

COMMONWEALTH OF AUSTRALIA
DEPARTMENT OF NATIONAL DEVELOPMENT
BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

203 Collins Street,
MELBOURNE, Vic.

PROVISIONAL SEISMOLOGICAL BULLETIN
MELBOURNE



Latitude : $37^{\circ}49'53''$ S. Longitude : $144^{\circ}58'24''$ E. Height : 28m.

Instruments : Milne Shaw seismograph EW component
Period 12 seconds
Damping coefficient 0.7
Magnification 250
Benioff Seismograph Variable Reluctance Type
three component long and short period Recorders
Constants not available as yet

No.	Date 1957	Phase	Time (G.M.T.) h m s	Remarks
1	January 1st	iP Z	06 18 55	
2	2nd	e E	01 04 41	
3	2nd	e E e(SKS)N i E L Z L N	02 39 44 42 02 42 28 54.7 57.0	
4	3rd	iPNEZ ipP Z i Z i(SP)Z iPPEZ iS NE iSP Z	12 59 54 13 01 58 02 14 02 58 03 14 09 17 10 10	$\Delta = 81^{\circ}.8$ H = 12 48 12 h = 600 km.
5	3rd	i Z	13 54 56	
6	3rd	iPNEZ	20 27 57	
7	4th	iP Z	01 48 43	
8	4th	iP EZ i N i EZ	08 24 51 24 53 24 57	
9	4th	iP Z	13 44 19	
10	5th	iPNEZ	16 10 53	
11	6th	iP Z	01 47 47	
12	6th	eP Z e Z	07 01 05 01 17	
13	6th	iP NZ i NZ	20 32 32 32 43	
14	7th	iP EZ e(S)NEZ	18 51 53 19 00 10	

No.	Date 1957	Phase	Time (G.M.T.)			Remarks
			h	m	s	
15	January 9th	iPNEZ	22	14	29	
16	11th	iP NZ i NZ	23	42	41 42 46	
17	14th	iP EZ i EZ i E i EZ iS NE iSSNEZ iSSSNZ e NZ	14	26	25 26 29 26 40 27 00 31 12 35 35 35 53 37 39	$\Delta = 34^{\circ}.0$ H = 14 20 25 h = 600 km.
18	14th	iP Z	00	35	02	
19	14th	iP EZ	09	55	38	
20	17th	iPNEZ iPP N i N eS E e NEZ i E i E eSS E e E i E i E	07	30	24 31 49 33 20 35 35 37 11 37 40 37 46 40 02 40 44 41 31 43 37	$\Delta = 33^{\circ}.1$ H = 07 23 38
21	17th	iPNEZ i Z i Z iPP Z eS E i NE eSS N e N i NZ i Z	11	33	21 33 33 34 21 34 49 38 34 41 12 43 41 44 46 45 05 45 41	$\Delta = 37^{\circ}.0$ H = 11 26 14
22	18th	e E e(L)E	01	12	01 13.1	
23	19th	iP EZ i Z e E	05	22	47 22 50 22 57	
24	20th	eP Z e Z	17	38	06 38 10	
25	21st	e(L)N	04	46.1		
26	22nd	iP Z i NZ i Z eS N	12	38	31 38 40 38 55 43 43	$\Delta = 32^{\circ}.7$ H = 12 31 59



No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h m s	
27	January 24th	iP NZ i Z isP Z i N iPP N iPPPE i N eS NE isS N iSP N iSSSNZ i Z	01 17 33 17 44 18 05 18 09 18 55 19 14 22 20 22 35 23 13 23 51 25 16 25 56	$\Delta = 31.8$ H = 01 11 16 h = 100 km.
28	24th	eP Z	15 59 39	
29	24th	eL EZ	19 43.7	
30	26th	eP NZ	04 45 30	
31	26th	eP NZ	04 51 39	
32	27th	iP NZ	11 14 22	
33	27th	eP NZ i NZ iSNEZ	14 12 35 12 41 19 49	$\Delta = 51^{\circ}.1$ H = 14 03 34
34	28th	iP NZ i Z i NZ	05 34 15 34 22 34 39	
35	28th	iPNEZ ipP Z i E eS E e E eLq E Z eLrEZ	08 24 23 24 32 24 38 30 55 31 52 38.1 50.5	$\Delta = 44^{\circ}.4$ H = 08 16 14
36	29th	eP Z e E e Z e Z i N i N i E eLNEZ	15 54 21 54 24 54 29 54 42 54 52 55 01 56 03 16 07.6	
37	30th	iP EZ i Z i EZ i Z i N i N i NZ e Z eLNEZ	15 36 33 36 39 36 45 36 51 36 56 37 12 37 20 41 43 50.6	
38	30th	iP Z	17 03 36	



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NO. 5772.

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Constants not available as yet

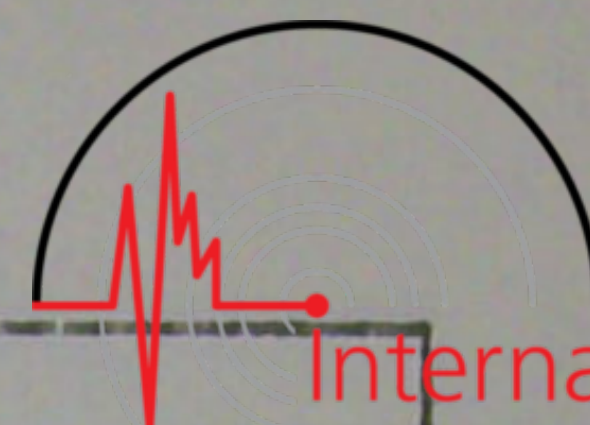
No.	Date 1957	Phase	Time (G.M.T.)	Remarks
39	February 1st	iP Z i Z i Z	h m s 22 00 41 00 48 01 13	
40	2nd	iP EZ i NEZ i N i Z iPP Z i Z i(PcP)E i N iSNEZ eSS N iPcSN i N eLqNE eLr N	11 51 22 51 29 51 47 51 50 52 19 52 59 54 13 54 58 55 59 57 22 58 29 58 42 59.4 12 03.6	$\Delta = 27^{\circ}.5$ H = 11 45 37
41	3rd	iP Z	09 41 18	
42	3rd	eP Z	12 59 09	
43	3rd	iP Z	17 14 59	
44	3rd	iP Z i Z i Z iS N	17 38 01 38 10 38 17 49 10	$\Delta = 95^{\circ}.0$ H = 17 24 41
45	4th	iP Z i Z	10 41 27 41 49	
46	5th	iP Z i Z	04 09 00 09 11	
47	5th	ePNEZ e(L)N	20 15 08 18.7	
48	8th	i(P)Z i NE i E i NZ i EZ i NZ i NE	22 35 49.5 35 55 35 59 36 03 36 16 36 19 36 25	local tremor felt in Adelaide

No.	Date 1957	Phase	Time (G.M.T.)			Remarks
			h	m	s	
49	February 9th	iP Z i NE i NEZ ipP N i N i Z i N i Z eSS Z i Z i NZ eL NZ	02	00	19 20 24 30 36 39 00 12 54 02 04 16.7	
50	9th	iP EZ i NEZ i NZ i Z e(PcB)E e N e N iS N eL N e N	13	35	10 14 17 26 46 52 44 51 41.6 05	$\Delta = 29^{\circ}.5$ H = 13 29 19 h = 150 km.
51	9th	iP Z	18	03	40	
52	10th	iPNEZ	22	41	23	
53	10th	iPNEZ ipP Z i(sP)Z i Z iSNEZ eSS Z i Z	23	00	00 11 18 09 17 32 28	$\Delta = 51^{\circ}.6$ H = 22 50 55
54	11th	iP Z iPcPZ i Z iPPPZ iPcSZ iSNEZ iSS Z iSSSZ	01	23	49 19 22 53 04 07 32 42	$\Delta = 51^{\circ}.7$ H = 01 14 43
55	11th	iP Z i Z	03	53	40 59	
56	11th	iP Z	04	56	56	
57	11th	iP Z	07	37	52	
58	11th	iP NZ	12	06	22	
59	11th	iP NZ i Z i Z	14	34	46 05 31	
60	11th	iP Z i NZ i Z	19	05	55 05 38	



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No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h m s	
61	February 12th	e Z e NZ e NZ	02 05 50 12 52 13 04	
62	12th	iP Z	09 05 33	
63	12th	iP Z	17 22 22	
64	13th	eP NZ ipP Z isPNE i Z i Z iPP Z iS NE iSS N eL Z	00 38 53 39 03 39 06 39 26 39 55 40 52 46 07 49 48 59.7	$\Delta = 51^{\circ}.1$ H = 00 29 52
65	13th	eP Z i Z	12 43 42 43 45	
66	14th	iPNEZ iS NE i E	02 29 53.5 29 57 30 00	local tremor, felt at Clayton, Doncaster, Mentone (all Melbourne suburbs)
67	16th	i(PcS)Z	14 24 32	
68	17th	iP Z i Z i Z	03 55 18 55 24 55 36	
69	17th	iP Z	10 00 06	
70	17th	iPcPZ i Z	16 13 03 20 22	
71	18th	iP NZ i Z	02 38 20 45 22	
72	19th	iPNEZ	17 26 13	
73	20th	iPKPZ i Z	05 00 43 00 45	
74	20th	iPNEZ i Z ipPNEZ	22 08 32 08 37 03 44	
75	21st	iP EZ	19 42 31	
76	22nd	eLNEZ	07 05.3	
77	23rd	eP Z isPNZ i(PP)E iS NE i E i E eLNEZ	20 36 52 37 08 39 47 45 41 46 49 47 21 51.7	$\Delta = 66^{\circ}.9$ H = 20 26 01



No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h m s	
78	February 25th	iP Z i Z	02 11 45 12 14	
79	25th	iPNEZ i NZ i Z i(ScS)Z i NEZ i Z iSSNZ i N i Z i N i N i N i N i N	13 28 07 28 34 31 11 34 10 35 17 35 23 35 59 37 27 37 53 38 41 39 22 39 44 40 11 40 40 41 25	

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			h m s	
80	March 2nd	iP NZ eL NEZ	08 16 57 27.9	
81	2nd	iP Z	20 17 42	
82	3rd	eL NEZ	01 42.4	
83	5th	iP Z	19 09 44	
84	6th	iP Z i Z	11 39 33 39 49	
85	6th	iP Z	15 20 02	
86	7th	iP Z	10 53 50	
87	8th	eP NZ iS NE e Z	01 12 51.0 12 59.5 13 00	Small local quake.
88	8th	e Z e PKP Z i E i E	12 33 40 40 38 40 49 44 09	
89	8th	iP EZ i Z	16 41 01 41 08	
90	9th	eP Z i Z i E iPcPNE i(Pp)NZ i NEZ i N i E iSKS E iSKKSE i S N i (ps)NE i Z eL NE	14 36 09 37 33 39 33 40 02 40 35 43 33 43 41 45 20 46 40 47 22 47 33 47 50 49 13 15 07.5	$\Delta = 103^{\circ}.3$ H = 14 22 11

No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h m s	
91	March 9th	e N e Z i Z i Z	15 55 07 55 14 58 47 59 07	Obscured by pre- ceding quake.
92	9th	e N e E eL NEZ	21 03 29 04 29 11.0	
93	10th	iP NEZ i Z eL NEZ	02 34 32 36 08 03 50.5	
94	10th	eL NEZ	16 12.5	
95	11th	eP Z i Z eL NEZ	03 26 07 39 41 54.0	
96	11th	eP Z iPP Z iSKS N iS NE eL NZ	10 12 29 16 39 23 04 23 57 40.5	$\Delta = 99^{\circ}.9$ H = 09 58 46
97	11th	iP Z	12 19 19	
98	11th	iP Z i SKS N iS NE i PPS N eSS N	15 08 41 19 13 19 55 21 02 26 29	$\Delta = 96^{\circ}.3$ H = 14 55 15
99	11th	eP Z	15 49 17	
100	12th	eL NEZ	00 49.5	
101	12th	i S e SE eL NEZ	07 53 40 08 00.5	
102	12th	eP NZ e NZ iPP Z i N iS NE i Z iPS N i E eSS NE eL NEZ	11 58 22 12 02 09 02 59 08 59 09 48 10 39 11 11 12 35 16 33 23.0	$\Delta = 99^{\circ}.4$ H = 11 44 46
103	12th	iP NEZ	16 38 21	
104	12th	iP NEZ	17 27 57	
105	12th	iP NEZ	18 34 19	
106	12th	eP NEZ	19 18 22	
107	13th	iP EZ e Z iPP E i Z e(S)EZ eSS NZ	09 16 20 16 58 17 01 17 51 20 38 21 53	$\Delta = 24^{\circ}.8$ H = 09 11 00

No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h. m. s	
108	March 13th	iP Z e Z i N iS E eL NEZ	15 55 29 59 06 16 06 00 06 44 22.0	$\Delta = 96^{\circ}.5$ H = 15 42 02
109	14th	eP Z i N i Z iPP NZ i N i Z iSKKS N iS E i N i(PS) N iPPS E i N i SSS N eL NEZ	15 01 10 04 56 05 11 05 30 07 10 09 50 11 44 12 39 13 43 14 46 15 43 16 51 24 08 32.5	$\Delta = 100^{\circ}.2$ H = 14 47 26
110	15th	iS E eL NEZ	03 17 33 30.5	
111	15th	e Z eP EZ i EZ e E eS EZ	10 21 06 21 47 21 50 22 13 22 14	Small local quake.
112	16th	eP Z iPP Z iS NEZ i(PS)NZ iSS N eL NEZ	02 47 35 51 42 58 50 03 00 04 05 20 11.5	$\Delta = 96^{\circ}.5$ H = 02 34 08
113	17th	eL NEZ	23 33.5	
114	18th	iP NEZ	19 36 50	
115	18th	iP Z iPP Z iPcP N e N i N i E iSSS Z i Z iSoS N eL NEZ	21 20 46 22 11 23 11 25 45 26 33 26 41 29 08 30 17 31 01 31.5	
116	19th	eP Z iPP Z iPPP Z eSKS N eS E i E eSS N eL NEZ	13 04 23 08 15 09 36 14 49 15 45 17 11 22 41 34.5	$\Delta = 98^{\circ}.3$ H = 12 50 48
117	20th	iP Z	06 19 36	



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No.	Date 1957	Phase	Time (G. M. T.)	Remarks
			h. m. s.	
118	March 20th	iP Z	18 41 43	
119	21st	iP NEZ	13 46 55	
120	21st	eP Z eS E i E i NE i N	16 42 17 47 51 50 44 53 12 56 00	$\Delta = 35^{\circ}.7$ H = 16 35 20
121	22nd	iSKS N iSKKS E eL NEZ	14 45 33 46 39 57.0	
122	23rd	iP NEZ i NZ ePP Z eS NEZ eLq NEZ i E	05 19 21 19 56 20 42 24 49 26 19 26 27	$\Delta = 35^{\circ}.6$ H = 05 12 31
123	24th	iP Z i Z iSS E iL NEZ	06 43 35 43 39 49 48 50 31	
124	25th	i NEZ	13 14 12	
125	27th	iP NZ	13 07 06	
126	29th	iP Z i Z i E iScS N eL NEZ	05 46 31 46 49 51 06 56 11 57.1	



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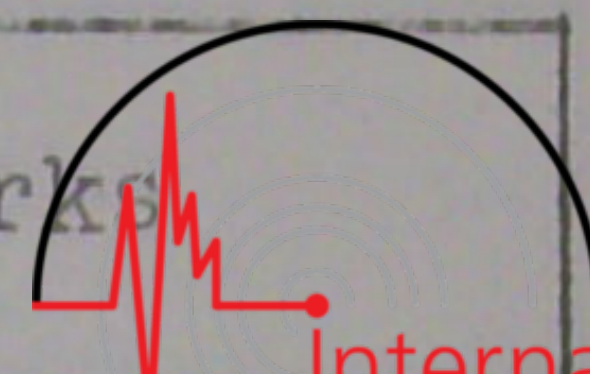


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No.	Date 1957	Phase	Time (G.M.T.) h m s	Remarks
127	April 1st	iPNEZ	08 02 33	
128	2nd	iP Z	08 43 17	
129	2nd	iP Z	21 55 44	
130	4th	iP Z	07 05 00	
131	4th	iP EZ i Z i E e E i EZ i NEZ iS E iPS E iSS Z i SSSN	07 37 02 37 31 38 25 38 40 39 26 40 13 42 17 43 10 44 49 45 17	$\Delta = 33^{\circ}.7$ H = 07 30 28
132	6th	i N iPnEZ iPgNZ i N i EZ iSn Z eSn N i Z eSg E e N i Z i EZ i N	08 36 03.3 36 03.5 36 07.2 36 08.0 36 08.2 36 32.3 36 32.5 36 32.9 36 35.0 36 36.1 36 37.2 36 37.4 36 37.8	$\Delta = 268$ km. H = 08 35 22 $143^{\circ}19'E.$, $35^{\circ}55'S.$ felt at Quambatook, Kerang, Dumosa (Vic.)
133	7th	iP NZ iS NE iSS E iScSE eLNEZ	10 21 25 27 16 29 55 31 26 33.6	$\Delta = 38^{\circ}.2$ H = 10 14 07

No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h m s	
134	April 9th	iP NZ ipP Z iS E iSKSN i E	00 34 59 36 34 43 25 44 22 46 16	$\Delta = 68^{\circ}.2$ H = 00 24 40 h = 420 km.
135	10th	iPSNE iSSSE i E iLqEZ	11 56 26 12 03 55 05 01 07 53	
136	11th	iP Z	06 52 28	
137	13th	iP Z i Z	06 38 47 39 26	
138	13th	iPNEZ i Z iPP Z iS NE iPS Z i E	10 19 21 19 53 21 15 26 05 26 19 29 42	$\Delta = 46^{\circ}.3$ H = 10 10 57
139	14th	iP Z iS NE	07 24 48 35 37	$\Delta = 90^{\circ}.2$ H = 07 11 50
140	14th	iPNEZ	13 21 16	
141	14th	iPNEZ iPPNEZ i N i Z i E iS NE iPSNZ i N iSS N iSSSN iL EZ	19 26 01 27 46 28 13 28 47 31 20 32 40 33 07 34 16 35 30 36 28 39 05	$\Delta = 45^{\circ}.5$ H = 19 17 43
142	14th	iP Z	20 16 52	
143	16th	iPNEZ i NEZ iPcPEZ ipPNEZ i Z i Z iSNEZ iScSN iSS E iSS N	04 12 01 12 47 13 20 13 47 15 22 16 17 18 16 20 47 21 31 24 34	$\Delta = 48^{\circ}.0$ H = 04 04 14 h = 600 km. (0.09)
144	16th	iPNEZ i Z i Z	15 16 12 18 30 21 58	
145	17th	iPNEZ	08 15 04	



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No.	Date 1957	Phase	Time (G.M.T.)	Remarks
146	April 18th	iP Z	h m s 02 18 38	
147	19th	eP Z	08 46 10	
148	19th	iPN Z i Z i Z iPPNZ i Z i Z i E i N iS E iSKSNE	22 33 11 33 41 37 06 37 24 38 21 40 01 43 08 43 44 44 41 44 47	$\Delta = 100^{\circ}.4$ H = 22 19 26
149	20th	iPNEZ	00 15 33	
150	20th	iP Z eL Z	06 57 53 07 14.6	
151	20th	iP Z i E iPP N i NE iS NE iSS N iSSSN i Z iScSN eL NZ	12 37 05 37 31 38 29 42 10 42 17 44 29 44 54 46 19 48 02 48 09	$\Delta = 32^{\circ}.5$ H = 12 30 35
152	21st	i(PP)EZ	21 35 19	
153	24th	ePKPZ iPP Z iPKSNZ i N	19 29 19 31 35 32 43 32 48	
154	25th	iPKPZ iPKSZ i Z i N	02 44 48 48 08 48 35 49 01	
155	25th	iPNEZ i Z iS N i N i NZ i Z i Z	10 23 13 24 02 28 40 33 59 34 51 35 18 36 03	$\Delta = 34^{\circ}.7$ H = 10 16 24
156	25th	iP Z i Z i Z	11 14 05 15 04 15 45	
157	26th	eLNEZ	04 28.8	
158	26th	i Z	08 31 05	
159	26th	iP Z i Z	15 20 43 21 39	

No.	Date 1957	Phase	Time (G.M.T.)	Remarks
160	April 27th	eP Z	^h ^m ^s 00 17 55	 International Seismological Centre
161	27th	iP Z	07 31 35	
162	27th	iP EZ i Z	11 36 15 36 29	
163	28th	iP Z ipP Z iPPEZ i NZ i Z iSNEZ iPS E iSS E	01 32 23 32 32 34 22 34 36 36 10 39 16 39 37 42 54	
				$\Delta = 47^{\circ}.7$ $H = 01\ 23\ 48$
164	28th	iP NZ	10 43 14	
165	29th	iP EZ	21 04 14	

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respectively.

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			h. m. s	
166	May 2nd	iP Z	01 56 53	
167	2nd	iPKP Z	04 15 01	
168	2nd	eP Z	10 44 31	
		eL NEZ	11 00.8	
169	2nd	iP NEZ	21 42 57	$\Delta = 37^{\circ}.9$
		ipP Z	44 39	H = 21 36 28
		iPcP Z	44 58	h = 600 km.
		e Z	47 49	
		iS NEZ	48 07	
		i N	48 36	
		i N	50 03	
		i N	50 41	
		i NEZ	51 29	
		iSS E	53 24	
		i E	54 04	
170	3rd	iP Z	14 52 25	
171	4th	eP Z	10 12 38	$\Delta = 35^{\circ}.1$
		iS E	18 08	H = 10 05 46
		i E	19 55	
		i Z	20 57	
172	6th	iP Z	21 50 40	
		i Z	50 51	
173	8th	eP Z	20 16 40	
		i Z	17 22	
		ipP E	18 00	
		i Z	20 20	
		i E	21 56	
		i N	23 50	
174	10th	iP Z	10 56 38	
175	12th	iP Z	05 00 05	
176	12th	iP NEZ	11 37 21	$\Delta = 45^{\circ}.7$
		isP Z	37 29	H = 11 29 01
		i Z	37 46	
		i N	38 22	

No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h.m.s.	
176 (contd.)	May 12th	iPcP Z i Z i N iS N isPP N iSS N iSSS N	11 39 05 40 34 43 34 44 01 44 34 47 18 48 10	
177	18th	iP Z	05 02 12	
178	18th	i NEZ	08 53 12	
179	21st	iP NEZ i E ipP NZ iPcP E i E i Z iS NE i NE	01 21 55 22 29 22 33 22 37 23 04 23 17 29 56 31 37	$\Delta = 60^{\circ}.5$ H = 01 12 00
180	24th	iP Z	10 17 00	
181	26th	iPKP Z i Z iPP Z i Z iPKS EZ iSKKKS E i N	06 52 50 54 44 55 05 55 44 56 12 07 02 19 02 34	
182	28th	iP Z	00 27 06	
183	28th	iP Z i Z	06 03 34 03 39	
184	28th	iP NEZ iPP NZ i N	23 25 25 26 31 26 52	
185	29th	iP NEZ i Z i Z i N i E i E i N i Z i NE	07 57 40 08 00 16 01 08 05 37 07 56 08 14 08 36 09 00 09 05	
186	29th	iPKS Z	10 40 46	
187	30th	eL NEZ	00 39.3	
188	30th	i Z	19 48 31	
189	30th	iP NEZ i Z	21 04 24 04 39	
190	31st	iP NEZ	06 37 47	



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191	June 4th	eP Z	^h ^m ^s 11 21 30	
192	4th	iP NEZ i Z iS NEZ i Z i E iScS E	17 11 27 13 15 16 35 18 07 20 07 20 37	dilatation No time marks $\Delta = 37^{\circ}$
193	4th			USCGS. H = 20 18 05 Central Sumatra, quake recorded but no time marks
194	5th	iPcP Z	14 10 50	
195	6th	iP NEZ iS P EZ iPP Z iS NEZ i E iSS NE	19 58 04 58 20 20 00 02 04 38 06 26 08 00	Compression $\Delta = 44^{\circ}.8$ H = 19 49 52
196	7th	iP EZ	20 59 16	dilatation
197	8th	eL NEZ	03 45.0	
198	8th	e Z eL NEZ	06 14 44 06 28.5	
199	8th	e Z	22 32 08	
200	9th	iP Z	00 12 27	

No.	Date 1957	Phase	Time (G.M.T.)			Remarks
			h	m	s	
201	June 10th	iP NEZ i Z i EZ iPP N iPPP NZ iS NE i Z i Z i(L) NZ	01	07	20	dilatation $\Delta = 36^{\circ}.7$ H = 01 00 14
202	10th	iP NEZ iS NEZ	03	22	04	compression $\Delta = 49^{\circ}.9$ H = 03 13 12
203	11th	iP NEZ ipP EZ iPP EZ i Z i EZ e E iS N i NZ iSS N iL N	14	56	03	compression $\Delta = 31^{\circ}.5$ H = 14 49 46 h = 50 Km.
204	11th	iP Z i Z i Z i N iS NEZ	18	59	36	$\Delta = 61^{\circ}$ H = 18 49 23
205	11th	iP Z	19	18	24	compression
206	12th	iP NEZ i NZ	08	40	38	compression
207	13th	eP Z i NZ iPP Z iSKKS N i E iS E i N i N	10	54	24	$\Delta = 104^{\circ}.8$ H = 10 39 19
208	13th	iP Z i Z	20	30	38	
209	13th	iP Z	21	14	53	dilatation
210	13th	iP Z	21	35	20	dilatation
211	15th	iP Z i Z	00	55	27	
212	17th	iP NEZ	06	24	47	
213	17th	iP Z	16	40	08	



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No.	Date 1957	Phase	Time (G.M.T.)			Remarks
			h	m	s	
214	June 18th	i(P) Z i Z iS E i E eL NEZ	02	23	26 31 37 05 38.0	$\Delta = (70^{\circ}.8)$ H = (14 48 42)
215	18th	iP EZ i Z i Z iS NE i E	14 15	59 00	37 54 25 45 13	$\Delta = 71^{\circ}.3$ H = 14.48 19
216	18th	iP NEZ i E i E iPPP Z i E i Z eS NZ i Z eL NEZ	18	01	28 40 49 17 59 18 52 19 08.0	compression $\Delta = 25^{\circ}.7$ H = 17 55 59
217	18th	iP Z	18	52	06	
218	19th	iP Z i Z i E eL NEZ	01	36	55 08 35 46.0	
219	19th	iP EZ	03	01	33	dilatation
220	19th	iP EZ i Z iPP EZ i NEZ i EZ iS NEZ i Z iSS Z iSSS Z iL NEZ	08	08	27 45 53 19 34 06 13 41 13 49	dilatation $\Delta = 36^{\circ}.4$ H = 08 01 24
221	20th	e(P) Z	00	40	12	
222	20th	e Z	01	16	14	
223	20th	e Z	18	50	58	
224	22nd	iP NEZ i NZ iPP Z ePPP Z iPcP E	23	57	32 03 10 31 53	compression $\Delta = 37^{\circ}.0$ H = 23 50 25
	23rd	i Z iS NE	00	01	35 24	
225	23rd	iP NEZ eL NEZ	03 04	39	15 00.0	dilatation



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No.	Date 1957	Phase	Time (G.M.T.)	Remarks
226	June 24th	eL NE	^h ^m ^s 01 08.0	
227	24th	eP Z isP Z i Z i(S) N i E i N i NEZ eL NE	11 28 37 28 52 29 39 37 25 38 09 38 25 40 33 41.0	$\Delta = 66^{\circ}.7$ H = 11 17 47
228	25th	i Z e Z	11 22 19 22 26	
229	27th	eP Z i Z iPP NEZ i NE iSKKSNE iS E i E eL NEZ	00 23 04 26 38 26 59 27 31 33 45 34 02 34 34 35.5	$\Delta = (92^{\circ}.5)$ H = (00 09 55)
230	27th	iP Z	04 11 27	
231	28th	e Z	18 58 38	

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DIRECTOR.

COMMONWEALTH OF AUSTRALIA
DEPARTMENT OF NATIONAL DEVELOPMENT
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

203 Collins Street,
MELBOURNE. Vic.

PROVISIONAL SEISMOLOGICAL BULLETIN
MELBOURNE



Latitude : $37^{\circ}49'53''S$. Longitude : $144^{\circ}58'24''E$. Height : 28m.

Instruments : Benioff Seismograph Variable Reluctance Type
three component long and short period recorders
galvanometer periods 14 sec. and 0.25 sec.
respectively.
Milne Shaw seismograph EW component
Period 12 seconds
Damping coefficient 0.7
Magnification 250

No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h. m. s.	
232	July 1st.	iP Z i N iS NE i E	19 42 18 44 16 52 07 53 00	Compression H 19 30 22 $\Delta 77^{\circ}.9$
233	2nd	e(PKP) Z e Z i E iSKKS Z i NEZ i Z	01 01 05 01 42 03 00 08 54 11 26 12 41	
234	2nd	iP NEZ	06 35 11	Dilation
235	3rd	iP EZ	06 08 31	Dilation
236	4th	i Z	08 38 00	
237	4th	e Z	09 51 54	
238	4th	iP Z	16 00 37	
239	5th	iP Z	12 40 13	
240	7th	iP NZ ipP N i Z iPcP Z iS NEZ iPcS Z iSS Z eL NZ	16 17 49 17 59 18 48 20 35 22 59 24 16 24 59 28.5	Compression H 16 11 21 $\Delta 32^{\circ}.3$
241	9th	iP Z ipP EZ iSP Z i Z ePP Z iS N i E	10 06 52 07 04 07 08 08 27 08 56 13 53 14 16	Dilation H 09 58 09 $\Delta 48^{\circ}.9$ h = 43 km.

No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h. m. s.	
242	July 14th	iP EZ ipP Z i Z i NEZ iPP E i N iS N i N i(L) N	06 30 18 30 41 31 01 31 08 31 35 32 11 35 14 36 29 37 35	Compression H 06 23 42 $\Delta 31^\circ$ h = 0.1
243	14th	iP EZ i NE e E i Z i Z i E iL Z	08 17 11 17 39 18 05 18 44 18 54 19 17 24 59	Compression
244	14th	iP EZ	09 49 58	
245	15th	iP NZ iS NZ	10 02 47.4 10 02 51.1	Local shock H 10 02 16.2 $\Delta 1^\circ.06$
246	16th	i Z	17 05 21	
247	17th	iP NEZ i Z i NZ iPP Z iS NZ eL NEZ	11 16 44 17 11 17 23 17 59 21 44 22.3	Compression H 11 10 28 $\Delta 30^\circ.8$
248	17th	iP NEZ i Z i(S) E eL NE	12 33 16 33 17 46 22 46.8	Dilation
249	19th	iP Z	07 44 39	Compression
250	19th	iP Z i Z	13 12 49 13 17	Dilation
251	19th	iP Z	20 32 52	Compression
252	19th	iP NZ eL NEZ	21 44 34 56.8	
253	20th	e Z e Z	15 47 22 47 46	
254	21st	e Z i E i N eL N	06 04 46 09 15 09 23 10.0	
255	21st	iP NZ i Z i Z	07 06 56 07 42 07 53	Dilation
256	21st	e Z	19 43 53	



No.	Date 1957		Phase		Time (G.M.T.)	Remarks
					h. m. s.	
257	July	22nd	iP	EZ	06 23 08	Compression
			i	E	23 13	
			i	EZ	24 17	
258		22nd	iP	EZ	06 28 05	Compression. Long waves at 06 32 00
259		23rd	i	N	01 09 48	Also long waves on all components
260		23rd	eL	NEZ	06 34.7	
261		23rd	iP	EZ	13 36 07	Compression
262		24th	eP	Z	11 08 33	
			eL	NEZ	11 16.2	
263		24th	eP	NEZ	13 50 22	Felt at Macquarie Island.
264		24th	eP	NZ	14 47 47	
			eL	NEZ	57.8	
265		25th	i	Z	11 13 18	
266		26th	iP	EZ	06 22 49	Dilation
267		26th	e	Z	06 55 39	
			eL	NEZ	07 04.7	
268		27th	iP	Z	14 52 57	
269		27th	iP	NEZ	15 45 50	Dilation
270		27th	iP	NZ	18 49 26	Dilation
			eL	NE	56.7	
271		28th	e	EZ	09 00 31	
			i	N	00 43	
			eL	EZ	09.9	
272		29th	i	Z	09 18 33	
273		29th	i	Z	10 03 28	
274		29th	iP	Z	17 44 55	
275		31st	i	Z	07 41 10	

 (P. B. NYE),
DIRECTOR

COMMONWEALTH OF AUSTRALIADEPARTMENT OF NATIONAL DEVELOPMENTBUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

203 Collins St.,
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PROVISIONAL SEISMOLOGICAL BULLETINMELBOURNE

Latitude : $37^{\circ}49'53''$ S. Longitude : $144^{\circ}58'24''$ E. Height : 28 m.

Instruments : Benioff Seismograph Variable Reluctance Type
 three component long and short period recorders
 galvanometer periods 14 sec. and 0.25 sec.
 respectively.
 Milne Shaw seismograph EW component
 Period 12 seconds
 Damping coefficient 0.7
 Magnification 250

No.	Date 1957	Phase	Time (G.M.T.)	Remarks
276	August 1st	iP EZ	17 03 59	
277	4th	eP NZ	00 46 00	
278	4th	iP Z	02 26 35	
279	4th	e Z	21 20 43	
280	5th	i(P) Z	08 19 31	Dilation
281	5th	iP Z i Z	31 36 34 36 45	Dilation
282	7th	ePn EZ iPg EZ iSg N iSg NE	00 24 36.1 24 44.7 25 25.1 25 27.9	Snowy River Blast
283	7th	iP NEZ	19 47 17	Dilation
284	7th	iP NEZ	19 53 53	Compression
285	9th	iP NEZ i Z i E i Z i E i N i(S) E eL E	02 36 29 36 38 37 22 38 53 41 23 42 09 42 14 45 04	Dilation
286	10th	iP NEZ	02 24 43	Dilation
287	10th	iP NEZ	19 20 41	Compression

No.	Date 1957	Phase	Time (G.M.T.)	Remarks
288	August 11th	iP EZ i Z	05 18 03 18 35	Dilation
289	11th	iP EZ	13 46 42	
290	11th	eP Z i(pP) Z e(PP) E iPcP E iS N isS NE iL NE	21 44 07 44 15 45 07 46 59 49 05 49 21 49 29	$\Delta = 30^{\circ}.5$ H 21 37 55
291	12th	e(P) Z i NZ i NEZ i Z	07 17 15 17 22 17 28 18 00	
292	14th	iP Z	18 34 44	Dilation
293	15th	iP NZ e NZ iS NZ e E i NEZ e E i E	20 51 27 52 56 56 20 58 39 59 21 00 44 01 40	Dilation
294	16th	e Z e NZ	03 32 48 33 20	
295	16th	iP NEZ i NZ i N iS NE	06 03 05.7 03 15.7 03 17.3 03 18.8	Local Shock. $\Delta=122$ Km. Epicentre 12° E of N. of Melbourne. Felt 7 miles east of Nagambie
296	16th	iP Z i NZ e(S) N eL NEZ	12 03 59 04 05 09 46 14.6	
297	16th	iP NEZ i Z eS NEZ	19 16 18.9 16 30.1 16 32.9	Local Shock. $\Delta=122$ km. Epicentre same as No. 295.
298	17th	eL NEZ	00 24.6	
299	17th	iP NZ	12 14 48	Dilation
300	18th	iP NZ i NEZ ipP NZ iPP N iPcP Z i Z iS E i E i E iScS N	08 46 21 46 24 46 52 48 04 48 17 48 53 53 56 54 20 54 56 55 56	Dilation $\Delta 55^{\circ}.8$ H 08 36 56 h 0.015

No.	Date 1957	Phase		Time (G.M.T.)	Remarks
				h. m. s.	
301	August 18th	iP	NZ	20 19 23.6	Local Shock $\Delta=122$ Km.
		i	Z	19 34.7	Epicentre same as
		i	E	19 38.9	No. 295.
		iS	NZ	19 46.9	
302	18th	iP	Z	21 55 23	Compression
		i	Z	55 36	
303	19th	iP	Z	02 47 55	Compression
304	19th	eP	NZ	11 41 00	Δ 31° .5 H 11 34 39
		ipP	Z	41 09	
		i	Z	42 13	
		e(S)	NE	46 03	
		eL	NE	48.6	
305	20th	iP	Z	06 33 31	Δ 31° .5 H 06 27 10
		iPPP	E	35 00	
		iS	NE	38 35	
		e	N	39 35	
		i	N	40 09	
		iSS	E	40 35	
		eL	NE	41.1	
306	20th	iP	Z	12 08 17	Δ 32 .0 H 12 01 52
		i	Z	08 29	
		i	Z	08 40	
		i	NZ	09 21	
		iPPP	NZ	09 43	
		i	Z	10 19	
		eS	NE	13 21	
		eL	NE	14.6	
307	21st	iP	NZ	05 53 16	Dilation
308	21st	iP	NEZ	12 10 18.3	Local Shock. $\Delta=122$ Km.
		i	Z	10 19.8	Epicentre same as
		iS	NEZ	10 31.3	No. 295.
		e	Z	10 32.8	
309	21st	iP	NEZ	12 19 24.0	Local Shock $\Delta=122$ Km.
		e	Z	19 45.2	Epicentre same as
		iS	NEZ	19 48.0	No. 295.
310	22nd	eP	Z	08 03 05	
311	22nd	iP	NZ	16 49 51	Dilation
312	23rd	iP	NZ	02 06 47	Dilation
		ipP	NZ	06 56	Δ 30 .0 H 02 00 39
		iSP	NZ	07 02	
		ePPP	NE	08 12	
		i(PcP)	E	09 43	
		e(S)	NE	12 41	
		i	E	12 49	
313	23rd	iP	Z	13 40 25	
314	23rd	iP	EZ	22 59 03	

No.	Date 1957	Phase		Time (G.M.T.)	Remarks
				h. m. s.	
315	August 26th	e	Z	20 00 07	
		i	Z	00 36	
316	27th	iP	NEZ	21 01 59	Dilation
		i	Z	02 02	
		i(S)	N	06 20	
317	28th	e	Z	08 26 01	
318	29th	iP	NEZ	14 08 36	Dilation
319	30th	iP	NZ	20 14 22	Dilation
320	31st	iP	NEZ	14 56 33.9	Dilation Local Shock.
		eS	E	56 38.3	Felt at Dandenong, Doveton, Harkaway. △ 40 km. Epicentre near Berwick.



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ACTING DIRECTOR.

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203 Collins Street,
MELBOURNE, Vic.



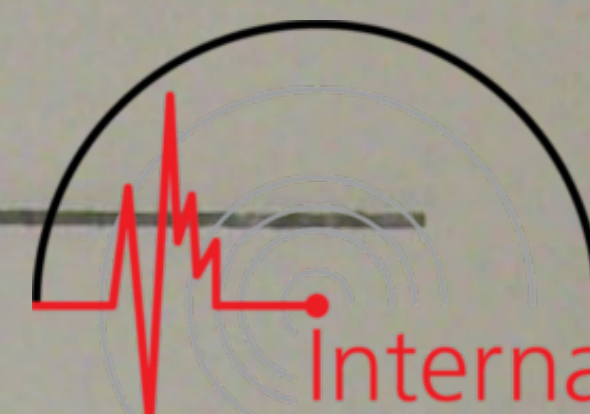
PROVISIONAL SEISMOLOGICAL BULLETIN
MELBOURNE

Latitude : 37°49'53"S. Longitude : 144°58'24"E. Height : 28m.

Instruments : Benioff Seismograph Variable Reluctance Type
 three component long and short period recorders
 galvanometer periods 14 sec. and 0.25 sec.
 respectively.

Milne Shaw seismograph EW component
 Period 12 seconds
 Damping coefficient 0.7
 Magnification 250

No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h m s	
321	September 2nd	eP Z	09 54 31	Dilation
322	3rd	iP NEZ	14 46 29	
323	8th	e Z	08 48 23	
324	8th	i(P) Z	13 25 34	
325	9th	eP Z	00 20 18	
		ePP E	21 40	34°·7 H 00 13 29
		iPPP NE	22 03	
		iS E	25 45	
		i E	26 21	
		i E	27 17	
		eSS E	28 08	
		eL NEZ	28.5	
326	9th	iP EZ	09 08 17	
		i EZ	09 11	
		i Z	09 50	
		i Z	15 01	Dilation
		i E	17 03	
		eL NE	18.5	
327	10th	e Z	15 36 14	
328	11th	iP NEZ	13 48 19	
329	11th	iP NEZ	23 30 19	Compression
		i Z	30 26	Compression
330	14th	e Z	05 09 54	
331	14th	iP NEZ	06 20 30	
332	15th	iP NZ	18 48 53	Compression. Quake masked by microseisms.
333	16th	iP NEZ	06 30 45	Dilation
334	19th	e(P) Z	17 09 17	
335	23rd	iP Z	09 29 29	Dilation. Masked by microseisms and follow- ing quake on long period records
		e Z	29 57	
		i Z	30 38	
		e(S) Z	34 02	



No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h m s	
336	September 23rd	iP NZ	09 36 31	Compression
		i NZ	36 59	
		i Z	37 14	
		i Z	37 35	
		i Z	38 06	
		iS NZ	41 14	
		i Z	41 43	
		i Z	42 06	
		i Z	48 42	
337	24th	iP NZ	08 29 34	Dilation
		e NEZ	29 45	
		e NE	29 55	
		e NZ	31 38	
		e Z	32 16	
		e N	34 50	
		e N	35 40	
		eS NEZ	36 15	
		e NEZ	39 40	
338	25th	iP NEZ	14 15 03	Dilation
339	25th	eP Z	16 45 08	
		i Z	45 21	
		e Z	45 52	
		i Z	46 32	
		e(s) N	51 54	
		i N	56 14	
		eL NEZ	17 05.0	
340	26th	iP EZ	12 07 55	Dilation
		i Z	08 25	
		i E	08 43	
		i E	09 00	
341	26th	eP Z	18 55 15	
		i Z	55 25	
342	27th	iP NEZ	03 44 07.3	Dilation. Small local shock 45 miles from Melbourne 30° W. of S.
343	27th	iP NZ	04 16 04	Compression
		i NZ	16 15	
		i NE	17 40	
		iS NE	22 10	
344	27th	eP Z	04 26 27	Masked by preceeding quake
		i NEZ	26 31	
		i Z	29 30	
345	27th	iP NEZ	06 04 30	
		iS NE	10 38	
346	28th	i(P) Z	00 37 50	Dilation
		iS E	46 18	
		i E	47 10	
347	28th	iP NEZ	14 26 18	Dilation. 35° 5 h 0.09 H 14 20 08
		ipP NEZ	27 56	
		iPP NZ	29 07	
		e Z	30 13	
		iS Z	31 13	
		i NE	32 29	
		e EZ	34 29	
		iS N	34 14	
		iScS NE	35 25	
		i E	39 35	
48	29th	iP NEZ	07 12 29	Compression
49	29th	iP NEZ	08 19 00	Dilation. 31° h 0.09 H 08 13 29



No.	Date 1957	Phase	Time (G.M.T.)	Remarks
349 (cont)	September 29th	ipP NEZ iPF N iS NEZ i Z i N	h m s 20 37 21 16 23 25 24 26 24 42	
350	30th	isS NEZ iP Z	26 29 12 14 22	Dilation

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PROVISIONAL SEISMOLOGICAL BULLETIN

M E L B O U R N E

Latitude : 37°49'53"S. Longitude : 144°58'24"E. Height : 28m

Foundation : Silurian sand-and mudstone

Instruments : Benioff Seismograph Variable Reluctance Type
three component long and short period recorders
galvanometer periods 14 sec. and 0.25 sec.
respectively.

Milne Shaw seismograph EW component

Period 12 seconds

Damping coefficient 0.7

Magnification 250

No.	Date 1957	Phase	Time (G.M.T.)			Remarks
			h	m	s	
351	October 3rd	eP Z i EZ	06	05	09	
352	3rd	i(P) NEZ	06	15	58	
353	4th	iP Z	01	07	26	Compression
354	5th	eP Z	16	12	44	
355	5th	e(P) Z	16	19	15	
		i NZ	23	51		
		i E	24	35		
		i E	25	27		
		e E	27	53		
356	7th	eP Z	13	33	02	
357	7th	eP Z	16	55	02	
358	10th	iP Z	18	50	43	Rarefaction
359	12th	iP EZ i Z	19	05	03	Quake masked by microseisms
360	13th	iP NZ	20	38	07	Rarefaction
		ipP NZ	38	27		H 20 32 56 Δ 24.5 Epicentre near Macquarie Island
		i(sP) NZ	38	36		
		iPPP NZ	38	54		
		e NZ	39	24		
		e NZ	39	52		
		iS E	42	18		
		i E	42	48		
		iS E	43	04		
		eLQ NEZ	44	04		
		eLR NEZ	45	34		

No.	Date 1957	Phase		Time (G.M.T.)	Remarks
				h m s	
361	October 14th	i(P) e	Z E	03 19 55 22 55	Compression
362	14th	iP	Z	14 17 25	Rarefaction
363	18th	eP	Z	19 14 42	
364	19th	iPg	NEZ	10 50 02.7	Compression. Local shock felt at Foster, Fish Creek & Walker-ville
		iP _n	Z	50 05.1	Epicentre 157.5 Km from Melbourne
		iS	NEZ	50 20.2	H 10 49 36.0
365	19th	iP i i	Z NZ Z	18 39 34 39 45 39 50	Compression
366	19th	iP	NEZ	23 45 27	Rarefaction
367	24th	iP	Z	00 23 57	Rarefaction
		iPP i iS eL	NEZ NEZ N NEZ	24 58 25 34 29 18 30.5	H 00 17 15 Δ 33° .9
368	24th	iP	EZ	09 13 53	Rarefaction
		ipP iPPP eS i i	Z Z EZ E E	14 13 15 28 18 52 22 20 23 08	H 09 07 38 Δ 31° .5 h 0.01
369	25th	iP i	Z Z	10 16 25 16 43	Compression
370	26th	eP	Z	04 39 01	
371	26th	iP i i(S)	EZ Z E	08 32 32 34 16 37 27	Rarefaction
372	26th	iP	NEZ	14 25 14	Compression
		i iPP i iPPP i i iS iSPP i iSS i	Z Z Z Z E Z NE N NE Z E	25 30 26 54 27 04 27 24 27 35 28 18 31 51 32 04 33 51 35 03 35 21	H 14 24 58 Δ 45° .2



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No.	Date 1957	Phase	Time (G.M.T.)	Remarks
			h m s	
373	October 26th	iP Z	14 39 22	Rarefaction
374	29th	iP NEZ	02 29 51	
375	31st	iP NZ	15 33 13	Compression $\Delta = 17.7$
		i N	33 24	H 15 29 07
		iPPP NZ	33 39	
		i NZ	34 39	
		iS E	36 27	
		i E	37 13	
		iL E	38 09	
		iScS E	45 01	



(P. B. NYE),
D I R E C T O R.

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Magnification 250

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			h	m	s	
376	November 2nd	iP NEZ	18	36	47	compression 31°.2 H 18 30 29
		ipP NEZ		36	58	
		isP Z		37	03	
		iPP Z		37	43	
		i Z		38	37	
		iS N		41	50	
		isS N		43	16	
		iSS N		44	08	
		eL NE		44.5		
377	3rd	eP Z	10	31	18	
		e E		41	36	
		i E		43	32	
378	5th	iP Z	10	00	16	
379	8th	iP Z	02	53	03	compression
380	8th	iP Z	06	25	37	
381	10th	iP Z	02	42	51	rarefaction 32°.0 H 02 35 26
		i NZ		42	56	
		i NZ		43	33	
		i NZ		43	44	
		iS NE		47	59	
		i E		48	15	
		i N		48	29	
		i E		49	05	
		iL NE		51	00	
382	10th	eP Z	03	50	17	
		eS N		55	22	
383	10th	iP Z	05	35	14	rarefaction

No.	Date 1957	Phase	Time (G.M.T.)			Remarks
			h	m	s	
384	November 10th	eP NZ i N i N eS NE e E	05	55	22 56 22 56 40 06 00 21 02 29	30° .7 H 05 49 08
385	10th	iP Z i Z	18	09	56 10 02	
386	10th	eP Z	19	31	37	
387	12th	iP Z	09	40	35	rarefaction
388	13th	iP EZ i EZ i Z iPP EZ i E iPeP E iS NZ isS E iLR NE iLR Z	17	28	53 29 08 29 28 30 01 30 09 31 40 34 08 34 24 35 58 37 28	compression 33° .0 H 17 22 19 ✓
389	15th	iP Z i Z	08	01	25 01 33	rarefaction
390	15th	iP Z i Z	16	43	28 43 43	rarefaction masked by microseisms
391	17th	iP Z	06	09	51	
392	19th	iP Z i Z	16	25	44 25 56	
393	21st	iP Z	05	19	14	
394	21st	iP NZ	07	36	24	
395	21st	e Z	18	04	45	
396	22nd	i Z	16	07	11	
397	22nd	iP EZ	16	11	33	this quake is confused with preceding one in the long period records
398	25th	iP NEZ i NE iS NE i NZ	22	43	18 44 49 49 56 53 23	compression
399	26th	iP NEZ i NEZ ipP Z isP NZ iPP NZ iPPP N iS E iSS E	05	18	21 18 26 18 43 18 53 20 11 21 02 25 05 28 28	compression 47° .1 H 05 09 51 h = 0.01





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No.	Date 1957	Phase	Time (G.M.T.)			Remarks
			h	m	s	
400	November 27th	iP NEZ	03	29	34	
401	28th	iP NEZ	20	56	29	
		i E		57	01	
		i E		57	27	
		e EZ		58	00	
		i E		59	57	
		eS N	21	01	47	
		i N		03	15	
		eL NE		04	00	
402	29th	iP Z	11	59	55	rarefaction
403	29th	iP NEZ	17	47	56	rarefaction
		i Z		48	04	
		i N		53	31	
		iL NEZ		54	25	
404	29th	iP Z	22	34	19	
		i Z		38	08	
		i Z		38	58	
		i NZ		48	49	
		i Z		48	58	
		i NEZ		49	35	
		i E		49	59	
		i E		56	13	

(P. B. NYE),
DIRECTOR.

COMMONWEALTH OF AUSTRALIA
DEPARTMENT OF NATIONAL DEVELOPMENT
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

203 Collins Street,
MELBOURNE. VIC.

PROVISIONAL SEISMOLOGICAL BULLETIN

M E L B O U R N E

Latitude: $37^{\circ}49'53''$ S. Longitude: $144^{\circ}58'24''$ E. Height: 28m

Foundation: Silurian sand and mudstone.

Instruments: Benioff Seismograph Variable Reluctance Type three component long and short period recorders galvanometer periods 14 sec. and 0.25 sec. respectively.
Milne Shaw seismograph EW component
Period 12 seconds
Damping coefficient 0.7
Magnification 250



No.	Date 1957	Phase		Time (G.M.T.)			Remarks
				h	m	s	
405	December 4th	iP	Z	00	34	55	Compression
406	December 4th	eP	Z	03	50	59	$\Delta = 88^{\circ}.5$ H 03 38 12
		iPcP	Z		51	02	
		ipP	Z		51	10	
		iPP	Z		54	36	
		i	NE		54	53	
		iSKS	N	04	01	25	
		iS	NEZ		01	40	
		i	E		02	21	
		iPPS	NEZ		03	20	
		i	N		05	17	
		i	N		06	53	
		iSS	NE		08	27	
		eSSS	NE		11	09	
		eL	NE		11.9		
407	December 7th	iP	NEZ	03	23	09	Compression $\Delta 35^{\circ}.9$ H 03 16 53 h 0.08
		ipP	Z		24	53	
		iPcP	Z		25	25	
		iS	E		28	09	
		iSS	NE		31	21	
		i(ScS)	E		32	51	
408	December 10th	iP	NZ	14	42	21	Compression $\Delta 32^{\circ}.5$ H 14 36 01
		i	Z		42	48	
		i	Z		42	53	
		iPP	N		43	32	
		ePPP	E		43	47	
		iS	NE		47	43	
		i	N		49	19	
		iLQ	NE		51	53	
		iLR	Z		52	59	
409	December 12th	iP	NEZ	18	44	41	Compression $\Delta 31^{\circ}.2$ H 18 38 23
		ipP	Z		44	52	
		iPP	E		45	36	
		iS	N		49	44	
		i	NE		50	08	
		i	E		52	06	



No.	Date 1957	Phase		Time (G.M.T.)			Remarks
				h	m	s	
410	December 13th	iSKS	NE	02	10	32	
		i	E		11	43	
		iSP	Z		14	18	
411	December 16th	iP	Z	03	53	16	Compression
412	December 17th	e	Z	05	23	40	Long waves for $1\frac{1}{2}$ hours.
		e	Z		24	18	
		e	N		34	15	
413	December 17th	iP	NEZ	13	56	33	$\Delta 31^{\circ}.5$ H 13 50 12
		i	NEZ		56	39	
		i	Z		57	05	
		i	N		57	15	
		iPP	N		57	39	
		iPPP	Z		57	49	
		i	N		57	58	
		iPcP	Z		59	27	
		i	N	14	00	03	
		iS	N		01	37	
		i	N		02	40	
414	December 18th	iP	NZ	20	57	16	
415	December 26th	iP	EZ	12	15	24	Rarefaction
416	December 28th	e	Z	19	09	22	
417	December 31st	iP	NEZ	14	32	22	Compression $\Delta 18^{\circ}.9$ H 14 28 02
		i	NEZ		32	24	
		i	Z		32	31	
		iS	NEZ		35	48	
		iL	E		36	23	

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