1928 complete

ADELAIDE OBSERVATORY,

SOUTH AUSTRALIA.

SEISMOLOGICAL BULLETIN.

Prepared under the direction of
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GOVERNMENT ASTRONOMER.

ϕ. 34°. 55′. 38·0″. S. λ. 9^h. 14^m. $19{\cdot}81^s$. E. Height above Mean Sea Level—134 feet.

SITUATION.—5 miles West of Mount Lofty Ranges, 5 miles East of Sea Coast.

FOUNDATION.—Marly Limestone and Clay of Adelaide Plains, to depth of 40 feet. Miocene Sandstone probably below. Depth of bedrocks not known, probably 1,000 to 2,000 feet.

INSTRUMENTS.—Milne's Horizontal Pendulum, No. 50, 1904 Pattern. E.—W. Component Recorded.
Milne-Shaw Seismograph, No. 35. N.—S. Component.

NOTATION.

I. = perceptible. II. = striking. III. = very striking.

d (domesticus) = local.
v (vicinus) = near (less than 1000km.).
r (remotus) = distant (1000km.—5000km.).
u (ultimus) = very distant (over 5000km.).

PHASES.

P (primae)	= 1st preliminary tremors (commencement).
S (secundae)	= 2nd preliminary tremors (commencement).
L (longae)	= 2nd principal phase, Rayleigh waves.
M (maximae)	= maximum amplitude of L waves.
C (coda)	= a prominent wave among the "after tremors."
F (finis)	= last perceptible movement (non-microseismic).
PR_1, PR_2	= 1st and 2nd reflected waves of P.
SR_1, SR_2	= 1st and 2nd reflected waves of S.
i (impetus)	= abrupt commencement, clearly defined.
e (emersio)	= gradual commencement, not clearly defined.
E, N	= E-W or N-S component of earth oscillation.
Δ	= approximate distance from epicentre in km.
E.Q.	= earthquake.

SEISMOGRAPH REGISTER
ADELAIDE OBSERVATORY

JANUARY 1928 Bulletin No.1

No	Date Jan	Char	Phase	Time (Green^h) H. M. S.	Recorded period of Waves N–S	A_N	A_E	△ in kms.	Remarks
1	3	I	S	23 08 40					
			L	13 23					
			Mn	18 10		0.9			
			Me	19 40			0.5		
			F	23 32					
2	4	IIr	iP	21 31 56				3600	
			iS	37 20					
			i	39 27					
			iL	40 29					
			Mn1	46 04		3.7			No E–W record, drum stuck
			Mn2	47 33		4.7			
			Mn3	50 27	10.0	5.8			
			F	22 35 in micros					
3	6	Iu	iS	20 01 10					P indistinguishable in micros. Times approx.no time breaks
			eL	17 15					
			Mn	30 50		1.3			
4	7	I	eS	18 53 06?					
			eL	56 42?					
			Me	18 59 10			0.3		
			Mn	19 00 00		0.8			
			F	19 13					
5	10	Ir	eP	5 18 12?				3000	
			eS	22 42					
			eL	25 10					
			Mn1	27 32		1.3			
			Mn2	31 08		1.6			
			Me	31 25			0.3		
			F	5 55					
6	19	Ir	iS	23 02 45					
			L	05 50					
			Mn1	08 48	12.5	2.2			
			Me1	10.25			0,6		
			Mn2	10 24		1.7			
			Me2	13 45			0.8		
			F	24 04? in micros					
7	26	Iu	eP	22 00 25				5400	
			iS	07 28					
			L	14 05					
			Mn	17 00		0.8			
			Me	19 45			0.8		
			F	22 40					

Constants. Milne-Shaw Period 12.1 seconds. Damping ratio 20 : 1.
Milne. Period 15.6. Sensibility 3rd–10th,.57; 19th–26th,.53.

SEISMOGRAPH REGISTER

ADELAIDE OBSERVATORY

FEBRUARY 1928 — Bulletin No.2

No	Date Feb	Char.	Phase	Time (Green^h) H. M. S.	Recorded period of Waves N-S	A_N	A_E	△ in kms.	Remarks
8	5	Iu	eP	22 57 32?				2900	
			eS	23 02 00					
			L	04 30					
			Mn	06 00		0.7			
			Mel	12 30			1.8		
			Me2	16 10			1.0		
			F	23 37					
9	6	Ir	iP	4 00 29				3600	
			eS	05 47					
			i	06 58					
			L	08 37					
			Mn	10 23	7.7	1.5			
			Me	13 05			0.4		
			F	4 45					
10	7	Iu	eP	0 11 00				6200	No record N-S instrument.
			eERl	13 24					
			iS	19 08					
			eSRl	23 13					
			L	27 04					
			Mel	33 35			1.4		
			Me2	34 25			1.6		
			Me3	34 35			1.5		
			F	1 30? in micros					
11	13	I	eS	16 45 45?					Micros strong, phases hard to recognise
			L	46 43					
			Mn	49 12		1.2			
12	17	I	eS	12 50 32					
			L	55 35?					
			Mn	57 15		0.8			
			Me	13 00 20			0.9		
			F	13 20					
13	25	Ir	iP	11 04 20				2800	
			iPRl	04 50					
			iS	08 48					
			iL	09 47					
			Mnl	09 58		4.3			
			Mn2	10 30		3.8			
			Me	10 30			4.5		
			F	11 31					
14	29	Ir	iP	22 02 16				2600	
			iS	06 40					
			L	07 42					
			Mel	08 05			4.8		
			Me2	08 40			4.9		
			Mnl	09 15	8.8	4.5			
			Mn2	09 46		5.5			
			F	23 05					

Constants Milne Shaw- Period 12.0 seconds. Damping ration 20 : 1.
Milne Period 15.3 Sensibility .52

SEISMOLOGICAL BULLETIN

ADELAIDE OBSERVATORY

March 1928 Continued Bulletin No.3

No	Date Mar	Char	Phase	Time (Greenh) H. M. S.	Recorded period of Waves N-S	A_N	A_E	Δ in kms.	Remarks
23	22	IIu	eP	4 39 13				9700	
			eS	49 53					
			i	58 05					
			ESR2	5 00 03					
			L	07 10					
			e(L2)	13 35					
			Mn1	23 45	20.0	2.4			
			Me1	24 55			1.0		
			Mn2	28 40		1.4			
			Me2	31 15			0.9		
			Me3	32 50			1.1		
			Me4	44 10			1.2		
			Me5	46 05			1.1		
			F	7 40					
24	23	I	e	20 17 05					
			L	19 39?					
			Mn	23 00		0.9			
			Me	27 30			0.6		
			F	20 49					Small tremor on 24th. Max at 12^h35^m 35^s
25	26	Ir	iP	5 33 37				3900	
			iS	39 17					
			Mn	51 55		1.4			
			Me	53 05			0.6		
26	26	I	e(S)	6 55 05					E.Q's 26-28 very small movements.
			Mn	7 08 35		0.5			
			F	7 29					
27	26	I	i	8 19 12					
			Mn	35 20		0.3			
28	26	I	i	10 00 33					
			Mn	17 00		0.3			
29	27	Ir	eP	14 45[illegible]50?					P.in micros
			iS	49 26					
			i(L)	50 55					
			Me1	52 35			0.3		
			Mn	56 00		0.8			
			Me2	57 05			0.4		
			F	15 20					
30	27	I	i	19 35 28					versy small movement
			Mn	40 15		0.3			

SEISMOLOGICAL BULLETIN

ADELAIDE OBSERVATORY

March 1928 Continued

Bulletin No.3

No N	Date Mar	Char.	Phase	Time (Green^h) H. M. S.	Recorded period of Waves N-S	A_N	A_E	Δ in kms.	Remarks
31	29	Ir	iP	5 16 04					
			iS	24 21		3.4	0.9		
			i	25 25		2.7			
			L	31 35?					
			Mn	34 12		1.5			Max.not
			Me	34 45			0.4		definite-
			Me	39 10			0.6		later amp.
			F	6 18					small
32	29	I	e	19 36 00					
			Mn	38 15		0.5			

Constants

Milne Shaw- Period Mar.9th-15th,7.5 secs: Mar 15th-31st, dropped from 12.0 secs. to 8.0 secs.
Damping ratio 20:1

Milne- Period 9th-23rd, 15.5 secs.:26th-29th,15.3 secs.
Sensibility .52.

SESSMOGRAPH BULLETIN

ADELAIDE OBSERVATORY

APRIL 1928 Bulletin No.4

Np.	Date	Char.	Phase	Time (Green^h) H. M. S.	Recorded period of Waves N-S	A_N	A_E	Δ in kms.	Remarks
33	9	I	eL	18 32 17?					Slight tremor Apl.2 i $22^h\ 37^m 10^s$
			Mn	39 00?		0.4			e 39 15
34	13	Ir	eP	18 52.5 approx				1300	No record Apl. 5, 13^h to Apl7
			iS	54 40					$0^h\ 59^m$.
			iL	55 13					
			Mn	55 30	6.0	1.1			
			F	19 03					
35	14	Iu	eP	9 20 38?				11000	small move- ment, phases uncertain
			iS	32 19					
			e	38 33					
			eL	53 25?					
			Mn	10 15 35	19.6	0.5			
			Me	18 30			0.25		
			F	11 14					
36	18	Iu	i	19 45 15					
			e	20 01 15					
			Mn	20 43 25		0.3			
			F	21 27					

Constants

Milne Shaw- Period 12.0 seconds.
Damping ratio 20 : 1.

Milne- Period 16.4 seconds
Sensibility .55.

SEISMOGRAPH BULLETIN

ADELAIDE OBSERVATORY

MAY 1928 Bulletin No. 5

No.	Date May	Char	Phase	Time (Greenh) H. M. S.	Recorded period of Waves N-S	A_N	A_E	△ in kms.	Remarks
37	14	I	iP	2 55 35					Continuous record of Waves of approx. 30 secs period amp. 0.4mm from May 11, 7h 16m to 12h 30m. Other phases of E.Q. 37 lost in changing record.
			Mn	3 04 45		1.6			
38	14	IIIu	iP	22 35 48				11600	
			iS	47 54					
			i	53 00					
			i	56 59					
			iL	23 07 45					
			Mn1	17 45	18.0	6.3			
			Mn2	20 45	18.5	10.4			
			Me1	22 30			3.4		
			Mn3	21 40	18.5	10.0			
			Me2	25 55			2.6		
			Me3	29 10			3.3		
			Me4	32 10			4.2		
			Me5	36 25			2.4		
	15		F	1 07					
39	15	I	eL	3 35 32					
			Mn	42 10		0.5			
			F	3 55					
40	15	I	e	6 32 37					
			Mn	36 00		0.5			
			F	6 54					
41	22	Ir	eP	13 33 38?				3550	
			i	35 39					
			eS	38 58					
			eL	41 35?					
			Mn	42 20		0.5			
			Me	43 00?			0.2		
			F	13 52					
42	23	I	e	21 04 45					
			eL	10 25?					
			Mn	16 00		0.4			
			Me	14 10			0.2		
			F	21 29					
43	27	I	eL	6 06 20					
			Mn	10 25		0.3			
			Me	13 20			0.2		
			F	6 29					
44	27	IIu	eP	10.02 04				8200	
			iS	11 35					
			iSR2	19 42					
			iSR3	21 28					
			iL	24 44					
			Me1	27 20			0.8		
			Me2	29 00			0.7		
			Mn1	31 30	22.0	2.8			E-W Component (Milne) rather irregular rcd. Largest movement 10h23m 20s. , 9.9mm.
			Mn2	34 00	22.0	3.2			
			F	12 40					
			i	10 16 12					

SEISMOLOGICAL BULLETIN

ADELAIDE OBSERVATORY

MAY 1928 Continued — Bulletin No.5

No.	Date May	Char.	Phase	Time (Greenh) H. M. S.	Recorded period of Waves N-S	A_N	A_E	△ in kms.	Remarks
45	28	Ir	eP	6 50 15?				3700?	P very small amplitude
			iS	55 34					
			iL	58 43					
			Mn1	7 01 45	19.1	2.1			
			Mn2	03 35	15.0	1.9			
			Mn3	04 35	14.5	2.2			
			Me2	10 15			1.3		
			Me1	08 00			0.8		
			Me3	12 00			1.1		
			F	7 46 in micros					
46	31	Ir	eS	17 40 45?					Phases masked by micros
			eL	42 36?					
			Mn	44 10		0.6			
			Me	44 30			0.245		
			F	17 55					
47	31	Ir	iS	23 39 12					P. in micros
			eL	43 22					
			Mn	48 00		1.3			
			Me1	51 05			0.8		
			Me2	54 20			0.7		
			Me3	24 00 40			1.3		
			F	24 40 in micros.					

Constants

Milne-Shaw Period 12.3 seconds
Damping ratio 20 : 1

Milne- Period 15.4 seconds
Sensibility- .60.

SEISMOLOGICAL BULLETIN

JUNE 1928 ADELAIDE OBSERVATORY Bulletin No.6

No.	Date June	Char.	Phase	Time (Greenh) H. M. S.	Recorded period of Waves N-S.	A_N	A_E	△ in kms.	Remarks
48	3	I	i(S)	3 02 31					P & S in micros
			eL	08 43					
			Mn	12 15	12.0	1.2			
			Me1	12 30			0.9		
			Me2	13 25			0.8		
49	8	Ir	eS	14 57 50				3900?	P & F in micros
			iSR1	59 58					
			eL	15 01 26					
			Mn	04 25	15.0	1.2			
			Me1	09 10			0.8		
			Me2	12 00			1.0		
50	15	IIu	iP	6 21 35				5550	
			iPR1	23 24					
			iS	28 49					
			i	31 07					
			L	35 28					
			Mn1	39 45		3.7			
			Me1	41 40			2.6		
			Mn2	42 55		3.8			
			Me2	42 45			2.4		
			Me3	44 35			1.9		
			F	8 03					
51	15	Iu	eP	17 25 11				5700	
			iS	32 36					
			i	35 40					
			iSR1	38 40					
			iSR2	37 42					
			iL	39 09					
			Me1	45 00			1.2		
			Mn	46 30		1.5			
			Me2	49 20			0.9		
			F	18 24					
52	16	Ir	eP	18 32 44				3150	
			iS	37 34					
			iL	39 51					
			Me	44 10			0.7		
			Mn	44 40		1.3			
			F	19 09					
53	17	IIIu	e(P)	3 28 12?					rcd. changed at 3.29- P. may be missed E.Q. preceded by micros
			iS	42 43					
			i(SR1)	51 25					
			i	57 47					
			iL	4 12 03					
			Mn1	24 55	19.8	7.4			
			Me1	28 25			4.4		
			Mn2	29 20	18.8	5.0			
			Mn3	30 40	17.6	5.2			
			Me2	35 15			5.7		
			Mn4	35 30	18.6	5.6			
			Mn5	37 25	14.8	6.4			
			Mn6	39 45	14.0	5.6			
			Me3	39 50			8.6		
			Me4	41 30			6.9		
			Me5	48 50			5.8		
			F	in No.54					

SEISMOLOGICAL BULLETIN

ADELAIDE OBSERVATORY

JUNE 1928 continued — Bulletin No.6

No	Date	Char.	Phase	Time (Greenwich) H. M. S.	Recorded period of Waves N-S	A_N	A_E	△ in kms.	Remarks
54	17	Ir	eP	6 48 37				3300	
			iS	53 42					
			Mn	57 37		1.7			
			Me	58 15			0.7		
55	21	Ir	eP	3 51 35?				4900	P. indistinct
			eS	57 38					
			iL	4 03 36					
			Mn	05 30		0.9			
			Me	07 40			0.7		
			F	4 43					
56	21	IIIr	eP	10 48 00				4550	
			iPR	49 54					
			iS	54 13					
			iSR2	57 39					
			L	59 20					
			Mn1	11 02 40	15.6	14.1			
			Me1	03 50			2.9		
			Mn2	04 25	12.0	11.4			
			Me2	06 55			5.2		
			Me3	10 00			3.6		
			Mn3	10 45	13.0	24.6			
			Me4	13 25			6.8		
			Mn4	13 35	10.6	14.2			
			F	12 55					
57	21	I	eS	16 56 20					Phases uncertain
			L	17 21 38					
			Mn	30 10	20.0	1.0			
			Me	31.5			0.4		No definite Me
			F	19 00					
58	29	IIr	iP	22 56 31				3600	
			iPR2	57 42					
			iS	23 01 51					
			iSR2	04 16?					
			iSR1	03 43?					
			iL	04 45					
			Mn1	06 15	16.7	18.9			
			Me1				3.6		
			Mn2	09 35	13.4	16.4			
			Mn3	10 50	13.0	15.7			
			Me2				7.0		
			Mn4	11 45	13.0	16.2			
			Mn5	12 50	10.4	16.6			
			Me3	13 30			5.2		
			Mn6	13 45	10.4	20.4			
			Me4	11 45			5.6		
	30		F	1 10					

Constants Milne-Shaw
Period 12.0 seconds. Damping ratio 20 : 1
Milne- Period 15.5 seconds.
Sensibility 1st-17th, .52: 21st-29th, .48.

SEISMOLOGICAL BULLETIN

ADELAIDE OBSERVATORY

JULY 1928 Continued

Bulletin No.7

No	Date	Char.	Phase	Time (Greenh) H. M. S.	Recorded period of Waves N-S	AN	AE	Δ in kms.	Remarks
66	23	Ir	iL	7 52 12					
			iP	7 46 13				2780	
			iS	59 37					
			SR2	51 55					
			1Mn)	53 33	14.0	3.7			
			1Me)				2.7		
			Mn2	54 45	14.0	3.2			
			Mn3	55 27	10.6	3.1			
			Me2	55 35			2.7		
			Mn4	56 04	12.5	3.1			
			Me3	56 50			1.8		
			F	8 33					
67	26	I	P	12 22 05?					Milne Shaw drum stuck from 12h 24m to 12h 38m
			iS	27 17					
			L	32 18					
			Mel	342 10			0.3		
			Me2	37 10			0.4		
			F	12 58					
68	28	I	iS	0 12 243					
			iL	13 22					
			Me	13 35			0.3		
			Mn	14 40	8.0	0.4			
			F	0 28					

Constants. Milne Shaw- Period 11.0 seconds
Damping ratio 20 : 1.

Milne- Period 15.5 seconds
Sensibility .48.

ADELAIDE OBSERVATORY

SEISMOLOGICAL BULLETIN

AUGUST 1928 — Bulletin No. 8

No	Date Aug.	Char.	Phase	Time (Green^h) H. M. S.	Recorded period of Waves N-S	A_N	A_E	Δ in kms	Remarks
69	4	Iu	i	18 48 49					
			e(S)	57 08					
			i(SR)	19 04 10?					
			L	20 15					
			Mn1	31 40	20.6	1.4			
			Me1	34 10			1.2		
			Mn2	35 25	19.6	0.7			
			Me2	37 10			1.4		
			Me3	50 05			1.9		
			F	21 10					
70	12	I	i	8 17 08					Milne-Shaw off paper from 4^h40^m to 11^h18^m
			iS	21 20					
			iSR1	24 00					
			L	27 03					
			Me1	33 35			1.2		
			Me2	35 45			0.9		
			F	9 26					
71	24	Ir	iP	21 49 54				3350	
			iPR1	50 37					
			i	51 07					
			iS	54 58		4.2	0.9		
			L	57 28					
			Me1	58 05			1.5		
			Mn1	59 00	6.0	3.5			
			Mn2	59 30	8.5	6.7			
			Mn3	22 00 05	6.0	4.2			
			Me2	01 02			2.1		
			F	22 55					
72	24	I	i	23 29 36					masked by micros
			eL	35 05?					
			Mn	37 50		0.6			
			Me	38 25			0.7		
			F	23 57					
73	26	Ir	eP	4 15 04				3400	
			iS	19 53					
			iL	21 58					
			Mn	25 25	15.0	1.2			
			Me1	26 25			0.4		
			Me2	29 15			0.5		
			F	4 38					
74	28	I	e(L)	8 40 42?					Phases masked by strong micros & air tremors
			Mn	42 40		1.1			
			Me	indefinite			0.4		

Constants Milne Shaw. Period 7th, 8.5 secs. ; 11th-13th, 7.0 secs.
Damping ratio 20 : 1
Milne Period 15.7 seconds.
Sensibility 0.50.

ADELAIDE OBSERVATORY

SEISMOLOGICAL BULLETIN

SEPTEMBER 1928 — Bulletin No. 9

No.	Date Sept	Char.	Phase	Time (Green^h) H. M. S.	Recorded period of Waves N-S	A_N	A_E	△ in kms.	Remarks
75	7	Ir	iP	2 55 22				3100	Small move- ment Sept.12 6^h 50^m – 7^h 14^m
			iPR1	56 00					
			iS	3 00 11					
			i	01 40					
			iL	02 21					
			Mn	08 55	20.0	4.7			
			Me1	09 10			1.8		
			Me2	11 10			1.6		
			F	3 33					
76	11	I	i(S)	0 50 29					Micros present
			Mn	56 25		0.6			
77	12	Ir	e	1 28 37					Micros strong
			iS	31 14		1.2			
			i	33 30					
			L	34 19					
			Me	34 40			0.7		
			Mn	36 45	8.2	1.0			
78	13	Ir	iP	3 33 46					
			iS	39 38					
			L	43 10?					N–S max. lost– drum stuck
			Mel	48 00			0.7		
			Me2	52 55			1.1		
			F	4 30					

Constants Milne Shaw Period Aug.4th,9.0 secs; 12th,12.0 secs.; 24th–28th, 9.5 secs.; Damping ratio 20 : 1

Milne Period Aug.4th,15.5 secs; 12th–28th,15.7 secs. Sensibility 0.49

Errata The constants shown on September Bulletin are for August 1928 and those shown on August Bulletin are for September 1928.

ADELAIDE OBSERVATORY

SEISMOLOGICAL BULLETIN.

OCTOBER 1928 — Bulletin No. 10

No.	Date Oct.	Char.	Phase	Time (Green^h) H. M. S.	Recorded period of Waves N-S	A_N	A_E	△ in kms.	Remarks
79	9	IIu	cP	3 20 48				13500	
			i	23 30					
			iS	34 10					
			i	39 31					
			iSR1	43 08					
			i	55 10					
			iL	4 00 23					
			Mn1	06 00	18.0	3.9			
			Mn2	07 15	17.0	4.4			
			Me1	08 00			2.0		
			Mn3	09 35	15.0	2.3			
			Me2	09 55			2.7		
			Mn4	12 05	17.0	2.9			
			Me3	12 20			3.1		
			Me4	14 05			2.8		
			Me5	18 00			2.3		
			Me6	21 00			4.1		
			Me7	23 30			4.1		
			F	5 42					
80	9	I	i	14 50 45					Times approx.- no time marks.
			Mn	54 25		0.4			
			F	15 17					
81	13	Ir	eP	15 26 00				4800	No Milne Shaw rcd. Oct.13 $1^h\ 54^m$ to Oct.14 $0^h\ 59^m$
			iS	32 32					
			e(L)	37 10					
			Me	43 45			0.4		
82	15	Ir	eP	8 34 38				2700	
			iS	38 56					
			iL	40 26					
			Mn1	46 40	12.5	1.5			
			(Mn2	47 35		1.7			
			(Me1				1.9		
			Mn3	48 10	10.0	1.7			
			Me2	50 10			1.2		
			F	9 36					
83	15	I	i(S)	14 43 25					
			i	43 52					
			L	15 06 31					
			Mexxxxxxx						
			Me	14 40	20.0		0.6		
			Mn	16 50		0.6			
			F	15 40? in micros.					
84	17	I	i	15 39 27					
			i	56 51					
			eL	16 02 50?					
			Me	12 30			0.2		
			Mn	18 30	20.0	0.2			
			F	16 36					

ADELAIDE OBSERVATORY

SEISMOLOGICAL BULLETIN

OCTOBER 1928 continued Bulletin No.10

No.	Date Oct.	Char.	Phase	Time (Greenn) H. M. S.	Recorded period of Waves N-S	A_N	A_E	△ in kms.	Remarks
85	19	Ir	eP	7 05 50?				3400	micros precede
			iS	10 55					
			iL	13 41					
			Mn	16 45	13.3	0.8			
			Me	17.3			0.2		
			F	in micros					
86	19	Ir	S	10 30 15?					Looks like several shocks
			i(SR1)	33 52					
			i(SR2)	34 22					
			i	35 16					
			iL	36 05			XXX		
			Me1	40 25			1.5		
			Mn1	41 10	13.0	3.1			
			Mn2	43 45	13.6	2.7			
			Me2	44 00		XXX	2.7		
			Mn3	44 40	12.5	2.6			
			Me3	47 30			2.7		
			Me4	50 30			2.2		
			F	12 21					
87	21	Ir	eS	16 28 05				4400?	P. hidden in micros
			iL	32 20					
			Me	34 45			1.8		
			Mn	37 10	7.5	2.8			
			F	17 10					
88	25	I	i(S)?	13 40 25					
			eL	49 50					
			Mn	55 10	18.0	0.3			

Constants Milne Shaw Period 9th,17.0 secs;13th,18.8 secs; 15th,19.7 secs.;17th,20.6 secs;19th,21.5 secs;21st,22.4 secs; 25th,12,5 secs.
Damping ratio 20 : 1

Milne. Period 15.7 seconds.
Sensibility 0.50

N.B. Milne Shaw period changed considerably in Sept. & October. Adjusted on Septmber 19th & October 22nd.

ADELAIDE OBSERVATORY

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NOVEMBER 1928. Bulletin No.11

No	Date Nov	Char.	Phase	Time (Green^{h}) H. M. S.	Recorded period of Waves N-S	A_N	A_E	△ in kms.	Remarks
89	5	I	i	14 20 39					
			e	24 00					
			Mn	26 23	11.5	0.3			
			Me	28 10?			0.2		
			F	14 35					
90	6	IIr	iP	4 11 17				3350	
			i	12 36					
			iS	16 24					
			i	17 14					
			iL	18 40					
			Mn1	21 30		6.3			Milne record faint. cannot see M's.
			Mn2	23 20	13.0	6.8			
			Mn3	24 20	12.0	16.0			
			Mn4	25 25	10.9	16.0			
			F	6 00					
91	10	Ir	iS	12 38 ~~38~~ 4				3500	P. in micros
			iSR2	41 00					
			iL	41 32					
			Mn1	44 50	12.0	1.0			
			Mn2	46 55	11.0	1.7			
			Me	47 15			1.2		
			F	13 42					
92	15	I	i	7 58 45					Small movement Nov. 15. beginning lost changing paper at $2^{h}55^{m}$. F- 3^{h} 15^{m}
			eL	59 50					
			Mn	8 01 35		0.3			
			E	XXXXX					
			F	8 12					
93	17	I	eL	10 36 17					
			Me	37 40			0.2		
			Mn	38 50	12.0	0.3			
			F	10 46					
94	18	Ir	iP	6 01 08				2100	
			iS	04 39					
			L	05 24					Milne movement very slight.
			Mn	05 15	10.0	0.4			
			F	in Micros					
95	19	I	e	15 42 05					Irregular movement from 9^{h} 35^{m} to 21^{h} 30^{m} masked P phases
			L	44 05?					
			Mn	45 25	13.0	0.7			
96	20	Iu	iP	20 55 05					
			i	21 00 ~~32~~					
			i	01 50					
			eS	04 10					
			i	11 08					
			i(L)	18 49					
			Mn	31 10	24.0	0.8			Milne movement small
			F	23 05					

ADELAIDE OBSERVATORY

SEISMOLOGICAL BULLETIN

NOVEMBER 1928 continued

No.	Date Nov	Char.	Phase	Time (Green^{h}) H. M. S.	Recorded period of Waves N-S	A_N	A_E	△ in kms.	Remarks
97	22	Iu	S	8 54 00				7300?	P masked by micros
			i	54 13					
			iSR1	59 15					
			i	9 01 35					
			i	03 04					
			eL	04 55?					
			Mn	12 40	26.0	1.0			
			Me	23 30			0.5		
			F	10 30					
98	23	I	i	8 23 48					
			eL	31 00					
			Me	35 25			0.2		
			Mn	37 20		0.3			
			F	8 47					
99	25	1	i	20 43 20					
			e	51 22					
			Mn	56 10	16.6	0.3			
			Me	58 05			0.3		
			F	21 08					
100	28	IIr	iP	10 49 38				3050	
			iS	54 24					
			iSR1	55 35					
			iL	56 13					
			Mn1	57 30		6.2			
			Me1	58 25			2.4		
			Me2	11 02 15			3.9		
			Mn2	11 03 05	17.0	14.8			
			Me3	04 10			9.3		
			Mn3	05 35	17.0	14.8			
			Me4	07 10			6.3		
			F	12 55					
101	29	I	i(S)	14 09 27					
			e(L)	14 50					
			Mn	19 55	10.0	0.4			
			Me	26 10			0.3		
			F	14 42					
102	29	I	e	15 58 42					
			i	16 00 38					
			iL	02 14					
			Mn	06 45	13.0	0.9			
			Me	09 15			2.3		
			F	16 57					
XXX	XX	XXX							

ADELAIDE OBSERVATORY

SEISMOLOGICAL BULLETIN

NOVEMBER 1928 Continued

Bulletin No 11

No	Date Nov	Char.	Phase	Time (Green^{n}) H. M. S.	Recorded period of Waves N-S	A_N	A_E	in kms.	Remarks
103	29	IIu	eS	18 09 24					
			iSR2	13 25					
			iL	16 07					
			Me1	19 10			1.8		
			Mn1	20 30	16.5	2.0			
			Me2	21 40			2.0		
			Mn2	23 45	15.0	3.7			
			Me3	24 45			7.4		
			Mn3	24 25	13.0	3.3			
			Me4	26 15			7.0		
			Mn4	26 35	14.0	3.5			
			Me5	28 15			3.6		
			F	19 50					
104	29	I	e	23 00 05					
			eL	05 55					
			Mn	07 30		0.2			
			Me	09 2M0			0.2		
			i	23 12					looks like two E.Q's.
			L	25 32					
			Mn	30 45	16.0	0.6			
			Mn	33 55	13.0	0.8			
			Me	35 05			2.0		
	30		F	00 21					

Constants. Milne Shaw Period 1st-6th, 12.0 secs; 10th, 11.5 secs; 15th-20th, 11.0 secs; 22nd-30th, 12.0 secs.
Damping ratio 20 : 1

Milne Period 16.0 seconds
Sensibility 0.55

ADELAIDE OBSERVATORY

SEISMOLOGICAL BULLETIN

DECEMBER 1928 — Bulletin No. 12

No.	Date Dec.	Char.	Phase	Time (Greenh) H. M. S.	Recorded period of Waves N.-S	A_N	A_E	Δ in kms.	Remarks
105	1	IIIu	eS	4 30 52					P. in micros
			i	24 10					
			iSR1	39 50					
			i	31 04					
			i	50 15					
			iL	55 34					
			Me1	5 00 30			1.8		
			Mn1	01 00	17.2	4.8			
			Me2	02 15			1.7		
			Mn2	02 27	19.0	4.4			
			Mn3	04 40	17.2	3.2			
			Me3	05 00			2.4		
			Me4	10 25			4.2		
			Me5	12 10			3.0		
			Mn4	13 42	20.0	4.5			
			Mn5	19 10	15.5	4.5			
			F	7 30					
106	2	Iu	iPR	4 39 16				10600	P in micros
			iS	45 04					
			i(SR)	54 25					
			i	5 02 45					
			L	04 10					
			Mn1	12 00	23.0	1.2			
			Mn2	15 10	18.0	1.5			
			MmX	XXXXXX					
			Mn3	18 25	17.0	1.7			
			Me	23 00			2.2		
			F	7 16					
107	7	IIr	iP	9 20 20				3250	No Milne record Dec.7th 4h 53m to Dec.11th 2h 42m
			i	20 49					
			i	21 33					
			iS	26 20					
			i	25 37					
			iL	27 30					
			Mn1	31 50		8.0			
			Mn2	33 45	16.0	16.6			
			Mn3	36 15	15.0	16.2			
			F	10 47					
108	8	I	e(L)	11 00 10					very small movement
			Mn	01 50		0.2			
			F	11 12					

ADELAIDE OBSERVATORY

SEISMOLOGICAL BULLETIN

DECEMBER 1928 Continued. Bulletin No. 12

No	Date Dec	Char.	Phase	Time (Green^{n}) H. M. S.	Recorded period of Waves N-S	A_N	A_E	△ in kms.	Remarks
109	8	I	i(S)	17 04 41					
			eL	08 45?					
			Mn	13 45	10.0	0.5			Small movement
			F	17 43					
110	9	I	iP	0 04 05				3200	Dec.8th $18^h\ 21^m$ tp 18^h 36^m
			iS	09 00					
			iL	11 27					
			Mn1	15 45	11.0	3.0			
			Mn2	16 20	11.2	3.7			
			Mn3	17 10	12.0	4.2			
			F	1 20					
111	9	I	iP	18 17 09				3100	No rcd. Dec.9th $2^h 15^m$. $7^h 56^m$ Trace ran off sheet
			PR1	17 50					
			iS	21 55					
			iL	24 04					
			Mn1	29 00		3.5			
			Mn2	30 45	10.5	3.7			
			Mn3	31 30	13.0	3.4			
			F	19 40					
112	12	I	e	18 30 10					No Milne Shaw rcd. Dec.12, 3^h 06^m to Dec.13, 2^h 58^m
			Me	37 20			0.3		
			F	19 03					
113	12	IIIr	e	20 24 30				4500	
			iP	27 09					
			iPR1	28 42					
			iS	33 25					
			iL	37 36					
			Me1	38 40			2.8		
			Me2	41 25			3.2		
			Me3	44 45			11.5		
			Me4	47 30			4.2		
			Me5	50 10			4.8		Air tremors strong 14th & 15th.
			Me6	51 40			4.6		
114	17	I	e	4 12 27					
			(Mn	20 30	13.0	0.3			
			(Me				0.3		
			F	4 36					
115	19	IIr	eP	11 45 08				4800	
			iP	45 22					
			i	45 46					
			i	48 26					
			iS	51 50					
			i	53 05					
			i	55 19					
			iL	57 00					
			iL2	59 18					
			Mn1	12 00 20		5.3			
			Me1	00 50			3.5		
			Me2	03 10			4.0		
			Mn2	03 55	11.0	4.4			
			Me3	04 00			3.9		
			Mn3	05 35	18.0	6.0			
			Mn4	07 05	14.0	5.9			
			Me4	12 05			3.6		
			F	13 10	in micros				

ADELAIDE OBSERVATORY

SEISMOLOGICAL BULLETIN

DECEMBER 1928 Continued Bulletin No.12

No	Date Dec.	Char.	Phase	Time (Green^h) H. M. S.	Recorded period of Waves N--S	A_N	A_E	Δ in kms.	Remarks
116	28	Ir	iP	14 27 55				4800	
			iPR1	29 26					
			iS	34 29					
			iSR1	37 50					
			iL	39 27					
			Mn1	42 35		2.5			
			Mn2	46 30		2.5			
			Me1	47 50	XXXX		1.9		
			Mn3	49 15	15.0	3.4			
			F	15 30	in micros				
117	31	I	eL	7 08 13					
			Mn	10 00	13.0	0.4			
			Me	11 20			0.4		
			F	7 24					

Constants. Milne Shaw Period 12.0 seconds
Damping ratio 20:1

Milne Period 15.9 seconds
Sensibility 0.52