MANILA OBSERVATORY
Mirador, Baguio City
Philippines

Lat. N. 16° 24' 39" Long. E.120° 34' 47" Alt. 1507 meters

Instruments (All Sprengnethers) Hard Limestone Bedrock

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.4 sec	1.384 sec	Circa 2167	1540
	E-W	10.5	10.7	2282	1755
	N-S	1.91	1.39	3000	2500
Photoelectric, Visually recording	E-W	1.43	1.65	3000	Very ro u
	N-S	11.2	12.2	8000	Magn. d on ampl.

JANUARY 1954

	Date	Time (GMT)	Phase	Remarks
1)	1	10 - 49 - 28	iPn	Small. P cresc. Δn = 365± Km.
		- 50 - 08	iSn	
2)		13 - 09 - 43	iP	Small. S very difficult. Δb = 317±
		- 10 - 19	iS	Km. or Δ = 2635± Km., deep focus?
		or 14 - 40±		
3)		13 - 20 - 36	iPb	Very small. S indeterminate.
4)		18 - 37 - 29	iPb	Small. Δb = 444± Km.
		- 38 - 20±	iSb	
5)	2	07 - 04 - 13	iPb	Small to medium. Dilat. Δb = 308±
		- 48±	iSb	Km.
6)		~~11~~ 09 - 25 - 26	iPb	Small. Compr. Δb = 174± Km.
		- 46±	iSb	
7)	3	06 - 54 - 47±	iPb	Very small. Δb = 183± Km.
		55 - 08	iSb	
8)	4	09 - 11 - 52±	ePb	Very small. Δb = 158± Km.
		- 12 - 10	iSb	
9)		09 - 39 - 47±	ePb	Very small. Δb = 165± Km.
		- 40 - 06	iSb	
10)	5	00 - 56 - 46	iPb	Very small. Δb = 165± Km.
		- 57 - 05±	iSb	
11)		03 - 02 - 46±	iPb	Very small. Δb = 129± Km.
		- 03 - 01	iSb	
12)		04 - 02 - 08	iPb	Small. Dilat. Δb = 210± Km.
		- 32±	iSb	
13)		04 - 05 - 10±	i	Very small. Nearby. S indeterminate.
14)		06 - 28 - 28	ePb±	Very small. Δb = 156± Km.
		- 46	iSb	

	Date	Time (GMT)	Phase	Remarks
15)	5	23 - 16 - 21±	iPg	Very small. Δg = 109± Km.
		- 34	iSg	
16)	6	02 - 51 - 16	iPb	Small. Δb = 273 Km.
		- 47	iSb	
17)		06 - 34 - 36	iPb	Very small. Δb = 838± Km.
		36 - 10	iSb	
18)		09 - 32 - 07±	iPb	Very small. Δb = 237± Km.
		- 34	iSb	
19)		16 - 06 - 07	i	Very small. Compr. S indeterminate.
20)		16 - 44 - 40±	e	Long waves of teleseism.
21)		21 - 53 - 34	iPb	Very small. Δb = 192± Km.
		- 56	iSb	
22)		22 - 52 - 30	e	Very small.
23)	7	01 - 25 - 43±	ePg	Very small. Δg = 76± Km.
		- 52±	iSg	
24)		07 - 23 - 40±	e	Long waves of teleseisms.
25)		12 - 21 - 24	iPb	Small. Compr. P cresc. Δb = 138 Km.
		- 40	iSb	
26)		17 - 07 - 57±	iPb	Very small. Δb = 201± Km.
		- 08 - 20	iSb	
27)		23 - 16 - 33±	e	Very small.
28)	8	00 - 16 - 09±	iPb	Very small. Δb = 183± Km.
		- 30	iSb	
29)		03 - 56 - 27	iPg	Small. Compr. to ENE. Ambuklao blast.
		- 31±	iSg	Δg = 31± Km.
30)		08 - 30 - 13	iPb	Very small. Compr. Δb = 174± Km.
		- 43	iSb	
31)		20 - 59 - 53	iP	Dilat. Small to mod. Δg = 101± Km.
		21 - 00 - 05 or		or Δb = 174± Km. Felt Casiguran
		13	iS	int. II; Bangad, Tinglayan, int. II. Tabuk Pobl., Kalinga, Mt. Prov. I - II.
32)	9	04 - 59 - 23	i	Very small.
33)		12 - 56 - 42	iPg	Very small. Ambuklao blast? Δg =
		- 46	iSg	32± Km. Felt Bokod, int. II.
34)		23 - 26 - 35±	iPb	Very small. Δb = 274± Km.
		- 27 - 06	iSb	
35)	10	18 - 17 - 17±	i	Very small.
36)		18 - 35 - 15±	i	Very small.
37)	11	04 - 34 - 22±	iPg	Very small. Δg = 92± Km.
		- 33	iSg	
38)		12 - 43 - 03	iPg	Very small. Dilat. Δg = 84± kil.
		- 13	iSg	
39)		17 - 11 - 02	iPb	Mod. to large. Dilat. Δb = 730± Km.
		- 12 - 24±	iSb	= 6°.6±.

	Date	Time (GMT)	Phase	Remarks
40)	12	03 - 09 - 38	iPb	Very small. Δb = 129± Km.
		- 53	iSb	
41)		10 - 00 - 33	iPb	Small. Δb = 156± Km.
		- 51	iSb	
42)		14 - 28 - 13	i	Small. Seems very long Δ, teleseismic. Phases difficult, L not so clear; deep focus?
43)	13	00 - 24 - 58	eP	Teleseismic. Small record. Phases difficult.
44)		06 - 38 - 44±	iPb	Very small. Δb = 160± Km.
		- 39 - 02±	iSb	
45)		07 - 58 - 26±	iPb	Very small. Δb = 165± Km.
		- 59 - 45±	iSb	
46)	14	02 - 14 - 53	iP	Small. Possibly slightly deep focus. Δ = 1580± or 1645± Km.
		- 17 - 40 or 46	iS	
47)		10 - 17 - 28±	iPb	Very small. Δb = 183± Km.
		- 49	iSb	
48)	16	06 - 47 - 58	iPb	Very small. Δb = 299 Km.
		- 48 - 32	iSb	
49)		07 - 49 - 48±	iP	Very small. S indefinite.
50)	18	10 - 52 - 36	iP	Small. Possible deep focus but phases indistinct. If shallow, Δ = 2620± Km. = 23°.6±.
		- 56 - 52±	iS	
51)	19	02 - 33 - 17	iP	Very small. S indefinite.
52)		13 - 35 - 09	iP	Very small. S indefinite.
53)		20 - 04 - 38	iPb	Very small. Δb = 134 Km.
		- 53	iSb	
54)	20	05 - 18 - ±	e	Very small. Teleseismic surface waves.
55)		08 - 18 - 29	iPb	Very small. Δb = 165 Km.
		- 48	iSb	
56)		11 - 06 - 27	iPb	Very small. Δb = 317± Km.
		- 07 - 03±	iSb	
57)		11 - 08 - 52	iPb	Very small. Δb = 308± Km.
		- 09 - 27±	iSb	
58)		14 - 01 - 22±	e	Very small.
59)		16 - 27 - 09	i	Very small.
60)		22 - 01 - 21	e	Very small.
61)	21	06 - 13 - 03±	iPb	Very small. Δb = 156± Km.
		- 21	iSb	
62)		14 - 50 - 48	iPg	Moderate. Dilat. to ESE. Δg = 92± Km. Int. IV. Casiguran & Baler. Dupay, N.V. Int. I.
		- 59	iSg	

	Date	Time (GMT)	Phase	Remarks
63)	21	21 - 13 - 12±	iP	Very small. Nearby. S uncertain.
64)	22	11 - 45 - 30	iP	Very small. Teleseismic. S indefi-
		- 52 - 24±	phase	nite.
		- 55 - 22±	"	
65)		12 - 52 - 09	iPb	Moderate. Compr. to N. Δb = 327±
		- 46±	iSb	Km. Felt Laoag II, Aparri III.
66)		16 - 10 - 00	iP	Very small. Nearby quake. S indefi- nite.
67)		21 - 33 - 04	eP	Very small. Teleseismic. S indefi-
		41 - 09±	phase	nite.
68)	23	12 - 30 - 41	iPb	Very small. Δb = 219± Km.
		- 31 - 06±	iSb	
69)		16 - 03 - 02±	iPb	Very small. Δb = 192± Km.
		- 24±	iSb	
70)		16 - 15 - 08	iP	Very small. Δ = 5135± Km. = 46°.2±.
		22 - 00±	eS?	
		31 - 40±	L or M	
71)		17 - 55 - 33±	iPb	Very small. Compr. Δb = 299± Km.
		56 - 07±	iSb	
72)	24	09 - 05 - 24±	ePg	Very small. Δg = 102± Km.
		- 36	iSg	
73)	25	02 - 56 - 00	ePg	Very small. Δg = 94± Km.
		- 11	iSg	
74)		03 - 31 - 20	iPb	Small. S very difficult as usual for
			S?	quakes to S. Iloilo int. III.
75)		08 - 58 - 54	iPb	Small to moderate. Δb = 426± Km.
		59 - 42±	iSb	
76)		22 - 32 - 55	iPb	Small. Δb = 327± Km.
		33 - 32	iSb	
77)	26	04 - 39 - 54	iPb	Very small. Δb = 336± Km.
		- 40 - 32±	iSb	
78)		08 - 08 - 12	eP	Very small.
79)		09 - 06 - 46±	eP	Very small.
80)		09 - 54 - 21	iPb	Very small. Compr. Δb = 183± Km.
		- 42	iSb	
81)		17 - 21 - 03±	iPb	Very small. Δb = 147± Km.
		- 20±	iSb	
82)	27	02 - 29 - 13±	iP	Very small. Dilat.
83)		02 - 53 - 44±	iP	Very small.
84)		04 - 06 - 26	iPg	Small. Compr. Δg = 23± Km.
		- 29	iSg	
85)	28	01 - 20 - 25	iPb	Small. Compr. Δb = 165 Km.
		- 44	iSb	

	Date	Time (GMT)	Phase	Remarks
86)	28	05 - 19 - 09	iPb	Very small. $\Delta b = 219^{\pm}$ Km.
		- 34	iSb	
87)		14 - 24 - 46	iPb	Small. Dilat. $\Delta b = 308^{\pm}$ Km.
		- 25 - 21±	iSb	
88)		20 - 21 - 26	iPg	Very small. $\Delta g = 76^{\pm}$ Km.
		- 35	iSg	
89)		23 - 44 - 34	iPg	Small. Compr. $\Delta g = 85$ Km.
		- 44	iSg	
90)	29	08 - 08 - 30	iP	Very small. Long surface waves seem absent. Δ probably $46^{\circ}.0^{\pm} = 5110^{\pm}$ Km. 150 Km. focal depth.
		- 09 - 03	ipP	
		- 15 - 05	iS	
		- 16 - 05±	isS	
		- 19 - 31	iSR_1	
91)	30	07 - 32 - 20	iPb	Very small. Dilat. $\Delta b = 308$ Km.
		- 55	iSb	
92)	31	01 - 50 - 11	i	Very small.
93)		11 - 19 - 01	iPb	Very small. $\Delta b = 201^{\pm}$ Km.
		- 24	iSb	
94)		11 - 51 - ff.	e	Very small. Traces of teleseism.
95)		20 - 34 - 45	iPg	Very small. $\Delta g = 76^{\pm}$ Km.
		- 54	iSg	
96)		23 - 15 - 57	iP	Very small. Dilat. $\Delta = 2590^{\pm}$ Km. = $23^{\circ}.3^{\pm}$.
		- 20 - 10±	iS	

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Instruments (All Sprengnethers) Hard Limestone Bedrock

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.4 sec	1.384 sec	Circa 2167	1540
	E-W	10.5	10.7	2282	1755
	N-S	1.91	1.39	3000	2500
Photoelectric, Visually recording	E-W	1.43	1.65	3000	Very rough average magn. depends both on ampl. & period
	N-S	11.2	12.2	8000	

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FEBRUARY 1954

	Date	Time (GMT)	Phase	Remarks
97)	1	01 - 11 - 57	iP	Moderate to large. Compr. Possibly deep focus. If shallow, Δ = 2520± Km. = 22°.7±.
		- 16 - 03	iS	
		- 18 - ±	L	
		- 20 - ±	M	
98)		01 - 23 - 08±?	iP	Small. P masked by preceding quake. Δ = 1255± Km. = 11°.3±.
		- 25 - 25	iS	
99)		02 - 28 - 27±	i	Very small.
100)		22 - 58 - 58	i	Very small.
101)		23 - 45 - 35	iP	Very small. Compr. S indefinite. Δ approx. 1000 Km.
		50 - ±	L	
102)	3	18 - 30 - 56	iP	Very small. Compr. S indefinite.
103)		19 - 46 - ±	e	Long teleseismic waves on E-W horiz.
104)	4	04 - 05 - 46	iP	Very small. Dilat. Δg = 93± Km.
		- 57	iS	
		14 - 13 - 13	iP	Very small. Dilat. Δg = 23± Km.
		- 16±	iS	
106)	5	09 - 27 - 13	iP	Medium to large. Dilat. Δ = 4120± Km. = 37°.1. Model quake.
		- 28 - 41	iPR2	
		- 33 - 08	iS	
		- 36 - 08	iSR2	
		- 38 - 40	L etc.	
107)		23 - 02 - 56	iPb	Very small. Δb = 125± Km.
		- 03 - 17±	iSb	
108)	6	08 - 03 - 15	iPb	Very small. Δb = 291± Km.
		- 48±	iSb	
109)	7	06 - 24 - 58	iP	Small. Compr. Deep focus, 130± Km. Δ130 = 6220± Km.
		- 25 - 29	ipP	
		- 32 - 39	iS	
		- 33 - 35	isS	

	Date	Time (G.C.T)	Phase	Remarks
110)	7	07 - 41 - 28	iPb	Very small. Compr. Δb = 299± Km.
		- 42 - 02±	iSb	
111)		20 - 29 - 52	iPb	Very small. Δb = 192 Km.
		30 - 15	iSb	
112)		22 - 30 - 24	iPb	Very small. Compr. Δb = 291± Km.
		- 30 - 57	iSb	
113)		22 - 54 - 12	iPb	Very small. Δb = 174± Km.
		- 32±	iSb	
114)	8	18 - 48 - 25	iP	Very small. Δ = 2610± Km. = 23°.5.
		- 52 - 40±	iS	
		55 - ±	L	
115)	9	02 - 39 - 05±	iPg	Very small. Compr. Δg = 102± Km.
		- 17	iSg	
116)		17 - 50 - 22±	e	Very small.
117)		19 - 19 - 54	iPg	Very small. Δg = 58± Km.
		20 - 01±	iSg	
118)	10	11 - 39 - 09	iP	Very small. Compr. S indefinite. Δ possibly 1400± Km.
119)		20 - 29 - 50±	iP	Very small. Teleseismic.
120)	11	00 - 36 - 09	iP	Large. Compr. to NW. Δ = 3535± Km.
		- 41 - 25±	iS	
		45 - 20±	L	
121)		21 - 09 - 44±	iP	Very small. Teleseismic. Δ approx. 2300± Km.
		- 15 - 30±	L	
122)	12	18 - 14 - 14±	i	Very small.
123)		21 - 30 - ±	iP	Small. Time marks absent. S-P = 3^m-34^s Δ = 2110± Km.
124)	13	03 - 50 - ±	iP	Very small. Time marks absent. S-P = 41±s. Δb = 365± Km.
125)		21 - 09 - 12±	iPb	Small. Δb = 192± Km.
		- 34±	iSb	
126)		23 - 28 - 58±	iP	Very small. L = 23-33±. Δ = approx. 1600 Km. = Surigao Int. II.
		Indefinite	S	
127)	14	10 - 53 - 28±	iP	Very small. S indefinite.
128)		11 - 40 - 34±	iPb	Small. Δb = 345± Km. To N±
		- 41 - 13±	iSb	
129)		15 - 40 - 01±	iPb	Very small. Δb = 129± Km.
		- 16	iSb	
130)		19 - 22 - 40	iPb	Small. Δb = 147± Km. To N±.
		- 57	iSb	
131)		20 - 01 - 07	iPb	Very small. Δb = 174± Km. To N±.
		- 27	iSb	
132)	15	19 - 48 - 04	iPg	Small. Δg = 109 Km. To N.
		- 17	iSg	

	Date	Time (GMT)	Phase	Remarks
133)	16	02 - 32 - 13	iPb	Small. Dilat. to NE? Δb = 156 Km.
		- 31	iSb	
134)	17	01 - 18 - 07	iPb	Small. Dilat. to NW? Δb = 192 Km.
		- 29	iSb	
135)		01 - 47 - 31±	iP	Very small. Δ = 5220± Km. = 47°.0±.
		- 54 - 28±	iS	
136)		03 - 35 - 08	i	Very small.
137)		04 - 31 - 52	iPb	Very small. Δb = 264± Km.
		- 32 - 22±	iSb	
138)		06 - 56 - 06	iPb	Very small. Δb = 264 Km.
		- 36	iSb	
139)		08 - 30 - 43±	e	Very small.
140)		09 - 03 - 47±	e	Very small.
141)		11 - 43 - 44	iPb	Very small. Δb = 282± Km.
		44 - 16±	iSb	
142)		11 - 49 - 37	i	Very small. Teleseismic.
143)		13 - 30 - 48	i	Very small.
144)		18 - 27 - 40	iPb	Very small. Δb = 308 Km.
		- 28 - 15	iSb	
145)	18	06 - 06 - 05±	iPb	Very small. Δ= 147± Km.
		- 22±	iSb	
146)		11 - 22 - 33	iPb	Very small. Compr. Δb = 183 Km.
		- 54	iSb	
147)		17 - 10 - 14±	iPg	Very small. Δg = 92± Km.
		- 25±	iSg	
148)		17 - 11 - 54±	iPb	Very small. Δb = 345± Km.
		- 12 - 33±	iSb	
149)	19	01 - 00 - 00±	eP	Very small. Teleseismic. Probably same distance as 21-54-24.
150)		09 - 02 - 29	iPb	Very small. Δ = 147± Km.
		- 46	iSb	
151)		13 - 00 - 47	iPb	Moderate. Δ = 264 Km. Felt Aparri, III.
		- 01 - 17	iSb	Claveria, Cagayan Pr. II.
152)		19 - 19 - 40	iP	Small. Δ approx. 10,000± Km.
		31 - ±	eS	
		49 - 30±	L	
153)		21 - 54 - 24±	iP	Very small. Δ approx. 150°±.
		22 - 46 - ±	L	
154)	20	18 - 39 - 35	iPb	Large. Compr. Δ b = 739 Km.
		- 40 - 58	iSb	
155)		18 - 48 - ±	iP	Small. Hidden in above quake. Possibly aftershock.
156)		19 - 12 - 48	i	Very small. Aftershock.
157)		21 - 40 - 14	iP	Very small. Aftershock?
158)		21 - 38 - ±	e	Very small. Teleseismic.
159)	21	16 - 38 - 02	iPb	Very small. Δb = 587± Km.
		- 39 - 09±	eSb	
160)	22	06 - 16 - 53	iP	Very small. Δ = 2645± Km. = 23°.8±
		- 21 - 11±	iS	

	Date	Time (GMT)	Phase	Remarks
161)	22	08 - 05 - 42	i	Very small.
162)		10 - 32 - 18	iP	Very small. Teleseismic. Aftershock of 06 - 16 - 53?
163)		12 - 22 - 42	iP	Very small. Δ = 2620± Km. = 23°.6±.
		- 26 - 58	iS	
164)		21 - 45 - 46	iPg	Very small. Δg = 102± Km.
		- 58±	iSg	
165)		22 - 18 - 08±	iPb	Very small. Δb = 703± Km.
		- 19 - 27±	iSb	
166)		23 - 50 - 58±	iPg	Very small. Δg = 121± Km. Dilatation.
		51 - 12	iSg	
167)	23	06 - 46 - 35	iP	Very small. Δ = 3180± Km. = 28°.6±.
		- 51 - 31±	iS	
168)		07 - 12 - 06±	iPg	Very small. Δg = 129± Km.
		- 21	iSg	
169)		15 - 31 - 24	iPb	Very small. Δb = 174 Km.
		- 44	iSb	
170)		22 - 08 - 44±	iPb	Very small. Δb = 138± Km.
		- 09 - 00	iSb	
171)		23 - 18 - 13	iPb	Small. Dilat. Δb = 237± Km.
		- 40	iSb	Felt Infanta III.
172)	24	12 - 16 - 45	i	Very small.
173)		15 - 56 - 10	iPb	Very small. Δb = 138± Km.
		- 26±	iSb	
174)		19 - 41 - 38±	iP	Very small. Δ = 2765± Km. = 24°.9±.
		46 - 05±	iS	
175)		20 - 49 - 29	iP	Very small. Compr. Δ = 1900± Km. = 17°.1±.
		- 52 - 46	iS	
176)	25	08 - 02 - 00	iPb	Very small. Δb = 712± Km.
		-03 - 20±	iSb	
177)		13 - 26 - 27±	iPb	Very small. Δb = 273± Km.
		- 58	iSb	
178)		22 - 30 - 45	iPb	Very small. Δb = 201± Km.
		31 - 08±	iSb	
179)	26	18 - 54 - 44	iP	Very small. Δ = 1890± Km. = 17°.0±.
		- 58 - 00±	iS	
180)	27	23 - 44 - 00±	iP	Small. Compr. Δ = 5955± Km. = 53°.6±.
		- 51 - 38±	iS	Quake reported near Adelaide, Australia.
181)	28	00 - 58 - 50±	iP	Moderate. Compr. Δ = 1610± Km. = 14°.5±.
		01 - 01 - 40	iS	
182)		11 - 07 - 34	iPb	Very small. Δb = 255± Km.
		- 08 - 03	iSb	
183)		18 - 53 - 05	i	Very small.
184)		19 - 26 - 57±	iPg	Very small. Δg = 76± Km.
		- 27 - 06±	iSg	

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MAY 7 1954

Lat. N. 16° 24' 39" Long. E. 120° 34' 47" Alt. 1507 meters

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Photoelectric, Visually recording	E-W	1.43	1.65	3000	Very rough average Magn. depends both. on ampl. & period
	N-S	11.2	12.2	8000	

MARCH 1954

	Date	Time (GMT)	Phase	Remarks
185)	2	04 - 06 - 26	iPb	Very small. Δb = 138 Km.
		- 42	iSb	
186)		17 - 28 - 58	iPg	Very small. Δg = 76 Km.
		- 29 - 07	iSg	
187)	3	06 - 09 - 20	iP	Small to moderate. Small compr. followed by large dilat. S difficult. Δ = 1290± or 3245± Km.
		- 11 - 40±		
		or 14 - 20±	iS	
188)		07 - 53 - 27	iP	Very small. S indefinite. Δ approx. 2400 Km.
		59 - 10	L?	
189)		15 - 27 - 51	iP	Very small. S indefinite. Δ approx. 2100 Km.
		33 - ±	L	
190)		20 - 57 - 53	i	Very small.
191)	4	01 - 39 - 49±	iPb	Very small. Δb = 219± Km.
		- 40 - 14±	iSb	
192)	5	04 - 19 - 42±	i	Very small.
193)		11 - 22 - 59	iP	Small. Δ = 2535± Km.
		- 27 - 08±	iS	
194)	6	01 - 38 - 42	iPg	Small. Δg = 25± Km.
		- 45±	iSg	
195)		01 - 39 - 31	iPg	Small. Δg = 32± Km.
		- 35±	iSg	
196)		02 - 11 - 03	iPb	Very small. Δb = 201± Km.
		- 26±	iSb	
197)		02 - 41 - 27	iPb	Very small. Δb = 264± Km.
		- 57	iSb	
198)	7	08 - 37 - 04	iPb	Very small. Δb = 174 Km.
		- 24	iSb	
199)		21- 09 - 30±	iPg	Small. dilat. Δg = 84± Km. Time only approx.; since no time marks.
		- 40±	iSg	

	Date	Time (GMT)	Phase	Remarks
200)	8	20 - 31 - 29	iPg	Very small. Compr. $\Delta g = 76^{\pm}$ Km.
		- 38±	iSg	
201)	9	02 - 41 - 36	i	Very small. Dilat. nearby quake.
202)		03 - 36 - ±	e	Very small. Surface waves of teleseism.
203)		05 - 47 - 38	iP	Small. Compr. $\Delta = 4690^{\pm}$ Km. $= 42^{\circ}.2^{\pm}$
		- 54 - 06±	iS	
204)		09 - 10 - 15±	iPb	Very small. $\Delta b = 327^{\pm}$ Km.
		- 52±	iSb	
205)		12 - 49 - 05	iPb	Very small. $\Delta b = 165^{\pm}$ Km.
		- 24	iSb	
206)	11	02 - 25 - 09	iPb	Very small. $\Delta b = 121$ Km.
		- 23	iSb	
207)		07 - 48 - 02±	i	Very small.
208)		08 - 02 - 19±	iPg	Very small. $\Delta g = 84^{\pm}$ Km.
		- 29	iSg	
209)		08 - 32 - 38	iPb	Very small. $\Delta b = 138$ Km.
		- 54	iSb	
210)		18 - 13 - 05	iPb	Small. Compr. $\Delta b = 147^{\pm}$ Km.
		- 22±	iSb	
211)		19 - 28 - 14	iPg	Very small. $\Delta g = 76^{\pm}$ Km.
		- 23±	iSg	
212)	12	11 - 34 - 48	iP	Very small. Teleseismic. Δ = approx. 3800 Km.?
		- 45 - ±	L?	
213)	13	10 - 53 - 27	iPb	Small. Dilat. $\Delta b = 237^{\pm}$ Km.
		- 54±	iSb	
214)		18 - 20 - 23±	iP	Very small. S indefinite.
		- 25 - ±	L?	
215)	14	09 - 03 - 35±	iP	Very small. S indefinite. Δ approx. 5600 Km.?
		19 - ±	L?	
216)		18 - 00 - ±	e	Very small. Start of 40± m. of teleseismic surface waves.
217)	16	03 - 28 - 50	iPb	Very small. $\Delta b = 165$ Km.
		- 29 - 09	iSb	
218)		05 - 57 - 48	iPg	Very small. Compression. $\Delta g = 32^{\pm}$ Km.
		- 52±	iSg	
219)		07 - 21 - 46	iPb	Very small. Dilat. $\Delta b = 210$ Km.
		- 22 - 10	iSb	
220)		19 - 43 - 57	iPb	Very small. $\Delta b = 156^{\pm}$ Km.
		- 44 - 15±	iSb	
221)	17	02 - 19 - 30±	iPb	Small. $\Delta b = 192^{\pm}$ Km.
		- 52	iSb	
222)		02 - 41 - 43±	iPb	Small. $\Delta b = 129^{\pm}$ Km.
		- 58	iSb	

	Date	Time (GMT)	Phase	Remarks
223)	18	07 - 50 - 30	iPb	Small. Δb = 372± Km. Calayan (Basco, Aparri) IV.
		- 51 - 12±	iSb	
224)		13 - 44 - 16	iPb	Small. Δb = 407± Km.
		- 45 - 02±	iSb	
225)		14 - 03 - 49	iPb	Very small. Δb = 659± Km.
		- 05 - 03±	iSb	
226)	19	04 - 55 - 06	iPb	Very small. Δb = 156± Km.
		- 24±	iSb	
227)		07 - 44 - 42	iP	Very small. Δ = 2420 Km. = 21°.8.
		- 48 - 42	iS	
228)		08 - 22 - 36	iP	Teleseismic. Very small. S indefinite.
229)		10 - 47 - ±	e	Teleseismic surface waves. Very small.
230)		13 - 36 - 03	iPb	Very small. Δb = 596± Km.
		- 37 - 10±	iSb	
231)		15 - 05 - 04	iPb	Very small. Δb = 255± Km.
		- 33±	iSb	
232)	20	20 - 56 - 31	iPb	Very small. Δb = 255 Km.
		- 57 - 00	iSb	
233)	21	21 - 32 - 15	iPb	Very small. Compr. Δb = 120± Km.
		- 28	iSb	
234)		21 - 56 - 54	iPb	Very small. Compr. Δb = 125± Km.
		- 57 - 08	iSb	
235)		23 - 47 - 24	iP	Large. Compr. to NW? Δ = 3990± Km.
		- 52 - 51±	iS	
236)	24	01 - 36 - 50	iP	Very small. Compr. Teleseismic.
		44 - ±	L or M	
237)		07 - 56 - 05	iPb	Very small. Δb = 176 Km.
		- 25	iSb	
238)		14 - 23 - 37	iPg	Small. dilatation. Δg = 102 Km.
		- 49	iSg	
239)	25	01 - 41 - 11	iPb	Very small. Dilat. Δb = 174 Km.
		- 31	iSb	
240)		02 - 43 - 46	iPb	Small. Compr. Δb = 452± Km.
		- 44 - 37	iSb	
241)		06 - 53 - 24	iPb	Very small. Δb = 363± Km.
		- 54 - 05	iSb	
242)	26	00 - 31 - 55	iPb	Very small. Δb = 323 Km.
		- 32 - 31	iSb	
243)		04 - 41 - 23	iP	Very small. Δ = 2955± Km. = 26°.6.
		- 46 - 03±	iS	
244)		05 - 25 - 54	iPb	Very small. Δb = 327± Km.
		26 - 31±	iSb	
245)		06 - 51 - 53	iPb	Very small. Δb = 156 Km.
		- 52 - 11	iSb	
246)		18 - 27 - 07	iPb	Very small. Δb = 148 Km.
		- 24	iSb	
247)		18- 38 - 05	iP	Very small. Teleseismic.

	Date	Time (GMT)	Phase	Remarks
248)	27	05 - 11 - 11	iPb	Very small. Δb = 129 Km.
		- 26	iSb	
249)		11 - 40 - 16	iPb	Dilat. S indeterminate.
250)		14 - 26 - 08	iPb	Very small. Δb = 165 Km.
		- 27	iSb	
251)	28	17 - 21 - 26	iP	Very small. Compr. S indefinite.
252)		17 - 30 - 12±	iP	Very small. S indefinite.
253)		20 - 28 - 58	iP	Very small. S indefinite.
254)		20- 46 - 01	iP	Small. Δ = 6120± Km. = 55°.1±. Possibly deep focus.
		- 53 - 49	iS	
255)	29	04 - 02 - 11	iPb	Large. Compr. to N. Δ = 363± Km. Felt Calayan, IV, Basco IV.
		- 52	iSb	
256)		04 - 32 - 33	iPb	Very small. Δb = 389± Km.
		33 - 17	iSb	
257)		06 - 30 - 12	eP	Very small. S indefinite.
258)		06 - 32 - 31	eP	Very small. S indefinite.
259)		06 - 33 - 43±	iPb	Small. Δb = 389± Km. May be mixed with teleseism. (Spain?)
		34 - 27±	iSb	
260)		09 - 31 - 57	iPb	Very small. Dilat. Δb = 299± Km.
		- 32 - 31	iSb	
261)	30	00 - 51 - 56±	Phases	Very small. Teleseism.
		01 - 01 - 50±		
262)		18 - 54 - 12±	iP	Very small. Δ = 8735± Km. = 78°.6.
		19 - 04 - 12±	eS	
263)	31	07 - 55 - 54	iPg	Very small. Compr. Δ = 23 Km. Blast?
		- 57	iSg	
264)		08 - 01 - 19	iPg	Very small. Δb = 229 Km.
		- 45	iSb	
265)		11 - 31 - 20	iPg	Very small. Δg = 32± Km. Blast?
		- 24	iSg	
266)		18 - 35 - 58	iP	Moderate to large. Compr. Δ = 6665± Km. = 60°.0±.
		- 44 - 17	iS	

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MANILA OBSERVATORY
Mirador, Baguio City
Philippines

Lat. N. 16° 24' 39" Long. E. 120° 34' 47" Alt. 1507 meters

Instruments (All Sprengnethers) Hard Limestone Bedrock

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.4 sec	1.384 sec	Circa 2167	1540
	E-W	10.5	10.7	2282	1755
	N-S	1.91	1.39	3000	2500
Photoelectric, Visually recording	E-W	1.43	1.65	3000	Very rough average Magn. depends both on ampl. & period.
	N-S	11.2	12.2	8000	

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	Date	Time (GMT)	Phase	Remarks
267)	1	05 - 26 - 31	iPb	Very small. Δb = 148± Km.
		- 48	iSb	
268)		18 - 26 - 23	iP	Very small. Δ = 4410± Km. = 39°.7 Km.
		- 32 - 36	iS	
269)	2	10 - 01 - 30±	iS	Very small. P indefinite.
270)		11 - 06 - 46	iP	Very small. Teleseismic. S indefinite.
		- 18 - ±	L	approx. as quake 18^h-26^s yesterday.
271)		15 - 10 - 04±	iP	Small. S indefinite. Teleseismic.
272)		16 - 05 - 12	iPb	Very small. Δb = 327± Km.
		- 47±	iSb	
273)	3	23 - 52 - 00	iPb	Very small. Δb = 506± Km.
		- 57	iSb	
274)	4	09 - 05 - 20	iPg	Very small. Compr. Δg = 41± Km.
		- 25	iSg	
275)		23 - 20 - 21	iP	Very small. Δ = 3300± Km. = 29°.7
		- 25 - 24±	iS	
276)	5	06 - 37 - 08	iP	Very small. S indefinite.
277)		09 - 47 - 31	iPb	Very small. Δb = 389± Km.
		- 48 - 15	iSb	
278)		13 - 41 - 24	iPb	Small. Compr. Δb = 174± Km.
		- 44	iSb	
279)	6	00 - 32 - 20±	iPb	Small. Δb = 651± Km.
		- 33 - 32	iSb	
280)		07 - 22 - 26	iPb	Very small. Compr. Δb = 183± Km.
		- 47	iSb	

	Date	Time (GMT)	Phase	Remarks
281)	6	09 - 13 - 08	iP	Very small. Compr. S indefinite.
282)		12 - 56 - 18	iPb	Very small. Δb = 246± Km.
		- 46	iSb	
283)		14 - 45 - 32	iP	Very small. Compr. S indefinite.
284)		15 - 28 - 31	iPb	Very small. Δb = 183± Km.
		- 52	iSb	
285)		15 - 26 - 05	iS	Very small. P indefinite.
286)		18 - 04 - 40	iPb	Very small. Compr. Δb = 121 Km.
		- 54	iSb	
287)		20 - 34 - 00±	iP	Very small. S indefinite.
288)	7	05 - 52 - 52±	iPb	Very small. Δb = 219± Km.
		53 - 17±	iSb	
289)		09 - 41 - 20	iPb	Very small. Compr. Δb = 121 Km.
		- 34	iSb	
290)		13 - 28 - 38	iPg	Very small. Dilat. Δg = 58± Km.
		- 45	iSg	
291)		18 - 36 - 04±	i	Very small.
292)		21 - 54 - 20±	iPb	Very small. Compr. Δb = 470± Km.
		55 - 13	iSb	
293)	8	00 - 59 - 50±	e	Very small. Teleseismic.
294)		20 - 11 - 25	iP	Very small. S indefinite. Δapprox. 1600
		- 15 - 17±	L	Km.
295)	9	07 - 16 - 04	iPb	Large. Compr. Δb = 345 or 461 Km.
		16 - 43		Felt Aparri III, Calayan V.
		or 17 - 00	iSb	
296)		07 - 28 - 23	iPb	Small. Compr. Δ = 461 Km.
		- 29 - 15	iSb	
297)		13 - 23 - 27	iPb	Very small. Dilat. Δb = 461 Km.
		- 24 - 19	iSb	
298)		13 - 28 - 55	iPb	Very small. Δb = 461 Km.
		29 - 47	iSb	
299)		15 - 40 - 58	iPb	Very small. Dilat. Δ = 345 Km. or 461 Km.
		41 - 37	iSb	
		or - 50		
300)	10	01 - 57 - 21	iPb	Small. Dilat.? Δb = 444± Km.
		- 58 - 11	iSb	
301)		08 - 14 - 43	iPg	Very small. Compr. Δg = 117± Km.
		- 57±	iSg	
302)		13 - 23 - 37	iPb	Very small. Δb = 372± Km.
		- 24 - 19±	iSb	
303)		15 - 32 - 53	iPb	Very small. Compr. 461± Km.
		- 33 - 45	iSb	
304)		15 - 44 - 45	iPb	Very small. Δb = 497± Km.
		- 45 - 41±	iSb	
305)	11	03 - 11 - 04	iP	Small to moderate. Compr. Δ = 4455 Km. =
		- 17 - 19	iS	40°.1
306)		03 - 23 - 48	iP	Small. Dilat. Δ = 4510± Km. = 40°.6
		- 30 - 06	iS	

	Date	Time (GMT)	Phase	Remarks
307)	11	07 - 40 - 52±	iPb	Very small. Δb = 156± Km.
		- 41 - 10±	iSb	
308)		07 - 43 - 42	iPb	Small to mod. Compr. Δb = 156 Km.
		- 44 - 00	iSb	
309)		07 - 50 - 06±	iPb	Very small. Δb = 183± Km.
		- 27	iSb	
310)		09 - 45 - 24	iPb	Small. Δb = 138± Km.
		- 40	iSb	
311)		10 - 35 - 44	iP	Very small. Δ = 6610± Km. = 59°.5 or Δ = 4235± Km. = 38°.1
		- 41 - 46 } or 44 - 00± }	iS	
312)		11 - 01 - 57	iP	Small. Dilat. Δ = 5010± Km. = 45°.1
		- 08 - 42	iS	
313)		18 - 44 - 29	iP	Very small. Dilat. Δ = 4555± Km. = 41°.0
		- 50 - 49	iS	
314)		21 - 32 - 17±	iPb	Very small. Δb = 156± Km.
		- 35±	iSb	
315)		22 - 57 - 53±	i	Very small.
316)		23 - 02 - 33	i	Very small.
317)	12	00 - 45 - 44	iP	Very small. Dilat. Δ = 4700± Km. = 42°.3 or 6010± Km. = 54°.1.
		- 52 - 12 } or - 53 - 25 }	iS	
318)		02 - 35 - 41	i	Very small.
319)		07 - 05 - 17	iPb	Very small. Δb = 156± Km.
		- 35	iSb	
320)		07 - 22 - 59	iPb	Very small. Δb = 264 Km.
		- 23 - 29	iSb	
321)		21 - 01 - 17	iPb	Small. Δb = 278 Km.
		- 02 - 49	iSb	
322)	13	07 - 56 - 07±	iP	Very small. Compr. Δ = 3400± Km. = 30°.6
		08 - 01 - 17±	iS	
323)		15 - 08 - 33	iPb	Small. dilat. Δb = 936± Km.
		- 10 - 18±	iSb	
324)		15 - 30 - 28	iP	Small. Compr. Δ = 2280± Km. = 20°.5
		- 34 - 16±	iS	
325)		23 - 39 - 16±	iPg	Very small. Δg = 109± Km.
		- 29	iSg	
326)	14	09 - 17 - 59	iP	Very small. Δ = 1645± Km. = 14°.8
		- 20 - 52±	iS	
327)		09 - 57 - 41	iPb	Very small. Δb = 165 Km.
		58 - 00	iSb	
328)		13 - 30 - 39	iP	Very small. Compr. S doubtful. Δ = 3580± Km.
		- 36 - 00±	iS	
329)		17 - 42 - 34	iPb	Very small. Δb = 165 Km.
		- 53	iSb	
330)		17 - 44 - 29±	iPb	Very small. Δb = 147± Km.
		- 46	iSb	

	Date	Time (GMT)	Phase	Remarks
331)	14	18 - 37 - 35±	iPg	Very small. Δg = 92± Km.
		- 46	iSg	
332)		19 - 32 - 47	i	Very small.
333)		21 - 06 - 38	i	Very small.
334)	15	06 - 26 - 08±	iPb	Small. Δb = 210± Km.
		- 32	iSb	
335)		08 - 04 - 23	iPg	Small. Δg = 118± Km.
		- 37	iSg	
336)	16	00 - 49 - 00	iPb	Very small. Δb = 183± Km.
		- 21±	iSb	
337)		06 - 06 - 15	iPb	Moderate. Compr. Δb = 532± Km. Felt int. III, Virac.
		07 - 15±	iSb	
338)		08 - 27 - 40	iPg	Very small. Δg = 109± Km.
		- 53±	iSg	
339)	17	00 - 31 - 11±	iPb	Very small. Δb = 156± Km.
		- 29	iSb	
340)		02 - 36 - 32±	iPb	Very small. Δb = 201± Km.
		- 55	iSb	
341)		02 - 38 - 16	iPb	Small. Dilat. to N. Δ = 156 Km.
		- 34	iSb	
342)		14 - 54 - 19	iP	Very small. Δ = 1355± Km. = 12°.2. Felt int. II, Hinatuan.
		- 56 - 45±	eS	
343)		17 - 18 - 08	iP	Very small. Δ = 1320± Km. = 11°.9. Felt int. II, Surigao, Hinatuan.
		- 20 - 31±	iS	
344)		19 - 15 - 14	iPb	Very small. Δb = 174 Km.
		- 34	iSb	
345)		20 - 20 - 36	iP	Small. Δ = 6420± Km. = 57°.8
		- 28 - 41±	eS	
346)		20 - 50 - 11	iP	Very small. Probably aftershock.
		58 - ±	eS	
347)		22 - 25 - 14	i	Very small.
348)	18	03 - 15 - 13	iPb	Very small. Δb = 121± Km.
		- 27±	iSb	
349)		03 - 20 - 07	iPb	Small. Dilat. Δb = 156± Km.
		- 25±	iSb	
350)		16 - 32 - 49±	iPg	Very small. Δg = 112± Km.
		- 33 - 02	iSg	
351)	19	04 - 13 - 46	iPg	Very small. Compr. Δg = 23± Km.
		- 49±	iSg	
352)		07 - 34 - 43	iPb	Very small. Δb = 121 Km.
		- 57	iSb	
353)	20	14 - 14 - 21	iPb	Very small. Δb = 444 Km.
		- 15 - 11	iSb	
354)		16 - 53 - 42	iPb	Very small. Δb = 461 Km.
		- 54 - 34	iSb	

	Date	Time (GMT)	Phase	Remarks
355)	21	00 - 10 - 27	iPb	Small. Dilat. Δb = [illegible] Km.
		- 46	iSb	
356)		18 - 28 - 24	iPb	Small. Δb = 201± Km.
		- 47±	iSb	
357)	22	04 - 44 - 54	iP	Very small. S indefinite.
358)		14 - 31 - 41	iPb	Very small. Dilatation. Solutions tentative only; possibly teleseismic.
		- 32 - 11±	iSb?	
359)		14 - 46 - 12	iPg	Small. Compr. Δg = 109± Km.
		- 25	iSg	
360)		14 - 58 - 25	SKS?	Very small. Teleseismic. Solution only tentative. Δ = 13,920± Km. = 125°.3
		15 - 32 - 06	L?	
361)	23	01 - 15 - 56	iPg	Very small. Compr. Δg = 23± Km.
		- 59±	iSg	
362)		18 - 27 - 56	iP	Very small. Δ = 3145± Km. = 28°.3
		- 32 - 50	iS±	
363)		20 - 38 - 38	iPb	Very small. Compr. Δb = 156 Km.
		- 56	iSb	
364)		21 - 04 - 17	iPb	Very small. Compr. Δb = 148 Km.
		- 34	iSb	
365)	24	06 - 02 - 21±	iPb	Very small. Δb = 308± Km.
		- 56	iSb	
366)		07 - 40 - 10	iPb	Very small. Δb = 165± Km.
		- 29	iSb	
367)		09 - 15 - 54	iPb	Very small. Compr. Δb = 246 Km.
		- 16 - 22	iSb	
368)		17 - 39 - 55	iP	Very small. S indefinite. Δ approx. 18°.
		- 45 - ±	L or M	
369)		19 - 20 - 32	iPb	Very small. Δb = 165 Km.
		- 51	iSb	
370)		20 - 56 - 54±	iPb	Very small. Δb = 775± Km.
		- 58 - 21	iSb	
371)	25	00 - 49 - 16±	e	Teleseismic.
372)		01 - 36 - ±	e	Teleseismic surface waves, 1/2 hour.
373)		05 - 00 - 41	iPb	Very small. Δb = 237 Km.
		- 01 - 08	iSb	
374)		11 - 00 - 04±	iPb	Very small. Δb = 138± Km.
		- 20	iSb	
375)		12 - 28 - 54	iPb	Small. Dilatation. Δb = 156 Km.
		- 29 - 12	iSb	
376)		14 - 40 - 48	iPb	Very small. Δb = 847 Km.
		- 42 - 23	iSb	
377)		15 - 38 - 35	ePb	Very small. Δb = 308 Km.
		39 - 10	iSb	
378)		18 - 18 - 07	iP	Very small. Compr. Δ approx. 5000 Km.
		- 25 - ±	S?	
		- 36 - 16±	M?	

	Date	Time (GMT)	Phase	Remarks
379)	26	08 - 45 - 40	iPb	Small. Δ = 480 Km.
		- 46 - 34	iSb	
380)		09 - 14 - 03	iPb	Small. Δb = 148± Km.
		- 20	iSb	
381)		20 - 33 - 12	iP	Small. Compr. Δ = 4955 Km. Perhaps deep focus; surface waves small.
		- 39 - 54	iS	
382)	27	10 - 26 - 14	iP	Small. Compr. S indefinite. Δ approx. 15°.
		- 31 - 17	L or M	
383)		10 - 47 - 01	iPb	Very small. Δb = 273± Km.
		- 32±	iSb	
384)		16 - 52 - 19	iPb	Small. Compr. S difficult. Felt Davao V, Hinatuan III. Δ = 1200± Km. = 10°.8
		- 54 - 31±	iSb	
385)		17 - 06 - 21±	iPb	Very small. Δb = 273± Km.
		- 07 - 52	iSb	
386)		21 - 33 - 21±	eP	Very small. Δ = 7690± Km. = 69°.2
		- 42 - 31±	eS?	
387)	29	02 - 52 - 11	iPb	Very small. Δb = 479 Km.
		- 53 - 05	iSb	
388)		06 - 10 - 28	iPb	Very small. Δb = 372± Km.
		- 11 - 10	iSb	
389)		11 - 09 - 16±	eP'?	Too small for proper interpretation. Distance circa 180°±.
		12 - 13 - ±	L?	
		12 - 28 - ±	M?	
390)		17 - 07 - 17	iPb	Moderate. Strong dilat. Δb = 138± Km.
		- 33±	iSb	
391)		18 - 32 - 15	iPg	Very small. Δg = 92 Km.
		- 26	iSg	
392)		23 - 54 - 13	i	Compr. Very small.
393)	30	02 - 50 - 19	iPb	Very small. Δb = 264 Km.
		- 49	iSb	
394)		03 - 28 - 53	iPg	Very small. Δg = 41 Km.
		- 58	iSg	
395)		13 - 15 - 16±	eP	Small to moderate. Compr. Δ = 9610± Km. = 86°.5±. Major quake, Greece.
		- 25 - 54±	eS	

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Mirador, Baguio City
Philippines

Lat. N. 16° 24' 39" Long. E. 120° 34' 47" Alt. 1507 meters

Instruments (All Sprengnethers) Hard Limestone Bedrock

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.4 sec	1.384 sec	Circa 2167	1540
	E-W	10.5	10.7	2282	1755
	N-S	1.91	1.39	3000	2500
Photoelectric, Visually recording	E-W	1.43	1.65	3000	Very rough average Magn. depends both on ampl. & period.
	N-S	11.2	12.2	8000	

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MAY 1954

	Date	Time (GMT)	Phase	Remarks
397)	1	01 - 36 - 12±	iPg	Very small. Δg = 119± Km.
		- 25	iSg	
398)		18 - 07 - 41	iPb	Moderate. Δb = 543 Km. Compr.
		- 08 - 42	iSb	
399)	2	10 - 07 - 08	iPb	Very small. Δb = 129± Km.
		- 23±	iSb	
400)		17 - 17 - 28	iPg	Very small. Compr. Δg = 94 Km.
		- 39	iSg	
401)		17 - 53 - 56	eP	Small. Compr. Δ = 2965± Km. = 26°.7
		- 58 - 37±	iS	
402)	3	00 - 57 - 44±	iPg	Compr. Very small. Δg = 50± Km.
		- 50	iSg	
403)		08 - 51 - 45	iPg	Very small. Dilat. Δg = 41 Km.
		- 50	iSg	
404)		15 - 38 - 17	iP	Small. Compr. Δ = 5120± Km. = 46°.1±
		- 39 - 53	ePR_1	
		- 45 - 09±	eS	
		49 - 25	eSR_2	
405)		18 - 47 - 36	iPb	Very small. Compr. Δb = 142± Km.
		- 53	iSb±	
406)		20 - 17 - 07	iPb	Very small. Δb = 210 Km.
		- 31	iSb	
407)	4	00 - 39 - 10	iPg	Very small. Δg = 117± Km.
		- 24	iSg	
408)		11 - 01 - 57	iPg	Very small. Dilat. Δg = 58± Km.
		02 - 04	iSg	
409)		18 - 01 - ±	e	Small. Teleseismic. Phases indefinite.

	Date	Time (GMT)	Phase	Remarks
410)	5	11 - 02 - 09±	iP	Very small. S doubtful. Δ = 2590± Km. = 23°.3
		- 06 - 22±	eS	
411)		11 - 40 - 53	iP	Small. Compr. S indefinite. S-P approx. 4m.
412)		11 - 56 - 13	iPg	Small. Compr. Δ = 23 Km.
		- 16	iSg	
413)		14 - 30 - 53	iP	Dilat. S indefinite. Teleseismic.
414)		16 - 56 - 27	iPg	Very small. Δg = 68± Km.
		- 35±	iSg	
415)		20 - 55 - 16	iPb	Very small. Δb = 165 Km.
		- 35	iSb	
416)	6	09 - 10 - 17	iP	Small. Dilat. Deep focus, 150 Km. Δ150 = 4890± Km.
		- 10 - 46	ipP	
		- 16 - 38	iS	
		17 - 40	isS	
417)		11 - 26 - 29	i	Small. Peculiar. Single 2s± osc.
418)		23 - 57 - 08	iPb	Very small. Δb = 310 Km.
		- 42	iSb	
419)	7	03 - 17 - 27	iPb	Very small. Δb = 148± Km.
		- 55	iSb	
420)		04 - 39 - 29	iPb	Moderate. Compr. Δb = 297± Km.
		- 40 - 02	iSb	
421)		09 - 06 - 31±	iPb	Very small. Δb = 524± Km.
		- 07 - 30±	iSb	
422)	8	13 - 04 - 12	iPg	Very small. Dilat. Δg = 109 Km.
		- 25	iSg	
423)		16 - 34 - 07	iPb	Very small. Dilat. 174 Km.
		- 27	iSb	
424)		20 - 20 - 46	iP	Small. Compr. Deep focus 150 - 200 Km. Δ150± = 3000 Km. = 27°.
		21 - 19	ipP	
		25 - 00	iS	
		26 - 15	isS	
425)	9	18 - 49 - 38	iPg	Very small. Δg = 84 Km.
		- 48	iSg	
426)		20 - 46 - 38	iPb	Very small. Compr. Δ = 936 Km.
		- 48 - 23	iSb	
427)	10	06 - 32 - 35	iP	Small. Δ = 5265± Km. = 47°.4. Readings rather uncertain.
		- 39 - 35	iS	
428)		08 - 01 - 13±	iPb	Very small. Δb = 901 ± Km.
		- 02 - 54	iSb	
429)		14 - 40 - 49±	iP	Very small. Δ = 1210± Km. = 10°.9
		- 43 - 27±	iS	
430)	11	04 - 13 - 36	iPg	Very small. Δg = 23± Km. Ambuklao blast?
		- 39	iSg	
431)		08 - 04 - 56	iPb	Very small. Δb = 121 Km.
		- 05 - 10	iSb	

	Date	Time (GMT)	Phase	Remarks
432)	11	15 - 02 - 01	iPg	Very small. Δg = 109 Km.
		- 14	iSg	
433)	12	06 - 25 - 15	iP	Small. Δ = 1490 Km. = 13°.4
		- 27 - 54	iS	
434)		12 - 06 - 37	iPb	Small. Δb = 246 Km.
		- 07 - 05	iSb	
435)		15 - 21 - 38	iPb	Very small. Δb = 174± Km.
		- 58	iSb	
436)		21 - 18 - 16	iPb	Very small. Δb = 129± Km.
		- 31	iSb	
437)	13	13 - 18 - 57	iPg	Small. Dilat. Δg = 84 Km.
		- 19 - 07	iSg	
438)		15 - 05 - 45	iP	Very small. S indeterminate.
439)	14	01 - 24 - 58	iPb	Very small. Dilat. Δb = 174 Km.
		- 25 - 18	iSb	
440)		02 - 32 - 44	iPb	Very small. Δb = 121 Km.
		- 58	iSb	
441)		05 - 52 - 12±	iPb	Very small. Δb = 273± Km.
		- 43	iSb	
442)		22 - 44 - 22	iP	Moderate. Compr. Japan? quake. Deep focus 250-300 Km. Clear in iP & ipP, but isS may be really iS with isS indefinite. Tentatively Δ 250 - 300 Km. = 2780± Km.
		45 - 12	ipP	
		48 - 17	iS?	
		49 - 54	isS?	
443)	15	02 - 00 - 53	iPb	Very small. Δb = 327 Km.
		- 01 - 30	iSb	
444)	16	03 - 52 - 43	iPg	Very small. Δg = 102 Km.
		- 55	iSg	
445)		04 - 16 - 23	iPg	Small. Compr. Δg = 23± Km. Ambuklao blast, 40± tons of dynamite.
		- 25	iSg	
446)		15 - 27 - 54	iPb	Very small. Δb = 515 Km.
		- 28 - 52	iSb	
447)		20 - 19 - 07	iPg	Very small. Compr. Δg = 76 Km.
		- 16	iSg	
448)	17	00 - 32 - 37	ePg	Very small. Δg = 102 Km.
		- 49	iSg	
449)		04 - 13 - 58±	i	Very small. Probably teleseismic.
450)		11 - 26 - 24	iPb	Very small. Δb = 327 Km.
		- 27 - 01	iSb	
451)		14 - 12 - 46	iPg	Very small. Δg = 23± Km. Blast?
		- 49	iSg	
452)	18	00 - 18 - 20	iPb	Very small. Δb = 219± Km.
		- 45±	iSb	
453)		00 - 21 - 16	iPb	Small. Dilat. Δb = 129 Km.
		- 31	iSb	

	Date	Time (GMT)	Phase	Remarks
454)	18	10 - 16 - 15	iP	Very small. Compr. Δb = 793 Km.
		- 17 - 44	iS	
455)		10 - 28 - 06	iP	Very small. Δ = 802 Km.
		29 - 36	iS	
456)	19	01 - 28 - 32±	ePb	Very small. Δb = 165± Km.
		- 51	iSb	
457)		06 - 34 - 24	iP	Small. Dilat. Δ = 1590 Km. = 14°.3
		- 37 - 12	iS	
458)		20 - 15 - 25±	iPb	Very small. Δb = 174± Km.
		- 45	iSb	
459)		23 - 14 - 02±	eP	Very small. Δ = 4955± Km. = 44°.6
		- 20 - 44	eS	
460)	20	06 - 33 - 51	eP	Very small. 299± Km.
		- 34 - 25±	iS	
461)		11 - 22 - 58	iPg	Very small. Δg = 97 Km.
		- 23 - 10	iSg	
462)		20 - 52 - 33	iPb	Very small. Compr. Δb = 389 Km.
		- 53 - 17	iSb	
463)		21 - 36 - 19	iPg	Very small. Δg = 84 Km.
		- 29	iSg	
464)		22 - 55 - 47	iPb	Small. Compr. Δb = 255 Km.
		- 56 - 16	iSb	
465)	21	05 - 19 - 47	iP	Very small. Dilat. Δ = 4180 Km. = 37°.6
		- 25 - 46±	iS	
466)	22	20 - 35 - 55	eP	Very small. S indefinite.
467)		20 - 47 - 49±	ePb	Very small. Δb = 345± Km.
		- 48 - 28±	eSb	
468)		21 - 21 - 20±	ePb	Very small. Δb = 327± Km.
		- 57	iSb	
469)	23	02 - 57 - 16	iPg	Small. Ambuklao blast? Δg = 23 Km.
		- 19	iSg	
470)		04 - 17 - 35	iP	Very small. Dilat. Δ = 3910± Km. = 35°.2
		- 23 - 17	iS	
471)		07 - 00 - 03	iP	Moderate. Small compr., then large dilat. Δ = 1235 Km. = 11°.1.
		- 02 - 56	iS	
472)	24	08 - 20 - 00	iPb	Very small. S uncertain. Δb = 551± Km.
		- 21 - 02±	iSb	
473)		10 - 42 - 43	iPb	Small. Δb = 291 Km.
		- 43 - 16	iSb	
474)		16 - 01 - 57	iPg	Small. Compr. Δg = 30 Km.
		- 02 - 01	iSg	
475)		17 - 57 - 01±	iP	Very small. Δ = 1120± Km. = 10°.1
		18 - 00 - 00±	iS	

	Date	Time (GMT)	Phase	Remarks
476)	25	03 - 20 - 41	iPb	Very small. Δb = 156± Km.
		- 59±	iSb	
477)		11 - 23 - 32	iPb	Small. Δb = 587 Km. Felt Virac III.
		- 24 - 38	iSb	
478)	26	01 - 58 - 38±	e	Small surface waves of teleseism 40 min.
479)		02 - 52 - 13	iPg	Small. Compr. Δg = 33 Km.
		- 17	iSg	
480)		19 - 45 - 06	iPb	Very small. Δb = 174± Km.
		- 46 - 26±	iSb	
481)	27	06 - 08 - 12	i	Very small.
482)		07 - 00 - ±	e	Surface waves of teleseism.
483)		16 - 21 - 40	iP	Small. Dilat. Δ = 1235 Km. = 11°.1
		- 24 - 21	iS	
484)	28	05 - 19 - 33	iPg	Small. Dilat. Δg = 117± Km.
		- 47±	iSg	
485)	29	03 - 05 - 07	iPb	Very small. Compr. Δb = 273 Km.
		- 33	iSb	
486)		05 - 47 - 35±	iP	Very small. Δ = 1135 Km. = 10°.2
		- 49 - 41	iS	
487)		19 - 16 - 33	iPb	Very small. Δb = 327 Km.
		- 17 - 10	iSb	
488)		22 - 45 - 20	iPb	Moderate. Dilat. Δb = 264 Km.
		- 50	iSb	
489)	30	04 - 11 - 44	iPb	Very small. dilat. 165 Km.
		- 12 - 03	iSb	
490)		06 - 00 - 00	iPb	Very small. Δb = 165 Km.
		- 18	iSb	
491)		13 - 18 - 27	iPb	Very small. Δb = 255 Km.
		- 56	iSb	
492)		16 - 15 - 41	iPb	Very small. Compr. Δb = 228 Km.
		16 - 07	iSb	
493)		19 - 50 - 30	iP	Small. Δ = 1780 Km. = 16°.0
		- 53 - 36	iS	
494)		20 - 02 - 20±	e	Very small.
495)	31	08 - 47 - 47	iPg	Very small. Compr. Δg = 38 Km.
		- 51	iSg	
496)		15 - 53 - 58	eP	Small. Δ = 2810 Km. = 25°.3 Possibly deep focus.
		58 - 28±	iS	
497)		16 - 28 - 23	iPb	Very small. Dilat. Δb = 201± Km.
		- 46±	iSb	

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Mirador, Baguio City

Philippines

Lat. N. 16° 24' 59" Long. E. 120° 34' 47" Alt. 1507 Meters

Instruments (All Sprengnethers) Hard Limestone Bedrock

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.4 sec	1.384 sec	Circa 2167	1540
	E-W	10.5	10.7	2282	1755
	N-S	1.91	1.59	3000	2500
Photoelectric, Visually recording	E-W	1.43	1.35	5000	very rough average Magn. depends both on ampl. & period.
	N-S	11.2	12.2	8000	

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JUNE 1954

	Date	Time (GMT)	Phase	Remarks
498)	2	00 - 14 - 58	iPg	Very small. Δ b = 246 ± Km.
		- 15 - 26 ±	iSb	
499)		11 - 20 - 53 ±	iPg	Very small Dilat. Δ g. = 109 ± Km.
		- 21 - 05	iSg	
500)	3	01 - 29 - 15	iPg	Very small. Dilat. Δ g = 86 ± Km.
		- 23 ±	iSg	
501)		15 - 07 - 33	iPb	Very small. Compr. Δ b = 156 Km.
		- 51	iSb	
502)	4	01-- 45 - 27	iPg	Very small. Compr. Δ g = 58 ± Km.
		- 34 ±	iSg	
503)		07 - 10 - 18	iP	Small. Compr. Δ = 7280 ± Km. ± 65.°5 ±
		19 - 10 ±	iS	
504)		10 - 47 - 29	eP	Very small. Compr. S indefinite. From L. 10 - 41 - 37 Java Sea, JSH. Δ = approx. 5700 Km.
		11 - 02 - ± ±	L	
505)		18 - 35 - 50	iPg	Very small. Dilat. Δ g = 15 Km. ±
		- 52 ±	iSg	
506)	5	01 - 09 - 05	iPb	Very small. Δ b = 121 Km.
		- 17	iSb	
507)		04 - 30 - 28	iP	Very small. S indefinite. 04 - 30 - 59 Argentina? - ~~Ker~~
508)		09 - 14 - 17	ePb	Very small. Δ b = 820 ± Km.
		- 15 - 49 ±	iSb	
509)		19 - 26 - 25	iPb	Small. Compr. Δ b = 129 Km.
		- 40	iSb	
510)		19 - 39 - 21	iPb	Very small. Compr. Δ b = 129 Km.
		- 36	iSb	
511)		19 - 44 - 06	iPb	Very small. Compr. Δ b = 129 Km.
		- 21	iSb	
512)		19 - 45 - 17	i	Very small.
513)		20 - 28 - 44	iPb	Very small. Δ b = 147 Km.
		- 29 - 01	iSb	

	Date	Time (GCT)	Phase	Remarks
514)	5	25 - 12 - 03 I	ePb	Very small. Δ b = 129 ± Km.
		- 18	iSb	
515)	6	01 - 58 - 55	iPg	Very small. Δ g = 23 Km.
		- 58	iSg	
516)		10 - 30 - 29	iPb	Very small. Compr. Δ b = 129 Km.
		- 44	iSb	
517)		16 - 55 - 01	iP	Moderate to large. Δ = 3745 Km. = 33°.7.
		17 - 00 - 32	iS	Hardly any surface waves, hence probably deep focus
518)		22 - 03 - 54	iPb	Very small. Δ b= 228 Km.
		- 04 - 25	iSb	
519)	7	05 - 29 - 54	iPg	Small. Δ g = 23 Km. Imbuclao blast.
		- 57	iSg	
520)		03 - 12 - 23	iPb	Very small. Δ b = 183 Km.
		- 44	iSb	
521)		03 - 47 - 37	iPb	Very small. Δ b = 380 Km.
		48 - 21	iSb	
522)		06 - 52 - 26	iPb	Very small. Δ g = 33 ± Km.
		- 30 =	iSg	
523)		10 - 22 - 10	iP	Moderate to large. Deep focus. Difficult.
		- 23 - 33	ipP	Probably Δ 450 Km. = 4000 Km = 36°.0
		- 27 - 19	iS	
		- 30 - 27	isS	
524)	8	04 - 31 - 03	iP	Very small. Compr. S indefinite
525)		20 - 52 - 16	iP	Small. Compr. Δ = 1145 Km. = 10°.3
		- 54 - 23	iS	
526)	9	09 - 40 - 49	iPb	Small. Δ b = 147 ± Km. Tuguegarao point. II. Bañgag
		- 41 - 06	iSb	Tunglayan IV ??
527)		10 - 03 - 17	iPb	Large. S indefinite but Δ prob. 150 ± Km. Baguio T. 18½ N 121½ E USA. Tuguegarao IV Ilagan II, Bucay, Abra IV.
528)		11 - 22 - 33	iPb	Very small. Δ b = 156 Km.
		- 56	iSb	
529)		13 - 38 - 02	iPb	Very small. Δ b = 147 Km.
		- 19	iSb	
530)		17 - 43 - 06	iPb	Very small. Dilat. Δ b = 156 Km.
		- 24	iSb	
531)		21 - 29 - 15	iP	Very small. Δ = approx. 5300 = Km. = 47°.7
		- 36 - 17	iS	
		- 47 - [redacted]		
532)	10	10 - 32 - 04	iPb	Very small. Δ b = 148 Km.
		- 21	iSb	
533)		11 - 39 - 49	iPb	Very small. Δ b = 148 Km.
		- 40 - 06	iSb	
534)		16 - 12 - 27	iPb	Small. Dilat. Δ b = 148 Km.
		- 44	iSb	Felt Bucay, Abra, III - IV.
535)		18 - 46 - 51	iP	Very small. Compr. Δ = 6610 Km. = 59°.5
		- 49 - 15	ipP	or if deep focus Δ 500 = 7555 Km. = 68°.0
		- 55 - 07	iS	
		- 59 - 14	isS	
536)		21 - 43 - 23	iPb	Very small. S doubtful. Δ = 975 Km.
		- 45 - 05 =	iSb	
537)		22 - 42 - 17	iPb	Very small. Δ b = 1075 Km.
		- 44 - 09	iSb	

	Date	Time (G.M.T)	Phase	Remarks
538)	11	02 - 11 - 35	i	Very small
539)		04 - 49 - 15	iPb	Very small. S difficult. △ b = 668 ± Km.
		- 50 - 28	iSb	
540)		10 - 58 - 20	i	Very small.
541)		11 - 44 - 30	iPb	Very small. Dilat. △ = 112 ± Km.
		- 42 ±	iSb	
542)		14 - 02 - 29	i	Very small.
543)		21 - 28 - 56	i	Very small.
544)		21 - 34 - 41 ±	iPb	Very small. △ b = 148 ± Km.
		- 58	iSb	
545)	12	05 - 04 - 27 ±	eP	Very small. △ = 1000 ± Km.
		- 06 - 12 ±	eS	
546)		05 - 45 - 28	iP	Small. Dilat. △ = 1520 Km. = 13°.6
		- 48 - 10	iS	
547)		05 - 53 - 50	iP	Very small. △ = 2910 ± Km. = 26°.2
		- 58 - 27 ±	iS	
548)		13 - 29 - 10	iPb	Very small. Compr. △ b = 555 ± Km.
		- 30 - 12 ±	iSb	
549)		19 - 06 - 43	iPg	Very small. △ g = 92 Km.
		- 54	iSg	
550)	13	01 - 24 - 59 ±	eiP	Very small. △ = 1835 ± Km. = 16°.5 ±
		- 28 - 10 ±	eS	
551)		07 - 36 - 20	iPg	Small. Compr. Ambuclao blast? △ g = 23 Km
		- 25	iSg	
552)		09 - 43 - 00	iPb	Very small. △ b = 201 ± Km.
		- 23	iSb	
553)		17 - 26 - 03 ±	iP	Small. △ = 1920 ± Km. = 17°.3 ± Possibly, deep focus
		- 29 - 22	iS	
554)		23 - 03 - 10	iPb	Small. △ b = 129 Km.
		- 25	iSb	
555)	14	13 - 30 - 59	iP	Very small. Readings uncertain. △ = 1420 ± Km.
		- 33 - 31 ±	iS	= 12°.8
556)	15	13 - 49 - 49	iP	Very small. △ = 2735 ± Km. = 24°.6 ±
		- 54-- 13 ±	iS	
557)	16	01 - 39 - 01 ±	iPg	Very small. Compr. △ g = 94 ± Km.
		- 12	iSg	
558)		14 - 30 - 12	iPb	Very small. △ b = 426 ± Km.
		- 31 - 06 ±	iSb	
559)	17	01 - 53 - 58 ±	ePg	Very small. Dilat. △ = 3110 ± Km. = 73°.0 ±
		02 - 03 - 30	iSg	
560)		02 - 12 - 31	eP	Very small. S indefinite
561)		05 - 53 - 28	eP	Very small. S indefinte. S-P approx. 2 min
562)	18	01 - 02 - 38	ePg	Very small. △ g = 109 ± Km.
		- 51	iSg	
563)		13 - 00 - 28	eP	Very small. △ = 3535 ± Km. = 31°.8 ±
		- 05 - 46 ±	eS	
564)		18 - 20 - 24	iPg	Very small. △ g = 92 ± Km.
		- 36	iSg	
565)		18 - 59 - 20 ±	ePg	Very small. △ g = 84 ± Km.
		- 30	iSg	
566)	19	02 - 00 - 13	iP	Very small. Dilat. △ = 1755 ± Km. = 15°.8 ±
		- 03 - 17	iS	

	Date	Time (GMT)	phase	Remarks
567)	19	02 - 18 - 05 ±	eP	Very small. △ = 1390 ± Km. = 12°.0
		- 21 - 21 ±	is	
568)	20	18 - 1[illegible] - 52	iPb	Very small. Dilat. △ b = 730 ± Km. Tacloban IV
		- 17 - 14 ±	iSb	
69)		20 - 52 - 14	iP	Very small. △ = 398 Km. or 901 Km.
	Cr	- 59	iS	
		- 55 - 55		
570)	21	02 - 08 - 39	iP	Small to medium. Compr. △ = 2220 Km. = 20°.0
		- 12 - 22	iS	
571)		05 - 53 - 39	iPb	Very small. △ b = 121 Km.
		- 55	iSb	
572)		00 - 11 - 28	iPb	Very small. Compr. △ b = 470 Km.
		- 12 - 21	iSb	
573)	22	12 - 32 - 27	iPb	Very small. Dilat. △ b= 210 Km.
		- 31	iSb	
574)		16 - 54 - 57 ±	ePb	Very small. △ b = 470 ± Km.
		- 55 - 50	iSb	
575)	24	08 - 05 - 14	eP	Very small. Teleseismic. S indefinte
576)	25	1[illegible] - 07 - 50	iPb	Very small. △ b = 129 Km.
		- 08 - 05	iSb	
577)		23 - 27 - 29	iP	Very small. Compr. △= 2000 ± Km. = 18°.0
		- 30 - 54	iS	
578)	26	11 - 07 - 23	eP	Very small. △ = 2310 ± Km. = 20°.8
		- 11 - 14 ±	eS	
579)		20 - 19 - 23	iPg	Very small. Compr. △ g = 84 Km.
		- 33	iSg	
580)	27	01 - 36 - 47	iPb	Very small. △ b = 32[illegible] ± Km.
		- 37 - 24 ±	iSb	
581)		04 - 10 - 55 ±	iPb	Very small. △ b = 408 ± Km.
		- 11 - 41 ±	iSb	
582)		04 - 2[illegible] - 10 ±	iP	Very small. S indefinite
583)		11 - 24 - 55 ±	iPb	Very small. △b = 138 ± Km.
		- 25 - 11	iSb	
584)		12 - 19 - 24 ±	iPb	Very small. △ b = 317 ± Km.
		- 20 - 00	iSb	
585)		16 - 20 - 43	iP	Very small. △ = 2810 ± Km. = 25°.3
		- 25 - 13	iS	
586)		18 - 04 - 11	iPg	Very small. △ g = 102 Km.
		- 23	iSg	
587)	28	03 - 29 - 55	iP	Small. △ = 1980 ± Km. = 17°.8
		- 33 - 19 ±	iS	
588)		05 - 32 - =		Teleseismic longwaves
589)		12 - 51 - 04	iPb	Very small. △ b = 148 ± Km.
		- 21	iSb	
590)	29	07 - 13 - 31	iPb	moderate. Compr. △ b = 237 ± Km.
		- 58	iSb	
591)		20 - 51 - 30	iPg	Very small. △ g =117 ± Km.
		- 44 ±	iSg	
592)	30	08 - 00 - 26	iPb	Very small. △ g = 515 Km.
		- 01 - 24	iSb	
593)		11 - 27 - 46	iPb	Very small. △ b = 210 Km.
		- 23 - 10	iSb	
594)		15 - 39 - 15	iP	Very small. △ = 9310 ± Km. = 85°.8 ±
		- 49 - 04 =	iS	
595)		18 - 52 - 00	iPb	Very small. △ b = 156 ± Km.
		- 18	iSb	
596)		18 - 59 - 43	iPb	Very small. △ b = 156 ± Km.
		19 - 00 - 01	iSb	

MANILA OBSERVATORY
Mirador, Baguio City
Philippines

Lat. N. 16° 24' 39" Long. E. 120° 34' 47" Alt. 1507 meters

Instruments (All Sprengnethers) Hard Limestone Bedrock

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.4 sec	1.384 sec	Circa 2167	1540
	E-W	10.5	10.7	2282	1755
	N-S	1.91	1.39	3000	2500
Photoelectric, Visually recording	E-W	1.43	1.65	3000	Very rough average Magn. depends both on ampl. & period.
	N-S	11.2	12.2	8000	

JULY 1954

	Date	Time (GMT)	Phase	Remarks
597)	1	05 - 25 - 48	iP	Small. Compr. △ = 1054± Km.
		- 27 - 38±	iS	
598)		08 - 52 - 14	iP	Very small. Dilat. △ = 1155± Km.
		- 54 - 22±	iS	
599)		10 - 11 - 06	iPb	Very small. △b = 183 Km.
		- 27	iSb	
600)		10 - 12 - 55	iPb	Very small. △b = 183 Km. Twin to preceding.
		13 - 16	iSb	
601)		23 - 15 - 10	iPb	Very small. △b = 174 Km.
		- 30	iSb	
602)	2	02 - 46 - 23	iPb	Very large. Centered near Sorsogon? Over 30 lives lost, & much damage to houses etc. S rather indefinite. △ = 380± Km. Many aftershocks. Daet V, Katarman IV, Masbate IV, Legaspi IV, Aurora IV, Iloilo II, Virac IV, Rojas City IV (capiz), Catbalogan III.
		- 47 - 06±	iSb	
603)		03 - 38 - ±	iP	Very small. Phases too difficult due to many shocks.
604)		03 - 45 - ±	iP	Same.
605)		03 - 48 - ±	iP	Same.
606)		04 - 14 - 12	iPb	Very small. △b = possibly 479± Km. Uncertain.
		- 15 - 06±	iSb	
607)		04 - 47 - 50	iPb	Very small. △b = 408± Km.
		- 48 - 36±	iSb	
608)		08 - 29 - 37	iPb	Very small. △b = 219± Km.
		- 30 - 02±	iSb	
609)		09 - 22 - 56	iPb	Small. △ = 426± Km. Tacloban II.
		- 23 - 44	iSb	
610)		09 - 50 - 55	iP	Small. S uncertain. Malaybalay III? Hinatuan III?

	Date	Time (GMT)	Phase	Remarks
611)	2	09 - 58 - 50	iP	Very small. S indefinite. Tacloban II.
612)		10 - 33 - 13	iPb	Small. Δb = 524± Km. or 327± Km.
		- 34 - 12	iSb±	
		or 33 - 50		
613)		15 - 15 - 30	iPb	Very small. Δb = 479± Km.
		- 16 - 24	iSb	
614)		17 - 52 - 27	iPb	Very small. Δb = 479± Km.
		- 53 - 21	iSb	
615)		20 - 18 - 38	iPb	Very small. Δb = 426± Km.
		- 19 - 26	iSb	
616)		20 - 31 - 30	iP	Very small. S indefinite.
617)		21 - 31 - 21	iP	Very small. S indefinite.
618)		22 - 12 - 30	iPb	Very small. Δb = 515± Km.
		- 13 - 28	iSb	
619)	3	01 - 20 - ±	-	Very small. Teleseismic long waves on E-W long period.
620)		03 - 08 - 24	iPb	Very small. Δb = 461± Km.
		- 09 - 16	iSb	
621)		03 - 31 - 48	iPb	Small. Δb = 766± Km.
		- 33 - 14±	iSb	
622)		04 - 51 - 02±	iP	Very small. S indefinite. S-P possibly 1.5 min.
623)		05 - 01 - 19	iPb	Very small. Δb = 515± Km.
		- 02 - 17±	iSb	
624)		10 - 02 - 33	iPg	Very small. Δg = 23 Km.
		- 36	iSg	
625)		10 - 15 - 00	iPg	Very small. Δg = 43 Km.
		- 08	iSg	
626)		10 - 28 - 44	iPb	Very small. Δb = 129 Km.
		- 59	iSb	
627)		16 - 23 - 05	iP	Very small. S uncertain.
628)		19 - 38 - 58	iP	Very small. S uncertain.
629)		21 - 15 - 50	iPb	Large. Δ_n = 946± Km. Aparri III. Calayan IV. Claveria III-IV.
		- 17 - 29±?	iSb	
630)		21 - 26 - 13	iPb	Very small. Dilat. Δ = 317 Km.
		- 49	iSb	
631)		22 - 05 - 55	iPb	Very small dilat. Δb = 121 Km. Catbal. II?!
		- 06 - 29	iSb	
632)		22 - 37 - 06	iP	Small to moderate. Compr. Δ = 3165± Km. = 28°.5±
		- 42 - 01±	iS	
633)	4	04 - 47 - 27	iPb	Moderate. Δb = 210 Km.
		- 51	iSb	
634)		06 - 37 - 36	iPb	Moderate. Δb = 237±Km.
		- 38 - 03	iSb	
635)		08 - 41 - 58	iPb	Very small. Δb = 497± Km.
		- 42 - 54	iSb	
636)		11 - 48 - 45±	iPb	Very small. Δb = 138± Km.
		- 49 - 01±	iSb	
637)		12 - 48 - 03	iPb	Very small. Δb = 444± Km.
		- 53±	iSb	
638)		15 - 58 - 21	iPb	Very small. Δb = 327± Km.
		- 58	iSb	
639)		21 - 22 - 30±	eP	Very small. S uncertain.

	Date	Time (GMT)	Phase	Remarks
640)	5	05 - 29 - 14	iPb	Very small. Δ b = 219 Km.
		- 39	iSb	
641)		05 - 31 - 24±	iPb	Very small. Δ b = 183± Km.
		- 45	iSb	
642)		14 - 00 - 26	iP	Very small. Δ = 5165± Km. = 46°.5.
		- 07 - 20±	iS	
643)		14 - 19 - 19	iPb	Small. Dilat. Δ b = 219 Km.
		- 44	iSb	
644)		16 - 01 - 51	iP	Very small. Dilat. S uncertain.
645)		23 - 57 - 45	iPb	Small. Time of change of photographic pa-
		- 58 - 10	iSb	per. Δ = 219.Km.
646)	6	04 - 06 - 46±	eP	Very small. Δ = 3790± Km. = 34°.1
		- 12 - 20±	eS	
647)		08 - 12 - 12	iP	Very small. Compr. Δ = 4290± Km. = 38°.6
		- 18 - 18	iS	
648)		10 - 21 - 46±	eP	Very small. S uncertain.
649)		11 - 19 - 21±	iP	Very small. Δ = 4245± Km. = 38°.2
		- 25 - 24±	iS	
650)		12 - 23 - 42±	eP	Very small. S indefinite.
651)		13 - 26 - 50	iPg	Very small. Δ g = 68± Km.
		- 58	iSg	
652)		21 - 39 - 26	iPg	Small. Δ g = 109± Km.
		- 39	iSg	
653)		22 - 24 - 50±	eP	Very small. Δ = 5810± Km. = 52°.2
		- 32 - 20±	eS	
654)	7	01 - 29 - 38±	iPb	Very small. Δ b = 299± Km.
		- 30 - 12±	iSb	
655)		10 - 20 - 57	iPb	Very small. Δ b = 327± Km.
		- 21 - 34	iSb	
656)	8	01 - 09 - 22	iP	Very small. S uncertain.
657)		04 - 12 - 03	iPg	Very small. Δ g = 58 Km.
		- 10	iSg	
658)		13 - 00 - 44	iPg	Very small. Δ g = 119 Km.
		- 57	iSg	
659)		17 - 22 - 20	iPb	Small. Δ b = 363± Km.
		- 23 - 01	iSb	
660)		17 - 33 - 50	iPb	Very small. Δ b = 551± Km.
		- 34 - 52	iSb	
661)		20 - 09 - 54±	iPb	Small. Δ b = 327± Km. Romblon III, Rojas
		- 10 - 31	iSb	City (Capiz) III.
662)	9	03 - 40 - 06	iPb	Very small. P cresc. Δ b = 156± Km.
		- 24±	iSb	
663)		12 - 31 - 45	iPb	Very small. Δ b = 138± Km.
		- 32 - 01±	iSb	
664)		15 - 49±		Teleseismic long waves on E-W long period.
665)		15 - 41 - 28	iPb	Small. Δ b = 228± Km.
		- 54	iSb	
666)		18 - 34 - 27	iP	Very small. Dilat. Δ = 2855± Km. = 25°.7
		- 39 - 03±	eS	
667)		18 - 44 - 40±	e	Very small. May be teleseismic.

	Date	Time (GMT)	Phase	Remarks
668)	10	10 - 24 - 14±	iPb	Very small. Δb = 389± Km.
		- 58±	eSb	
669)		16 - 09 - 45±	iPb	Very small. Δb = 264± Km.
		- 10 - 28±	iSb	
670)		23 - 05 - 15	iPg	Very small. Δg = 92± Km.
		- 26±	iSg	
671)	11	05 - 42 - 48	iPb	Small. Compr. Δb = 129 Km.
		- 43 - 03	iSb	
672)		10 - 03 - 14	iPb	Very small. Δb = 129± Km.
		- 29±	iSb	
673)		12 - 27 - 58±	iP	Very small. S indefinite.
674)		17 - 17 - 04±	iP	Very small. Δ = 2380± Km. = 21°.4
		- 21 - 00±	eS	
675)	12	17 - 39 - 50	eP±	Very small. Teleseismic.
676)	13	04 - 35 - 12±	iPb	Very small. Δb = 138± Km.
		- 28	iSb	
677)		08 - 11 - 44	iP	Very small. Δ = 3790± Km. = 34°.1
		- 17 - 18±	eS	
678)		20 - 03 - 31	iP	Very small. Compr. S indefinite.
679)	14	05 - 00 - 40	iPb	Very small. Δb = 174± Km.
		- 01 - 00	iSb	
680)		19 - 25 - 41	iPb	Very small. Δb = 551 Km.
		- 26 - 43	iSb	
681)		21 - 08 - 32±	eP	Very small. S indefinite.
682)		21 - 24 - 04	iPb	Very small. Dilat. Δb = 192± Km.
		- 26	iSb	
683)	15	00 - 01 - 04	ePg	Very small. Δg = 109± Km.
		- 17	eSg	
684)		12 - 31 - 34	iPb	Very small. Δb = 461± Km.
		- 32 - 26±	eSb	
685)	16	01 - 01 - 03	iPb	Very small. Δb = 264± Km.
		- 33±	iSb	
686)		02 - 59 - 12±	iP	Very small. S indefinite.
687)		10 - 56 - 20±	eP	Very small. S indefinite.
688)		12 - 56 - 58	iPb	Very small. Δb = 192± Km.
		- 57 - 20	iSb	
689)		13 - 55 - 33	iPb	Very small. Δb = 148± Km.
		- 50	iSb	
690)		14 - 35 - 06	iPb	Very small. Δb = 237± Km.
		- 33	iSb	
691)		17 - 22 - 45	iPb	Very small. Δ b = 273± Km.
		- 23 - 16	iSb	
692)		18 - 34 - 50±	iPb	Very small. Compr. Δb = 165± Km.
		- 35 - 09	iSb	

	Date	Time (GMT)	Phase	Remarks
693)	16	19 - 59 - 59	iPb	Small to moderate. Δb = 273 Km.
		12 - 00 - 30	iSb	
694)		20 - 34 - 06±	iPb	Very small. Δb = 282± Km.
		- 38±	iSb	
695)		21 - 45 - 24	iPb	Very small. Δb = 273± Km.
		- 55	iSb	
696)		22 - 51 - 17	iPb	Very small. Δb = 658± Km. or 766± Km. Felt Tacloban III, Dir. NE-SW. Dur. 20^s.
		52 - 32±		
		or - 43±	eS	
697)	17	01 - 04 - ±	iPb	Clock stopped 09^h- 30^h-30 & 14^h-50 to ⟶ S-P about 58^s. Δb = 515± Km.

18 NB. rate of clock still a little uncertain; hence times of P & S uncertain.

698)	05 - 06 - 17	iPb	Small. Compr. Δ = 408± Km.
	- 07 - 03±	iSb	
699)	05 - 29 - 50	iPb	Very small. Δb = 121 Km.
	- 30 - 04	iSb	
700)	06 - 43 - 36	iP	Small. Compr. S indefinite.
701)	06 - 50 - 48±	iP	Very small. S indefinite.
702)	09 - 13 - 10	iPb	Moderate. Compr. Δb = 435± Km.
	13 - 59	iSb	
703)	10 - 23 - 10	iPb	Small. Compr. Δb = 264± Km.
	- 40	iSb	
704)	10 - 58 - 13	iP	Moderate to large. S indefinite.
705)	11 - 15 - 50	ePb	Very small. Δb = 255 Km.
	- 16 - 19	iSb	
706)	12 - 14 - 20	ePb±	Very small. Δb = 398± Km.
	- 15 - 05	iSb	
707)	13 - 28 - 35	iPb	Very small. Δb = 291± Km.
	29 - 08	iSb	

NB. Time marks absent till end of day hence seconds uncertain.

708)	17 - 55 - ±		S-P = 36^s. Δb = 318± Km.
709)	19 - 07±		S-P = 36^s. Δb = 318± Km. Moderate sized record.
710)	19 - 19±		S-P = 30^s. Δb = 264± Km.
711)	20 - 11 - ±		S-P = 30^s. Δb = 264± Km.

712)	19	00 - 54 - 59±	iPb	Very small. Δb = 152± Km. Borongon, int. III.
		55 - 24	iSb	
713)		02 - 30 - 22±	iPb	Very small. Δb = 560± Km.
		- 31 - 25	iSb	
714)		03 - 07 - 23	iPb	Small. Δb = 138± Km.
		- 39	iSb	
715)		03 - 10 - 17±	iPb	Very small. Δb = 121± Km.
		- 31	iSb	
716)		08 - 57 - 09	iPb	Very small. Δb = 121± Km.
		- 23	iSb	

	Date	Time (GMT)	Phase	Remarks
717)	19	11 - 20 - 27±	iPb	Very small. Δb = 160± Km.
		- 45	iSb	
718)		15 - 09 - 01±	iPb	Very small. Δb = 224± Km.
		- 27	iSb	
719)	20	19 - 52 - 55	iPb	Very small. Δb = 273 Km.
		- 53 - 26	iSb	
720)		20 - 54 - 41±	iPb	Very small. Δb = 210± Km.
		- 55 - 05	iSb	
721)		23 - 08 - 10	iPg	Very small. Compr. to N. Δg = 84 Km.
		- 20	iSg	
722)	21	04 - 43 - 42	iP	Small. Δ = 2465 Km. = 22°.2
		- 47 - 45	iS	
723)		05 - 52 - 24±	iP	Very small. Peculiar P phase. Δ = 2380±
		56 - 20±	eS	Km. = 21°.4±.
724)		07 - 27 - 21	iPg	Very small. Compr. Blast? Δg = 23 Km.
		- 24	iSg	
725)		08 - 47 - ±	e	Waves of telesism. Phases uncertain.
726)		13 - 41 - 38±	iP	Very small. S uncertain.
727)		13 - 55 - 50±	eP	Very small. S uncertain.
728)		19 - 15 - 57	iPb	Very small. Δb = 237± Km.
		- 16 - 24	iSb	
729)	22	03 - 41 - 31	iPg	Very small. Δg = 23 Km. Ambuklao blast?
		- 34	iSg	
730)	23	04 - 53 - 31±	eP	Very small. Teleseismic. S indefinite.
731)		14 - 54 - 05	eP	Very small. Teleseismic. S indefinite.
732)		21 - 54 - 17	iPb	Very small. Δb = 246 Km.
		- 45	iSb	
733)	24	06 - 51 - 18	iP	Very small. S indefinite.
734)		07 - 26 - 06	iPb	Very small. Compr. Δb = 219± Km.
		- 31±	iSb	
735)		09 - 50 - 21	iPb	Very small. Δb = 587± Km.
		- 51 - 27±	iSb?	
736)		10 - 53 - 09±	iPb	Small. Δb = 659± Km.
		- 54 - 23	iSb	
737)		17 - 18 - 32	iPb	Very small. Δb = 138 Km.
		- 48	iSb	
738)	25	00 - 56 - 14±	iPb	Very small. Δb = 264± Km.
		- 44	iSb	
739)		07 - 49 - 57	iPb	Small. Compr. To N? Δb = 156 Km.
		50 - 15	iSb	
740)		09 - 07 - 21±	iPg	Very small. Δg = 85± Km.
		- 31	iSg	
741)		10 - 34 - 22±	iPb	Very small. Δb = 138± Km.
		- 38	iSb	

	Date	Time (GMT)	Phase		Remarks
742)	26	00 - 47 - 32±	iPb	Very small.	Δb = 372± Km.
		- 48 - 14	iSb		
743)		04 - 10 - 05	iPb	Very small.	Δb = 219 Km.
		- 30	iSb		
744)		17 - 07 - 50±	iP	Very small.	S indefinite.
745)		20 - 35 - 45±	eP	Very small.	Teleseismic. S indefinite.
746)		22 - 29 - 45±	eP	Very small.	S indefinite.
747)	27	03 - 18 - 51	iPb	Very small.	Δb = 587 Km.
		- 19 - 57	iSb		
748)		03 - 31 - 49	iPb	Very small.	Δb = 121 Km.
		32 - 03	iSb		
749)		07 - 06 - 31	iP	Very small.	S indefinite.
750)		07 - 39 - 25	iPb	Very small.	Δb = 299± Km.
		- 59±	iSb		
751)		16 - 03 - 06	iPb	Very small.	Δb = 183 Km.
		- 27	iSb		
752)		21 - 17 - 39±	iP	Very small.	S indefinite.
753)	28	11 - 44 - 05	iPg	Very small.	Δg = 76 Km.
		- 14	iSg		
754)		15 - 09 - 27±	iP	Very small.	S indefinite.
755)		16 - 03 - 04	iPb	Very small.	Δb = 148 Km.
		- 21	iSb		
756)		16 - 05 - 13	iPb	Very small.	Δ = 148 Km.
		- 30	iSb		
757)		22 - 31 - 43	eP	Very small.	S indefinite. Teles.
758)	29	03 - 42 - 37	iP	Very small.	Δ = 4845± Km. = 43°.6
		- 49 - 13±?	eS		
759)		06 - 39 - 37±	iP	Very small.	S indet.
760)		07 - 58 - 13	iP		Δb = 183 Km.
		- 34	iS		
761)		09 - 31 - 35	iP	Very small.	S indet.
762)	30	09 - 05 - 49	eP	Small.	S indefinite. Teleseismic.
763)		12 - 27 - 01±	iPb	Very small.	Δb = 228± Km.
		- 27±	iSb		
764)		14 - 22 - 00±	ePb	Very small.	Δb = 210± Km.
		- 24±	iSb		
765)		21 - 53 - 38	iPb	Very small.	Δb = 138± Km.
		- 54	iSb		
766)	31	01 - 05 - 34	iP	Moderate to large. Compr.	Δ = 2655 Km. = 23°.9.
		- 06 - 03	iPR_1		
		- 10 - 48	iS		
767)		01 - 20 - 43±	iP	Very small.	S indeterminate. Aftershock?
768)		01 - 28 - 00±	iP	Very small.	S indeterminate. Aftershock?
769)		07 - 44 - 42	iPg	Small. Compr.	Δ g = 46 Km.
		- 47	iSg		
770)		14 - 38 - 58±	ePb	Very small.	Δ b = 327± Km.
		39 - 35	iSb		
771)		16 - 06 - 04	iPb	Small.	Δ g = 14± Km. Felt Baguio II-III.
		- 06	iSb		

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MANILA OBSERVATORY
Mirador, Baguio City
Philippines

MONTHLY SEISMOLOGICAL BULLETIN

Lat. N. 16° 24' 39" Long. E. 120° 34' 47" Alt. 1507 meters

Instruments (All Sprengnethers) Hard Limestone Bedrock

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.4 sec	1.384 sec	Circa 2167	1540
	E-W	10.5	10.7	2282	1755
	N-S	1.91	1.39	3000	2500
Photoelectric, Visually recording.	E-W	1.43	1.65	3000	Very rough average Magn. depends both on ampl. & period.
	N-S	11.2	12.2	8000	

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AUGUST 1954

	Date	Time (GMT)	Phase	Remarks
772)	1	03 - 28 - 24	iP	Very small. Dilat. Δ = 4045± Km. = 36°.3
		- 34 - 14	eS	
773)		06 - 50 - 12±	iP	Very small. S indeterminate.
774)		13 - 21 - 02	iP	Small. Δ = 2480± Km. = 22°.3
		- 25 - 06?	eS	
775)		18 - 41 - 10±	eP	Very small. S indeterminate.
776)		20 - 52 - 58±	iPg	Very small. Δg = 109± Km.
		- 53 - 11	iSg	
777)		21 - 42 - 31	iP	Very small. Compr. S indef.
778)		22 - 36 - 25±	iP	Very small. S indefinite.
779)	3	04 - 47 - 44	ePb	Very small. Δb = 543± Km.
		- 48 - 45±	eSb	
780)		14 - 52 - 35	iPb	Very small. Δb = 156± Km.
		- 53	iSb	
781)	4	10 - 31 - 54±	iPb±	Very small. Δb = 129± Km.
		- 32 - 09	iSb±	
782)	5	08 - 59 - 20±	eP	Small. Δ = 6235± Km. = 56°.1
		09 - 07 - 14±	iS	
783)		23 - 51 - 18±	iP	Very small. Δ = 3720± Km. = 33°.5
		56 - 48	iS	
784)	8	05 - 49 - 59±	iPb	Very small. Δb = 372± Km.
		- 50 - 41	iSb	
785)		12 - 05 - 00	iPb	Very small. Δb = 156 Km.
		- 05 - 18	iSb	

	Date	Time (GMT)	Phase	Remarks
786)	9	04 - 15 - 59±	iPb	Moderate. Compr. Δ = 138± Km. Small quake possible 12-15-43± confusing of present quake.
		16 - 15	iSb	
787)		04 - 44 - 19	iPg	Moderate to large. Compr. Δg = 102± Km. Felt Tagudin I, Dupax, N.V. I.
		- 31	iSg	
788)		04 - 46 - ±		Lost in preceding quake, its twin.
789)		04 - 50 - 30	iPg	Very small. Δg = 111± Km.
		- 43	iSg	
790)		04 - 51 - 40±	iS	Very small. Twin of preceding.
791)		04 - 58 - 00	iPb	Small. Dilat. Felt Casiguran I, Δ = 129 Km.
		- 15	iSb	
792)		05 - 00 - 16	iS	Very small. Twin of preceding.
793)		05 - 09 - 11	iPb	Small. Compr. Δb = 129 Km.
		- 26	iSb	
794)		05 - 28 - 34	iPb	Very small. Δb = 129 Km.
		- 49	iSb	
795)		05 - 58 - 46	iPb	Very small. May be double. Δb = 129 Km.
		59 - 01	iSb	
796)		07 - 23 - 22	iPb	Small to medium. Compr. Δb = 129 Km.
		- 37	iSb	
797)		07 - 25 - 22±	iSb	Small. Twin of preceding.
798a)		07 - 53 - 00±	iPb	Very small. Δb = 122 Km.
		- 14	iSb	
798b)		07 - 53 - 49	iPb	Very small. Δb = 129 Km. Twin of preceding.
		- 54 - 04	iSb	
799)		08 - 07 - 09	iPb	Very small. Compr. Δ b = 129 Km.
		- 24	iSb	
800)		19 - 25 - 31	iP	Small. Small compr. then larger dilat. Δ = 5210 Km. = 46°.9.
		- 32 - 28	iS	
801a)	10	05 - 38 - 42	iP	Very small. Compr. Δ = 2090± Km. = 18°.8.
		- 42 - 15	iS±	
801b)		12 - 16 - 26	iPb	Very small. Δb = 121 Km.
		- 40	iSb	
802)		14 - 07 - ff.	e	Very small. Teleseism traces, long waves till 15 - 00±.
803)	11	11 - 54 - 00 or 03	iPg	Very small. Δg = 23 or 50 Km.
		- 06	iSg	
804)		12 - 52 - 54	i	Very small. Some long waves 12-59- ± for 2s only.
805)		19 - 58 - 45±	iP	Small. Dilat. to SE? Δ = 6165± Km. = 55°.5.
		20 - 06 - 30±	iS	
806)	12	04 - 11 - 43	iPg	Moderate ±. Ambuklao blast, Δ = 23 Km., 180± tons of dynamite.
		- 46	iSg	
807)		10 - 58 - 03	i	Very small.
808)		11 - 56 - 36	iP	Very small. Δ = 1335 Km. = 12°. Felt Hinatuan IV, Zamboanga II, Odiongan II.
		- 59 - 00	iS	
809)		19 - 15 - 00±	iP	Very small. S indefinite.
810)		23 - 26 - 48	iP	Very small. S indef. Compr.
811)		23 - 46 - 00	iP	Small to moderate. Dilat. to S±. Δ = 1645± Km. = 15°.8.
		48 - 53	iS	

	Date	Time (GMT)	Phase	Remarks
812)	14	10 - 39 - 11	iPb	Small. P cresc. Δ = 102± or 354 Km.
		- 39 - 23 or 51	iSb	
813)		23 - 00 - 49	iP	Moderate. Compr. Δ = 2280± Km. or 20°.5
		- 04 - 37±	iS	Large typhoon micros.
814)	15	23 - 59 - 10	iPb	Small. Compr. To S±. Δb = 829± Km.
		00 - 00 - 43±	iSb	Large typhoon micros.
815)	16	01 - 38 - 09	iPb	Very small. Heavy micros all day. Δb =
		- 39 - 24±	iSb	668± Km.
816)		17 - 28 - 44	iPb	Very small. Δb = 380± Km.
		- 29 - 27±	iSb	
817)		21 - 51 - 18	iP	Very small. S indef.
818)	17	10 - 10 - 06	iPb	Very small. Δb = 183 Km.
		- 27	iSb	
819)		13 - 20 - 28	iPb	Small. Δb = 174 Km.
		- 48	iSb	
820)	18	02 - 54 - 58±	iP	Very small. Compr.
821)		04 - 53 - 37	iP	Small to moderate. Dilat. to SE. Deep fo-
		- 54 - 20±	ipP	cus, 200± Km. Δ200 Km. = 8110± Km. =
		05 - 02 - 49	iS	73°±.
		- 04 - 10±	isS	
822)	21	06 - 41 - 15	e or iPb	Moderate. Peculiar start. Possibly dilat.
		- 42 - 39±?	iS	S very difficult. Δb = 758± Km. Dadia-
				ngus III, Davao V, Hinatuan III.
823)	22	01 - 47 - 19	iP	Very small. S indefinite. Δb = 1400± Km.
		- 50 - ±	L or M	estimated from L.
824)		06 - 30 - 28±	i	Very small.
825)		18 - 19 - 00±	eP	Very small. S indefinite. Δ = 2000± Km.
		- 24 - ±	L or M	estimated from L.
826)		21 - 40 - 45	iPb	Very small. Compr. to N±. Δb = 156 Km.
		- 41 - 03	iSb	
827)	23	08 - 34 - 08±	iP	Very small. Δ = 2920± Km. = 46°.3.
		- 38 - 46±	eS	
828)		12 - 24 - 16±	i	Very small.
829)		21 - 25 - 33±	iP	Very small. Δ = 3310± Km. = 29°.8.
		- 30 - 37±	eS	
830)	24	06 - 05 - 00±	eP	P very small. Other phases moderate or
		- 16 - 16±	Sk or S	large. Δ = 11665± Km., 105°±. Nevada quake?
831)	25	06 - 04 - 44	iPb	Very small. Compr. Δb = 148± Km.
		- 05 - 01	iSb	
832)		06 - 34 - 23	iPb	Very small. Dilat. to N±. Δb = 237± Km.
		- 50	iSb	NB. Possibly 2 close aftershocks of 06 - 04 - 44 quake
833)		08 - 51 - 52	iPb	Small. Compr. to N±. Δb = 237± Km. After-
		52 - 19	iSb	shock of above. Twins also?
834)		13 - 48 - 45	iPb	Very small. Δb = 651± Km.
		- 49 - 58	iSb	

	Date	Time (GMT)	Phase		Remarks
835)	26	10 - 00 - 38	iPb	}	Very small. Δb = 291± Km.
		- 01 - 11±	iSb	}	
836)		14 - 18 - 52	iPb	}	Very small. Δb = 192± Km.
		- 19 - 14	iSb	}	
837)		18 - 47 - 46	iPb	}	Very small. Δb = 426± Km.
		- 48 - 34?	iSb	}	
838)		19 - 23 - 47	iPb	}	Very small. Δb = 255± Km.
		- 25 - 16±	iSb	}	
839)		21 - 35 - 45	iPb	}	Very small. Δb = 156± Km.
		- 36 - 03±	iSb	}	
840)		21 - 48 - 16±	iPb	}	Very small. Δb = 775± Km.
		- 49 - 43±	iSb	}	
841)		22 - 01 - 48	eP		Very small. S indefinite.
842)	27	11 - 29 - 53	iP	}	Small. Dilat. Very heavy micros. Δ =
		- 34 - 10	eS	}	2635± Km. = 23°.7. May be deep focus.
843)		13 - 59 - 02	iPb	}	Very small. Δb = 659± Km. Felt Legaspi
		14 - 00 - 16±	eSb	}	II.
844)	28	00 - 54 - 46	iPg	}	Very small. Compr. Δg = 23± Km. Ambuk-
		- 49	iSg	}	lao blast. Strong typhoon Ida micros.
845)		06 - 38 - 58	iPb	}	Very small. Δb = 497± Km. Strong
		- 39 - 54±	iSb	}	typhoon micros.
846)		17 - 38 - 35	iPb	}	Very small. Δb = 291± Km. Very strong
		- 39 - 08±	iSb	}	typhoon micros.
847)	30	08 - 04 - 19	iP	}	Very small. Compr. Δ = 3790± Km. = 34°.1
		- 09 - 53±	eS	}	
848)		13 - 53 - 36	iPb	}	Very small. Δb = 174± Km.
		- 56	iSb	}	
849)		21 - 09 - 51	i		Very small. S indeterminate.
850)	31	20 - 06 - 03	iPb	}	Very small. S indeterminate.
		- 23	iSb	}	
851)		20 - 33 - 39	iPb	}	Very Small. Compr. Δb = 174± Km.
		- 59	iSb	}	

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MANILA OBSERVATORY
Mirador, Baguio City
Philippines

MONTHLY SEISMOLOGICAL BULLETIN

Lat. N. 16° 24' 39" Long. E. 120° 34' 47" Alt. 1507 meters

Instruments (All sprengnethers) Hard Limestone Bedrock

Sept. 1 through 7. Constants same as preceding months.
Sept. 8th, following. Confer below.

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.44 sec	1.42 sec	2685	1910
	E-W	10.85 "	12.00 "	2545	1855
	N-S	1.82 "	1.60 "	4826	4930
Photoelectric. Visual recording.	N-S	11.90 "	12.00 "	Variable. Tests for optimum magnification.	
	E-W	1.53 "	1.70 "		

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SEPTEMBER 1954

	Date	Time (GMT)	Phase	Remarks
852)	1	05 - 43 - 11	iPb	Very small. Dilatation. $\Delta b = 174\pm$ Km.
		- 31	iSb	
853)	2	10 - 38 - 57	iPg	Very small. Compr. $\Delta g = 04$ Km.± Blast?
		- 58	iSg	
854)		19 - 00 - 27	iP	Very small. Dilat. Deep focus. 140± Km.
		01 - 07	ipP±	$\Delta 140 = 5890\pm$ Km. $= 53^{\circ}.0\pm$.
		- 07 - 55	iS	
855)	3	03 - 51 - 21	iPb	Very small. $\Delta b = 219\pm$ Km.
		- 46±	iSb	
856)		23 - 58 - 31	iPg	Very small. $\Delta g = 68\pm$ Km.
		- 39	iSg	
857)	4	03 - 34 - 16	iP	Small. Compr. to S±. $\Delta = 4480\pm$ Km. $= 40^{\circ}.3$.
		- 40 - 32	iS	
858)		06 - 50 - 51	iP	Very small. S indeterminate.
859)		08 - 54 - 42	iP	Medium. Compr. S difficult. $\Delta = 677$ Km.
		- 55 - 58	iS	
860)		09 - 22 - 39	iPb	Small. Dilat. $\Delta b = 121\pm$ Km.
		- 53	iSb	
861)		12 - 23 - 38	iPg	Very small. $\Delta g = 92\pm$ Km.
		- 49±	iSg	
862)		13 - 21 - 12	iP	Very small. Compr. 5900± Km. $= 53^{\circ}.1$
		- 28 - 47	iS	

	Date	Time (GMT)	Phase	Remarks
863)	5	07 - 56 - 20±	iP	Small to medium. Compr. Δ = 7155± Km. = 64°.4
		08 - 05 - 06±	iS	
864)		17 - 19 - 00	iP	Very small. S indet.
865		19 - 22 - 23	iPb	Small to medium. Compr. to N±. Δb = 192± Km. Felt Laoag IV· Bucay, Abra III-IV.
		- 45	iSb	
866)		20 - 02 - 27±	iPb	Very small. Δb = 470± Km.
		03 - 20	iSb	
867)	6	07 - 15 - 23	iPb	Very small. Dilat. Δb = 192± Km.
		- 45±	iSb	
868)		08 - 00 - 17	iPb	Very small. Dilat. Δb = 219± Km.
		- 42	iSb	
869)		10 - 34 - 41	iPb	Very small. Δb = 246± Km.
		- 35 - 09±	iSb	
870)		10 - 47 - 49	iPb	Very small. Compr. Δb = 121± Km.
		- 48 - 03±	iSb	
871)		11 - 26 - 34	iPb	Small. Δb = 447± Km.
		27 - 30	iSb	
872)		14 - 07 - 32	iPb	Small to moderate. Δb = 524± Km.
		- 08 - 31±	iSb	
873)		14 - 17 - 50	iPb	Very small. Dilat. Δb = 569± Km.
		- 18 - 54±	iSb	
874)		14 - 42 - 18	iPb	Very small. Δb = 532± Km.
		- 43 - 18±	iSb	
875)		14 - 55 - 58	iPb	Very small. Δb = 658± Km.
		- 57 - 13±	iSb	
876)		15 - 04 - 38	iPb	Very small. Δb = 569± Km.
		05 - 42	iSb	
877)		15 - 09 - 31	iPb	Very small. Δb = 540± Km.
		- 10 - 32±	iSb	
878)		16 - 48 - 09	iPb	Medium to large. Dilat. Δb = 515 Km.
		- 49 - 07	iSb	
879)		17 - 31 - 46	iPb	Very small. S indeterminate.
880)		18 - 39 - 10	iPb	Small. Compr. to NE. Δb = 694± Km.
		- 40 - 18±	iSb	
881)		18 - 51 - 30	iPb	Very small. Compr. S indet.
882)		19 - 09 - 23	iPb	Very small. Δb = 600± Km.
		- 10 - 31	iSb±	
883)		20 - 12 - 49	iPb	Small. Δb = 524± Km.
		- 13 - 48±	iSb	
884)		20 - 31 - 28	iPb	Small. Compr. Δb = 497± Km.
		- 32 - 24	iSb	
885)		23 - 56 - 00	iPb	Small. Dilat. Δb = 569± Km. Basco II.
		- 57 - 04±	iSb	
886)	7	00 - 36 - 21	iPb	Moderate. Compr. Δb = 793± Km. Basco III.
		- 37 - 50±	iSb	
887)		00 - 59 - 56	iP	Very small. S indeterminate.
888)		02 - 11 - 12	iPb	Very small. Δb = 551± Km.
		- 12 - 14	iSb	

	Date	Time (GMT)	Phase	Remarks
889)	7	03 - 20 - 48±	iPb	Very small. Δb = 354± Km.
		21 - 28	iSb	
890)		03 - 40 - 08	iPb	Small. Compr. Δb = 497± Km.
		- 41 - 04±	iSb	
891)		04 - 38 - 48	iPb	Very small. Δb = 497± Km.
		- 39 - 44±	iSb	
892)		08 - 15 - 08	iPb	Very small. Δb = 461± Km.
		- 16 - 00±	iSb	
893)		10 - 00 - 41	iPb	Very small. Δb = 129± Km.
		- 56	iSb	
894)		10 - 22 - 04	iPb	Very small. Δb = 604± Km.
		23 - 12±	iSb	
895)		13 - 26 - 10	iPb	Very small. Δb = 526± Km.
		- 27 - 09±	iSb	
896)		17 - 51 - 12	iPb	Very small. Δb = 156± Km.
		- 30±	iSb	
897)	8	02 - 42 - 25	iPb	Very small. Δb = 632± Km.
		- 43 - 35±	iSb	
898)		03 - 15 - 00±	iPb	Very small. Δb = 497± Km.
		- 56±	iSb	
899)		05 - 44 - 22	iPb	Very small. Δb = 515± Km.
		45 - 20±	iSb	
900)		10 - 26 - 13	iPb	Small. Compr. to N±. Δb = 138± Km.
		- 36±	iSb	
901)		16 - 27 - 46±	iPb	Very small. Δb = 632± Km.
		- 28 - 56±	iSb	
902)	9	0/ - 13 - 22	iP	Small to moderate. Dilat. Orleansville, Algeria quake. Only way to make things square is by depth of 600 Km. but no sign of ipP or isS. If Δ_{600} Km. then Δ = 11,555± Km. = 104°.
		- 23 - 10±	iSKS	
903)	10	20 - 10 - 25	iPb	Small. Δb = 246± Km.
		- 53	iSb	
904)	11	01 - 27 - 33	iPg	Very small. Compr. Δg = 102± Km.
		- 45	iSg	
905)		13 - 16 - 11	iPb	Very small. Compr. Δb = 174 Km.
		- 31	iSb	
906)	12	05 - 06 - 39	iPb	Very small. Δb = 142 Km.
		- 07 - 07±	iSb	
907)		05 - 34 - 52	iPg	Very small. Δg = 92± Km.
		- 35 - 03	iSg	
908)		07 - 49 - 30	iP	Small. Deep focus. 100± Km. Δ_{100} = 4000 Km. = 36°.
		- 49 - 47	ipP	
		- 55 - 01	iS	
		- 55 - 49	isS	
909)		10 - 26 - 16	iPb	Very small. Δb = 435 Km.
		- 27 - 05	iSb	

	Date	Time (GMT)	Phase	Remarks
910)	12	11 - 02 - 11	iPb	Very small. $\Delta b = 354^{\pm}$ Km.
		- 51±	iSb	
911)		15 - 51 - 00±	iP	Very small. S indeterminate.
912)		18 - 30 - 13	iPb	Very small. $\Delta b = 246^{\pm}$ Km.
		- 41	iSb	
913)		19 - 19 - 09	iPb	Very small. $\Delta b = 748^{\pm}$ Km.
		- 20 - 33	iSb	
914)		22 - 05 - 48±	iPg	Very small. $\Delta g = 76^{\pm}$ Km.
		- 57±	iSg	
915)	13	02 - 21 - 12	iP	Moderate. Dilat. $\Delta = 7910^{\pm}$ Km.
		- 30 - 24±	iS	
916)		03 - 38 - 24	iPb	Very small. $\Delta b = 183^{\pm}$ or $417^{\pm}$ Km.
		38 - 45±	iSb	
		or 39 - 11		
917)		16 - 13 - 37	iPb	Very small. Dilat. $\Delta b = 264^{\pm}$ Km.
		- 14 - 07	iSb	
918)		17 - 39 - 57	iPb	Very small. Compr. $\Delta b = 534^{\pm}$ Km.
		- 40 - 57±	iSb	
919)		18 - 13 - 48	iPb	Moderate to large. $\Delta b = 506^{\pm}$ Km.
		- 14 - 45±	iSb	
920)		18 - 20 - 27	iPb	Moderate. Dilat. $\Delta b = 524^{\pm}$ Km.
		- 21 - 26±	iSb	
921)		19 - 23 - 55	iPb	Small. $\Delta b = 569^{\pm}$ Km.
		- 24 - 59±	iSb	
922)		19 - 53 - 10	iPb	Very small. $\Delta b = 543^{\pm}$ Km.
		- 54 - 11±	iSb	
923)		20 - 24 - 02	iPb	Very small. Compr. $\Delta b = 543^{\pm}$ Km.
		- 25 - 03±	iSb	
924)		21 - 28 - 22±	iPb	Very small. $\Delta b = 524^{\pm}$ Km.
		- 29 - 21±	iSb	
925)	14	00 - 49 - 30	iPb	Medium to large. Dilat. $\Delta b = 506^{\pm}$ Km. FELT BASCO U.
		- 50 - 27	iSb	
926)		03 - 50 - 11	iPb	Very small. $\Delta b = 444^{\pm}$ Km.
		- 51 - 02±	iSb	
927)		04 - 37 - 45±	iPb	Very small. $\Delta b = 551^{\pm}$ Km.
		- 38 - 47±	iSb	
928)		07 - 23 - 08	iP	Very small. Teleseismic. S indet.
929)		18 - 25 - 02	iPb	Very small. $\Delta b = 524^{\pm}$ Km.
		26 - 01	iSb	
930)		20 - 52 - 24	iPb	Very small. $\Delta b = 497^{\pm}$ Km.
		- 53 - 20±	iSb	
931)	15	02 - 34 - 22±	iPb	Very small. $\Delta b = 174^{\pm}$ Km.
		- 42	iSb	
932)		12 - 31 - 21	iPb	Very smll. $\Delta b = 569^{\pm}$ Km.
		- 32 - 25	iSb	
933)		15 - 17 - 46	iPb	Very small. $\Delta b = 470$ Km.
		- 18 - 39	iSb	
934)		18 - 06 - 21	iP	Small. Compr. to NW. $\Delta = 6680^{\pm}$ Km. = 60°.1
		- 14 - 41	iS	

	Date	Time (GMT)	Phase	Remarks
935)	16	02 - 04 - 11	iPb	Very small. Δb = 587± Km.
		- 05 - 17±	iSb	
936)		20 - 55 - 29	iPb	Very small. Δb = 174± Km.
		- 49	iSb	
937)	17	01 - 20 - 35	iP	Small. Dilat. to S±. Δ = 4200± Km. = 37°.7
		- 26 - 35±	iS	
938)		02 - 16 - 49	iPb	Very small. Δb = 129± Km.
		- 17 - 04±	iSb	
939)		04 - 18 - 19	iPb	Very small. Δb = 174± Km.
		- 39	iSb	
940)		06 - 09 - 11	iPb	Very small. Compr. Δb = 174± Km.
		- 31	iSb	
941)		07 - 35 - 21	iPb	Moderate. Compr. to NE. Δb = 838± Km.
		- 36 - 55	iSb	(Double.)
942)		11 - 14 - 18	iP	Moderate. Dilat. Δ = 7480± Km. = 67°.3
		- 23 - 19±	eS	
943)		12 - 50 - 47	iPb	Very small. Δb = 444± Km.
		- 51 - 37	iSb	
944)		13 - 37 - 11	iPg	Very small. Dilat. Δg = 23 Km.
		- 14	iSg	
945)		14 - 49 - 55	iP	Very small. Δ = 2420± Km. = 21°.8
		- 53 - 55±	iS	
946)	18	03 - 34 - 27±	iPb	Very small. Δb = 318± Km.
		- 35 - 03	iSb	
947)		15 - 36 - 23	iP	Small. Teleseismic. Compr. S difficult.
			eS?	
948)		17 - 54 - 56	iPg	Very small. Δg = 109 Km.
		- 55 - 09	iSg	
949)		21 - 27 - 57	iPg	Very small. Compr. Δg = 23± Km. Blast?
		- 28 - 00	iSg	
950)		22 - 09 - 08	iPb	Very small. Compr. Δb = 121 Km.
		- 22	iSb	
951)	19	01 - 36 - 45	iPb	Very small. Δb = 497± Km.
		- 37 - 41	iSb	
952)		04 - 11 - 43	iPg	Small. Δg = 23± Km. Ambuklao blast.
		- 46	iSg	
953)		19 - 09 - 43	iPb	Very small. Compr. Δb = 426± Km.
		- 10 - 31	iSb±	
954)		21 - 42 - 17	iPb±	Very small. Δb = 273± Km.
		- 48	iSb	
955)	20	00 - 43 - 44	iP	Small. Compr. to SW? Δ = 2020± Km. = 18°.2
		- 47 - 11±	iS	
956)	21	03 - 45 - 33	iP	Very small. Deep focus? S indet.
		?	iS?	
957)		04 - 58 - 21	iP	Very small. Dilat. S indet.
		?	iS	

	Date	Time (GMT)	Phase	Remarks
958)	21	07 - 40 - 05	iPg	Small. Compr. $\Delta g = 23^{\pm}$ Km.
		- 08$^{\pm}$	iSg	
959)		09 - 15 - 45	iPg	Very small. $\Delta g = 94^{\pm}$ Km.
		- 56$^{\pm}$	iSg	
960)		09 - 47 - 06	iP	Very small. Dilat. S indet.
		?	iS	
961)		14 - 57 - 02	iPb	Very small. $\Delta b = 121^{\pm}$ Km.
		- 16$^{\pm}$	iSb	
962)		22 - 40 - 49	iPb	Very small. $\Delta b = 129^{\pm}$ Km.
		41 - 04	iSb	
963)		23 - 37 - 27	iPb	Very small. $\Delta b = 524^{\pm}$ Km.
		- 38 - 24$^{\pm}$	iSb	
964)	23	04 - 48 - 41	iPb	Very small. $\Delta b = 165$ Km.
		- 49 - 00	iSb	
965)		21 - 51 - 46	iP	Very small. $\Delta = 4580$ Km. = $41^{\circ}.2$
		- 58 - 08$^{\pm}$	eS	
966)	24	21 - 26 - 01	iPb$^{\pm}$	Very small. $\Delta b = 219^{\pm}$ Km.
		- 26	iSb	
967)	26			
		06 - 27 - 14	**iPb**	**Very small. $\Delta b = 129$ Km.**
968)		**- 29**	**iSb**	
969)	28	13 - 04 - 44$^{\pm}$	iP	Very small. Teleseismic. S indefinite.
970)		13 - 40 - 57	iPg	Small to moderate. Dilat. to SW. $\Delta g =$
		- 41 - 08	iSg	$94^{\pm}$ Km.
971)	29	02 - 10 - 04	eP	Very small. S indefinite. Possibly tele-
		- 12 - 00$^{\pm}$	Phase?	seismic.
972)		02 - 44 - 51	iPg	Small. Dilat. to SW? $\Delta g = 94^{\pm}$ Km.
		- 45 - 02$^{\pm}$	iSg	
973)		11 - 28 - 05	iPg	Very small. Dilat. to SW. $\Delta g = 112^{\pm}$ Km.
		- 18	iSg	
974)	30	00 - 01 - 32	iPb	Very small. Dilat. to S$^{\pm}$. $\Delta b = 121$ Km.
		- 46	iSb	
975)		03 - 15 - 08	iPb	Very small. Compr. $\Delta b = 377^{\pm}$ Km.
		- 50$^{\pm}$	iSb$^{\pm}$	
976)		05 - 37 - 48	iPb	Very small. $\Delta b = 92$ Km.
		- 59	iSb	
977)		14 - 20 - 21$^{\pm}$	iPg	Very small. $\Delta g = 67^{\pm}$ Km.
		- 29$^{\pm}$	iSg	
978)		15 - 21 - 24$^{\pm}$	iPg	Very small. $\Delta g = 67^{\pm}$ Km.
		- 32$^{\pm}$	iSg	

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MANILA OBSERVATORY
Mirador, Baguio City
Philippines

MONTHLY SEISMOLOGICAL BULLETIN

Lat. N. 16° 24' 39" Long. E. 120° 34' 47" Alt. 1507 meters

Instruments (All Sprengnethers) Hard Limestone Bedrock

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.44 sec	1.42 sec	2685	1910
	E-W	10.85 "	12.00 "	2545	1855
	N-S	1.82 "	1.60 "	4826	4930
Photoelectric. Visual recording.	N-S	11.90 "	12.00 "	Variable. Tests for optimum magnification.	
	E-W	1.53 "	1.70 "		

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OCTOBER 1954

	Date	Time (GMT)	Phase	Remarks
979)	1	01 - 32 - 25	iPb	Small. Dilat. Δb = 138± Km.
		- 41	iSb	
980)		01 - 41 - 31	iPb	Small. Compr. Δb = 165± Km. Twin of preceding?
		- 50±	iSb	
981)		03 - 04 - 47	iP	Small to medium record. Dilat. Δ = 5965± Km. 53°.7. Possibly deep focus.
		- 12 - 26±	iS	
982)		03 - 54 - 35	iPb	Very small. Δb = 165 Km.
		- 54	iSb	
983)	2	00 - 47 - 50±	iPb	Very small. Δb = 165± Km.
		- 48 - 09	iSb	
984)		04 - 08 - 54	iPb	Very small. Compr. to N±. Δb = 461 Km.
		- 09 - 46	iSb	
985)		10 - 05 - 02	iP	Moderate. S difficult. Possibly deep focus. Δ = 2045± Km. = 18°.4
		- 08 - 31±	iS	
986)	3	02 - 56 - 31	eiP	Medium to large. Dilat. Δ = 5790± Km. = 52°.1.
		03 - 04 - 00	iS	
987)		08 - 57 - 07	iPb	Small. Dilat. to S? Δb = 156 Km.
		- 25	iSb	
988)		09 - 55 - 06	iPb	Very small. Δb = 556 Km.
		- 56 - 08	iSb	
989)		11 - 30 - 24	iP	Small. Small dilat. then large. compr. Δ = 8200± Km. = 73°.8.
		40 - 00	eS	
990)		19 - 22 - 55	iPg±	Very small. Δg = 109± Km.
		23 - 08	iSg±	
991)	4	01 - 35 - 27	iPb	Small. Compr. Δb = 829± Km. Interpretation tentative. May be teleseismic.
		- 37 - 00±	iSb	
992)		08 - 15 - 04	iP	Very small. Compr. Δ = 1190 Km. = 10°.7.
		17 - 15±	iS	

	Date	Time (GMT)	Phase	Remarks
993)	4	09 - 42 - 11	iP	Small. Dilat. Δ = 5810± Km. = 52°.3
		- 49 - 41±	eS	
994)		16 - 03 - 01±	iP	Very small. Dilat. S indeterm.
995)		17 - 35 - 47	iPb	Very small. Δb = 174± Km.
		- 36 - 07	iSb	
996)	5	04 - 23 - 40±	eP	Very small. Δ = 3245± Km. = 29°.2
		- 28 - 40±	eS	
997)		11 - 27 - 00	iPg	Very small. Δg = 92± Km.
		- 11	iSg	
998)		11 - 49 - ±	e	Teleseismic traces.
999)		16 - 37 - 22	iPb	Small. Compr. to NE. Δb = 138 Km.
		- 38	iSb	
1000)	6	02 - 29 - 25±	iPg	Very small. Δg = 84± Km.
		- 35	iSg	
1001)	7	02 - 55 - 04±	iP	Very small. S indeterminate.
1002)		08 - 25 - ±	e	Long teleseismic waves.
1003)		09 - 01 - 11±	iPb	Very small. Δb = 291± Km.
		- 01 - 44	iSb	
1004)		11 - 23 - 35±	iPb	Very small. Δb = 354± Km.
		- 24 - 15	iSb	
1005)		15 - 26 - 26	iPb	Very small. Δb = 651± Km.
		27 - 39±	iSb	
1006)		19 - 26 - 00	iP	Very small. S indeterminate.
1007)	8	13 - 36 - 38±	iP	Very small. S indeterminate. Large typhoon micros.
1008)		13 - 37 - 48±	iPb	Very small. Δb = 129± Km.
		- 38 - 03	iSb	
1009)		13 - 46 - 50	iPb	Very small. Δb = 246± Km.
		- 47 - 18	iSb	
1010)	9	03 - 49 - 20±	iPb	Very small. Δb = 308± Km.
		- 55	iSb	
1011)		06 - 05 - 58	iPb	Very small. Δb = 192 Km.
		- 06 - 20	iSb	
1012)		09 - 45 - 10	iPb	Small. Dilat. Δb = 219 Km.
		- 35	iSb	
1013)		10 - 01 - 56	iPb	Small. Dilat. Δb = 192 Km.
		- 02 - 18	iSb	
1014)		17 - 07 - 59	iPb±	Very small. Δb = 497± Km.
		- 08 - 55	iSb±	
1015)	10	16 - 56 - 56	iPb	Very small. Δb = 255 Km.
		- 57 - 25	iSb	
1016)	11	01 - 51 - 41	iPb	Very small. Δb = 228± Km.
		- 52 - 07±	eSb	
1017)		06 - 29 - 39	iPb	Very small. Δb = 363 Km. Felt Daet III.
		- 30 - 20	iSb	

	Date	Time (GMT)	Phase	Remarks
1018)	11	13 - 25 - 33	iP	Very small. S indeterminate.
1019)		15 - 23 - 03	iPg	Very small. $\Delta g = 109^{\pm}$ Km.
		- 16±	iSg	
1020)		17 - 21 - 05	iP	Very small. Dilat. $\Delta = 6355$ Km. $= 57^{\circ}.2$.
		23 - 23±	iPR_1	
		- 29 - 06	eS	
1021)	12	11 - 46 - 06	iPb	Very small. dilat. $\Delta b = 237$ Km.
		- 33	iSb	NB. Power off 14^h-15^m to 19^h 16^m.
1022)		12 - 23 - 56	iPg	Very small. Dilat. $\Delta g = 41^{\pm}$ Km.
		- 24 - 01	iSg	
1023)		23 - 29 - 33	iPb	Very small. Compr. $\Delta b = 228$ Km.
		- 59	iSb	
1024)		23 - 43 - 41	iPg	Very small. $\Delta g = 68^{\pm}$ Km.
		- 49±	iSg	
1025)	13	04 - 04 - 19	iPb	Small. $389^{\pm}$ Km.
		- 43±	iSb	
1026)		04 - 38 - 36	iPb	Very small. $\Delta b = 138^{\pm}$ Km.
		- 52	iSb	
1027)		23 - 44 - 06	iPg	Very small. $\Delta g = 99^{\pm}$ Km.
		- 17	iSg	
1028)	14	01 - 40 - 25	iP	Moderate. Dilat. May be deep focus. If not, $\Delta = 2855$ Km. $= 25^{\circ}.7$. If deep, possibly $\Delta 250$ Km. $= 28^{\circ}.0$.
		- 44 - 58	iS	
1029)	15	06 - 58 - 42	iP	Very small. Local. S indefinite.
1030)	16	03 - 53 - 29	iPb	Very small. $\Delta b = 221$ Km.
		- 54	iSb	
1031)		09 - 08 - 18	iP	Small. $\Delta g = 84$ Km.
		- 28	iS	
1032)		11 - 46 - 54	iPb	Very small. $\Delta b = 721$ Km.
		47 - 15	iSb	
1033)		20 - 43 - 04	iPg	Very small. Compr. $\Delta g = 109$ Km.
		- 17	iSg	
1034)	17	01 - 36 - 22	iPb	Small. P cresc. $\Delta b = 524^{\pm}$ Km.
		- 37 - 21±	iSb	
1035)		01 - 49 - 37±	iPb	Very small. $\Delta b = 345^{\pm}$ Km.
		- 50 - 16	iSb	
1036)		23 - 23 - ff.		Very small. Teleseismic traces.
1037)	19	01 - 04 - 07	iPb	Moderate. Dilat. P cresc. $\Delta b = 174^{\pm}$ Km.
		- 27±	iSb	
1038)		07 - 23 - 42	iPb	Very small. P cresc. $\Delta b = 174$ Km.
		- 24 - 02	iSb	
1039)		12 - 05 - 12	iPb	Very small. $\Delta b = 174$ Km.
		- 32	iSb	

	Date	Time (GMT)	Phase		Remarks
1040)	20	00 - 55 - 29	iPb	}	Very small. Δb = 121± Km.
		- 43±	iSb	}	
1041)		13 - 56 - 40	iP		Very small. S indeterminate. Teleseismic?
1042)		21 - 19 - 23	iPb	}	Very small. Compr. Δb = 121 Km.
		- 37	iSb	}	
1043)		22 - 29 - 20	iPb	}	Very small. Compr. Δb = 129 Km.
		- 35	iSb	}	
1044)		23 - 46 - 59	iPb	}	Small. Dilat. to NE? Δb = 174 Km.
		- 47 - 19±	iSb	}	
1045)	21	04 - 08 - 44	iPb	}	Very small. Dilat. to N±? Δb = 201 Km.
		- 09 - 07	iSb	}	
1046)		06 - 38 - 07	iPb	}	Very small. Δb = 121± Km.
		- 21±	iSb	}	
1047)		06 - 50 - 23	iPg	}	Very small. Compr. to S±. Δg = 94 Km.
		- 34	iSg	}	
1048)		10 - 22 - 10	iPb	}	Very small. Δb = 121± Km.
		- 24±	iSb	}	
1049)	22	05 - 58 - 10	iPb	}	Very small. Dilat. Δb = 148 Km.
		- 27	iSb	}	
1050)		07 - 42 - 20	iPb	}	Very small. P cresc. Δb = 327± Km.
		- 57±	iSb	}	
1051)		15 - 01 - 00	iPg	}	Very small. Compr. Δg = 49± Km.
		- 06±	iSg	}	
1052)		22 - 16 - 01	iPg	}	Small. Δg = 49 Km.
		- 07	iSg	}	
1053)		22 - 51 - 26	iPb	}	Very small. Δb = 282 Km.
		- 58	iSb	}	
1054)	23	05 - 19 - 17	iPg	}	Very small. Compr. to S? Δ g = 67± Km.
		- 25±	iSg	}	
1055)		08 - 23 - 43	iPg	}	Very small. Δ g = 58 Km.
		- 50	iSg	}	
1056)	24	00 - 52 - 35±	i, ff.		Very small. Teleseismic. Difficult.
1057)		11 - 45 - ±	e		Teleseismic long waves.
1058)		13 - 54 - 44	i		Very small. P cresc. S difficult.
1059)		18 - 27 - 40	iPb	}	Very small. Δb = 259± Km.
		- 28 - 10±	iSb	}	
1060)	25	00 - 15 - 32	iP		Very small. Compr. to N? S difficult.
1061)		12 - 53 - ±			Very small. No time marks. S-P = 61^s Δ = 552± Km.
1062)		06 - 19 - 35	iP		Very small. Dilat. to S. S difficult.
1063)	26	08 - 09 - 53	iPg	}	Very small. Δ g = 50± Km.
		- 59	iSg	}	
1064)		09 - 52 - 32±	iPg	}	Very small. Δ g = 58± Km.
		- 39	iSg	}	
1065)		16 - 44 - 06	iPg	}	Very small. Δ g = 68± Km.
		- 14	iSg	}	
1066)		18 - 28 - 56	iPb	}	Very small. Dilat. to S? Δb = 147±
		29 - 13	iSb	}	Km.

	Date	Time (GMT)	Phase	Remarks
1067)	27	02 - 03 - 57	iPb	Very small. Dilat. Δb = 273 Km.
		- 04 - 28	iSb	
1068)		07 - 44 - 12	iPg	Very small. Δg = 92± Km.
		- 23	iSg	
1069)		08 - 21 - 11	iPg	Large. Δg = 40± Km. S diff.-(Record too large) Felt Int. II Baguio. NB. Strong motion seism. gave small record Dufax, Nueva Vizcaya, Int. IV.
		- 16±	iSg	
1070)		09 - 52 - 28	iPg	Very small. Dilat. Δg = 40± Km.
		- 33	iSg	
1071)		16 - 17 - 52	iPg	Very small. Δg = 40± Km.
		- 57	iSg	
1072)		16 - 42 - 45	iPg	Very small. Δg = 40± Km.
		- 50	iSg	
1073)		18 - 28 - 21	iPg	Very small. Δg = 40± Km.
		- 26	iSg	
1074)		19 - 26 - 53	iPg	Very small. Δg = 40± Km.
		- 58	iSg	
1075)		20 - 14 - 07	iPb	Very small. Δb = 301± Km.
		- 41	iSb	
1076)		22 - 20 - 12 ff.	i	Teleseism traces.
1077)	28	06 - 25 - 04	i	Very small. Teleseism?
1078)		12 - 54 - 29	iPg	Small. Dilat. to SE? Δg = 50 Km.
		- 35	iSg	
1079)		14 - 00 - 23	iPg	Very small. Δg = 41± Km.
		- 28	iSg	
1080)		15 - 25 - 33	iPb	Very small. Compr. Δb = 156±Km.
		- 51	iSb	
1081)	29	NB. Power off. 09 - 47 to 12 - 22.		
1082)		06 - 55 - 09	iPb	Small. Dilat. Δb = 111 Km.
		- 22	iSb	
1083)		07 - 01 - 36	i	Very small.
1084)		15 - 03 - 22	iPb	Very small. Δg = 111 Km.
		- 35	iSb	
1085)		21 - 59 - 59	iPb	Small. Δb = 407 Km.
		22 - 00 - 45	iSb	
1086)	30	15 - 47 - 06	iPb	Very small. Δg = 40 Km.
		- 11	iSb	
1087)		16 - 43 - 37±	i	Traces.
1088)		22 - 07 - 30	e	Teleseismic traces.
1089)	31	23 - 23 - 02	iP	Very small. Dilat. Δ = 6,610± Km. = 59°.5.
		- 31 - 18	eS	

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MANILA OBSERVATORY
Mirador, Baguio City
Philippines

MONTHLY SEISMOLOGICAL BULLETIN

Lat. N. 16° 24' 39" Long. E. 120° 34' 47" Alt. 1507 meters

Instruments (All Sprengnethers) Hard Limestone Bedrock

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.44 sec	1.42 sec	2685	1910
	E-W	10.85 "	12.00 "	2545	1855
	N-S	1.82 "	1.60 "	4826	4930
Photoelectric.	N-S	11.90 "	12.00 "	Variable. Tests for	
Visual recording.	E-W	1.53 "	1.70 "	optimum magnification.	

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NOVEMBER 1954

	Date	Time (GMT)	Phase	Remarks
1090)	1	11 - 44 - 45	iP	Very small. Δ = 1520± Km.
		- 47 - 27±	eS	
1091)	2	08 - 29 - 43	iP	Small. Compr. Δ = 2720± Km. = 24°.5
		- 34 - 06±	eS	
1092)		10 - 11 - 10±	i	Very small. Large micros.
1093)		10 - 45 - 16±	iPb	Very small. Δb = 156± Km.
		- 34	iSb	
1094)		11 - 09 - 58	iPg	Very small. Δg = 98± Km.
		10 - 09	iSg	
1095)	4	14 - 38 - 15	iPg	Small. Dilat. Δg = 33± Km.
		- 19±	iSg	
1096)	5	18 - 56 - 05	iPb	Very small. Δb = 318 Km.
		- 41	iSb	
1097)		22 - 55 - 30±	iPb	Very small. Δb = 126± Km.
		- 44±	iSb	
1098)	6	04 - 01 - 14	iPg	Small. Δg = 23 Km. Ambuklao blast?
		- 17	iSg	
1099)		13 - 09 - 07	iPb	Small. Compr. Δb = 318 Km.
		- 10 - 43	iSb	
1100)		17 - 05 - 19	iPb	Very small. Δb = 318 Km.
		- 55	iSb	
1101)	7	01 - 00 - 27	iPg	Very small. Dilat. to S±. Δg = 33 Km.
		- 31	iSg	
1102)		08 - 12 - 44	iPb	Very small. Δb = 417 Km.
		- 13 - 31	iSb	
1103)		21 - 55 - 28	iPb	Very small. Δb = 318 Km.
		- 56 - 04	iSb	

	Date	Time (GMT)	Phase	Remarks
1104)	8	15 - 38 - 30	iPb	Very Small. Δb = 174± Km.
		- 50±	iSb	
1105)		23 - 14 - 20	i	Very small. Large Micros.
1106)	9	05 - 41 - 40	iPb	Very small. Compr. Δb = 174± Km.
		- 42 - 00±	iSb	
1107)	11	16 - 52 - 03±	iPb	Very small. Δb = 183± Km.
		- 24	iSb	
1108)		20 - 28 - 48±	iPg	Very small. Δg = 68± Km.
		- 56±	iSg	
1109)		23 - 06 - 36	iPb	Very small. Δb = ~~224~~ 246 Km.
		- 07 - 04	iSb	
1110)		23 - 27 - 37±	iPg	Very small. Δg = 41± Km.
		- 42	iSg	
1111)	12	06 - 22 - 06	iPb	Very small. Δb = 156 Km.
		- 24	iSb	
1112)		11 - 05 - 12	iPb	Very small. Δb = 138 Km.
		- 28	iSb	
1113)		12 - 53 - ff	e	Small. Teleseismic traces.
1114)	13	13 - 29 - 08	iP	Very small. Δ = 1765 Km. = 16°.9
		- 32 - 13	eS	
1115)		15 - 35 - 45	iPb	Small to moderate. Δb = 246 Km.
		- 36 - 13	iSb	
1116)	14	22 - 39 - 17	iPb	Small. Δb = 237 Km.
		- 44	iSb	
1117)	15	16 - 31 - 46	iP	Small. Δ = 2700 Km. = 24°.3
		36 - 08±	eS	
1118)	17	17 - 22 - 45	iP	Very small. Compr. Δ = 20 - 45± Km. = 18°.4
		- 26 - 22	iS	
1119)		23 - 01 - 48	iPb	Small. Δb = 470 Km.
		- 02 - 41±	iSb	
1120)	18	05 - 27 - 44	iPb	Very small. Δb = 255 Km.
		28 - 03±	iSb	
1121)	19	05 - 34 - 42	iP	Very small. S hidden by micros.
1122)		06 - 00 - 55	iP	Small. dilat. Δ = 2320± Km. = 20°.9
		- 04 - 47±	iS	
1123)		06 - 10 - 41	iS	Very small. P hidden in previous quake. Aftershock?
1124)		11 - 22 - 27	iPb	Very small. Compr. to S±. Δb = 147 Km.
		- 44	iSb	
1125)		16 - 59 - 08	iPg	Very small. Compr. Δ = 85 Km.
		- 18±	iSg	

	Date	Time (GMT)	Phase	Remarks
1126)	21	04 - 53 - 00	iP	Very small. Compr. Δ = 2345± Km. = 21°.1
		56 - 53±	iS	
1127)		05 - 08 - 41	iPg	Very small. Dilat. Δg = 109 Km.
		- 54	iSg	
1128)		07 - 49 - 18	iP	Very small. S indet. Teleseismic.
1129)		11 - 41 - 04	iPg	Very small. Δ g = 21 Km. Ambuklao blast?
		07±	iSg	
1130)		19 - 16 - 45	iPb	Very small. Δb = 354 Km. Felt Aurora
		- 17 - 25	iSb	Quezon III.
1131)	22	03 - 37 - 10	iPb	Very small. Dilat. Δb = 138 Km.
		- 26	iSb	
1132)		10 - 34 - 08	iPb	Very small. S difficult.
1133)		11 - 41 - 20	iPb	Very small. Δb = 497± Km.
		- 42 - 16±	iSb	
1134)		12 - 34 - 26	iPg	Very small. Dilat. Δg = 102 Km.
		- 38	iSg	
1135)	23	02 - 26 - 10±	i	Very small; teleseismic.
1136)		02 - 35 - 36±	iPb	Very small. Δb = 515± Km.
		36 - 34±	iSb	
1137)		05 - 56 - 28±	iP	Very small. Δ = 3435± Km. = 30°.9
		06 - 01 - 40±	eS	
1138)		10 - 26 - 07	iP	Very small. Δ = 5145± Km. = 46°.3
		- 33 - 00±	eS	
1139)		14 - 39 - 44±	iPb	Very small. Δb = 237± Km.
		- 40 - 11	iSb	
1140)		17 - 59 - 09	iPb	Very small. Δb = 308± Km.
		- 44	iSb	
1141)		21 - 21 - 32	iP	Very small. Δb = 6200± Km. = 55°.8
		- 29 - 24	eS	
1142)	24	00 - 43 - 54	iP	Very small. S indeterminate.
1143)		12 - 43 - 41	iPb	Very small. Δb = 408± Km.
		- 44 - 27±	iSb	
1144)		16 - 56 - 30	iPb	Very small. Δb = 398± Km.
		- 57 - 15	iSb	
1145)		22 - 11 - 23	iP	Very small. S indeterminate.
1146)	25	05 - 35 - 28	iPb	Small. Compression. Δb = 156± Km.
		- 46±	iSb	
1147)		07 - 20 - 53	iPb	Very small. Δb = 273± Km.
		- 21 - 24±	iSb?	
1148)		08 - 21 - 03±	i	Very small. Phases uncertain.
1149)		11 - 30 - 09	iP	Very small. Teleseismic. S uncertain.
1150)		12 - 12 - 00	i	Very small. Phases uncertain.
1151)		21 - 43 - 49	iP	Small. Dilat. Δ = 6635± Km. Possibly
		- 52 - 06±	eS?	deep focus.

	Date	Time (GMT)	Phase		Remarks
1152)	27	07 - 45 - 09	iPg	Very small.	$\Delta g = 84^{\pm}$ Km.
		- 19	iSg		
1153)		21 - 31 - 03	iPb	Very small.	$\Delta b = 991^{\pm}$ Km.
		- 32 - 54	iSb		
1154)	28	20 - 54 - 15	iPb	Very small.	$\Delta b = 308$ Km.
		- 50	iSb		
1155)	29	01 - 47 - 52	iPg	Very small. Compr.	$\Delta g = 92^{\pm}$ Km.
		- 48 - 03±	iSg		
1156)		02 - 59 - 56	iP	Very small.	Δ = approx. 1000± Km.
		03 - 03 - ±	L or M		
1157)		03 - 58 - 03	iP	Very small.	$\Delta b = 165^{\pm}$ Km.
		- 22±	eS?		
1158)	30	12 - 09 - 47	iPg	Very small.	$\Delta g = 104^{\pm}$ Km.
		- 10 - 00	iSg		

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MANILA OBSERVATORY
Mirador, Baguio City
Philippines

MONTHLY SEISMOLOGICAL BULLETIN

Lat. N. 16° 24' 39" Long. E. 120° 34' 47" Alt. 1507 meters

Instruments (All Sprengnethers) Hard Limestone Bedrock

Type	Component	Period Seism.	Period Galv.	Magnification (Dynamic) Maximum	Magnification (Dynamic) Synchronous
Photographic	Z	1.44 sec	1.42 sec	2685	1910
	E-W	10.85 "	12.00 "	2545	1855
	N-S	1.82 "	1.60 "	4826	4930
Photoelectric. Visual recording.	N-S	11.90 "	12.00 "	Variable. Tests for optimum magnification.	
	E-W	1.53 "	1.70 "		

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DECEMBER 1954

	Date	Time (GMT)	Phase	Remarks
1159)	1	12 - 21 - 46	iPg	Small. $\Delta g = 92^{\pm}$ Km.
		- 57	iSg	
1160)	3	04 - 05 - 26±	iPg	Small. $\Delta g = 102^{\pm}$ Km.
		- 38	iSg	
1161)		08 - 04 - 07	iPg	Very small. $\Delta g = 84^{\pm}$ Km.
		- 17	iSg	
1162)		15 - 23 - ±?	iP	Small. P indeterminate. Local?
		23 - 24	iS	
1163)		22 - 09 - ±?	iP	Very small. P indeterminate. Local?
		09 - 24	iS	
1164)	4	07 - 07 - 56	iP	Small. Compr. Possibly deep focus. If not, $\Delta = 4010^{\pm}$ Km. = 36°.1
		- 13 - 44±	eS	
1165)		18 - 09 - 42	iPb	Small to mod. Compr. to NW? $\Delta b = 148^{\pm}$ Km.
		- 59	iSb	
1166)		18 - 50 - 49	iPb	Very small. Compr. $\Delta b = 165$ Km.
		- 51 - 08	iSb	
1167)	5	19 - 33 - 23	iPg	Very small. Dilat. to S±. $\Delta g = 49^{\pm}$ Km.
		- 29±	iSg	
1168)	6	01 - 50 - 48	iPb	Very small. $\Delta b = 963^{\pm}$ Km.
		- 52 - 36±	iSb	
1169)		02 - 26 - 38	iPb	Very small. $\Delta b = 201^{\pm}$ Km.
		- 27 - 01±	iSb	
1170)		11 - 01 - 04	e	Very small. Phases uncertain. Teleseismic.
1171)		22 - 36 - 37	iPb	Very small. $\Delta b = 174^{\pm}$ Km.
		- 57	iSb	
1172)		23 - 55 - 07	iP	Very small. Compr. S indeterminate. Possibly teleseismic.

	Date	Time (GMT)	Phase		Remarks
1173)	7	00 - 29 - 59	iPb	}	Very small. △b = 281 Km.
		- 30 - 50	iSb	}	
1174)		14 - 51 - 53	iP	}	Small. Compr. △ = 1520± Km. = 13°.7
		- 54 - 35±	eS	}	
1175)	8	01 - 50 - 49	iPb	}	Small. △b = 255± Km.
		- 51 - 18±	iSb	}	
1176)		12 - 13 - 52	iPb	}	Very small. Dilat. △b = 273± Km.
		- 14 - 23±	eSb	}	
1177)	9	06 - 27 - 56	iPb	}	Very small. △b = 121± Km.
		- 28 - 10±	iSb	}	
1178)		22 - 06 - 23	iPb	}	Small. Compr. to N±. △b = 129 Km.
		- 38	iSb	}	
1179)	10	02 - 24 - 57±	iPb	}	Very small. △b = 121± Km.
		- 25 - 11	iSb	}	
1180)		12 - 53 - 47±	iPb	}	Very small. △b = 363± Km.
		- 54 - 28	iSb	}	
1181)	11	13 - 30 - ±	e		Small. Phases uncertain. Teleseismic.
1182)		19 - 04 - 08	iPb	}	Very small. △b = 264 Km.
		- 38	iSb	}	
1183)	12	07 - 59 - 23	iPg	}	Very small. Ambuklao blast? △g = 23 Km.
		- 26	iSg	}	
1184)	13	09 - 22 - 56±	iP		Very small. S indeterminate.
1185)		22 - 42 - 34	iP		Very small. S indeterminate. From L or M. △ = approx. 1665 Km? N.B. Davao int. II, Hinatuan, int. II.
1186)	14	09 - 06 - 41	iPb	}	Very small. △b = 291 Km.
		- 07 - 14	iSb	}	
1187)	15	16 - 07 - 12	iPb	}	VERY Small. △b = 389 Km.
		- 44	iSb	}	
1188)	16	07 - 09 - 43	iPg	}	Small. Dilat. To N±. △g = 84± Km.
		- 53	iSg	}	
1189)		11 - 27 - ±	eP	}	Small. Teleseismic. Phases difficult. Approx. △ = 9500 Km. = 86°
		- 35 - 00±	eS	}	
		- 55 - ±	L or M	}	
1190)		19 - 06 - 24	iPb	}	Small. Dilat. to NW. △b = 156 Km.
		- 42	iSb	}	
1191)	17	00 - 07 - 57	iPg	}	Very small. △g = 68± Km.
		- 08 - 05	iSg	}	
1192)	19	03 - 05 - 37	iPg	}	Small. Dilat. to N±. △g = 117± Km.
		- 51	iSg	}	

	Date	Time (GMT)	Phase	Remarks
1193)	19	05 - 22 - ±		Teleseismic traces.
1194)		08 - 55 - 47	iPb	Very small. Δ b = 129± Km.
		- 56 - 02	iSb	
1195)		10 - 44 - ±?	eP	Very small. Teleseismic. Phases very difficult. L = 11-09-20±?
		- 55 - 00	eS	
1196)	20	02 - 54 - 22	iPg	Very small. Δg = 58± Km.
		- 29	iSg	
1197)		17 - 47 - 35	iPg	Very small. Δg = 92± Km.
		- 46	iSg	
1198)	21	01 - 23 - 16 or 21	eP±	Small. S indeterminate.
1199)		02 - 48 - 58	iPb	Small. Dilat. to SW? Δb = 407± Km.
		- 49 - 44±	iSb	
1200)		11 - 00 - 28	iPb	Very small. Δb = 219± Km.
		- 53	iSb	
1201)		12 - 03 - 44	iP	Very small. Δ = 3435± Km. = 30°.9
		08 - 56±	eS	
1202)		04 - 10 - ±	eP	Very small. S indeterminate. Teleseismic.
1203)	22	04 - 25 - 56	iP	Very small. Compr. to SW? Δ = 4200± Km. = 37°.8
		31 - 56	iS	
1204)	23	04 - 55 - 12	iPb	Very small. Δb = 587± Km.
		- 56 - 18±	iSb	
1205)		15 - 21 - 12±	iPb	Very small. Δb = 228± Km.
		- 38±	iSb	
1206)	24	01 - 05 - 17	iPb	Very small. Dilat. Δb = 264± Km.
		- 47	iSb	
1207)		02 - 40 - 30	iP	Very small. S difficult. Δ= 2245± Km. = 20°.2
		- 44 - 15±	eS?	
1208)		11 - 38 - 03±	iPb	Very small. No time marks. Δb = 615± Km.
		- 39 - 10±	iSb	
1209)	25	05 - 34 - 16	iPg	Very small. Δg = 23 Km.±
		- 19	iSg	
1210)	26	03 - 46 - 04	iP	Very small. Δ = 3320± Km. = 29°.9 but possibly deep focus.
		- 51 - 09±	eS	
1211)		13 - 28 - 47	iPb	Small. Dilat.; to NW? Δb = 165 Km.
		- 29 - 06	iSb	
1212)		23 - 49 - 57±	iPb	Very small. Δb = 201± Km.
		- 50 - 20±	iSb	
1213)	27	06 - 52 - 41	iP	Small. Compr. to SE? Δ= 2245± Km. = 22°.0. Possibly very deep focus, since practically no surface waves at all.
		- 56 - 42	iS	

	Date	Time (GMT)	Phase	Remarks
1214)	28	01 - 08 - 02±	iP	Small. Compr. Possibly deep focus. If not, Δ = 4335± Km. = 39°.3
		- 14 - 12±	eS	
1215)		07 - 25 - ff.		Teleseismic traces.
1216)		15 - 05 - 56	iPb	Very small. S difficult.
		- 06 - 34±	iSb	
1217)	29	11 - 48 - 16±	iP	Very small. Teleseismic. Δ = 4220± Km. = 38°.0.
		- 54 - 17±	eS	
1218)	30	11 - 43 - 06	iP	Very small. Teleseismic.
		- 52 - ±	e	
1219)	31	11 - 37 - 49±	iPg	Very small. Δ_g = 58± Km.
		- 56	iSg	
1220)		13 - 27 - 47±	iPg	Very small. Δ_g = 109± Km.
		- 28 - 00	iSg	

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