Riverview College Observatory.

SYDNEY, N.S.W.

SEISMOLOGICAL BULLETIN.

φ = 33° 49′ 49″ S. λ = 151° 3′ 39″ E. h = 41·0 m. Foundation : Triassic sandstone.

INSTRUMENTS :

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Wiechert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS, EW)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert.)

		V	T_o	s:1	$\frac{r}{T_o^2}$
A^N	(1)	216	8.1	4.6	0.021
	(3)	97	11.8	4.4	0.009
A^E	(1)	230	9.0	5.1	0.014
	(3)	84	9.3	6.6	0.011
A^Z	(2)	60	5.3	2.5	0.028

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks.
	1938								
1	Jan. 1	e_E	16 28 30	3					
		e_E	29 11	4					
		e_N	29 15	3					
		m_E	30 00	6		1.3			
		eL_E	32.7	15					
		MN	33 11	14	0.7				
		F	16 45						
2	" 1	$e?_E$	23 34.7						
		e_N	38.1						
		i_E	46 14	5		-0.7			
		e_N	46 14	5					
		i_E	46 34	5		-2.3			
		i_N	46 42	5	+1.3				
		eL_N	58.2	25					
		ME	00 03 35	19		0.3			
		MN	04 00	21	0.3				
		F	00 30						
3	" 3	e_E	21 23.1						Masked by heavy microseisms.
		eNE	27 09						
		eL_E	29.8	15					
		MN	31 31	15	0.7				
		ME	31 53	15		0.6			
		F	22 15						
4	" 7	eP_{NE}	15 32 36					3410 (30°?)	P small and masked by microseisms.
		iS_N	37 46	7	+1.5				
		i_E	37 49	7		-1.6			
		m_N	38 04	20	1.7				
		m_N	38 23	20	1.5				
		eL_N	41.3	40					
		MN	44 45	13	3.9				
		ME	45 07	12		16.1			
		F	17 00						
5	" 11	$e?_N$	15 19.2						Masked by microseisms.
		eNE	32.1	7					
		eL_E	43.1	29					
		eL_N	46.0	32					
		ME	52 59	17		0.2			
		MN	53 24	18	0.2				
		F	16 10						
	" 11	e(L)	21 16.0	18					A few shallow long waves.
	" 12	e_N	02 58.9						
		eL_E	41.4	18					
		MN	42 34	15	0.2				
		F	02 55						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

SYDNEY, N.S.W

SEISMOLOGICAL BULLETIN.

Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
1938								
8 Jan. 12	e_E	11 33.2						
	eL_{NE}	37.2	20					
	MN	38 10	13	0.3				
	ME	39 25	15		0.2			
	F	11 55						
9 " 13	e_N	03 22.5						
	eL_N	28.4	19					
	MN	29 31	13	0.2				
	F	03 50						
10 " 13	e_N	10 19.6						Obscured by microseisms.
	e_N	23.9	10					
	eL_N	27.0	13					
	ME	29 06	12		0.8			
	MN	29 28	12	0.2				
	F	10 40						
11 " 16	e_N	14 11.5	7					Masked by micro-seisms.
	eL_N	14.2	25					
	MN	17 21	13	0.8				
	ME	18 30	15		0.8			
	F	14 50						
12 " 18	e?$_E$	04 36.9	5					Heavy micro-seisms present.
	m_E	37 29	5		1.4			
	e_N	45.1						
	eL_E	51.1	23					
	MN	54 14	16	0.7				
13 " 23	e_E	08 44 24	4					E-W readings from Mainka, Wiechert E-W out of commission.
	e_N	46 41	4					
	e_E	53 56	6					
	e_N	54 09	?					
	eL_N	09 04.9	25					
	eL_E	07.3	28					
	ME	10 44	22		0.4			
	MN	12 39	19	0.3				
	F	10 10						
14 " 24	iP_N	10 44 28	3	+0.6			9555	
	eP_E	44 28	10 3				(8670)	
	e_Z	44 31	3					
	iS_E	55 04	8		-2.5			
	m_E	55 19	8		6.3			
	iPS_E	56 01	8		-2.8			
	i_N	56 08	12	-5.2				
	$iPPS_E$	56 18	8		+5.2			
	SR_1?$_{NE}$	11 00 59	12	1.5	2.8			
	SR_3?$_E$	07 14	27		2.5			
	eL_N	13.0	33					
	ME	22 06	17		3.2			
	MN	24 12	15	3.1				
	F	13 15						
15 " 25	iP_{EZ}	16 59 20	4		-0.7	-0.4		
	e_N	59 28	?					
	$e(S)_E$	17 02 53	17					
	m_E	04 26	14		0.8			
	eL_E	06.3	27					
	MZ	07 37	20			0.2		
	MN	08 21	17	1.8				
	ME	08 39	17		4.1			
	F	18 25						

(Continued on next sheet.)

RIVERVIEW COLLEGE OBSERVATORY.

SYDNEY, N.S.W

SEISMOLOGICAL BULLETIN.

Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	Amplitude. A_E mm	Amplitude. A_Z mm	Δ km.	Remarks
1938								
Jan.26	e_N	03 59.7						
	eL_N	04 07.3	20					
	MN	11 48	18	0.3				
	F	04 35						
" 28	e_E	04 23.8						
	e_N	24.0						
	MN	31 24	17	0.2				
	F	04 45						
" 30	$e?_E$	17 20.3						
	i_E	22 00	3		-0.5			
	$i(S)_N$	27 21	5	+0.6				
	eL_N	31.7	15					
	MN	33 25	13	1.0				
	ME	34 35	13		0.3			
	F	18 05						

WM.O'LEARY, S.J.

Riverview College Observatory.

SYDNEY, N.S.W.

SEISMOLOGICAL BULLETIN.

φ = 33° 49′ 49″ S. λ = 151° 9′ 30″ E. h = 41·9 m. Foundation : Triassic sandstone.

INSTRUMENTS :

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Wiechert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS, EW)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert.)

		V	T_o	ε : i	$\frac{r}{T_o^2}$
A^{α}	(1	211	8.2	3.9	0.029
	(3	93	11.9	6.0	0.009
A^{E}	(1	232	8.9	4.1	0.025
	(3	77	9.3	4.5	0.016
A^{Z}	(2	61	5.2	3.3	0.059

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks.
19	1938 Feb. 1	eP_Z	19 11 02	1.5			0.2	3550	
		i_{NEZ}	11 03	2	+0.3	-0.5	-0.4	(32°0)	
		iP_{NEZ}	11006	3	+6.6	-5.5	-3.0		Dilatation Az.NW.
		m_Z	11 28	8			5.7		Wiechert N-S partly deranged after 19h 16m 31s and completely after 19h 35m. E-W deranged completely 19h 16m 41s.
		m_{NE}	11 30	10	24.7	23.0			
		m_{NE}	12 47	14	23.6	20.0			
		m_E	13 37	10		17.8			
		iS_E	16 21	16?		>50			
		i_N	16 31	13	>100				
		m_E	16 41	16?		>80			
		e_Z	16 41	18	Long	waves	begin	on Z.	Mainka deranged & pens thrown off, N-S 19h 19m, E-W 19h 22m.
		MZ_1	23 45	13?			25.3		
		MZ_2	25 08	17			31.7		
		F	23 30						
20	" 1	i_Z	19 56 40	3			-1.0		Superimposed on C of No.19.
		F	Lost in No.21.						
21	" 1	i_Z	20 07 36	3			-2.4		Superimposed on C of No.19.
		F	Lost in No.19.						
22	" 6	e_N	07 14.8						
		eL_E	21.3	20					
		ME	26 20	14		1.8			
		MN	27 05	15	0.6				
		F	08 00						
23	" 7	e_N	01 26 41	3					
		e_E	26 49	3					
		e_E	32 30	10?					
		m_E	34 22	10					
		eL_E	36.3	12					
		ME	39 12	12		2.3			
		MN	41 26	13	1.0				
		F	02 20						
24	" 13	iP_E	08 09 03	5		-1.4		2960	
		i_{NE}	09 06	5	-0.7	+5.0		(26°6)	
		PP_E	09 47	5		3.2			
		S_{NE}	13 43	10	0.7	2.0			
		eL_N	15.4	30					
		eL_E	15.5	25					
		ME_1	17 43	18		10.2			
		MN_1	19 02	12	8.1				
		MNE_2	20 21	12	10.6	13.4			
		F	10 15						
	" 13	eL_E	12 01.8	16					
		ME	03 33	13		0.1			
		MN	04 19	13	0.3				
		F	12 15						

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RIVERVIEW COLLEGE OBSERVATORY.

SYDNEY. N.S.W

SEISMOLOGICAL BULLETIN.

Date	Phase	Time (Greenwich)	Per	Amplitude. A_N	Amplitude. A_E	Amplitude. A_Z	Δ	Remarks
1938		h. m. s.	s.	mm	mm	mm	km.	
Feb. 17	$e?_E$	05 32.3						Very small short period waves, no definite phases.
	e_N	34 28	3					
	F	05 50						
27 " 22	e_N	05 52.7						Obscured by micro-seisms.
	eL_N	58.6	17					
	ME	59 59	10		0.5			
	F	Lost in No.28.						
28 " 22	$i(P)_N$	06 10 11	5	+1.0				Obscured by micro-seisms and end of preceding shock.
	eS_N	14 47	7					
	iS_E	14 50	7		-5.0			
	i_N	15 02	8	+7.9				
	SS_N	15 42	7	3.8				
	ME_1	19 06	12		4.8			
	MN_1	19 15	15	5.0				
	ME_2	21 40	10		5.6			
	MN_2	22 38	9	4.3				
	F	07 15						
" 27	e_N	11 30.6						
	ME	33 30	12		0.3			
	F	11 45						

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D.J.K.O'CONNELL, S.J.
Director.

WM.O'LEARY, S.J.

Riverview College Observatory.

SYDNEY, N.S.W.

SEISMOLOGICAL BULLETIN.

φ = 33° 49′ 49″ S. λ = 151° 9′ 30″ E. h = 41·9 m. **Foundation : Triassic sandstone.**

INSTRUMENTS :

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Wiechert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS, EW)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert.)

		V	T_o	ε : 1	$\frac{r}{T_o^2}$
A^N	(1)	201	8.1	3.5	0.032
	(3)	94	11.8	3.0	0.009
A^E	(1)	231	8.8	3.8	0.024
	(3)	83	9.2	4.7	0.012
A^Z	(2)	58	5.2	3.3	0.041

No.	Date	Phase	Time (Greenwich)	Per	Amplitude. A_N	Amplitude. A_E	Amplitude. A_Z	Δ	Remarks.
	1938		h. m. s.	s.	mm	mm	mm	km.	
30	March 2	eL_N	00 14.4	24					
		MN	17 36	22	0.2				
		F	00 25						
31	" 4	e_N	07 43.5	12					Masked by micro-seisms.
		$e(L)_N$	47.8	17					
		MN	52 41	16	0.2				
		F	08 05						
32	" 6	eL_N	02 06.7	17					Earlier phases obscured by micro-seisms.
		ME_1	12 17	17		0.5			
		MN_1	12 44	17	0.3				
		ME_2	14 37	14		0.7			
		MN_2	16 47	14	0.5				
		F	03 00						
33	" 8	iP_N	05 41 25	3	+1.4				
		$e(S)_{NE}$	45 49	8					
		eS_N	46 07	17					
		mE	46 24	7		2.0			
		eL_N	50.0	22					
		MN_1	51 58	20	3.6				
		ME	55 15	12		10.2			
		MN_2	55 48	14	3.8				
		F	07 20						
34	" 8	e_N	20 03.1						
		eL_N	11.5	24					
		ME	12 41	13		0.2			
		MN	13 12	15	0.2				
		F	20 30						
35	" 9	$e?_E$	02 10.6						Masked by micro-seisms.
		$e(S)_{NE}$	15 42	8					
		eN	15 55	10					
		$e(SS)_{NE}$	16 57	11					
		eL_E	18.5	19					
		MN	20 26	12	5.2				
		ME	22 04	12		1,0			
		F	03 15						
36	" 10	e_N	16 55.9	12					
		e_{NE}	39.4	12					
		m_E	39 49	12		0.4			
		eL_{NE}	48.4	21					
		MN	53 56	21	0.1				
		F	17 10						

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RIVERVIEW COLLEGE OBSERVATORY.

SYDNEY, N.S.W

SEISMOLOGICAL BULLETIN.

Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
1938 March 21	e_E	01 29.9						
	eL_N	35.4	22					
	ME	39 08	18		0.2			
	MN	39 36	15	0.2				
	F	02 05						
" 21	$e(P)_E$	20 34 26	½					
	iS_{NE}	34 43	1	-0.3	+0.5			Very small local shock.
	MZ	35 05	2			0.1		
	ME	35 07	2		0.6			
	MN	35 08	2	0.4				
	F	20 35 40						
" 22	e_{NE}	15 47.3	10					
	e_N	50 38	10					
	e_E	50 42	10					
	e_E	56 41	14					
	e_N	56 47	17					
	m_E	57 03	19		0.3			
	eL_E	16 12.6	24					
	ME	18 31	21		0.3			
	MN	23 45	17	0.2				
	F	17 55						
" 24	iP_{NEZ}	20 04 43	½	?	0.3	0.2	490	Felt in the Riverina District of New South Wales, and in N.E.Victoria.
	iS_E	05 24	2		-1.2			
	iS_N	05 26	2	+2.0				
	i_E	05 38	1½		-5.8			
	i_Z	05 39	1½			+1.0		
	m_N	05 39	3	3.0				
	MN_1ME_1	05 45	5	6.3	4.4			
	ME_2	05 55	5		5.0			
	eMZ	05 57	5					
	MZ	06 04	5			1.8		
	F	20 12						
" 25	$e(P)_{NE}$	15 56 18	3					
	$e(S)_{NE}$	16 01 40	7					
	eL_N	04.0	28					
	eL_E	05.7	26					
	MN	06.4	17	0.7				
	ME	07.6	17		1.0			
	F	17 05						

D.J.K.O'CONNELL, S.J.
Director

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WM.O'LEARY, S.J.
1938, Apr.10.

Riverview College Observatory.

SYDNEY, N.S.W.

SEISMOLOGICAL BULLETIN.

φ = 33° 49' 49" S. λ = 151° 9' 30" E. h = 41·9 m. Foundation : Triassic sandstone

INSTRUMENTS :
1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Wiechert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS, EW)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert.)

		V	T_o	ε:1	$\frac{r}{T_o^2}$
A^N	(1)	223	8.0	3.8	0.018
	(3)	95	11.8	5.9	0.010
A^E	(1)	230	8.8	4.2	0.025
	(3)	80	9.2	6.2	0.013
A^Z	(2)	59	5.2	3.2	0.066

No.	Date	Phase	Time (Greenwich)	Per	Amplitude. A_N	Amplitude. A_E	Amplitude. A_Z	Δ	Remarks.
	1938		h. m. s.	s.	mm	mm	mm	km.	
42	April 2	e_N	06 24.8						Masked by micro-seisms.
		e_N	38.5						
		eL	48.0	18					
		M_N	57 17	18	0.3				
		M_E	58 56	18		0.2			
		F	07 35						
43	" 3	e_E	11 05 04	10					
		eL_N	12.5	18					
		M_N	13 34	16	0.3				
		M_E	15 17	14		0.3			
		F	11 35						
44	" 4	$e?_N$	21 15.3						Microseisms present.
		e_E	20 18	5					
		i_N	20 24	5	-1.3				
		i_N	23 13	5	-1.2				
		m_N	23 17	5	1.9				
		i_E	23 18	4		-1.5			
		m_E	23 21	4		2.0			
		M_E	28.07	5		1.4			
		M_Z	28 09	4			0.4		
		M_N	28 16	7	1.3				F 21h 45m.
45	" 7	e_N	10 19 03	4					Earlier phases
		eL_N	20.7	18					masked by micro-seisms.
		M_E	22 09	14		0.3			
		M_N	22 23	14	0.4				F 10h 35m.
46	" 9	$i(P)_{NE}$	09 15 52	3	-0.7	-1.2			Masked by heavy
		i_{NE}	15 59	3	-2.1	-1.7			microseisms.
		$e(S)_{NE}$	19 58	10?					
		iSS_E	20 34	5		-1.8			
		i_E	21 08	5		-2.0			
		eL_N	22.3	15					
		M_N	23 30	15	0.3				
		M_E	24 13	13		0.4			F 09h 50m.
47	" 13	$e?_N$	18 49.5						
		eL_E	53.8	22					
		M_N	54.4	17	0.2				
		M_E	56.2	15		0.2			F 19h 05m.
48	" 14	e_N	01 38.1	8					
		eL_N	49.0	25					
		F	02 10						
49	" 14	e_N	16 08.2	6					
		e_{NE}	09.7	10					
		eL_E	11.0	19					
		M_N	13 25	12	0.2				
		M_E	14 05	14		0.2			
		F	16 25						

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RIVERVIEW COLLEGE OBSERVATORY.

SYDNEY. N.S.W

SEISMOLOGICAL BULLETIN.

Date	Phase	Time Greenwich h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
1938 April 17	eP_{NE}	08 59 54	2					P very small & masked by micro seisms. May be earlier.
	$e(S)_N$	09 02 26	5					
	S_E	02 44	6					
	m_E	03 22	5		1.3			
	m_N	03 26	5	3.8				
	m_N	03 58	5	7.1				
	$mNEZ$	04 18	6	14.6	12.5	1.9		
	L	04.5	12					
	ME	05 32	10		19.7			
	MZ_1	05 35	10			1.3		
	MN	05 46	10	24.7				
	MZ_2	07 01	6			2.3		
	F	10 10						
" 19	e_E	11 32.5						
	e_N	41.1						
	eL_N	56.9	28					
	eL_E	12 01.1	30?					
	MN_1	05 08	22	0.2				
	MN_2	08 09	24	0.2				
	ME_1	09 06	26		0.2			
	ME_2	16 13	22		0.6			F 13h 00m.
" 19	$e(P)_E$	21 49.8						
	iS_N	53 31	8	+0.7				
	i_N	54 32	9	+1.1				
	m_N	55 10	9	4.0				
	eL_N	55.9	18					
	ME	58 54	12		1.0			
	MN	58 57	12	3.8				F 22h 30m.
" 20	iP_{NE}	06 32 27	4	+1.0	+2.1		2700	
	m_N	34 47	7	1.8			(24?3)	
	m_E	34 51	7		1.3			
	$iPcP_E$	36 00	7		+2.2			
	iS_{NE}	36 49	10	+2.6	+8.1			
	i_N	37 07	10	+6.9				
	iSS_E	37 23	9		+12.7			
	m_N	37 32	10	21.1				
	eL_E	38.2	27					
	iM_N	40 48	11	+16.6				
	LN	41 20	13	25.2				
	ME	41 34	14		10.0			F 08h 30m.
" 21	e_E	01 51.8						
	$e(L)_N$	56.3	25?					
	F	02 05						
" 21	e_N	16 32.1						
	eL_N	39.4	17					
	ME	41 24	15		0.2			
	MN	42 12	14	0.2				F 16h 55m.
" 23	e_{NE}	00 47.1						
	eL_E	57.3	25					
	ME	01 00 23	17		0.2			F 01h 15m.
" 24	$e?_N$	00 10.3						
	eL_N	19.1	19					
	MN	21 13	15	0.2				
	ME	22 23	14		0.2			F 01h 10m.
" 26	i_E	13 05 29	4		-1.7			Earlier phases obscured by micro seisms. Very short periods throughout.
	i_N	07 56	5	+2.2				
	i_N	08 43	5	-3.8				
	ME	11 47	6		2.7			
	MN	12 02	5	3.6				
	F	13 30						

Riverview College Observatory.

SYDNEY, N.S.W.

SEISMOLOGICAL BULLETIN.

φ = 33° 49′ 49″ S. λ = 151° 9′ 30″ E. h = 41·9 m. Foundation : Triassic sandstone.

INSTRUMENTS :

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Wiechert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS, EW)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert.)

		V	T_o	ε:1	$\frac{r}{T_o^2}$
A_N	(1)	211	8.1	3.6	0.032
	(3)	91	11.9	4.9	0.010
A_E	(1)	231	8.9	4.0	0.032
	(3)	81	9.2	4.4	0.012
A_Z	(2)	64	5.0	3.4	0.052

No.	Date	Phase	Time (Greenwich)	Per	Amplitude. A_N	Amplitude. A_E	Amplitude. A_Z	Δ	Remarks.
	1938		h. m. s.	s.	mm	mm	mm	km.	
59	May 1	e_N	00 53.5						
		eL_E	57.6	27					
		eL_N	57.8	27					
		MN	01 02 56	10	0.1				
		F	01 15						
60	" 1	e_N	01 43.7	6					
		eL_E	48.9	15					
		ME	52 15	14		0.3			
		MN	52 25	12	0.2				
		F	02 10						
61	" 1	$e?_N$	13 33.8						
		e_{NE}	38 15	7					
		eL_N	40.7	18					
		ME	42 28	9		0.4			
		MN	42 36	9	0.2				
		F	14 10						
62	" 1	e_E	14 50.4	7					
		eL_E	54.1	17					
		MNE	57.2	10	0.3	0.3			
		F	15 10						
63	" 1	e_E	19 43.7						
		e_N	44.3	6					
		eL_E	47.9	15					
		MN	48 45	11	0.2	..			
		ME	49 00	12		0.3			
		F	20 05						
64	" 8	eP?Z	13 55 46						
		ePNEZ	55 49	3				4410	
		eS_N	14 02 01	7				(39°7)	
		iS_E	02 03	7		+1.5			
		i_E	02 06	8		-7.5			
		i_N	02 11	7	+1.8				
		eSS_{NE}	05 00	16					
		$eL?_N$	06.7	17					
		ME	08 52	21		5.2			
		MZ	09 40	19			0.2		
		MN	09 43	17	4.6				

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

SYDNEY. N.S.W

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per	Amplitude. A_N	A_E	A_Z	Δ	Remarks
	1938			s.	mm	mm	mm	km.	
65	May 12	eP_Z	15 44 53	2					
		eP_N	44 55	?				2920	Felt at Salamaua
		iP_Z	44 56	3			-0.3	(26°3)	Wau & Madang, New
		iP_N	44 59	3	+1.0				Guinea. Followed
		eE	45 03	2					by small tidal
		iE	45 10	3?		-0.5			wave at Salamaua.
		iN	45 13	7	-9.7				
		iS_N	49 33	20	-8.7				
		iS_E	49 35	7		+8.0			
		iZ	49 39	6			-1.5		N.S.Wiechert de-
		iZ	50 14	6			-2.5		ranged after 15h
		SS_N	50 33	14	31.2				54m. E.W.capsized
		eL_E	51.6	22					after 15h 55m.
		ME_1	54 03	22		41.8			
		MN	54.7	19	43				
		ME_2	55.1	18		88			
		MZ	55 08	18			4.2		
		F	20 20						
66	" 13	e_N	02 40.7						
		eN	45.9	8					
		eL_{NE}	50.3	20					
		MN	53 35	13	0.3				
		ME	53 46	10		0.2			
		F	03 15						
67	" 13	e_N	15 14.4	3					
		eN	20.7	10					
		eL_E	29.1	17					
		MN	33 15	15	0.2				
		ME	33 48	14		0.2			
		F	15 55						
68	" 16	$e?_Z$	07 17 20						
		eN	18 43	4					
		iS_E	22 11	5		-0.8			
		iS_N	22 12	5	+1.5				
		iNE	22 56	6	-2.3	-2.6			
		LE	23.1	19					
		mE	23 33	17		6.4			
		iN	23 40	5	+3.2				
		mN	24 11	6	3.9				
		MN_1	25 12	10	3.2				
		ME	25 59	14		3.7			
		MN_2	29 00	8	5.3				
		F	08 15						
69	" 16	e_{NE}	15 45 35	6					
		eN	50 32	7					
		eL_N	56.2	17					
		ME	57 31	8		0.2			
		MN	59 12	11	0.2				
		F	16 15						
70	" 19	e_N	15 30.5	3					
		eE	34.4	9					
		eL_N	35.5	24					
		ME	37 20	14		0.6			
		MN	37 37	12	0.5				
		F	16 00						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

SYDNEY, N.S.W.

SEISMOLOGICAL BULLETIN.

Date	Phase	Time (Greenwich) h. m. s.	Per	Amplitude. A_N	A_E	A_Z	Δ	Remarks
			s.	mm	mm	mm	km.	
1938 May 19	eP_{EZ}	17 16 35	2			0.2		
	i_{NEZ}	16 54	3	+0.7	-1.1	-1.0		
	iP_{NEZ}	16 59	4	-6.6	+9.5	+2.7	4635	iP Condensation
	i_{NEZ}	18 41	3	-11.2	+11.0	-1.7	(41°7	Azimuth N.W.
	m_{NE}	18 53	17	6.2	9.2			
	i_N	19 58	7	-5.5				
	iS_{NE}	23 24	10	-13.0	+23.2			
	i_E	23 53	10		+18.7			
	m_N	24 02	24	10.0				
	i_N	26 36	10	+25.3				
	i_Z	26 43	9			+2.2		
	iSS_E	26 45	10		+52.0			
	i_N	26 48	10	+15.8				
	m_Z	26 52	9			1.6		
	m_N	27 04	10	22.8				
	eL_N	28.1	34					
	eL_E	30.5	38					
	MZ_1	33 47	27			1.2		
	ME_1	34 14	24		35.0			
	MN_1	34 33	17	45.6				
	MZ_2	36 18	17			1.8		
	ME_2	37 00	15		60			
	MN_2	37 35	15	68.8				
	MZ_3	37 54	15			4.8		
	eW_2	19 54.6						
	F	20 35						
" 19	eE	18 44.0	3					Short period waves superposed on Coda of No.71
	iE	47 13	3		-0.9			
	iE	51 12	6		-1.5			
	iE	52 23	6		-2.4			
	i_N	53 49	6	-1.5				
	i_N	55 21	6	+2.0				
	F	19 10						
" 20	$e(P)_{NE}$	07 22 39	3					
	eS_E	26 28	3					
	i_{NE}	26 32	5	+0.8	-1.0			
	eL_N	28.4	17					
	eL_E	29.3	17					
	ME	30 35	19		0.2			
	MN	31 02	14	0.1				
	F	07 50						
74 " 22	eP_{NE}	07 50 34	3/6	0.2	0.2		2420	
	mE	51 13	7		0.3		(21.8)	
	m_N	51 14	7	0.3				See No.75.
	iS_E	54 32	3		-1.0			
	iS_N	54 36	8	+4.0				
	i_E	54 38	7		+5.5			
	i_N	54 46	8	+3.0				
	$e(L)_E$	55.9	22					
	eL_N	56.2	20					
	eL_E	56.3	20					
	MN	57 13	14	0.4				
	ME	57 34	19		1.0			
	F	Lost in No.75.						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

SYDNEY, N.S.W

SEISMOLOGICAL BULLETIN.

Date	Phase	Time (Greenwich) h. m. s.	Per	Amplitude. A_N	A_E	A_Z	Δ	Remarks
			s.	mm	mm	mm	km.	
1938								
May 22	eP_{NE}	08 26 52	5/6	0.1	0.2		2420	This record is
	mE	27 29	7		0.5		(21°8)	an exact replica
	m_N	27 32	7	0.3				wave for wave, of
	iS_E	30 50	3		-1.1			previous one.
	iS_N	30 54	8	+3.6				
	iE	30 56	7		+3.8			
	i_N	31 04	8	+2.6				
	$e(L)_E$	32.2	21					
	eL_N	32.5	19					
	eL_E	32.6	19					
	MN	33 33	15	0.3				
	ME	33 55	19		0.7			
	F	09 25						
" 23	eP_N	07 29 51	5				7655	
	iS_{NE}	39 00	8	-2.7	-3.4		(68°9)	
	iPS_E	39 21	8		-3.4			
	iS_cS_E	39 52	8		-4.1			
	mE	47 00	29		0.7			
	eL_E	48.4	44					
	eL_N	49.1	44					
	MN	56 48	22	0.7				
	ME	57 22	20		1.9			
	F	11 30						
" 23	eE	08 31 52						Small seism sup-
	iNE	31 57	4	+0.7	-0.5			erimposed on No.76
	iS_{NE}	40 05	7	+1.2	+2.7			
	i_E	40 31	7		-2.0			
	iE	41 23	7		+2.8			
	iN	41 28	7	+1.7				
	i_N	42 05	7	+1.2				
" 23	eE	16 22 03	1					Very small. Short
	iNE	28 21	3	-0.6	-0.9			periods through-
	ME	33 37	7		0.2			out.
	F	16 45						
" 30	iP_{NE}	14 34 34	7	+2.8	+4.5			Deep focus.
	eP_Z	34 35	5					
	iZ	34 39	7?			+0.6		
	iNE	34 43	7	+7.5	+12.0			
	iZ	34 50	7			+0.6		
	mE	34 51	8		16.6			
	mN	34 55	8	6.6				
	i_{NE}	35 09	7	-6.6	-12.5			
	mE	35 39	8		6.0			
	iN	35 46	7	+4.4				
	iNE	36 09	7	-4.2	-7.7			
	iS_{NE}	38 32	8	-18.7	-20.7			S group very
	iZ	38 36	7			+3.2		striking.
	mN	38 41	8	56.0				
	mE	38 46	8		41.6			
	LE	39.9	23					
	MZ	41 10	19			0.8		
	ME	41 36	17		23.3			
	iN	42 41	12	+29.8				Striking group on
	MN	47 53	12	9.3				N.S. Traces of it
	F	17 55						on E.W.
" 30	$e?_E$	19 46.0						
	eN	49.8	7					
	eL_E	51.6	16					
	ME	53.2	15		0.1			
	F	20 10						

D.J.K.O'CONNELL, S.J.
Director.

WM.O'LEARY, S.J.
1938, June 10.

Riverview College Observatory.

RIVERVIEW, ~~SYDNEY~~, N.S.W.

SEISMOLOGICAL BULLETIN.

φ = 33° 49′ 49″ S. λ = 151° 9′ 30″ E. h = 41·9 m. Foundation : Triassic sandstone.

INSTRUMENTS :

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Wiechert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS, EW)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert)

		V	T_o	ε : 1	$\frac{r}{T_o^2}$
A^K	1	208	8.0	3.5	0.033
	3	21	11.9	2.9	0.010
A^E	1	224	8.8	4.0	0.031
	3	74	9.3	5.8	0.012
A^Z	2	63	5.0	3.2	0.060

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude A_N mm	Amplitude A_E mm	Amplitude A_Z mm	Δ km.	Remarks
	1938								
81	June 1	eL_E	05 47.8	20					
		ME	49 00	13		0.3			
		MN	49 07	13	0.3				
		F	06 00						
82	" 1	e?E	10 39 44						Small close shock.
		eME	39 53	1					
		iE	41 27	2		-0.8			
		mEZ	41 44	2		0.8	0.1		
		mN	41 51	3	0.9				
		F	10 45						
83	" 2	eL_E	02 59.2	22					A few long waves.
84	" 2	eE	10 41.2						
		eE	44.5	5					No well defined
		ME	47.2	9		0.3			phases
		MN	49.2	15	0.2				
		F	10 55						
85	" 4	eP?Z	17 05 11	1					Very small.
		eE	05 30	1					Small local shock.
		iN	05 47	1	+0.4				
		$i(S)_{NE}$	05 59	1	-0.6	-0.8			
		L?E	06 10	4					
		L_Z	06 20	4					
		MZ	06 35	3			0.5		
		ME	06 37	3		1.3			
		MN	06 39	3	0.6				
		F	17 09						
86	" 8	e	08 30 18	3					
		ME	33 26	12		0.4			
		MN	33 39	12	0.2				
		F	08 40						
87	" 9	iP_{NEZ}	19 22 30	6	-2.2	+2.1	+0.7	4145	iP Condensation.
		iPP_{NEZ}	23 52	5	+3.3	-4.7	-1.1	(37°3)	Azimuth NW.
		iNE	23 59	7	+13.5	+13.5			This record shows
		mZ	24 05	7			1.6		marked character-
		iS_E	28 26	14		+11.2			istics of deep
		iS_N	28 29	14	-10.7				focus. An altern-
		iSS_{NE}	~~31 09~~	8	+12.5				ative solution is:
		iE	28 36	14		-48.0			iP 19 22 30
		iSS_{NE}	31 09	8	+12.5	+13.9			ipP 23 52
		iZ	31 11	9			-1.6		iS_E 28 26
		iN	33 39	8	+15.7				iS_N 28 29
		iE	33 43	8		-16.2			isS 31 09
		eL_E	34 .3	34					H 19 15 00
		MN	35 53	15	28.3				Depth 400 km.
		MZ	36 00	29			0.8		Δ 44°
		ME	36 19	15		41.6			
		F	21 30						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, ~~SYDNEY~~ N.S.W

SEISMOLOGICAL BULLETIN.

Date	Phase	Time (Greenwich)	Per	Amplitude. A_N	Amplitude. A_E	Amplitude. A_Z	Δ	Remarks
1938		h. m. s.	s.	mm	mm	mm	km.	
June 10	eP_{NZ}	10 04 21	5				7300	H 09 53 41
	iP_Z	04 24	4			+0.5	(65°7)	
	iP_{NE}	04 27	9	+2.8	-1.0			
	eS_{NE}	13 03	8?	1.2	0.3			
	iS_N	13 13	17?	-4.2				
	iS_E	13 15	17?		+2.6			
	PS_{NE}	13 34	25	4.6	3.2			
	$ScS?_E$	14 07	15		1.9			
	mNE	14 29	13	2.8	2.1			
	mE	21 11	17		2.5			
	eL_N	24.3	42					
	iE	24 45	12		-4.0			
	MZ	27 47	28			0.3		
	MN	28 10	24	8.6				
	ME	29 00	22		10.6			
	eW_2N	12 28.6	26					
	ME_1	32 14	23		0.2			
	MN_1	33 03	23	0.2				
	ME_2	42 41	20		0.2			
	MN_2	43 17	20	0.2				
	F	13 10						
" 10	e_N	18 47 44	7					
	eS_{NE}	52z24	9					
	eL_E	56.3	14					
	MNE	57 36	12	0.5	0.4			
	F	19 20						
" 11	e_N	17 02.5						
	eL_E	06.6	14?					
	MN	09 40	11	0.2				
	ME	09 48	9		0.4			
	F	17 30						
" 11	e_E	17 38.6	3					
	eL_E	43.4	14					
	ME	46 21	10		0.2			
	MN	48 01	8	0.1				
	F	18 00						
" 12	e_N	05 06.9	5					
	$e(L)_N$	10.4	14					
	MN	14 26	10	0.2				
	F	05 30						
" 12	e_N	07 52.5	3					
	e_N	57.2	7					
	eL_N	58.3	17					
	MN	08 02 41	12	0.2				
	ME	03 40	9		0.7			
	F	08 35						
" 12	e_N	09 16.5	5					
	e_E	17.8	4					
	ME	22 27	9		0.2			
	F	09 30						
" 12	e_E	13 13.3	5					
	e_E	20.3	9?					
	eL_N	23.3	16					
	MN	26 09	10	0.2				
	ME	26 28	10		0.2			
	F	13 40						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, ~~SYDNEY~~ N.S.W

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
	1938								
98	June 13	e_E	03 14.4	5					
		eL_{NE}	17.9	15					
		ME	19 50	14		0.2			
		F	Lost in No.97.						
99	" 13	$e(S)_{NE}$	03 31 17	10					
		eL_N	33.4	17					
		MNE	35 00	14	0.6	0.5			
		ME_2	38 34	10		1.9			
		F	04 20						
98	" 13	e_{NE}	07 03.6	3					
		MN	15 26	14	0.2				
		ME	15 36	14		0.2			
		F	07 35						
99	" 15	$e?_E$	12 44 38	4					May be only large microseism.
		iE	45 29	9		-1.4			
		e_N	45 29	9					
		iE	45 38	9		-1.4			
		SE	49 14	8					
		eS_N	49 19	9					
		iE	49 24	5		-1.6			
		eL_E	51.2	17					
		MN	53 30	12	1.1				
		ME	57 26	14		0.8			
		F	14 05						
100	" 15	$e?_N$	20 17 29	7					
		e_E	18 17	9					
		e_N	18 21	9					
		iS_E	22 15	5		-1.0			
		e_N	23 16	6					
		eL_E	24.7	24					
		MN	26 33	12	0.5				
		ME	30 05	12		0.4			
		F	21 30						
101	" 16	e_E	02 04.5						
		e_N	06.6						
		ME	15 56	14		0.2			
		MN	18 47	12	0.2				
		F	Lost in No.102.						
102	" 16	eP_N	02 25 56	3	0.3			6955 (62°6)	H 02 15 37
		iP_N	26 01	3	-1.0				
		eP_E	26 01	3		0.2			
		iS_{NE}	34 36	5	-0.8	+0.7			
		eP_{SE}	34 46	10		0.5			
		mE	35 00	12		1.0			
		i_{NE}	35 14	5	+5.0	-2.7			
		$iScS_N$	35 54	5	-2.5				
		i_N	36 08	10	+2.6				
		eL_E	41.3	24					
		ME	46 41	20		1.3			
		MN	49 14	24	1.1				
		F	05 15						

(Continued on next sheet

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, ~~SYDNEY~~. N.S.W

SEISMOLOGICAL BULLETIN.

	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
	1938								
[illegible]	June 16	ePNE	11 49 47	2				2445	
		eSN	53 48	8	0.4			(22°0)	
		eSE	53 53	8		0.5			
		eLN	55.6	17					
		eLE	56.5	15					
		MN	57 05	15	0.5				
		ME	58 19	13		0.3			
		F	12 20						
[illegible]04	" 17	eE	09 40.2						A few shallow long waves.
		eLN	48.2	24?					
		F	09 55						
[illegible]05	" 20	eLN	15 23.2	14					Small and obscured by microseisms.
		MN	27 20	13	0.2				
		F	15 40						
[illegible]06	" 21	eN	00 26.5						
		eLN	39.4	28?					
		MN	52 00	21	0.2				
		ME	56 20	20		0.3			
		F	01 30						
[illegible]07	" 21	ePNE	06 34 17	1				2590	
		iE	34 48	2		-0.6		(23°3)	
		iSN	38 30	5	-0.9				
		mN	39 20	7	0.7				
		eLN	42.4	12					
		F	07 00						
[illegible]08	" 22	ePN	23 15 01	5				3645	Felt R.F.4 at Kerema, Gulf Division, Papua, & at Buna, R.F.3.
		iE	18 35	5		+0.5		(32°8)	
		eSNE	20 26	8					
		iE	21 41	7		+1.4			
		eLN	23.6	17					
		ME	25 08	10		0.4			
		MN	26 35	12	0.3				
		F	23 50						
[illegible]09	" 23	iPNE	13 00 09	(3 (7	+0.5	+0.8		22°	H 12 55.3
		iPZ	00 10	1			+0.1		Deep focus. Depth about 80 km. ?May be much deeper. Compare this record with that of May 30, 14h. and June 30, 16h. All three have same striking characteristics.
		ipP?NE	00 22	7	-	-			
		mE	00 30	7		3.8			
		iE	00 52	5		-3.5			
		iN	00 53	5	+2.5				
		iNE	01 14	5	-2.2	-2.7			
		iSNE	04 04	8	-6.0	-6.3			
		iZ	04 08	5			+1.0		
		iE	04 09	10		+19.0			
		mN	04 11	10	11.7				
		sS?N	04 27	8	6.3				
		LE	05.5	26					
		ME	07 11	19		4.1			
		?N	08 23	12	1.8				
		F	15 00						
[illegible]7	" 27	eE	22 40 31	½					Very small. Felt at Guyra and Armidale, N.S.W.- Intensity about R.F.2-3.
		iN	40 35	1	-0.3				
		eZ	40 39	1					
		iN	40 40	2	+0.5				
		iE	40 41	2		-0.6			
		eLN	40.9	7					
		F	22 43						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, ~~SYDNEY~~, N.S.W

SEISMOLOGICAL BULLETIN.

	Date	Phase	Time (Greenwich) h.	m.	s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
	1938										
	June 29	e_{NE}	09	54	4.2						
		e_N			57.5	5					
		MNE	10	07	3	14	0.2	0.3			
		F	10	15							
	" 29	e_E	18	53	7						
		eL_N			59.3	22?					
		MN	19	01	18	15	0.7				
		ME		02	19	20		0.6			
		F	19	55							
	" 30	iP_{NE}	16	49	36	93 7	-1.0	-1.7			Deep focus. See
		.N		49	43	7	1.1				May 30, 14h. and
		E		49	46	7		1.7			June 23, 13h.
		E		50	12	7		1.5			
		N		51	01	6	1.2				
		iS_N		53	25	7	-2.5				
		iS_E		53	29	7		-4.4			
		i_N		53	30	8	+11.6				
		E		53	38	7		15.5			
		E		53	46	8		9.3			
		E		53	58	8		8.1			
		eLE		55	2	21					
		ME		56	21	19		1.3			
		F	17	40							
	" 30	e_E	21	16	5						A few very small
		e_N			17.7						indefinite waves

----------oOo----------

J.K.O'CONNELL, S.J.
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WM.O'LEARY, S.J.

PLEASE NOTE CORRECT POSTAL ADDRESS:

Riverview College Observatory,
RIVERVIEW, N.S.W.,
Australia.

Riverview College Observatory.

RIVERVIEW, ~~SYDNEY~~, N.S.W.

SEISMOLOGICAL BULLETIN.

φ = 33° 49′ 49″ S. λ = 151° 9′ 30″ E. h = 41·9 m Foundation : Triassic sandstone

INSTRUMENTS:

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Weichert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS EW.)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert.)

	V	T_o	ε:1	$\frac{r}{T_o^2}$
A^N (1)	209	8.0	5.5	0.028
(3)	90	11.7	6.4	0.010
A^E (1)	228	8.7	4.2	0.026
A^Z (3)	74	9.2	7.1	0.011
(2)	61	5.0	3.0	0.080

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
	1938								
[illegible]	July 4	$e(S)_E$	17 00 51	9					
		MN	04 14	14	0.2				
		ME	04 43	14		0.3			
		F	17 25						
116	" 4	eP_E	21 17 08	(3				22°	Focus deeper
		eP_N	17 13	(8 3					than normal?
		i_Z	17 16	2			-0.2		
		i_E	17 50	8		-2.0			
		i_E	18 01	8		-2.0			
		i_N	18 04	8	+1.5				
		i_E	18 20	8		-3.3			
		iS_{NE}	21 06	6	+	+2.8?			S in minute mark
		i_E	21 13	8		-8.7			
		i_N	21 16	7	+3.1				
		i_E	23 09	8		+5.0			
		eL_N	23.4	18					
		m_E	24 04	16		2.1			
		MN	25 15	12	2.0				
		ME	28 58	12		1.9			
		F	22 50						
[illegible]	" 5	eP_E	02 08 19	7				2300	
		eP_{NZ}	08 20	(3 8				(20?7)	
		PP_E	08 36	7		2.8			
		m_Z	08 42	5			0.3		
		m_E	09 08	8		3.6			
		m_N	09 25	7	2.5				
		m_E	10 21	7		3.3			
		S_{NE}	12 09	5					
		$PcP?_E$	12 23	7		5.1			
		$PcP?_N$	12 24	7	3.7				
		i_E	13 03	7		-2.7			
		eL_N	13.3	24					
		MN	14 44	17	5.9				
		ME	15 25	17		4.6			
		F	Lost in No.118						
[illegible]	" 5	$e(P)_E$	02 59 21						
		e_N	59 23						
		S_E	03 03 06	6					
		L_N	04.5	21					
		MN	07 45	12	2.5				
[illegible]	" 5	e_N	09 56 18	5					
		e_E	59 35	5					
		e_N	59 45	5					
		eL_N	10 01.1	21					
		MN	03 27	12	0.2				
		ME	04 37	12		0.3			
		F	10 20						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, ~~SYDNEY,~~ N.S.W

SEISMOLOGICAL BULLETIN.

	Date	Phase	Time (Greenwich) h.	m.	s.	Per	Amplitude. A_N	A_E	A_Z	Δ	Remarks
	1938					s.	mm	mm	mm	km.	
	July 6	iPNEZ	22	12	02	4	-0.7	-2.3	+0.3	22°	Focus deeper than normal. About 100 km.?
		mE		12	10	6		2.2			
		ipP?N		12	25	5	+1.7				
		sP?N		12	34	5	2.4				
		iE		12	52	5		-2.3			
		iE		13	04	6		+6.5			
		mN		13	08	6	2.4				
		iSN		15	54	8	+3.1				
		iSE		15	55	8		-8.2			
		PcP?N		16	07	8	9.2				
		PcP?E		16	08	8		17.7			
		iZ		16	12	8			-1.7		
		sS?E		16	26	9		6.6			
		mN		16	51	8	5.5				
		eLN		17	.3	17					
		MNE		19	09	16	8.7	6.1			
		MZ		19	37	16			0.2		
		F	23	50							
121	" 6	ePNE	01	29	07	7				2440 (22°0)	
		iE		29	20	7		-2.5			
		iZ		29	22	3			+0.3		
		iN		29	23	7	+1.5				
		mN		29	55	7	2.3				
		iNE		30	15	5	+2.5	+2.7			
		mE		30	34	7		3.3			
		iSE		33	08	7		-10.0			
		iN		33	12	7	-6.5				
		iN		33	20	7	-6.6				
		eZ		33	20	4					
		mE		33	28	8		14.1			
		mN		33	35	9	5.3				
		iZ		33	36	4			+0.5		
		mN		34	30	17	4.3				
		mN		34	50	17	6.1				
		ME1		36	23	16		7.5			
		MN		36	36	12	12.3				
		ME2		39	57	12		13.0			
		MZ		40	39	14			0.2		
		F	03	30							
	" 6	eN	03	52	.7						
		MN	04	01	.2	12	0.3				
		F	04	30							
123	" 6	e(P)E	06	07	20	6					
		eSN	11	16		7					
		iSE		11	18	8		-0.4			
		eN		11	25	8	0.4				
		iE		11	26	8		-1.8			
		eLN		12	.8	17					
		ME		14	31	16	0	0.2			
		MN		15	21	14	0.3				
			06	35							
	" 6	ePNE	09	44	14	3				2410 (21°7)	
		iE		44	19	5		-0.3			
		eSNE		48	13	8	0.4	0.4			
		mN		48	25	8	0.3				
		mE		48	29	9		0.7			
		mN		48	36	9	0.6				
		eLN		50	.0	17					
		MN		51	36	14	1.2				
		ME		52	17	12		0.7			
		F	10	50							

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, ~~SYDNEY~~, N.S.W

SEISMOLOGICAL BULLETIN.

Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
1938 July 8	e_E	22 02.2						
	e_N	02.5						
	eL_N	07.5	16					
	MN	10.6	13	0.2				
	F	22 30						
" 12	eL_E	03 44.2	20					
	ME	47 02	14		0.3			
	MN	47 23	14					
	F	04 00						
" 12	iP_{NE}	12 41 35	6	-0.2	-0.7		2340	S
	iZ	41 38	2			-0.2	(21°0)	N.Z. measurements
	i_E	41 40	6		-1.1			from Mainka.
	i_N	42 10	5	-0.5				
	iS_{NE}	45 27	8	-0.7	-1.0			
	m_N	45 35	9	1.5				
	mZ	45 39	6			0.2		
	mE	45 41	12		2.5			
	eL_N	47.1	18					
	MN_1	49 01	14	3.9				
	ME	50 04	14		2.8			
	MN_2	50 54	11	5.6				
	MZ	52 11	18			0.1		
	F	14 10						
" 14	$eP?_N$	23 36 52						
	i_E	36 58	5		-2.0?			
	eS_E	41 09	8		0.5			
	i_N	41 36	10	+1.2				
	i_N	42 16	9	+3.9				
	m_N	42 46	8	2.3				
	eL_N	44.5	17					
	ME	46 43	12		1.5			
	MN	47 08	12	1.6				
	F	00 50						
" 16	e_E	09 07 00						
	e_N	07 20						
	$eS?_N$	11 23	8					
	eL_N	13.3	17					
	MN	14 19	15	0.2				
	ME	16 33	12		0.2			
	F	09 30						
" 22	$e?_E$	08 23.0						
	e_E	36.0						
	eL_E	38.9	26					
	MN	43 10	19	0.2				
	ME	46 10	21		0.3			
	F	09 15						
" 23	e_N	23 06 22	3					
	i_E	11 36	5		-0.9			
	i_N	11 50	6	-0.7				
	i_E	13 51	7		-1.4			
	eL_E	15.7	16					
	i_E	17 24	7		+2.6			
	ME	19 03	10		1.2			
	F	23 45						

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RIVERVIEW COLLEGE OBSERVATORY.

SYDNEY, N.S.W

SEISMOLOGICAL BULLETIN.

Date	Phase	Time (Greenwich) h.	m.	s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
1938 July 29	$iP?_E$	13	16	38	4		-0.7			
	iS_{NE}		24	44	6	+0.7	+1.6			
	m_{NE}		24	52	6	0.8	1.6			
	m_N		24	57	7	0.7				
	m_N		25	05	7	0.5				
	iS_cS_E		26	23	5		+0.9			
	eS_cS_N		26	23	5					
	eL_E		37.9		28					
	eL_N		39.5		26					
	ME		41	08	21		0.7			
	MN		44	37	16	0.6				
	F	14	30							

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N.B. All readings are from Wiechert Instruments unless otherwise stated

Reichsanstalt für Erdbebenforschung, Jena.	Die Beurteilung von Verkehrserschütterungen Von Dozent Dr.Rabil H. Martin.
Observatorio Geofisico Cartuja.	Resumen del Boletin Meteorologico de 1937 (Tirando aparte).
Rev. H. V. Gill, S.J.	Some Speculations on Wegener's Theory of Continental Drift.
Imperial Marine Observatory, Kobe, Japan.	Memoirs of the Imperial Marine Observatory Vol.VI,No.4
Université de Strasbourg, Faculté des Sciences.	Annuaire de l'Institut de Physique du Gobe, 1935 Météorologie.

----oOo----

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Reichsanstalt für Erdbebenforschung, Jena. Gebäudeschwingungen beim Erdbebenstross. Von W.Sponheurer.

Riverview College Observatory.

RIVERVIEW, ~~SYDNEY.~~ N.S.W

SEISMOLOGICAL BULLETIN.

Φ = -33° 49′ 49″ S. λ = 151° 9′ 30″ E. h = 41·9 m Foundation : Triassic sandstone

INSTRUMENTS:

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Wiechert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS EW.)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert,)

	V	T_o	s:1	$\frac{r}{T_o^2}$
A_N(1)	209	8.1	3.3	0.023
(3)	87	11.9	4.9	0.0098
A_E(1)	226	8.8	4.1	0.015
A_E(3)	74	9.2	4.3	0.012
A_E(2)	57	5.2	3.3	0.052

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
	1938								
134	August 15	i_E	04 15 39	8		+1.0			
		eL_E	19.2	30					
		ME	21 16	16		0.6			
		MN	22 39	12	0.4				
		F	04 50						
135	" 16	$e(P)_E$	04 40 07	8					Preliminaries masked by heavy microseisms.
		iS_N	49 50	8	+5.5				
		i_E	50 18	9		-3.0			
		e_N	56.3	30					
		eL_N	05 03.6	44					
		MN	06 46	35	1.0				
		ME_1	07 00	24		1.1			
		ME_2	15 41	24		1.5			
136	" 18	$eP?_N$	09 39 55						
		iP_E	39 59	4		-0.6			May be more than one shock,
		iS_{NE}	46 51	5	+1.6	+2.5			
		mN	46 59	5	1.8				
		i_E	47 27	6		+1.8			
		i_N	47 30	6	+1.8				
		i_E	49 04	5		-1.0			
		i_E	51 06	6		-1.2			
		i_N	52 11	6	-0.7				
		i_N	53 44	6	+1.0				
		i_N	55 24	7	+1.0				
		i_N	56 19	8	+1.3				
		m_N	56 39	8	1.0				
		mN	56 54	9	1.3				
		eL_{NE}	59.9	17					
		MN	10 02 00	12	0.8				
		F	11 15						
137	" 20	$e?_N$	05 10 27						
		e_N	17 47	3					Waves very irregular and hard to identify.
		e_E	20 47	4		0.5			
		$S?_N$	24 26	7	0.6				
		mN	27 00	7	0.8				
		MN	28 13	10	1.0				
		ME	29 03	14		0.6			
		F	05 55						
138	" 20	iP_N	08 37 41	2	+0.5			3455 (31?1)	
		eS	42 54	9					
		i_E	43 04	4		-0.9			
		i_E	43 15	4		-0.7			
		i_E	43 24	6		-0.8			
		i_E	45 32	6		-0.9			
		mN	43 20	9	0.4				

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RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude A_N mm	A_E mm	A_Z mm	Δ km,	Remarks
	1938								
138	August 19	eL_E	08 48.5	17					
	Cont. 20	ME	51 23	12		1.7			
		eL_N	52.9	19					
		MN	57 12	12	0.6				
		F	10 05						
139	" 23	eL_N	14 59.3	17					A few shallow waves.
140	" 23	eL	20 07.6	17					A few shallow waves.
141	" 24	e_N	16 01 21						
		e_N	05 35	10					
		eL_N	06.9	21					
		MNE	08 14	16	0.2	0.2			
		F	16 25						
142	" 25	i_E	01 37 27	3		-1.0			Heavy microseisms present.
		e_N	45.1	12?					
		i_E	49 52	5		-1.0			Phases cannot be identified with any degree of certainty.
		i_N	54 51	11	+1.5				
		i_N	55 31	13?	+2.7				
		$e(L)_E$	55.9	17?					
		$M?_N$	57.0	15	2.2				
		ME	02 00 29	15		1.5			
		MN	00 52	12	5.2				
		F	03 35						
143	" 29	$iP?_N$	15 31 37	3	-0.4				Preliminaries very small and obscured by micro-seisms.
		i_E	32 11	3		-0.7			
		iS_E	39 06	7		-1.5			
		i_N	39 17	8	-4.0				
		i_E	39 18	7		-7.2			
		mE	43 03	14		1.5			
		i_{NE}	43 51	8	+2.5	-4.8			
		mE	44 36	16		1.6			
		i_N	44 50	8	+2.3				
		mE	44 53	16		1.8			
		mE	46 47	12		1.7			
		mE	47 22	12		1.8			
		iE	48 50	8		+2.0			
		iE	49 44	10		-3.5			
		iE	51 05	8		-3.3			
		m_N	51 35	14	1.5				
		eL_E	52.2	25					
		MN	54 46	16	1.6				
		ME_1	56 11	18		2.1			
		ME_2	59 40	14		3.1			
		F	17 30						
144	" 30	$eP?_N$	11 56 04	3					Beginning of pre-liminaries and secondaries very indefinite. On E-W Wiechert there are indications of very small waves beginning at 11h 55m 21s.
		i_N	56 18	4	+1.2				
		i_N	56 51	5	+1.3				
		$S?_E$	12 01 08	8		1.2			
		$i(S)_{NE}$	02 07	8	+5.0	-2.7			
		m_N	03 03	15	2.8				
		i_{NE}	03 50	7	+5.4	-4.2			
		iE	04c03	8		-8.2			
		i_N	04 07	8	-5.5				
		eL_E	05.1	24					
		i_N	05 21	7	-5.6				
		ME	08 28	18		50.5			
		MN	11 09	14	48.5				
		F	15 15						

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RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude A_N mm	Amplitude A_E mm	Amplitude A_Z mm	Δ km,	Remarks
145	1938 Aug. 30	e_N	17 17 15	5					Obscured by micro-seisms.
		e_E	21 38	11					
		eL_E	28.2	22					
		MN	30 30	11	0.4				
		ME	33 38	10		0.8			
		F	18 10						
146	" 31	iP_N	17 50 55	4	-1.0			29°	Deep focus. Depth about 450km
		ePE	50 55						
		ipP_N	52 15	5	+1.8				
		m_N	52 20	5	2.5				
		$i(PcP)_E$	54 12	4		-1.2			
		iS_N	55 26	5	+3.9				
		iS_E	55 27	5		+1.4			
		isS_N	57 48	8	+4.6				
		esS_E	57 48						
		m_N	57 59	8	6.9				
		i_E	58 50	8		-3.0			
		i_N	59 22	6	+2.1				
		i_E	59 59	7		-6.7			
		$L?_E$	18 00.5	17					
		$i(ScS)_N$	01 32	6	+4.4				
		ME	03 25	9		3.8			
		MN	03 42	12	2.4				
		i_E	04 53	7		+3.8			
		MN	05 06	7	3.2				
		MN	08 07	12	1.3				
		ME	08 33	10		2.8			
		F	19 10						

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Small indecipherable disturbance on Aug. 1, 12h.

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W.O'LEARY, S.J.

Riverview College Observatory.

RIVERVIEW, ~~SYDNEY~~, N.S.W.

SEISMOLOGICAL BULLETIN.

Φ = 33° 49′ 49″ S. λ = 151° 9′ 30″ E. h = 41·9 m Foundation : Triassic sandstone

INSTRUMENTS:

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Weichert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS EW.)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert.)

		V	T_o	ε:1	$\frac{r}{T_o^2}$
A^N	(1)	211	7.9	3.3	0.021
	(3)	100	~~0.011~~ 1.9	3.0	0.010
A^E	(1)	230	8.7	3.9	0.018
A^Z	(3)	84	9.2	5.3	0.012
	(2)	64	5.3	3.1	0.044

No.	Date	Phase	Time (Greenwich)	Per	Amplitude. A_N	Amplitude. A_E	Amplitude. A_Z	Δ	Remarks
	1938		h. m. s.	s.	mm	mm	mm	km.	
147	Sept. 2	e_{NE}	21 45 57						Very small local shock.
		i_{NE}	46 01	½	-0.2	+0.3			
		m_{NE}	46 02	½	1.0	1.4			
		F	21 48						
148	" 5	eP_Z	14 51 06						eP from Galitzin Vertical.
		iS_{NE}	57 54	9	+2.5	-3.6			
		eL_N	15 02.2	18					
		ME	07 26	18		0.3			
		MN	07 59	16	0.4				
		F	16 30						
149	" 7	e_{NE}	02 02 49						
		i_N	09 19	5	-0.7				
		i_E	09 23	5		+0.7			
		i_N	12 39	7	+1.0				
		i_E	12 46	7		-2.7			
		$e(L)_E$	20.4	18					
		F	02 40						
150	" 7	iP_Z	04 14 02					6800 (61°2)	iP from Galitzin Vertical.
		iS_N	22 28	7	-0.6				
		iS_E	22 30	7		-0.7			
		i_N	22 36	7	+1.4				
		eL_N	30.9	17					
		MN	35 22	21	0.7				
		ME	39 38	21		0.6			
		F	05 40						
151	" 7	eP_E	13 03 56	4				2865 (25°8)	
		iP_N	03 58	4	-0.3				
		m_{NE}	04 55	4	0.9	0.3			
		mE	05 42	5		0.3			
		iS_{NE}	08 31	5	+1.4	+1.1			
		i_N	08 37	5	+3.0				
		mN	08 55	7	2.2				
		i_E	09 42	6		+1.9			
		m_N	09 52	6	2.3				
		m_E	09 55	7		2.6			
		m_N	10 12	7	3.5				
		i_E	10 47	6		-4.0			
		eL_E	12.9	17					
		MN_1	14 19	14	1.4				
		ME	14 31	12		2.8			
		MN_2	15 19	12	1.4				
		F	14 20						
152	" 9								

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude A_N mm	Amplitude A_E mm	Amplitude A_Z mm	Δ km,	Remarks
	1938								
152	Sept. 9	e_N	05 46 38						
		e_N	51 21	11?					
		eL_N	54.9	21					
		MN	57 05	21	0.2				
		ME	58 02	12		0.2			
		F	06 20						
153	" 16	eL_N	05 47.2	20					Obscured by heavy microseisms.
		eL_E	48.0	24					
		ME	51 13	17		0.3			
		F	06 10						
154	" 20	$e(P)_E$	13 41 01	4					
		eS_{NE}	46 01	9					
		eL_N	49.0	17					
		ME	51 09	17		0.2			
		MN	51 22	14	0.2				
		F	14 35						
155	" 21	ePE_Z	19 03 14	3				7720	
		e_N	03 27	3				(6995)	
		i_Z	03 28	3			+0.2		
		iS_{NE}	12 26	6	-0,6	-0.7			
		iPS_E	12 53	6		-1.0			
		i_E	13 21	6		-0.5			
		$e(L)_E$	20.2	25					
		eL_N	23.3	25					
		eL_E	25.2	25					
		MN	31 02	21	0.4				
		ME	31 55	21		0.2			
		F	20 30						
156	" 25	ePZ	20 19 11	3					
		ePE	19 15	5					
		$iNEZ$	19 20	5	-0.7	-0.5	-0.5		
		mE	19 27	5		0.8			
		PPE	19 45	6		0.7			
		$PPPE$	19 55	6		0.9			
		mE	20 00	5		0.9			
		m_N	20 02	5	0.7				
		iE	20 22	5		-0.7			
		i_N	20 24	5	+1.0				
		iS_N	23 32	7	-0.9				
		m_N	23 43	8	1.3				
		i_E	23 46	7		-1.4			
		SS_N	23 58	7	2.9				
		SSE	24 02	7		2.8			
		mE	24 40	7		2.0			
		eL_E	26.1	25					
		ME	27 23	17		1.0			
		MN	27 35	16	0.5				
		MZ	27 56	16			0.1		
		F	21 15						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h.	m.	s.	Per	Amplitude A_N	A_E	A_Z	Δ	Remarks
	1938					s.	mm	mm	mm	km,	
157	Sept.27	$e?_{NZ}$	10	21	49						In minute mark.
		eP_Z		21	51	3			0.1		
		e_N		21	54	?					
		ePP_{NE}		22	22	5	0.5	0.6			
		PPP_N		22	31	6	0.8				
		PPP_E		22	33	7		0.5			
		m_N		22	38	6	1.1				
		eS_{NE}		26	13	7	0.5	0.7			
		m_N		26	26	8	1.3				
		m_N		26	56	16	1.6				
		iSS_N		27	12	8	+2.8				
		i_E		28	08	8		-2.9			
		m_E		28	54	11		3.6			
		i_N		29	08	7	+2.7				
		m_E		29	10	10		3.8			
		eL_E		30	.5	21					
		ME_1		31	31	18		2.6			
		MN_1		31	42	21	2.2				
		MZ		32	05	19			0.1		
		MN_2		32	57	17	3.8				
		ME_2		33	56	12		3.7			
		F	11	30							
158	" 28	eP_N	18	19	05	6					
		eP_E		19	06	6					
		e_Z		19	08	4					
		i_Z		19	12	4			-0.3		
		m_N		19	14	6	0.5				
		m_E		19	17	6		0.4			
		eS_{NE}		23	34	8	0.8	0.8			
		iS_N		23	39	8	+2.7				
		i_E		23	46	10		-2.2			
		m_N		23	51	8	2.1				
		i_N		24	10	5	+2.8				
		m_E		26	00	10		2.6			
		i_N		26	15	9	+2.2				
		eL_E		26	.9	16					
		m_N		27	21	16	1.8				
		ME		28	31	15		2.3			
		MN		30	34	10	2.3				
		F	19	45							
159	" 29	e_E	11	03	.9						
		e_N		06	.1						
		MN		09	23	14	0.1				
		ME		09	28	16		0.1			
		F	11	25							

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D.J.K.O'CONNELL, S.J.
Director.

WM.O'LEARY, S.J.
1938, Oct.5.

Riverview College Observatory.

RIVERVIEW, ~~SYDNEY.~~ N.S.W.

SEISMOLOGICAL BULLETIN.

Φ = 33° 49′ 49″ S. λ = 151° 9′ 30″ E. h = 41·9 m Foundation : Triassic sandstone

INSTRUMENTS:

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Weichert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS EW.)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert.)

	V	T_o	ε:1	$\frac{r}{T_o^2}$
A_N (1)	218	8.0	3.8	0.017
(3)	104	11.8	2.6	0.010
A_E (1)	230	8.8	4.6	0.017
A_Z (3)	70	9.4	7.1	0.012
(2)	65	5.1	3.6	0.037

No.	Date	Phase	Time (Greenwich)	Per	Amplitude. A_N	Amplitude. A_E	Amplitude. A_Z	Δ	Remarks
	1938		h. m. s.	s.	mm	mm	mm	km.	
160	Oct. 1	e_N	22 55.1						
		M_N	58 52	14	0.3				
		F	23 10						
161	" 4	$eP?_{NE}$	08 31 33	6	0.4	0.7			
		e_{NE}	31 53	6	0.8	0.5			
		eS_{NE}	35 52	8	0.9	0.6			
		e_N	36 13	22	0.6				
		m_E	37 52	8		1.1			
		m_E	38 27	12		1.5			
		eL_N	39.9	24					
		M_N	41 35	20	1.0				
		M_E	41 42	17		1.3			
		F	09 10						
162	" 5	e_N	00 03 09	5					Obscured by micro seisms.
		e_E	04 44	8					
		eL_N	08.0	17					
		M_N	09 03	14	0.5				
		M_E	09 09	15		0.3			
		F	00 35						
163	" 7	eP_Z	00 59 29	3				7890	
		e_N	01 01 16	4				(71°0)	
		eS_{NE}	08 49	8					
		m_N	09 00	8	0.5				
		e_N	14 09	21					
		eL_E	16.1	24					
		M_N	21 22	17		0.4			
		M_E	21 31	17	0.4				
		F	01 50						
164	" 7	e_Z	02 07 06	2					
		eL_N	14.7	24					
		M_N	17 22	14					
		F	02 30						
165	" 7	e_N	16 55.3	7					
		eL_N	17 00.6	25					
		M_N	05 41	17	0.3				
		M_E	06 55	17		0.3			
		F	17 30						
166	" 7	e_N	21 23.5						
		eL_E	26.5	23					
		M_E	29 56	15		0.2			
		F	21 40						
167	" 7	$e?_E$	22 43.8						No well defined phases.
		e_N	51.8	12					
		F	23 10						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1938		h. m. s.	s.	mm	mm	mm	km,	
168	Oct. 9	i_N	16 42 29	5	-0.7				
		i_E	43 34	5		-0,7			
		i_E	47 51	15		+1.7			
		e_N	47 51						
		m_E	48 05	19		4.3			Largest and most outstanding wave.
		m_N	48 14	18	1.4				
		m_E	48 52	14		3.4			
		m_N	48 57	15	2.0				
		$e(L)_N$	49.5	22					
		M_E	50 24	12		3.0			
		F	17 35						
169	" 10	iP_{NE}	20 56 07	8	-1.2	+1.2			May be deep focus If so an alternative interpretation is:
		i_{NE}	56 28	9	-2.0	+1.8			
		i_{NE}	57 48	7	+4.2	-4.5			
		i_N	58 10	7	+2.2				
		i_E	58 11	7		-2.4			
		m_{NE}	58 20	7	3.6	2.9			
		i_N	58 28	7	+5.1				
		i_E	58 29	7		-3.8			
		i_N	59 29	6	+2.8				
		m_E	59 30	9		2.5			
		eS_N	21 02 19	8					
		iS_E	02 20	8		-3.2			
		i_N	02 33	7	+7.7				
		i_E	02 34	8		-7.7			
		i_N	05 36	8	+3.8				
		i_E	05 40	14		+7.7			
		m_N	06 04	9	4.0				
		i_N	06 38	8	-8.5				
		eL_E	08.3	40					
		eL_N	09.8	33					
		i_E	09 54	8		-8.4			
		M_E	12 21	27		9.6			
		M_N	12 54	27	8.8				
		M_{E2}	16 37	17		14.0			
		F	22 40						
170	" 11	e_N	00 22 21	10					
		e_N	26 11	8					
		e_E	27 49	10					
		eL_E	31.9	28					
		eL_N	32.6	28					
		M_N	37 00	15	0.3				
		F	00 55						
171	" 12	e_{NE}	00 55.8						
		eL_N	01 11,3	24					
		M_E	16 56	17		0.2			
		M_N	17 07	17	0.2				
		F	01 55						
172	" 14	e_N	12 56.4						
		eL_N	13 04.9	17					
		M_N	06 21	12	0.2				
		F	13 25						
173	" 19	e_N	04 59.4	7					Heavy microseisms present.
		eL_N	05 08.2	27?					
		M_N	12 56	17	0.3				
		F	05 45						

(Continued on next sheet)

Largest and most outstanding wave.

May be deep focus If so an alternative interpretation is:

iP_{NE}	20 56	07
ipP_{NE}	57	48
iP_cP_N	58	10
iP_cP_E	58	11
eS_N	21 02	19
iS_E	02	20
isS_N	05	36
isS_E	05	40

Focal depth 500-600 km.
Δ 48° H=20 48 16

From 21 03.2 to 21 05.2 long period waves of 26 to 30 seconds.

Heavy microseisms present.

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude A_N mm	Amplitude A_E mm	Amplitude A_Z mm	Δ km,	Remarks
	1938								
174	Oct.20	iP_{NEZ}	02 26 21	7	+6.5	-10.5	-1.7	4200	iP Dilatation.
		mZ	26 27	7			3.1	(37°8)	Azimuth NW.
		mNE	26 29	7	8.1	11.7			
		PP_E	27 44	7		6.6±			
		m_N	27 55	7	5.2				
		$PcP?_E$	28 37	7		7.5			
		m_N	28 51	7	6.9				
		m_N	30 55	6	7.0				
		m_E	31 25	6		5.0			
		i_N	31 52	6	+5.7				
		i_E	31 54	6		-4.2			
		i_E	32 07	6		-13.7			
		iS_E	32 20	13?		-20.0			
		iS_N	32 22	13?	+12.8				
		i_N	32 38	11?	+16.7				
		i_Z	34 30	6			-0.7		
		m_N	34 31	7	25.0				
		$SS?_E$	34 42	7		19.0			
		$SS?_Z$	34 4[illegible]	7			1.7		
		m_N	35 47	7	29.0				
		m_N	36 11	7	30.5				
		$ScS?_E$	36 19	6		21.3			
		$L?_E$	36.4	33?					Waves of 5-7 sec.
		ME_1	37 36	7		34.5			periods superposed.
		MN_1, MZ_1	37.7	7	57+		3.9		
		ME_2	38.6	7		50+			
		MZ_2	40.1	6			7.5		
		F	05 20						
175	" 20	e_E	10 06.3						
		m_E	12 54	6		0.4			
		m_N	12 58	6	0.6				
		$E(L)_E$	15.6	12					
		F	~~05 20~~ 10	25					
176	" 21	iP_E	23 41 02	6		-0.7		2710	
		eP_N	41 03	6				(24°4)	
		m_E	41 10	7		1.2			
		i_E	41 56	7		-2.3			
		m_N	42 11	6	0.7				
		iS_N	45 24	5	+1.2				
		iS_E	45 27	7		±1.4			
		m_E	45 45	6		2.3			
		eL_E	47.8	22					
		MN	50 30	12	1.2				
		ME	50 50	15		1.0			
		F	00 40						
177	" 23	eL_{NE}	03 27.8	25					
		ME	32 58	17		0.2			
		MN	34 28	17	0.1				
		F	13 55						
178	" 29	i_{NE}	23 10 29	5	+1.0	-0.5			
		eN	14 13	5	0.5				
		m_N	14 20	5	0.8				
		ME	20 11	10		0.3			
		MN	20 28	10	0.4				
		F	23 50						

RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude A_N mm	Amplitude A_E mm	Amplitude A_Z mm	Δ km,	Remarks
	N.B.	The following earthquakes were inadvertently omitted from page 30.							
	1938								
171a	Oct.13	e_N	10 07.9	5					
		eL_E	08.9	20					
		eL_N	10.4	17					
		ME	10 55	12		0.3			
		MN	12 58	12	0.3				
		F	10 35						
171b	" 13	e_E	15 54.6						
		eL_E	16 02.4	20					
		MN	08 38	20	0.1				
		F	16 20						
				------oOo------					
		Omitted from July Bulletin, page 21.							
132	July 28	e_N	21 08.0	3					
		eL_N	16.2	22					
		F	21 25						
				------oOo------					

D.J.K.O'CONNELL, S.J.
Director.

WM.O'LEARY, S.J.
1938, Nov.2.

Geophysikalischen Instituts der Universität Seipzig.	Veröffentlichungen der Geophysikalischen Instituts der Universität Leipzig, Zweite Serie, Band X. do. do. do. Band X, Anhang 2. Aardbruck aus den berichten der Mathematik-Physikalische Klasse der sachischen Akademie der Wissenschaften zu Leipzig, LXXXIX Band. Festvortrag zur 25-jahrfeier des Geophysikalischen Instituts der Universität Leipzig. Von V.Bjerknes.
Observatoire de Tananarive Madagascar.	Bulletin Métécrologique Mensuel, Vol. XV, Num.1-6.

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D.J.K.O'CONNELL, S.J.
Directpr.

Wm.O'LEARY, S.J.
1938, Nov.1.

Riverview College Observatory.

RIVERVIEW, ~~SYDNEY~~. N.S.W

SEISMOLOGICAL BULLETIN.

Φ = 33° 49′ 49″ S. λ = 151° 9′ 30″ E. h = 41·9 m Foundation : Triassic sandstone

INSTRUMENTS:

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Weichert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS EW.)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert.)

		V	T_o	s:1	$\frac{r}{T_c^2}$
A^N	(1)	220	8.0	4.1	0.017
	(3)	100	12.0	3.3	0.009
A^E	(1)	240	8.7	4.8	0.017
A^Z	(3)	71	9.6	5.5	0.012

Heavy friction on No.2.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
	1938								
179	Nov. 5	iP_N	08 54 49	5?	-0.8			7710 (69°4)	H 08 43 41
		eE	54 56	4					
		iN	54 59	7	-1.2				
		mE	09 01 00	7		1.0			
		eS_N	03 47	8					
		$iSNE$	03 56	8	+3.5	-1.5			
		m_E	04 03	6		4.0			Double periods.
				20					
		PS_N	04 15	7	5.6				
				16					
		mE	04 23	10		4.8			
				22					
		m_N	04 32	7	5.0				
				16					
		mE	04 57	5		6.5			
				20					
		mE	05 08	6		8.6			
				20					
		m_N	05 11	9	3.8				
				20					
		$e(SS)_N$	08.9	31					
		eE	09.3	24					
		eLQ_E	13.4	40					
		eLR_N	17.4	35					
		ME	21 35	22		2.0			
		MN	22 17	25	2.1				
		F	Lost in No.180.						
180	" 5	eP_N	11 01 54	5				7535 (67°8)	H 10 50 58
		eE	02 03	3					
		iN	02 06	8	-1.5				
		PPPE	05 49	4		0.7			
		iS_E	10 50	7		-2.3			
		iS_N	10 52	6	-1.2				
		iPS_N	11 11	8	-6.5				
		PS_E	11 13	8		10.6			
		mN	11 18	8	9.0				
		mE	11 34	8		7.3			
		mN	12 04	15	6.3				
		mE	12 15	8		8.3			
		$i(SS)_N$	15 33	12	-2.6				
		mN	19 45	12	2.3				May be W_2 of No.179.
		eLQ_E	20.8	30					
		m_N	21 41	12	5.2				
		eLR_N	24.3	44					
		ME	25 30	17		6.8			
		MN_1	27 57	25	2.7				
		MN_2	31 30	20	4.2				
		F	14 15						

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RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, ~~SYDNEY~~ N.S.W

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
181	1938 Nov. 6	iP_N	09 05 13	4	-0.7			7865 (70°8)	H 08 53 57
		ePE	05 15	4					
		mN	05 26	6	2.7				
		mE	05 28	5		0.5			
		mN	06 48	5	2.2				
		mE	07 21	5		1.6			
		mN	08 02	8	1.5				
		mN	09 12	6	1.6				
		mN	10 33	6	1.6				
		iS_{NE}	14 30	10	-2.5	-5.0			
		PS_N	14 45	7	3.9				
		PS_E	14 49	11		9.5			
		iE	15 22	8		-3.5			
		mN	15 22	9	4.5				
		mE	15 36	10		6.0			
		mN	16 00	10	3.9				
		mN	16 35	8	3.7				
		mN	19 41	10	4.0				
		mE	19 46	10		3.1			
		eL_E	25.7	23					
		ME	30 00	14		5.0			
		MN	31 38	19	3.0				
		F	12 55						
182	" 6	e_N	12 12 14	3					
		eE	12 18	3					
		i_N	14 27	3	-0.5				
		eL_E	17.3	17					
		eL_N	17.8	17					
		F	15 30						
183	" 6	$eP?_N$	21 50 01	4				7980? (71°8?)	
		e_N	50 11	?					
		i_N	50 21	6	+0.5				
		iS_E	59 21	10		+3.0			
		iS_N	59 25	10	+4.7				
		mE	59 40	7		2.3			
		mE	22 00 13	3		2.3			
		i_N	00 24	9	+3.2				
		mE	00 31	8		2.6			
		i_N	00 51	8	-2.0				
		mE	01 26	8		2.4			
		i_N	02 00	9	+2.5				
		eL_E	08.7	40					
		ME	11 34	18		3.0			
		MN	20 41	14	3.3				
		F	00 20						
184	" 7	eL_N	01 59.4	18					A few shallow waves
185	" 7	$e?_N$	19 49.8						Very feeble record.
		ME	54 21	14		0.3			
		MN	57 31	14	0.2				
		F	20 25						
186	" 8	e_N	09 56.6						" " "
		eE	57.1						
		MN	10 07 11	10	0.2				
		F	10 15						
187	" 9	$e(P)_N$	09 27 06						E-W record missing till 11h 20m.
		iS_N	36 22	8	+1.4				
		eL_N	54.2	15					
		MN	10 01 39	17	0.4				
188		F	11 00						
	" 10	eL_N	11 23.0	18					Masked by strong microseisms.
		MN	25 30	17	0.3				
		F	11 55						

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RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, ~~SYDNEY~~. N.S.W

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich)	Per	Amplitude. A_N	Amplitude. A_E	Amplitude. A_Z	Δ	Remarks
	1938		h. m. s.	s.	mm	mm	mm	km.	
189	Nov.10	ePN	20 32 51	7					
		eE	35 09	5?					E-W measurements
		$i(SKS)_E$	43 15	7		-1.5			from MAINKA.
		$i(SKS)_N$	43 16	7	-7.0				
		$i(S)_{NE}$	43 29	7	+10.4	+1.8			
		$i(PS)_E$	44 14	10		+10.8			
		i_N	44 28	7	+18.0				
		m_E	44 33	10		6.2			
		m_N	45 02	7	8.1				
		i_N	45 31	7	+12.7				
		m_E	45 35	12		7.4			
		i_N	45 47	7	-14				
		m_E	46 05	10		10.7			
		i_N	47 11	10	+16.3				
		eSS_E	50.2	43					
		e_N	50.7	30					
		m_E	51 12	34		5.2			
		m_E	51 56	34		5.7			
		m_E	52 22	34		4.6			
		m_E	52 58	25		5.7			
		$SSS?_N$	53 08	22	9.3				
		m_N	53 31	22	8.0				
		m_N	53 53	22	9.2				
		eL_E	58.0	45					
		m_E	21 00 48	34		4.3			
		m_E	01 18	34		4.0			
		m_E	01 59	34		3.0			
		m_E	02 40	34		4.3			
		m_N	03 38	27	7.7				
		m_E	04 48	2230		3.5			
		m_N	06 58	27	7.2				
		MN_1	08 48	22	8.9				
		MN_2	10 11	20	10.3				
		ME	12 42	20		10.5			
		MN_3	15 31	20	11.3				
		F	Lost in No.190.						
190	" 10	$eL?_N$	22 22.5	42					
		MN_1	32 47	20	8.7				
		ME	37 10	20		3.4			
		MN_2	39 41	20	16.3				
	" 11	F	02 00						
191	" 11	$e(S)_N$	14 14.6	13					
		eL_N	18.0	23					
		MN	20 00	15	0.8				
		F	14 45						
192	" 12	e_N	06 19.2						
		i_N	25 46	6	-1.1				From Mainka.
		i_{NE}	26 33	5	-1.8				
		iE	26 46	5		-1.0			
		F	07 00						
193	" 12	eL_N	15 32.3	25					
		MN	35 35	20	0.2				
		F	16 05						
194	" 13	$e(P)_N$	05 02 14	3					
		$e(S)_N$	09 21	8					
		eL	13.0	15					
		F	- -						

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RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude A_N mm	A_E mm	A_Z mm	Δ km,	Remarks
	1938								
195	Nov.13	e_N	05 11 19	3					
		e_N	18 34	7					
		eL_N	24.8	17					
		M_N	30 11	17	0.1				
		F	05 55						
196	" 13	eP_N	13 26 00	3				8265 (74°4)	H 13 14 23
		e_E	26 28	3					
		iS_N	35 35	7	-0.7				
		iS_E	35 37	6		+0.5			
		iPS_N	36 07	7	-1.4				
		m_E	36 32	8		0.3			
		m_N	36 37	9	0.3				
		eL_E	51.9	23					
		M_N	54 27	18	0.2				
		M_E	59 17	14		0.2			
		F	14 25						
197	" 13	e_N	22 43.3	4					
		$e(S)_N$	51 57	11					
		S?E	52 00	12		0.7			
		eL_E	23 07.2	17					
		M_E	09 22	17		0.3			
		M_N	13 42	17	0.3				
		F	00 40						
198	" 14	eP_N	12 12 10	7?				3000 (27°0)	H 12 06 32
		e_E	12 27	4					
		PP_N	12 57	5	0.6				Felt R.F.5 at Rabaul and 4-5-6 at Kokopo, New Guinea.
		eS_N	16 45	7	1.0				
		eS_E	16 48	7		0.5			
		iS_EN	16 49	7	+2.2				
		m_E	17 18	7		1.2			
		m_N	17 20	21	2.4				
		m_N	17 44	21	1.7				
		m_E	18 38	8		1.9			
		m_E	19 05	8		4.1			
		m_E	19 13	8		4.4			
		m_E	19 20	8		4.3			
		m_N	19 36	9	1.7				
		eL_N	20.7	31					
		ME_1	22 38	17		3.8			
		M_N	23 24	17	4.6				
		ME_2	24 24	13		5.0			
		F	14 00						
199	" 15	e_N	11 07 21	6					Preceded by heavy microseisms.
		m_E	07 28	7		0.8			
		m_N	07 41	6	0.7				
		M_E	11 02	10		0.5			
		F	11 20						
200	" 15	e?E	21 10 03						
		e_N	11 02	2	0.4				
		eS_{NE}	18 02						
		eL_N	25.8	34					
		M_N	31 14	14	4.6				
		M_E	33 24	12		2.7			
		F	22 40						

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RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich)	Per	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1938		h. m. s.	s.	mm	mm	mm	km,	
201	Nov. 16	e_E	15 20 24						
		e_N	21 38	3					
		e_E	24 15	8					
		e_N	25 46	10					
		eL_N	28.0	16					
		M_N	29 10	14	0.3				
		F	15 40						
202	" 16	e_N	21 03.2						
		eL_E	08.4	17					
		M_N	11 00	10	0.2				
		M_E	11 14	9		0.2			
		F	21 20						
203	" 17	$e(PP)_E$	04 12 23	5					
		$e(PP)_N$	12 25	5					
		SKS_N	18 55	10	1.3				
		iS_E	19 52	18		-2.4			
		m_E	20 13	18		2.6			
		iSS_E	26 38	14		+1.4			
		m_N	26 52	21	0.5				
		m_E	27 30	22		0.5			
		eL_E	35.8 32	28					
		M_N	42 44	25	0.7				
		M_E	45 31	21		1.2			
		F	07 00						
204	" 18	e_E	14 18.6	7					
		i_N	18 42	5	+1.0				
		m_E	18 57	6		1.0			
		m_N	21 42	7	1.0				
		m_E	23 56	7		1.3			
		$e(L)_N$	24.6	12					
		M_N	25 49	13	0.7				
		m_E	25 53	7		1.0			
		m_E	28 05	8		2.1			
		F	15 05						
205	" 21	e_E	01 26.2						
		e_E	29.2	5					Measurements from Mainka.
		e_N	29.9	5					
		i_E	30 28	6		+0.6			
		eL_{NE}	34.1	10					
		M_N	36 56	8					
		F	02 15						
206	" 22	iP_N	01 25 21	4	-0.8			7865 (70°8)	H 01 14 05
		iS_{NE}	34 36	8	-2.0	-2.2			
		m_E	35 15	12		1.0			
		m_N	35 28	10	1.1				
		M_E	46 22	14		1.0			
		M_N	49 47	12	0.9				
		F	03 15						
207	" 29	e_E	14 00 23	7					Preceded by micro-seisms.
		e_N	00 27	7					
		eL_N	16.6	17					
		M_N	18 55	14	0.3				F 14 35 .
208	" 30	eP_N	02 41 09	4	0.5			7845 (70°6)	H 02 29 54
		iS_N	50 22	7	-2.0				
		iS_E	50 24	7		-2.0			
		iPS_E	50 44	7		-1.8			
		$iScS_{NE}$	51 14	7	+1.2	-1.5			
		m_E	51 34	8		1.7			
		eL_E	59.5	17?					
		eL_N	03 03.1	21					
		M_E	10 06	19		0.7			
		M_N	15 09	19	1.0				
		F	04 40						

Riverview College Observatory.

RIVERVIEW, SYDNEY, N.S.W.

SEISMOLOGICAL BULLETIN.

Φ = 33° 49′ 49″ S. λ = 151° 9′ 30″ E. h = 41·9 m Foundation : Triassic sandstone

INSTRUMENTS:

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Weichert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS EW.)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert,)

	V	T_o	ε:1	$\frac{r}{T_o^2}$
A^N (1)	221	8.0	4.3	0.017
A^E (3)	90	12.2	3.5	0.011
A^E (1)	242	9.1	5.7	0.016
A^Z (3)	77	9.4	3.3	0.011

Heavy friction on No 2.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
	1938								
209	Dec. 1	e_N	02 21 24	7					Masked by heavy microseisms.
		$e(S)_E$	28 34	7		-0.8			
		e_N	29 07	10					
		m_N	29 47	9	0.7				
		i_E	31 15	8		+2.1			
		e_N	32.6	15					
		eL_E	35.0	25					
		MNE	39 40	17	0.9	1.3			
		F	03 50						
210	" 3	e_E	12 32 09	7		0.5			
		e_N	32 11	7	0.5				
		i_E	33 06	6		+1.6			
		$e(L)_E$	40.9	15					
		F	13 10						
211	" 4	eP_N	16 28 55	5				3000 (27?0)	H 16 22 18
		eP_E	28 57	5					
		iS_N	33 33	7	+1.0				
		i_N	33 42	8	+1.0				
		i_E	33 43	8		-1.4			
		e_N	34 14	12					
		m_E	36 35	8		2.0			
		eL_N	36.6	18					
		MN	39 02	13	2.5				
		ME	41 36	10		6.1			
212	" 5	e_N	17 58 09	5					F 18 00 Microseisms present.
		e_E	58 13	5					
		i_N	18 02 04	4	+0.7				
		i_E	05 40	5		-1.0			
		m_N	05 51	6	1.2				
		$e(L)_E$	08.0	15					F 18 30
213	" 6	e_{NE}	23 11.3	9					
		$e(S)_E$	21.8	9					
		eL_N	25.9	17					
		ME	30 20	17		0.4			
		MN	32 16	15	0.3				F 00 20
214	" 7	iP_N	13 29 43	8	+1.8			2890 (26?0)	H 13 24 15
		m_N	30 41	6	2.4				
		PcP_E	33 12	6		1.3			
		eS_N	34 10	13					
		i_E	34 22	6		+2.5			
		m_N	34 29	22	4.1				
		m_E	34 43	17		3.1			
		m_N	34 52	22	6.8				
		$eSS?_E$	35.4	25					
		eL_N	37.1	33					
		ME	39 02	17		9.0			
		MN	39 33	18	8.8				
		F	15 20						

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RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude A_N mm	Amplitude A_E mm	Amplitude A_Z mm	Δ km,	Remarks
	1938								
215	Dec. 12	e?$_N$	00 37.6	4					May be only a large microseism.
		e$_N$	41 13	10					
		M$_N$	44 56	13	1.1				
		M$_E$	45 10	13		0.5			
		F	01 05						
216	" 12	eL$_{NE}$	17 59.6	17					Earlier phases obscured by microseisms. Felt at Wataluma, D'Entrecastreaux Is. R.F. 4-5
		M$_E$	18 03 45	12		0.3			
		M$_N$	05 41	10	0.2				
		F	18 15						
217	" 13	e?$_E$	02 29.1	5					
		e$_N$	33.9	5					
		eL$_E$	36.6	20					
		M$_N$	39 10	13	0.5				
		M$_E$	39 29	13		0.5			
		F	03 10						
218	" 13	e$_N$	21 51 44						
		eL$_{NE}$	56.7	17					
		M$_N$	22 01 29	13	0.3				
		F	22 15						
219	" 15	eP$_N$	09 16 03	3				2555 (23°0)	H 09 11 03
		eP$_E$	16 07	3					
		iPP$_E$	16 26	5		-1.7			
		i$_{NE}$	16 42	5	+1.0	-1.7			
		iS$_N$	20 09	5	-0.9				
		iS$_E$	20 11	6		-1.7			
		iSS$_E$	20 22	6		-1.2			
		iSS$_N$	20 24	6	+2.0				
		m$_N$	20 40	8	0.9				
		eL$_E$	21.9	25					
		M$_E$	23 08	20		1.0			
		M$_N$	23 45	17	0.6				
		F	10 10						
220	" 16	iP$_{NE}$	17 25 16	5	-4.5	+4.8		2000 (18°0)	Focal depth below normal-about 100km H 17 21 14
		eP$_Z$	25 17						
		pP$_N$	25 33	6	10.8				
		pP$_E$	25 37	7		9.3			
		m$_E$	26 50	12		7.8			Felt in South Is. New Zealand.
		m$_E$	27 03	12		7.8			
		i$_N$	28 03	12	+9.7				Heavy friction present on Vertical Wiechert.
		iS$_E$	28 37	9		-24.0			
		isS$_{NE}$	28 55	16	+35.2	-78.6			
		m$_E$	29 23	14		66.5			
		m$_N$	29 42	12	65.0				Wiechert NS & EW deranged at 17h 31m.
		m$_N$	30 20	11	53.6				
		M$_E$	32 12	10		43.0			ME from Mainka.
		F	21 00 ca.						
221	" 16	e$_N$	17 41 34	4					Very small local shock superimposed on No. 220. Readings from Mainka. Wiechert still out of commission. Focal depth below normal-about 100km Beginning of preliminary phases very indefinite.
		e$_Z$	41 39	4					
		i$_N$	41 48	4					
222	" 16	e$_N$	23 18 33	4		F	17h 47m.		
		e$_E$	18 40	6					
		eS$_E$	20 52	12					
		i$_N$	21 30	15	-5.4				
		i$_E$	21 39	15		+12.8			
		i$_N$	21 47	15?	-22.5				
		m$_N$	22 47	12	70				
		m$_E$	22 50	12		50.0			
		M$_N$	24 37	11	31				
		M$_E$	24 42	10		40.0			
		F	02 10						

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RIVERVIEW COLLEGE OBSERVATORY.

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude A_N mm	A_E mm	A_Z mm	Δ km,	Remarks
	1938								
223	Dec. 16	e_Z	23 35 06	½					Very small local shock superimposed on No.222.
		F	23 37						
224	" 17	MNE	08 28 54	10	0.2	0.2			
225	" 17	e_N	12 32.5						
		MN	34 51	10	0.2				
		ME	35 27	10		0.2			
		F	12 40						
226	" 21	e_N	05 19.7	5					
		eL_E	22.2	13					
		MN	24 26	10	0.3				
		ME	24 40	10		0.3			
		F	06 10						
227	" 21	iP_E	12 34 03	4		-0.5		4220 (38°0)	H 12 26 49
		eP_N	34 05	4	0.2				
		mE	34 08	5		0.5			
		PP_{NE}	35 29	5	0.5	0.7			
		iS_N	39 55	7	-1.6				
		iS_E	39 56	7		+1.7			
		$SS?_N$	42 41	7	1.0				
		$SSS?_N$	43 15	8	1.3				
		$iScS?_N$	44 26	6	-1.7				
		eL_N	46.2	23					
		MN	51 03	15	4.4				
		ME	51 21	15		4.9			
		F	14 10						
228	" 24	i_{NE}	20 23 32	7	-1.2	-1.7			Preceded by heavy microseisms.
		MN	26 47	12	1.2				
		ME	27 38	10		1.4			
		F	20 50						
229	" 26	eL	04 51.5	17					A few shallow long waves.
230	" 26	e_N	06 19.1						
		e_N	26.9	11					
		e_N	29.8	17?					
		eL_N	40.5	23					
		MN	43 37	17	0.2				
		F	07 55						
231	" 26	e_N	11 10.4	15					
		eL_N	15.1	20					
		MN	16 34	18	0.3				
		ME	18 38	13		0.2			
		F	11 45						
232	" 30	eP_E	02 25 36	3					eP very small and hardly distinguishable from microseisms on NS & EW, but stands out quite clearly on Vertical.
		eP_{NZ}	25 37	3					
		iP_E	25 53	5		-2.0			
		iP_{NZ}	25 55	5	+0.8		-0.5		
		i_{NE}	26 09	5	+1.2	-2.5			
		iS_N	29 35	4	-1.3				
		iS_E	29 36	5		-3.0			
		SS_N	29 52	12	1.5				
		mN	30 06	12	1.3				
		eL_E	31.3	25					
		ME	32 31	20		1.0			
		MN	32 56	17	0.6				
		F	03 10						

D.J.K.O'CONNELL, S.J.
Director.

WM.O'LEARY, S.J.
1939, Jan.11.

No. 1 1939, January.

Riverview College Observatory.

RIVERVIEW, ~~SYDNEY~~ N.S.W

SEISMOLOGICAL BULLETIN.

Φ = 33° 49' 49" S. λ = 151° 9' 30" E. h = 41·9 m Foundation : Triassic sandstone

INSTRUMENTS:

1. Wiechert Astatic Pendulum Seismometer (1000 kilo.) (NS, EW.)
2. Weichert Vertical Seismometer (80 kilo.)
3. Mainka Conical Pendulum Seismometer (450 kilo.) NS EW.)
4. Galitzin Aperiodic Seismometer, with galvanometer registration (NS, EW, Vert,)

		V	T_o	s:1	$\frac{r}{T_o^2}$
A^N	(1)	213	8.4	4.2	0.015
	(3)	91	12.1	2.7	0.012
A^E	(1)	243	8.2	4.3	0.017
	(3)	76	9.2	4.8	0.013
A^Z	(2)	62	5.1	4.5	0.042

No.	Date	Phase	Time (Greenwich) h. m. s.	Per s.	Amplitude. A_N mm	A_E mm	A_Z mm	Δ km.	Remarks
	1939								
1	Jan. 5	ePEZ	11 24 03	2		0.3	0.1	2420 (21°8)	
		ePN	24 05	2	0.2				
		iE	24 10	5		+1.4			
		iSN	27 58	5	-1.3				
		iE	28 07	5		-2.0			
		eLE	29.6	22					
		eLN	30.9	17					
		ME	31 39	16		0.5			
		MN	32 52	12	0.3				
		F	12 20						
2	" 9	eN	03 22.4						Microseisms present.
		e(S)N	24 46	7	0.6				
		eLN	25.7	14					
		MN	27 52	12	0.5				
3	" 10	eE	11 22 14	7		0.4			Microseisms present.
		eLN	24.2	13					
		MN	26 38	12	0.3				
		F	11 40						
4	" 11	e(L)	11 02.5	13					Small, and obscured by microseisms.
5	" 15	e?N	08 01.4						Preliminaries obcured by microseisms.
		eLN	08.8	11					
		MNE	10.3	11	0.7	1.0			
		F	09 15						
6	" 16	eN	02 24.9	7					Masked by microseisms.
		eE	32.2	8					
		eLE	34.6	17					
		ME	42 42	12		0.3			
		MN	44 49	12	0.3				
		F	03 20						

(Continued on next sheet)