), Iwasaki et al (1984), Tohno & Yasuda (1981), Seed et al (1984), Cetin et al (2000)
80	1979 Imperial Valley earthquake ML=6.5 - Oct 15	Heber Road A1	6.53	0.78	No	2.9	1.8	53	42	17.3	19.7	30.4	37.8	155.45	48528	1	1.13	1.3	0.85	1	12	40	0.97	1.1	1.29	0.62	0.437	4.133	47.5	0.26	21.36	Bennett et al (1981), Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
81	1979 Imperial Valley earthquake ML=6.5 - Oct 15	Heber Road A2	6.53	0.78	Yes	3.7	1.8	68	50	17.5	19.5	2	2.9	90.85	16406	1	1.13	1.51	0.85	1	18	7	0.96	1.06	1.29	0.661	0.484	0.098	27.6	0.54	34.55	Bennett et al (1981), Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
82	1979 Imperial Valley earthquake ML=6.5 - Oct 15	Heber Road A3	6.53	0.78	No	4	1.8	79	56	19	20.5	13	16.2	140.16	41054	1	1.13	1.29	0.85	1	25	21.2	0.95	1.08	1.29	0.69	0.493	0.221	38.0	0.38	33.02	Bennett et al (1981), Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
83	1979 Imperial Valley earthquake ML=6.5 - Oct 15	Kornbloom B	6.53	0.13	No	4.3	2.7	77	62	17	19	5	6.2	117.37	26683	1	1.13	1.29	0.85	1	92	11.7	0.95	1.05	1.29	0.099	0.073	0.130	31.1	0.48	40.63	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
84	1979 Imperial Valley earthquake ML=6.5 - Oct 15	McKim Ranch A	6.53	0.51	Yes	2.1	1.5	38	32	17.5	19.5	3	4.6	87.68	15280	1	1.13	1.7	0.8	1	31	10	0.98	1.1	1.29	0.385	0.271	0.118	29.6	0.51	21.47	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
85	1979 Imperial Valley earthquake ML=6.5 - Oct 15	Radio Tower B1	6.53	0.2	Yes	3.4	2.1	62	50	18.1	18.9	2	2.9	90.85	15902	1	1.13	1.49	0.85	1	64	8.5	0.96	1.06	1.29	0.154	0.112	0.108	27.6	0.54	34.55	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
86	1979 Imperial Valley earthquake ML=6.5 - Oct 15	Radio Tower B2	6.53	0.2	No	2.3	2.1	40	38	17.2	19	11	15.2	121.54	28611	1	1.13	1.53	0.8	1	30	20.6	0.98	1.1	1.29	0.132	0.093	0.213	37.4	0.39	22.60	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
87	1979 Imperial Valley earthquake ML=6.5 - Oct 15	River Park A	6.53	0.24	Yes	1.8	0.3	35	20	18.5	19.5	3	4.6	77.05	11800	1	1.13	1.7	0.8	1	80	10.2	0.98	1.1	1.29	0.266	0.187	0.119	29.6	0.51	13.42	Bennett et al (1981), Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
88	1979 Imperial Valley earthquake ML=6.5 - Oct 15	Wildlife B	6.53	0.17	No	4.6	1.2	87	54	17.5	19.5	7.1	10.3	121.85	29512	1	1.13	1.36	0.95	1	30	15.7	0.94	1.07	1.29	0.178	0.129	0.162	34.4	0.44	33.69	Youd & Bennett (1983), Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
89	1980 Mid-Chiba earthquake M=6.0 - Sept 24 (UTC)	Owi-1	6	0.095	No	6.1	0.9	108	57	15	18.2	5	7.1	113.81	24029	1	1.09	1.36	0.95	1	13	9.6	0.89	1.05	1.48	0.104	0.067	0.115	31.9	0.47	36.91	Ishihara et al (1981), Seed et al (1984), Cetin et al (2000)
90	1980 Mid-Chiba earthquake M=6.0 - Sept 24 (UTC)	Owi-2	6	0.095	No	14.3	0.9	254	123	14	18.2	4	3.9	134.03	33325	1	1.09	0.9	1	1	27	9.1	0.69	0.98	1.48	0.089	0.061	0.112	28.8	0.52	83.46	Ishihara et al (1981), Seed et al (1984), Cetin et al (2000)
91	1981 WestMorland earthquake M=5.9 - April 26	Kornbloom B	5.9	0.32	Yes	4.3	2.7	77	62	17.5	18.5	5	6.2	117.37	25980	1	1.13	1.29	0.85	1	92	11.7	0.93	1.05	1.52	0.24	0.151	0.130	31.1	0.48	40.63	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
92	1981 WestMorland earthquake M=5.9 - April 26	McKim Ranch A	5.9	0.09	No	2.1	1.5	38	32	17.5	19.5	3	4.6	87.68	15280	1	1.13	1.7	0.8	1	31	10	0.97	1.1	1.52	0.068	0.04	0.118	29.6	0.51	21.47	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
93	1981 WestMorland earthquake M=5.9 - April 26	Radio Tower B1	5.9	0.2	Yes	3.4	2.1	62	50	17.5	19	2	2.9	90.85	15986	1	1.13	1.49	0.85	1	64	8.5	0.95	1.06	1.52	0.152	0.094	0.108	27.6	0.54	34.55	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
94	1981 WestMorland earthquake M=5.9 - April 26	Radio Tower B2	5.9	0.2	No	2.3	2.1	40	38	17.2	19	11	15.2	121.54	28611	1	1.13	1.53	0.8	1	30	20.6	0.97	1.1	1.52	0.131	0.078	0.213	37.4	0.39	22.60	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
95	1981 WestMorland earthquake M=5.9 - April 26	River Park A	5.9	0.21	No	1.8	0.3	35	20	18.5	19.5	3	4.6	77.05	11800	1	1.13	1.7	0.8	1	80	10.2	0.98	1.1	1.52	0.231	0.138	0.119	29.6	0.51	13.42	Bennett et al (1981), Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
96	1981 WestMorland earthquake M=5.9 - April 26	River Park C	5.9	0.21	No	4.3	0.3	83	45	18	19.5	11	15.2	127.33	32226	1	1.13	1.44	0.85	1	18	19.3	0.93	1.1	1.52	0.237	0.142	0.198	37.4	0.39	26.76	Bennett et al (1981), Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
97	1981 WestMorland earthquake M=5.9 - April 26	Wildlife B	5.9	0.26	Yes	4.6	1.2	87	54	18.5	19	7.1	10.3	121.85	28755	1	1.13	1.36	0.95	1	30	15.7	0.92	1.07	1.52	0.267	0.164	0.162	34.4	0.44	33.69	Youd & Bennett (1983), Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
98	1982 Urakawa-Oki earthquake M=6.9 - Mar 21	Tokachi	6.9	0.168	No	2.4	1.6	42	35	17.3	19.6	10	17	118.35	27984	1	1.22	1.64	0.85	1	5	17	0.98	1.1	1.17	0.129	0.1	0.174	38.4	0.38	20.49	Iai et al (1989)
99	1983 Nihonkai-Chubu earthquake M=6.8 - June 21	Arayamotomachi	6.8	0.15	No	4.3	1	69	37	14	16.5	2.6	5.1	89.95	13610	1	1.22	1.7	0.95	1	5	5.1	0.95	1.08	1.2	0.172	0.133	0.087	30.1	0.50	24.63	Yasuda & Tohno (1988), Cetin et al (2000)
100	1983 Nihonkai-Chubu earthquake M=6.8 - June 21	Arayamotomachi Coarse Sand	6.8	0.15	No	9.2	1	158	77	14	17.5	13.1	18.1	155.79	43296	1	1.22	1.13	1	1	0	18.1	0.86	1.03	1.2	0.172	0.139	0.185	39.0	0.37	44.68	Yasuda & Tohno (1988), Cetin et al (2000)
101	1983 Nihonkai-Chubu earthquake M=6.8 - June 21	Takeda Elementary School	6.8	0.111	Yes	4.3	0.35	81	42	17.3	18.9	7.4	13.3	116.63	26208	1	1.22	1.56	0.95	1	0	13.3	0.95	1.09	1.2	0.132	0.101	0.142	36.3	0.41	25.42	Yasuda & Tohno (1988), Cetin et al (2000)
102	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Aomori Station	7.7	0.116	Yes	5.7	0	95	38	0	16.7	9	16.5	118.34	23842	1	1.22	1.58	0.95	1	3	16.5	0.96	1.1	0.95	0.178	0.171	0.169	38.2	0.38	22.35	Yasuda & Tohno (1988), Cetin et al (2000)
103	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Arayamotomachi	7.7	0.2	Yes	4.3	1	69	37	14	16.5	2.6	5.1	89.95	13610	1	1.22	1.7	0.95	1	5	5.1	0.97	1.08	0.95	0.234	0.23	0.087	30.1	0.50	24.63	Yasuda & Tohno (1988), Cetin et al (2000)
104	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Gaiko Wharf B-2	7.7	0.227	Yes	7.5	0.4	123	53	14	16.5	7.7	12.4	125.40	26451	1	1.22	1.39	0.95	1	1	12.4	0.94	1.06	0.95	0.32	0.317	0.135	35.7	0.42	32.36	Hamada (1992), Cetin et al (2000)
105	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Noshiro Section N-7	7.7	0.25	Yes	3.5	1.7	55	38	14	17.5	9.8	16.2	120.53	25915	1	1.22	1.6	0.85	1	1	16.2	0.98	1.1	0.95	0.232	0.222	0.167	38.0	0.38	22.40	Hamada (1992), Cetin et al (2000)
106	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Takeda Elementary School	7.7	0.283	Yes	4.3	0.4	81	42	17	19	7.4	13.3	116.63	26346	1	1.22	1.56	0.95	1	0	13.3	0.97	1.1	0.95	0.397	0.381	0.142	36.3	0.41	25.42	Yasuda & Tohno (1988), Cetin et al (2000)
107	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Akita station (1)	7.7	0.205	No	2.865	1.75	52	41	17.3	19.6	12	18.7	128.55	33018	1	1.22	1.5	0.85	1	3	18.7	0.99	1.1	0.95	0.166	0.159	0.191	39.3	0.37	23.67	Iai et al (1989)
108	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Akita station (2)	7.7	0.205	No	2.895	1.75	53	41	17.3	19.6	8.5	13.8	119.37	28468	1	1.22	1.56	0.85	1	3	13.8	0.99	1.09	0.95	0.167	0.161	0.146	36.6	0.40	24.70	Iai et al (1989)
109	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Aomori Port	7.7	0.116	No	3.338	1.14	63	41	17.3	19.6	8	13.1	117.82	27735	1	1.22	1.58	0.95	1	5	13.1	0.98	1.09	0.95	0.113	0.109	0.141	36.2	0.41	24.86	Iai et al (1989)
110	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Gaiko 1	7.7	0.205	Yes	6.9125	1.5	132	79	17.3	19.6	6.6	8.7	135.39	36624	1	1.22	1.15	0.95	1	3	8.7	0.95	1.02	0.95	0.211	0.218	0.109	33.2	0.45	50.17	Iai et al (1989)
111	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Gaiko 2	7.7	0.205	Yes	9.7986	1.47	189	107	17.3	19.6	5.9	6.9	143.67	41238	1	1.22	0.97	1	1	4	6.9	0.91	1	0.95	0.214	0.227	0.098	31.7	0.47	69.47	Iai et al (1989)
112	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Hakodate	7.7	0.052	No	4.295	1.6	81	54	17.3	19.6	2.6	4.2	99.81	19903	1	1.22	1.41	0.95	1	66	9.8	0.97	1.06	0.95	0.049	0.049	0.117	29.2	0.51	36.46	Iai et al (1989)
113	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Nakajima No. 1 (5)	7.7	0.205	Yes	6.47	1.46	124	74	17.3	19.6	7.3	9.9	135.89	36896	1	1.22	1.18	0.95	1	8	10.4	0.95	1.03	0.95	0.21	0.216	0.121	34.1	0.44	46.36	Iai et al (1989)
114	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Nakajima No. 2 (1)	7.7	0.205	Yes	7.1314	1.45	136	81	17.3	19.6	10.4	13.5	150.33	45150	1	1.22	1.12	0.95	1	3	13.5	0.94	1.02	0.95	0.213	0.219	0.144	36.4	0.41	48.93	Iai et al (1989)
115	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Nakajima No. 2 (2)	7.7	0.205	Yes	3.7825	1.5	71	48	17.3	19.6	6	9.3	115.66	26727	1	1.22	1.5	0.85	1	7	9.4	0.98	1.07	0.95	0.191	0.189	0.114	33.6	0.45	30.27	Iai et al (1989)
116	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Nakajima No. 3(3)	7.7	0.205	Yes	6.0356	1.58	115	71	17.3	19.6	7.3	10.2	134.35	36065	1	1.22	1.21	0.95	1	2	10.2	0.96	1.03	0.95	0.205	0.21	0.119	34.3	0.44	44.34	Iai et al (1989)
117	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Nakajima No. 3(4)	7.7	0.205	Yes	5.7443	1.51	109	68	17.3	19.6	8	11.5	135.41	36633	1	1.22	1.24	0.95	1	2	11.5	0.96	1.04	0.95	0.206	0.209	0.129	35.2	0.42	41.89	Iai et al (1989)
118	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. 1(1)	7.7	0.205	No	3.905	1.2	74	47	17.3	19.6	13	18.9	135.79	36840	1	1.22	1.41	0.85	1	3	18.9	0.98	1.1	0.95	0.203	0.195	0.193	39.4	0.36	27.09	Iai et al (1989)
119	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. 1(2)	7.7	0.205	No	3.42	1.2	64	42	17.3	19.6	15.9	23.5	137.48	37762	1	1.22	1.43	0.85	1	2	23.5	0.98	1.1	0.95	0.198	0.19	0.258	41.7	0.34	23.38	Iai et al (1989)
120	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. 1(3)	7.7	0.205	No	2.5833	1.2	48	34	17.3	19.6	14.1	23	126.41	31926	1	1.22	1.57	0.85	1	1	23	0.99	1.1	0.95	0.184	0.176	0.249	41.4	0.34	19.00	Iai et al (1989)
121	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. 1(4)	7.7	0.205	No	5.1767	1.2	99	60	17.3	19.6	25	34.6	167.14	55817	1	1.22	1.19	0.95	1	3	34.6	0.96	1.1	0.95	0.213	0.204	1.021	46.3	0.28	31.08	Iai et al (1989)
122	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. 1(5)	7.7	0.205	No	2.2167	1.2	41	31	17.3	19.6	24.7	37.3	139.03	38617	1	1.22	1.46	0.85	1	1	37.3	0.99	1.1	0.95	0.175	0.168	1.888	47.3	0.26	15.81	Iai et al (1989)
123	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. 1(58- 22)	7.7	0.205	No	4.48	1.2	85	53	17.3	19.6	13.2	20.3	140.81	39616	1	1.22	1.33	0.95	1	2	20.3	0.97	1.09	0.95	0.208	0.202	0.210	40.1	0.36	30.22	Iai et al (1989)
124	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. 2 (2)	7.7	0.205	Yes	5.21	0.72	100	56	17.3	19.6	3.3	5.4	106.11	22497	1	1.22	1.43	0.95	1	2	5.4	0.96	1.05	0.95	0.229	0.231	0.088	30.4	0.49	37.11	Iai et al (1989)
125	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. 3 (1)	7.7	0.205	Yes	5.41	1.37	103	63	17.3	19.6	4.8	7.4	118.80	28199	1	1.22	1.31	0.95	1	2	7.4	0.96	1.04	0.95	0.209	0.212	0.101	32.2	0.47	40.64	Iai et al (1989)
126	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. 3 (3)	7.7	0.205	Yes	5.48	1.35	104	64	17.3	19.6	3.7	5.6	112.82	25433	1	1.22	1.32	0.95	1	2	5.6	0.96	1.04	0.95	0.21	0.213	0.090	30.6	0.49	42.29	Iai et al (1989)
127	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. 3 (4)	7.7	0.205	Yes	3.91	1.46	73	49	17.3	19.6	5.2	8.1	112.79	25419	1	1.22	1.5	0.85	1	2	8.1	0.98	1.06	0.95	0.194	0.192	0.105	32.7	0.46	31.34	Iai et al (1989)
128	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. Rvt (1)	7.7	0.205	No	4.5425	1.45	86	55	17.3	19.6	15.8	23.5	147.86	43681	1	1.22	1.28	0.95	1	2	23.5	0.97	1.09	0.95	0.2	0.193	0.258	41.7	0.34	30.62	Iai et al (1989)
129	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. Rvt (2)	7.7	0.205	No	6.67	1.6	127	77	17.3	19.6	17.3	22.5	165.39	54651	1	1.22	1.12	0.95	1	4	22.5	0.95	1.04	0.95	0.208	0.211	0.241	41.2	0.34	43.18	Iai et al (1989)
130	1983 Nihonkai-Chubu earthquake M=7.7 - May 26	Ohama No. Rvt (3)	7.7	0.205	No	3.5667	1.45	67	46	17.3	19.6	18.3	25.9	145.29	42173	1	1.22	1.37	0.85	1	0	25.9	0.98	1.1	0.95	0.19	0.182	0.313	42.8	0.32	25.18	Iai et al (1989)
131	1984 earthquake M=6.9 - Aug 7	Hososhima	6.9	0.268	No	2.895	2	53	45	18	19	8	12.1	120.88	28298	1	1.22	1.46	0.85	1	36	17.6	0.97	1.1	1.17	0.203	0.158	0.180	35.6	0.42	27.55	Iai et al (1989)
132	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	Radio Tower B1	6.22	0.09	No	3.4	2.1	62	50	18	19	2	2.9	90.85	15986	1	1.13	1.49	0.85	1	64	8.5	0.96	1.06	1.4	0.069	0.046	0.108	27.6	0.54	34.55	Seed et al (1984)
133	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	Wildlife B	6.22	0.133	No	4.6	1.2	87	54	18.5	19.1	7.1	10.3	121.85	28906	1	1.13	1.36	0.95	1	30	15.7	0.93	1.07	1.4	0.138	0.092	0.162	34.4	0.44	33.69	Seed et al (1984)
134	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	Heber Road A1	6.54	0.156	No	2.9	1.8	53	42	18	19	30.4	37.8	155.45	46803	1	1.13	1.3	0.85	1	12	40	0.97	1.1	1.29	0.124	0.088	4.133	47.5	0.26	21.36	Bennett et al (1981), Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
135	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	Heber Road A2	6.54	0.15	No	3.7	1.8	68	50	17.5	19	2	2.9	90.85	15986	1	1.13	1.51	0.85	1	18	7	0.96	1.06	1.29	0.127	0.093	0.098	27.6	0.54	34.55	Bennett et al (1981), Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
136	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	Heber Road A3	6.54	0.13	No	4	1.8	79	56	18.5	20.5	13	16.2	140.16	41054	1	1.13	1.29	0.85	1	25	21.2	0.95	1.08	1.29	0.115	0.082	0.221	38.0	0.38	33.02	Bennett et al (1981), Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
137	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	Kornbloom B	6.54	0.174	No	4.3	2.7	77	62	17.5	18.5	5	6.2	117.37	25980	1	1.13	1.29	0.85	1	92	11.7	0.95	1.05	1.29	0.132	0.098	0.130	31.1	0.48	40.63	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
138	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	McKim Ranch A	6.54	0.16	No	2.1	1.5	38	32	17.5	19.5	3	4.6	87.68	15280	1	1.13	1.7	0.8	1	31	10	0.98	1.1	1.29	0.121	0.085	0.118	29.6	0.51	21.47	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
139	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	Radio Tower B1	6.54	0.2	No	3.4	2.1	62	50	17.5	19.5	2	2.9	90.85	16406	1	1.13	1.49	0.85	1	64	8.5	0.96	1.06	1.29	0.154	0.113	0.108	27.6	0.54	34.55	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
140	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	Radio Tower B2	6.54	0.18	No	2.3	2.1	40	38	17.2	19.5	11	15.2	121.54	29364	1	1.13	1.53	0.8	1	30	20.6	0.98	1.1	1.29	0.119	0.084	0.213	37.4	0.39	22.60	Bennett et al (1984), Seed et al (1984), Cetin et al (2000)
141	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	River Park A	6.54	0.19	No	1.8	0.3	35	20	18.5	19.5	3	4.6	77.05	11800	1	1.13	1.7	0.8	1	80	10.2	0.98	1.1	1.29	0.21	0.149	0.119	29.6	0.51	13.42	Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
142	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	River Park C	6.54	0.19	No	4.3	0.3	83	45	18	19.5	11	15.2	127.33	32226	1	1.13	1.44	0.85	1	18	19.3	0.95	1.1	1.29	0.218	0.154	0.198	37.4	0.39	26.76	Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000)
143	1987 Superstition Hills earthquakes M=6.2 and M=6.5 - 01 & 02 - Nov 24	Wildlife B	6.54	0.206	Yes	4.6	1.2	87	54	17.5	19.5	7.1	10.3	121.85	29512	1	1.13	1.36	0.95	1	30	15.7	0.94	1.07	1.29	0.216	0.157	0.162	34.4	0.44	33.69	Youd & Bennett (1983), Seed et al (1984), Cetin et al (2000), Bennett (2010 pers. comm.)

144	1989 Loma Prieta earthquake M=6.9 - Oct 18		Alameda Bay Farm Dike	6.93	0.24	No	6.5	3	125	91	19	19.5	37	43.3	191.91	73205	1	0.92	1.03	0.95	1.3	7	43.4	0.92	1.03	1.16	0.198	0.165	14.896	49.4	0.24	44.92	Cetin et al (2000)
145	1989 Loma Prieta earthquake M=6.9 - Oct 18		Farris Farm	6.93	0.37	Yes	6	4.5	106	92	17	19.5	9	10.2	148.45	43807	1	1.13	1.05	0.95	1	8	10.6	0.93	1.01	1.16	0.259	0.221	0.122	34.3	0.44	57.45	Cetin et al (2000)
146	1989 Loma Prieta earthquake M=6.9 - Oct 18		General Fish	6.93	0.28	No	2.5	1.4	45	35	17.3	19.7	16.9	21.4	126.94	32357	1	1	1.58	0.8	1	5	21.4	0.98	1.1	1.16	0.232	0.182	0.224	40.7	0.35	19.79	Boulanger et al (1995, 1997)
147	1989 Loma Prieta earthquake M=6.9 - Oct 18		Hall Avenue	6.93	0.14	No	4.6	3.5	75	64	15	20.5	4.6	5.7	111.27	25873	1	0.92	1.28	0.95	1.1	30	11	0.95	1.04	1.16	0.102	0.084	0.125	30.7	0.49	42.23	Cetin et al (2000)
148	1989 Loma Prieta earthquake M=6.9 - Oct 18		Marine Laboratory B1	6.93	0.28	Yes	4.6	2.4	87	65	18.5	19.5	11	13.1	137.22	37429	1	1	1.25	0.95	1	3	13.1	0.95	1.05	1.16	0.23	0.189	0.141	36.2	0.41	39.42	Boulanger et al (1995, 1997), Cetin et al (2000)
149	1989 Loma Prieta earthquake M=6.9 - Oct 18		Marine Laboratory B2	6.93	0.28	Yes	3.5	2.5	65	55	18	19.5	13	14.9	135.85	36687	1	1	1.35	0.85	1	3	14.9	0.97	1.07	1.16	0.207	0.167	0.155	37.3	0.39	32.80	Boulanger et al (1995, 1997), Cetin et al (2000)
150	1989 Loma Prieta earthquake M=6.9 - Oct 18		Marine Laboratory UCB-6-12 & F1- F6	6.93	0.28	Yes	5.3	1.5	102	64	18	19.5	12	17.6	146.06	42406	1	1.25	1.23	0.95	1	3	17.6	0.94	1.06	1.16	0.27	0.22	0.180	38.8	0.37	37.29	Boulanger et al (1995, 1997)
151	1989 Loma Prieta earthquake M=6.9 - Oct 18		MBARI No. 3: EB-1	6.93	0.28	No	2	2	35	35	17.5	19.5	18	22.6	128.67	32909	1	1	1.57	0.8	1	1	22.6	0.99	1.1	1.16	0.179	0.14	0.243	41.3	0.34	19.61	Boulanger et al (1995, 1997), Cetin et al (2000)
152	1989 Loma Prieta earthquake M=6.9 - Oct 18		MBARI No. 3: EB-5	6.93	0.28	No	3.4	1.8	63	47	17.5	19.5	12	14.9	127.89	32510	1	1	1.46	0.85	1	1	14.9	0.97	1.09	1.16	0.235	0.187	0.155	37.3	0.39	28.03	Boulanger et al (1995, 1997), Cetin et al (2000)
153	1989 Loma Prieta earthquake M=6.9 - Oct 18		MBARI No. 4 (B4/B5/EB2/EB3)	6.93	0.28	No	3.4	1.9	62	48	17.5	19	18	21.2	140.35	38149	1	1	1.38	0.85	1	5	21.2	0.97	1.1	1.16	0.231	0.18	0.221	40.6	0.35	27.18	Boulanger et al (1995, 1997)
154	1989 Loma Prieta earthquake M=6.9 - Oct 18		MBARI Technology	6.93	0.28	No	3.4	2	62	48	17.5	19.5	12	14.7	128.63	32888	1	1	1.44	0.85	1	4	14.7	0.97	1.08	1.16	0.226	0.18	0.154	37.1	0.40	28.68	Boulanger et al (1995, 1997)
155	1989 Loma Prieta earthquake M=6.9 - Oct 18		Miller Farm CMF 3	6.93	0.39	Yes	6.2	4.9	114	101	18.1	19.7	9.2	9.9	153.03	47030	1	1.13	1	0.95	1	32	15.3	0.92	0.99	1.16	0.252	0.219	0.159	34.1	0.44	63.28	Holzer et al (1994), Bennett & Tinsley (1995)
156	1989 Loma Prieta earthquake M=6.9 - Oct 18		Miller Farm CMF 5	6.93	0.39	Yes	7	4.7	130	108	18.1	19.7	20	20.9	184.20	68139	1	1.13	0.97	0.95	1	13	23.4	0.91	0.99	1.16	0.28	0.243	0.257	40.4	0.35	61.29	Holzer et al (1994), Bennett & Tinsley (1995)
157	1989 Loma Prieta earthquake M=6.9 - Oct 18		Miller Farm CMF 8	6.93	0.39	Yes	6	4.4	111	95	18.1	19.7	8.8	9.8	149.05	44611	1	1.13	1.03	0.95	1	25	14.9	0.93	1.01	1.16	0.274	0.234	0.155	34.0	0.44	59.58	Holzer et al (1994), Bennett & Tinsley (1995)
158	1989 Loma Prieta earthquake M=6.9 - Oct 18		Miller Farm CMF10	6.93	0.39	No	8.4	3	158	105	17.3	19.7	19	20.2	180.78	65627	1	1.13	0.99	0.95	1	20	24.6	0.89	0.99	1.16	0.338	0.292	0.281	40.1	0.36	59.91	Holzer et al (1994), Bennett & Tinsley (1995)
159	1989 Loma Prieta earthquake M=6.9 - Oct 18		POO7-2	6.93	0.28	Yes	6.3	3	121	89	18.9	19.7	14.4	15.4	155.71	48689	1	0.92	1.11	0.95	1.1	3	15.4	0.92	1.01	1.16	0.229	0.194	0.160	37.5	0.39	52.84	Mitchell et al (1994), Kayen et al (1998), Cetin et al (2000)
160	1989 Loma Prieta earthquake M=6.9 - Oct 18		POO7-3	6.93	0.28	Marginal	6.3	3	121	89	18.9	19.7	16	17	159.28	50946	1	0.92	1.1	0.95	1.1	3	17	0.92	1.02	1.16	0.229	0.194	0.174	38.4	0.38	52.11	Mitchell et al (1994), Kayen et al (1998), Cetin et al (2000)
161	1989 Loma Prieta earthquake M=6.9 - Oct 18		POR-2&3&4	6.93	0.18	Yes	5.9	3.5	97	73	15.7	17.3	4.3	5.1	113.71	22802	1	0.92	1.27	0.95	1.1	50	10.7	0.93	1.03	1.16	0.142	0.119	0.123	30.1	0.50	48.59	Mitchell et al (1994), Kayen et al (1998), Cetin et al (2000)
162	1989 Loma Prieta earthquake M=6.9 - Oct 18		Sandholdt UC-B10	6.93	0.28	Yes	3	1.8	55	43	18	19	9.5	15.3	124.52	30028	1	1.25	1.52	0.85	1	2	15.3	0.97	1.1	1.16	0.226	0.177	0.159	37.5	0.39	25.55	Boulanger et al (1995,1997), Cetin et al (2000)
163	1989 Loma Prieta earthquake M=6.9 - Oct 18		Sandholdt UC-B10	6.93	0.28	No	6.1	1.8	115	73	18.5	19	26	34.4	178.83	61940	1	1.25	1.11	0.95	1	5	34.4	0.93	1.08	1.16	0.266	0.211	0.982	46.2	0.28	37.86	Boulanger et al (1995,1997), Cetin et al (2000)
164	1989 Loma Prieta earthquake M=6.9 - Oct 18		SFOBB-1&2	6.93	0.27	Yes	6.3	3	118	86	18	19.5	7.5	8.6	134.06	35727	1	0.92	1.1	0.95	1.2	8	9	0.92	1.01	1.16	0.222	0.189	0.111	33.1	0.45	54.68	Mitchell et al (1994), Kayen et al (1998), Cetin et al (2000)
165	1989 Loma Prieta earthquake M=6.9 - Oct 18		State Beach UC-B1	6.93	0.28	Yes	3.4	1.8	61	46	17.3	19.1	6.3	10.3	116.12	26255	1	1.25	1.53	0.85	1	1	10.3	0.97	1.07	1.16	0.234	0.187	0.120	34.4	0.44	28.70	Boulanger et al (1995,1997), Cetin et al (2000)
166	1989 Loma Prieta earthquake M=6.9 - Oct 18		State Beach UC-B2	6.93	0.28	Yes	4.9	2.6	90	67	17.3	19.6	12.8	18.4	149.98	44941	1	1.25	1.2	0.95	1	1	18.4	0.95	1.05	1.16	0.229	0.188	0.188	39.2	0.37	38.78	Boulanger et al (1995,1997), Cetin et al (2000)
167	1989 Loma Prieta earthquake M=6.9 - Oct 18		Treasure Island	6.93	0.16	Yes	6.5	1.5	116	67	17.3	18.1	4.3	6.4	116.08	24861	1	1.13	1.24	0.95	1.1	20	10.8	0.92	1.04	1.16	0.165	0.137	0.124	31.3	0.48	43.79	Pass (1994), de Alba et al (1994), Cetin et al (2000)
168	1989 Loma Prieta earthquake M=6.9 - Oct 18		WoodMarine UC-B4	6.93	0.28	Yes	1.8	1	32	25	17	19	6.7	9.1	94.84	17422	1	1	1.7	0.8	1	35	14.6	0.99	1.1	1.16	0.233	0.183	0.153	33.5	0.45	15.80	Boulanger et al (1995,1997), Cetin et al (2000)
169	1990 Luzon earthquake M=7.7 - July 16		Cereenan St. B-12	7.7	0.25	No	5	2.3	94	68	18	19.5	34.7	24.9	162.13	52250	1	0.65	1.16	0.95	1	19	29.2	0.97	1.08	0.95	0.218	0.213	0.439	42.3	0.33	37.48	Wakamatsu et al (1992), Cetin et al (2000)
170	1990 Luzon earthquake M=7.7 - July 16		Perez B1v. B-11	7.7	0.25	Yes	7.2	2.3	139	90	18	20	19.9	13	155.39	49227	1	0.65	1.06	0.95	1	19	17.3	0.94	1.01	0.95	0.236	0.245	0.177	36.1	0.41	54.63	Wakamatsu et al (1992), Cetin et al (2000)
171	1993 Kushiro-Oki earthquake M=7.6 - Jan 15		Kushiro Port Quay Wall Site A	7.6	0.4	Yes	5.2	2	100	68	18	20	11.7	16.4	146.94	44019	1	1.22	1.21	0.95	1	2	16.4	0.96	1.05	0.97	0.366	0.359	0.168	38.1	0.38	40.02	Iai et al (1994), Cetin et al (2000)
172	1993 Kushiro-Oki earthquake M=7.6 - Jan 15		Kushiro Port Quay Wall Site D	7.6	0.4	No	10.8	1.6	208	118	18	19.5	26.8	30.9	204.34	83000	1	1.22	0.95	1	1	0	30.9	0.89	0.97	0.97	0.408	0.434	0.547	44.9	0.29	62.51	Iai et al (1994), Cetin et al (2000)
173	1993 Kushiro-Oki earthquake M=7.6 - Jan 15		Kushiro Port Seismo St.	7.6	0.47	Yes	3.8	2	65	47	16	18.1	17.4	25.9	146.56	39632	1	1.3	1.35	0.85	1	5	25.9	0.98	1.1	0.97	0.41	0.383	0.313	42.8	0.32	25.73	Iai et al. (1995)
174	1994 Northridge earthquake M=6.7 - Jan 17		Balboa B1v. Unit C	6.69	0.84	Yes	8.5	7.2	156	143	18.1	19.6	13.6	13.1	183.15	67021	1	1.13	0.86	1	1	50	18.7	0.87	0.96	1.24	0.428	0.362	0.191	36.2	0.41	86.71	Bennett et al (1998), Holzer et al (1999), Cetin et al (2000)
175	1994 Northridge earthquake M=6.7 - Jan 17		Malden Street Unit D	6.69	0.51	No	9.3	3.9	154	101	14.5	18	24.1	27.2	188.24	65016	1	1.13	1	1	1	25	32.3	0.86	1	1.24	0.431	0.349	0.676	43.3	0.31	54.80	Bennett et al (1998), Holzer et al (1999), Cetin et al (2000)
176	1994 Northridge earthquake M=6.7 - Jan 17		Potrero Canyon C1	6.69	0.43	Yes	7.1	2	139	88	18.9	19.6	7.4	8.5	140.61	39500	1	1.13	1.07	0.95	1	64	14.1	0.91	1.02	1.24	0.32	0.254	0.149	33.0	0.45	56.01	Bennett et al (1998), Holzer et al (1999), Cetin et al (2000)
177	1994 Northridge earthquake M=6.7 - Jan 17		Wynne Ave. Unit C1	6.69	0.51	Yes	6.7	4.3	129	105	18.9	19.6	11	11.6	160.74	51619	1	1.13	0.98	0.95	1	33	17	0.91	1	1.24	0.39	0.317	0.174	35.2	0.42	64.62	Bennett et al (1998), Holzer et al (1999), Cetin et al (2000)
178	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	1		6.9	0.4	No	5.8	2.4	113	80	18.5	20	42.1	52	202.35	83480	1	1.22	1.07	0.95	1	3	52	0.93	1.07	1.17	0.345	0.275	2771.641	52.2	0.21	37.83	Tokimatsu (2010 pers. comm.)
179	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	2		6.9	0.4	No	8	2.9	152	103	18	19.5	34.2	39.5	207.44	85534	1	1.22	1	0.95	1	15	42.7	0.89	1	1.17	0.345	0.296	11.101	48.1	0.26	51.89	Tokimatsu (2010 pers. comm.)
180	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	3		6.9	0.4	No	5.8	2.5	109	77	18	19.5	40	49.8	198.05	77966	1	1.22	1.08	0.95	1	3	49.8	0.93	1.08	1.17	0.344	0.271	527.846	51.6	0.22	36.79	Tokimatsu (2010 pers. comm.)
181	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	4		6.9	0.4	No	4.3	2.1	76	54	16.5	19	25.8	36.6	163.47	51758	1	1.22	1.23	0.95	1	1	36.6	0.95	1.1	1.17	0.35	0.272	1.586	47.1	0.27	27.65	Tokimatsu (2010 pers. comm.)
182	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	5		6.9	0.35	Yes	8.9	3	173	116	18.5	20	5.4	6.1	144.12	42347	1	1.22	0.92	1	1	1	6.1	0.88	0.99	1.17	0.298	0.258	0.093	31.0	0.48	76.12	Tokimatsu (2010 pers. comm.)
183	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	6		6.9	0.4	No	5.9	2.3	107	72	17	19	13.4	17.8	153.69	45746	1	1.22	1.15	0.95	1	21	22.5	0.93	1.05	1.17	0.36	0.293	0.241	38.9	0.37	41.88	Tokimatsu (2010 pers. comm.)
184	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	7		6.9	0.4	Yes	3.3	3.2	62	60	18.7	20	8	10.9	130.83	34894	1	1.22	1.32	0.85	1	0	10.9	0.93	1.02	1.17	0.314	0.262	0.124	34.8	0.43	37.19	Tokimatsu (2010 pers. comm.)
185	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	8		6.9	0.5	Yes	5	3	85	65	16	18.5	17.4	24.1	158.06	47111	1	1.22	1.2	0.95	1	0	24.1	0.94	1.07	1.17	0.402	0.321	0.270	42.0	0.33	36.03	Tokimatsu (2010 pers. comm.)
186	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	9		6.9	0.5	Yes	4.3	2.8	79	64	18	19	8.3	12.2	134.23	34895	1	1.22	1.27	0.95	1	2	12.2	0.95	1.05	1.17	0.383	0.313	0.134	35.6	0.42	39.15	Tokimatsu (2010 pers. comm.)
187	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	10		6.9	0.6	No	7.5	4.5	137	107	18	19	24.1	27.4	194.43	73214	1	1.22	0.98	0.95	1	9	28	0.9	0.99	1.17	0.45	0.388	0.384	43.4	0.31	57.98	Tokimatsu (2010 pers. comm.)
188	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	11		6.9	0.5	Yes	6.8	1.5	114	62	14.5	17.5	5.6	8.5	122.27	26668	1	1.22	1.31	0.95	1	5	8.5	0.91	1.04	1.17	0.546	0.447	0.108	33.0	0.45	39.47	Tokimatsu (2010 pers. comm.)
189	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	12		6.9	0.5	No	5.3	3.2	92	72	16.5	18.5	18.6	24.7	164.91	51287	1	1.22	1.14	0.95	1	14	27.6	0.94	1.06	1.17	0.393	0.316	0.368	42.2	0.33	39.74	Tokimatsu (2010 pers. comm.)
190	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	13		6.9	0.5	Yes	6.5	2.3	116	74	17	18.5	9.5	12.7	143.81	39002	1	1.22	1.16	0.95	1	15	16	0.92	1.04	1.17	0.464	0.383	0.165	35.9	0.41	45.05	Tokimatsu (2010 pers. comm.)
191	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	14		6.9	0.5	No	4.8	3.1	86	69	17	19.5	15	20.3	155.63	48143	1	1.22	1.17	0.95	1	19	24.5	0.95	1.06	1.17	0.382	0.307	0.279	40.1	0.36	39.34	Tokimatsu (2010 pers. comm.)
192	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	15		6.9	0.5	Yes	5.7	3.7	102	82	17	19.5	15.1	19.2	163.43	53089	1	1.22	1.1	0.95	1	5	19.2	0.93	1.03	1.17	0.375	0.312	0.197	39.6	0.36	47.16	Tokimatsu (2010 pers. comm.)
193	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	16		6.9	0.6	No	4.5	2.5	80	60	16.5	19.5	17.5	25	154.81	47636	1	1.22	1.23	0.95	1	5	25	0.95	1.09	1.17	0.495	0.39	0.290	42.4	0.33	33.05	Tokimatsu (2010 pers. comm.)
194	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	17		6.9	0.5	Yes	4.5	0.8	80	43	15	18.5	12.6	21.1	131.62	32670	1	1.22	1.45	0.95	1	5	21.1	0.95	1.1	1.17	0.574	0.446	0.220	40.5	0.35	24.37	Tokimatsu (2010 pers. comm.)
195	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	18		6.9	0.7	No	10.5	7.7	199	171	18.5	20	40.5	42.6	247.30	124680	1	1.22	0.86	1	1	0	42.6	0.85	0.85	1.17	0.448	0.452	10.658	49.2	0.24	84.72	Tokimatsu (2010 pers. comm.)
196	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	19		6.9	0.6	No	7.5	6.1	137	124	18	19.5	20	21.3	194.52	75209	1	1.22	0.92	0.95	1	10	22.5	0.9	0.97	1.17	0.391	0.344	0.241	40.6	0.35	70.16	Tokimatsu (2010 pers. comm.)
197	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	20		6.9	0.55	No	6	2	114	75	18	19.5	50.8	63.7	206.99	85163	1	1.22	1.08	0.95	1	0	63.7	0.93	1.09	1.17	0.505	0.396	#######	55.7	0.17	33.70	Tokimatsu (2010 pers. comm.)
198	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	21		6.9	0.6	No	3.5	1.7	62	44	16.5	19	24.4	33.5	152.68	45148	1	1.22	1.32	0.85	1	0	33.5	0.97	1.1	1.17	0.531	0.412	0.829	45.9	0.28	22.94	Tokimatsu (2010 pers. comm.)
199	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	22		6.9	0.6	No	6	2.4	114	79	18	19.5	30.8	38.6	188.55	70667	1	1.22	1.08	0.95	1	6	38.6	0.93	1.07	1.17	0.524	0.416	2.690	47.8	0.26	39.99	Tokimatsu (2010 pers. comm.)
200	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	23		6.9	0.6	No	5	3	92	72	18	19	18.1	24	163.95	52060	1	1.22	1.15	0.95	1	10	25.1	0.94	1.06	1.17	0.468	0.379	0.292	41.9	0.33	39.94	Tokimatsu (2010 pers. comm.)
201	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	24		6.9	0.5	Yes	3.5	2.4	63	51	17.5	19	18	24.6	148.94	42963	1	1.22	1.32	0.85	1	0	24.6	0.97	1.1	1.17	0.383	0.297	0.281	42.2	0.33	28.17	Tokimatsu (2010 pers. comm.)
202	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	25		6.9	0.7	No	3.5	2.2	64	50	18	19	27.5	35.8	162.26	50993	1	1.22	1.25	0.85	1	3	35.8	0.97	1.1	1.17	0.555	0.431	1.317	46.8	0.27	25.72	Tokimatsu (2010 pers. comm.)
203	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	26		6.9	0.6	No	3.5	0.9	63	37	15	19	26	37	147.58	42181	1	1.22	1.37	0.85	1	0	37	0.97	1.1	1.17	0.633	0.491	1.750	47.2	0.27	18.90	Tokimatsu (2010 pers. comm.)
204	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	27		6.9	0.6	No	2.5	1.1	43	29	16	18	27.6	40.8	139.80	35859	1	1.22	1.43	0.85	1	10	42	0.98	1.1	1.17	0.568	0.441	8.408	48.6	0.25	14.51	Tokimatsu (2010 pers. comm.)
205	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	28		6.9	0.4	Yes	3.5	1.8	62	44	16.5	19	14.3	21.1	136.11	35881	1	1.22	1.42	0.85	1	8	21.4	0.97	1.1	1.17	0.348	0.27	0.224	40.5	0.35	24.93	Tokimatsu (2010 pers. comm.)
206	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	29		6.9	0.4	Yes	3.8	2	67	49	16.5	19	12.4	17.9	135.97	35805	1	1.22	1.39	0.85	1	0	17.9	0.96	1.09	1.17	0.337	0.264	0.183	38.9	0.37	28.48	Tokimatsu (2010 pers. comm.)
207	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	30		6.9	0.6	No	8.5	1.5	146	78	14.5	17.7	30.5	40.1	187.50	63429	1	1.22	1.08	1	1	10	41.3	0.88	1.08	1.17	0.649	0.514	6.469	48.3	0.25	39.16	Tokimatsu (2010 pers. comm.)
208	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	31		6.9	0.6	No	4	1.2	73	46	17.5	18.5	34.8	49.7	166.82	52478	1	1.22	1.23	0.95	1	0	49.7	0.96	1.1	1.17	0.599	0.465	492.376	51.5	0.22	21.99	Tokimatsu (2010 pers. comm.)
209	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	32		6.9	0.5	No	3.5	1.4	61	41	16	18.5	20.1	29.1	143.63	38904	1	1.22	1.4	0.85	1	6	29.2	0.97	1.1	1.17	0.472	0.367	0.439	44.1	0.30	21.97	Tokimatsu (2010 pers. comm.)
210	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	33		6.9	0.5	No	8	2	142	83	16	18.5	21.3	27.9	176.56	58787	1	1.22	1.07	1	1	50	33.5	0.89	1.05	1.17	0.496	0.404	0.829	43.6	0.31	44.83	Tokimatsu (2010 pers. comm.)
211	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	34		6.9	0.4	Yes	7	1.8	124	73	16	18.5	18.3	24.2	164.96	51318	1	1.22	1.14	0.95	1	9	25	0.91	1.05	1.17	0.403	0.326	0.290	42.0	0.33	40.44	Tokimatsu (2010 pers. comm.)
212	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	35		6.9	0.5	Yes	4.5	2.1	79	55	16	19	12.3	18.9	140.11	38021	1	1.22	1.32	0.95	1	6	18.9	0.95	1.08	1.17	0.445	0.352	0.193	39.4	0.36	31.71	Tokimatsu (2010 pers. comm.)
213	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	36		6.9	0.6	No	3.5	0.9	61	36	14.5	18.5	21.2	31.6	140.18	37057	1	1.22	1.44	0.85	1	3	31.6	0.97	1.1	1.17	0.639	0.496	0.606	45.1	0.29	18.99	Tokimatsu (2010 pers. comm.)
214	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	37		6.9	0.35	Yes	5	4	89	79	17.5	19	15	19.3	161.53	50534	1	1.22	1.12	0.95	1	0	19.3	0.94	1.03	1.17	0.241	0.2	0.198	39.6	0.36	45.40	Tokimatsu (2010 pers. comm.)
215	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	38		6.9	0.5	Yes	8	3	143	94	17	18.5	15.1	19.1	169.68	54296	1	1.22	1.03	1	1	5	19.1	0.89	1.01	1.17	0.441	0.373	0.195	39.5	0.36	54.10	Tokimatsu (2010 pers. comm.)
216	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	39		6.9	0.6	No	4.5	2.6	84	66	18	19.5	47	61	196.52	76771	1	1.22	1.12	0.95	1	0	61	0.95	1.1	1.17	0.476	0.37	#######	54.9	0.18	29.99	Tokimatsu (2010 pers. comm.)
217	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	40		6.9	0.6	No	3.5	2.8	66	59	18.5	20	32.5	39.7	176.03	63171	1	1.22	1.18	0.85	1	0	39.7	0.97	1.1	1.17	0.421	0.326	3.753	48.2	0.25	29.69	Tokimatsu (2010 pers. comm.)
218	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	41		6.9	0.4	Yes	4.1	2	71	50	16	18.5	9.2	15	128.22	31006	1	1.22	1.41	0.95	1	0	15	0.96	1.08	1.17	0.352	0.279	0.156	37.3	0.39	29.79	Tokimatsu (2010 pers. comm.)
219	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	42		6.9	0.4	Yes	5	1.2	84	46	14.5	17.5	7	12.1	118.17	24909	1	1.22	1.48	0.95	1	10	13.2	0.94	1.08	1.17	0.445	0.352	0.142	35.6	0.42	28.17	Tokimatsu (2010 pers. comm.)
220	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	43		6.9	0.35	Yes	4.7	2.2	80	55	15.5	18.5	10	15.2	134.01	33868	1	1.22	1.31	0.95	1	20	19.6	0.95	1.08	1.17	0.311	0.246	0.201	37.4	0.39	32.71	Tokimatsu (2010 pers. comm.)
221	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16	44		6.9	0.4	Yes	4	1.6	67	43	14.5	18.3	4.4	8.3	104.98	20557	1	1.22	1.61	0.95	1	5	8.3	0.96	1.07	1.17	0.388	0.308	0.107	32.9	0.46	27.44	Tokimatsu (2010 pers. comm.)
222	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16		Ashiyama A (Mntn Sand 1)	6.9	0.4	No	5.2	3.5	97	80	18	19.5	16.6	21.1	165.66	54550	1	1.22	1.1	0.95	1	18	25.2	0.94	1.04	1.17	0.295	0.243	0.295	40.5	0.35	45.33	Shibata et al (1996), Cetin et al (2000)
223	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16		Ashiyama C-D-E (Marine Sand)	6.9	0.4	Yes	8.8	3.5	166	115	18	19.5	10.9	12.5	167.22	55581	1	1.22	0.94	1	1	2	12.5	0.88	0.99	1.17	0.331	0.286	0.136	35.8	0.41	70.14	Shibata et al (1996), Cetin et al (2000)
224	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16		Port Island Borehole Array Station	6.9	0.34	Yes	7.8	2.4	149	96	18	19.5	5.7	6.8	138.41	38082	1	1.22	1.03	0.95	1	20	11.3	0.9	1.01	1.17	0.307	0.26	0.127	31.7	0.48	62.41	Shibata et al (1996), Cetin et al (2000)
225	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16		Port Island Improved Site (Ikegaya)	6.9	0.4	No	8.5	5	159	125	18	19.5	20.2	22.7	195.36	75866	1	1.22	0.92	1	1	20	27.2	0.88	0.96	1.17	0.293	0.26	0.353	41.3	0.34	69.99	Yasuda et al (1996; data from Ikegaya 1980), Cetin et al (2000)
226	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16		Port Island Improved Site (Tanahashi)	6.9	0.4	No	10	5	189	140	18	19.5	18.2	19.5	197.08	77205	1	1.22	0.88	1	1	20	24	0.86	0.95	1.17	0.301	0.27	0.268	39.7	0.36	80.32	Yasuda et al (1996,; data from Tanahashi et al 1987), Cetin et al (2000)
227	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16		Port Island Improved Site (Watanabe)	6.9	0.4	No	9.5	5	179	135	18	19.5	30.9	34.6	218.64	95020	1	1.22	0.92	1	1	20	39.1	0.87	0.92	1.17	0.299	0.278	3.117	46.3	0.28	69.93	Yasuda et al (1996; data from Watanabe 1981), Cetin et al (2000)
228	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16		Port Island Site I	6.9	0.34	Yes	10	3	192	123	18	19.5	9.7	10.8	166.12	54854	1	1.22	0.91	1	1	20	15.3	0.86	0.98	1.17	0.295	0.258	0.159	34.7	0.43	76.32	Tokimatsu et al (1996), Cetin et al (2000)
229	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16		Rokko Island Building D	6.9	0.4	Yes	7.5	4	141	107	18	19.5	14.8	16.8	175.08	60929	1	1.22	0.98	0.95	1	25	21.9	0.9	0.99	1.17	0.31	0.267	0.232	38.3	0.38	62.76	Tokimatsu et al (1996), Cetin et al (2000)
230	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16		Rokko Island Site G	6.9	0.34	Yes	11.5	4	219	146	18	19.5	12	12.3	182.29	66052	1	1.22	0.84	1	1	20	16.8	0.83	0.96	1.17	0.275	0.246	0.172	35.7	0.42	89.22	Tokimatsu et al (1996), Cetin et al (2000)
231	1995 Hyogoken-Nambu (Kobe) earthquake M=6.9 - Jan 16		Torishima Dike	6.9	0.25	Yes	4.7	0	93	46	0	19.8	8.5	14	123.20	30637	1	1.22	1.42	0.95	1	20	18.5	0.95	1.1	1.17	0.308	0.24	0.189	36.7	0.40	27.66	Matsuo (1996), Cetin et al (2000)