Riverview College Observatory

RIVERVIEW. N.S.W

1943 Jan-Dec

SEISMOLOGICAL BULLETIN

Φ = 33° [illegible] S. λ = 151° 9′ 30″ E h = 25m. 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	$\varepsilon : 1$	$\frac{\Gamma}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^s	V_s
N	1	219	8.4	4.7	0.004	4	12.9	12.8	-0.01	460
	3	133	9.6	9.4	0.028					
E	1	222	8.1	4.4	0.003	4	12.4	12.8	-0.06	470
	3	135	9.7	7.2	0.010					
Z	2	58	5.2	5.4	0.011	4	12.0	12.1	-0.03	400

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
			h. m. s.	s.				km.	
	N.B.	Unless stated otherwise readings are from the Galitzins. The amplitudes given are trace amplitudes only. The tables used are Seismological Tables by H. Jeffreys & K.E.Bullen (British Association 1940).							
	1943			s	mm.	mm.	mm.	km.	
1.	Jan. 2	eL_E	19 45.5	18					
		MN	48 18	12	0.5				
		ME	48 31	12		0.5			
		F	20 00						
2	" 3	eEZ	02 59 23	7					Small and masked by microseisms.
		eL_N	03 04.9	16					
		MN	06 46	10	1.0				
		MZ	08 08	10			0.9		
		F	03 20						
3	" 5	i_{NE}	13 41 37	8	+1.6	+1.4			Masked by microseisms
		MZ	55 39	12			0.8		
		ME	55 55	12		1.2			
		MN	56 07	12	1.5				
		F	14 10						
4	" 6	eL_Z	10 55.3	18					Masked by microseisms
		MEZ	59 50	16		0.6	0.8		
		MN	11 00 17	16	0.6				
		F	11 20						
5	" 7	eL_N	04 01.5	28					Masked by microseisms
		MN	05 53	20	1.0				
		MZ	06 07	19			0.9		
		F	04 20						
6	" 8	$iNEZ$	20 14 55	6	-2.0	+1.5	+1.5		Small and masked by microseisms.
		iNE	16 52	8	-1.2	+1.5			
		i_E	19 13	8		-1.1			
		eN	20.9	18					
		MZ	27 19	14			0.8		
		ME	28 45	12		1.0			
		F	20 40						
7	" 9	iN	02 28 36	10	+0.8				Small and masked by microseisms.
		eE	28 50	12					
		eL_N	34.3	20					
		MN	35 48	16	0.7				
		F	03 00						
8	" 9	i(P?)	05 58 54	5			-1.5		Dilatation. Deep focus. Masked by microseisms
		iN	06 03 59	6	+1.0				
		iE	04 01	6		-1.1			
		iN	07 14	10	+1.5				
		iE	07 18	10		-2.5			
		iZ	07 22	10			-2.0		
		F	06 50						

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RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G,M,T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
			h m s	s	mm.	mm.	mm.	km.	
9	Jan. 9	iZ	17 19 40	6			+1.0		Small and masked by microseisms.
		MN	24 26	13	1.0				
		F	17 35						
10	" 10	eLE	08 17.2	16					A few small waves masked by micros.
		ME	18 47	12		0.6			
		F	08 25						
11	" 11	eN	10 43.5	10					Small and masked by microseisms.
		eLE	46.5	20					
		MN	49 15	14	0.8				
		MZ	49 27	14			0.3		
		ME	49 49	12		0.8			
		F	11 00						
12	" 11	ME	13 07 47	12		0.4			A few small waves masked by micros.
		MN	09 00	12	0.5				
		F	13 15						
13	" 11	eEZ	20 10 57	8					Masked by micro-seisms.
		e(L?)E	44.3	24					
		MZ	56 03	20			0.4		
		MN	57 31	18	0.3				
		F	21 25						
14	" 13	eLZ	00 59.6	20					
		MN	01 00 41	18	0.5				
		ME	01 00	18		0.7			
		MZ	01 10	18			0.7		
		F	01 20						
15	" 13	eNE	03 31.2						Irregular waves masked by micros.
		F	Lost in No.16						
16	" 13	eLN	04 13.7	22					
		MNE	21.6	14	1.3	0.6			
		F	05 20						
17	" 13	i(P?)	19 36 22	6	-1.2	-0.8			
		iZ	40 25	8			+1.5		
		iN	42 02	6	+1.6				
		iNE	42 26	7	-2.1	-2.0			
		eLNE	43.1	18					
		ME	45 42	16		5.5			
		MN	46 12	16	5.0				
		MZ	46 22	16			5.5		
		F	20 25						
18	" 14	eN	02 29.9						Masked by micro-seisms.
		MNE	33.0	15	0.5	1.0			
		F	02 55						
19	" 14	eN	10 30.6	6					Short periods through-out. Masked by microseisms.
		mZ	35 36	5			1.6		
		mNE	36 10	8	1.8	1.8			
		F	10 45						
20	" 14	eLN	14 13.2	18					Masked by micro-seisms.
		MN	14 46	15	0.8				
		ME	15 11	16		1.0			
		MZ	15 22	18			1.0		
		F	14 30						
21	" 14	iNE	16 05 20	10	+1.0	-1.5			Masked by micro-seisms.
		ME	08 20	10		1.6			
		MN	08 24	10	1.3				
		MZ	08 46	14			0.9		
		F	16 35						
22	" 14	iN	19 26 40	9	-2.2				Masked by micro-seisms.
		iE	26 46	9		+1.6			
		eZ	26 46	9					
		MN	39 30	12	4.8				
		ME	39 46	12		2.3			
		MZ	43 58	10			3.0		
		F	21 35						

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SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
23	Jan.16	i_N	21 20 32	8?	-1.1				
		eL_N	26.5	15					
		MN	29 25	11	0.6				
		ME	32 36	14		0.3			
		F	22 00						
24	" 18	e_N	01 58 13	2					A few small waves.
		i_{NE}	59 03	4	+1.0	+0.9			
		i_Z	59 08	8			+1.0		
		F	02 00						
25	" 19	e_E	11 47.9	7					
		eL_E	55.6	26					
		MZ	56 51	20			0.5		
		ME	57 13	18		0.8			
		MN	58 25	12	0.6				
		F	12 15						
26	" 19	e_E	20 16.5	10					Small and masked by microseisms.
		MZ	22 29	16			0.7		
		F	20 30						
27	" 20	e_E	03 42.5	8					Small waves masked by microseisms,
		e_{NE}	42.7	11					
		F	03 50						
28	" 20	e_E	08 45 48	8					
		i_Z	46 44	5			+1.0		
		i_E	47 32	5		+2.0			
		ME	50 28	13		2.0			
		MN	50 46	10	1.8				
		MZ	51 48	8			2.2		
		F	09 10						
	" 21		05 40	A few long waves, perhaps non-seismic.					
29	" 21	eL?	06 54.7						
		MNE	57 47	16	1.0	1.1			
		MZ	58 46	16			0.5		
		F	07 10						
30	" 22	iP_{NZ}	06 46 11	4	+1.0		-1.6	3810 (34°3)	Dilatation.
		iS_N	51 35	14?	-1.0				
		iS_E	51 36	14?		-1.2			
		$e(L?)_N$	55.6	24?					
		$i(ScS?)_{NE}$	56 52	7	+2.0	+2.0			
		mE	57 20	8		6.8			
		mN	57 31	6	4.0				
		ME	07 00 27	16		7.6			
		MZ	01 00	14			6.0		
		MN	01 14	12	8.5				
		F	08 00						
31	" 23	MN	00 46 35	14	0.8				
		MZ	47 28	18			0.6		
		ME	48 38	16		0.8			
		F	01 05						
32	" 24e	$(SKS?)_E$	21 08 00	6					
		$e(PS?)_Z$	12 04	12					
		$e(PS?)_E$	12 10	12					
		$e(SS?)_E$	18 48	24					
		e_N	22 33	18					
		eL_E	37.3	30					
		eL_Z	37.7	30					
		MN	44 25	17	0.7				
		MZ	44 49	18			1.0		
		ME	45 49	17		0.9			
		F	23 00						
33	" 25	ME	04 41 02	16		0.4			Small and obscured by microseisms.
		MN	42 10	16	0.4				
		MZ	42 24	16			0.3		
		F	04 50						

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No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude A_N mm.	A_E mm.	A_Z mm.	Δ km.	Remarks
	1943								
34	Jan.27	i_E	00 45 23	6		+1.0			A few waves obscured by micro-seisms.
		MN	45 50	14	1.3				
		ME	45 58	14		1.0			
		F	00 55						
35	" 27	iPZ	02 58 09	6			+0.8	9920 (89°3)	Compression.
		$iSKS_N$	03 08 32	12	+1.7				
		iS_E	08 54	12		-1.8			
		eE	21 27	20					
		$e(L?)Z$	26.1	?					
		eL_N	29.5	25					
		ME	32 36	20		2.1			
		MZ	34 57	18			2.2		
		MN	36 55	18	3.1				
		F	Lost in No.36						
36	" 27	eL_E	05 02.5	26					
		ME	10 27	18		0.6			
		MN	12 37	18	1.5				
		MZ	13 00	18			1.1		
		F	05 30						
37	" 27	eE	13 17 27	2					Very small waves masked by micros. eE & eN from Wiechert, M from Galitzin
		eN	17 33	2					
		MN	21 03	6	1.4				
		ME	21 11	6		1.3			
		F	13 25						
38	" 28	eN	02 00 47	10					
		eL_E	04.1	18					
		MEZ	06 16	14		1.0	0.7		
		MN	06 21	14	0.7				
		F	02 25						
39	" 30	eZ	00 03 26	14					
		ME	10 42	16		0.9			
		MNZ	12.0	15	1.1		1.1		
		F	00 40						
40	" 30	ePP_Z	05 53 17	8					
		ePS_E	06 03 04	12					
		$i(SKSP?)_N$	03 14	12	-1.0				
		mE	03 41	18	2	1.2			
		eSS_N	09 35	12					
		$iSSP_E$	10 08	15		+1.2			
		eL_N	28.7	32					
		eL_Z	28.8	32					
		eL_E	29.0	30					
		ME	33 28	22		1.0			
		MN	33 38	22	1.0				
		MZ	33 44	22			1.5		
		F	08 00						
41	" 30	eE	12 31 10	9					
		eL_N	32.3	18					
		ME	34 22	18		0.4			
		MZ	34 38	20			0.3		
		MN	35 33	14	0.9				
		F	13 00						
42	" 31	eN	18 40.2						A few small waves.
		MN	42 12	12	0.3				
		F	18 50						

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

Riverview College Observatory

RIVERVIEW. N.S.W

SEISMOLOGICAL BULLETIN

$\Phi = 33° 49' 46''$ S. $\lambda = 151° 9' 30''$ E h = 25m. Foundation : Triassic sandstone.

INSTRUMENTS:

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

		V	T_o	s : 1	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^s	V_s
N	1	206	8.3	4.2	0.006	4	12.9	12.8	-0.03	460
	3	160	9.5	7.4	0.024					
E	1	225	7.9	4.3	0.008	4	12.4	12.8	-0.04	460
	3	136	9.7	6.1	0.010					
Z	2	58	5.2	4.8	0.011	4	12.0	12.1	-0.03	400

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h. m. s.	s.				km.	
	N.B.	Unless otherwise stated readings are from the Galitzins. The amplitudes given are trace amplitudes only. The tables used are Seismological Tables by H.Jeffreys and K.E.Bullen (British Association 1940).							
	1943		h m s	s	mm.	mm.	mm.	km.	
43	Feb. 1	e_N	01 31 40						
		MN	35 18	12	1.0				
		ME	35 22	13		0.5			
		MZ	37 52	14			0.4		
		F	02 05						
44	" 3	$e?_N$	06 09.4						Masked by micro-
		eL_N	19.3	20					seisms.
		MN	22 12	18	0.6				
		MZ	22 17	18			0.5		
		ME	22 25	16		0.5			
		F	06 50						
45	" 3	eL_{NEZ}	18 10.1	20					A few waves masked
46	" 3	e_{NE}	18 33.5	14					by microseisms.
		eL_E	42.9	30					
		eL_{NZ}	43.2	26					Masked by micro-
		MN	45 52	20	0.9				seisms.
		ME	46 01	20		0.8			
		MZ	46 14	20			1.0		
		F	19 30						
47	" 6	$i?_E$	03 00 32	8		-0.9			
		e_N	00 40	8					
		e_E	09 30	16					
		eL_N	21.2	26					
		MN_1	25 58	25	0.5				
		MZ	30 22	24			0.5		
		MN_2,ME	30.6	24	0.7	0.6			
		F	05 00						
48	" 6	$e?_E$	14 15 05						Masked by micros.
		MN	32 37	11	0.5				Readings from Wiech-
		F	14 40						ert.
49	" 7	eP_E	04 31 58	6				3710	
		i_E	32 02	6		+0.5		(33°4)	All readings from
		eS_E	37 16	10					the Wiechert.
		eL_N	38.9	17					
		MN	40 16	16	1.3				
		ME	42 57	15		1.3			
		F	Lost in No.50						
50	" 7	i_E	05 33 39	6		+1.2			All readings from
		i_E	34 03	6		-1.0			the Wiechert.
		i_N	35 35	6	+1.0				Similar to No.49.
		$e(S?)_N$	38 52	11					
		eL_N	40.5	19					
		ME	43 19	14		1.3			
		MN	45 35	12	3.6				
		F	06 50						

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No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
51	Feb. 7	MN	22 10 21	20	0.5				Shallow waves on
		MZ	14 26	20			0.5		Galitzins.
		ME	14 33	20		0.5			
		F	22 20						
52	" 8	eL_N	06 31.4	20					
		MZ	32 48	20			0.3		
		ME	33 02	20		0.3			
		MN	34 08	20	0.4				
		F	06 40						
53	" 9	eL_N	04 31.4	22					
		MNE	33 20	18	0.5	0.6			
		MZ	33 52	16			0.5		
		F	04 50						
54	" 9	eL_N	12 15.0	16					
		MN	16 37	16	0.4				
		MZ	16 42	16			0.3		
		ME	16 49	16		0.3			
		F	12 20						
55	" 10	ME	13 51 38	12		0.8			Small waves masked
		MNZ	51.9	14	0.8		0.5		by microseisms.
		F	14 00						
56	" 14	eL_N	02 01.7	18					
		MN	03 12	14	1.5				
		MZ	04 03	14			0.8		
		ME	04 14	14		1.0			
		F	02 20						
57	" 14	eL_N	20 42.6	17					
		MN	45.5	15	1.7				
		MZ	45.9	14			0.9		
		ME	46.2	14		0.9			
		F	21 00						
58	" 16	e_E	01 58 21						Small and masked
		eL_E	59.3	19					by microseisms.
		i_Z	59(37)	4			-1.3		
		MN	02 03 01	10	1.5				
		MEZ	03 14	10		1.5	1.4		
		F	02c15						
59	" 16	i_Z	07 48(57)	6			-1.5		
		iE	58 49	16		+1.5			
		i_N	59 03	16	+2.8				
		mNEZ	59 18	18	2.8	2.4	1.9		
		MN	08 04 53	20	1.2				
		ME	05 03	20		1.4			
		F	09 10						
60	" 16	iP_EZ	14 43 42	6		-1.2	+2.0	2870	Compression.
		iP_N	43 44	6	+2.0			(25°8)	H 14 38 12
		iP_PZ	44 18	6			+2.0		
		iPP_N	44 19	6	+2.1				
		iS_N	48 07	9	-2.0				
		iSS_Z	49 03	11			+3.3		
		SS_N	49 03	11	6.5				
		eL_N	50.0	23					
		eL_Z	50.2	26					
		eL_E	50.9	23					
		MN	51 54	20	10.2				
		MZ	52 31	20			7.5		
		ME	53 29	17		6.6			
		F	16 05						

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No.	Date	Phase	Time (G.M.T.) h m s	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943			s	mm.	mm.	mm.	km.	
61	Feb.16	iP_{NZ}	16 56 25	7	+2.1		-2.5		Dilatation.
		iZ	57 18	7			+3.5		
		iNZ	57 24	7	+6.3				
		iS_E	17 01 00	7		-5.0			
		iS_N	01 01	7	-4.6				
		iN	02 32	9	+15.0				
		iE	02 38	9		+12.0			
		iE	03 47	9					
		ME	07 28	11		16.5			
		MNZ	07 39	11	30.6		29.0		
		F	18 45						
62	" 17	iP_{NE}	02 18 55	5	-1.5	+1.2			Readings from the Wiechert.
		iNE	19 03	6	+5.0	-5.0			
		iN	20 58	6	-2.0				
		eL_N	22.1	18					
		MN	24 24	13	7.6				
		ME	25 13	13		6.2			
		F	04 00						
63	" 17	e_N	05 38 35	5					NS readings from Wiechert, EW from Mainka.
		eL_E	43.9	19					
		ME	46 32	12		1.1			
		MN	47 07	15	1.5				
		F	06 50						
64	" 17	e_N	13 59 15	11					From Wiechert.
		eL_N	14 01.6	22?					
		ME	04 08	11		0.4			
		F	14 10						
65	" 18	eL_E	01 47.7	25					Masked by micro-seisms.
		MNE	50.9	14	0.8	1.3			
		MZ	52.4	15			1.1		
		F	02 05						
66	" 18	e_N	08 34.2						Masked by micro-seisms.
		eL_E	38.4	?					
		MN	40.2	18	1.2				
		ME	41.9	19		1.5			
		MZ	42.1	19			1.9		
		F	09 35						
67	" 21	$eP?_N$	18 17 26						
		iE	17 33	6		-0.8			
		iS_{NE}	23 21	7	-2.5	+2.8			
		eL_N	30.7	22					
		ME	33 37	14		5.8			
		MN	35 13	14	7.7				
		F	19 30						
68	" 22	$i(PP?)_Z$	09 40 27	6			-1.1		
		eEZ	40 36						
		eE	42 30	10					
		$i(SKS?)_E$	46 28	12		-2.0			
		$i(PS?)_E$	50 04	24		+4.0			
		$i(PS?)_Z$	50 05	24			-2.3		
		$e(SS?)_E$	56 23	32					
		$i(SS?)_N$	56 26	32	-2.5				
		eLQ_N	10 07.2	40					
		eLR_E	13.2	30					
		MZ	14 58	25			6.1		
		ME	15 27	25		6.3			
		MN	17 53	20	4.5				
		F	13 25						
69	" 23	eL_Z	22 35.8	19					
		ME	38 48	15		0.8			
		MN	39 26	13	0.8				
		MZ	39 36	13			0.7		
		F	22 55						

(Concluded on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
70	Feb.23	e_E	23 56.5						
		eL_N	00 00.4	20					
		MN	04 55	18	0.8				
		ME	05 56	18		0.7			
		MZ	06 08	16			0.6		
		F	00 20						
71	" 25	e_{NE}	04 08.5						
		eL_Z	14.7	30					
		MN	20 28	15	1.0				
		MEZ	21 09	15		1.3	0.8		
		F	05 00						
72	" 25	e_E	13 38 10	6					
		i_{NE}	41 56	14	-2.7	-1.5			
		MN	42 42	15	0.5				
		ME	42 52	14		0.4			
		F	13 55						
73	" 25	e_{NE}	14 44.7	12					
		eL_E	46.8	25					
		ME	48 41	18		0.6			
		MN	48 59	15	0.8				
		MZ	49 14	16			0.5		
		F	Lost in No.74						
74	" 25	$e?_E$	15 12 35						
		$e?_N$	12 36						
		iE	20 27	10		+1.4			
		iZ	20 31	10			+1.8		
		iN	20 33	7	-1.0				
		m_E	20 39	10		1.6			
		eL_N	26.4	24					
		ME	27 13	16		1.0			
		MZ	29 36	16			0.6		
		MN	30 36	15	1.0				
		F	15 40						
75	" 28	eL_Z	02 02.6	24					
		MN	03 55	16	0.5				
		MZ	04 37	20			0.4		
		ME	04 43	20		0.5			
		F	02 15						
76	" 28	eZ	13 12 12	6					
		eE	12 17	6					
		i(S?)N	18 27	8	+1.0				
		i(S?)E	18 29	8		-1.1			
		i_N	19 27	8	+0.9				
		e_{EZ}	20 54	20					
		iE	26 54	15		-2.2			
		i_N	26 56	15	-2.2				
		eL_{NE}	28.5	26					
		MZ	31 14	16			0.5		
		MN	33 04	18	1.0				
		ME	36 53	20		1.2			
		F	14 40						

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

Riverview College Observatory

RIVERVIEW. N.S.W

SEISMOLOGICAL BULLETIN

$\Phi = 33° 49' 46''$ S. $\lambda = 151° 9' 30''$ E h = 25m. Foundation : Triassic sandstone.

INSTRUMENTS:

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

		V	T_o	ε : i	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	218	8.4	4.2	0.008	4	12,8	12.9	-0.05	470
	3	151	9.6	8.9	0.027					
E	1	227	7.9	4,3	0.010	4	12.4	12.9	-0.03	450
	3	139	9.7	5.7	0 011					
Z	2	58	5.2	4.5	0.011	4	12.0	12.1	-0.03	400

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
			h. m. s.	s.				km.	
	N.B.	Unless otherwise stated readings are from the Galitzins. The amplitudes given are trace amplitudes only. The tables used are Seismological Tables by H.Jeffreys and K.E.Bullen (British Association 1940).							
	1943		h m s	s	mm.	mm.	mm.	km.	
77	Mar. 1	i_{EZ}	07 48 23	5		+1,0	-1.0		Small and masked by microseisms.
		i_{EZ}	48 53	6		+1.0	-1.1		
		i_N	48 55	5	+0.8				
		i_N	52 03	4	-0,8				
		i_{EZ}	52 07	6		+1,1	+1.0		
		i_N	52 49	6	+1.1				
		MEZ	53.6	12		0.7	0.5		
		MN	54 25	12	0.8				
		F	08 10						
78	" 1	eP_Z	17 02 32					4380	
		iS_E	08 30	8		-1.0		(39?4)	
		iS_N	08 33	8	-0.7				
		iEZ	11 30	10		+1.0	-1.2		
		eL_N	13.7	32					
		MNE	17 08	20	2.5	2.5			
		MZ	20 05	14			1.6		
		F	18 05						
79	" 2	eE	19 04 03	10					
		eL_E	04,7	24					
		MZ	06 39	20			0.3		
		ME	07 55	10		0.5			
		F	19 25						
80	" 3	e?E	02 34 51						
		eNE	37 17	9					
		eE	39 27	12					
		eNE	39 54	12					
		iZ	40 44	4			+2.0		
		iNEZ	41 14	10	+3.8	+6.0	+3.2		
		ME	44 07	14		3,5			
		MN	44 19	14	4.6				
		MZ	44 25	14			3.7		
		F	03 30						
81	" 3	eL_E	10 41.8	18					
		MEZ	42.5	16		0.5	0.3		
		F	11 00						
82	" 4	iP_Z	06 37 31	5			-1.2		Dilatation. Focal depth below normal.
		iS_N	41 39	6	-2.2				
		iE	41 41	6		+1.1			
		isS_{NE}	44 36	12	-1.2	+1.4			
		MEZ	44.9	13	3.0	3.0	0.9		
		MN	44 58	12	2.3				
		F	07 10						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
83	Mar. 4	e_{NE}	10 23 33						
		eL_E	45.9	32					
		MN	47 44	20	0.4				
		ME	49 27	16		0.7			
		F	11 20						
84	" 4	e_E	20 13.0	8					
		eL_E	20.5	34					
		ME	22 18	28		0.8			
		MN	23 07	25	0.3				
		F	20 40						
85	" 5	e_N	00 52 23						
		e_E	01 02 37	12					
		e_N	09 03	20					
		eL_N	23.4	35					
		MN	30 23	20	0.8				
		ME	30 34	26		0.8			
		MZ	30 55	24			1.0		
		F	03 25						
86	" 7	iP_Z	03 15 08	7			+1.5		Compression.
		iS_N	25 29	10	+2.2				
		$i(SKS?)_N$	25 39	10	-4.7				
		$i(PS?)_E$	26 16	10		+7.3			
		i_N	27 23	12	+2.7				
		i_E	32 21	14		+2.5			
		eL_Z	45.1	34					
		MZ	48 51	24			3.2		
		ME	49 19	22		3.0			
		MN	51 15	22	5.5				
	W_2	ME	05 25 45	20		0.3			
		MZ	26 41	20			0.5		
		F	05 55						
87	" 7	$e(P?)_Z$	16 15 27	5					Prelimiaries obscured by microseisms.
		iS_N	19 49	7	-0.7				
		iS_E	19 50	7		-0.7			
		i_{NE}	20 04	8	+1.2	+1.5			
		eL_N	22.2	20					
		MN	23 52	17	1.0				
		ME	25 38	10		2.3			
		MZ	26 32	12			1.2		
		F	17 00						
88	" 7	eL_E	17 52.7	15					A few small waves.
		MZ	55 08	12			0.8		
		F	18 00						
89	" 8	eL_N	13 02.7	18					
		MN	04 36	16	0.3				
		MZ	04 44	18			0.4		
		F	Merged in	No.90					
90	" 8	eL_{NE}	13 16.0	18					
		MZ	19 27	14			1.3		
		MN	19 32	14	1.1				
		ME	20 16	12		1.4			
		F	13 40						
91	" 9	iP_{NZ}	10 01 37	?	+0.8		+1.2	9660	Compression.
		iP_{NZ}	01 39	9	-2.0		-4.6	(86°9)	H 09 48 55
		iP_{FN}	04 58	10	+2.1				
		i_Z	07 45	11			-2.9		
		i_N	07 51	11	+2.3				
		iS_E	12 11	13		+7.2			
		iS_N	12 12	13	+6.3				
		m_E	12 29	13		15.8			
		iPS_N	13 20	14	+6.3				
		iSS_{NE}	17 44	14	+4.0	+2.7			
		i_Z	17 59	16			-5.2		
		m_{NE}	18 05	16	10.8	8.2			
		i_E	23 58	26		-3.0			

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
91	Mar. 9	m_E	10 24 49	28		9.0			
Cont,		ME_1	35 29	15		8.2			L very indefinite.
		MN_1	38 05	18	18.3				
		MZ_1	38 13	18			17.5		
		MZ_2	39 23	18			26.5		
		MN_2	39 39	18	29.0				
		ME_2	39 59	16		8.6			
		F	Lost in No.92						
92	" 9	i_Z	11 27 43	9			+3.0		Compression.
		$i(SKS?)_N$	37 55	12	-3.0				Preliminaries masked by Coda of No.91.
		$i(SKS?)_E$	38 00	12		+3.6			
		$S?_E$	38 16	12		6.8			
		$i(S?)_N$	38 19	12	+3.2				
		iPS_N	39 12	16	+2.0				
		iSS_N	43 32	16	+2.1				
		m_N	44 22	15	4.0				
		e_E	50 01	28					
		eL_N	57.7	32					
		M_1NZ	12 03 41	20	4.6		4.0		
		ME_1	04 45	18		3.1			
		MN_2	05 45	18	6.1				
		MZ_2	05 49	18			7.0		
		ME_2	06 27	18		5.3			
		F	14 20						
93	" 9	i_Z	19 55 08	5					Perhaps earlier.
		$i(SKS?)_E$	20 05 36	12		+1.5			
		m_{NE}	05 53	12	2.0	3.5			
		i_E	07 15	10		+1.7			
		eSS_E	11 11	14					
		m_E	11 33	14		1.8			
		e_E	17 22	28					
		m_E	18 14	28		2.8			
		eL_Z	26.1	30					
		ME	30 12	18		2.5			
		MN	31 35	18	4.0				
		MZ	32 00	18			4.0		
		F	22 00						
94	" 10	e_E	03 50.9	14					
		eL_N	51.7	24					
		eLZ	51.8	24					
		ME	54 01	20		0.7			
		MN	54 27	20	0.9				
		MZ	54 31	20			0.8		
		F	04 55						
95	" 10	ePN	08 28 09					9490	
		iP_Z	28 11	11			+2.0	(85°4)	Compression.
		$iSKS_N$	38 30	11	+3.0				
		iS_E	38 36	10		-5.5			
		ePS_N	39 37	16					
		iSS_E	44 15	14		+2.1			
		iSS_N	44 19	14	+2.5				
		e_E	50 25	26					
		ME	09 06 03	16		3.3			
		MN	07 03	16	5.0				
		MZ	07 07	16			4.5		
		F	11 00						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
96	Mar.11	iP_{NEZ}	09 38 51	9	+4.0	+6.6	-8.5	2480	Dilatation.
		ipP_E	39 07	7		+15.0		(22°3)	h= .01
		iPP_N	39 24	7	-5.6				H 09 34 01
		iE	39 59	8		+9.5			
		iN	40 00	8	+7.7				
		iZ	40 03	8			+8.2		
		iS_E	42 45	8		-15.3			
		iS_{NZ}	42 47	8	-8.4		-8.1		
		mE	42 57	8		31.7			
		iN	43 03	9	+10.4				
		sS_Z	43 14	10			15.5		
		eL_{EZ}	44.2	25					
		ME	46 55	12		8.1			
		MN	47 01	12	24.1				
		MZ	49 47	12			6.6		
		F	11 25						
97	" 12	ME	06 43 38	14		0.8			A few small waves.
		F	06 50						
98	" 12	eE	18 41 07	14					
		eL	43.3	23					
		MZ	45 09	18			1.1		
		ME	45 42	14		2.5			
		F	19 15						
99	" 12	eNE	22 52 40	11					
		MN	23 14 21	20	0.8				
		MZ	14 39	20			0.8		
		F	23 30						
100	" 13	eL_E	15 01.3	20					Masked by micro-seisms.
		ME	04 38	16		0.8			
		MN	04 58	16			0.9		
		F	15 15						
101	" 14	eZ	02 13.8	8					Masked by micro-seisms.
		eL_Z	21.1	14					
		MZ	22 28	14			0.6		
		ME	24 03	14		0.7			
		F	02 35						
102	" 14	iP_{NZ}	08 49 12	4	-1.0		-1.0	2060	Dilatation.
		$iNEZ$	49 19	5	+2.0	-2.0	+1.5	(18°5)	This record very
		iS_{NE}	52 34	10	-2.0	-4.2			similar to that of
		iZ	52 38	7			+2.5		1939 Sept.20, 07h.
		iSS_N	52 47	10	-5.0				
		iSS_E	52 48	10		-5.1			
		mNE	53 15	15	7.8	8.3			
		eL_Z	53.9	18					
		ME	57 05	12		7.1			
		MZ	57 13	12	3.3				
		F	10 15						
103	" 14	iNE	12 19 44	8	-0.5	-0.7			
		iE	20 43	6		+1.5			
		eE	31 57	16					
		eL_E	37.8	22					
		MN	40 33	18	0.7				
		MZ	40 44	18			0.9		
		ME	45 36	16		0.5			
		F	Lost in No.104						
104	" 14	iNE	13 03 14	8	-1.2	-1.5			
		iE	04 12	7		+2.2			
		eL_N	15.3	22					
		MZ	20 07	20			1.0		
		MN	21 37	20	1.1				
		ME	21 55	18		1.5			
		F	14 10						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A$_N$	Amplitude A$_E$	Amplitude A$_Z$	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
105	Mar.14	iP$_{NEZ}$	17 15 45	9	+5.7	+12.0	-10.3	2490	Dilatation.
		iPP$_{NEZ}$	16 06	9	+7.8	+14.0	-1.6	(22°4)	After iP all readings are from the Wiecherts.
		PPP$_{NEZ}$	16 20	9	12.2	23.0	1.4		
		i$_{EZ}$	16 40	7		+17.2	-2.1		
		i$_N$	16 58	7	-11.0				
		m$_N$	17 12	7	14.8				
		i$_E$	18 13	7		+8.7			
		i$_N$	19 15	7	+4.0				
		iS$_E$	19 43	9		-8.5			
		i$_Z$	19 48	9			+1.5		
		m$_{EZ}$	19 55	9		21.5	2.3		
		m$_{NE}$	20 14	9	10.5	13.5			
		iSS$_{NE}$	20 32	7	+9.0	-8.0			
		eL$_Z$	21.5	22					
		eL$_E$	21.6	21					
		ME$_1$	22 50	18		14.1			
		MN$_1$	23 03	16	11.8				
		MZ$_1$	23 22	16			0.7		
		MN$_2$	26 16	10	27.3				
		ME$_2$	28 56	11		21.2			
		F~~?~~	21 20						
106	" 14	i$_N$	22 14 59	10	+1.0				
		eL$_N$	15.7	22					
		ME	17 36	14		0.7			
		MN	17 57	14	2.0				
		F	22 35						
107	" 15	eL$_E$	01 16.5	24					A few long waves.
		F	Lost in No. 108						
108	" 15	iP$_{EZ}$	01 27 03	8		-1.0	+0.9		
		i$_N$	27 07	8	+0.7				
		i$_{NEZ}$	27 15	9	-1.0	-1.6	+1.8		
		e(S?)$_N$	30 34	12					
		e$_N$	30 47	15					
		i$_Z$	30 57	8			+1.0		
		eL$_E$	31.9	20					
		ME	34 39	16		2.2			
		MN	34 43	14	2.5				
		MZ	34 53	16			1.6		
		F	Lost in No. 109.						
109	" 15	iP$_{NEZ}$	02 29 07	7	-2.8	-5.2	+4.8	2400	Compression.
		i$_{NEZ}$	29 18	7	-6.9	-9.6	+13.3	(21°6)	
		PP$_{EZ}$	29 28	7		19.8	24.1		
		i$_{NE}$	29 44	7	+10.0	+14.1			
		m$_N$	30 02	7	15.8				
		iS$_{NE}$	32 59	8	+8.5	+18.6			
		iS$_Z$	33 01	8			+13.3		
		m$_E$	33 09	8		31.8			
		i$_N$	33 12	8	+26.5				
		mZ	33 13	8			37.5		
		m$_N$	33 19	8	26.3				
		i$_N$	33 53	8	+16.8				
		eL$_{EZ}$	34.3	23					
		ME$_1$	35 40	16		18.6			
		MN$_1$	36 03	14	22.2				
		ME$_2$	38 49	16		26.0			
		MZ	37 21	16			16.0		
		MN$_2$	37 40	13	31.6				
		F	Lost in No.110						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
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SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude A_N mm.	A_E mm.	A_Z mm.	Δ km.	Remarks
	1943								
110	Mar.15	iPNZ	04 56 11	8	-1.0		+1.5		Compression.
		iNZ	57 40	8	-1.8		+2.5		
		i(S?)E	05 02 27	11		-1.5			
		iN	02 31	16	-2.5				
		mN	02 53	20	5.8				
		iNE	03 55	11	-2.1	+5.0			
		iZ	06 01	10			-1.5		
		mZ	06 08	10			4.9		
		iN	06 18	12	+6.8				
		e(L?)E	07.5	30					
		e(L?)N	08.1	28					
		eLE	08.3	30					
		ME_1, MZ_1	11 59	14		9.4	5.8		
		MN_1	13 17	20	8.8				
		MN_2	15 21	14	12.1				
		ME_2	15 46	14		11.5			
		MZ_2	16 16	14			7.3		
		MZ_3	19 01	13			9.9		
		F	06 40						
111	" 15	eE	06 46 15	7					
		eNZ	46 17	8					
		ME	48 49	16		0.6			
		MZ	49 19	16			0.5		
		MN	49 25	13	1.3				
		F	07 15						
112	" 15	eLN	11 04.1	16					
		ME	05 38	16		0.2			
		MN	05 57	14	0.3				
		F	11 10						
113	" 15	iPZ	12 10 50	7			+1.0	2400	Compression.
		iPNE	10 53	7	+0.8	+1.0		(21°6)	
		iSE	14 42	7		+1.0			
		eLZ	16.0	24					
		ME	17 55	18		0.9			
		MN	18 01	14	1.1				
		MZ	18 40	18			1.1		
		F	13 05						
114	" 15	iPNEZ	14 15 07	7	-0.7	-1.1	+1.6	2410	Compression.
		iPPNEZ	15 23	7	+2.0	+2.5	-3.2	(21°7)	
		iNEZ	15 44	7	+2.2	+2.6	-2.3		
		iSE	19 00	10		+2.5			
		iZ	19 06	10			-3.4		
		mE	19 18	10		4.4			
		mN	19 21	10	2.3				
		eLE	20.9	20					
		ME_1	21 45	18		2.2			
		MN_1	21 53	15	3.0				
		MZ	23 19	15			3.2		
		ME_2	23 23	15		3.8			
		MN_2	23 40	14	4.8				
		F	Lost in No.115						
115	" 15	iPNEZ	14 52 04	8	+1.0	+1.5	-1.9	2380	Dilatation.
		iNEZ	52 13	8	+1.5	+2.5	-3.6	(21°4)	
		iSE	55 53	8		+2.4			
		iZ	55 59	8			-1.9		
		iN	56 08	8	-1.5				
		iZ	56 42	8			-2.0		
		iN	56 56	8	+2.0				
		eLE	57.5	20					
		MN	59 43	11	2.3				
		MZ	15 00 31	12			1.7		
		ME	00 38	12		1.2			
		F	16 15						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per.	Amplitude A_N	A_E	A_Z	Δ	Remarks
	1943			s	mm.	mm.	mm.	km.	
116	Mar.15	iP$_{NEZ}$	23 05 46	8	+1.7	+4.8	-6.5	3940	Dilatation.
		ipP$_{NEZ}$	06 47	8	+2.0	+2.3	-4.0	(35°4)	h = .05
		iPP$_{NEZ}$	07 17	10	+2.5	+4.7	-4.5		H 23 59 21 22
		mNEZ	07 29	10	3.4	6.5	8.9		
		iNZ	08 29	10	+2.5		-3.3		
		iE	08 40	12		+5.5			
		iZ	08 46	12			+6.5		
		iS$_{NE}$	10 55	10	+7.4	+5.0			
		iZ	11 31	10			-5.2		
		isS$_N$	12 46	9	-6.1				
		iSS$_N$	13 51	11	-7.6				
		iZ	13 53	10			-9.0		
		i(SSS?)E	14 02	10		+5.0			
		iN	14 23	12	-9.6				
		iE	14 31	10		+9.0			
		iN	15 39	10	+10.8				
		iE	15 43	10		+6.3			
		i(ScS?)NE	18 01	10	+9.3	+10.5			
		iN	19 19	10	+3.5				Train of sinusoidal
		MN	20 19	10	14.3				waves begins on NS.
		F	01 25						
117	" 16	eL$_{NZ}$	10 56.8	20					
		F	11 10						
118	" 16	iP$_{NEZ}$	23 08 08	4	+0.7	+0.9	-1.6		Dilatation.
		i(pP?)Z	08 49	4			+2.0		Deep focus?
		iNE	08 52	8	+1.2	+1.5			
		iS$_{NE}$	11 55	6	+3.0	+1.6			
		iNE	12 02	6	+3.0	+2.5			
		iZ	12 06	6			-2.9		
		iE	12 50	6		+1.5			
		iZ	13 24	9			+3.0		
		iN	13 30	9	+2.5				
		ME	16 41	14		1.5			
		MZ	16 55	14			1.3		
		MN	17 47	12	2.1				
		F	23 45						
119	" 17	iP$_{EZ}$	03 05 37	7		-1.0	+1.5	2440	Compression
		ePPZ	05 59	9			0.8	(21°9)	
		iS$_N$	09 32	10	+1.2				
		iZ	09 35	10			+1.5		
		iE	09 36	10		+2.5			
		eL$_E$	10.8	26					
		MZ	12 03	18			1.0		
		ME	12 09	18		1.0			
		MN	12 33	16	1.3				
		F	03 40						
120	" 18	i(P?)EZ	10 49 18	7		-2.0	+2.5		Masked by heavy
		iZ	50 13	7			+1.7		microseisms.
		iE	50 19	7		+1.5			
		iZ	53 12	10			+2.0		
		iE	53 17	10		-2.7			
		iN	53 18	12	+2.4				
		eL$_N$	54.1	24					
		ME	56 25	14		2.1			
		MN	56 44	13	7.5				
		MZ	58 11	14			1.5		
		F	11 50						
121	" 18	i?E	23 38 00	4		+1.0			Small waves masked
		MN	48 27	14	0.3				by microseisms.
		F	23 55						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm.	km.	
122	Mar.19	eNE	09 15 25						
		iE	21 26	6		+2.5			
		iN	21 38	5	+1.5				
		iZ	21 54	6			+2.5		
		iN	22 22	8	+2.5				
		iE	22 40	12		+2.6			
		MZ	23 36	11			2.8		
		MN	23 39	11	3.4				
		ME	26 25	11		2.8			
		F	09 50						
123	" 19	eE	22 25 14						Readings from the Wiechert.
		iN	26 01	6	-0.5				
		eL$_N$	28.8	13					
		MN	29 57	9	0.2				
		F	22 35						
124	" 20	iZ	03 40 43	5			-1.5		Masked by heavy microseisms.
		eE	42 33	8					
		iN	42 55	8	+1.7				
		iE	43 09	8		+2.6			
		iNE	43 37	8	+2.5	+3.5			
		iE	44 17	8		+4.0			
		iN	45 11	8	-2.1				
		iN	45 56	8	+3.0				
		mE	46 03	10		4.7			
		eL$_Z$	46.5	18					
		MNEZ	47.8	10	5.3	4.0	5.0		
		F	04 15						
125	" 20	eP$_{EZ}$	04 56 21						
		iP$_{NEZ}$	56 26	10	-0.7	-1.5	+2.0	3200 (28°8)	Compression.
		iPP$_{NE}$	57 06	12	+1.3	+3.0			
		iN$_Z$	59 09	12	+3.0		-3.7		
		iS$_E$	05 01 07	6		-4.3			
		iSS$_{NE}$	02 24	8	+6.5	-5.3			
		m$_N$	03 33	8	14.0				
		eL$_{EZ}$	03.7	24					
		ME	04 57	20		17.1			
		MZ	05 11	20			11.0		
		MN	07 36	12	18.5				
		F	07 h 00						
126	" 21	iP$_{NZ}$	20 41 36	3	-1.3		+1.7	3270 (29°4)	Compression.
		iN$_Z$	41 41	8	+3.2		-5.0		
		iPP$_N$	42 26	12	+1.8				iPP and following phases all from the Wiecherts.
		m$_N$	42 32	12	3.0				
		iPPP$_N$	42 44	12	+3.1				
		iPcP$_N$	44 56	6	-1.7				
		iS$_E$	46 26	8		-6.8			
		iN	46 37	14	+8.5				
		m$_N$	46 59	14	19.5				
		iE	47 46	8		+13.6			
		iE	48 31	8		-16.0			
		iE	49 09	9		-3.2			
		eL$_N$	49.7	27					
		eL$_E$	49,8	23					
		ME$_1$	51 52	15		44.2			
		MN	52 44	14	37.0				
		MZ	53 03	15			2.1		
		ME$_2$	53 10	14		>59			
		F	00 40						

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RIVERVIEW COLLEGE OBSERVATORY,

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
127	Mar.22	iP_Z	08 32 34	5			+1.1	5200	Compression.
		iN_Z	33 00	5	-1.5		+2.0	(46°8)	H 08 24 06
		iPP_Z	34 24	7			-1.5		
		$iPPP_Z$	35 04	7			+1.4		
		iS_{NZ}	39 21	10	-3.2		-1.1		
		iS_E	39 23	10		+3.4			
		iE	42 29	8		+1.6			
		iSS_{NE}	42 46	7	+3.6	-2.5			
		m_{NEZ}	42 56	10	9.5	8.0	3.5		
		MN	51 21	18	2.5				
		MZ	51 44	18			3.0		
		ME	52 28	20		2.6			
		F	09 40						
128	" 23	eL?	02 55.5						
		MNE	59 24	12	0.8	1.0			
		F	03 20						
129	" 23	eP_Z	08 59 23	6				2790	Masked by heavy
		eE	59 52	6				(25°1)	microseisms.
		iS_E	09 03 43	8		+2.1			
		iN	03 49	10	-2.2				
		$e(L?)_N$	04.8	18					
		eL_Z	05.9	20					
		ME	07 15	12		2.1			
		MN	08 21	12	1.3				
		F	09 50						
130	" 24	e_N	07 15 15	8	0.3				
		eEZ	15 19	8		0.8	0.9		
		iNE	19 47	8	+0.6	-1.0			
		iNE	22 49	12	+1.0	+1.0			
		iZ	22 57	12			-1.0		
		eL_E	27.3	30					
		ME	34 10	16		2.4			
		MZ	34 33	16			2.0		
		MN	36 17	14	2.0				
		F	08 00						
131	" 24	$e(L?)_N$	09 07.3						
		MN	11 13	12	1.0				
		ME	12 17	14		0.8			
		MZ	12 45	14			0.9		
		F	09 35						
132	" 24	eP_E	11 18 08	6				3810	
		iE	21 04	8		-2.0		(34°3)	
		iS_E	23 32	8		+1.2			
		iN	23 37	8	+1.0				
		iZ	23 41	8			-1.5		
		MN	27 11	12	0.9				
		MZ	30 08	14			0.5		
		F	Lost in No.133						
133	" 24	eL_E	11 50.2	24					
		ME	54 57	14		0.7			
		MZ	57 09	14			0.5		
		F	12 20						
134	" 25	eE	07 36 24	10					
		e_N	40 25	14					
		eE	40 30	14		0.8			
		eL_N	41.9	22					
		MZ	45 16	14			0.6		
		MN	45 22	14	1.0				
		ME	46 08	14		1.2			
		F	08 10						
135	" 25	eL_N	11 36.7	20					
		MN	43 52	15	0.5				
		MZ	45 16	14			0.6		
		F	11 55						

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RIVERVIEW COLLEGE OBSERVATORY,

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
136	Mar.25	iP_{NZ}	18 39 57	6	+0.7		+2.0	9670	Compression.
		iPP_Z	43 38	9			-2.0	(87°0)	
		iPP_N	43 40	9	-1.4				
		i_N	46 00	8	+1.4				
		i_Z	46 03	8			-1.5		
		$iSKS_N$	50 28	6	+2.2				
		iS_E	50 32	10		+3.8			
		m_E	50 47	10		9.1			
		m_{NE}	51 04	9	1.7	4.4			
		iPS_N	51 25	8	-2.2				
		i_N	52 16	10	+2.5				
		i_N	53 13	10	+3.2				
		iSS_E	56 00	12		-2.0			
		i_N	56 16	12	+2.5				
		m_E	56 27	14		4.5			
		e_E	19 01 57	28					
		m_E	02 38	28		6.7			
		m_E	03 06	26		7.0			
		MN_1	15 36	18	7.3				
		ME	17 02	16		6.8			
		MN_2	17 38	18	10.8				
		MZ	17 54	18			9.0		
		F	21 50						
137	" 26	iP_{EZ}	17 44 26	6		+3.0	-4.3		Dilatation.
		iPP_{NE}	45 32	6	+1.5	+3.8			
		i_Z	45 33	6			-3.7		
		m_{NEZ}	45 49	6	1.9	8.2	7.5		
		iS_N	49 21	6	-4.0				
		i_E	49 26	6		+5.0			
		iSS_N	51 26	10	+4.3				
		m_N	51 52	14	10.4				
		eL_E	52.7	30					
		MZ	53 27	24			10.5		
		ME	53 33	22		11.2			
		MN	53 35	14	12.0				
		i(ScS?) NE	54 57	7	+11.2	+18.4			
		i_E	55 40	7		+8.3			
		F	19 45						
138	" 28	e_{EZ}	21 16.4						Masked by very heavy microseisms.
		ME	23 24	14		1.7			
		MN	23 47	14	2.0				
		F	21 50						
139	" 29	eL_Z	06 01.5	20					Masked by very heavy microseisms.
		MZ	03 11	18			1.3		
		ME	03 25	18		1.6			
		F	06 35						
140	" 29	e_Z	09 58.9	8					
		e_E	59.7	8					
		e_N	10 03.5	14					
		ME	07 32	18		2.5			
		MZ	07 46	18			2.4		
		MN	08 00	182	2.3				
		F	10 30						
141	" 29	e_{NZ}	23 38 56	13					After e_{NZ} readings are from Wiechert.
		eL_E	42.7	17					
		MN	46 26	14	0.4				
		F	00 15						
142	" 30	e_E	13 47 08	9					
		eL_E	50 40	20					
		MZ	52 18	16			1.1		
		ME	53 06	13		1.8			
		F	14 10						

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

Riverview College Observatory

RIVERVIEW. N.S.W

SEISMOLOGICAL BULLETIN

Φ = 33° 49′ 46″ S. λ = 151° 9′ 30″ E h = 25m. Foundation : Triassic sandstone.

INSTRUMENTS:

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

		V	T_o	ε : 1	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^3	V_s
N	1	213	8.3	4.3	0.009	4	12.8	12.9	-0.07	480
	3	158	9.4	9.9	0.025					
E	1	227	7.9	4.3	0.010	4	12.4	12.9	-0.02	440
	3	138	9.6	5.7	0.009					
Z	2	59	5.2	6.8	0.009	4	12.0	12.1	-0.03	400

No.	Date	Phase	Time (G.M.T.) h. m. s.	Per s.	Amplitude A_N mm.	A_E mm.	A_Z mm.	Δ km.	Remarks
	N.B.	Unless stated otherwise readings are from the Galitzins. The amplitudes given are trace amplitudes only. Seismological Tables by H.Jeffreys & K.E.Bullen (1940) are used.							
	1943								
143	April 1	iPEZ	14 27 10	5		+1.6	+2.8	5640 (50°7)	Compression. H 14 18 12
		iN	27 15	5	+1.0				
		iEZ	27 22	5		-2.5	-4.1		
		iSN	34 21	16	+3.7				
		iE	34 30	14		+5.0			
		iNE	34 39	12	+10.5	-7.7			
		iSSE	37 38	16		-5.0			
		iN	37 56	20	+3.5				
		iE	38 03	20		+10.0			
		i(SSS)NE	39 12	14?	-7.3	+5.1			
		eLQN	39.3	48					
		eLRE	42.0	38					
		MN1	46 18	18	31.8				
		MZ1	46 36	26			17.6		
		ME1	47 18	24		32.5			
		MN2	47 51	15	36.0				
		MZ2	48 12	22			22.3		
		MN3ME2	51.7	15	38.0	28.2			
		ME3	54 02	16		42.0			
		MZ3	54 10	16			31.3		
		F	18 05						
144	" 2	eN	22 22.5						Masked by heavy microseisms.
		eLN	25.4	28					
		MZ	27 15	20			1.5		
		F	22 35						
145	" 3	iPZ	13 21 04	8			-1.4	2520 (22°7)	Dilatation. H 13 16 04
		iPNEZ	21 07	8	-1.2	-2.1	+2.4		
		i(PcP)N	25 00	8	+1.0				
		iSE	25 06	10		+1.9			
		iNE	25 17	10	+1.5	+3.3			
		iN	25 39	10	-1.2				
		eLZ	27.3	17					
		MN	29 49	12	4.3				
		MZ	33 19	12			2.4		
		ME	34 39	12		2.8			
		F	14 20						
146	" 3	eN	15 10 29	12					
		iNE	10 44	15	+2.0	-2.0			
		eNE	17 21	18					
		MZ	20 04	26			1.2		
		F	15 40						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm.	km.	
147	April 4	eL_Z	13 09.1	22					
		ME	16 43	18	[illegible]	0.6	[illegible]		
		MZ	17 26	18			0.7		
		F	13 30						
148	" 5	eE	02 23 33						
		eL_E	51.4	26					
		MEZ	58.6	22		1.2	1.0		
		MN	53 52	16	1.2				
		F	03 55						
149	" 5	iP_N	20 51 04	6	+1.2			2950	H 20 45 48
		iP_Z	51 06	6			+1.5	(26°5)	
		iPP_N	51 54	8	+2.0				
		i_N	52 27	7	+2.1				
		iS_{NE}	55 34	8	-1.5	+2.2			
		i_E	55 49	8		+2.4			
		i_N	55 55	10	-4.3				
		i_Z	56 00	10			-2.0		
		i_Z	56 44	10			-2.0		
		iSS_N	56 58	7	+2.5				
		eL_N	21 59.1	23					
		ME	21 01 01	15		6.5			
		MN	01 09	20	14.0				
		MZ	01 47	20			10.5		
		F	22 10						
150	" 6	iP_Z	16 21 14	?			1.5	11780	H 14 07 05
		iNEZ	24 58	10	+2.0	-1.5	+2.4	(106°)	
		$i(PP)_Z$	25 32	10			-4.0		
		i_E	25 54	20		-2.7			
		i_N	25 55	20	+3.6				
		$iSKS_E$	31 51	6		+6.2			
		$iSKS_N$	31 52	6	-6.8				
		$iSKKS_E$	32 44	6		+4.8			
		i_N	34 44	12	-8.0				
		iPS_E	34 54	10		+9.2			
		iPS_Z	34 56	12			+9.5		
		e_E	35 06	22					
		m_N	35 20	22	14.1				
		i_E	36 03	22		-7.8			
		e_N	39 20	44					
		i_E	40 00	37		+8.5			
		eLQ_E	50.5	50					
		eLQ_N	50.9	50					
		eLR_{NE}	55.3	32					
		ME_1	59 08	20		14.7			
		MNZ_1	59.3	19	16.0		22.5		
		MN_2	17 01 02	19	17.0				
		MZ_2	01 24	18			19.0		
		ME_2	01 49	19		17.7			
		MZ_3	03 24	19			20.3		
		ME_3	03 40	19		15.9			
		MN_3	03 54	19	18.2				
		F	21 20						
151	" 7	eL_{NE}	03 27.9	22					
		MNZ	29 39	20	0.8		0.5		
		F	Merged in No.152						
152	" 7	$e(L)_Z$	03 47.6	20					
		MEZ	49 34	20		0.9	0.8		
		F	04 00						
153	" 7	eL_N	09 18.9	24					Masked by very heavy microseisms.
		MN	24.2	20	1.7				
		MZ	24.4	20			2.0		
		F	09 35						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm	km.	
154	Apr. 7	e_N	22 43.7	8					Masked by very heavy microseisms.
		i_N	46 13	6	-2.6				
		i_E	46 17	7		+2.6			
		eL_{NE}	47.8	22					
		MN	48 50	22	3.8				
		ME	49 10	20		4.0			
		MZ	49 24	20			3.7		
		F	23 00						
155	" 7	e_{NE}	23 45.6	18					Masked by very heavy microseisms,
		eL_N	00 06.6	24					
		MZ	08 50	20			2.5		
		ME	09 34	18		2.6			
		MN	10 56	16	4.0				
		F	00 30						
156	" 9	iP_Z	08 57 58	4			+2.0	5700	Compression.
		i_{NZ}	58 03	4	-1.9		+2.0	(51°3)	h 0.01
		$iPcP_{NZ}$	59 07	4	+1.8		-2.2		H 08 49 02
		i_{NZ}	09 01 09	5	+2.0		+2.7		Heavy microseisms.
		iS_E	05 13	10		-2.6			
		iS_N	05 14	10	+2.5				
		i_{NZ}	05 18	10	+4.1		-2.5		
		isS_Z	05 55	7			-2.5		
		isS_{NE}	05 58	12	+2.5	+1.5			
		eL_E	12.7	24					
		MNZ	19.2	16	7.8		4.8		
		ME	19 45	14		7.5			
		F	10 45						
157	" 11	eP_Z	14 57 18					7780	H 14 46 08
		i_Z	57 29	4			-1.5	(70°0)	
		i_N	57 55	6	+1.1				
		iS_{EZ}	15 06 25	9		-4.0	+2.0		
		iS_N	06 26	9	-3.6				
		iPS_E	06 48	10		+3.5			
		i_E	07 25	10		+5.6			
		iSS_E	10 45	14		-1.9			
		iSS_N	10 50	14	+2.0				
		eL_E	16.4	20					
		MNZ	24.8	20	4.5		4.0		
		ME	25 05	20		4.2			
		F	18 00						
158	" 12	e_E	04 32.9						
		i_N	33 06	9	+0.8				
		i_E	33 05	9		-1.0			
		eL_E	42.9	20					
		ME	47 25	18		1.0			
		MZ	49 32	22			1.5		F 05h 05m
159	" 12	i_{NE}	20 03 45	8	-0.9	-1.0			
		i_N	04 03	8	-1.0				
		eL_N	19.2	20					
		MNZ	22.0	20	1.0		0.8		
		F	21 05						
160	" 13	iP_{NZ}	12 37 16	8	-1.0		+1.5	4670	H 12 29 26
		ePP_{NE}	38 55	7				(42°0)	iP Compression.
		i_Z	38 59	8			+1.5		
		iS_{NE}	43 33	10	+1.0	+1.1			
		i_N	43 51	12	+1.5				
		$i(SS)_N$	46 43	9	-2.5				
		i_{EZ}	46 46	9		-1.0	+1.9		
		i_E	47 13	10		+2.0			
		ME	53 33	18		2.4			
		MN	55 59	15	4.3				
		MZ	57 01	16			2.8		
		F	13 55						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per s	Amplitude A_N mm.	A_E mm.	A_Z mm.	Δ km.	
	1943								
161	Apr.14	ME	07 49 40	13		0.8			Small and masked by microseisms.
		MN	50 55	13	1.0				
		F	08 00						
162	" 15	i(SKS)N	11 59 22	12	+1.5				Preliminaries obscured by microseisms.
		iE	59 24	12		-1.1			
		i(PS)N	12 02 13	14	+1.2				
		e(SS)NE	07 39	14					
		e(SSS)N	12 01	14					
		eL N	22.0	30					
		MZ	25 53	18			2.3		
		MN	27 49	17	2.4				
		ME	28 09	17		2.3			
		F	14 20						
163	" 16	ePNEZ	16 45 01	5				2350 (21°1)	H 16 40 17
		iZ	45 10	6			+2.3		
		iN	45 49	7	+1.5				
		iSNE	48 49	5	+1.0	+1.5			
		iSZ	48 51	5			+1.6		
		iPcPZ	48 59	7			+2.6		
		iPcPNE	49 01	7	-1.4	+2.6			
		eL N	50.6	16					
		ME	52 57	14		2.1			
		MN	53 17	14	2.1				
		MZ	53 25	16			2.2		
		F	17 20						
164	" 17	iN	02 49 56	11	+1.5				Preceded by heavy microseisms.
		iE	52 41	11		+1.5			
		iE	54 28	8		+2.8			
		iE	55 24	8		+5.1			
		iN	55 31	8	+3.0				
		iE	56 04	14		+8.6			
		iN	56 11	14	-4.9				
		MNEZ	58 30	14	5.6	7.3	6.0		
		F	03 35						
165	" 17	iNE	09 52 04	13	+1.0	+1.5			Small Eq.masked by heavy microseisms.
		F	10 00						
166	" 17	iE	11 29 20	8		+1.5			
		iE	30 15	8		+1.5			Masked by heavy microseisms.
		iN	30 20	8	+2.0				
		iE	30 54	14		+4.0			
		iN	31 01	14	-1.5				Replica of No.164.
		MNEZ	33.3	12	3.2	3.2	3.3		
		F	12 00						
167	" 18	MNE	05 27.5	16	1.0	1.0			Masked by heavy microseisms.
		F	05 40						
168	" 22	MNE	11 33 21	14	1.0	1.1			Masked by heavy microseisms.
		F	11 40						
169	" 22	MN	20 35 15	20	0.6				
		MEZ	35.7	20		0.8	0.8		Masked by microseisms.
		F	20 45						
170	" 25	eLE	21 13.2	17					
		MZ	15 03	17			1.6		
		ME	15 51	14		2,0			
		MN	16 50	13	2.2				
		F	21 40						
171	" 26	e(L)E	01 32.4	30					Preliminaries masked by microseisms.
		MZ1	36 47	20			2.7		
		ME	38 15	14		3.1			
		MN,MZ2	39.0	14	3.6		2.7		
		F	02 15						

(Concluded on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943			s	mm.	mm.	mm.	km.	
172	Apr.26	e?N	12 34 59	10					
		eE	39 27	10					
		MN	45 51	18	1.1				
		MZ	46 13	18			1.2		
		ME	46 22	18		0.8			
		F	13 15						
173	" 26	ME	21 53 57	14		0.7			
		MZ	55 41	18			0.7		
		F	22 05						
174	" 26	iPZ	23 22 18	3			+1.0	4780? (43°?)	Compression.
		ePNE	22 18	4					
		i(PP)E	23 56	4		+0.8			
		i(S)N	28 34	8	+1.7				
		i(S)E	28 35	6		+1.0			
		i(SS)E	31 39	12		+0.8			
		iZ	31 47	8			+1.0		
		i(ScS)E	32 28	8		+1.2			
		iE	36 18	8		+1.0			
		MZ	39 17	14			0.8		
		ME	41 41	14		1.0			
		MN	43 13	16	1.2				
		F	00 10						
175	" 27	eN	00 48 06						Small, short period waves, probably from nearby earth-
		iE	48 39	3		-0.4			
		iN	48 46	4	+1.0				
		iZ	48 49	4			+0.6		
		iE	48 56	3		-0.5			
		iN	49 13	4	+1.2				
		MEZ	50 04	8		0.8	1.0		
		F	00 53						
176	" 28	iPE	23 48 22	3?		-0.2		3000 (27°?)	iP & epP from Wiech-
		iPZ	48 23	3?			-0.2		ert. Lost on Galit-
		epPZ	49 39	3?					zins while changing
		isPZ	50 41	9			+2.3		records.
		iE	50 45	9		+1.5			h 0.08
		iSNE	52 21	10	-4.0	+3.0			H 23 43 18
		iE	52 52	10		+2.5			
		iN	53 10	10	+2.0				
		isSNEZ	55 12	8	-3.0	-1.5	+2.2		
		iScSN	58 13	6	-4.0				
		iScSE	58 14	6		+4.8			
		ME	59 40	14		3.2			
		MZ	00 00 06	14			3.1		
		F	01 00						
177	" 29	e?N	04 19.7						
		MNZ	27.7	17	0.6		0.5		
		F	04 40						
178	" 29	iE	15 46 30	6		-1.3			
		iE	57 15	14		+1.2			
		eLE	16 01.3	26					
		MN	02 30	26	0.9				
		MZ	03 18	24			0.8		
		ME	05 04	22		0.9			
		F	16 25						
179.	" 30	i?N	01 24 14						Masked by heavy
		eLN	29.8	30					microseisms.
		MEZ	35 59	15		2.0	1.6		
		MN	37 06	15	2.5				
		F	02 00						
180	" 30	iN	21 25 19	6	1.5				
		ME	28 07	10		1.3			
		MN	29 12	10	1.7				
		F	21 40						

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

1943, May.

Riverview College Observatory

RIVERVIEW. N.S.W

SEISMOLOGICAL BULLETIN

$\Phi = 33° 49' 46''$ S. $\lambda = 151° 9' 50''$ E h = 25m. Foundation : Triassic sandstone.

INSTRUMENTS:

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

		V	T_o	ε : 1	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	191	8.2	5.0	0.043	4	12.8	12.9	-0.09	490
	3	158	9.2	9.0	0.031					
E	1	223	7.6	4.1	0.014	4	12.4	12.9	-0.02	440
	3	133	9.5	4.6	0.012					
Z	2	52	5.1	5.3	0.008	4	12.4	12.1	+0.04	430

No.	Date	Phase	Time (G.M.T.) h. m. s.	Per s.	Amplitude A_N mm.	A_E mm.	A_Z mm.	Δ km.	Remarks
	N.B.	Unless stated otherwise readings are from the Galitzins. The amplitudes given are trace amplitudes only. Seismological Tables by H.Jeffreys & K.E.Bullen (1940) are used							
	1943								
181	May 1	iP_Z	04 08 59	4			-1.5		Dilatation.
		$i(S)_E$	12 59	8		-2.0			
		i_N	13 01	8	+3.0				
		eL_Z	14.4	20					
		ME	15 56	10		3.2			
		MZ	16 21	13			1.8		
		MN	17 01	10	3.0				
		F	05 00						
182	" 1	i_N	16 55 35	10	-1.3				
		i_N	17 01 28	10	+1.5				
		eL_E	07.1	30					
		MNEZ	20.2	20	1.2	0.8	1.3		
		F	18 30						
183	" 2	eL_Z	12 15.2	24					
		MN	16 11	18	0.9				
		MEZ	16.6	18		1.0	0.9		
		F	12 25						
184	" 2	iPP_Z	17 39 12	6			+2.0		
		$i(SKS)_E$	44 10	8		+1.5			
		i_N	47 38	8	-2.2				
		$i(PS)_E$	49 12	20		+1.4			
		i_N	49 23	16	+2.5				
		iSS_N	56 11	20	+2.2				
		i_E	56 31	22		+2.0			
		eLR_{EZ}	18 16.7	34					
		MZ	25 33	20			5.7		
		ME	25 39	20		4.8			
		MN	28 26	18	3.7				
		F	20 02						
185	" 3	iP_Z	02 08 27	6			+2.3	6380	Compression.
		i_{NZ}	08 29	6	+1.3		-2.3	(57°4)	h 0.02-0.025
		$iNEZ$	08 36	13	-2.8	+1.5	+5.5		H 01 58 56
		ipP_{NEZ}	09 09	11	+6.0	-4.4	-11.2		
		i_{EZ}	11 15	10		+3.4	+10.3		
		i_N	11 18	11	-6.0				
		iS_E	16 07	6					iS from Wiechert.
		i_N	16 13	8	-24.5				
		i_E	16 23	8		+20.8			
		i_E	16 33	8&13		-30.5			
		$i(PS)_N$	16 44	11	-67.0				
		i_E	17 07	11		+12.5			

(Continued on next Sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943			s	mm.	mm.	mm.	km.	
185 cont.	May 3	$i(sS)_N$	02 17 14	11	+34.4				
		i_N	18.14	11	+15.0				
		$i(SS)_{NZ}$	20 05	13	+20.5		+5.0		
		i_{NEZ}	20 37	10	-19.0	-20.0	-28.0		
		m_{NZ}	20 59	13	41.0		35.0		
		i_E	22 39	15		-17.7			
		i_{NZ}	23 03	15	+30.6		+19.1		
		ME	28 07	17		37.3			
		MZ_1	28 25	16			26.3		
		MN_1	29 42	16	35.3				
		MN_2	32 33	14	50.5				
		MZ_2	32 42	14			42+		
		F	06 00						
186	" 3	eL_N	09 41.1	16					Masked by micro-seisms.
		MN	44 33	16	0.8				
		F	09 55						
187	" 3	$e(L)_N$	12 24.6	18?					Masked by micro-seisms.
		MN	26 39	17	0.7				
		F	12 35						
188	" 3	e_{NZ}	12 56 29	16					Masked by micro-seisms.
		e_N	13 00 30	18					
		eL_N	10.0	25					
		MN	11 53	20	1.8				
		MZ	12 43	18			1.0		
		ME	13 05	16		1.2			
		F	13 35						
189	" 3	$i?_E$	16 39 04	5		+1.6			Heavy microseisms present.
		$i?_Z$	39 05	5			+2.0		
		$i(S)_N$	49 14	14	+2.0				
		i_Z	49 16	8			+1.7		
		i_N	49 31	20	+3.1				
		eL_{NZ}	53.9	32					
		MN	55 36	22	5.5				
		MZ	56 15	22			4.7		
		ME	57 18	14		6.5			
		F	18 05						
190	" 5	e_E	07 44.0						
		MEZ	46.2	20		0.6	0.4		
		F	07 50						
191	" 6	e_E	06 34 06	8					Afew small waves.
		F	06 45						
192	" 6	$i(S)_N$	09 45 13	12	-2.0				
		eL_E	48.4	18					
		ME	50 36	12		2.5			
		MZ	52 01	11			1.8		
		MN	52 35	10	1.9				
		F	10 25						
193	" 6	i_N	15 22 35	12	+1.5				
		i_E	22 44	12		-1.0			
		i_N	22 46	12	-2.0				
		F	15 35						
194	" 7	eP_{NEZ}	08 12 17	8				2450	H 08 07 24
		iS_Z	16 12	9			+1.0	(22°0)	
		iS_{NE}	16 13	9	+1.0	+1.0			
		i_E	16 20	12		+2.5?			
		i_N	16 22	12	+3.8				
		eL_N	17.6	22					
		MZ	19 09	18			2.2		
		ME	19 34	18		2.7			
		MN	20 02	14	2.6				
		F	09 10						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
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SEISMOLOGICAL BULLETIN.

Wiechert Constants May 10-31.

	V	T_o	ε:1	r/T_o^2
NS	214	8.2	6.3	0.015
EW	226	7.6	7.0	0.009

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
195	May 8	eNE	04 43 15	18					
		iNE	43 36	14	+3.0	+1.9			
		iN	44 53	10	+2.5				
		MZ	45 34	11			2.1		
196	" 8	iP_{EZ}	05 37 56	4		+1.2	-1.5	2110	h 0.01
		iNEZ	37 58	4	+3.5	-2.6	+3.5	(19°0)	H 05 33 39
		ipP_{NEZ}	38 12	5	-1.5	+1.3	-2.4		
		iS_E	41 21	10		-1.3			
		iS_{NZ}	41 24	9	+3.5		-2.7		
		isS_E	41 48	9		-3.5			
		iE	42 13	10		+2.5			
		eL_Z	42.3	22					
		MN	42 27	14	3.7				
		ME	42 40	14		2.5			
		MZ	42 58	22			2.7		
		F	06 25						
197	" 10	iP_{NEZ}	10 08 24	4	-1.5	-0.7	+1.5	2930	Compression.
		ipPZ	08 35	8			+1.5	(26°4)	
		iPP_{NZ}	08 57	6	-1.5		+1.5		
		iS_{NE}	12 53	10	+2.4	+1.2			
		iNE	13 02	10	-7.5	-4.3			
		iZ	13 03	10			-4.0		
		iSS_E	13 58	11		+4.6			
		eL_N	15.3	20					
		MN	16 35	16	8.8				
		ME	18 53	10		12.2			
		MZ	19 33	10			3.5		
		F	11 50						
198	" 11	iZ	09 16 01	4			+1.3		
		$i(S)_{NE}$	16 18	6	+4.0	+2.4			Deep focus?
		iNE	16 28	10	-7.5	-5.6			
		MEZ	18 24	9	3.3	3.0			
		F	09 50						
199	" 13	i_N	12 48 21	6	+1.1				
		eL_N	50.1	18					
		F	13 05						
200	" 13	i_N	16 39 09	10	-1.0				
		ME	42 44	16		1.0			
		MZ	44 04	16			0.6		
		F	17 05						
201	" 14	MN	22 09 28	16	1.4				
		F	22 20						
202	" 18	iNZ	06 13 50	6	-1.9		+1.8		Heavy microseisms present.
		iNE	18 01	12	-2.1	+1.5			
		iE	21 17	10		-1.5			
		iNZ	21 21	[illegible]	+3.5		+2.0		
		eE	24.0	18					
		eL_E	27.5	28					
		ME	32 45	18		2.7			
		MNZ	32.9	14	4.0		3.6		
		F	07 10						
203	" 22	eL_Z	09 50.7	26					Very heavy micro-seisms present.
		F	10 05						

(Concluded on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,

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SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm	mm.	mm.	km	
204	May 25	iP_{NEZ}	23 16 11	(4/7	-3.3	+2.1	+1.6	5220	SE Compression.
		iNEZ	16 16	(4/7	+7.2	-4.2	-2.5	(47?0)	H 23 07 41
		ipP_{NEZ}	16 20	(4/7	-3.5	+4.4	+2.8		All measurements are from the Wiecherts. Galitzin records too faint to be deciphered after P.
		mNEZ	16 23	(4/7	11.6	4.3	4.3		
		$i(PcP)_N$	17 37	4	-7.2				
		i_{NE}	18 13	9	-9.4	+4.2			
		iS_{NE}	22 59	9	-10.2	-1.1			
		iPS_E	23 12	(6/11		-19.3			
		$iPPS_E$	23 19	(6/11		+1.26			
		mNE	23 25	11	19.3	24.1			
		i_{NE}	23 43	14	+14.0	-10.3			
		iSS_N	26 13	12	-12.5				
		iSS_E	26 15	12		+14.1			
		mNE	26 37	12	36.5±	35+			
		m_N	26 52	12	46±				
		m_E	27 02	12		40+			
		$iSSS_E$	27 25	10		-16.7			
		i_N	28 10	12	+26.0				
		eL_N	28.4	26					
		ME	33000	12		31.6			
		MNZ	35 07	12	24		1.8		
		F	04 00						
205	" 26	eL_E	11 24.0	24					
		MEZ	31.0	18		0.9	1.3		
		F	12 00						
206	" 31	e_N	09 39.6						
		eL_N	41.5	18					
		ME	44 20	14		0.8			
		MN	45 54	12	1.5				
		F	10 00						

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

Riverview College Observatory

RIVERVIEW. N.S.W.

SEISMOLOGICAL BULLETIN

$\Phi = 33° 49' 46''$ S. $\lambda = 151° 9' 30''$ E h = 25m. 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	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^3	V_s
N	1	208	8.1	7.0	0.004	4	12.8	12.9	-0.09	490
	3	155	9.3	7.3	0.030					
E	1	221	7.7	7.8	0.005	4	12.4	12.9	-0.01	430
	3	142	9.5	4.4	0.013					
Z	2	61	5.0	5.1	0.008	4	12.4	12.1	+0.04	430

No.	Date	Phase	Time (G.M.T.) h. m. s.	Per s.	Amplitude A_N mm.	A_E mm.	A_Z mm.	Δ km.	Remarks
	N.B.	Unless stated otherwise readings are from the Galitzins. The amplitudes given are trace amplitudes only. Seismological Tables by Jeffreys & Bullen (1940) are used.							
	1943								
207	June 1	eL$_{NE}$	08 28.3	18					Masked by heavy
		ME	29 50	12		2.4			microseisms.
		F	09 00						
208	" 2	eL$_{NE}$	04 54.1	20					
		MZ	57 10	17			1.9		
		F	05 15						
209	" 3	i?$_Z$	12 18 05	6			-1.5		Heavy microseisms.
		i$_E$Z	20 48	7		-2.1	+2.3		
		i$_{NE}$Z	21 25	7		-2.4	+2.9		Deep focus.
		i$_{NE}$Z	21 59	7	-2.7	+3.7	+2.6		
		iNE	25 02	8	-6.5	-3.0			
		iNE	27 49	8	-2.8	+4.8			
		i$_N$	28 55	8	+2.5				
		F	12 50						
210	" 3	iP$_Z$	20 00 55	8			+3.0	4320	Compression.
		eS$_E$	06 51	20				(38°9)	H 19 53 31
		eSS$_N$	09 27	20					Very heavy micro-
		eL$_E$	11.5	26					seisms.
		ME	13 47	18		3.0			
		F	20 40						
211	" 3	e(S)$_E$Z	21 01 11	20					Masked by very
		e(SS)$_N$	03 55	22					heavy microseisms.
		eL$_E$	05.7	24					
		MNE	08.4	16	5.6	4.5			
		MZ	08 40	18			4.4		
		F	21 50						
212	" 5	i?$_Z$	20 35 42	7			-1.0		
		i$_N$	41 02	8	+1.0				
		i$_{NE}$	44 27	6	-1.0	+1.6			
		F	20 55						
213	" 7	e$_N$	13 56.1						A few long waves.
		eL$_Z$	14 00.4	20					
		F	14 10						
214	" 7	iP$_{NE}$	23 29 46	4	-0.1	+0.4		6170	H 23 20 12
		iS$_E$	37 25	6		+1.5		(55°5)	iP from Wiechert,
		iS$_{NZ}$	37 29	10	-4.7		-2.8		lost on Galitzin
		i$_E$	38 04	10		+4.6			while changing
		iSS$_E$	41 22	14		+4.0			record.
		i$_Z$	41 59	14			+5.0		
		eL$_N$	45.6	40					
		ME$_Z$	51 39	21		18.1	13.3		
		MN	52 04	15	29.3				
		F	02 15						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm.	km.	
215	June 8	iPEZ	20 52 13	4		+1.0	+2.5	6240	Compression.
		i_E	53 01	6		-2.5		(56°2)	H 20 42 34
		iSNE	59 58	(8 22	+4.0	+4.8			After iS NS readings are from the Mainka, EW from the Wiechert.
		eLQ_{NE}	21 06.2	60					
		eLR_E	09.3	32					
		MN_1	14 23	18	5.6				
		ME	15 11	21		4.6			
		MZ	18.0	18			36.0		
		MN_2	20 39	11	10.3				
		F	00 40						
216	" 9	iPEZ	03 16 00	8		+1.0	+2.2	6280	Compression.
		iPP_Z	18 06	8			+3.0	(56°5)	H 03 06 19
		i_E	19 12	10		+2.5			
		iS_E	23 47	10		-2.0			
		i_{NZ}	23 50	10	+6.5		+3.5		
		$LQ?_N$	30 28	15					
		$LR?_N$	33.2	?					
		MN_1	38 58	14	48.7				
		MEZ_1	39.8	19		30.0	28.3		
		MN_2	42 24	14	53.7				
		MEZ_2	43.3	20		35.0	31.3		
		F	08 20						
217	" 11	$i(P)_Z$	08 20 19	6			+1.0		Compression.
		i_E	20 25	5		-1.0			
		$i(S)_E$	24 32	5		+1.0			
		eL_E	26.6	20					
		MN	28 29	16	2.5				
		MEZ	29.7	18		2.7	3.0		
		F	09 10						
218	" 12	iP_Z	16 22 29	4			-0.9	2920	Dilatation.
		iP_N	22 31	4	-0.5			(26°3)	H 16 16 55
		iS_N	26 58	10	-1.5				
		eL_E	29.8	24					
		ME	30 43	16		2.8			
		MN	31 12	18	1.8				
		MZ	31 29	18			1.5		
		F	17 05						
219	" 13	iP_{NZ}	05 23 38	4	-1.5		+4.0	7980	S. Compression.
		iS_E	32 55	14		-1.7		(71°8)	H 05 12 17
		iS_N	32 59	14	-2.0				
		iNEZ	33 05	16	+6.1	+6.3	+4.1		
		mNEZ	33 33	22	7.6	6.3	3.5		
		i_E	37 11	18		+3.4			
		i_{NE}	37 32	20	-1.5	-2.0			
		$L?_N$	41 41	22					
		eL_E	43.0	26					
		MZ_1	49 25	25			10,6		
		MN_1	50 43	22	14.8				
		MNZ_2, ME	53.0	22	15.9	9.8	13.5		
		F	08 25						
220	" 13	iP_Z	08 48 48	4			+1.5	7960	Compression.
		eS_E	58 04	14				(71°6)	H 08 37 28
		iNE	58 15	14	-1.2	-1.8			
		i_E	58 40	14		+1.8			
		eL_E	09 08.6	28					
		MNZ	15.8	22	2.3		3.3		
221	" 13	$i(S)_{NE}$	18 00 39	13	+1.0	+0.8			
		eL_E	11.3	28					
		MNZ	18.1	24	1,0		0.9		
		F	19 15						
222	" 14	e_{NE}	03 21 21	10					
		eL_{EZ}	35.9	30					
		MEZ	39.5	18		1.3	1.3		
		F	04 00						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per s	Amplitude A_N mm.	A_E mm.	A_Z mm.	Δ km.	Remarks
	1943								
223	June 15	$P?_Z$	11 22 34						Masked by micro-seisms.
		iS_E	32 02	9		-1.5			
		iS_N	32 03	9	-1.2				
		iPS_E	32 36	9		+2.0			
		iPS_N	32 38	9	+1.7				
		eSS_E	36 42	16					
		eLQ_E	42.5	30					
		MNZ	48.6	26	1.4		1.7		
		ME	49.9	24		1.7			
		F	12 40						
224	" 15	$i(PS)_Z$	18 51 54	15			+1.6		
		iE	51 56	15		-1.6			
		eE	53 03	15					
		eE	58 36	20					
		eL_Z	19 16.3	30					
		MZ	26 06	18			2.1		
		MN	26 16	16	1.2				
		ME	26 44	16		1.8			
		F	20 50						
225	" 17	$i?_Z$	16 58 53	4			+1.5		Masked by micro-seisms.
		$i?_Z$	17 00 35	4			+1.5		
		iE	02 53	8		+1.2			
		eL_N	09.7	22					
		ME	13 52	11		2.4			
		MN	14 23	10	3.0				
		MZ	14 49	11			2.3		
		F	18 05						
226	" 18	$i?_Z$	16 52 24	4			+1.4		Masked by micro-seisms.
		iE	53 58	8		-1.0			
		eE	58 06	8					
		eL_N	17 05.2	20					
		MZ	08 47	14			2.4		
		ME	09 15	12		3.0			
		MN	09 50	10	4.0				
		F	18 00						
227	" 18	eE	19 36 17	15					Masked by micro-seisms.
		eL_E	40.7	30					
		MEZ	45.6	20		2.1	2.2		
		MN	45 55	14	2.3				
		F	20 10						
228	" 19	$i(S)_{NE}$	9 19 36	14	+0.8	+1.2			Preliminaries obscured by micro-seisms.
		eL_Z	24.0	28					
		MN_1	25 18	15	3.0				
		ME	29 04	18		3.5			
		MN_2MZ	29 16	16	4.7		3.3		
		F	10 40						
229	" 20	$i?_Z$	15 45 49	5			-1.4		
		iE	58 46	6		-0.8			
		iE	16 07 15	6		+1.0			
		eL_N	35.3	20					
		MEZ_1	42.4	28		1.0	1.1		
		MN	47 31	24	1.2				
		MEZ_2	56.7	18		2.7	2.7		
		F	17 50						
230	" 20	eE	18 19 00	12					
		eL_N	40.6	28					
		MNE	48 32	20	1.5	1.1			
		MZ	48 40	20			1.9		
		F	19 40						
231	" 22	eL_E	07 19.4	18					Masked by heavy microseisms.
		F	07 30						
232	" 22	iE	09 18 11	7		+1.8			Masked by heavy microseisms.
		iN	18 18	7	+2.0				
		eL_N	19.5	22					
		MN	21 10	16	1.6				
		F	09 40						

(Concluded on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per s	Amplitude A_N mm.	A_E mm.	A_Z mm.	Δ km.	Remarks
	1943								
233	June 23		08 10 to 08 20						Waves masked by heavy microseisms.
234	" 24	iP_Z	20 26 33	4			+2.1	2680 (24°1)	Compression. h 0.025 H 20 21 34
		iP_E	26 35	5		+1.5			
		ipP_E	27 10	6		+2.3			
		iPP_Z	27 22	8			-2.0		
		iS_N	30 34	6	-5.8				
		iS_{EZ}	30 37	6		-3.0	+3.0		
		i_N	31 08	8	-7.5				
		i_E	31 14	6		-6.0			
		isS_N	31 35	8	+11.0				
		iE_Z	31 39	7		+6.7	-3.0		
		i_N	32 00	10	-16.3				
		m_E	32 01	14		10.0			
		$iScS_E$	37 28	8		+4.5			
		F	21 15						
235	" 25	$e(P)_Z$	12 03 05	6					
		i_Z	06 55	9			+1.3		
		eL_E	08.7	16					
		MN	10 11	14	0.9				
		F	12 20						
236	" 25	iP_{EZ}	19 19 09	6		+1.3	-2.5	3500 (31°5)	Dilatation. h 0.08 H 19 13 30
		ipP_{EZ}	20 42	6		+1.5	-1.7		
		iS_{NE}	23 40	10	-2.5	+2.1			
		isS_{NE}	26 51	14	+1.5	+1.8			
		$iScS_E$	28 43	7		+4.5			
		$iScS_N$	28 45	7	+6.4				
		F	20 10						
237	" 27	eL_N	17 18.4	16					
		MN	21 22	14	1.3				
		MZ	23 12	15			1.8		
		ME	23 31	15		2.2			
		F	17 45						
238	" 28	iE	02 49 09	6		-1.1			
		$e(S)_E$	52 58	10					
		eL_N	54.1	16					
		MZ_1	57 50	16			3.5		
		ME_1	58 12	16		3.6			
		MN	58 50	14	3.5				
		ME_2	03 00 34	15		4.7			
		MZ_2	00 42	15			4.4		
		F	04 15						
239	" 29	iP_{NZ}	09 12 59	7	-2.0		+4.2	4960 (44°6)	Compression h 0.025 H 09 05 05
		iE	13 01	7		-1.6			
		ipP_Z	13 42	7			+2.3		
		iPP_Z	14 41	6			+2.6		
		iS_{NE}	19 20	10	+2.9	+4.7			
		$iScS_N$	22 34	8	+3.2				
		iE_Z	22 41	8		-8.3	+4.5		
		i_N	26 07	8	-4.1				
		F	10 10						
240	" 30	iP_Z	10 55 25	4			-2.3	4200 (37°8)	Dilatation. h 0.10 H 10 49 01
		ipP_Z	57 14	7			-1.8		
		iS_{NEZ}	11 00 33	8	-10.5	-17.5	-2.7		
		isS_N	03 41	10	-7.7				
		iE_Z	03 48	10		+9.8	-2.9		
		F	12 05						

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

Riverview College Observatory

RIVERVIEW. N.S.W

SEISMOLOGICAL BULLETIN

Φ = 33° 49′ 46″ S. λ = 151° 9′ 30″ E h = 25m. Foundation : Triassic sandstone.

INSTRUMENTS:

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

		V	T_o	ε : i	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	204	8.0	6.0	0.006	4	12.9	12.8	-0.09	490
	3	150	9.4	9.1	0.021					
E	1	224	7.8	6.0	0.010	4	12.9	12.4	-0.01	430
	3	135	9.4	6.4	0.009					
Z	2	61	5.0	6.4	0.004	4	12.1	12.4	+0.04	430

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h. m. s.	s.	mm.	mm.	mm.	km.	
	N.B.	Unless stated otherwise readings are from the Galitzins. The amplitudes given are trace amplitudes only. The tables used are Seismological Tables by H. Jeffreys & K.E.Bullen (British Association 1940).							
241	July 4	ME	11 11 26	14		1.8			Masked by micro-seisms.
242	" 4	MNZ	22 44.2	14	2.0		2.1		Masked by micro-seisms.
		F	22 55						
243	" 5	eL_N	13 29.3	14					Obscured by micro-seisms.
		MZ	31 26	14			1.0		
		F	13 45						
244	" 5	i?Z	13 48 37						Obscured by micro-seisms.
		eL_N	59.5	20					
		eL_E	14 00.7	20					
		MZ	02 00	18			2.3		
		F	14 45						
245	" 6	GE	14 20.0						Masked by micro-seisms.
		ME	22 44	13		1.2			
		F	14 40						
246	" 7	i(P)Z	11 44 07	6			+1.9	2060?	Compression.
		e(S)E	47 30	18				(18°6?)	Long periods begin.
		iNE	47 43	18	-2.3	-3.0			Similar to No.102, March 14, 08h.
		F	12 10						
247	" 7	e(P)Z	12 51 15	8					
		eN	51 26	12					
		iS_N	56 02	16	+3.4				
		iZ	56 14	16			+2.0		
		iNE	56 20	16	+7.2	+2.0			
		iSS_N	57 12	16	+3.2				
		eLR_E	59.7	24					
		ME	13 01 54	20		8.5			
		MNZ	02.1	20	8.7		8.5		
		F	14 15						
248	" 7	iN	17 30 34	12	+1.5				
		MEZ	36.0	20		1.7	1.4		
		F	18 00						
249	" 8	iZ	14 44 04	6			+1.5		
		e(S)NE	50 18	14					
		e(SS)NE	53 30	9					
		MZ	15 04 32	20			5.0		
		ME	04 42	18		6.6			
		MN	04 55	18	5.3				
		F	15 45						
250	" 9	eLZ	02 33.8	30					
		MNEZ	37.6	20	2.0	1.8	2.0		
		F	02 55						

(Continued on next sheet)

1943, July.

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks.
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm.	km.	
251	July 11	iP_{EZ}	02 15 50	8		-2.1	+2.4	3290?	Compression.
		iEZ	15 53	8		+4.7	-7.0	(29°6?)	
		iPP_{EZ}	16 38	9		+10.3	-14.0		
		iE	16 57	10		+10.1			
		iEZ	17 04	10		-13.8	+20.0		
		i_N	17 14	8	+5.5				
		$i(S)_E$	20 42	9		-8.5			
		iE	21 05	9		+13.0			
		iZ	21 15	10			-13.3		
		iN	21 27	10	+13.0				
		iEZ	21 32	10		-28.0	+22.0		
		i_N	21 51	13	+25.2				
		iLQ_N	22.2	22	+21.0				
		iLRZ	23.8	22			+16.0		
		MN	24 54	16	42.8				
		MZ	25 42	20			42±		
		ME	25 50	22		40.0			
		eW_2?	05 04.2	22					
		F	05 50						
252	" 11	eL_Z	16 14.0	24					
		MZ	16 08	18			0.9		
		ME	17 58	16		1.0			
		F	16 40						
253	" 12	i_Z	08 10 24	9			+2.0		Masked by heavy microseisms.
		MEZ	15.7	20		2.2	2.3		
		F	08 45						
254	" 12	i_Z	22 11 15	5			+1.3		Masked by heavy microseisms.
		i_{NE}	15 47	11	+3.1	+2.6			
		MZ	20 57	16			2.5		
		F	22 50						
255	" 14	eL_N	09 44.2	14					
		MEZ	47.2	14		0.5	0.8		
		F	10 00						
256	" 14	eLE	14 37.3	16					
		MZ	43 04	15			0.5		
		F	14 50						
257	" 14	e_N	16 24 54	9					
		eL_N	27.2	18					
		MZ	28 41	18			0.8		
		MN	29 11	14	1.3				
		F	16 55						
258	" 14	$i(P)_E$	19 47 30	6		+0.8			
		iZ	47 32	6			+1.3		
		$i(PP)_E$	48 08	8		+1.5			
		iEZ	50 37	10		+1.0	-1.5		
		$i(S)_E$	52 12	10		+1.8			
		$i(SS)_N$	53 23	12	+2.0				
		eLE	55.0	20					
		MNZ	56.1	18	3.5		2.5		
		F	21 15						
259	" 14	e_N	23 42 18						
		e_N	46 07						
		eLEZ	48.2	20					
		MEZ	49.9	16		1.8	2.0		
		F	00 30						
260	" 18	eZ	08 06 15	10					Felt at 148°19'E., 8°42'S., near Soputa New Guinea.
		$e(S)_N$	10 21	12					
		e_N	10 44	12					
		$i(SS)_N$	11 23	14	+2.3				
		ME	15 44	15		2.2			
		MZ	18 17	16			1.5		
		MN	18 42	16	1.6				
		F	09 05						
261	" 20	MN	01 31 26	16	1.3				Masked by irregular, non-seismic waves.

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		H m s	s	mm.	mm.	mm.	km.	
262	July 21	e?E	04 35 18						
		eL_E	48.2	30					
		MNEZ	54 46	18	1.7	2.3	2.9		
		F	05 50						
263	" 23	iP_{NEZ}	15 01 22	3	+2.5	-3.8	-8.0	5100	Dilatattion.
		ipP_{EZ}	01 45	3		-13.5	-23.4	(45°9)	h 0.01
		iPP_E	03 06	4		-3.0			H 14 53 08
		iPP_N	03 07	4	+2.7				Provisional epi-
		iE	04 14	5		-6.6			centre; 10°S, 108°E.
		iE	04 47	4		-7.5			
		iS_N	07 58	6	-10.5				
		iS_E	08 00	6		+15.9			
		iE	08 17	6		+10.0			
		isS_E	08 32	7		+18.0			
		isS_N	08 35	8	+13.8				
		iSS_{NE}	11 18	12		+13.3			
		iZ	11 23	12			+7.7		
		iE	11 41	15		+23.8			
		iN	11 44	15	+49.0				
		eLQ_{NE}	11.9	29					
		iZ	12 08	14			+13.0		
		mZ	12 28	16			22.5		
		eLR_Z	14.2	28					
		MN_1	17 28	24	56.0				
		MZ_1	18 47	24			28.3		
		ME	19 19	24		32.0			
		MN_2	21 25	11	46.5				
		MZ_2	21 56	16			41.1		
		F	17 50						
264	" 29	$iPKP_{EZ}$	3 21 46	8		-1.5	+2.7	15,900ca	
		i_{EZ}	21 49	8		+1.8	-8.3	143°ca	
		iPP_{EZ}	25 00	10		+2.0	+7.0		
		$iPPP_Z$	28 11	10			+5.0		
		$iSKKS_E$	32 01	14		+5.2			
		$iSKSP_Z$	35 17	14			+4.0		
		iE	35 21	14		+4.5			
		iE	36 41	14		-5.0			
		$iPPS_Z$	37 31	14			+4.1		
		iN	38 01	14	+4.5				
		iE	38 11	14		+6.8			
		iSS_E	43 34	14		+4.6			
		iN	43 53	12	+3.8				
		iE	45 01	20		+9.0			
		iZ	45 37	20			-7.0		
		$iSSS_E$	49 07	20		+5.2			
		eLQ_N	04 02.6	45					
		eLR_E	09.3	28					
		iN	10 39	28	-10.0				Begins train of
		iZ	11 17	28			+9.7		sinusoidal waves
		iE	11 27	28		+1.20			on N,Z,E.
		MNE	13 27	22	26.0	44.3			
		MZ	13 55	22			42+		
		F	06 20						
265	" 29	eL_E	16 26.3	22					Masked by micro-
		MNZ	29.3	14	3.5		3.4		seisms.
		F	16 45						
266	" 29	iE	20 36 55	8		+2.5			Masked by micro-
		eL_N	38,3	24					seisms.
		MNZ	40.1	16	2.0		1.7		
		F	21 00						
267	" 30	eL_N	22 25.3	18					
		MN	27 14	14	1.1				
		F	22 35						
268	" 31	MN	10 39 37	14	0.8				
		F	10 45						

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Riverview College Observatory

RIVERVIEW. N.S.W

SEISMOLOGICAL BULLETIN

Φ = 33° 49′ 46″ S. λ = 151° 9′ 30″ E h = 25m. 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	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	204	8.0	6.0	0.010	4	12.9	12.8	-0.09	490
	3	152	9.3	8.8	0.020					
E	1	222	7.8	6.0	0.010	4	12.9	12.4	-0.01	430
	3	128	9.6	5.7	0.015					
Z	2	57	5.1	7.0	0.061	4	12.1	12.4	+0.04	430

No.	Date	Phase	Time (G.M.T.) h. m. s.	Per s.	Amplitude A_N	A_E	A_Z	Δ km.	Remarks
	1943								
269	Aug. 1	iP_{NEZ}	16 23 16	4	-0.3	-0.5	+2.2	2420	Compression to SW.
		ipP_{NEZ}	23 53	5	-0.4	-1.2	+3.8	(21°8)	h 0.03
		isP_{NEZ}	24 29	6	+0.4	+0.7	-3.5		H 16 18 41
		iS_{NEZ}	26 58	4	+1.7	+1.0	-4.7		NS & EW measure-
		iN	27 03	6	+4.8				ments from Wiechert.
		iE	27 04	6		-2.0			Provisional epi-
		mE	27 11	6		6.5			centre (from Brisbane,
		iNZ	27 16	7	+4.3		-4.5		Christchurch, River-
		iEZ	27 21	7		+4.6	+11.5		view & Wellington);
		iN	27 24	7	+8.9				
		iN	27 53	7?	+3.5				20°S.,172°E.
		iSS_Z	28 01	8			-10.5		
		isS_{NEZ}	28 13	10	+3.9	-10.2	+8.4		
		iE	28 24	10		-5.0			
		iN	28 26	10	+7.8				
		eL_N	28.8	17					
		iE	28 49	16		-5.0			
		MN	30 30	14	3.5				
		$iScS_E$	24 13	6		+1.6			
		F	17 45						
270	" 2	iP_{NEZ}	00 50 26	6	-6.8	+5.0	-5.7	1870	Dilatation to SE.
		iPP_{NEZ}	50 34	7	+4.5	-4.3	+11.5	(16°8)	H 00 46 31
		iN	51 13	7	-2.7				Perhaps slightly
		iS_E	53 30	14		-4.3			deeper than normal.
		iN	53 34	14	+6.5				
		iSS_Z	53 50	14			-12.5		
		iNE	53 52	14	+20.0	+36.3			Begins train of sin-
		mN	54 24	14	32.6				usoidal waves of
		eLR_Z	54.8ca	20?					large amplitude on
		MN	56 10	11	26.5				NS & EW.
		ME	56 27	11		31.3			
		MZ	56 57	12			>45		After iP NS & EW meas-
		eW_2NE	03 46.8	38					urements from Wiechert.
		F	04 50						
271	" 2	iP_{EZ}	08 42 44	6		+1.1	+1.0	2970	H 08 37 06
		iN	45 41	10	+1.8			(26°7)	
		iS_{NE}	47 15	9	+2.0	+1.5			
		eLR_N	49.2	20					
		MZ	50 53	16			1.5		
		MN	51 13	16	4.0				
		ME	51 33	16		2.5			
		F	09 35						

N.B. Unless stated otherwise readings are from the Galitzins.
The amplitudes given are trace amplitudes only.
The tables used are Seismological Tables by H. Jeffreys & K.E.Bullen (British Association 1940).

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm.	km.	
272	Aug. 3	e_N	05 34 20						Readings from Wiechert.
		i_E	34 28	4		+0.7			
		i_E	36 53	7		+0.7			
		MN	41 02	14	0.2				
		F	05 50						
273	" 3	i_E	06 06 45	6		-0.6			
		MNE	09.2	11	0.2	0.3			From Wiechert.
		F	06 30						
274	" 3	MN	19 55 34	14	0.2				From Wiechert.
		F	20 00						
275	" 6	i_N	12 10 28	5	+1.0				
		i_E	10 31	5		+1.3			
		$i(S)_E$	13 53	8		-1.3			
		i_N	13 57	8	+1.4				
		eL_E	17.3	32					
		MN	20 42	22	1.7				
		MEZ	22.5	20		1.6	1.5		
		F	13 00						
276	" 7	i_N	10 14 31	6	+0.5				Very small.
		i_E	18 25	8		-1.5			
		eL_N	19.7	24					
		ME	20 54	10		1.2			
		MNZ	21.9	10	1.3		1.0		
		F	10 40						
277	" 9	$i?_N$	17 06 29	4	-1.5				
		i_N	13 20	14	+1.2				
		i_E	13 23	14		+1.0			
		iNE	16 45	10	+1.0	+1.8			
		i_N	16 52	10	+2.0				
		eL_N	22.0	20					
		ME	23 57	20		2.0			
		MN	28 26	18	2.0				
		MZ	28 38	18			2.1		
		F	18 05						
278	" 10	iP_Z	13 55 08	5			-4.4	3590	Dilatation.
		iP_{NE}	55 10	5	+1.5	-1.3		(32°3)	H 13 48 40
		iNEZ	56 31	8	-3.8	+2.9	+5.7		
		iS_{NE}	14 00 18	10	-3.0	+2.5			
		i_N	01 24	8	+1.8				
		i_E	01 29	12		+1.6			
		eLRE	04.0	18					
		MZ	06 01	4			10.6		Surface waves have very short periods.
		ME	06 31	6		6.3			
		MN	07 40	6	12.0				
		F	15 00						
279	" 10	iP_Z	15 26 27	6			+1.5		Compression.
		e_N	33 10	12					
		$e(SKS)_N$	36 34	11					
		$e(S)_E$	37 00	12					
		ePS_Z	38 02	14					
		e_Z	42 02	24					
		e_N	42 20	24					
		eLQ_E	49.6	24					
		ME	58 59	24		1.5			
		MN	59 27	24	2.0				
		MZ	59 45	22			1.7		
		F	17 00						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Km.	Remarks
					AN	AE	AZ		
	1943		h m s	s	mm.	mm.	mm.		
280	Aug.14	P?	08 13 18	8					P masked by micro-
		iPP_Z	13 59	8			+2.0		seisms.
		$iPPP_N$	14 14	6	+1.2				
		i_E	14 30	8		+1.5			
		iS_E	17 44	8		-1.5			
		i_N	18 02	8	+2.6				
		i_{NE}	18 17	8	+2.0	-1.9			
		eL_E	20.0	30					
		MZ	21 03	22			2.5		
		ME	21 09	22		2.5			
		MN	22 01	14	2.6				
		F	09 00						
281	" 15	i_E	02 44 44	8		+1.0			
		i_E	48 22	8		+1.7			
		ME	51 05	24	2.	2.3			
		MN	51 15	22	0.9				
		F	03 20						
282	" 17	iP_Z	09 12 21	5			+1.3	4950	Compression.
		ipP_Z	14 22	8			+1.2	(44°5)	h 0.11
		iS_E	18 09	9		+1.3			H 09 05 07
		iS_N	18 10	9	-1.2				
		i_E	19 02	10		-2.5			
		isS_{NE}	21 34	9	+2.0	-2.0			
		F	09 45						
283	" 17	iP_{NZ}	13 18 24	8	+1.3		+1.6	2650	Compression to N.
		iS_E	22 35	10		+1.9		(23°9)	H 13 13 12
		i_{NE}	22 55	11	-4,4	-3.5			
		eLR_N	23.9	24					
		MZ	25 01	18			4.7		
		ME	25 24	15		5.6			
		MN	25 32	15	5.4				
		F	14 20						
284	" 17	iZ	15 20 22	5			-1.4		
		i_E	26 08	9		-2.0			
		ME	33 52	10		4.0			
		MN	34 41	12	3.3				
		F	16 05						
285	" 18	eE	06 57 43	10					
		eL_Z	07 01.1	18					
		MN	03 24	14	0.7				
		F	07 20						
286	" 20	iP_Z	01 31 01	6			+2.3	5320	Compression.
		i_{NE}	31 02	4	-0.9	+1.0		(47°9)	H 01 22 24
		iN_Z	33 03	6	-1.3		+2.4		
		iS_N	37 55	11	-2.1				
		iE	37 59	11		+1.1			
		iSS_{NE}	41 19	12	+2.2	-1.9			
		eL_N	46.3	20					
		MZ	50 37	16			2.5		
		ME	50 41	16		3.8			
		MN	51 11	16	3.5				
		F	03 15						
287	" 21	eLE_Z	09 48.1	20					
		MZ	49 51	20			0.8		
		F	10 05						
288	" 23	iP_{NEZ}	07 11 02	6	-2.0	+2.4	-3.0	2160	Dilatation from SE.
		iS_{NZ}	14 34	10	+3.0		-2.8	(19°4)	H 07 06 36
		iSS_E	14 47	10		+3.6			
		$i(PcP)_N$	15 16	14	-2.0				
		eLR_E	16.5	20					
		MNE	18 43	10	3.0	2.8			
		MZ	18 51	11			2.7		
		F	08 25.						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm	mm	mm	km	
289	Aug.23	ME	23 19 36	11		0.2			From Wiechert.
		F	23 35						
290	" 24	e_N	13 51.7	10					
		eL_E	55.9	20					
		ME	57 39	16		0.9			
		F	14 10						
291	" 26	e_{NE}	12 27.7	10					
		ME	32 46	14		1.5			Masked by micro-seisms.
		F	12 55						
292	" 27	i_Z	00 47 48	6			+1.3		
		$i(S)_E$	52 01	8		+1.4			
		i_N	53 56	12	+1.3				
		MZ	57 54	16			3.5		
		MN	58 04	14	5.5				
		ME	59 04	14		4.3			
		F	02 20						
293	" 27	i_{NZ}	04 08 42	5	+1.0		+1.0		
		MZ	21 12	18			1.2		
		MNE	21 49	13	1.5	1.5			
		F	04 55						
294	" 27	e_{NZ}	13 08 58	8					
		eL_Z	13.8	24					
		MN	14 30	18	3.0				
		MEZ	15 27	16		3.1	3.0		
		F	14 00						
295	" 30	i_Z	23 46 14	5			+3.0		Compression.
		e_N	53 01	12					
		i_N	56 29	9					
		i_E	56 32	9					
		MN	00 13 41	16	2.7				
		MZ	13 51	16			2.5		
		F	00 50						

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Riverview College Observatory

RIVERVIEW. N.S.W

SEISMOLOGICAL BULLETIN

$\Phi = 33° 49' 46''$ S. $\lambda = 151° 9' 30''$ E h = 25m. 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	$\varepsilon : 1$	$\frac{\varepsilon}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^s	V_s
N	1	213	8.0	6.3	0.003	4	12.9	12.8	-0.09	490
	3	154	9.2	8.7	0.015					
E	1	225	7.8	7.9	0.007	4	12.9	12.4	-0.01	430
	3	138	9.5	6.9	0.011					
Z	2	56	5.1	6.8	0.054	4	12.1	12.4	+0.04	430

No.	Date	Phase	Time (G.M.T.) h.	m.	s.	Per	Amplitude A_N	A_E	A_Z	Δ	Remarks
	1943					s.	mm.	mm.	mm.	km.	
296	Sept.5	iP_{NEZ}	08	42	48	10	-3.5	+2.5	+4.7	5020	Compression to SE.
		$iPcP_{EZ}$		44	28	10		+2.1	+3.8	(45°2)	H 08 34 32
		$iPcP_N$		44	30	10	-2.0				
		iPP_{NZ}		44	35	14	+4.9		-6.3		
		PPP_{NEZ}		45	13	18	8.3	7.2	8.6		
		iS_N		49	25	16	+8.5				
		$iPPS_{NE}$		49	43	20	+12.6	-6.2			
		i_E		49	54	20		+15.1			
		i_E		50	27	18		+11.4			
		iSS_N		52	39	20	+13.1				
		i_E		52	49	20		-15.0			
		i_N		52	59	20	+25.7				
		eLR_E		55.0		40					
		MN_1	09	01	58	20	32.3				
		MZ_1		02	16	20			35.5		
		ME		02	32	18		36.0			
		MNZ_2		04.5		18	45.0		36.5		
		$eW2?_{NE}$	11	18.0							
		F	11	50							
297	" 6	iP_{NEZ}	03	46	11	3 18	+28.2	-8.5	+3.7	2500	Compression
		mNE		46	26	18	42.3	14.1		(22°5)	H 03 41 13
		iS_E		50	11	16		+35.0			Readings from Wiecherts. Galitzins indecipherable. After iS Wiechert NS & EW and Mainkas indecipherable.
		$iL(Q)_Z$		50.9		24			-3.8		
		MZ		53	36	17			13.5		
		LQ_3E	06	05		80					
		LQ_3N		08		80					
		eW_2N		43		21					
		F	08	05							
298	" 6	ME	10	33	00	12		0.5			A few small waves.
299	" 6	e_N	11	26.6							
		MN		30	58	14	1.1				
		F	11	50							
300	" 7	eP_{NZ}	13	31	06	6				2500	
		eS_{NE}		35	06	10				(22°5)	
		MNE		36	48	12	2.0	3.0			
		F	14	10							
301	" 7	MNE	19	19	50	14	1.0	0.6			
		F	19	25							

(Continued on next sheet)

N.B. Unless otherwise stated readings are from the Galitzins. The amplitudes given are trace amplitudes only. The tables used are Seismological Tables by H. Jeffreys & K. E. Bullen (British Association 1940).

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm	mm	mm	km	
302	Sept.8	iP_Z	14 55 24	7			+1.5	2500	Compression.
		iS_{NE}	59 24	10	+2.9	+4.0		(22°5)	H 14 50 26
		MNE	15 00 52	10	5.8	8.6			
		MZ	01 16	10			2.7		
		F	16 00						
303	" 9	eL_N	05 16.3	22					
		F	05 25						
304	" 9	ME	11 59 53	12		1.6			
		MN	12 00 03	12	1.0				
		F	12 05						
305	" 10	ePZ	08 48 18					7980	H 08 36 57
		iS_E	57 35	9		-5.5		(71.0)	
		iS_N	57 36	9	+5.3				
		i_N	58 32	10	+6.5				
		eE	09 05 33	24					
		iLQ_E	07 35	43		+15.0			
		ME	09 11	32		32.5			
		MN	09 58	23	14.3				
		MZ	13 06	24			11.3		
		F	12 10						
306	" 10	iE	14 31 32	6		+1.0			
		iN	31 34	6	+1.5				
		F	14 40						
307	" 11	i_N	05 58 42	6	-1.2				
		MN	06 03 30	12	0.7				
		F	06 10						
308	" 11	$e?_N$	09 11.2						
		eL_{NE}	19.1	20					
		F	09 35						
309	" 11	iP_{NEZ}	19 41 10	6	-1.1	-1.8	+3.0	4070	Compression to SW.
		ipP_Z	41 20	6			+3.0	(36°6)	H 19 34 05
		iPP_{EZ}	42 30	8		+2.2	-1.5		
		$iPPP_{EZ}$	42 51	6		-4.1	+3.0		
		iS_{NEZ}	46 50	16	+2.5	+5.9	+2.8		
		mE	47 08	18		6.0			
		$i(SS)_N$	49 30	18	-2.5				
		eLR_E	51.2	28					
		MN	52.84	16	8.0				
		ME	56 18	20		15.5			
		MZ	56 28	20			13.0		
		F	22 40						
310	" 12	iP_{NZ}	01 39 17	6	-1.0		+2.0	4890	Compression.
		ipP_Z	39 23	6			-2.0	(44°0)	H 01 31 11
		iS_{NZ}	45 46	8	+1.5		+1.0		Provisional epi-
		i_N	49 00	10	+2.0				centre (from Bris-
		i_{NE}	49 23	10	+3.7	+3.5			bane, Riverview and
		eLR_N	52.2	30					Wellington);
		MN	55 54	24	2.6				8°N.,136°E.
		MZ	56 06	26			2.3		
		ME	56 34	20		2.5			
		F	02 55						
311	" 13	eE	16 21 36						
		eL_E	27.7	26					
		MN	29 28	16	1.3				
		MEZ	30.6	18		1.3	1.7		
		F	16 45						
312	" 13	eE	13 47 42	10					
		eL_N	49.4	20					
		F	23 40						
313	" 13	iP_Z	22 21 33	6			+1.5	2600	Compression.
		iP_N	21 35	6	+1.5			(23°4)	Possibly deep focus.
		iS_{EZ}	25 40	6		+5.0	-2.5		Region of 57°S,150°E.
		iNE	25 49	14	-8.1	-8.5			Begins train of waves
		eLR_Z	27.0	20					of large amplitude.
		F	23 40						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm	mm	mm	km	
314	Sept.14	iP_N	00 19 13	6	+1.3			2380	H 00 14 27
		iP_EZ	19 15	7		-2.5	+3.0	(21°4)	Compression.
		iPP_EZ	19 36	8		-2.2	+2.5		
		iS_E	23 04	7		-1.5			
		$iPcP_N$	23 13	10	+2.0				
		iSS_{NE}	23 25	9	+3.0	+3.3			
		eLR_N	24.4	22					
		MNE	27 08	12	3.3	2.3			
		F	01 20						
315	" 14	iP_{NEZ}	02 05 52	12	+5.3	+11.6	-8.7	2420	Dilatation to NE
		PP_{NEZ}	06 16	12	24.4	42.5	41.0	(21°8)	H 02m01 01
		PPP_{NE}	06 26	12	14.3	28.5			Provisional epi-
		iN	06 55	12	-26.0				centre (from Bris-
		iS_E	09 46	11		-20.8			bane, Christchurch
		iS_N	09 50	11	-62.0				and Riverview);
		iE	10 00	11		+13			20°S.,170°E.
		eLR_E	10.9	24					
		ME	14 21	14		17.2			ME & MN from the
		MN	15 12	13	28.5				Wiecherts.
		F	Lost in No.316						
316	" 14	iP_{NEZ}	03 51 55	7	+9.5	+20.3	-17.7	2460	Dilatation to NE.
		iNE	52 15	7	+17.8	+45.5		(22°1)	H 03 47 01
		iE	53 01	7		-7.2			After 03 52 15 all
		iE	53 18	7		-9.0			readings from the
		iS_{NE}	55 52	13	-13.5	-13.4			Wiecherts. Galitzins
		iNE	56 04	13	+10.2	-20.6			too entangled to be
		iN	56 53	14	-19.5				deciphered.
		$i(L)_E$	57 03	21		-13.4			
		ME	59 21	17		12.0			Same epicentre as
		eW_2?	06 41.6	22					for No.315.
		F	Lost in No.317						
317	" 14	iP_EZ	07 23 49	6		-6.0	+7.5	2970	Compression to W.
		iEZ	24 10	10		-24.5	+21.5	(26°7)	H 07 18 11
		iE	24 49	12		-7.6			After 07 24 10 all
		iS_E	28 20	15		3.5			readings are from
		iNE	28 45	13	+3.0	+5.0			the Wiecherts. Gal-
		iNE	29 07	13	+4.0	+4.0			itzins too entang-
		iN	29 52	16	+4.5				led to be deciph-
		eLR_E	30.8	25					ered.
		MNE	33 25	16	9.6	14.4			Provis. epicentre
		eW_2?	10 11.3	24					(from Apia, Brisbane,
		F	11 15						Riverview) 30°S.,177°W.
318	" 14	iP_EZ	14 01 52	7		+1.4	-1.4	2460	Dilatation to E.
		$iNEZ$	02 33	7	+2.8	+1.9	+2.0	(22°1)	H 13 56 58
		iS_{NEZ}	05 49	10	-2.2	+3.3	+2.2		
		eLR_{NE}	07.2	26					
		ME	08 08	16		2.2			
		MN	08 28	15	2.7				
		MZ	08 38	16			2.3		
		F	Lost in No.318						
319	" 14	$i(P)Z$	14 10 22	7			-2.6		Obscured by surface
		iN	11 01	7	+1.5				waves of No.318
		$i(S)_N$	14 11	14	+2.5				
		iE	14 15	14		-4.2			
		iZ	14 26	10			+4.3		
		MN	16 19	14	5.8				
		MEZ	17.6	16		5.8	5.2		
		F	15 20						
320	" 14	eL_N	15 58.8	16					
		F	16 15						
321	" 14	e_N	20 29 52	12					
		ME	32 36	16		1.2			
		F	20 50						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm	mm	mm	km	
322	Sept. 15	eL_Z	02 43.0	18					
		F	02 55						
323	" 15	eL_N	06 47.2	18					
		MN	48 36	16	1.3				
		ME	48 50	16		1.5			
		F	07 15						
324	" 15	eL_E	09 19.6	20					
		MZ	20 20	17			0.8		
		F	09 25						
325	" 15	e_N	11 52 28						
		F	12 10						
326	" 15	eL_{EZ}	14 27.1	18					
		F	14 40						
327	" 15	e_Z	15 40 30	8					
		eL_N	45.1	18					
		ME	47 08	18		1.5			
		MZ	47 35	16			1.5		
		MN	48 04	13	1.8				
		F	16 10						
328	" 15	$e(P)_E$	18 09 23	7				2500?	
		$i(S)_E$	13 23	7		-1.5		(22°5?)	
		eL_E	14.7	20					
		MNE	16.3	15	1.5	1.0			
		F	18 50						
329	" 15	iPE_Z	21 22 05	7		+1.7	-1.2	2400	Dilatation from E.
		$iPPP_{EZ}$	22 34	7		+2.7	-1.4	(21°6)	H 21 17 16
		iS_E	25 57	9		-2.5			
		$i(PcP)_N$	26 00	10	+2.0				
		iZ	26 03	10			+1.8		
		eLR_E	27.4	20					
		MN	29 01	14	3.6				
		MZ	29 25	16			2.5		
		F	22 15						
330	" 15	i_N	23 30 43	5	+0.7				From Wiecherts.
		e_N	33 29	10					Lost on Galitzins
		i_N	33 39	10	+1.2				while changing
		MN	37 05	12	1.1				records.
		ME	38 03	13		0.5			
		F	Merged in	No.331					
331	" 16	ME	00 10 09	12		4.0			
		MN	11 03	10	2.7				
		F	Merged in	No.332					
332	" 16	iP_Z	00 12 21	7			+2.0	2600	Compression.
		iS_E	16 29	11		+25.3		(23°4)	H 00 07 14
		iS_N	16 31	11	+10.0				
		MNE	17 39	13	24.8	43.5			
		MZ	18 50	12			11.3		
		F	02 10						
333	" 16	MNE	07 10 34	12	1.0	1.1			
		F	07 20						
334	" 16	$i(P)_{EZ}$	12 54 01	7		-1.0	+1.3		Compression.
		iE	57 22	8		-1.7			Perhaps more than
		iE	58 35	8		+1.5			one shock.
		i_N	58 41	8	-1.5				
		i_N	13 01 15	10	+1.6				
		MZ	03 48	16			2.6		
		MNE	04.5	12	3.3	2.8			F 14h 20m.
335	" 16	e_Z	22 04 22						
		i_E	06 24	10		+1.5			
		MNE	09 43	12	1.5	2.5			
		F	22 30						
336	" 16	i_{NE}	23 42 45	7	+0.8	+0.8			Readings from Wiech-
		i_{NE}	45 36	7	+0.5	-1.0			erts. Early part of
		e_N	48 01	10					record lost on Gal-
		i_N	49 03	10	+0.9				itzins while chang-
									ing record.

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm	mm	mm	km	
336 (cont)	Sept. 16	i_E	23 49 14	10?		+0.6			
		eL_N	51.0	18					
		MN	52 25	14	1.3				
		ME	54 23	14		0.9			
		F	01 00						
337	" 17	i_E	04 21 19	8		+1.5			Masked by micro-seisms.
		MN	24 49	12	1.4				
		F	Merged in	No.338					
338	" 17	$i(P)_{EZ}$	04 27 31	7		-1.9	+2.0	2350? (21°1?)	Heavy microseisms.
		iZ	28 43	7			+4.4		
		$i(S)_E$	31 19	10		-3.2			
		iZ	31 25	11			+3.0		
		iNE	32 39	11	-3.0	+5.2			
		iZ	32 40	11			+5.3		
		eLR_N	33.7	18					
		MN	35 59	13	5.8				
		ME	36 43	14		5.8			
		MZ	37 02	15			5.3		
		F	05 55						
339	" 17	iP_{NEZ}	10 14 39	6	-2.5	-3.1	+6.2	2700 (24°3)	Compression to SW. h 0.015 H 10 09 32 Provis. epicentre (from Apia, Brisbane, Riverview); 14°S., 167°E.
		ipP_{NEZ}	15 07	6	+2.9	+3.0	-4.4		
		iPP_{NEZ}	15 23	6	-7.0	-6.0	+10.7		
		iS_{NE}	18 46	7	-13.0	+7.5			
		iZ	18 59	8			+6.8		
		isS_N	19 25	8	+15.3				
		isS_E	19 28	8		-12.5			
		$i(SS)_{NE}$	20 05	12	+17.5	+17.4			
		iZ	20 26	12			-7.5		
		iNE	21 58	12	+15.3	-10.0			
		$iScS_{NE}$	25 36	7	+11.5	-9.7			
		F	11 40						
340	" 17	i_E	14 23 02	8		-2.0			Masked by micro-seisms.
		i_N	25 23	12	-2.2				
		MNE	29 43	14	5.8	8.2			
		F	15 05						
341	" 18	eL_N	05 04.0	18					
		MN	05 57	12	1.0				
		F	05 10						
342	" 19	$e(S)_{NE}$	05 09 58	10					Preceded by micro-seisms.
		$e(PS)_N$	10 36	18					
		eE	15 19	10?					
		eLZ	24.6	30					
		MZ	29 54	20			4.8		
		MN	30 36	20	4.0				
		ME	30 48	20		5.0			
		F	Merged in	No.343					
343	" 19	$eLEZ$	06 11.0	30					Preliminaries obscured by coda of No. 342.
		MN	11 50	18	3.0				
		MEZ	13 02	18		3.7	3.8		
		F	07 05						
344	" 19	eZ	11 51 43	6					Masked by micro-seisms.
		$eLEZ$	53.8	20					
		MN	55 02	16	1.0				
		F	12 10						
345	" 19	i_N	20 52 04	8	-1.5				Masked by micro-seisms.
		eL_N	53.1	20					
		MN	55 02	14	1.2				
		F	21 10						
346	" 20	eLZ	01 50.6	20					
		F	02 10						
347	" 20	iZ	13 49 06	5			-1.5		
		iEZ	52 21	7		+1.2	-1.0		
		eLE	54.1	20					
		MN	55 42	14	1.3				
		F	14 10						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm	mm	mm	km	
348	Sept.20	$e?_Z$	22 44 42	6					Masked by micro-seisms.
		$i(S)_N$	49 39	8	-2.5				
		eL_N	50.3	20					
		MZ	51 58	18			1.3		
		MN	52 48	16	3.2				
		F	23 15						
349	" 21	e_E	03 51 39						
		ME	59 02	16		1.6			
		MNZ	59 14	16	1.5				
		F	Merged in	No.350					
350	" 21	MNEZ	04 25.1	14	1.5	1.6	1.5		
		F	05 10						
351	" 21	eZ	18 06 26	10					
		MN	09 51	14	1.0				
		F	18 20						
352	" 21	MNEZ	19 33 58	12	1.1	2.0			
		F	20 00						
353	" 22	eE	16 11.0						A few waves masked by heavy microseisms.
354	" 22	iP_E	23 23 39	6?		+1.0		2690	H 23 18 25
		i_E	24 12	11		-1.1		(24°2)	From 23 23 39 to
		m_E	24 32	11		2.5			23 24 32 readings
		iS_E	27 52	10		-5.2			from Wiecherts. Rec-
		m_E	28 05	10		11.5			ord lost on Galitzin
		i_E	28 27	10		+9.8			while changing paper.
		i_E	28 53	16		+11.9			From iS readings are
		i_N	28 58	16	+17.8				from Galitzins.
		eLR_Z	30.3	26					
		MNZ	32.6	17	75.0		46.5		
		ME	33 00	16		58.1			
		F	02 10						
355	" 23	$e(PP)_Z$	15 20 54	10					
		$i(SKS)_E$	26 18	12		+1.0			
		$i(SKKS)_E$	27 51	12		+1.5			
		$i(PS)_Z$	30 50	15			+2.0		
		$e(SS)_E$	38 07	18					
		eLR_Z	56.0	32					
		F	16 40						
356	" 24	$e(P)_Z$	02 46 32	9					
		iS_{NE}	50 49	12	+1.5	+1.0			
		$i(SS)_N$	51 32	9	+2.3				
		eLR_{EZ}	53.0	28					
		ME	54 03	20		1.1			
		MZ	54 38	20			1.4		
		MN	55 23	16	1.6				
		F	Merged in	No.357					
357	" 24	i_N	03 02 39	10	+2.0				Masked by No.356.
		eL_N	08.1	26					
		MNE	09.3	16	2.1	2.0			
		MZ	10 14	26			1.5		
		F	04 00						
358	" 24	eL_N	12 28.6	24					
		MZ	31 11	24			1.0		
		ME	31 27	24		0.8			
		F	13 00						
359	" 24	e_E	14 25 57	14					
		eL_N	28.4	22					
		MN	33 25	12	1.6				
		MEZ	35.0	16		1.9	1.5		
		F	15 15						
360	" 25	$e?_N$	13 57.7						A few waves masked by microseisms.
		e_E	14 00 35	8					
		F	14 10						

(Concluded on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm	mm	mm	km	
361	Sept.26	eL_{NEZ}	02 45.2	24					
		$MNEZ$	50.3	16	2.2	1.6	2.2		
		F	03 40						
362	" 26	e_N	13 15 12						
		i_E	15 13	8		+1.2			
		i_N	19 06	14	-1.2				
		eL_N	20.9	30					
		ME	24 14	16		4.3			
		MZ	25 30	16			3.7		
		MN	26 54	14	6.5				
		F	14 10						
363	" 27	$e(P)_Z$	14 29 47	6					
		$i(S)_{EZ}$	33 42	10		+1.8	-1.3		
		MN	37 04	13	1.0				
		MZ	37 12	16			0.8		
		F	14 50						
364	" 27	iPE_Z	22 09 18	6		-4.4	+7.4	2950	Compression to W.
		$iPPP_{NEZ}$	10 15	6	-1.9	+7.8	-3.0	(26°5)	H 22 03 42
		iS_E	13 48	10		-4.8			Normal depth.
		isS_N	14 03	7	+4.0				
		iE_Z	14 15	10		+9.7	+6.7		Provis. epicentre
		i_N	14 32	9	-5.0				(from Apia, Brisbane,
		i_E	14 41	9		-8.5			Riverview, Wellington)
		$iSSS_N$	15 20	18	+8.0				30°S.,178°W.
		eLR_Z	15.8	30					
		MN	17 12	16	16.0				
		ME	18 34	18		26.2			
		MZ	18 38	18			24.2		
		F	00 05						
365	" 26	$MNEZ$	09 38.5	13	1.0	1.2	1.0		Masked by micro-seisms.
		F	09 55						
366	" 26	$i(P)_Z$	10 54 50	6			+1.7		Compression.
		i_N	55 05	6	+1.5				Masked by large
		eE	11 01 22	10					microseisms.
		i_{NE}	02 07	8	+1.5	-1.6			
		eL_E	08.1	30					
		ME	14 28	18		3.5			
		MZ	18 54	18			2.8		
		MN	19 16	16	3.3				
		F	12 15						
367	" 29	eL_{EZ}	07 17.4	16					Small and masked
		F	07 25						by microseisms.
368	" 29	$e?_N$	09 26 29						
		i_{EZ}	26 46	6		+1.0	-1.8		
		eE_E	31 03	10					
		eL_N	33.5	20					
		MNE	37 52	14	2.2	1.9			
		MZ	38 05	16			1.7		
		F	10 25						
369	" 30	$e(P)_{NZ}$	07 22 42	10					
		$e(S)_N$	27 14	16					
		i_{NZ}	27 39	16	+3.8		-2.1		
		eL_{EZ}	30.9	24					
		ME	33 11	18		4.0			
		MNZ	33.5	18	4.8		4.5		
		F	08 35						
370	" 30	$e(P)_Z$	11 59 31	9					
		$i(S)_N$	12 04 02	14	+1.0				
		i_N	04 22	15	+2.2				
		eL_E	07.5	20					
		ME	09 31	16		2.1			
		MNZ	10.1	18	2.6		2.4		
		F	13 00						

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

Riverview College Observatory

RIVERVIEW. N.S.W

SEISMOLOGICAL BULLETIN

Φ = 33° 49′ 46″ S. λ = 151° 9′ 30″ E h = 25m. 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	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^3	V_s	
N	1	206	8.0	6.2	0.002	4	12.8	12.9	-0.02	470	
	3	147	9.4	7.5	0.029						
E	1	223	7.9	7.7	0.006	4	12.3	12.9	-0.09	440	Oct.9,1943
	3	136	9.6	5.5	0.013						
Z	2	55	5.2	9.2	0.066	4	11.9	11.8	-0.04	450	

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
			h. m. s.	s.				km.	
	N.B.	Unless stated otherwise readings are from the Galitzins. The amplitudes given are trace amplitudes only. Seismological Tables by H. Jeffreys & K.E Bullen have been used.							
			h m s						
	1943			s	mm.	mm.	mm.	km.	
371	Oct. 1	eZ	11 33 06						
		eL_Z	38.6	18					
		MEZ	41.3	16		0.8	0.8		
		F	12 05						
372	" 1	eZ	18 55.1						
		eL_Z	19 10.5	24					
		MN	14 15	20	0.5				
		MEZ	14 41	20		0.5	0.6		
		F	19 35						
373	" 1	eEZ	20 09.8						A few small waves.
		F	20 15						
374	" 2	eL_Z	05 28.6	16					A few waves.
		F	05 35						
375	" 3	e_N	13 03 34						
		eL_N	06.5	20					
		ME	08 46	14		0.8			
		F	13 20						
376	" 3	iPNEZ	19 00 50	5	+2.2	-1.3	+3.0	2100	Compression to NW.
		ipPNEZ	00 59	6	-5.0	+2.9	-4.3	(18?9)	H 18 56 30
		iS_N	04 16	14	+3.0				
		iS_E	04 21	16		+8.5			
		iSS_{NEZ}	04 36	16	+9.3	+13.8	+8.7		
		eL_Z	05.3	18					
		eL_N	05.8	20					
		ME	06 23	10		15.4			
		MNZ	06 50	10	10.2		14.0		
		F	20 50						
377	" 4	eL_{NE}	04 35.1	16					
		ME	36 54	10		2.0			
		MZ	37 12	10			0.9		
		F	05 00						
378	" 4	iPNEZ	10 44 55	4	-1.1	-1.2	+2.0	2845	Compression.
		iNEZ	45 00	8	+4.3	+4.7	-6.9	(25?6)	H 10 39 27
		iS_N	49 18	10	+5.3				Provis.epicentre
		iE	49 27	6		-7.5			(from Auckland,
		iN	49 34	10	+8.3				Brisbane, Riverview):
		iZ	49 38	15			+6.6		$13\frac{1}{2}$°S.,158°E.
		iN	50 14	11	+12.3				
		iE	50 17	11		-12.9			
		eL_E	51.2	18					
		MZ	52 33	18			7.3		
		MNE	53.6	13	17.2	13.0			
		F	12 40						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
379	Oct. 4	eL_N	13 39.2	20					
		MN	42 43	11	1.1				
		F	13 50						
380	" 4	$e(P)_Z$	14 09 04	8					
		eNE	13 29	8					
		MN	17 29	15	0.8				
		F	14 35						
381	" 4	eZ	16 17 22						
		iE	20 04	10		+1.0			
		MNZ	23.1	13	1.0		0.7		
		F	16 40						
382	" 5	e?N	11 35 36	5					
		eN	39 49	7					
		iE	41.12	7		+1.0			
		eL_Z	42.9	24					
		MZ	45 02	18			0.8		
		F	12 05						
383	" 6	MNE	00 03.1	12	1.0	1.1			
		F	00 20						
384	" 6	$i(P)_{NZ}$	09 01 26	6	-1.5		-1.5		Dilatation.
		$i(S)_E$	05 11	8		+2.1			
		$i(S)_N$	05 13	8	+0.8				
		iNE	05 27	12	+2.0	+3.5			
		eL_Z	06.0	24					
		ME	10 22	14		2.7			
		MN	10 36	12	2.8				
		F	10 00						
385	" 7	$iPNZ$	07 47 51	6	-2.0		-1.5	2735 (24°6)	Dilatation to S. H 07 42 32
		iPP_N	48 27	6	+1.0				
		iS_E	52 07	10		+1.0			
		iN	52 14	8	+1.0				
		iE	52 31	8		-1.6			
		$eL(Q)_Z$	53.3	24					
		eLR_N	53.7	22					
		MZ	55 30	15			2.3		
		MN	56 01	12	3.0				
		F	Lost in No.386.						
386	" 7	iP_Z	08 37 16	4			-1.5		Dilatation.
		iP_{NEZ}	37 17	5	+1.6	-1.2	+2.4		
		iE	40 53	14		-1.8			
		eLNZ	41.9	20					
		F	08 50						
387	" 7	iP_Z	10 49 12	?			-1.5	2890 (26°0)	Dilatation. H 10 43 41
		eS_N	53 39	14					
		iE	53 42	12		-1.5			
		iN	53 48	14	+2.2				
		$iSSS_N$	55 05	14	+2.0				
		eLR_Z	56.1	22					
		MN	56 47	20	2.4				
		MZ	57 06	22			1.5		
		F	11 30						
388	" 11	iE	06 32 43	4		+1.5			Obscured by heavy microseisms.
		ME	33 53	12		1.5			
		MN	34 01	14	2.0				
		F	06 40						
389	" 12	eN	12 27.6						Shallow waves.
		F	13 25						
390	" 13	eE	06 12.9						
		eL_E	16.5	24					
		ME	18 51	14		0.9			
		F	06 35						
(390	" 13	eE	05 34 57	12					
		eL_E	36.7	28					
		ME	43 31	20		0.5			
		F	06 00						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
392	Oct. 13	eL_E	13 32.1	20					
		MEZ	35.9	12		0.7	0.9		
		F	13 50						
393	" 13	eL_E	14 59.9	16					
		ME	15 01 11	14		0.8			
		F	15 20						
394	" 14	eL_N	06 29.3	20					
		MN	32 22	14	2.3				
		MEZ	33.5	14		0.9	1.0		
		F	06 45						
395	" 15	iP_N	20 48 36	10	-1.5			2445	
		eS_{NE}	52 32	12				(22°0)	
		eL_Z	54.6	26					
		MZ	55 55	22			1.6		
		ME	56 04	20		1.7			
		F	21 50						
396	" 16	iN	00 34 40	8	+1.3				
		$i(S)_{NE}$	38 40	10	+1.6	-1.0			
		SS?E	40 26	16		2.5			
		eL_N	42.9	24					
		ME_1	44 45	14		12.1			
		MZ_1	45 00	18			5.7		
		MN	45 20	18	8.0				
		ME_2	46 13	11		17.3			
		MZ_2	47 26	12			7.8		
		F	02 00						
397	" 17	eL_{NZ}	13 00.3	20					
		F	13 10						
398	" 17	iP_Z	22 42 47	6			-2.0	3310	Dilatation.
		iP_N	42 49	6	-1.0			(29°8)	H 22 36 41
		$i(PP)_Z$	43 29	10			+2.7		NS & EW readings
		iS_N	47 40	8	-2.0				from the Wiechert.
		iZ	47 45	10			-6.7		
		eL_Z	51.0	20					
		ME_1	52 00	13		1.5			
		MZ_1	53 07	15			6.3		
		MN_1	54 40	12	2.4				
		MN_2	58 42	11	3.6				
		MZ_2	58 51	12			12.3		
		F	00 20						
399	" 18	eE	23 21.4						
		MZ	27 20	12			0.5		
		F	23 40						
400	" 19	eE	01 32.9						
		F	01 40						
401	" 19	eL_{NZ}	01 53.5	20					
		F	02 05						
402	" 19	eL_{NE}	02 43.2	20					
		F	03 00						
403	" 19	eL_E	04 50.4	24					
		F	05 15						
404	" 19	eL_{NEZ}	08 05.0	20					
		F	08 20						
405	" 19	eL_{NE}	13 30.3	22					
		F	13 50						
406	" 20	eZ	00 04 02	6					
		iE	08 19	7		+1.3			
		iN	08 23	7	+1.3				
		eL_N	09.4	20					
		MZ	10 39	20			0.9		
		MNE	10 43	18	0.9	0.9			
		F	01 05						
407	" 20	eL_N	12 59.7	20					
		MZ	13 01 17	18			1.5		
		F	13 20						

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1943, October.

RIVERVIEW COLLEGE OBSERVATORY,

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude A_N mm.	A_E mm.	A_Z mm.	Δ km.	Remarks
	1943								
408	Oct. 21	e_{NE}	00 17.2						Shallow waves.
		F	00 55						
409	" 21	e_E	01 06.8						" "
		F	01 50						
410	" 21	e_{NE}	02 14.0						" "
		F	02 55						
411	" 21	e_E	03 13.7						" "
		F	03 50						
412	" 21	e_E	04 17.2						" "
		F	05 00						
413	" 21	e_E	05 07.9						" "
		F	06 00						
414	" 21	e_N	16 54.2						
		ME	57.1	13		0.4			
		F	17 00						
415	" 21	iP_Z	23 15 00	4			+1.6	3880	Compression.
		iP_E	15 03	4		+2.7		(34°9)	H 23 08 10
		ipP_{NEZ}	15 10	4	+1.5	+1.9	-3.6		Provis. epicentre
		iPP_{EZ}	16 24	10		-4.8	+5.0		(from Brisbane,
		$iPPP_Z$	16 35	12			+4.8		Riverview & Well-
		iS_E	20 28	12		-6.7			ington):
		iS_N	20 29	10	-3.7				13°S., 178°W.
		isS_Z	20 38	12			+6.7		
		sS_{NE}	20 38	13	6.3	15.0			
		iSS_N	22 50	12	+3.6				
		$iSSS_Z$	23 10	12			+3.2		
		eLR_Z	24.3	30					
		ME	26 15	.9		25.2			
		MZ	26 27	19			22.1		
		MN	28 05	13	10.9				
		eW_2N	01 59.0	24					
		MEZ	02 03.1	20		0.8	0.6		
		F	02 45						
416	" 22	eL_N	15 02.8	20					
		MN	04 51	13	0.7				
		F	15 20						
417	" 22	e_Z	16 11 53						
		$e(S)_{NE}$	20 29	10					
		$e(PS)_{NE}$	20 49	10					
		$e(SS)_N$	25 01	18					
		eL_E	32.3	24					
		ME	36 07	20					
		MNZ	38.5	20	1.5		1.3		
		F	17 20						
418	" 23	iP_{NEZ}	17 35 37	5	-1.8	+2.3	+5.5	8955	Compression to SE.
		i_{EZ}	36 00	8		+4.0	+8.7	(80°6)	H 17 23 26
		iS_N	45 40	8	-5.5				
		iS_E	45 41	8		+7.3			
		$i(PS)_{NE}$	46 14	12	-8.5	-12.3			
		e_E	51 17	34					
		e_N	52 12	34					
		e_{NE}	55.2	30					
		eL_E	59.7	52					
		eL_N	59.8	48					
		MN	18 05 08	30	12.6				
		MZ	06 15	32			10.8		
		ME	07 00	34		11.8			
		eW_2E	19 48.6	26					
		F	20 30						
419	" 24	eL_E	14 22.4	20					Masked by micro-
		MZ	25 17	20			1.5		seisms.
		F	14 50						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm.	km.	
420	Oct.24	iP_{EZ}	16 11 12	10		-3.3	+4.8	3555	Compression to W.
		iE	12 32	6		+3.0		(32°0)	H 16 04 47
		iZ	12 34	6			+3.0		
		iS_N	16 20	9	+7.3				Provis. epicentre
		iS_E	16 24	9		-17.0			(from Apia, Auck-
		i_N	18 45	20	+15.8				land & Riverview):
		eLR_E	20.3	26					21°S, 176°W.
		ME_1	21 50	20		19.0			
		MZ_1	22 06	20			19.0		
		MN	23 38	14	32.0				
		ME_2	24 37	16	33.1	33.1			
		MZ_2	24 50	16			36.0		
		eW_2Z	19 04.5	20					
		F	19 30						
421	" 25	$e?_E$	13 14.8						Masked by micro-
		i_{NE}	17 27	8	+1.4	+1.5			seisms.
		$e(L)_E$	25.2	16					
		MZ	28 31	14			0.7		
		F	13 40						
422	" 25	iP_{NE}	20 42 52	5	-1.1	+1.3		2200	H 20 38 22
		iPZ	42 53	5			-1.4	(19°8)	
		iPPZ	43 09	7			+1.8		
		iS_E	46 28	10		+1.4			
		iNE	46 42	10	+1.8	+2.3			
		iSS_E	46 55	10		-2.6			
		eLRZ	47.5	14					
		ME	48 43	10		3.2			
		F	21 45						
423	" 25	eE	23 19.1						
		ME	57 23	20		1.1			
		F	01 05						
424	" 26	eNE	05 04.3						
		$e(L)_N$	32.4	34?					
		F	06 20						
425	" 26	eN	06 48.4						
		MN	50 36	12	1.0				
		F	07 10						
426	" 27	iE	06 41 10	10		+2.5			
		eLEZ	47.3	28					
		MEZ	49 05	20		2.2	2.0		
		MN	49 43	18	1.3				
		F	07 45						
427	" 27	eLZ	13 10.0	24					
		ME	11 28	12		1.5			
		MZ	11 41	20			1.5		
		MN	12 09	18	1.0				
		F	13 25						
428	" 27	e_E	14 06.6	12					
		ME	09 59	14		1.5			
		MZ	10 15	16			1.3		
		MN	10 37	18	1.2				
		F	14 20						
429	" 27	eLE	16 43.4	28					
		ME	45 33	20		1.4			
		MZ	45 43	24			1.3		
		MN	45 49	24	1.4				
		F	17 10						
430	" 29	e_N	00 35.2						
		eLEZ	37.5	18					
		F	01 00						
431	" 30	e?N	01 06.5						
		eLEZ	19.2	26					
		F	01 45						
	" 30		10h 59m to	13h 15m	Irregular waves, perhaps non-seismic.				

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

Riverview College Observatory

RIVERVIEW. N.S.W

SEISMOLOGICAL BULLETIN

$\Phi = 33° 49' 46''$ S. $\lambda = 151° 9' 30''$ E h = 25m. 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	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	213	8.0	6.6	0.003	4	12.8	12.9	-0.02	470
	3	147	9.5	9.0	0.022					
E	1	223	8.2	8.4	0.010	4	12.3	12.9	-0.09	440
	3	141	9.6	5.6	0.012					
Z	2	54	5.2	8.2	0.070	4	11.9	11.8	-0.04	450

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
			h. m. s.	s.				km.	
	N.B.	Unless stated otherwise readings are from the Galitzins. The amplitudes given are trace amplitudes only. Seismological Tables by H.Jeffreys & K.E.Bullen (British Association 1940) have been used.							
	1943		h m s	s	mm.	mm.	mm.	km.	
432	Nov. 1	$i(S)_{NE}$	10 15 23	12	-1.0	-1.4			
		eLEZ	17.3	22					
		MN	20 28	14	1.5				
		F	10 40						
433	" 2	iPZ	18 21 26	10			-1.7	9720	Dilatation.
		iPN	21 29	10	+1.0			(87°5)	H 18 08 40
		iZ	21 51	12			+4.0		
		i_N	21 53	12	+2.5				
		iPP_N	24 55	10	+1.5				
		iS_N	32 03	12	+5.3				
		iSE	32 05	12		-2.5			
		i_E	32 14	12		-9.5			
		i_N	32 18	12	+6.0				
		$iPPS_N$	33 30	12	+5.0				
		iSS_N	38 02	16	+3.0				
		i_E	38 17	14		+4.7			
		i_E	44 50	16		-4.5			
		eLR_N	51.2	38					
		ME	58 44	18		8.5			
		MNZ	19 00.3	18	18.5		17.8		
		F	22 00						
434	" 3	e_Z	14 49 55	8					Microseisms present.
		i_Z	56 03	12			+1.5		
		$iSKS_N$	57 18	6	+0.5				NS readings from
		i_E	57 26	8		+1.5			the Wiechert.
		$ePPS_N$	15 01 09	15					
		eLQE	16.0	34					
		eLRZ	21.6	28					
		ME	23 47	22		8.1			
		MZ_1	23 56	26			8.0		
		MN	26 33	23	1.9				
		MZ_2	26 48	22			13.5		
		F	18 50						
435	" 4	iPZ	06 58 45	6			-1.4	9910	Dilatation.
		iS_{NE}	07 09 50	10		+1.5		(89°2)	H 06 45 51
		eSSE	15 35	14					NS readings from
		$i(LQ)_E$	22 31	16		+1.0			the Wiechert.
		eLR_E	28.3	24					
		ME	36 37	20		2.1			
		MN	36 44	18	0.4				
		MZ	37 09	18			3.3		
		F	09 15						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks.
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm.	km.	
436	Nov. 5	e	19 10.1						Small waves masked by microseisms.
		F	19 30						
437	" 6	iP_Z	06 27 48	8			+2.0	3055	Compression.
		iE	28 58	6		+1.9		(27°5)	
		iS_N	32 25	9	+2.2				
		iSS_N	33 41	12	+2.7				
		eLR_E	35.4	22					
		MZ	37 05	18			3.5		
		MN	38 13	12	8.5				
		F	07 40						
438	" 6	iP_{NEZ}	08 38 08	8	+5.8	-3.0	-9.0	3645?	Dilatation
		ipP_{NEZ}	38 20	8	-4.3	+2.7	+0.8	(32°8)?	After iP all readings are from the Wiecherts.
		iZ	38 49	4			+2.0		
		i_{NE}	38 56	7	+9.4	-7.5			
		iNE	40 18	5	-6.7	+8.5			NS & EW Wiechert & Mainka indecipherable after 08h 47m.
		iN	43 15	5	-7.7				
		$i(S)_E$	43 22	6		+5.2			
		$i(sS)_N$	43 44	12	+19.2				
		iE	43 47	8		-23.6			
		iE	44 00	27		-27.0			Irregular long period waves until 08h 46m.
		iN	44 04	21	+36.8				
		iZ	44 18	18			+3.0		
		MZ	48 54	5			38.1		Amplitude of surface waves on Wiechert N & E 10.5 cm.
		F	13 20						
439	" 7	eNZ	00 29.5	8					Masked by microseisms.
		iN	31 09	6	+1.3				
		MNZ	34.7	14	1.5		1.1		
		F	00 45						
440	" 7	eN	06 46 26						Masked by microseisms.
		iN	46 30	5	+2.0				
		MN	51 04	13	0.9				
		F	07 00						
441	" 7	eL_E	08 56.4	28					Masked by microseisms.
		MN	09 01.8	18	0.7				
		ME	02 56	20		1.0			
		MZ	03 05	20			0.8		
		F	09 35						
442	" 8	$i?_Z$	06 23 42	5			+1.0		Masked by microseisms.
		eN	28 13	10					
		MZ	33 33	22			1.5		
		MN	33 40	22	1.5				
		ME	33 45	14		1.5			
		F	07 00						
443	" 8	$i(P)_{NZ}$	22 35 16	10	+1.6		+1.4		Masked by microseisms.
		iZ	36 05	6			+2.4		
		iS_N	39 42	10	+2.4				
		i_{NE}	39 59	10	+2.3	+2.2			
		eL_E	42,7	30					
		ME	45 12	18		5.7			
		MN	47 21	14	3.1				
		MZ	47 50	14			4.1		
		F	23 25						
444	" 9	iZ	08 08 10	5			+2.0		Masked by microseisms.
		iE	08 15	8		+3.0			
		iN	08 28	8	-2.0				
		MEZ	11 18	14		2.8	2.8		
		MN	11 21	14	2.8				
		F	08 30						
445	" 9	iZ	11 58 29	4			+1.7		A few small waves masked by micros.
		F	12 05						
446	" 9	eL_{NEZ}	22 36,9	20					
		F	22 50						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
447	Nov. 9	e_N	22 59.3	∅∅					
		eL_Z	23 03.5	30					
		MN	05 51	20	2.0				
		MZ	06 05	20			2.0		
		ME	07 05	16		3.0			
		F	23 30						
448	" 11	i_N	01 01 03	6	-1.9				
		i_E	07 01	6		+1.8			
		i_N	07 02	6	+2.1				
		eL_Z	08.9	16					
		F	01 15						
449	" 11	i_Z	03 32 08	5			+2.2		
		i_{NE}	33 17	13	-2.5	+4.0			
		MNE	36 05	15	3.0	3.0			
		MZ	36 09	15			2.9		
		F	03 50						
450	" 11	$e(P)_Z$	04 51 08	6					
		$e(S)_{NE}$	55 39	9					
		eL_Z	58.3	20					
		MN	05 01 28	13	1.2				
		F	05 20						
451	" 11	eL_N	10 02.2	16					
		MNZ	07.9	14	0.7		0.8		
		F	10 30						
452	" 11	e_E	17 34 21	13					
		e_N	34 25	13					
		MNEZ	39.7	12	1.8	1.8	0.7		
		F	17 50						
453	" 12	eL_N	02 06.2	16					
		ME	08 28	14		0.8			
		F	02 25						
454	" 12	e_Z	02 33 11						
		e_N	33 19	13					
		eL_E	37.0	26					
		MNEZ	41 39	14	3.1	3.1	2.3		
		F	03 20						
455	" 12	iP_{NZ}	07 23 02	6	+1.3		-1.3		Dilatation from N.
		e_N	26 41	9					
		i_N	27 58	14	+2.2				
		e_E	28 31	16					
		i_E	28 58	6		+2.2			
		i_E	29 51	6		-2.0			
		MN	35 28	16	1.6				
		MZ	35 44	14			1.8		
		F	08 05						
456	" 12	i_Z	15 54 16	5			+1.0		A few small waves.
		F	16 00						
457	" 12	e_{NE}	20 57.9						A few small waves.
		F	21 05						
458	" 13	e?Z	06 11.5						
		MNZ	17.4	14	0.4		0.5		
		F	06 25						
459	" 13	iP_Z	10 56 37	4			+1.2	5500	Compression.
		ipP_Z	56 48	4			+1.8	(49°5)	
		ePP_Z	58 29	10					
		iS_N	11 03 41	12	-1.5				
		$i(SS)_N$	07 16	14	+2.1				
		eL_E	14.2	24					
		MNZ	22.4	1.3		1.3			
		F	11 50						
460	" 13	e_N	15 34 33	10					
		eL_Z	43.6	28					
		F	16 05						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks.
	1943		h m s	s	mm.	mm.	mm.	km.	
461	Nov.13	$i(P)_Z$	16 53 23	9			+1.0		
		$e(S)_N$	17 01 18	11	1.0				
		iE	01 40	15		-2.5			
		wNE	08 00	20					
		eL_E	10.1	30					
		eL_{NZ}	10.2	30					
		F	18 10						
462	" 13	iP_{NEZ}	18 48 51	5	+1.7	+2.4	-3.6	2665	Dilatation.
		i_{NEZ}	49 03	8	-12.0	-21.5	+27.5	(24°0)	h 0.01 ca.
		iNE	49 19	10	+10.6	+15.2			Provisional epicentre
		iE	50 27	8		+19.3			(from Brisbane,
		iZ	51 40	6			-11.2		Riverview, Wellington)
		iS_N	52 58	10	+17.4				17°S., 170°E.
		iS_E	52 59	10		+21.0			
		iZ	53 02	10			+11.2		
		$i(sS)_E$	53 39	8		-25.3			
		iSS_N	54 01	8	-14.5				
		$e(L)_Z$	54.3	20					
		iE	54 51	8		-15.0			
		eLR_E	55.0	22					
		MZ	55 18	20			29.5		
		MN	58 10	12	41.5				
		F	21 15						
463	" 14	e_N	00 31.5	10					
		eL_E	35.3	24					
		F	01 00						
464	" 14	iP_Z	03 56 58	5			-1.0	2245	Dilatation.
		i_{NZ}	57 00	5	-1.0		+1.5	(20°2)	H 03 52 23
		iZ	57 13	5			+2.0		
		iS_N	04 00 37	6	-1.5				
		i_E	00 42	10		+1.0			
		i_{NE}	01 16	6	+1.3	-1.0			
		i_N	01 48	10	+1.5				
		eL_N	02.0	15					
		F	04 40						
465	" 14	eL_Z	17 28.2	18					
		F	17 35						
466	" 14	iP_Z	23 55 50	3			+1.5		Compression.
		iZ	56 03	4			+1.3		
		iS_E	00 01 31	5		+2.5			Deep focus?
		iZ	01 34	5			+1.5		
		iN	01 36	4	+1.4				
		iE	04 51	7		+1.3			
		eL_N	10.2	16					
		F	00 50						
467	" 15	$e?_N$	15 45 05						
		$i(S)_Z$	49 56	6			+2.3		
		iNE	50 27	5	+2.6	+3.0			
		iNE	51 25	9	+4.8	+4.2			
		MZ	53 50	8			6.2		
		ME	54 16	8		8.1			
		MN	54 30	8	7.1				
		F	16 50						
468	" 15	iP_{NEZ}	20 58 42	7	+0.8	+1.0	-1.3		Dilatation.
		i_N	21 03 42	8	+2.8				
		eL_Z	05.6	20					
		F	21 50						
469	" 16	e_N	09 39.9						
		eL_{NZ}	43.3	22					
		F	10 05						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude A_N mm.	A_E mm.	A_Z mm.	Δ km.	Remarks.
	1943								
470	Nov.16	eZ	11 57 24	7					
		eNE	12 07 04	12					
		eL_N	30.6	30					
		MZ	33 22	20			1.5		
		MN	33 36	20	1.0				
		ME	33 46	20		1.0			
		F	13 35						
471	" 16	e_N	16 56 24						
		eL_E	59.2	28					
		MN	17 02 00	15	1.4				
		ME	02 46	15		3.5			
		MZ	03 24	15			1.7		
		F	17 35						
472	" 17	iP_Z	15 07 46	4			+1.8		Compression.
		iS_E	16 14	8		+2.4			
		iNE	17 16	9	+1.0	+1.5			Deep focus?
		ME	25 22	15		0.7			
		F	15 50						
473	" 17	eNE	20 01.0						
		eL_N	03.0	20					
		MEZ	05.2	16		0.6	0.5		
		MN	05.5	18	0.7				
		F	20 20						
474	" 18	$i(S)_N$	18 46 54	10	+4.5				Masked by very heavy microseisms.
		$i(S)_E$	46 56	10		+4.2			
		eL_{NE}	49.3	24					
		MN	50 37	16	3.5				
		MZ	51 04	16			3.5		
		ME	52 02	16		3.8			
		F	19 10						
475	" 19	eN	23 57.9						
		eL_N	00 00.7	16					masked by heavy microseisms.
		F	00 20						
476	" 20	eL_N	07 26.2	16					
		MN	28 32	12	2.6				Masked by heavy microseisms.
		MEZ	29.0	14		2.1	2.0		
		F	07 45						
477	" 20	eZ	19 44.9	22					Masked by heavy microseisms.
		ME	52 27	16		2.2			
		MZ	52 55	16			2.5		
		F	20 15						
478	" 22	eE	19 06.2						
		eL_E	10.6	24					
		MN	15 33	16	1.0				
		MZ	15 45	18			1.0		
		ME	16 23	16		1.1			
		F	19 30						
479	" 23	eLN	11 20.8	15					
		F	11 30						
480	" 23	eL_E	22 26.0	20					
		MZ	28 53	16			0.5		
		ME	30 09	14		0.8			
		F	22 40						
481	" 24	iP_{NEZ}	06 51 04	5					
				18	+1.1	-0.9	+1.2	1865	Compression.
		$i(pP)_Z$	51 13	4			-1.4	(16?8)	h about 0.01
		iS_{NE}	54 06	14	+3.5	+4.5			H 06 47 14
		$i(sS)_Z$	54 22	12			-2.1		Provisional epi-
		iNE	54 24	14	+12.1	+17.0			centre (from Bris-
		ME	56 58	11		8.7			bane, Riverview):
		MZ	57 24	11			5.7		Region of 50°S.,
		F	08 25						145°E.

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks.
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm.	km.	
482	Nov.24	iP_Z	13 27 43	4			+1.5	7035	Compression.
		$i(PcP)_Z$	28 18	8			+2.0	(63°3)	H 13 17 15
		iS_E	36 11	18		+2.5			
		iS_N	36 14	14	+3.8				
		i_E	37 40	14		+2.1			
		eLR_E	46.3	22					
		MN	53 15	18	4.8				
		ME	53 21	14		5.0			
		MZ	54 29	18			5.0		
		F	16 20						
483	" 25	eL_{NE}	07 08.8	16					
		F	07 15						
484	" 26	eL_E	11 11.9	14					Small waves.
		F	11 20						
485	" 26	$e(P)_Z$	15 21 49	8					
		eL_E	36.9	20					
		MNZ	41.2	16	1.5		1.5		
		ME	41 23	16		1.5			
		F	16 00						
486	" 26	iP_Z	21 35 01	3			+1.1	6465	Compression.
		$i(pP)_{EZ}$	35 44	6		+1.6	+3.1	(58°2)	h 0.02
		i_E	38 58	11		+1.4			H 21 25 22
		mEZ	39 13	11		1.8	2.1		Provisional epi-
		iS_{NE}	42 48	7	+3.0	+3.2			centre (from Bris-
		i_E	43 21	7		+2.0			bane, Christchurch
		i_N	43 37	8	-2.5				& Riverview):
		isS_E	43 55	6		+1.6			1½°N.,102°E.
		$iScS_{NE}$	44 37	6	+3.4	+1.9			
		i_E	45 34	7		+3.1			
		i_N	45 36	7	+3.0				
		MN	54 14	16	10.7				
		F	Merged in	No.	487				
487	" 26	$iPKP_Z$	22 40 12	4			+1.5		Compression.
		i_{NEZ}	43 29	10	-2.8	+4.0	+5.3		
		iZ	44 40	10			+6.0		
		iZ	45 53	8			+7.0		
		i_E	46 38	10		+3.5			
		i_E	47 21	10		+3.9			
		i_E	49 09	12		-5.3			
		i_E	50 30	15		-4.6			
		i_E	54 24	14		-6.6			
		i_N	55 19	20	+4.3				
		i_E	57 01	16		-4.5			
		iSS_E	59 12	16		-6.5			
		i_E	59 49	15		-7.6			
		i_N	59 54	24	+6.0				
		i_E	23 00 23	18		-10.5			
		LQ_{NE}	14.8	58					
		LR_{NE}	20.8	48					
		LR_Z	21.5	52					
		MN_1	27 24	30	58.0				
		MZ	31 28	28			65		
		MN_2	32 04	24	79.0				
		ME_1	32 14	30		52.5			
		ME_2	36 40	20		98.5			
		F	03 35						
488	" 27	$e(L)_Z$	09 15.3						
		eL_{NE}	18.0	20					
		F	10 00						
489	" 27	eL_E	20 03.2	20					
		ME	05 56	16		0.5			
		MNZ	06.1	16	0.9		0.9		
		F	20 20						

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RIVERVIEW COLLEGE OBSERVATORY,

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
490	Nov.28	iP_Z	06 28 55	4			+2.8	5335	Compression,
		$i(pP)_Z$	29 07	5			-2.4	(48°0)	H 06 20 17
		i_{NZ}	30 59	6	+1.6		-2.8		
		iS_{NE}	35 50	8	-2.5	-1.0			
		i_E	36 05	10		+2.5			
		iSS_E	39 19	10		+3.0			
		i_{NZ}	39 29	14	+5.0		+1.5		
		eLR_N	43.7	24					
		MZ	51 03	18			3.0		
		F	08 00						
491	" 28	e_N	17 35.0						
		$e(LQ)_E$	49.4	30					
		eLR_{NZ}	52.8	30					
		F	19 00						
492	" 28	$i(P)_Z$	21 49 22	6			-2.5		Dilatation.
		iS_{EZ}	53 53	10		+1.2	+2.4		
		iS_N	53 55	10	-3.5				
		MN	56 53	13	2.3				
		F	22 25						
493	" 28	i_N	23 23 41	5	-1.9	[illegible]			
		$i(S)_N$	27 27	10	-1.5				
		ME	34 07	13		1.9			
		MNZ	36 09	14	1.6		1.7		
		F	00 00						
494	" 29	eL_N	22 20.1	14					
		F	22 30						
495	" 29	eL_Z	22 52.4	18					
		MZ	54 14	14			0.5		
		F	23 10						

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

Riverview College Observatory

RIVERVIEW. N.S.W

SEISMOLOGICAL BULLETIN

$\Phi = 33° 49' 46''$ S. $\lambda = 151° 9' 30''$ E h = 25m. 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	$\varepsilon : 1$	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	204	7.9	5.9	0.003	4	12.8	12.9	-0.02	470
	3	143	9.4	7.6	0.026					
E	1	224	8.1	8.7	0.008	4	12.3	12.9	-0.09	440
	3	137	9.6	5.0	0.014					
Z	2	61	5.1	6.7	0.035	4	11.9	11.8	-0.04	450

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	N.B.	Unless stated otherwise readings are from the Galitzins. The amplitudes given are trace amplitudes only. Seismological Tables by H.Jeffreys & K.E.Bullem (British Association 1940) have been used.	h. m. s.	s.				km.	
	1943		h m s	s	mm.	mm.	mm.	km.	
496	Dec. 1	iP$_{NZ}$	06 10 59	5	+5.5		-7.5	3290	Dilatation.
		iPP$_{NEZ}$	11 59	5	+8.7	-2.5	-11.3	(29°6)	H 06 04 55
		iS$_{NE}$	15 51	9	-15.0	+16.4			Provisional epicentre
		iN	17 16	14	#20.5				(from Brisbane,
		ISS$_{NEZ}$	17 20	14	-40.5	+16.5	+11.3		Christchurch, River-
		ME	23 14	12		52.5			view): 4½°S., 145°E.
		MZ	24 32	12			50±		
		MN	24 44	12	65±				
		F	09 10						
497	" 1	iPP$_{NZ}$	10 54 13	5	+1.7		+2.8	115°±	
		iSKS$_E$	59 52	8		+1.6			
		iSKS$_N$	59 58	8	+2.0				
		iN	11 00 45	11	+3.9				
		iPS$_Z$	03 47	18			+5.9		
		iPS$_{NE}$	03 54	18	+3.1	-4.6			
		eSS$_N$	09 44	26					
		iSSS$_N$	14 09	20	+3.5				
		eLQ$_N$	21.9	32					
		eLR$_{NZ}$	27.4	32					
		MZ	35 38	16			1.5		
		F	13 20						
498	" 2	iPE$_Z$	01 59 40	10		-1.5	+2.5	3010	Compression.
		iE$_Z$	59 45	10		+5.0	-6.5	(27°1)	H 01 53 58
		iE	02 00 34	12		+4.6			
		iE	02 36	16		+2.8			Provisional epicentre
		iS$_E$	04 14	15		+5.8			(from Auckland, Mel-
		iZ	04 33	13			+6.0		bourne, Riverview):
		iSS$_N$	05 24	14	+5.7				31°S., 176½°W.
		eLR$_E$	06.4	30					
		iME$_Z$	06 49	24		+11.0	-15.0		
		MN	08 12	18	13.2				
		MZ	08 52	18			22.0		
		ME	08 58	18		20.3			
		F	03 50						
499	" 2	iP$_{NZ}$	05 19 27	10	+1.0		-2.0	7065	Dilatation to N.
		iS$_{NE}$	27 57	14	+2.8	-1.9		(63°6)	H 05 08 58
		iN	28 30	14	+2.0				
		eLR$_N$	38.2	20					
		ME	44 06	18		4.0			
		MN	44 43	22	3.5				
		MZ	45 02	20			3.3		
		F	07 40						

(Continued on next sheet)

RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks.
	1943		h m s	s	mm.	mm.	mm.	km.	
500	Dec. 3	iP$_{NZ}$	04 44 32	4	-1.0		+2.0	3645	Compression.
		ipP$_{NZE}$	44 43	4	+7.0	+2.0	-12.3	(32°8)	H 04 38 00
		iPP$_Z$	45 40	6			+3.7		Provisional epicentre (from Apia, Auckland & Riverview
		iPP$_N$	45 42	6	+4.0				3½°S.,137°E.
		iS$_{NE}$	49 46	10	+9.5	+8.1			
		eLR$_E$	53.5	30					
		MNE	56.9	13	67.0	91			
		MZ	58 26	18			53.0		
		F	Merged in No.501.						
501	" 3	eL$_N$	06 20.6	20					
		MZ	22 06	16			2.5		
		MN	22 48	18	2.5				
		ME	23 18	16		2.8			
		F	Merged in No.502.						
502	" 3	eL$_E$	06 58.4	16					
		iN	07n00 05	10	+1.5				
		ME	00 08	14		1.5			
		F	Merged in No.503.						
503	" 3	iZ	07 04 33	4			-1.5		
		eL$_Z$	25.2	25					
		MN	29 40	20	1.1				
		MZ	30 30	25			1.0		
		ME	30 38	20		0.7			
		F	08 30						
504	" 3	eL$_E$	14 37.8	20					
		MNZ	41.0	20	0.9		0.7		
		ME	41.2	20		0.8			
		F	14 55						
505	" 4	eL$_E$	15 48.0	16					
		ME	51 15	14		0.6			
		F	16 00						
506	" 5	eN	16 52.2						
		MN	57.7	12	0.9				
		F	17 05						
507	" 5	eL$_N$	22 50.0	15					
		MN	52.5	12	1.1				
		F	23 00						
508	" 9	eL$_{NE}$	15 45.5	20					
		ME	47.9	11		4.0			
		MN	49 32	11	4.0				
		MZ	49 57	12			4.0		
		F	16 15						
509	" 11	eL$_{NE}$	20 00.9	24					
		MNE	03.4	14	1.0	1.0			
		MZ	03 39	18			0.7		
		F	20 15						
510	" 12	eL$_{NZ}$	05 33.0	16					
		F	05 40						
511	" 12	eL$_{NZ}$	16 52.4	20					
		F	17 00						
512	" 13	ePNEZ	16 02 10	6				5355	H 15 53 31
		iNEZ	03 03	6	-1.5	+0.8	+2.2	(48°2)	
		iS$_N$	09 06	12	-1.3				
		eLR$_N$	17.9	24					
		ME	23 17	18		4.3			
		MZ	23 37	18			2.4		
		MN	25 45	16	4.0				
		F	18 05						
513	" 14	eLNEZ	16 47.0						
		F	17 15						
514	" 14	iN	19 57 48	4	+0.7				
		iE	57 49	4		-1.5			
		eL$_N$	20 00.7	14					
		F	20 15						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm.	km.	
515	Dec.17	$i(S)_N$	14 13 23	6	-1.1				Early phases obscured by microseisms.
		i_E	14 39	8		+1.6			
		eL_Z	26.2	24					
		ME	31 19	22		1.1			
		MNZ	31.7	18	1.5		1.2		
		F	15 00						
516	" 18	e_Z	13 29.6						
		eL_E	35.0	20					
		MZ	40 44	18			0.5		
517	" 18	$i(P)_Z$	19 18 53	8			+1.0		Compression.
		$i(PP)_E$	19 33	8		+1.1			
		eL_{NEZ}	26.0	20					NS readings from the Wiechert.
		ME	27 56	18		1.3			
		MZ	28 07	18			1.3		
		F	20 05						
518	" 20	eL_{EZ}	10 32.8	16					
		F	10 45						
519	" 20	i_Z	13 30 07	4			+1.0		
		i_N	34 16	6	-1.1				
		MZ	37 40	16			0.9		
		F	13 45						
520	" 20	$i(P)_E$	22 49 03	4		+1.0			Similar to No.102, March 14, 08h.
		$i(S)_E$	52 21	14		+1.0			
		$i(SS)_E$	52 34	16		+1.6			
		MN	55 36	10	1.3				
		F	23 10						
521	" 20	$e(P)_N$	23 44 42						
		$i(S)_E$	48 21	14		+1.5			Similar to No.520.
		i_N	48 30	8	+1.3				
		$i(SS)_E$	48 32	16		+2.6			
		MNEZ	51.7	10	1.8	1.7	1.3		
		F	00 20						
522	" 21	i_E	00 45 26	14		+1.2			
		F	01 10						
523	" 21	eEZ	14 09.3						
		eL_Z	53.3	20					
		MEZ	59.5	20		0.5	0.8		
		F	16 10						
524	" 22	$i(S)_E$	10 18 15	6		-1.0			
		eL_N	21.1	18					
		MNE	22.4	14	2.7	1.6			
		F	10 50						
525	" 22	e_Z	13 14.9						
		eL_Z	58.6	30					
		MZ	14 02 57	22			0.8		
		MN	07 54	20	0.7				
		F	15 25						
526	" 23	iPZ	19 06 04	4			+1.5	3210	Compression
		iPNZ	06 07	4&13	-7.5		+9.5	(28°9)	H 19 00 06
		iPPPZ	07 15	4			-1.2		Provisional epicentre (from Brisbane, Perth, Riverview & Wellington): 5°S.,155°E.
		iS_N	10 51	14	-12.7				
		isS_E	11 08	21		-11.4			
		i_Z	11 16	22			-1.4		
		m_N	11 23	21	43.0				Irregular long waves begin (LQ?).
		eNE	11.5	28					
		$eL(R)_N$	12.9	28					
		MN_1	15 29	24	>60				
		MZ_1	15 34	22			4.9		Readings are from the Wiecherts after 19h 06m 07s.
		ME_1	15 41	18		53ca			
		MZ_2	17 39	18			4.5		
		ME_2	17 57	16		59ca			
		MN_2	18 13	16	>75				
		$e(W2)_N$	21 41.4	30					
		F	23 20						

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1943		h m s	s	mm.	mm.	mm.	km.	
527	Dec.24	MN	01 06 12	15	1.2				A few small waves.
		F	01 15						
528	" 24	iP_{NZ}	01 54 03	1.0	-3.5		+5.0	2935	Compression to S.
		iS_N	58 32	1.0	-9.0			(26°4)	H 01 48 28
		i_{NEZ}	58 58	14	+31.2	+11.3	-14.3		
		iSS_E	59 45	13		-8.4			
		eLR_E	02 00.8	26					
		ME	03 24	15		17.8			
		MN_1	03 50	18	16.3				
		MZ_1	04 20	18			15.3		
		MN_2	06 42	15	34.7				
		MZ_2	07 26	15			31.0		
		F	03 45						
529	" 24	iP_Z	05 03 44	5			-1.5		
		iS_N	08 19	10	-2.5				
		i_{NEZ}	08 46	12	+6.4	+2.3	-2.6		
		eL_N	12.1	24					
		ME	13 07	15		6.3			
		MN	15 25	16	8.8				
		MZ	15 52	16			7.8		
		F	Merged in	No.530					
530	" 24	$i(S)_N$	06 07 16	12	+2.0				
		i_N	07 39	12	+3.0				
		eL_{NZ}	11.4	24					
		MN	15 08	16	3.0				
		MZ	15 20	15			3.0		
		F	06 40						
531	" 24	eL_N	11 37.3						
		F	Merged in	No.532.					
532	" 24	iP_{NZ}	11 50 35	10	-2.0		+2.8	2900	Compression to S.
		iS_N	55 02	8&14	-4.5			(26°1)	H 11 45 02
		i_{EZ}	55 05	8		-2.5	+2.5		
		i_{NZ}	55 27	14	+8.5		-4.5		
		eLR_E	57.2	26					
		MZ	59 20	20			7.8		
		MN	59 26	20	10.3				
		ME	59 52	15		10.8			
		F	13 05						
533	" 24	eLE	18 23.7	24					
		eL_{NZ}	23.9	26					
		MEZ	25.1	20		1.0	1.1		
		MN	25.6	20	1.5				
		F	18 50						
534	" 24	eL_N	21 57.7						
		F	22 05						
535	" 25	eP_Z	04 38 02					3045	H 04 32 18
		iS_{NE}	42 38	10	-2.0	+2.7		(27°4)	
		i_{NZ}	43 04	11	+8.8		-3.0		
		eLR_E	44.8	26					
		ME	48 07	14		27.6			
		MNZ	48.5	16	22.5		10.5		
		MZ_2	50 42	15			15.5		
		F	06 [illegible]5						
536	" 25	eL_{EZ}	09 09.9	26					
		ME	14 18	18		0.5			
		F	09 20						
537	" 26	eLZ	05 46.8	16					
		F	06 25						
538	" 27	eZ	00 54 16						
		eL_N	01 01.1	18					
		ME	04 18	15		1.0			
		MZ	04 54	18			1.0		
		MN	04 58	17	1.5				
		F	Merged in	No.539					

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RIVERVIEW COLLEGE OBSERVATORY,
RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1943		h m s	s	mm.	mm.	mm.	km.	
539	Dec.27	eL_N	01 27.7	20					
		MZ	28 34	18			0.7		
		F	02 00						
540	" 27	ePEZ	04 00 50					3110	
		iPEZ	00 52	9		+2.5	-3.0	(28.0)	Dilatation from E.
		iPP_E	01 32	10		+4.9			H 03 55 00
		iS_N	05 30	13	+2.3				
		iZ	05 38	12			+2.4		
		iE	05 41	12		-5.5			
		i_N	06 20	13	+4.8				
		eLR_E	08.2	22					
		MN	09 34	16	15.0				
		MZ	10 18	16			12.3		
		ME	10 58	17		13.8			
		F	06 35						
541	" 27	eE	16 16 18	12					
		eL_{NZ}	17.9	24					
		F	Merged in	No.542					
542	" 27	e_N	16 31 47	10					
		eE	31 48	10					
		eL_E	37.9	22					
		F	17 10						
543	" 28	i_N	19 17 36	8	+1.0				
		MN	20 38	14	0.4				
		F	19 30						
544	" 29	eE	03 17.3						
		MNZ	22 44	18	0.7		0.5		
		ME	23 14	16		0.5			
		F	04 00						
545	" 29	e_N	07 39 54	11					
		eL_Z	44.0	20					
		ME	45 03	14		0.8			
		MNZ	45.6	20	0.7		0.6		
		F	08 10						
546	" 29	e_N	21 21 26	12					
		eL_E	24.4	20					
		ME	26 31	14		0.8			
		MN	26 50	16	0.9				
		MZ	27 02	18			0.5		
		F	21 40						
547	" 30	eNE	02 29 43						
		ME	33 50						
		F	02 55						
548	" 30	eP_{NZ}	06 30 19	11	1.0		1.0	2945	H 06 24 43
		iS_N	34 49	12	-2.2			(26°5)	Provisional epi-
		iN_Z	35 13	12	+8.4		-4.1		centre (from Bris-
		eLR_E	37.0	24					bane, Riverview &
		MZ_1	39 03	22			5.2		Wellington):
		MN	40 36	14	10.2				31½°S.,175°W.
		ME,Z_2	40.8	14		9.1	6.3		
		F	Merged in	No.549					
549	" 30	iP_{EZ}	07 41 54	8		-1.5	+2.1	3235	Compression to W.
		$i(PP)_E$	42 29	10		+3.0		(29°1)	
		iS_{NZ}	46 42	10	+4.0		-3.3		
		i_E	46 46	10		+4.2			
		iZ	46 56	10			+5.1		
		eLR_Z	49.1	22					
		MN	50 30	16	12.7				
		MZ	51 13	16			11.1		
		ME	52 08	14		12.1			
		F	10 00						

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RIVERVIEW COLLEGE OBSERVATORY,

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks.
	1943		h m s	s	mm.	mm.	mm.	km.	
550	Dec.30	e_E	10 25 31						
		eL_Z	32.1	26					
		MN	33 38	18	2.0				
		MZ	33 44	20			1.5		
		ME	33 49	20		1.8			
		F	11 20						
551	" 30	MNZ	11 28.3	16	0.5		0.4		
		F	Merged in	No.552					
552	" 30	eL_{EZ}	11 41.9	24					
		MN	43 06	18	0.6				
		ME	43 18	20		0.7			
		MZ	43 32	20			0.7		
		F	12 20						
553	" 30	e_N	12 49 10						
		e_E	49 14						
		eL_{NE}	53.2	24					
		ME	55 34	20		2.5			
		MZ	57 46	15			2.3		
		MN	57 50	15	3.0				
		F	13 20						
554	" 30	e_Z	17 53 06						
		$i(S)_{NE}$	56 51	8	+2.0	-1.0			
		eL_{EZ}	58.9	20					
		ME	18 00 29	13		1.0			
		MN	00 34	13	1.0				
		F	Merged in	No.555					
555	" 30	i_N	18 13 01	9	+2.0				
		i_E	13 08	6		-2.0			
		eL_Z	15.0	20					
		MN	16 54	12	1.5				
556	" 30	eP_{NZ}	22 08 19	8	0.6		1.0	3335	H 22:02 23
		ipP_{NZ}	08 50	8	+3.8		-4.6	(30°0)	h 0.02
		iPP_{NZ}	09 11	6	+4.8		-3.9		Provisional epi-
		$iPPP_N$	09 24	6	+4.8				centre (from Bris-
		iS_N	13 04	11	-4.0				bane, Riverview &
		i_N	13 10	18	+8.8				Wellington):
		i_Z	13 16	18			+3.5		4°S.,151°E.
		i_N	13 33	18	+21.6				
		eLR_N	15.7	26					
		ME	17 55	16		7.8			
		MNZ	18 02	20	8.0		8.0		
		eW_2Z	00 51.3	22					
		F	01 25						
557	" 31	eL_Z	10 30.3	22					
		MEZ	37.8	18		0.4	0.4		
		F	10 45						
558	" 31	eL_E	11 43.6	14					
		F	11 55						
559	" 31	e_N	18 31 03	12					
		eL_Z	31.16	18					
		eL_{NZ}	34.7	26					
		MZ	36 30	20			1.0		
		ME	36 36	18		1.0			
		F	19 05						

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Director.