



Seismological Bulletin.

Manila Observatory. - Philippine Islands.

December, 1909.

No. 12.

Date	Component	Beginning.			Maximum range of motion.			End.	Instrument.	Remark.	
		First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2a).	Period				
		h. m. s.	h. m. s.	h. m. s.	h. m. s.	mm.	s. h. m.				
4		At 4 ^h Earthquake, IV at Surigao (NE of Mindanao).									
4		At 5 ^h 59 ^m 30 ^s Eque., IV at Butuan (N of Mindanao).									
7		At 3 ^h 48 ^m Eque., III at Surigao (NE of Mindanao).									
8		At 17 ^h Eque., III at Butuan (N of Mindanao).									
9		At 13 ^h 45 ^m 30 ^s Eque., III at Cotabato (S of Mindanao).									
213	9	NNW-SSE	23 42 32	23 46 53	23 51 54	23 58 12	0.01	12	1 01	V.M.	
		NNW-SSE	23 42 39	23 47 16	23 51 58	23 58 15	.11	11.7	0 56	H.P.	
		WSW-ENE	23 42 32	23 46 57	23 51 59	23 58 03	.02	15.2	1 01	V.M.	
		WSW-ENE	23 42 39	23 47 47	23 52 00	23 58 06	.08	12	0 58	H.P.	
214	10	NNW-SSE	5 50 38	5 54 44	5 59 39	6 02 27	.02	8.8	6 55	V.M.	
		NNW-SSE	5 50 44						6 50	H.P.	
		WSW-ENE	5 50 38	5 55 14	5 59 39	6 02 39	.01	10.8	6 55	V.M.	
		WSW-ENE	5 50 44	5 55 11	5 59 43	6 02 39	.27	9	6 50	H.P.	
215	10	NNW-SSE	7 33 54	7 37 02	7 41 18	7 43 53	.06	8.8	9 15	V.M.	Vertical Component
		NNW-SSE	7 33 52	7 37 20	7 41 09	7 43 22	2.93	13.8	9 13	H.P.	0.06 mm. Earthquake in Guam.
		WSW-ENE	7 33 54	7 37 37	7 41 16	7 44 50	.10	8.4	9 15	V.M.	
		WSW-ENE	7 33 52	7 37 37	7 41 16	7 43 03	3.60	11.7	9 13	H.P.	
11		At 5 ^h 17 ^m Eque., III at Jolo.									
216	19	NNW-SSE	3 00 53		3 01 24	3 01 34	.88	2.4	3 11	V.M.	V.C. 0.25 mm. Eque.
		NNW-SSE	3 00 54		3 01 24	3 01 46	.22	5.1	3 10	H.P.	III at Nueva Caceres (SE of Luzon).
		WSW-ENE	3 00 53		3 01 24	3 02 36	.82	2.4	3 11	V.M.	
		WSW-ENE	3 00 54		3 01 23	3 01 56	.40	10.5	3 10	H.P.	
217	19	NNW-SSE	8 16 49		8 17 20	8 17 29	.96	2.4	8 25	V.M.	V.C. 0.72 mm.
		NNW-SSE	8 16 51		8 17 16				8 22	H.P.	
		WSW-ENE	8 16 49		8 17 19	8 17 34	.75	2.4	8 25	V.M.	
		WSW-ENE	8 16 51		8 17 19				8 22	H.P.	
218	20	NNW-SSE	19 58 17		19 59 24	19 59 34	.19	2.4	20 06	V.M.	V.C. 0.01 mm.
		WSW-ENE	19 58 17		19 59 25	19 59 36	.11	2.4	20 06	V.M.	
		NNW-SSE	14 57 53		14 58 15	14 58 29	.20	2.4	15 03	V.M.	V.C. 0.12 mm.
219	31	WSW-ENE	14 57 53		14 58 15	14 58 21	.16	2.2	15 03	V.M.	

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