

SEISMOGRAPH RECORDS AT ADELAIDE OBSERVATORY 1933.

Both the Milne-Shaw(N-S Component), and Milne(E-W Component) seismographs were in operation continuously throughout the year.

During 1933, the number of Earthquakes recorded, 124, was much below the average, 156, for the eight years 1926-1933, in which the Milne-Shaw Seismograph has been in operation.

TABLES used.

"Revised Travel-Time Tables"


by H. Jeffreys and K. E. Bullen from I.S.S. of 1931.

ADLAIDE OBSERVATORY.
Seismological Bulletin JANUARY 1933.

No.	Date	Phase	Time (Greenh) L. M. S.	Recorded Period of Waves N-S	A N mm.	A E mm.	Δ	Remarks.
1	1	iP iPP i iS i i(L) Me ₁ Me ₂ F	3 55 00 55 52 56 56 9 00 12 01 13 03 20 04.0 03.5 10 20				32° 0	No Milne-Shaw record
2	4	i i i Mn Me	1 35 ±0 43 13 54 17 2 00.0 02.3	25	0.3	0.3		Phases masked by strong micros.
3	5	e L Mn ₁ Me Mn ₂ F	14 04 03 08 20 10.5 14.0 22.1 14 35	19 12	0.6 0.9	0.3		
4	7	i(S) i L Mn F	4 23 09 29 0± 46 20 539.7 5 52	17	1.1			
5	9	i i F	2 24 52 29 0± 3 15					Beginning lost in changing paper. Small throughout-no definite maximum.
6	15	iP i iS i iSR ₁ L Mn ₁ Me ₁ Me ₂ Mn ₂ Me ₃ Mn ₃ F	13 03 30 09 16 13 45 14 23 15 25 17 32 19.0 19.3 20.5 21.2 21.3 22.2 19 05	15 12 12	1.3 2.5 3.0	1.4 0.9 1.0	32° 4	
7	17	e e i Me	19 17.3 20.0 22 00 23.7			0.2		From Milne. Milne-Shaw records faulty.
8	21	iP iPPP iS M i i i(SSS) iL Mn ₁ Me ₁ Mn ₂ Me ₂ Mn ₃ Me ₃ Mn ₄ eW ₂ F	19 31 57 35 27 40 35 40 44 42 07 44 20 47 55 51 32 54.3 54.7 55.2 56.9 53.7 20 02.3 02.4 21 53.7 22 39	19 16 14 12	3.3 3.3 3.9 2.3 2.6	1.4 3.3 3.2	64° 5) both rather small.

ADELAIDE OBSERVATORY.

Seismological Bulletin JANUARY 1933 Continued.

No.	Date	Phase	Time (Greenh) H. M. S.	Recorded Period of Waves N-S	A			Remarks.			
					N mm.	E mm.					
9	23	i	13 26 17		0.4			largest movement.			
		i	30 26								
		F	13 50								
10	25	e	12 28.4					Very small.			
		F	12 37								
11	27	e	22 46 08					Very small.			
		is	52 19								
		e	55 17								
		iscs	56 00								
		L	58 00								
		m ₁	23 05.0						13	1.3	2.3
		me ₁	05.9								
		m ₂	08.4						11	1.8	
		me ₂	09.0							1.1	
		m ₃	09.6						12	1.7	
F	24 45										
12	29	e	11 06.4					Very small, in micros			
		me	12.8								
		mn	14.3						1X4	0.6	0.2

CONSTANTS.

Milne-Shaw.(N-S Component)

Period 1st to 11th, 13^s.8; 12th to 31st, 12^s.2.

Damping ratio 20 : 1. Magnification 150.

Milne(E-W Component)

Period 18^s.6. Sensibility 0".37

AD-LAIDE OBSERVATORY.

Seismological Bulletin FEBRUARY 1933.

No.	Date	Phase	Time (Green ⁿ) H. M. S.	Recorded Period of Waves N-S	A N mm.	A S mm.	△	Remarks.
13	3 ^h	i e eL In F	22 34 13 41 14 49 35 52.8 23 15	20	0.5 0.3			
14	9	eS e L In ₁ In ₂ In ₃ F	15 49 00 51 14 52 18 54.9 55.8 56.5 57.5 16 14.0	11 11 11	1.4 1.8 1.5	0.4		
15	14	e i(S) i Me In	4 38 13 40 19 41 08 43.0 43.5	11	1.3	0.4		May be earlier in micros.
16	14	e L In Me	5 31 03 39 00 46.7 48.1	13	1.1	0.5		May be micro.
17	15	e L In	9 17 10 18 21 20.3	11	1.1			
18	19	e iS iL In Me F	8 41.0 46 27 50 26 52.3 53.4 9 40	16	1.6	0.7		Approximate, very small.
19	20	e e In F	23 04 47 11 34 13.7 23 25	12	0.3			
20	23	i i i i i L In ₁ In ₂ Me	8 29 37 34 52 36 15 39 10 45 40 53 42 59 17 9 05 00 06.8 07.8	27 23	2.0 3.2 4.3	0.8		Persistent micros. throughout day.
21	27	e e(L) i In F	15 00.3 02 05 02 44 05.7 15 20	10	0.3			Very small.
22	27	eP iS i i i L In ₁ In ₂ In ₃ F	16 15 00 19 04 19 21 20 22 21 00 21 13 21.9 23.0 23.7 17 17	11 11 10	2.0 1.9 2.3		23.0	shown as phase i(S) in preliminary report which was typographical error. Greatest movement on Milne, 1.1mm. at 16 ^h 20 ^m .4
23	27	e e In F	23 07 43 08 45 10.0 23 23	9	0.3			Very small.

CONSTANTS. Milne-Shaw (N-S-Component) Period 12^s.6. Damping Ratio 20%.
Magnification 150.
Milne (S-W-Component) Period 18^s.4. Sensibility 0".37

ADLAIDE OBSERVATORY.
Seismological Bulletin MARCH 1933

No.	Date	Phase	Time (Green ^h) H. M. S.	Recorded Period of Waves N-S	A N E mm.	Remarks.
24	1	e	20 43 00			
		m	47.7	15	0.6	Obscured by strong micros.
25	2	e	4 22 04			
		i	22 35			Small, in micros.
		L	23 23			
		m	23.5		0.4	
		m	26.2	9	1.2	
36	2	1P	17 42 29			
		1(PcP)	42 46			74° 0
		1	43 50		9.4	
		i	43 13			
		is	52 03		5.3	
		i	52 11		18.0	
		i	53 32			
		iss	56 45			
		i	56 50		16.8	
		i	57 10			
		i	57 22		31.1	longer period.
		i	18 00 23			
		i(L)	02 31			
		1L	05 20			
		m ₁	06.0	21	33.2	
		m ₁	06.4		7.4	
		m ₂	08.9		7.8	
		m ₃	11.3		14.0	
		m ₂	11.8	21	40.2	
		m ₃	13.3	22	43.3	
		m ₄	14.0		9.8	
		m ₄	14.7	31	39.8	
		m ₅	16.3		13.0	
		m ₅	22.2	19	56.2	Milne. (L-V) against stops from 18 ^h 13 ^m 18 ^h 23 ^m
27	3	e	9 34.0			
		e	39 15			
		e	46 25			
		m	55.7	20	0.4	
28	5	e	8 32.0			From Milne. Milne-Shaw lines run together.
		e	33 26			
		i	27 18			
		i	28 40			
		ie	40.8		0.3	
29	9	e	20 47.1			Small.
		e(L)	49. 17			
		m	52.3	13	0.3	
		F	21 15			
30	11	e	7 39 45			Whole movement very small but definite on both instruments.
		m	51.2	14	0.2	
		F	3 20			
31	11	1P	19 42 09		0.9	Deep focus type.
		1(PP)	43 54			
		is	49 49			
		i	52 50		1.8	L. waves small and indefinite.
		i	56 50			
		F	20 35			
32	13	L	16 50.4			Phases difficult to recognise, in strong micros.
		m	55.5	15	0.4	
		ie	56.2		0.2	
33	15	e	5 12 35			
		i(S)	16 33			
		L	17 42			
		m	21.7	16	1.1	
		ie	25.5		0.8	
		F	6 22			
34	17	e(P)	16 10.0			73°
		is	19 30			Approximate in strong micros.
		L	32 40			
		m	44.4	31	1.4	

ADELAIDE OBSERVATORY.

Seismological Bulletin MARCH 1933 Continued.

No.	Date	Phase	Time (Green ^h) L. M. S.	Recorded Period of Waves N-S	A N mm.	A E mm.	\triangle	Remarks.
35	17	eP	19 40 39				39° 6	
		iPP	42 03					
		i(PPP)	42 24		1.6			No Milne Record.
		iS	46 40					
		i	47 25					
		iSSS	49 50					
		iScS	50 43					
		L	54 15					
		im ₁	20 00.0	15	4.4			
		im ₂	03.0	17	4.7			
		F	21 10 ^m in micros.					
36	18	e	3 23.1					Masked by micros.
		i	32 15					
		i	35 15					
		L	46 56					
		in	58.2	16	0.7			
		Small movement on 18th at 18 ^h 39 ^m to 19 ^h .						
37	29	e	18 49.6					From Milne, Milne-Shaw
		ie	53.7			0.2		Shaw lines overlap.

CONSTANTS.

Milne-Shaw (N-S. Component)

 Period 11^s.8. Damping ratio 20 : 1. Magnification 150.

Milne (E-W. Component)

 Period 18^s.0. Sensibility 0".40.

ADELAIDE OBSERVATORY.
Seismological Bulletin APRIL 1933.

No.	Date	Phase	Time (Green ⁿ) H. M. S.	Recorded Period of Waves N-S	A M mm	A E mm	△	Remarks.
38	9	e L Mn	3 07 30 20.47 432.4	17	0.9			Phases masked by micros.
39	11	i? i L Me Mn	5 54 05 55 06 58 30 59.2 6 01.1	12	1.1 1.5	0.3		May be micro. Micros very strong for whole day.
40	13	eP eS i(L) i Mn F	22 02 30 06 24? 07 41 08 31 09.8 22 55	7	1.3		21°.97	
41	16	e e(S) i i Mn ₁ Mn ₂ Me Mn ₃ F	6 08 28 12 25 14 44 16 15 20.6 22.7 23.8 24.7 7 24	14 13 13	1.0 1.2 1.4	0.3		
42	16	iP i iPP iS i iL Me Mn F	19 22 51 23 35 23 56 27 59 28 46 30 52 34.1 37.4 20 35	11	12.0	6.4		Short period vibrations superposed from 19h32m30s. Single wave of large amplitude.
43	19	e e e(L) Mn Me F	2 07 00 16 16 20 00 25.5 24.4 3 15	18	0.7	0.2		
44	19	e i eL Mn	7 04 00 12 44 16 44 22.7?		0.6			Irregular.
45	23	e e Mn	7 01.0 04.3 10.4	19	0.4			Long shallow waves " " "
46	26	e i Mn F	22 57 54 23 02 05 03.7 23 30	14	0.3			Small. Long period.
47	27	i(S) i i e L Mn Me ₁ Me ₂ F	3 01 19 04 55 11 17 15 20 21.8 40.9 41.0 45.0 5 45	18	2.1	0.9 1.0		

CONSTANTS. Milne -Shaw(N-S Component)
 Period Mar.13, 12^s.0. April 20, 10^s.1, adjusted to 12^s.0
 Damping ratio 20 : 1. Magnification 150.
 Milne(E-W Component). Period 18^s.0. Sensibility 0".41

ADELAIDE OBSERVATORY.
 Monthly Seismological Bulletin MAY 1933.

No.	Date	Phase	Time (Green ^h) H. M. S.	Recorded Period of Waves N-S	A N mm.	A E mm.	Remarks.
48	8	e e L Me Mn F	11 11 22 17 51 32 20 40.5 43.5 13 00	16	0.5	0.2	
49	10	i L me	3 06 42 09.9 12.3			0.2	From Milne-Milne-Shaw record faulty for E.Q's. 49-51.
50	11	e me	14 24.0 27.1	Very small.			
51	16	e e L me F	1 30.0? 36.1 40.4 48.0 2 25			0.4	In hour break.
52	19	e(L) Mn	19 07.6 15.5	19	0.5		Other phases small & masked by micros
53	20	e eL Mn Me F	4 56 23 59 30 5 02.3 07.5 5 37	16	1.0	0.3	
54	20	e eL Mn F	8 25 05 28 32 31.3 8 48	12	0.3		Very small.
55	21	e i eL Mn Me F	8 25 23 28 43 31.6 34.2 35.5 8 43	12	0.5	0.2	Very small.
56	21	e(P) e i i Mn	11 57 58 12 03 05 05 14 06 26 09.8	9		0.4 0.6	Short period - phases indefinite.
57	21	e i i i F	21 35 53 38 39 38 56 39 25 21 51				Short period throughout. Phases indefinite.
58	23	e e i L Mn F	20 24 42 26 25 27 32 32.5 34.5 20 45	12	0.4		May be 2 E.Q's. as in Riverview provisional Bulletin. In this case 1st. max. small at 20 ^h 25 ^m .5 micros strong throughout.
59	29	i eL Mn Me	10 27 20 33 46 40.0 42.4	16	0.6	0.2	

CONSTANTS. Milne-Shaw(N-S Component) Period Apl. 20th 12^s.0
 June 7.10^s.1
 Damping Ratio 20 : 1. Magnification 150.
 Milne(E-W Component) Period 18^s.0 Sensibility 0".44.



ADELAIDE OBSERVATORY.
Seismological Bulletin JUNE 1938.

No.	Date	Phase	Time (Green ⁿ) H. M. S.	Recorded period of Waves N-S	A		△	Remarks.
					N mm.	E mm.		
60	2	e e Mn	8 10 16 14.0 18.2					Very small Small.
61	2	e e(S) iL Mn Me F	12 34.07 38 21 42 21 43.9 44.7 13 00	14	0.8	0.2		Very small.
62	4	e e(S) i Me Mn F	13 50 54 51 40 57 23 58.8 14 00.4 14 19			0.2 0.7		
63	5	iS L Me Mn F	21 28 20 33.0 34.8 35.0 22 03	14	0.4			Very small
64	5	e F	22 19.1 22 21					Very small amplitude.
65	6	e e i eL Mn Me F	0 38 25 42 03 48 15 53 10 55.8 57.6 1 20	12	0.6	0.2		Small, but shown by both instruments.
66	7	iS i L Mn Me F	6 01 25 03 25 07 35 10.0 10.9 6 45	10	0.8	0.3		
67	18	e e eL Me F	4 12 24 15 17 18.2 23.1 5 10			0.3		Very small. Milne-Shaw trace ran off paper at 4 ^h 16 ^m .
68	18	iP iS iSSS L Mn Me	21 49 05 58 45 22 07 10 10 50 17.3 19.5	29	0.6	0.3	75°	Times approximate-no time marks.
69	22	e e eL Mn F	5 48 10 53 34 55 43? 53.4 6 25	10	0.4			Small.
70	24	iPP i iS i iSS iScS iL Mn ₁ Me ₁ Mn ₂ Me ₂ Mn ₃ Me ₃ F	22 02 52 04 43 05 40 09 14 09 42 12 17 12 50 15 20 17.4 17.7 18.8 19.6 20.3 20.9 0 40	23 20 21	3.0 5.6 8.0 48.6 30.9 32.5	4.8 6.8 7.8	42° 7'	

Constants. Milne-Shaw (N-S Component) Period June 7th, 10^s.1 adjusted to 12s.0; July 6, 12^s.2. Damping ratio 20 : 1. Magnification 150. Milne (E-W Component) Period 1st-15th, 18^s.1; 15th-30th, 17^s.1. Sensibility 0".42.

ADELAIDE OBSERVATORY.
Seismological Bulletin JULY 1933.

No.	Date July	Phase	Time (Greenh) H. M. S.	Recorded Period of Waves N-S	A		△	Remarks.
					N mm.	E mm.		
71	9	iP	12 43 05	19	1.0	0.3	77°.0	
		iS	52 58					
		i	54 34					
		L	13 09.0					
		Mn	17.7					
		Me	17.8					
72	10	iP	10 39 13	Irregular	5.8	2.1	30°.1	Sharp.
		i	44 02					
		iS	13					
		i	44 49					
		iL	46 28					
		Mn ₁	48.7					
		Me ₁	49.3					
		Mn ₂	51.3					
		Me ₂	51.5					
		F	11 29					
73	31	eP	20 19 40	20	3.4	0.8	85°.4	Very small. Movement very small between 20 ^h 32 ^m and 20 ^h 52 ^m .
		iS	30 17					
		L	52.07					
		Mn ₁	57.0					
		Mn ₂	21 01.9					
		Me	02.5					
74	14	i	1 45 25	14	0.8			Phases small.
		i	49 15					
		eL	51 16					
		Mn	53.2					
75	22	i	21 19 26	25	0.8	0.3		} phases small.
		i	22 35					
		e	26 33					
		L	41.67					
		Mn	45.1					
		Me	47.5					
76	24	e	19 10 15			1.2		No definite Mn.
		e	18 56					
		e	19 15					
		Me	26.9					
77	30	iP	17 21 56	8	2.0	0.3	30°.7	
		iS	27 00					
		i	29 08					
		i	30 25					
		Mn	31.3					
		Me	34.5					
F	17 55							

Constants. Milne-Shaw(N-S Component)

Period July.6th, 12^s.2: August 28th 13^s.3. Damping Ratio 20 : 1.
Magnification 150.

Milne(E-W Component) Period 1st-17th, 17^s.1; 18th -31st, 17^s.6
Sensibility 0".42.

ADELAIDE OBSERVATORY.

Seismological Bulletin AUGUST 1933.

No.	Date Aug.	Phase	Time (Green ⁿ) H. M. S.	Recorded Period of Waves N-S	A N mm.	A E mm.	Δ	Remarks.
78	5	iP iS L Me ₁ Mn ₁ Me ₂ Mn ₂ Mn ₃ Mn ₄	0 50 25 55 43 59 23 1 02.4 03.0 03.13 03.8 04.6 05.3	13 10 11 10	3.0 2.9 3.4 3.7	0.7 0.9	31°.3	
79	11	e e(L) Mn F	9 20 50? 28 31? 36.9 9 44	16	0.4			Small, in micros of larger amplitude.
80	20	e F	12 09 31 12 38					Long period. No definite maximum.
81	25	iP i iS m i(PS) iSS iSSS iL Mn ₁ Mn ₂ Me F	8 02 09 02 16 11 46 53 12 26 17 11 20 21 25 20 33.2 36.6 39.0 10 00	28 24	3.9 3.9 4.2	0.8	74°.5	
82	28	iP i iPP iS iPS i i L Mn ₁ Me ₁ Mn ₂ Me ₂ Mn ₃ Mn ₄ Me ₃ Mn ₅ 29 F	22 32 17 33 00 35 31 42 37 43 08 43 32 54 35 23 00 10 08.0 08.3 09.5 10.4 10.9 14.0 14.5 15.2 1 10	19 15 16 14 15	22.1 11.3 16.2 15.4 16.7	3.7 4.0 3.5	82°.2	long waves. Micros. heavy through out 31st August.

Constants. Milne-Shaw (N-S Component)

Period July 6th, 12^s.2; August 28.1, 12^s.3. Adjusted to 12^s.0
Damping Ratio 20 : 1. Magnification 150.

Milne (E-W component)

Period 17^s.8. Sensibility 0".44.

ADELAIDE OBSERVATORY.

Seismological Bulletin SEPTEMBER 1933.

No.	Date	Phase	Time (Green ^h) H. M. S.	Recorded Period of Waves N-S	A N mm.	A E mm.	△	Remarks.
83	1	1 i Mn F	19 14 44 19 14 44 17.7 19 22	10	0.3			
84	2	i i Mn i i F	16 51 09 59 20 24 17 00 29 01 55 17 18		2.1			First three phases very sharp commencement. Largest movement. L. waves absent.
85	5	e Mn	0 49.0 52.6	10	0.6			Masked by micros.
86	6	iP iS i Me Mn ₁ Mn ₂ F	1 21 02 25 21 26 54 27.4 27.5 28.3 2 15	10 9	3.1 4.2	0.8	24°.8	
87	6	iP iS i i(L) Mn i Me F	22 15 13 20 25 22 50 23 30 23.8 24 08 24 15 24.5 23 35	10	5.1 4.1 9.3	1.7	32°.0	P. small. Distance 37° by Brunner Chart taking depth 600 km. from Wellington bulletin. largest movement.
88	9	iP iS L i Me F	21 26 38 31 55 35 27 36 20 41.9 22 20		1.1 3.2 5.2	2.0	32°.7	Deep focus. Largest movement.
89	13	i Mn	14 46 27 48.3	8	0.8			
90	16	eL Me Mn	3 31 13 32.5 32.9	10	1.0	0.3		Phases masked by strong micros.
91	22	e iS eL Mn Me F	11 44.5? 50 29 54 43 59.6 12 00.7 12 23	10	0.9	0.3		Very small.
92	24	e? i i L Mn F	15 38 30 43 15 44 22 46.6 48.4 15 53	15	0.3			
93	25	eP iS i iSS F	13 53 44 14 00 07 00 21 03 05 14 26		1.2		42°.9	Deep focus. Largest movement, L. waves small and indeterminate.

ADELAIDE OBSERVATORY.
Seismological Bulletin SEPTEMBER 1933 continued.

No.	Date	Phase	Time (Greenh) H. M. S.	Recorded Period of Waves N-S	A N mm	A E mm	△	Remarks.
94	25	e L Mn	19 14 23 38.5 42.7	25				end in No.95
95	25	e(P) e e L Mn1 Me Mn2 Mn3 F	19 46 24 51 03 51 40 52 35 53.8 54.0 55.2 58.2 20 25	13 10 12	0.8 1.4 1.5	1.2		
96	27	iP iS iL Mn Me F	21 47 57 52 51 58 11 22 00.7 01.2 22 40	13	0.6	0.3	29°.3	Small but sharp.
97	30	eP iS i i(L) i Me1 Me2 Mn1 Me3 Mn2 F	14 27 43 32 56 34 04 35 22 36 47 40.1 40.9 42.1 43.7 43.9 15 52	13 10	8.9 8.6	2.8 3.1 5.4	32°.1	

CONSTANTS.

Milne-Shaw(N-S Component)

Period August 28, 12^s.0; October 3rd, 12^s.1.

Damping ratio 20 : 1.

Magnification 150.

Milne. (E-W Component)

Period 17^s.5.

Sensibility 0".46.

ADELAIDE OBSERVATORY.
Seismological Bulletin, OCTOBER 1933

No.	Date	Phase	Time (Green ^h) H. M. S.	Recorded Period of Waves N-S	A N mm	A E mm	Δ	REMARKS.
98	2	e e(L) Mn Me	6 12.8 14 23 17.4 17.6		0.4	0.2		Obscured by strong micros.
99	2	e e Mn Me F	14 10 33? 15 00 20.1 21.0 14 50	15	2.3	0.8		Small.
100	2	i i i e L Mn ₁ Me Mn ₂ F	15 57 49 58 50 16 07 50 23 30 31.0 35.0 40.5 41.3 17 55	19 19	1.0 0.8 1.0	0.4		
101	4	e i L Me Mn	17 36 44? 38 52 40.0 41.5 43.4	12	0.6	0.4		Masked by micros.
102	7	eP iS i Me Mn	2 14 54 19 12 20 50 21.4 22.1	9	2.2	0.5	24° .6	
103	17	e eL Me Mn	10 15 25 17 56 18.3 18.6	10	0.4	0.2		
104	17	eP i(S) i e Mn Me F	12 30 05 34 20 35 10 35 20 38.8 40.0 12 24	11	1.5	0.4	24° .2	Very short period superposed on larger waves.
105	23	e Mn F	4 11 23 19.4 4 55	15	0.5			
106	25	i e Mn	23 53 15 54 25 59.1	22	0.6			
107	26	eP eS i(PS) eL Mn ₁ Me Mn ₂ Mn ₃ F	12 19 36? 30 06? 30 42 42 34 42.5 51.4 54.7 57.7 13 54	30 15 19	1.0 1.1 1.0	0.3	84°	Very small. May be in hour break.
108	30	e S Mn ₁ Me ₁ Me ₂ Mn ₂ F	7 09.5 12 48 18.4 18.5 20.0 20.3 8 25	14 11	3.4 3.4	1.1 0.9		Masked by micros.

CONSTANTS. Milne-Shaw(N-S Component) Period Oct.3, 13^s.1; Nov.12, 12^s.1.
Damping Ratio 20 : 1. Magnification 150.
Milne(E-W Component) Period 17^s.6. Sensibility 0".43.

ADELAIDE OBSERVATORY.

Seismological Bulletin NOVEMBER 1933.

No.	Date	Phase	Time (Greenh) H. M. S.	Recorded Period of Waves N-S	A N mm	A E mm	△	Remarks.
109	13	eS L Mn Me F	19 06 04 06 52 07.7 09.5 19 23	6	0.6	0.2		
110	18	eP e(S) e e L Me Mn	3 57 10? 4 05 30 07 24 10 50 15 40? 18.5 22.7	11	1.3	0.3		Very small, in micros.
111	18	e Mn Me	6 19 20 26.2 26.4	14	0.3			Masked by micros.
x								Very small.
112	19	eP iS iSS i m L Mn ₁ Me ₁ Mn ₂ Me ₂ Mn ₃ F	3 17 45 22 55 24 33 26 29 26 46 27 35 29.2 30.2 31.1 32.2 34.0 4 40	16 15 11	2.2 3.0 3.0	1.2 1.8	31° .7	
113	20 21	eP iP' i m iPPP iPS SS L Mn F	23 40 55 43 54 44 36 44 50 49 10 56 30 0 03 20 24 55 40.0 3 00	10 20	4.2 1.6			Following Melbourne & Wellington interpretation. Largest movement.
114	22	iP iS i L Me Mn ₁ Mn ₂ Me ₂ F	12 48 46 53 51 55 54 56 13 13 01.7 01.8 05.7 06.4 13 55	17 14	3.8 4.6	1.7 1.5	30° .9	
115	27	e Mn Me	20 45.5 50.4 51.7	12	0.4	0.2		

CONSTANTS.

Milne-Shaw(N-S Component)
 Period Nov.12th, 12^s.1; January 3rd, 1934, 11^s.9
 Damping ratio 20 : 1. Magnification 150.
 Milne(E-W Component)
 Period 17^s.4 Sensibility 0".457

ADELAIDE OBSERVATORY.

Seismological Bulletin DECEMBER 1933.

No.	Date	Phase	Time (Green ^h) H. M. S.	Recorded Period of Waves N-S	A N mm	A E mm	Δ	Remarks.
116	1	e(S) L Mn	7 09 37 11 48 14.7	15	0.6			Phases masked by micros.
117	1	e L Mn	10 37 10 39 38? 39.9	10	0.3			Very small.
118	2	1P i iS i iL Mn ₁ Me ₁ Mn ₂ Mn ₃ Me ₂ F	5 22 26 23 49 26 51 27 08 28 24 30.6 30.8 31.7 32.2 32.5 6 51	12 10 11	7.0 4.9 5.6	3.8 2.7	25°.5	
119	2	e e i L Mn F	20 25 15 30 11 31 30 48.6? 58.0 21 20	20	0.5			Very small. Small
120	12	1P ePP 1PPP iS i L Me Mn F	14 17 53 19 04 19 12 23 10 23 37 26 35 30.2 30.8 15 27	18	4.4	1.7	34°.1	
121	31	e i Mn	10 25 10 26 36 27.8	10	0.5			
122	24	e eS L Me Mn ₁ Mn ₂ Me ₂ F	10 53 09 57 45 11 00 32 05.7 08.0 09.4 09.5 12 05	15 15	1.9 1.9	0.9 1.2		
123	27	e e L Me Mn F	11 31 16 36 34 41 35 43.5 43.8 12 15	12	0.8	0.4		
124	30	e e Mn	12 43.0 44 35 47.3	8	0.6			Small, masked by strong micros.

CONSTANTS.

Milne-Whaw(N-S Component)

Period Jan.3rd,1934,11^s.9. Damping Ratio 20 : 1. Magnification

(150

Milne(E-W Component)

Period 17^s.3.Sensibility 0".48