Riverview College Observatory

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN

$\lambda = 151° 9' 30''$ 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. Gailitzin Aperiodic Seismometer with Galvanometer registration (NS, EW, Vert)

		V	T_o	$\epsilon : 1$	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	200	7.5	5.5	0.003	4	12.0	12.1	+0.03	540
	3	170	8.8	5.5	0.013					
E	1	227	6.9	4.8	0.007	4	12.3	12.5	-0.02	530
	3	146	10.8	4.4	0.011					
Z	2					4	10.9	10.8	-0.03	460

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h. m. s.	s.	μ	μ	μ	km.	
3	Jan. 1	$(eP)_Z$	07 18 13						
		eS_E	29 48	7					
		$e(PS)_E$	31 37						
		eSS_E	36 38	16					
		eLR_E	50.2	28					
		eLR_Z	50.4	30					
		MEZ	59.8	16		3	4		
		MN	08 00.8	16	2				
9	" 3	$i(S)_N$	20 48 12						Masked by micro-seisms.
		eLE	50.4						
		ME	54.6	7		5			
		MN	55.7	5	5				
10	" 4	iPNEZ	05 52 12	2	-3	-5	+6	2310	Compression
		i_Z	52 14	5			-9	20°8	H 05 47 31
		iPPZ	52 30	5			+18		
		iPP_E	52 31	4		-11			
		i_{NE}	52 37	5	+8	+12			
		i_Z	52 38	5			+14		
		i_N	52 47	5	+15				
		i_N	54 06	5	+11				
		iS_N	55 57	6	-8				
		i_E	56 02	4		+6			
		i_{EZ}	56 06			+9	-33		T_E 4s, T_Z 9s.
		i_{NE}	56 18	6		-23			
		eLN	56.7	22					
		MZ	06 00.1	15			22		
		ME	00.2	15		19			
		MN	00.4	12	26				
14	" 6	iP_Z	04 37 42	4			-3	2360	Dilatation
		iS_E	41 31	5		+2		21°2	H 04 32 57
		i_Z	41 42	7			+8		
		$iSSS_E$	42 21	5		+4			
		eLR_E	42.9	19					
		MN	44.1	15	3				
		MEZ	44.8	16		3	3		
21	" 10	iS_N	23 19 06	6	+7				P masked by micro-seisms.
		i_N	19 45	7	+6				
22	" 11	iP_Z	00 11 53	3			-3	3320	Dilatation
		i_Z	12 57	4			+5	29°9	H 00 05 46
		iS_E	16 47	6		+3			
		i_N	16 53	6	+4				
		i_E	18 36	5		+6			
		i_N	18 40	7	-4				
		eLR_E	19.7	27					
		ME	21.5	19		13			
		MZ	22.1	19			10		
		MN	22.5	16	6				

1952, January.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1952		h m s	s	μ	μ	μ	km.	
24	Jan. 11	iPZ	04 06 20	4			+5	2860	Compression
		iZ	06 27	4			+6	25°7	H 04 00 52
		iPPZ	06 54	5			+5		
		iZ	07 12	5			+5		
		iS_E	10 44	5		-5			
		iS_N	10 45	5	-5				
		iN	11 02	5	+10				
		iN	11 10	7	+12				
		iN	12 10	7	-11				
		iN	12 22	6	-14				
		ME	15.6	16		11			
		MN	16.9	15	10				
		MZ	17.2	16			12		
25	" 12	$i(S)_E$	06 12 59	7		-3			P obscured by microseisms.
		eLQ_N	18.3	19					
		eLR_EZ	20.6	27					
		MN	22.7	16	6				
		ME	23.7	16		6			
		MZ	24.2	16			7		
26	" 12	$(i)_Z$	16 32 03	4			+4		Masked by microseisms.
		MNE	43.6	13	2	1			
27	" 12	$(iP)_Z$	20 24 45	4			+2		Masked by microseisms.
		iZ	25 52	4			-2		
		$iSKS_{NE}$	35 33	7	+5	+2			
		iS_N	35 57	7	+5				
		iE	36 09	7		-4			
		iN	36 30	7	+4				
		iE	36 40	6		+3			
		eSS_N	42 30	18					
		$eSSS_N$	45 59	16					
		MN	21 00.9	18	4				
		MZ	11.2	18			5		
		ME	11.6	18		4			
28	" 13	iPZ	04 14 07	6			+5	7090	Compression
		iZ	14 21	4			-4	63°8	H 04 03 36
		iZ	14 50	3			+3		
		iZ	15 23	4			+4		
		eZ	22 21	21					
		iS_E	22 38	7		-10			
		iS_N	22 40	7	+14				
		iZ	22 44	6			-8		
		eNE	22 51	22					
		iN	22 55	15	+70				
		iE	22 58	9		-24			
		iN	23 22	13	+24				
		iE	23 53	5		+3			
		iN	24 02	4	-4				
		iN	26 34	6	+19				
		iE	26 42	7		+3			
		eNZ	27 10	30					
		eE	29 10	32					
		iE	29 23	7		+11			
		iN	29 31	8	-14				
		iZ	29 36	9			+15		
		eL_N	31.6	32					
		eL_E	32.6	25					
		ME	36.4	21		33			
		MN	37.5	24	55				
		MZ	39.0	20			52		
		eW_2Z	06 42.1	22					
		MN	48.6	22	4				
		MZ	48.9	21			4		
		ME	49.1	21		2			
30	" 15	iZ	02 43 56	4			-4		Masked by microseisms.
		iS_N	53 16	6	+4				
		$e(SS)_E$	58 20	16					
		eLQ_N	03 03.8	21					
		eLR_E	11.5	30					

RIVERVIEW COLLEGE OBSERVATORY,
SIESMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1952		h m s	s	μ	μ	μ	km.	
31	Jan. 15	$e(SS)_E$	07 37 39	18					
		eLR_{EZ}	56.6	25					
34	" 20	$e(S)_E$	08 10 28						Masked by micro-seisms.
		eLQ_E	11.3	20					
		eLR_Z	12.7	24					
		ME	16.7	10		9			
		MN	17.8	12	6				
35	" 20	$i(PP)_Z$	09 16 06	3			+4		Masked by large microseisms.
		$e(S)_N$	19 56						
		i_N	20 23	7	+7				
		eLQ_E	21.2	18					
		eLR_Z	22.3	22					
		MN	25.1	13	22				
		ME	26.7	10		30			
		MZ	26.1	12			20		
37	" 21	$iSKS_N$	04 06 55	7	-4				Masked by micro-seisms.
		iS_E	07 32	7		+6			
		e_N	14 26						
		e_E	14 29						
		ME	43.0	19		3			
		MN	44.7	18	3				
45	" 31	$e(S)_N$	08 30 26	7					
		e_E	33 09	10					
		$i(ScS)_E$	36 12	4		+5			

Minor shocks: 1d 05.2h, 06.4h, 15.7h, 17.7h; 2d 15.3h; 3d 07.2h, 19.1h; 4d 22.0h; 5d 13.0h; 6d 01.0h, 22.9h, 23.5h; 7d 15.9h; 8d 05.1h, 13.4h; 9d 11.2h; 11d 00.9h; 13d 07.4h; 18d 05.0h, 19.3h; 20d 15.6h; 23d 04.1h; 26d 13.9h; 27d 05.8h, 07.2h; 28d 13.4h, 16.1h; 29d 01.2h; 31d 19.9h, 21.1h, 21.4

49	Feb. 2	$e(S)_N$	10 43 21						
		e_E	43 38						
		eL_N	11 02.6	22					
		MN	05.2	20	2				
		ME	07.4	19		1			
50	" 2	iP_{NZ}	23 05 16	3	-1		+5	2990	Compression
		ipP_{NZ}	05 36	6	-4		+5	26°9	H 22 59 42
		iPP_Z	06 00	4			-2		h 0.01
		$iPcP_E$	08 34	4		+2			
		iS_{NE}	09 44	7	-3	-2			
		i_{NE}	09 59	7	+8	+3			
		i_N	10 14	7	+6				
		eL_E	10.9	18					
		eL_N	11.1	20					
		eL_Z	12.0	24					
		MN	12.7	20	6				
		MEZ	13.0	20		5	7		
51	" 3	$(i)_Z$	19 36 01	2			+2		
		eNE	49 32	13					
		MNE	56.6	15	1	1			
53	" 5	iP_Z	16 59 40	2			-4	5200	Dilatation
		eS_N	17 06 27	9				46°8	
		i_N	06 46	4	-3				
		eSS_{NE}	09 51	14					
		MN	16.1	22	3				
		ME	16.4	17		2			
54	" 6	$(i)_Z$	00 54 47	3			+7		Large microseisms present.
		$i(P)_Z$	55 27	4			+5		
		i_Z	55 42	4			+4		
		$i(S)_E$	59 53	6		-4			
		eLR_{EZ}	01 02.0	19					
		MEZ	04.0	15		8	13		
		MN	04.8	12	7				
55	" 6	e_E	07 04 16	9					Masked by large microseisms.
		e_E	09 03	13					
		eL_N	11.3	20					
		eL_{EZ}	13.6	28					
		MEZ	17.9	16		8	8		
		MN	18.5	12	6				

1952, February.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
58	Feb. 7	iPZ	14 47 21	4			+2	4400	Compression
		iPPZ	48 55	4			+2	39°6	H 14 39 52
		iSN	53 22	9	+3				
		iSSN	56 14	6	-2				
		eLQN	56.4	17					
		eLNE	15 01.3	23					
		MN	04.8	18	3				
		MEZ	05.1	18		4	4		
59	" 8	(i)Z	05 00 30	4			-2		
		eE	04 18	7					
60	" 8	iPNZ	18 26 23	3	+3		+3	2490	Compression
		iNZ	26 28	4	-6		-7	22°4	H 18 21 25
		iNZ	26 38	5	-4		-5		Epicentre:
		iPPPN	27 03	4	+11				About 55°S,143°E
		iSE	30 22	10		+11			
		iN	30 30	7	+15				
		iE	30 31	10		-26			
		eLQE	30.8	18					
		iSSSE	31 22	8		+8			
		eLRNZ	31.6	23					
		ME	33.3	10		28			
		MNZ	33.7	10	26		13		
62	" 10	(e)Z	05 31 38						
		eZ	32 32						
		eLE	37.0	28					
		MZ	39.5	18			1		
		ME	39.6	18		2			
64	" 11	iN	00 41 55	4	+3				
		ME	44.2	10		1			
65	" 11	iPZ	07 08 47	2			+5	5250	Compression
		ipPZ	10 45	2			+7	47°2	H 07 01 10
		iNEZ	10 48	3	-6	+3	+12		h 0.10
		iZ	12 23	4			-5		
		iZ	14 16	4			+12		Large microseisms
		iSN	14 54	6	+15				present.
		iScSNE	17 28	4	10	+15			
		iN	17 55	4	+4				
		isSE	18 22	4		+8			
		isSN	18 23	4	+10				
66	" 11	iZ	16 35 35	4			+7		Compression
		i(S)N	41 38	4	-4				Masked by micro-
		i(S)E	41 39	5		+7			seisms.
		iE	41 52	4		+7			
		eNE	41.9	16					
		iNZ	45 05	6	+7				
		iE	45 06	7		-11			
		iN	45 37	7	-5				
		MN	50.2	16	5				
		ME	50.5	16		3			
		MZ	54.5	18			5		
67	" 12	PZ	05 44 16	4				2970	
		eSN	48 47	11				26°7	H 05 38 38
		iSE	48 48	5		-2			
		iN	49 15	5	-8				
		iE	50 04	4		+4			
		iE	50 39	5		+5			
		eLN	51.5	15					
		ME	54.6	10		8			
		MZ	55.3	10			4		
		MN	55.5	10	4				
68	" 12	ePZ	10 16 25	4				2890	H 10 10 53
		eSNE	20 51	10				26°0	
		iN	22 19	6	+4				
		ME	25.9	12		4			
		MN	26.5	12	3				
		MZ	27.5	10			3		

1952, February
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude AN μ	AE μ	AZ μ	Δ km.	Remarks
	1952								
69	Feb. 12	iNZ	20 22 41	3	-3		+4		
		iZ	22 48	3			-6		
		iN	24 55	4	+4				
		i(S)N	25 52	4	+5				
		eLN	28.2	16					
		MN	33.1	13	5				
		MZ	33.3	16			6		
71	" 14	iPNEZ	03 45 03	4	-7	+7	+15	3850	Compression
		ipPNEZ	45 12	5	+39	-33	-83	34°6	H 03 38 15
		iZ	45 28	4			-41		
		iN	46 10	6	+29				
		iN	46 30	5	-14				
		iZ	46 34	6			-54		
		iE	46 36	6		-13			
		iSE	50 29	7		+29			
		iE	50 42	13		+120			
		eN	50.9	30					eN 03 50.9, eLE & MNE from Wiechert.
		eLE	54.5	35					
		MN	57.7	20	1600ca				
		ME	04 00.8	11		760ca			
		eW2N	06 27.8	30					
73	" 14	iPZ	12 28 17	3			+2	3860	Compression
		eSNE	33 44	8				34°7	H 12 21 28
		iScSN	38 36	4	+3				
		MNE	40.8	15	11	10			
		MZ	44.0	15			9		
78	" 16	e(S)NE	13 42 40						
		eLN	48.3						
		MNE	50.4	16	10	7			
		MZ	52.8	16			7		
79	" 16	iPZ	21 11 50	3			+1	3860?	Compression
		SN	17(17)					34°7?	
		MNE	24.2	18	9	7			
		MZ	27.4	15			5		
85	" 18	iPNEZ	01 17 09	4	+11	-5	+13	1700	Compression
		iPPZ	17 20	6			+9	15°3	H 01 13 34
		eSE	19 58	10					
		iN	20 04	4	-4				
		eE	20 32						
		iLRE	20 43	13		-46			
		iZ	20 45	6			-9		
		MN	21.4	13	21				
		ME	21.6	10		21			
		MZ	22.8	12			15		
87	" 22	ePZ	11 48 00	6				2940	H 11 42 25
		iZ	48 18	4			-3	26°4	
		eSE	52 29	9					
		eN	52 36	10					
		iE	52 49	8		-5			
		iNE	53 00	9	+8	+8			
		iE	53 47	6		-5			
		iN	53 49	5	-5				
		MNEZ	59.5	13	9	3	5		
90	" 25	iPZ	01 24 02	6			+5	3980	Compression
		iPNE	24 05					35°8	H 01 17 04
		ipPZ	24 15	5			+4		
		ePPE	25 25						
		iE	25 35	6		+5			
		iZ	25 37	6			+13		
		iPPPE	25 43	6		-5			
		iNZ	25 46	6	-8		+25		
		mE	25 59	7		17			
		iSE	29 36	7		-17			
		iE	29 49	7		-24			
		iZ	30 08	8			+17		
		iEZ	30 22	8		+36	+29		
		eNZ	32.4	21					
		eLREZ	33.8	30					
		i(ScS)N	34 27	6	+48				
		MEZ	36.2	19		70	65		
		MN	36.5	13	24				

1952, February-March.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1952		h m s	s	μ	μ	μ	km.	
91	Feb.25	$i(P)_Z$	02 02 40	4			+6		Masked by coda of No.90
		ME	14.9	15		8			
92	" 25	$i(P)_Z$	02 07 16	4			+6		Masked by coda of No.90
		i_N	07 34	4	-8				
93	" 25	$i(S)_E$	04 23 49	5		+3			
		eL_E	29.1	24					
94	" 26	ePP_Z	11 50 32	10				13,000	H 11 31 04
		$ipPP_Z$	51 33	7			+4	117°	h 300 km.
		eNE	51 41	16					(from Gutenberg's
		$isPP_Z$	52 05	6			+6		tables)
		$isPP_N$	52 06	6	+7				
		i_Z	52 37	4			+4		
		$iSKS_{NE}$	55 56	6	-6	+4			
		i_N	57 14	6	+4				
		i_E	57 17	6		+4			
		iS_N	57 48	9	+5				
		iS_E	57 49	9		-5			
		i_Z	59 57	10			+6		
		e_Z	12 01 19	124					
		$ePPS_E$	01 26	24					
		$isSPN_Z$	01 53	15	+14		-15		
		i_E	06 43	12		-12			
		e_N	06 51	22					
		eL_N	20.0	28					
95	" 26	e_E	16 06 58						
		$e(PS)_Z$	10 00						
		e_E	10 17						
		$e(PPS)_Z$	11 25						
		e_N	11 36						
		eSS_E	16 58						
		$eLRN_E$	37.3	24					
		MEZ	43.3	18		5	6		
		MN	45.3	18	3				
96	" 26	iP_Z	21 12 18	3			-2	2820	Dilatation
		ipP_Z	12 28	6			+7	25°4	H 21 06 52
		iPP_Z	13 00	4			+5		
		i_Z	13 44	4			+5		
		iS_{NE}	16 40	5	-4	+4			
		i_N	16 55	10	-12				
		i_Z	16 59	10			-8		
		i_N	17 12	10	-10				
		i_N	18 05	8	-18				
		i_E	18 11	5		+9			
		eL_Z	19.0						
		MNZ	21.0	17	12		12		
		ME	21.4	14		9			

Minor shocks: 5d 00.7h; 6d 13.6h; 7d 01.2h; 9d 07.8h; 11d 00.3h; 13d 22.5h; 14d 08.8h, 22.1h, 22.7h; 16d 13.0h, 13.3h; 17d 00.7h, 07.2h, 15.8h, 18.5h & 19.3h; 22d 09.0h, 23d 00.7h, 16.0h; 27d 02.9h.

98	Mar. 1	ePZ	06 12 08					4870	H 06 04 04
		eS_E	18 36	6				43°8	
		iSS_E	21 49	6		+2			
		i_E	22 13	6		+3			
		eL_E	27.7	25					
		MNE	32.0	16	1	1			Small local shock.
101	" 2		10 58 46				+3	3670	Compression
103	" 3	iP_Z	07 19 14	3				33°0	H 07 12 39
		i_E	19 28	7		+2			
		iPP_Z	20 25	4			+3		
		i_E	20 29	4		+3			
		i_Z	20 36	4			+5		
		$iPPP_E$	20 41	4		+4			
		eS_N	24 29						
		i_N	24 38	7	+4				
		ME	30.6	19		13			
		MZ	30.8	19			17		
		MN	31.8	13	27				

RIVERVIEW COLLEGE OBSERVATORY, SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1952		h m s	s	μ	μ	μ	km.	
105	Mar. 4	ePZ	01 34 41					8190	
		ipPNZ	34 53	4	-7		+18	73°7	
		iPcPZ	34 57	2			+3		
		iNZ	35 09	5	-15		+30		
		iE	35 12	5		+4			
		i_NZ	35 22	5	-49		+100		
		iPPZ	37 35	7			+77		
		iS_E	44 08	7		-37			
		isS_E	44 26	7		-7*			* From Wiechert
		i_NE	44 37	7	+31*	+310			
		iE	45 18	7		+35*			
		iN	45 24	7	+44*				
		i_NE	45 33	8	-41*	-300			
		iN	45 56	8	-69*				
		iN	50 09	10	+77*				
		LE	54.8	25					
		LR_E	56.9	25					
		ME	02 02.7	18		410*			
		MNZ	03.0	21	610*		540		
		MN	05.5	21	710*				
106	" 4	iPZ	07 10 05	3			-2	4140	Dilatation
		iS_N	19 30	4	+4			37°3	H 06 58 35
		iS_E	19 31	4		-4			
		iN	20 14	4	-1				
		eE	23 08	19					Perhaps more than one shock.
		iN	27 47	6	-3				
		iN	28 15	6	+4				
		eLZ	29.7	25					
		MN	30.3	22	9				
		MEZ	36.3	20		8	9		
107	" 4	iS_E	16 52 29	5		-3			
		iS_N	52 31	5	-3				
		eLE	17 02.9						
108	" 4	iPNEZ	19 36 02	4	+3	+2	-5	2900	Dilatation
		iNEZ	36 08	4	-7	-5	+6	26.1	H 19 30 29
		iZ	36 12	4			+13		
		iN	36 35	5	+5				
		iN	36 48	4	+4				
		iZ	39 38	6			+6		
		iN	40 18	6	+5				
		iS_E	40 29	6		-4			
		i_E	40 37	7		+7			
		iN	40 39	6	+10				
		iN	40 50	8	+39				
		iN	40 58	7	-32				
		iE	41 17	6		+15			
		iN	41 32	7	-50				
		eLZ	41.8	21					
		MZ	43.9	18			25		
		MNE	44.7	16	41	24			
109	" 5	iPZ	04 01 00	5			+4	8390	Compression
		eS_E	10 37	9				75°5	H 03 49 18
		eS_N	10 38	9					
		$iScS_E$	11 08	6		+2			
		ePS_Z	11 15	9					
		eSS_N	15 32	14					
		eLQ_E	21.2	22					
		MNE	28.5	16	2	3			
110	" 5	iPZ	09 28 57	3			-3	8480	Dilatation
		iS_E	38 38	4		-2		76°3	H 09 17 10
		eLQ_E	49.1	21					
		MNE	59.0	14	1	1			
111	" 5	iPZ	16 06 06	3			+3	8580	Compression
		iPcPZ	06 16	3			-2	77°2	H 15 54 14
		eS_E	15 52						
		ePS_Z	16 32	10					
		eLQ_E	26.4	24					
		ME	34.4	18		2			
		MNZ	35.8	20	3		3		

1952, March.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
114	Mar. 7	iPZ	07 44 00	4			+5	7920	Compression
		iPcPZ	44 20	4			+3	71°3	H 07 32 42
		iSN	53 14	8	-4				
		iE	53 20	8		-5			
		iE	54 28	7		+3			
		iN	54 29	6	+3				
		eLE	08 04.0	28					
		ME	06.9	22		16			
		MZ	10.0	22			6		
		MN	11.0	20	8				
118	" 8	eE	13 55 10	7					
		eLE	55.9	22					
		iZ	55 57	4			-3		
		iN	56 09	4	+4				
		iZ	56 13	4			+6		
		iE	56 26	4		+7			
		iN	56 28	4	+5				
		iZ	56 30	4			+6		
		ME	59.4	11		10			
		MN	14 00.6	10	7				
		MZ	00.9	9			7		
119	" 8	i(S)N	18 56 25	4	+1				
		eLN	19 10.4	21					
		MN	13.5	19	2				
		MZ	14.9	19			1		
		ME	15.2	19		1			
121	" 9	ePZ	17 15 42						
		iPNZ	15 46	7	-10		+19		
		iPcPZ	16 03	4			+8		
		iSN	25 09	9	+4				
		iSE	25 10	9		-13			
		iZ	25 12	10					
		iNE	25.18	9	+38	+46			
		iN	25 32	10	-30				
		iE	25 37	9		-28			
		iPSN	25 50	9	+21				
		iPSZ	25 51	9					
		iSSE	30 18	12&22		-24			
		iSSN	30 21	12&24	-59				
		eLQE	36.0	40					
		eLRN	39.8	30					
		ME	42.8	22		37			
		MN	45.0	21	47				
		MZ	45.3	20			37		
		eW2EZ	19 29	27					
		MNZ	36	22	5		7		
126	" 13	iPNZ	14 08 00	3			-5	7240	Dilatation
		iSNE	16 28	7	-12	-7		65°1	H 13 57 34
		iZ	16 33	7			+6		h 0.02 ca.
		iN	17 32	10	+5				
		isSE	17 33	6		-6			
		iE	20 35	6		-4			
		iN	20 39	7	+4				
		iE	23 55	6		-4			
		eE	24 01	20					
		eLNE	27.3	42					
		MNE	30.3	15	6	9			
		MZ	32.6	17			5		
130	" 15	iZ	05 14 51	3			+2		Large microseisms present.
		iN	18 40	4	-3				
		iN	21 59	4	+5				
		iNE	22 21	5	+6	+4			
		MN	25.2	7	5				
		ME	25.4	7		4			

1952, March.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude A_N μ	A_E μ	A_Z μ	Δ km.	Remarks
	1952								
131	Mar.15	iP_Z	11 25 20	4			+3	6810	Compression
		iS_N	33 02	7	+6			55°6	H 11 15 45
		i_E	33 15	7		+7			
		iPS_N	33 18	8	-5				
		iSS_E	36 58	8		-5			
		i_N	37 34	11	+8				
		i_Z	37 38	11			+14		
		eLQ_E	39.1	25					
		eLR_N	41.6	25					
		eL_Z	43.1	38					
		MEZ	47.1	20		32	35		
		MN	47.6	16	55				
134	" 18	$e(PP)_N$	11 02 50	6					
		$e(PP)_E$	02 51	6					
		i_Z	02 54	4			-2		
		iS_N	06 17	5	-4				
		e_E	07 45	13					
		i_N	08 01	6	-4				
		i_E	08 03	7		+4			
		i_E	08 56	7		-4			
		eL_Z	10.1	18					
		ME	14.8	13		2			
		MZ	15.6	13	1				
135	" 19	$e(SKS)_N$	09 26 25						
		eSS_N	31.3						
		$eSSS_N$	34.4						
		eLR_E	40.2	28					
136	" 19	iP_Z	11 06 00	4			-33	5560	Dilatation
		iPN_E	06 01	4	+17	-8		50°0	H 10 57 07
		iNE_Z	06 04	4	+31	-15	-58		
		m_Z	06 07	5			110		
		m_{NE}	06 10	5	56	30			
		i_Z	07 22	5			+130		
		iPP_{NZ}	07 56	7	+81		-120		
		i_E	08 00	7		+90			
		$iPPP_{NE}$	08 48	6	+78	-53			
		iS_{NE}	13 07	9	+120	-110			
		i_E	13 14	7		+175			
		iPS_N	13 20		+				
		iPS_E	13 21	8		-270			
		isS_N	13 25	8	+				
		i_N	15 50	12	+140				
		i_E	15 55	7		+90			
		i_N	16 10	7	+130				
		iSS_{NE}	16 33	8	-180	+100			
		i_N	16 43	13	+240[M]				[M] From Wiechert
		iE_Z	16 47	12		+380	-150		
		i_N	17 18	10	+220				
		i_E	17 32	11		-190			
		ME	24.8	18		450[M]			
		MNZ	27.8	18	730[M]		670		
		ME	34.5	16		470[M]			
		eW_2E	13 44	24					
140	" 20	e_N	23 44 55						Earlier phases lost while changing paper. e_N 23 44 55 from Wiechert.
		i_E	49 27	10		-10			
		i_N	49 41	11	-14				
		eL_E	50.3	24					
		eL_N	50.4	24					
		i_E	51 16	10		-38			
		MZ	52.3	16			12		
		MN	52.8	13	25				
141	" 21	iP_Z	15 13 24					21°6	
		eS_N	17 51	10				2400	
		eL	18.9	24					
		MN	21.4	16	4				

1952, March.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
142	Mar.21	iPNEZ	16 16 13	4	+3	+3	-7	2910	Dilatation
		iPP_N	16 55	5	+3			26°2	H 16 10 40
		iS_N	20 41	9	+7				
		i_E	20 50	8		-6			
		i_N	21 07	10	+18				
		i_E	21 23	7		-6			
		iSS_{NZ}	21 55	9	-19		+11		
		i_N	22 50	8	+22				
		MN	24.3	15	23				
		MZ	26.0	15			9		
		ME	27.1	13		15			
145	" 22	iS_N	18 39 37	5	+2				
		i_E	40 01	3		+2			
		eLR_N	58.1	20					
		MN	19 05.4	16	1				
147	" 23	$(iP)_Z$	15 29 29	4			+11		Compression
		$e(S)_N$	36 42						Very large micro-
		$i(ScS)_E$	39 14	4		+6			seisms present.
		MEZ	50.1	18		20	23		
		MN	50.6	18	17				
148	" 25	iP_{EZ}	04 14 39	3		+3	-5	3750	Dilatation
		iPPZ	16 03	5			-3	33°7	H 04 08 17
		i_E	16 08	5		-6			h 0.03
		i_Z	16 17	4			+5		
		i_Z	17 20	4			+4		
		i_E	17 23	4		+4			
		iS_{NE}	19 45	5	-3	+2			
		i_N	21 20	6	-3				
		i_N	21 28	8	-9				
		i_N	21 49	5	+6				
		i_N	22 30	7	-7				
		i_E	22 41	5		+4			
		i_Z	24 10	4			-5		
		$iScS_E$	24 39	4		-4			
		$iScS_N$	24 41	4	-5				
		i_E	26 39	5		+4			
149	" 25	iP_Z	09 35 50	4			-3	2980	Dilatation
		i_N	35 52	4	+4			26°8	
		i_N	36 04	5	+4				
		i_Z	36 11	4			+2		
		iPP_N	36 26	5	+4				
		i_Z	36 35	5			+4		
		iS_N	40 22	7	-8				
		i_E	40 24	5		+2			
		e_N	40.8	20					
		e_Z	40.9	21					
		i_E	40 51	7		-3			
		i_E	42 04	6		-4			
		i_E	42 38	6		-6			
		MEZ	46.1	18		14	22		
		MN	47.0	17	24				
150	" 26	$i(P)_Z$	00 23 35	3			-2		Dilatation
		$e(S)_N$	28 31	11					
		e_E	29 04	18					
		eLR_{NZ}	31.6	27					
		ME	33.8	18		3			
		MNZ	34.9	19	6		6		
159	" 29	iP_Z	13 55 03	3			-2		Dilatation
		eL_E	14 04.8						
		MNE	09.5	16	3	2			
		MZ	12.5	15			2		

Minor shocks: 1d 23.4h; 2d 01.4h, 19.9h; 3d 18.7h; 5d 21.2h; 6d 02.8h; 7d 19.0h; 8d 07.8h, 10.8h; 9d 04.9h; 20.3h, 22.3h; 10d 17.7h, 18.6h; 14d 21.6h; 15d 01.5h, 02.5h; 17d 12.4h, 20.8h; 20d 08.4h, 15.3h, 21.2h; 21d 20.5h; 22d 14.6h; 23d 13.4h; 26d 11.2h, 13.5h, 14.2h, 16.2h, 17.7h, 18.4h; 28d 01.1h, 02.1h; 30d 12.7h, 17.3h, 18.6h; 31d 06.9h, 16.4h.

T.N.BURKE-GAFFNEY, S.J.
Director.

P.F.RHEINBERGER.

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. Gailitzin Aperiodic Seismometer with Galvanometer registration (NS, EW, Vert)

		V	T_o	$\epsilon : 1$	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	204	7.3	5.3	0.002	4	12.0	12.1	+0.03	540
	3	170	8.9	5.3	0.023					
E	1	234	6.9	4.5	0.004	4	12.3	12.5	-0.02	530
	3	154	10.9	5.5	0.013					
Z	2					4	10.9	10.8	-0.03	460

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h. m. s.	s.	μ	μ	μ	km.	
166	Apr. 1	eE	14 17 25						Masked by very large microseisms.
		eE	21 32	12					
		eN	23 49	13					
		eLRE	25.5	28					
		MN	30.8	12	9				
		MEZ	31.0	19		9	9		
175	" 4	iPZ	16 12 00	4			+3	2780	Compression
		iSN	16 19	5	-3			25°0	H 16 06 33
		iE	16 28	5		-4			
		eLRE	18.2	21					
		MN	19.2	16	5				
		MEZ	20.0	18		3	4		
176	" 5	(iP)Z	03 09 41	4			-2		Masked by micro-seisms.
		eLQN	14.5	22					
		iSSN	14 48	6	-5				
		eLRE	15.4	33					
		MNEZ	17.6	17	6	4	7		
177	" 5	iPZ	08 39 23	3			+3	3390	Compression
		iPPZ	40 21	3			+2	30°5	H 08 33 11
		iSN	44 21	7	+4				
		eLQN	46.1	25					
		eLZ	47.8	21					
		MNZ	48.3	17	4		4		
180	" 8	iPZ	10 09 11	4			+7	5780ca	Compression
		i(pP)NZ	09 31	4	-4		+7	52°ca	h 0.01?
		ePPZ	11 04	7					H 10 00 08
		iPPN	11 08	6	-2				
		iSN	16 26	6	+4				
		iN	16 40	7	+21				
		i(sS)N	17 07	7	+6				
		iN	18 07		-				
		iN	19 53	5	+4				
		iN	20 27	10	-10				
		eZ	20 41	15					
		iN	23 28		-				
		iN	25 46	4	+6				
		iN	27 13	9	-11				
		iN	27 41	8	+14				
		iN	30 45	5	+11				
		MZ	32.1	19			13		
		MNE	33.9	16	12				ME from Wiechert
185	" 10	iZ	04 52 07	4			+4		
		e(S)N	55 03	10					
		eE	56 30						
		MNE	05 03.0	16	11	10			

1952, April.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude A_N μ	A_E μ	A_Z μ	Δ km.	Remarks
	1952								
186	Apr.10	iP_Z	06 07 52	4			-4	7010	Dilatation
		iZ	07 59	4			-5	63°1	H 05 57 25
		$iPcP_Z$	08 30	3			-2		
		iS_N	16 19	7	-3				
		eS_E	16 21						
		iZ	16 24	4			+2		
		eE	16 35	15					
		eN	16 47	18					
		iE	17 45	9		+4			
		eLQ_E	23.9	24					
		eLZ	29.4	30					
		MNZ	31.7	24	15		16		
		ME	32.5	19		7			
187	" 12	eE	01 49.5						
		eE	53.9						
		eL_N	02 01.3	27					
		eLZ	03.8	34					
		MNEZ	10.2	19	2	2	2		
188	" 13	iE	05 22 45	3		+2			Masked by micro-seims.
		iE	24 04	4		-3			
190	" 14	iPZ	01 10 44	2			-3	3300	Dilatation
		iS_N	15 05	4	-5			29°7	H 01 05 14
		$iScS_E$	20 19	4		+5			h 500 km.ca.
191	" 14	iP_NZ	07 22 19	2	-4		-4	2560	Dilatation
		iZ	22 32					23°0	H 07 17 16
		iS_E	26 23	14		-21			
		iS_N	26 25	10	+8				
		isS_E	26 37	12		-8			
		iN	26 44	8	+9				
		eLQ_E	26.9	24					
		iZ	27 11	4			+4		
		eL_N	27.3	30					
		eLZ	27.5	30					
		iN	29 10	5	+6				
		ME	29.5	10		7			
		MZ	29.8	14			7		
		MN	30.4	11	8				
192	" 14	iP_NEZ	23 58 05	6	+4	-3	-7	4750	Dilatation
		iZ	00 00 00	6			+12	42°7	H 23 50 10
		iN	00 05						
		iS_N	04 26	7	+4				
		iE	04 31	7		+6			
		iZ	04 34	5			+7		
		iN	04 36	9	+16				
		iSS_E	07 30	9		+7			
		iN	07 49	8	+7				
		eLQ_E	08.0	16					
		MNEZ	18.7	18	26	31	29		
193	" 15	iE	09 21 29	5		-3			Masked by micro-seisms.
		iN	21 37	5	+4				
		iZ	22 57	4			+2		
		$i(S)_E$	26 12	5		+4			
		iN	28 57	6	+5				
		iE	29 00	7		+			
		iN	29 15	5	+6				
194	" 15	eP_Z	19 15 23					9790	Microseisms pres-ent.
		ePP_Z	18 56					88°1	H 19 02 35
		iS_N	26 01	6	+8				
		iS_E	26 03	6		-5			
		$iScS_N$	26 22	6	-13				Gutenberg's Tables give Δ 88°2, 9800km
		iPS_N	27 14	5	+5				
		$iPPS_NZ$	27 39	5	-6		+4		H 19 02 33
		iSS_E	32 01	6		+4			
		eE	32 07	16					
		iN	32 11	5	+5				
		$eSSS_E$	35 29						
		eE	39 07	13					
		eLQ_E	39.4	24					
		eL_N	45.3	42					
		ME	54.3	20		10			
		MNZ	55.1	17	15		15		

RIVERVIEW COLLEGE OBSERVATORY
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
196	Apr.18	iPZ	11 44 52	3			+4	2890	Compression
		iZ	45 18	4			-6	26.0	H 11 39 12
		iS_E	49 18	9		-6			
		isS_E	49 33	7		-6			
		eLRZ	51.3	20					
		MEZ	53.8	16		5	7		
		MN	55.2	10	4				
197	" 18	iPZ	16 07 50	4			+2	5200	Compression
		iS_N	14 38	5	+5			46°9	H 15 59 21
		ePS_N	14 50	17					
		eN	15 32	14					
		eSS_N	17 49	12					
		iN	18 11	7	+3				
		eLQ_N	18.9	19					
		MNE	26.1	19	9	6			
		MZ	27.9	16			10		
200	" 19	iPKPZ	10 18 07	4			+2		Compression
		iPP_EZ	20 30			-	+		
		iE	21 34	5		+4			
		iNZ	21 43	5	+5		-11		
		iE	21 44	5		+13			
		iE	27 31	9		+4			
		eE	29 00	10					
		MNEZ	11 06.4	21	5	5	7		
201	" 19	iPZ	11 18 10	4			-7	3490	Dilatation
		iPPZ	19 11	4			-14	31°4	H 11 11 50
		iPPN	19 14	4	+11				
		iPPPN	19 29	8	+11				
		iS_E	23 14	7		-13			
		iN	23 17	8	-29				
		iSS_E	25 06	10		-18			
		iE	25 35	8		-21			
		iN	25 39	9	+14				
		iN	25 59	7	+38				
		eLR_E	26.4	30					
		MN	30.0	16	75				
		MZ	30.3	19			65		
		ME	32.1	12		80			
204	" 20	iPZ	09 44 10	4			-2	3920	Dilatation
		iS_N	49 41	7	+2			35°3	H 09 37 16
		iE	49 47	8		+2			
		isS_N	49 55	7	+3				
		eLQ_E	52.1	18					
		iE	52 27	13		+7			
		MNZ	57.9	15	3		4		
206	" 20	iPNZ	20 59 16	4	-2		+5		Compression
		ipPN	59 26	4	+4				
		$i(PP)_N$	21 00 04	4	-3				
		iSS_N	03 35						
		$iSSS_N$	03 50	5	+4				
		eLR_{NE}	04.3	19					
		MNEZ	05,5	13	18	24	4		
207	" 21	i(P)Z	01 21 16	4			-1		Dilatation
		iZ	21 42	4			-2		
		e(S)E	25 43	10					
		eLZ	28.1	23					
208	" 21	i(S)N	16 14 16	4	+3				Masked by micro-seisms.
		eLN	16.6	20					
		MN	19.8	14	2				
209	" 22	eN	04 38 10	15					
		eLR_EZ	39.5	24					
		MNEZ	41.5	18	2	3	4		
213	" 28	ePn_E	10 07 36					200	H 10 07 03
		iSn_{NE}	08 00	1	+3	-1		1°8	Felt at Orange &
		MN	08 12	4	4				Bathurst, N.S.W.
		ME	08 15	4		5			(From Wiechert)
214	" 28	Sn_{NE}	17 45 37						Aftershock.

Minor shocks: 1d 01.3h; 2d 07.0h, 09.3h, 10.0h, 11.0h, 19.5h; 3d 16.0h; 4d 03.5h, 05.2h; 7d 02.7h, 21.4h; 8d 21.1h, 9d 08.8h, 14.4h, 21.4h;14d 00.3h; 17d 04.3h; 18d 20.6h, 21.5h; 19d 20.2h;20d 07.4h,17.4h;24d 12.5h;27d 13.0h,14.2

1952, May.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1952		h m s	s	μ	μ	μ	km.	
215	May 1	$i(S)_N$	01 37 31	5	-4				
		eLZ	40.1	18					
		$i(ScS)_N$	43 01	4	-3				
		MN	44.2	16	5				
217	" 4	$i(S)_E$	06 36 07	5	-2				
		iE	36 25	8		-4			
		eLR_{NE}	37.5	21					
		ME	38.8	14		2			
		MNZ	39.2	17	4		3		
		$i(ScS)_N$	43 58	6	+6				
218	" 4	$iPEZ$	14 21 16	4		+2	-3	3140	Dilatation
		iE	22 16	4		-5		28°2	H 14 15 24
		iS_N	25 58	5	+4				
		i_N	26 07	7	+13				
		i_N	26 32	9	+11				
		i_N	26 58	9	-13				
		iSS_N	27 18	9	+15				
		iE	28 10	9		+15			
		eL_N	28.4	17					
		MN	30.0	15	90				
		MEZ	32.5	15		31	28		
220	" 6	iZ	18 49 31	3			+1		
		$i(S)_N$	53 06	6	+2				
		iNE	53 16	6	+5	+4			
		eL_N	54.7	16					
		eLZ	55.3	16					
		MNZ	57.8	14	2		2		
		ME	58.5	14		2			
221	" 8	$e(S)_E$	01 19 02						
		iNE	19 23	5	-1	-3			
		eE	26 07						
		MN	36.2	18	1				
222	" 8	iP_{NEZ}	21 18 42	3	-3	+3	+6	4710	Compression
		iEZ	18 45	4		-5	-9	42°4	H 21 10 49
		iZ	19 05	4			-6		
		iPPZ	20 20	6			+6		
		iPPN	20 22	6	-3				
		iZ	20 35	3			+7		
		iNE	20 40	7	-8	+5			
		$iPPP_N$	20 54	9	-15				
		$iPPP_{EZ}$	20 55	8		+8	+12		
		iS_N	25 01	7	+8				
		i_N	25 08	9	-10				
		iE	25 16	10		-9			
		iE	25 27	10		-13			
		iE	26 03	8		-11			
		iN	26 04	7	+14				
		eN	26 24	33					
		iSS_{NE}	28 07	9	-8	-9			
		iN	28 17	9	-16				
		iZ	28 22	7			+12		
		iE	28 23	9		+22			
		$iScS_N$	28 39	5	-9				
		$iSSS_E$	29 54	7		+11			
		iZ	28 56				+		
		MNE	34.6	20	29	41			
224	" 9	iPZ	03 34 14	4			-3	3100	Dilatation
		iPPZ	35 04	4			+5	27°9	H 03 28 25
		eSN	38 54						
		iSS_N	40 17	9	-6				
		MN	42.3	10	20				
		MEZ	44.4	16		11	11		
225	" 9	$i(P)Z$	18 14 06	3			+3		Compression
		iZ	14 10	3			-3		
		$e(S)E$	18 15						
		iE	18 25	4		-3			
		eL_N	19.9	18					
		ME	22.2	13		1			
		MN	22.2	12	2				

1952, May.
RIVERVIEW COLLEGE OBSERVATORY
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1952		h m s	s	μ	μ	μ	km.	
226	May 9	iP_{NZ}	17 53 28	3	-4		+4	3100ca	
		i_{NZ}	53 33	4	-6		+11	28°ca	H 17 47 42
		i_{NZ}	53 48	3	+7		-9		
		i_Z	53 52	3			+12		Slightly deeper than normal.
		i_{NZ}	53 59	4	-15		+27		
		i_{NEZ}	54 11	4	+9	+4	-18		
		i_{NZ}	54 29	4	-17		+16		
		i_{NZ}	54 43	3	-14		+12		
		i_N	57 36	5	-12				
		iS_N	58 05	6	-14				
		i_N	58 15	8	+110				
		e_Z	58.4	25					
		i_N	58 33	6	-58				
		i_E	58 41	6		+53			
		i_N	58 51	6	+				
		i_E	58 55	7		-46			
		i_N	59 05	6	+43				
		i_E	59 25	5		-47			
		i_E	59 38	7		+35			
		i_N	18 00 09	7	+105				
		eL_N	00.9	25					
		MZ	02.4	20			120		
		MN	02.5	23	185				
		ME	02.7	15		88			
		eW_2Z	20 39	22					
227	" 10	$(iP)_Z$	17 12 06	3			+3		Obscured by micro-seisms.
		$(iS)_N$	18 25	4	-3				
		eL_E	21 47	20					
228	" 13	i_Z	03 32 01	3			+3		Masked by micro-seisms.
		eL_{EZ}	48.7	22					
		MEZ	51.0	16		3	5		
230	" 13	$eSKS_E$	19 57 44						
		$eSKKS_E$	59 16						
		ePS_Z	20 02 19						
		eE	02 35						
		eSS_E	09 26						
		eLR_{EZ}	30.1	28					
		MN	38.7	18	2				
		MEZ	43.9	16		2	3		
231	" 14	iP_Z	00 48 42	4			+4	8560	Compression
		eS_E	58 27	6				77°1	H 00 36 50
		$iScS_E$	58 54	4		-2			
		i_N	59 14	4	+3				
		i_N	59 26	4	-2				
		eL_E	01 10.0	27					
		ME	16.0	16		1			
233	" 16	i_E	02 54 56	4		+2			
		eL_E	03 02.1	22					
		MEZ	06.0	17		2	2		
236	" 16	eE	21 15 47						
		eN	23 58						
		eL_E	45.2						
		$MNEZ$	49.3	21	4	5	9		
237	" 16	$i(SS)_N$	22 31 27	4	-4				Masked by micro-seisms.
		i_N	32 49	4	-4				
238	" 17	iP_Z	06 02 41	4			-8	3100	Dilatation
		iP_N	02 42	4	+5			27°9	H 05 56 52
		i_Z	03 21	4			+6		
		iPP_Z	03 32	3			+4		
		$iPPP_N$	03 46	5	+5				
		i_N	03 56	5	+5				
		iS_E	07 21	5		-6			
		eL_N	08.2	20					
		i_E	09 13	5		-8			
		i_E	09 44	4		-7			
		i_E	10 02	6		-6			
		i_E	10 30	6		-12			
		i_N	10 44	4	+6				
		i_N	11 51	4	+8				
		MNZ	14.0	11	6		8		

RIVERVIEW COLLEGE OBSERVATORY, SEISMOLOGICAL BULLETIN

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude AN μ	AE μ	AZ μ	Δ km.	Remarks
	1952								
239	May 17	e(PS)E	10 09 43						
		eLQE	19.7	27					
		eLRN	26.4	22					
		MNEZ	31.5	19	3	2	2		
240	" 19	eE	11 15 49						Felt at Broken
		iNE	16 23	2	+2	+2			Hill & Mildura,
		iZ	16 26	2			+4		N.S.W.
		MEZ	17.1	7		2	3		
241	" 19	iPZ	18 44 19	3			+3	8220	Compression
		iPcPZ	44 32	3			+3	74.0	H 18 32 45
		iSNE	53 48	7	-4	-3			
		eN	54.0	23					
		iSKSE	54 19	6		+5			
		iPSN	54 25	9	+6				
		iPPSN	54 40	9	+6				
		eSSE	58 16	30					
		eSSSZ	19 01 38	22					
		eLQE	04.0	24					
		eLE	05.0	30					
		eLRZ	07.7	23					
		MNEZ	13.5	20	14	6	12		
242	" 19	iPZ	22 32 15	3			+2	3350	Compression
		iSN	37 11	4	-2			30°2	H 22 26 06
		iN	37 35	5	+5				
		eLZ	40.2						
		MNE	42.9	13	2	3			
243	" 20	i(S)E	13 41 36	3		+1			
244	" 21	e(S)N	13 18 47						
		e(SS)N	21 16						
		eLE	22.9	21					
245	" 23	i(P)Z	20 30 30	4			+4		Compression
		e(S)N	35 30						
		iN	37 59	6	-4				
		iN	38 13	6	-6				
247	" 24	iPZ	16 16 00	3			+3	6440	Compression
		iZ	18 24	4			+7	58°9	H 16 06 02
		iSE	24 02	5		+5			
		iN	24 09	5	+8				Very large micro-
		iE	24 23			+			seisms present.
		iN	24 24	5	+11				
		eN	25 52	18					
		eLRN	33.2	33					
		MNEZ	40.2	23	71	67	82		
248	" 26		05 51.1						Small local shock
249	" 28	iPZ	08 09 46	2			+4	7890	Compression
		iSN	18 30	5	+14			71°0	h 0.055
		iSKSN	18 54	5	-2				H 07 59m07
		iN	19 08	5	+5				
		iN	19 16	7	-7				
		iPSN	19 59	6					
		isSE	20 53	9		-7			
		isSN	20 58	9	+6				
		eSSN	23 29	18					
		eN	25 38	26					
251	" 31	iPZ	05 00 34	4			+5	3060	Compression
		iSE	05 11	6		+6		27°5	H 04 54 49
		iN	05 16	5&13	+20				
		iLQE	06 04	16		-50			
		iN	06 10	6&13	+20				
		iN	06 34	13	+44				
		iZ	06 39	9			+20		
		eLRZ	07.5	16					
		MNEZ	10.9	10	40	68	31		
252	" 31	iPZ	11 55 43	3			+2	2540	Compression
		ipPZ	56 06	3			+3	22°9	h 0.015
		iPPZ	56 20	3			-3		H 11 50 50
		iSN	59 39	7	-24				
		iSEZ	59 41	7		+20	-6		
		isSE	12 00 23	7		+4			
		eLN	01.0	19					

Minor shocks: 2d 12.1h; 5d 01.5h; 8d 22.1h; 13d 05.6h; 15d 19.9h; 16d 06.7h, 17.4h; 24d 02.0h; 29d 08.0h.

1952, June.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
253	June 2	(i)Z	16 10 39	5					Masked by large microseisms.
		(i)N	15 39	6					
		eLE	20.4	25					
		MNZ	24.5	15	7		6		
		ME	25.4	12		6			
254	" 2	(iP)Z	18 14 51						Masked by large microseisms.
		e(S)N	21 54						
		iE	25 26						
255	" 3	iPZ	18 54 59	3			+5		Compression Large microseisms present.
		iN	55 05	5	+5				
		eLZ	19 02.6	20					
		ME	04.7	15		6			
256	" 10	iPZ	10 05 03	3			-2	3620	Dilatation
		iEZ	05 10	4		-3	+5	32°6	H 09 58 32
		ePPZ	06 12	4					
		iPPPEZ	06 27	5		-3	-7		
		iSE	10 15	6		-4			
		iN	10 20	8	+20				
		iE	10 21	8		-11			
		eLQN	12.3	24					
		iN	12 45	10	+40				
		eLE	13.0	21					
		iLRN	13 13	17	+90				
		eLZ	13.4	24					
		MEZ	16.1	17		54	67		
		MN	16.2	13	40				
257	" 11	(eSKS)E	00 56 08						Masked by non-seismic disturbances.
		i(PS)E	59 22	7		-3			
		eLZ	01 21.4	23					
		MNEZ	25.4	18	6	8	13		
258	" 16	iScSN	03 53 26	6	+13				Masked by very heavy microseisms
259	" 17	(iP)Z	04 13 57	4					Masked by heavy microseisms,
		eLN	22.1	19					
		MEZ	25.6	16		11	15		
		MN	25.7	12	9				
260	" 17	(iP)NZ	12 11 06						Masked by heavy microseisms.
		i(S)NE	16 44	5	-11	+10			
		eE	19.4						
		eLNE	21.8	37					
		iNE	23 50	5	+50	+32			
		MNE	24.2	16	68	39			
		MZ	27.4	13			19		
261	" 19	iZ	12 24 49	3			+3		Large microseisms present.
		eSE	34 03						
		iZ	34 13	5			+5		
		iN	34 24	6	-10				
		iScSE	34 36	4		+4			
		iPPSE	34 56	6		+4			
		eSSE	39 12	15					
		eN	39 50	21					
		eLQNE	44.8	28					
		eLRNE	47.3	25					
		MN	54.9	22	46				
		MEZ	59.0	19		27	18		
263	" 19	iSN	21 28 57	5	-2				Masked by microseisms.
		iN	29 12	5	-3				
		iN	29 31	5	+6				
		iN	30 31	5	+4				
		iN	30 50	5	+7				
		eLZ	47.7	30					
		MN	51.9	19	6				
		ME	58.7	16		4			
264	" 20	iPZ	05 56 54	3			+4	7260	Compression
		eSE	06 05 34					65°3	H 05 46 14
		eE	09 30						
		eLE	14.9	22					
		eLRE	17.1	24					
		MNZ	20.0	17	6		5		
		ME	22.3	19		7			

1952, June.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
266	June 22	(iP)Z	03 38 32	4			+4		Masked by micro-
		eLE	46.4	22					seisms.
		ME	47.7	21		4			
		MZ	47.9	19			5		
		MN	49.0	13	4				
267	" 22	iPZ	10 24 41	3			+3	2890	Compression
		iNZ	24 45	5	+6		-4	26°0	H 10 19 09
		iZ	24 55	5			-4		
		iNE	24 57	5	-4	+2			
		iPPZ	25 22	3			-4		
		iPPPZ	25 33	3			-3		
		iSE	29 07	4		-4			
		iN	29 11	5	+3				
		iZ	29 20	4			+3		
		iE	29 24	7		-4			
		iN	29 31	7	+8				
		iN	29 53	7	+14				
		iN	30 05	7	+12				
		iE	30 10	7		+12			
		eLRZ	30.9	27					
		eLRN	31.1	29					
		MNZ	32.6	21	18		15		
		ME	33.7	19		7			
268	" 22	iPZ	21 54 11	5			-5	8820	Dilatation
		iZ	54 20	5			-5	79°4	H 21 42 07
		iZ	54 30	6			-7		
		iSN	22 04 08	6	-3				
		iE	04 14	8		-15			
		iN	04 29	10	-22				
		iE	04 41	9		+19			
		iN	04 59	10	+24				
		eLQE	15.4	38					
		MN	25.6	16	42				
		MEZ	28.0	18		19	37		
		MN	28.6	16	57				
269	" 23	iPZ	11 03 20	3			+2		Compression
		(S)E	08 23						Microseisms pres-
		i(ScS)E	14 02	5		+3			ent.
		MN	14.3	15	3				
		MEZ	15.5	16		2	1		
270	" 23	i(S)N	12 22 35	3	+3				Masked by micro-
		eLE	33.8	25					seisms.
		MNE	39.7	21	5	2			
		MZ	39.9	23			2		
271	" 24	iN	01 48 51	2	-2				Masked by micro-
		iE	48 53	2		+2			seisms.
		iZ	48 56	2			+3		Felt at Mary-
		ME	49.2	7		4			borough, Queens-
		MN	50.0	7	3				land (according
		MZ	50.2	4			6		to Brisbane).
		iZ	52 15	3			+5		
272	" 24	i(P)NZ	03 21 14	3	-3		+3		Compression
		i(P)E	21 15	3		+3			
		iE	25 57	5		+5			Masked by micro-
		iN	26 02	7	+6				seisms.
		iN	26 17	7	+9				
		iE	26 30	7		-5			
		iE	26 48	7		+8			
		MNE	29.4	13	2	2			
275	" 28	iPZ	18 41 26	3			+4		Compression
		i(PP)Z	42 11	2			+3		
		e(S)N	46 01	15					
		eLN	47.1	22					
		MNE	49.5	13	9	3			
276	" 28	i(S)N	19 20 11	5	-2				Masked by micro-
		i(ScS)N	23 25	4	+3				seisms & Coda 275

Minor shocks: 19d 21.3h; 21d 07.2h; 26d 12.1h; 28d 17.5h.

T.N.BURKE-GAFFNEY, S.J.
Director.

P.F.RHEINBERGER.

1952, 3rd Quarter.

Riverview College Observatory

RIVERVIEW, N.S.W.

SEISMOLOGICAL BULLETIN

[illegible]° S. $\lambda = 151° 9' 30''$ E. $h = 25$m. Foundation : Triassic Sandstone.

INSTRUMENTS :

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

		V	T_o	$\epsilon : 1$	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	200	7.3	5.4	0.002	4	12.0	12.1	+0.03	540
	3	166	8.8	4.4	0.019					
E	1	224	6.9	5.0	0.018	4	12.3	12.5	-0.02	530
	3	142	10.9	6.7	0.012					
Z	2					4	10.9	10.8	-0.03	460

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s.	s.	μ	μ	μ	km.	
279	July 9	e(PS)Z	18 46 20						
		e(SS)E	53 18						
		eL$_E$	19 14.3	27					
281	" 10	iPZ	15 50 45	3			-2	3260	Dilatation
		iS$_N$	54 56	4	-4			29°3	H 15 45 31
		isS$_N$	58 12	4	-3				h 0.10
		iE	58 17	4		-2			
		iN	58 34	6	-3				
		iN	59 38	6	-3				
		iScS$_{NE}$	16 00 07	3	-3	+9			
282	" 13	iPEZ	02 54 29	6			+2	2450	Compression
		iPPEZ	54 56	6		-4	+4	22°0	H 02 49 36
		iNE	55 12	6	+6	+3			
		iS[illegible]	58 25	7		-4			
		iPcPZ	58 29	4			+5		
		eL$_E$	03 00.2	21					
		MNEZ	01.4	15	3	4	3		
283	" 13	iPZ	07 28 45	5			-2	2430	Dilatation
		iE	28 49	5		-4		21°9	H 07 23 54
		iPPEZ	29 11	5		+2	+5		
		iPPPZ	29 20	7			+5		
		iS$_E$	32 40	7		-5			
		iZ	32 41	5			+4		
		iZ	32 50	4			+5		
		iSSS$_N$	33 32	8	+7				
		eL$_{EZ}$	34.0	21					
		MNEZ	35.5	17	8	5	5		
284	" 13	iPZ	12 03 11	2			+1	2570	Compression
		iE	03 41	4		+5		23°1	H 11 58 25
		ipPZ	03 51	4			-7		h 0.03
		iPP$_{NE}$	03 54	6	+7	+12			
		iPPZ	03 55	6			-10		
		iZ	04 01	5			+25		
		iNE	04 02	5	-14	-22			
		iE	04 09	5		-			
		iN	04 10	5	-				
		iS$_{NEZ}$	07 02	6	+16	+25	+12		
		iNE	07 09	6	+24	+32			
		iZ	07 14	7			-27		
		iN	07 58	7	-51				
		iZ	08 14	8			-15		
		iN	09 00	7	+26				
		iN	09 53	6	+30				
		iE	11 55	8		+27			
		iN	12 02	10	+30				
		iScS$_{NE}$	13 58	6	+34	+33			

1952, July.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude AN μ	AE μ	AZ μ	Δ km.	Remarks
	1952								
285	July 13	iPEZ	17 41 46	3		+3	+5	4240	Compression
		ipPZ	41 55	3			+9	38°1	H 17 34 29
		iZ	42 03	4			-13		
		iPPN	43 14	10	-18				
		iPPEZ	43 17	9		+6	+13		
		iNEZ	43 30	9	+29	-13	-32		
		iPcPZ	44 03	3			-5		
		iSE	47 36	12		-10			
		iN	47 39	12	+36				
		isSE	47 52	15		-36			
		iN	48 11	11	+25				
		eZ	49 30	23					
		iE	49 55	10		+26			
		iN	50 00	9	-36				
		eLQN	50.1	21					
		iSSZ	50 17	10			+35		
		iSSE	50 19	7		+15			
		iN	50 36	10	+72				
		iNE	51 03	8	-18	+28			
		iZ	51 23	7			+38		
		iScSN	51 56	6	-32				
		MNE	56.7	14	52	81			
		MZ	58.0	13			46		
286	" 17	iPZ	16 20 55	4			-3	7780	Dilatation
		ipPZ	21 11	4			+5	70°0	h 0.005
		iPcPZ	21 15	4			-5		H 16 09 48
		iSE	29 59	7		-18			
		isSNE	30 28	7	-4	-13			
		iE	30 37	7		-10			
		iE	30 57	7		-12			
		iE	31 42	7		-10			
		eLE	36.9	30					
		iN	37 57	9	+8				
		ME	41.2	25		60			
		MN	42.1	22	15				
		MZ	48.9	21			13		
291	" 18	iN	19 02 16	6	+3				
		eLRE	17.8	26					
		MEZ	20.0	21		6	10		
292	" 19	i(S)E	03 50 30	7		-3			Masked by micro-seisms.
		eLZ	53.0	20					
293	" 20	iN	01 07 05	6	+6				Masked by micro-seisms.
		eN	08 27	15					
		iN	11 33	7	+6				
		ME	12.6	15		3			
		MN	13.2	12	5				
294	" 20	i(S)N	05 43 54	6	-6				Masked by micro-seisms.
		eLE	48.2						
		MNEZ	49.6	16	6	4	5		
296	" 21	iPZ	12 06 43	3			+2	12,000ca	Compression
		iZ	07 02	5			-4	108°ca	
		iPPZ	11 01	7			+6		
		iE	11 06	7		+3			
		iN	11 08	7	+3				
		iZ	11 20	7			-9		
		iZ	11 31	7			-14		
		iSKSN	17 17	7	+2				
		iE	17 32	9		+7			
		iN	17 47	7	-5				
		iNE	18 26	8	+4	+5			
		iN	19 03	9	-8				
		iE	19 06	9		+9			
		iE	20 36	10		+11			
		iE	20 54	10		+19			
		iE	21 03	7		+6			
		iN	21 09	4	-6				
		iZ	21 23	8			+4		
		iE	23 20	8		+7			
		iSSN	26 33	12	-18				

(Continued on next page)

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
296	July 21	eE	12 26 38	21					
cont.		eLQN	37.2	45					
		eLRNZ	43.4	30					
		ME	46.6	21		41			
		MN	50.4	19	19				
		MZ	51.5	18			26		
297	" 21	i(P)Z	13 30 17	5			+4		Masked by No.296
		MEZ	14 10.8	19		47	49		
		MN	11.7	19	40				
298	" 22	iZ	04 04 33	3			+2		
		iN	09 46	6	+5				
		iE	09 59	6		+4			
		iE	11 12	5		+4			
		eLE	12.0	19					
		ME	14.5	12		3			
		MN	16.1	13	2				
300	" n 22	iPZ	18 18 52	4			-3	2390	Dilatation
		iSE	22 42	5		-2		21°5	H 18 14 04
		iN	22 44	5	+2				
		iZ	22 46	5			+5		
		eLE	24.1	21					
		ME	25.4	18		2			
		MN	25.7	15	2				
301	" 22	iPZ	23 00 35	4			-2	6920	Dilatation
		ipPZ	00 48	4			-3	62°3	H 22 50 14
		iSN	08 57	7	+5				
		isSN	09 19	9	+10				
		eLN	18.7	25					
		MNE	22.4	16					
305	" ~~22~~ 25	iPNZ	14 22 56	3	+3		+4	3010	Compression
		ipPZ	23 07	3			+9	27°1	H 14 17 14
		iSE	27 30	7		+8			
		iNE	27 40	7	-10	-15			
		iZ	27 48	4			+14		
		iE	28 02	7		+16			
		iE	28 32	8		-15			
		iN	28 55	6	+12				
		eLZ	29.6	21					
		MNE	32.0	10	19	25			
		MZ	32.1	16			11		
306	" 27	i(P)Z	02 18 18	2			+3		Compression
		eN	24 12						Masked by micro-
		ME	31.3	15		4			seisms.
		MN	31.5	12	3				
307	" ~~26~~ 27	iPZ	08 29 00	4			-10	3300	Dilatation
		ipPNEZ	30 24	5	+8	+19	-20	29°7	h 0.07
		mEZ	30.5	5		28	38		H 08 23 33
		iE	30 40	6		+27			
		iN	30 52	6	+19				
		iSNE	33 22	7	-24	+37			
		iZ	33 23	5			+32		
		iN	33 45	5	-11				
		iE	33 53	8		+34			
		iN	36 07	6	+16				
		iE	36 11	9		+26			
		iE	36 23	7		-47			
		iE	36 38	9		-28			
		iE	36 52	9		-44			
		iScSNE	38 40	5	-30	+34			

Minor shocks: 5d 03.1h; 8d 15.9h; 9d 21.1h; 15d 21.6h; 16d 03.3h; 18d 05.6h & 09.1h; 20d 19.4h; 22d 08.1h; 23d 01.5h; 24d 10.7h, 22.8h; 29d 07.9h.

312	Aug. 9	eZ	06 10 47						Masked by micro-
		i(S)N	14 42	6	-5				seisms.
		eLN	16.2	17					
313	" 11	iPZ	20 37 48	3			-2		Dilatation
		iZ	37 54	3			-5		
		eE	41 23						
		eLNZ	42.6	28					
		MEZ	44.1	16		9	13		
		MN	45.0	11	8				

1952, August.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
317	Aug.14	$i(S)_N$	16 19 52	7	+2				
		$eL(Q)_N$	31.5	24					
		eLR_Z	36.3	27					
		MNEZ	43.0	18	2	2	2		
318	" 14	iPZ	23 22 31	2			+2	3090	Compression
		iZ	22 33	3			+6	27°8	H 23 16 43
		iN	23 12	4	-				
		iN	23 27	4	-				From 23h 23m 12s
		eS_N	27 10	9					to 23h 30.0m read-
		eLE	30.0	27					ings from Wiechert
		MNZ	31.6	21	49		56		
		ME	31.8	15		27			
320	" 16	iPZ	13 57 27	4			+4	3170	Compression
		iZ	57 33	6			+5	28°5	H 13 51 33
		iN	57 38	6	+5				
		iZ	57 47	4	-3		+5		
		iNZ	57 57	4	+4		-4		
		iPPNZ	58 17	6	-5		+6		
		iS_N	14 02 11	7	-3				
		iE	02 19	7		+4			
		iNE	02 32	8	+34	+11			
		iE	02 52	8		-4			
		iN	02 54	8	+16				
		iN	03 16	9	+27				
		iSS_E	03 35	9		-19			
		iN	04 07	7	+14				
		iE	04 26	7		+12			
		eLE	04.8	21					
		eLN	05.1	24					
		ME	07.3	13		40			
		MNZ	09.0	16	76		54		
322	" 17	iPZ	10 54 44	4			+3	3110	Compression
		iS_N	59 24	7	-4			28°0	H 10 48 54
		eL_N	11 01.3	20					
		eLE	02.5	22					
		MN	03.8	21	7				
		MEZ	04.1		4	8			T_E 15s, T_Z 23s
323	" 17	iPZ	16 14 48	5			-4	9580	Dilatation
		iNEZ	14 54	5	-8	+8	+26	86°2	H 16 02 09
		ipPZ	14 59	5			-45		
		iPPZ	18 04	7			+10		
		iPPN	18 07	7	-5				
		iPPE	18 09	7		-7			
		iN	18 11	8	+9				
		iZ	18 12	8			+31		
		iPPPZ	20 05	6			-9		
		iS_{NE}	25 19	8	-16	+15			
		iZ	25 23	9			+23		
		$iScS_N$	25 31	7	-82				
		iZ	25 32	9			-23		
		isS_E	25 35	10		+50			
		iE	25 56	10		+51			
		iZ	26 03	10			+36		
		iNE	26 18	8	+19	+34			
		iN	26 31	10	+50				
		iE	26 33	9		-37			
		iZ	26 40	9			+47		
		iN	26 53	9	-53				
		iN	30 56	12	+27				
		iSS_E	31 03	11		+34			
		iE	31 18	11		-59			
		eZ	35 09	33					
		iZ	35 59	15			+66		
		iE	36 55	13		+60			
		eLE	37.1	30					
		eLQ_N	38.2	30					
		eL_Z	44.6	45					
		ME	47.7	25		120			
		MN	48.1	27	290				
		MZ	49.6	28			170		
		eW_2	18 18	50					

1932 August.

RIVERVIEW COLLEGE OBSERVATORY
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A$_N$	Amplitude A$_E$	Amplitude A$_Z$	Δ	Remarks
	1932		h m s	s	μ	μ	μ	km.	
325	Aug. 18	i(SKS)$_N$	13 29 47	6	-2				
		eE	38 23	9					
		eN	38 55	12					
		eLRE	57.5	20					
		MN	14 03.4	16	2				
327	" 19	i(P)Z	10 10 28	3			-2		Dilatation
		eLE	25.9	21					
328	" 19	i(S)N	10 51 48	7	+4				
		iE	51 53	6		-3			
		e(L)Z	58.3						
		ME	11 03.3	15		6			
		MNZ	06.6	15	8		8		
329	" 20	e(P)Z	09 18 06						
		iN	23 17	4	-2				
		iE	24 57	4		-3			
		eLN	25.2	18					
		eLZ	25.6	19					
		MN	27.7	14	5				
		MEZ	28.0	18		4	5		
330	" 20	eZ	15 39 40						
		i(PP)Z	44 11	4			+5		
		eE	53 18						
		eN	58 56						
		iN	59 15	7	-6				
		eE	59 20	15					
		eLRNEZ	16 14.1	34					
		MEZ	22.3	20		2	9		
		MN	23.2	19	5				
		eW$_2$Z	17 29.4	24					
		ME	34.7	19		2			
		MN	35.3	20	3				
		MZ	37.0	20			5		
331	" 28	iPEZ	10 45 05	3		-2	+4	2500	Compression
		ipPZ	45 18	4			+9	22°5	H 10 40 07
		iPPEZ	45 34	5		-11	-6		
		iZ	45 49	3			-3		
		iS$_N$	49 05	6	+8				
		isS$_N$	49 25	6&12	+22				
		iN	49 40		+				
		eLN	51.0	16					
		eLE	51.2	21					
		MN	52.6	14	16				
		MEZ	53.2	18		20	22		
332	" 28	iPZ	13 09 10	3			+3	9120	Compression
		iPcPZ	09 16	3			+4	82°1	H 12 56 51
		iS$_N$	19 21	7	-3				
		iScS$_N$	19 34	5	-2				Microseisms present.
		eSSE	24 10						
		eLRE	35.2	28					
		MNEZ	39.0	19	5	5	7		
333	" 28	iS$_N$	14 44 19	5	-3				Masked by microseims.
		eLQE	55.6	30					
		eLZ	15 00.9	21					
		MZ	06.2	19			4		
		MN	06.4	18	4				
334	" 29	iPZ	05 38 46	4			+3	7330	Compression
		iS$_N$	47 30	7	+3			66°0	H 05 28 01
		ePSE	47 55						
		eLN	58.7	30					
		eLZ	06 00.4	30					
		MN	03.4	21	9				
		ME	07.0	19		3			
		MZ	09.4	19			5		
337	" 31	iP$_N$Z	18 23 20	3	+1		+3	2040	Compression
		eSE	26 40	7				18°3	H 18 19 07
		eLQE	26.9	15					
		iSS$_E$	27 06	6		+7			
		ME	28.1	10		2			

Minor shocks: 2d 02.4h, 03.2h, 18.0h; 12d 15.6h, 16.6h; 14d 06.7h; 15d 04.2h; 17d 05.1h; 18d 02.8h, 22.1h; 29d 08.7h; 31d 16.8h.

1952, September.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1952		h m s	s	μ	μ	μ	km.	
338	Sept. 2	iPPZ	07 30 17	4			+2		
		eSN	33 53						
		iSS_N	35 00	6	+4				
		$iSSS_N$	35 16	7	+3				
342	" 5	iPN	05 24 15	4	-2			3120	H 05 18 24
		eSN	28 56					28°1	
		eLE	31.5						
		eLZ	32.1	26					
343	" 5	i(P)Z	21 36 43	4			+4		Compression
		ME	22 00.2	13					
345	" 7	eSN	02 50 54						
		eLQN	53.0	20					
		MN	57.3	13	11				
		MEZ	57.7	15		33	5		
346	" 7	PnE	05 41 47					190	H 05 41 16
		iSnNZ	42 10	2	+4		+4	1°7	Felt at Gunning, N.S.W.
		iS*E	42 11	2		+5			
		iSgEZ	42 13	1		+18	+6		
		MN	42 41	4	16				
		ME	42 43	6		10			
		MZ	42 50	4			16		
348	" 8	iZ	15 06 55	4			+4		
		iN	07 05	4	+3				
		iN	13 17	4	-2				
		iN	14 19	3	+3				
		iE	17 10	6		+4			
		iE	17 25	5		-3			
		iN	17 32	4	+7				
		eLNE	17,6	18					
349	" 8	iZ	21 49 04	3			-2		
		eN	53 18	15					
		eLZ	56.1	20					
		MN	47.3	16	2				
		MEZ	58.4	16		2	4		
350	" 9	(i)Z	12 56 45	4			+5		Masked by micro-seisms.
		eN	13 04 52	11					
		iN	05 55	5	+5				
		iE	07 55	5		+5			
		iN	08 20	4	+6				
351	" 9	iZ	13 15 30	4			-4		
		iNE	25 39	9	+5	-7			
		eE	32 33	28					
		eN	32 48	28					
		eEZ	36 32	30					
		eLE	53.4	33					
		MN	14 01.1	18	5				
		ME	04.7	18		5			
		MZ	05.0	18			7		
		$e(G_2)N$	41.3	33					
352	" 11	iPZ	22 12 23	3			+6	4580	H 22 04 40
		iSN	18 34	5	+5			41°2	
353	" 11	iPZ	22 32 31	4			+5	3110	Compression
		iPNE	32 32	4	+2	+5		28°0	H 22 26 41
		ipPZ	32 43	4			+5		
		iE	32 55	5		+8			
		iZ	32 57	4			-6		
		iPPE	33 21	5		+8			
		iZ	33 45	6			+11		
		iE	34 08	5		+9			
		iN	37 00	6	+4				
		iSE	37 07	9		-6			
		iE	37 57	8		-17			
		eLE	39.2	30					
		eLZ	39.6	30					
		eLN	39.7	21					
		MN	41.4	16	34				
		MZ	42.4	18			61		
		ME	42.5	17		55			

1952, September.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
358	Sep.16	iP_N	12 41 22	4	-4			2840	
		iS_E	45 45	7		-5		25°5	H 12 35 55
		eL_Z	47.2	21					
		eL_N	47.3	21					
		MN	49.0	16	3				
		$iScS_N$	52 10	6	+4				
359	" 17	iP_Z	01 22 32	3			+3		Compression. Rest of record obscured by microseisms.
360	" 20	iP_Z	13 02 36	3			+4	2500	Compression
		iN_Z	02 40	5	-21		-17	22°5	H 12 57 38
		iPP_Z	03 04	6			-14		
		$iPcP_Z$	06 35	4			+4		
		iS_E	06 37	7		+20			
		iE	06 43	8		-80			
		iN	06 45	6	+45				
		iN	07 01	7	+50				
		iSS_Z	07 15	8			-20		
		iSS_E	07 18	8		+21			
		eL_Z	08.0	20					
		$MNEZ$	09.6	10	70	67	36		
361	" 21	iPP_Z	02 49 46	4			-5	12,660	Dilatation
		$ipPP_Z$	50 46	5			-11	114°	h 250 km.
		$iSKS_N$	55 09	7	+5				(From Gutenberg's
		$iSKS_E$	55 13	4		+8			tables)
		iN	56 20		-				
		iS_N	57 13	10	+8				
		iPS_Z	58 57	7			+6		
		iPS_E	59 04	10		+7			
		iN	59 13	12	+10				
		iN	59 42	10	+16				
		iN	59 55	7	-11				
		$ipPS_Z$	03 00 16	8			-7		
		iN	00 54	15	+10				
		iSS_E	05 19	16					
		iN	07 15	8	-14				
		eE	07 16	28					
362	" 21	iP_Z	11 23 07	5			+2		Compression. Large
		iPP_Z	25 38	7			+5		microseisms.
365	" 26	$i(S)_N$	17 31 27	10	+4				
		eL_Z	35.0	19					
		MNZ	36.8	16	2		2		
		ME	37.8	15		1			
367	" 27	iP_Z	19 18 10	5			+7	9450	Compression
		eS_N	28 35	9				85°0	H 19 05 37
		iN	29 08	6	+6				
		eSS_N	34 09	13					
		$eLRZ$	45.2	34					
369	" 28	$e(SS)_E$	06 01 48	13					
		eL_E	03.5	21					
		MEZ	05.9	16		2	4		
		M_E	06.8	12	2				
70	" 30	iP_Z	11 22 41	3			+3	2170	Compression
		iS_N	26 13	5	+3			19°5	H 11 18 14
		iZ	26 14	5			+5		
		eL_N	26.6	20					
		eLR_Z	27.4	18					
		MN	28.2	15	5				
71	" 30	iP_Z	13 03 59	3			+2	8710	Compression
		iZ	04 05	3			+3	78°4	H 12 52 00
		iS_{NE}	13 51	6	-5	-5			
		iN	14 08	4	+3				
		iN	14 17	6	+8				
		$eSSS_N$	22 17	21					
		eL_N	28.2	26					
		MNE	40.3	18	53	12			
		MZ	41.0	18			14		

nor shocks: 2d 08.2h;3d 04.1h, 17.1h;6d 14.8h;8d 06.9h;12d 06.4h;14d 05.0h, .3h;15d 12.4h;22d 10.3h, 12.6h;26d 18.0h;28d 03.3h;30d 14.6h, 15.0h, 16.5h.

T.N.BURKE-CAFFNEY,S.J. P.F.RHEINBERGER.

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. Gailitzin Aperiodic Seismometer with Galvanometer registration (NS, EW, Vert)

		V	T_o	$\epsilon : 1$	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1 3	203	7.5	5.8	0.009	4	12.0	12.1	+0.03	540
E	1 3	223	7.0	5.0	0.009	4	12.3	12.5	-0.02	530
Z	2					4	10.9	10.8	-0.03	460

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h. m. s.	s.	μ	μ	μ	km.	
375	Oct. 1	(iP)Z	09 01 29	4			-2		Microseisms present
		iZ	03 47	4			-2		
		iSE	07 41	8		+5			
		iNE	07 47	9	-5	-15			
		(SS)E	10 41	12					
		eLRZ	13.1	30					
		MEZ	15.0	21		16	21		
		MN	15.4	19	13				
377	" 2	eN	13 15 29						
		eLN	18.0	16					
		MN	22.3	12	6				
		MEZ	23.0	16		5	6		
381	" 9	eN	09 50.2	16					
		iN	57 43	5	+2				
		eN	10 07.9	16					
		eLE	11.9	26					
		ME	15.6	20		1			
382	" 10	eZ	16 02 19	9					Masked by micro-seisms.
		ePPZ	03 29	11					
		eE	03 35	13					
		iSE	07 39	10		+2			
		isSE	07 56	10		+9			
		i(SSS)N	10 33	9	-10				
		eLRZ	12.0	24					
		MN	15.7	12	11				
		MEZ	17.3	16		15	19		
383	" 10	eE	19 19 35						
		eE	27 20						
		eLN	36.0	28					
		eLE	37.1	34					
		MN	41.7	23	7				
		MEZ	44.6	24		9	17		
384	" 11	iPZ	00 19 48	4			+3	3140	Compression
		iZ	19 59	4			-5	28°2	H 00 13 56
		iPPZ	20 40	4			-4		
		eSE	24 30						Large microseisms present.
		iE	24 59	5		+5			
		iZ	25 04	6			-8		
		iN	25 10	7	-15				
		iZ	25 17	7			+18		
		eLE	26.7	30					
		iN	27 17	9	+28				
		MN	30.1	20	110				
		MZ	30.4	20			92		
		ME	32.4	13		100			

1952, October.
RIVERVIEW COLLEGE OBSERVATORY.
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T) h m s	Per. s	Amplitude A_N μ	A_E μ	A_Z μ	Δ km.	Remarks
	1952								
385	Oct. 13	PZ	23 29 39	3					Large microseisms present.
		iZ	29 56	5			-5		
		iN	34 14	7	+8				
		eE	34.5	16					
		iN	34 48	7	+5				
		iN	35 01	7	+11				
		iE	35 07	7		+9			
		iN	35 11	7	-9				
		eLZ	36.5	25					
		MN	39.1	14	22				
		MEZ	39.4	16		28	35		
387	" 15	(i)Z	11 41 51	4			-3		Large microseisms present.
		(i)N	47 42	5	+4				
		eLE	49.6	18					
389	" 18	iPNEZ	05 27 46	3	+5	+4	-5	2650	Compression
		iNEZ	27 52	5	+21	+21	-38	23°8	H 05 22 36
		iZ	28 04	4			+39		
		iE	28 23	4		+19			
		iN	28 26	4	-28				
		iEZ	28 27	4		-23	+23		
		iZ	29 33	4			+16		
		iS_N	31 56	7	-53				
		iNE	32 02	8	+175ca	+87			
		iZ	32 06	8			+81		
		iE	32 15	6		-57			
		iZ	32 16	6			-80		
		iN	32 17	6	+82				
		iE	32 23	5		+52			
		eLZ	33.6	18					
		ME	34.6	17		75			
		MN	35.7	16	65				
		MZ	36.1	16			86		
392	" 18	e(P)Z	20 40 20	7					
		eN	41 56	9					
		eZ	41 57	7					
		e(S)E	46 06	13					
		eE	46 21	12					
		eLQN	48.9	19					
		eLZ	50.2	18					
		MN	53.0	13	4				
		MZ	54.1	19			8		
		ME	54.9	16		6			
394	" 20	iPZ	15 15 21	3			+1	6280	Compression
		iZ	15 44	4			-3	56°5	H 15 05 40
		eS_N	23 08	10					
		eL_E	34.0	16					
		MN	35.9	18	1				
		MZ	39.5	16			1		
397	" 26	iPZ	08 51 39	2			+7	7750	Compression
		iS_{NE}	09 00 21	6	+8	+1		69°7	H 08 41 02
		iZ	00 23	4			+2		h 0.045 ca.
		iZ	00 46	7			+5		
		i(ScS)NE	01 16	4	-3	+3			
		iE	02 10	4		-3			
		iE	02 24	5		+4			
398	" 26	e(S)E	13 41 20						
		ME	14 00.6	18		1			
400	" 26	e(S)NE	16 07 18	12					
		eSS_E	11 52	12					
		eSS_N	11 54	12					
		eN	14 13	25					
		ME	26.5	18		3			
		MN	28.0	18	2				
401	" 26	e(P)Z	18 13 38						
		eS_{NE}	23 03	10					
		eNE	23 21	25					
		eE	23 51	10					
		e(SS)E	27.6	21					
		eLE	33.7	33					
		MNE	39.4	20	2	2			
		MZ	40.9	23			2		

1952, November.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km	
427	Nov. 5	e(P)Z	11 59 08						
		e(S)E	12 09 26						
428	" 5	iPZ	13 19 07	5			+3	9500	Compression
		ipPZ	19 25	4			+3	85°5	H 13 06 36
		iZ	19 44	5			+3		h 0.005
		iSN	29 32	6	+3				
		iN	29 40	5	+4				
		iE	29 43	6		-4			
		iE	30 01	5		-6			
		e(SS)N	35 29	19					
		eLQE	43.0	31					
		MNZ	52.8	21	12		6		
		ME	14 00.1	18		4			
429	" 5	iPZ	15 01 08	3			-2	9400	Dilatation
		iSE	11 31	5		+2		84°6	H 14 48 37
		MN	38.6	19	1				
432	" 5	i(P)Z	19 21 09	3			-1		Dilatation
		iZ	21 53	3			+3		
		iSKSN	31 38	6	+3				
		iE	31 58	5		-1			
		MN	59.9	19	2				
		ME	20 03.0	18		2			
439	" 6	iPZ	19 53 30	3			-2	3290	Dilatation
		iNZ	53 34	3	-6		+11	29°6	H 19 47 26
		iZ	53 42	5			+16		
		iZ	53 51	5			+22		
		iNZ	53 57	4	+12		-20		
		iZ	54 09	4			+20		
		iN	54 19	4	+7				
		iE	54 23	4		+3			
		iZ	54 37	4			+20		
		iNE	54 38	5	-21	+8			
		iN	54 48	5	-24				
		iE	54 51	4		+7			
		iN	56 34	4	-7				
		iSN	58 22	6	-32				
		iE	58 26	6		-18			
		iN	58 32	4	+25				
		iE	58 50	6		-24			
		iN	58 52	6	+62				
		iE	59 31	7		+29			
		iE	20 00 18	9		+83			
		eLE	02.5	22					
		eLN	03.0	28					
		ME	04.5	22		380			
		MN	07.6	13	180ca				
445	" 7	e(P)Z	12 22 02						
		eSN	32 23						
		ME	13 04.3						
446	" 7	eSN	14 04 57						
447	" 7	iPZ	14 21 00	3			+3	9300	Compression
		iN	21 05	3	+2			83°7	H 14 08 36
		iZ	21 21	4			+2		
		iZ	21 41	4			-2		
		iSN	31 19	6	+4				
		eSE	31 19	7					
		iN	31 54	6	+5				
		iE	31 57	6		-3			
		eSSN	36 43	27					
		eLQE	43.4	30					
		eLRNZ	47.9	34					
		MNEZ	50.5	27	6	4	6		
		eW2N	16 24.4	23					
449	" 7	iPZ	22 17 42	4			+2	8710	Compression
		iPcPZ	17 51	5			+3	78°4	H 22 05 43
		eSN	27 34	7					
		iSKSE	27 49	6		-3			
		MZ	51.1	20			4		
		ME	53.6	16		2			

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1952		h m s	s	μ	μ	μ	km.	
450	Nov. 7	iPEZ	23 17 52	3		-8	+18	2950	Compression
		iZ	18 00	3			-4	26°5	H 23 12 16
		iZ	18 07	3			-8		
		iEZ	18 16	5		+13	+14		
		iZ	18 28	4			-9		
		iE	18 29	4		+5			
		iE	18 38	6		-6			
		iZ	18 47	4			-4		
		iE	18 49	7		-22			
		iN	19 52	6	+8				
		iS_N	22 22	6	+9				
		iS_E	22 23	7		-7			
		iN	22 36	6	+9				
		iE	22 40	7		-13			
		iZ	22 47	9			+13		
		iNE	23 04	5&7	-9	+10			
		iNE	24 08	12	+24	+16			
		eL_E	24.5	31					
		eLRZ	24.7	30					
		MN	26.8	15	28				
		MZ	27.1	17			42		
		ME	27.4	17		37			
455	" 8	iZ	19 46 29	4			+5		Compression
		iZ	47 09	4			-3		
		iS_N	55 53	4	-2				
		$iScS_{NE}$	56 05	4	-3	-3			
		iE	56 14	5		-5			
		iN	56 35	5	+4				
		iE	56 52	5		-3			
		iN_N	57 05	6	-5				
		eLQ_E	20 07.6	25					
		MN	16.5	19	6				
		ME	19.0	17		3			
		MZ	19.2	18			4		
456	" 9	$(eP)_Z$	00 34 37						
		iZ	35 05	4			+3		
		$i(S)_E$	45 06	5		-2			
		eL_E	58.9	25					
		MN	01 05.5	18	2				
		MZ	06.7	18			2		
		ME	07.5	18		1			
457	" 9	iPZ	01 30 25	3			+2		Compression
		MZ	02 04.2	19			3		
		MN	04.3	19	3				
		ME	05.8	16		2			
464	" 9	$i(SKS)_E$	15 53 17	4		+2			
		eLR_N	16 07.6	20					
468	" 10	iS_N	20 50 06	4	+1				
		eL_N	21 08.9	24					
473	" 12	$i(S)_N$	08 41 50						
477	" 13	iPZ	08 11 20	4			+5	9370	Compression
		iS_N	21 42	7	+5			84°3	H 07 58 50
		iN	21 46	7	-15				
		iE	21 52	6		+8			
		iN	22 06	5	-10				
		iE	22 06	9		-4			
		iE	22 22	7		+6			
		iE	22 31	8		-5			
		$i(SS)_N$	27 07	7	-5				
		iN_N	27 27	9	+5				
		eLQ_E	34.2	?					
		eL_N	35.4	30					
		eLRZ	38.3	37					
		MEZ	40.3	27		12	17		
		MN	43.3	21	9				
478	" 13	iPZ	08 21 52	4			+5	3090	Compression
		iE	23 00	4		-3		27°8	H 08 16 03
		iS_N	26 31	6	+6				
		MN	32.7	14	3				

1952, November.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
480	Nov. 13	$i(S)_N$	22 48 38	6	+5				
		eL_N	23 04.7	24					
482	" 14	$i(P)_Z$	03 22 32	3			+4		Compression
		$e(L)_E$	26.9	24					
		iN	27 36	5	-4				
		iNE	28 17	5	+6	+5			
		iE	28 29	10		+12			
		MNZ	30.7	13	9		7		
486	" 16	iPZ	07 44 23	4			+7	3180	Compression
		iPN	44 24	4	-6			28°6	H 07 38 28
		iNZ	44 32	4	-9		+14		
		iNZ	44 37	4	+12		+16		
		iN	45 09	4	+8				
		iN	45 19	4	+6				
		iZ	45 22	4			+15		
		iS_N	49 08	7	+13				
		iE	49 14	4		-6			
		iN	49 19	9	-40				
		iN	49 30	9	+43				
		iN	49 51	8	+35				
		iE	50 12	5		-8			
		iE	50 21	4		+5			
		iN	50 46	8	+14				
		eL_EZ	52.2	24					
		MN	54.3	18	31				
		ME	55.3	15		28			
		MZ	57.5	13			18		
488	" 18	$i(P)_Z$	08 26 07	5			+2		Compression
		$i(S)_N$	36 22	6	-3				
		eL_Z	52.9	33					
		ME	57.3	22		1			
		MN	57.8	22	2				
489	" 18	iSnNE	18 02 32	½					Gunning, N.S.W.
490	" 18	PnE	18 03 42	½				200	Felt at Gunning,
		P*N	03 43	½				1°8	N.S.W.
		iSnNE	04 06	1	+4	+4			H 18 03 09
		iS*N	04 07	1	+5				
		iSgZ	04 09	1			+8		
		eZ	04 19	5					
		ME	04 35	3		3			
		MZ	04 38	3			8		
491	" 19	PnNEZ	01 59 48	½				200	Strongly felt at
		iSnNE	02 00 12	1	+12	+5		1°8	Gunning, N.S.W.
		iSgNEZ	00 15	1	+16	+20	+8		H 01 59 15
		eNE	00 19	5					
		mN	00 22	4	11				
		mE	00 24	5		6			
		eZ	00 25	7					
		MZ	00 44	3			20		
		ME	00 46	3		8			
492	" 19	iZ	06 02 24	3			-2		Dilatation
		eS_N	07 01	11					
		eL_N	10.3	30					
		eL_Z	10.6	30					
		MN	12.8	19	9				
		ME	12.9	16		8			
		MZ	13.1	20			8		
493	" 19	iS_N	07 39 11	4	-3				
		$i(sS)_N$	41 53	5	-2				
		$i(ScS)_E$	44 25	4		+2			
495	" 19	$(Sn)_{NE}$	10 13 50						Gunning, N.S.W.
496	" 20	$e(SKS)_E$	16 03 16	15					
		$e(SKKS)_E$	04 57	15					
		$e(PS)_E$	08 06	21					
		eZ	08 09	21					
		eN	08 40	15					
		$e(SS)_E$	14 47	22					
		eLR_E	34.9	28					
		MNEZ	39.2	20	4	6	9		

1952, November.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1952		h m s	s	μ	μ	μ	km.	
497	Nov.21	iP_Z	07 45 18	2			+4	4020	Compression
		ipP_Z	46 53	3			+3	36°2	H 07 39 00
		iS_E	50 21	4		+2			h 0.08
		iSS_N	53 22	4	+3				
		iSS_Z	53 28	6			+6		
		i_{NE}	53 31	5	-4	+4			
		$iScS_N$	54 36	3	+2				
498	" 22	P_{nNE}	07 57 56	½				200	Felt at Gunning,
		i_Z	58 02	2			+2	1°8	N.S.W.
		iS_{nNE}	58 20	1	+6	+3			H 07 57 23
		iS^*_N	58 21	1	+8				
		iS_{gZ}	58 22	1			+9		
		e_N	58 27	5					
		m_E	58 32	5		3			
		MNE	58 50	3	3	4			
		MZ	58 51	3			12		
499	" 22	e_E	08 06 58						
		$e(SKS)_E$	11 43						
		$e(PS)_E$	14 49						
		$e(SS)_E$	20 43						
		eL_{QN}	31.6	25					
		eL_E	39.5	21					
		ME	50.4	16		1			
		MZ	51.7	16			1		
		MN	52.9	16	1				
500	" 22	iS_{nNE}	12 25 40	1					Gunning, N.S.W.
		iS_{gZ}	25 42	1			+2		
501	" 23	$i(P)_Z$	00 49 29	2			+1		Compression
		$e(S)_N$	53 16						
		$e(sS)_{NE}$	53 28						
		eL_{EZ}	55.4	19					
		MN	55.9	16	1				
		MEZ	56.2	18		1	1		
502	" 23	S_{nNE}	05 52 56	1					Gunning, N.S.W.
506	" 24	e_N	11 06 36	9					
		e_E	06 44	9					
		eL_Z	16.1	27					
		MEZ	21.4	16		1	1		
		MN	21.8	15	1				
508	" 24	i_Z	12 26 40	3			+2		
		e_E	30 05						
		i_N	30 19	6	+3				
		i_E	30 22	6		-2			
		i_{NE}	31 04	7	+5	+4			
		eL_E	33.2	18					
510	" 24	iP_{NEZ}	20 21 10	2	+2	+1	-3	2540	Dilatation
		i_Z	21 15	3			-2	22°9	H 20 16 08
		i_{NE}	21 22	4	+2	+2			
		i_E	21 26	4		-2			
		i_Z	21 30	3			+2		
		$iPPP_E$	21 49	4		+3			
		i_{NZ}	22 02	4	+4		+3		
		iS_{NE}	25 13	6	-6	+3			
		i_Z	25 18	6			+7		
		isS_N	25 26	7	-11				
		i_E	25 29	5		+6			
		i_N	25 35	7	-14				
		eL_N	26.6	22					
		eL_E	27.0	22					
		MEZ	28.9	16		6	6		
		MN	29.2	14	7				
511	" 24	$i(P)_Z$	23 31 35	3			+1		
		$e(S)_N$	35 23						
		i_{NE}	35 30	5	-2	-2			
		$i(sS)_N$	35 40	6	-3				
		eL_N	36.6	19					
		eL_Z	37.3	19					
		MNE	38.9	15	1	1			
		MZ	39.6	16			2		

1952, November.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
517	Nov.26	e(S)E	21 17 10	9					
		e(S)N	17 12	9					
		eN	20 28	10					
		eE	20 33	9					
518	" 27	(iP)Z	09 44 01	3			+2		Dilatation
		eN	51 41	9					
		ME	10 05.0	14	1				
519	" 28	eE	08 28 48						
		eL_N	40.9	21					
		eL_E	44.5	21					
		MN	51.4	18	2				
		ME	59.5	16		1			
520	" 28	eN	14 49 33						
		eN	53 45						
		eE	56 57						
		MNZ	15 07.9	15	2		1		
521	" 28	PNZ	21 07 10	4				2610	H 21 02 02
		iZ	07 32	3			+3	23°5	
		iPP_N	07 43	7	+6				
		iPPZ	07 45	7			+17		
		iNZ	08 02	4	-4		+12		
		iE	08 09	4		+5			
		iN	08 15	5	-9				
		iZ	08 16	5			+4		
		iZ	08 36	4			+12		
		iS_N	11 18	7	+10				
		iNE	11 39	7	-17	+14			
		eLQ_E	11.9	15					
		iN	12 04	7	-40				
		iSS_Z	12 07	7			-25		
		iE	12 09	5		+7			
		iE	12 28	5		+4			
		iN	12 34	7	+32				
		iN	13 05	7	+13				
		iE	13 09	5		+5			
		iE	13 26	5		-19			
		iE	13 32	5		+21			
522	" 29	ePZ	08 35 19					9610	H 08 22 38
		iPNZ	35 24	5	+2		+7	86°5	
		iNZ	35 30	5	+5		-15		
		iZ	35 45	5			+11		
		iPPZ	38 45	7			+8		
		iS_N	45 51	10	-6				
		isS_N	46 09	7	-9				
		ePS_Z	46 52	14					
		i_N	47 05	9	-15				
		$ePPS_Z$	47 15	14					
		eSS_N	51 53	18					
		$eSSS_E$	54 58	23					
		eLQ_E	58.3	30					
		eL_N	59.2	37					
		eLR_{NZ}	09 02.7	37					
		MZ	05.5	27			34		
		MN	05.6	27	40				
		ME	07.7	22		11			
		MN	09.5	21	27				
		MZ	09.7	21			23		
		eW_2Z	10 48.6	23					
523	" 30	ePZ	00 00 27					11300	H 23 46 32
		ePPZ	04 31	8				101°7	(From Gutenberg's Tables)
		$iSKS_{NE}$	11 00	6	+4	+2			
		i_N	11 24	4	-6				
		iS_{NE}	12 06	8	+4	-10			
		i_N	12 10	8	-12				
		isS_N	12 23	8	+9				
		isS_E	12 24	8		-18			
		iPS_E	13 35	8		+4			
		eSS_E	18 53	11					
		iE	19 14	9		-9			
		$iPSPS_N$	19 42	15	+11				

(Continued on next sheet)

1952, November-December.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
523 cont.	Nov.30	iE	00 19 57	12		+11			
		eLQ_E	28.2	27					
		eLR_N	32.7	22					
		ME	37.6	21		8			
		MN	37.7	22	15				
		MZ	39.4	20			14		
		eW_2NZ	01 58.2	25					
		MNEZ	02 03.2	20	8	4	11		
525	" 30	iZ	19 41 42	4					
		$e(S)_N$	52 00	7					
		eE	52 16	7					
		eLR_N	20 10.1	22					
		MNZ	15.6	19	2		1		

Minor shocks: 1d 06.0h;4d 09.6h, 15.5h;5d 10.3h, 12.0h, 16.7h, 18.1h, 23.2h; 6d 01.9h, 06.1h, 11.7h, 14.9h, 18.5h;7d 01.9h, 03.0h, 04.3h, 06.1h, 07.4h & 21.5h;8d 03.0h, 05.7h, 10.5h, 17.7h;9d 05.3h, 05.8h, 06.7h, 07.0h, 08.1h, 10.2h, 19.2h, 21.4h;10d 00.9h;11d 01.5h, 06.3h, 19.0h;12d 03.5h, 14.6h; 13d 00.1h, 03.1h, 16.1h;14d 01.9h, 14.1h;15d 06.0h, 15.2h;16d 12.5h;19d 08.0h; 24d 02.5h, 05.9h, 08.4h, 12.2h, 15.4h;25d 03.8h, 06.7h, 07.2h, 10.1h; 26d 13.8h;30d 06.0h, 22.5h.

527	Dec. 1	ePZ	00 03 05					2740	H 23 57 47(Nov.30)
		iZ	03 29	3			+2	24°6	
		iZ	04 01	3			-1		
		iS_N	07 21	6	+2				
		isS_N	07 35	7	+2				
		iSS_N	08 17	9	-4				
		$iSSS_N$	08 30	9	-6				
		eLR_E	09.3	25					
		MEZ	12.1	16		5	6		
		MN	12.7	13	6				
529	" 2	iPZ	05 12 32	4			+2	3180	Compression
		iPPPZ	13 37	4			-2	28°6	H 05 06 37
		iS_E	17 17	5		+2			
		isS_N	17 31	4	-3				
		eL_EZ	20.8	23					
		iE	22 12	9		+3			
		MNE	22.4	12	1	3			
531	" 4	$iSKS_N$	04 14 37	7	+1				All readings from Wiechert.
		iS_N	15 02	7	-1				
		iS_E	15 05	5		+1			
		isS_N	15 44	6	-1				
		iSP_E	16 01	6		-1			
532	" 6	eE	03 40 26						
		iN	40 30	7	-4				
		MEZ	53.1	16		1	1		
535	" 6	iPNEZ	10 46 53	5	+9	+2	-12	3170	Dilatation
		iN	47 08	3	+(17)			28°5	H 10 40 59
		iZ	47 09	3			+54		
		iN	47 14	5	+55				
		iNEZ	47 22	8	-160	-30	+205		
		iN	47 36	6	-76				
		iZ	47 38	7			-90		
		iE	47 52	7		-27			
		iN	47 53	7	-88				
		iN	48 08	6	+105				
		iZ	48 40	7			-56		
		iS_{NE}	51 37	7	-70	+98			
		iN	51 41	10	+210				
		iZ	51 48	8			+116		* From Wiechert
		iE	52 13	7		+255			
		mN	52 17	7	71				
		iE	52 43	7		-205			
		iN	53 25	8	+71*				
		iN	53 42	8	-93*				
		MNE	57.3	10	215*	260*			

1952, December.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude A_N μ	A_E μ	A_Z μ	Δ km.	Remarks
	1952								
536	Dec. 6	iP_{NEZ}	20 56 16	5	+8	+2	-10	2970	Dilatation
		iN_Z	56 19	7	-24		+25	26°7	H 20 50 38
		iN	56 36	7	+8				
		iN_Z	56 44	7	+8		-9		
		$iNEZ$	56 51	7	-12	-3	+8		
		iZ	59 23	5			+5		
		iE	21 00 23	6		+5			
		iS_{NE}	00 47	7	-	+8			
		iN	00 52	10	+45				
		iZ	01 01	7			-18		
		iN	01 03	6	+67				
		iE	01 10	7		+42			
		iN	01 33	9	+53				
		iN	02 01	7	+14				
		iE	02 17	8		-30			
		eL_Z	03.7	24					
		MNEZ	06.4	12	48	55	16		
537	" 7	ePZ	01 03 14					9820	
		iZ	03 19	5			+6	88°4	Compression
		$iPPZ$	06 45	5			+5		H 00 50 24
		$iSKS_N$	13 35	5	+5				
		iS_E	13 55	7		-7			
		$iScS_N$	14 02	5	+9				
		isS_E	14 13	7		-7			
		iN	14 16	5	+8				
		iN	14 59	6	+6				
		eSS_{NZ}	19.7	25					
		eSS_E	19.8	27					
		eLR_N	31.3	33					
		MZ	38.4	19			13		
		MNE	38.9	19	15	9			
		eW_2N	03 07	24					
542	" 7	iP_{NZ}	20 25 55	4	-5		+6	2870	Compression.
		ipP_N	26 06	3	+2			25°8	H 20 20 25
		iZ	26 41	4			-3		
		iS_N	30 20	7	-3				
		iN	30 28	7	+10				
		iE	30 38	9		-4			
		isS_N	30 40	7	-16				
		iZ	30 43	7			-8		
		iZ	31 19	6			+5		
		eL_E	33.5	20					
		ME	35.7	15		8			
		MZ	38.7	12			7		
		MN	39.0	13	5				
544	" 8	$e(S)_N$	15 30 59						
		eE	38 42	12					
		eL_E	41.8						
		eL_N	48.3	30					
		MNE	51.4	20	3	1			
545	" 9	iP_{NEZ}	09 20 29	4	+4	+4	-6	2600	Dilatation
		ipP_{NZ}	20 55	5	+2		-2	23°4	H 09 15 31
		$iPPZ$	21 02	4			+4		h 0.015
		iE	21 05	4		-2			
		$iPPPZ$	21 16	5			+5		
		iS_{NE}	24 29	5	-20	+5			
		iZ	24 30	4			+6		
		iNE	24 36	5	-19	+5			
		iZ	24 41	5			+5		
		iE	24 44	7		+13			
		iN	24 49	6	+7				
		isS_{NE}	25 09	7	+24	-14			
		iSS_Z	25 30	7			+7		
		iSS_N	25 32	6	+14				
		$iSSS_N$	25 48	10	+47				
		iE	25 50	7		-10			
		iZ	25 54	7			-12		
		iE	26 07	6		-13			
		$iScS_{NE}$	31 21	4	-6	+5			

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
550	Dec.10	P_Z	08 13 12					3970	
		iE_Z	14 42	4		-2	-4	35°7	
		i_Z	14 47	4			+6		
		iE_Z	14 53	4		+3	-3		
		eS_E	18 46						
		eE	19 21						
		eLQ_E	21.2	19					
		i_N	22 00	12	-13				
		eLR_Z	23.0	19					
		MEZ	26.5	16		4	4		
		MN	26.7	12	4				
552	" 11	P_Z	09 10 41	3				9230	H 08 58 17
		i_Z	10 54	4			+6	83°1	Large micro-
		$iSKS_N$	20 54	4	-4				seisms present.
		iS_E	20 57	4		+7			
		$iScS_E$	21 10	4		+5			
		i_E	21 23	6		+6			
		eLQ_E	33.2	35					
		eLR_N	37.0	30					
		MZ	41.8	22			13		
		MN	42.4	22	20				
		ME	42.6	22		4			
553	" 12	$(i)_Z$	17 31 20	4			+3		Masked by large
		eL_N	38.5	24					microseisms.
		MNE	40.6	12	11	17			
559	" 18	$i(S)_N$	08 45 05	9	+4				
		iE	45 59	6		+3			
		i_N	46 22	7	+5				
		MN	50.3	12	3				
		ME	50.6	12		6			
560	" 18	eS_E	09 44 00						
		ME	10 10.6	20		3			
		MN	11.5	19	4				
		MZ	12.0	19			3		
561	" 18	iZ	10 22 17	3			+5		
		MNZ	11 22.0	19	4		3		
		ME	22.4	19		1			
562	" 18	eE	17 06 32						
		eL_E	08.4	20					
		ME	10.9	15		3			
563	" 19	$iPEZ$	19 12 59	4		+2	-3		Dilatation
		$i(pP)_{EZ}$	14 19	4		-2	+5		
		$i(PP)_Z$	14 38	4			-3		
		iZ	15 41	4			+3		
		iE	15 52	4		+2			
		iS_E	18 22	5		-3			
		iN	21 46	4	-6				
565	" 21	iZ	01 18 31	4			-2		
		iZ	19 06	4			-3		
		eE	21 55	16					
		ME	29.4	13		2			
566	" 21	iPZ	05 57 56	4			+3	3820	Compression
		iS_E	06 03 21	6		+5		34°4	H 05 51 10
		iS_N	03 22	6	-4				
		i_N	04 49	6	-6				
		eL_E	08.9	25					
		iNE	10 31	6	+41	+16			
		MNE	10.7	12	37	44			
		MZ	11.6	11			10		
568	" 22	iP_Z	22 37 35	2			-4		Dilatation
		i_N	48 36	6	+3				
		e_N	49 50	20					
		$e(SS)_N$	54 19	24					
		eLR_N	23 06.4	30					

1952, December.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
571	Dec.24	iPZ	08 39 21	3			+3	3230	Compression
		ipPNZ	39 33	3	+4		-9	29°1	H 08 33 21
		iNZ	39 46	4	+8		-8		
		iZ	39 55	4			-9		
		iN	40 05	4	-5				
		iZ	40 12	4			+10		
		iNZ	40 22	4	+9		-11		
		iN	40 38	4	+12				
		iS_N	44 09	7	+16				
		isS_N	44 25	8	-36				
		iZ	44 27	6			+12		
		iE	46 42	7		-34			
		eL_Z	48.1	21					
		eL_N	48.2	23					
		ME	49.9	18		32			
		MZ	50.4	19			34		
		MN	50.8	17	39				
572	" 24	$(eP)_Z$	18 06 16						
		$i(S)_N$	11 02	8	+6				
		iN	11 22	12	+21				
		eL_Z	15.0	30					
		MZ	16.8	20			19		
		ME	16.9	18		14			
		MN	17.5	19	22				
573	" 24	PZ	18 45 33	3				3200	
		ipPZ	45 42	4			+5	28°8	H 18 39 36
		iNZ	45 57	5	+7		-7		
		iN	46 42	5	-6				
		iS_N	50 19	8	-23				
		iN	50 33	8	+62				
		iZ	50 41	8			+25		
		iN	50 44	8	-77				
		iN	52 04	9	+17				
		eL_E	52.2	33					
		ME	56.4	18		140			
		MZ	56.6	18			186		
		MN	56.7	18	190				
		W_2NZ	21 22	27					
574	" 24	iPZ	21 43 02	3			-3	3270	Dilatation
		iZ	43 14	3			+7	29°4	H 21 37 00
		iS_N	47 52	8	+14				
		iZ	48 10	11			-24		
		iN	48 11	11	+52				
		iE	48 15	7		+12			
		eL_E	51.5	23					
		MEZ	53.9	18		45	58		
		MN	54.3	18	53				
575	" 25	iPZ	02 34 36	4			-2	3170	Dilatation
		iNZ	34 43	5	-3		-5	28°5	H 02 28 42
		iN	34 51	7	+8				
		iZ	34 54	5			-11		
		iZ	36 00	6			+2		
		iNZ	36 15	9	-5		+6		
		iZ	37 39	5			+4		
		iS_E	39 20	7		-5			
		iS_N	39 21	9	-14				
		iZ	39 22	6			+8		
		iNZ	39 43	12	-43		-32		
		iE	39 50	8		+9			
		iN	40 39	10	+26				
		iE	40 57	8		+22			
		iN	41 13	10	+24				
		eL_Z	43.0	28					
		MNEZ	45.5	18	96	61	76		
576	" 25	iZ	03 26 08	4			-6		Masked by coda of No.575
		$i(S)_N$	30 27	8	+5				
		eL_N	33.3	22					
		MNEZ	36.5	18	34	28	32		

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
577	Dec. 25	iPZ	03 56 59	3			-2	3100	Dilatation
		iZ	57 13	3			+5	27°9	H 03 51 10
		iPPZ	57 46	4			+4		
		iS_N	04 01 39	6	+4				
		iN	02 08	13	+29				
		eL_Z	05.3	28					
		ME	07.3	16		15			
		MN	08.3	16	25				
		MZ	08.5	16			21		
581	" 25	iZ	12 18 25	3			+2		
		iZ	19 11	3			-2		
		eN	23 02						
		eL_N	26.5	22					
582	" 25	iPZ	15 02 37	4			-3	3130	Dilatation
		eS_E	07 19					28°2	H 14 56 45
		iN	07 40	5	-4				
		iN	07 45	6	-5				
		iN	08 15	6	+5				
		eLQ_E	08.5	19					
		i_N	09 30	6	+5				
		eLR_N	10.2	28					
		MN	13.3	16	10				
		ME	13.3	13		8			
		MZ	13.5	15			11		
585	" 26	iPZ	11 20 18	2			+2	3160	Compression
		iS_E	24 28	4		-5		28°4	H 11 15 06
		e_N	27 21	13					h 0.08
		eE	27 25	10					
		$iScS_N$	29 54	4	-4				
587	" 26	i(P)Z	21 48 21	2			+4		Compression
		i(S)E	52 46	4		-3			
		iNE	53 16	4	+4	+6			
		iE	55 50	3		+5			
589	" 27	e(S)N	07 06 19						
		eL_E	08.1	20					
		ME	12.2	16		2			
		MNZ	12.4	19	5		5		
591	" 27	iPZ	16 33 35	4			-3	3130	Dilatation
		iS_N	38 17	6	-3			28°2	H 16 27 43
		iE	38 22	9		-4			
		iN	38 28	8	-5				
		iN	39 04	8	+6				
		eLR_Z	40.9	22					
		ME	41.9	16		5			
		MN	42.5	15	8				
		MZ	43.4	16			4		
594	" 28	iPZ	14 57 46	4			-2	5060	Dilatation
		ipPZ	57 57	4			-3	45°5	H 14 49 28
		eS_N	15 04 25	10					
		i_N	04 58	8	+6				
		iSS_E	07 50	7		-5			
		iSS_N	07 51	7	+7				
595	" 28	iPZ	15 09 52	3			-2	5060	Dilatation
		iZ	10 13	3			+5	45°5	H 15 01 34
		iE	16 24	12		+15			
		iS_N	16 31	10	-23				
		e_N	16 41	25					
		iSS_N	19 55	9	+26				
		iSS_E	19 58	9		+29			
		ME	28.6	21		35			
		MN	31.0	21	44				
		MZ	35.7	15			27		
599	" 29	i(P)Z	02 21 43	4			+3		Compression
		eS_N	21 52						
		i_N	33 00						
		eSS_N	37 29	19					
		eLR_N	48.2	30					

1952, December.
RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1952		h m s	s	μ	μ	μ	km.	
600	Dec.29	$(iP)_Z$	18 34 00	3			+2		Compression
		iZ	34 39	3			+2		
		eS_N	38 48						
		iN	39 19	9	+7				
		eL_E	42.6	19					
		ME	44.7	15		5			
		MZ	45.8	16			5		
		MN	56.7	15	8				
601	" 29	iPEZ	23 26 41	4		+2	-7	3180	Dilatation
		iS_{NE}	30 59	5	+3	+6		28°6	H 23 21 19
		iN	31 24	4	+2				h 0.06
		iE	31 27	4		-3			
		iN	31 41	6	-4				
		iN	33 53	6	+7				
		$iScS_E$	36 28	4		+5			
		iN	39 59	5	-3				
603	" 30	iZ	12 55 03	3			+3		
		$i(PP)_N$	55 35	6	+3				
		$i(S)_N$	59 38	9	-6				
		eL_N	13 04.6	21					
		ME	05.7	18		16			
		MN	06.7	15	10				
		MZ	06.9	15			7		
607	" 30	iZ	19 38 03	3			-2		This shock overlaps No.608
		iS_N	41 54	?	-				
		eL_N	46.8	25					
		MN	49.5	11	9				
608	" 30	iP_Z	19 41 47	3			+4	2690	Compression
		iZ	41 53	3			-4	24°2	H 19 36 34
		iS_E	46 01	6		-7			
		iN	46 06	6	-10				
612	" 31	$e(S)_N$	22 06 42						
		eL_E	19.6	23					

Minor shocks: 1d 06.6h; 3d 18.4h; 6d 04.3h, 08.5h; 7d 07.1h, 11.2h, 14.9h, 17.2h; 8d 14.0h; 9d 17.9h, 21.5h, 23.1h, 23.8h; 10d 14.3h; 13d 13.6h; 14d 03.5h, 05.2h; 15d 16.8h; 17d 23.7h; 20d 20.5h; 22d 20.5h; 23d 18.5h; 24d 03.8h; 25d 06.2h, 09.0h, 12.2h, 23.3h; 26d 20.4h; 27d 04.3h, 12.7h, 18.7h; 28d 05.2h, 17.9h, 19.6h; 29d 01.9h; 30d 07.9h, 16.8h, 17.8h, 17.9h, 22.9h; 31d 09.8h, 18.9h.

T.N.BURKE-GAFFNEY, S.J.
Director.

P.F.RHEINBERGER.

---oOo---

Unless otherwise stated, readings are from the Galitzins.
The amplitudes of initial impulses on the Galitzins are computed by Galitzin's method.
Jeffrey's & Bullen's Tables (1940) are used, unless otherwise stated.

CORRECTION 1951, March 23. Instead of iPEZ 21 43 44
Read iPEZ 21 43 51

Riverview College Observatory Acknowledges with thanks the receipt of the following Bulletins and Publications from July 17,1952 to July 27,1953.

Alger (Universite).....1952 February-1953 February.
Apia.....1951 October-1953 March.
Athens.....1952 May-Sept.,Nov.,Dec.;1953 January-April Prelim.
Azores.....1952 April-1953 March.
Barcelona.....1950 January-December.
Bermuda-C. .....1951 June-1952 May.
Bogota.....1951 June-1952 August.
Brisbane.....1952 April-June; 1952 July 10 to 1953 July 22 Provis.
Budapest.....1951 (Rapport);1952 Apr.,May, July-Dec.,1953 Jan.,Feb.
California University..1945 April-Dec., 1950, 1951 January-June.
Canada Eastern Div. ..1951 November-1952 September.
Resolute Bay...1951 October-1952 October
Western Div. ..1952 January-September.
Cartuja.....1950, 1951.
Cheb.....1952 March-Oct.,Dec., 1953 February-April Prelim.
Chinchina.....1951 June-1952 August.
Cleveland.....1953 January.
Coimbra.....1952 April-1953 March.
De Bilt.....1947; 1952 May-1953 April Prelim.
Djakarta.....1952 January-1953 April.
Ebro.....1952 May-1953 May Provis.
Fayetteville.....1952 April-1953 March.
Galerazamba.....1951 June-1952 August.
Harvard.....1952 January-June.
Heard Island.....1951 October-1952 February,November,December,
1953 January-June.
Helwan.....1943; 1952 May-Oct.,Dec.,1953 Jan.,March, April.
Hong Kong.....1952 May-1953 April.
Hurbanovo.....1952 April-1953 April Prelim.
India.....1943 July-Sept., 1948 March-December.
I.S.S. 1941
Istanbul.....1952 May-August Prelim.
Jesuit Seismol.Assoc. .1951 Nos.105-107,113-115,118-127,129-133,1952 700-708
Kalocsa.....1952 Apr.,May,July,Sept-Dec., 1953 Jan.,Feb.
Kecskemet.....1952 October-1953 February.
Kew.....1952 May-1953 April.
Kiruna.....1951 July-December.
Ksara.....1952 January-December Provis.
La Paz.....1950 January-December,1951 January,1952 Jan.-March.
Lisboa.....1952 March-1953 April.
Macquarie Island.....1952 September-1953 June.
Malaga.....1951 Oct-Dec.,1952 Feb-June, August.
Manila.....1952 July-1953 January, March-May.
Melbourne.....1952 January-1953 June.
Palisades.....1950 Septtember-December,1952 January-April,Sept-Dec.
Pasadena.....1951 Nos.3,4, 1952 No.1; Prelim.77, 78, 79; Provis.(by air) 1952 June 23-1953 July8; Local 1952 Jan-June
Pennsylvania.....1951 January-December.
Perth.....1952 January-1953 March.
Peshawar.....1953 March, April.
Pittsburgh.....1952 January-December.
Ponta Delgada.....1952 July-September.
Praha.....1950,1951(Pub.SUG BS 50,BS 51);1952 April-1953 Apr.Pre
Quetta.....1952 May-1953 April.
Rabaul.....1951 Octtober-December, 1952, 1953 January.
Rathfarnham.....1952 January-1953 March.
Reykjavik.....1952 January-December.
Rome.....1952 April,May,July-December, 1953 January-March.
Saint Louis.....1947 June, July.
Santa Clara.....1952 June-1953 February.
Seattle.....1951 January-1952 April.
Skalnate Pleso.....1952 April-1953 April Prelim.
Strasbourg B.C.I.S.....1952 January, April-July, Sept-Nov; Bull.d'ech. 1952 Nov.4, 1953 Nos.1, 2.
B.C.S.F.....1952 April,June-Sept.,Nov.,Dec., 1953 Jan.
I.P.G.....1952 May 1-June 11, Aug.1-Dec.10, 1953 Jan.10-May 20
Stuttgart.....1951 July-December, 1952 May-1953 April.
Switzerland.....1951 (Jahresbericht)
Szeged.....1952 April, May, July-1953 February.
Tacubaya.....1952 April-1953 April.
Tamanrasset.....1952 February-1953 February.
Tananarive.....1951 October-1952 June.

Tokyo (C.M.O) .....1951 January-December.
Toledo.....1952 April-1953 May; 1952 May-1953 March Prelim.
Trieste.....1952 January-September; Prelim. nos.22-25
Uccle.....1953 January 1-15, February-April.
Uppsala.....1950 July-1951 December.
U.S.C.G.S.....1946 July-Sept., 1949 October-December, 1950 January-June; cards 1952 89-179, 1953 1-40, 42-92; 1952 S 27-53, 1953 1-28; Data sheets 1952 January 2-1953 July 20.
Vienna.....1951 January-December, 1952 January-December.
Wellington.....1949 Oct-Dec., 1950 Jan-Sept.;1952 Jan-Dec.Provis.
Zagreb.....1950 January-June.

---oOo---

Apia Observatory, Annual Report for 1943; Magnetic and Met.Results 1949,1950.
Arkansas, University of, Seismological Bulletin Vol.1, nos 2-4, Vol.2, no.1.
Barcelona, Real Academia de Ciencias y Artes, Obs. Fabra Boletin No.39.
Beograd, Institut Seismologique Pub. No.20; Nov.Ser. nos.2-8; Monograph.no.1; Carte Seismolggique de Yugoslavie; Archiv Seismologique No.1; Catalogue des Tremblements de Terre Epiro-Albanais
Bogota, Instituto Geofisico de los Andes Colombianos Publ.No.8.
Budapest, Institut National Seismologique de Hongrie, A. Ser.1951, B.Ser.1951.
California University of, Bulletin of the Seismographic Stations Vol.15 Nos. 2-4, Vol.20 Nos1-4, Vol.21 nos.1-2.
Cambridge University, Dept. of Geodesy and Geophysics Annual Report 1951-52; Seismic refraction shooting in an area of the Eastern Atlantic by M.N.Hill,Ph.D.; The Earthquake Series in St. Kitts-Nevis, 1950-51 by Dr.P.L.Willmore; Seismic Refraction experiments in the Pacific by Dr.T.F.Gaskell; Earth Tides.
Carnegie Institution of Washington, Dept. of Terrestrial Magnetism, Annual Report of Director 1950-51, 1951-52; Fluid Motion of the earth's interior as inferred from geomagnetism by E.H.Vestine; A quick method of analysing ionospheric records by J.A.Ratcliffe.
Carnegie Institution of Washington, Annual Report of the Director of the Geophysical Laboratory 1949-50.
Cartuja, Boletin Mensual del Observatorio Observaciones Astronomicas y Sismicas 1950, 1951.
De Bilt, Kon. Ned. Met. Inst. Seismic records at de Bilt 1947.
Djakarta, Djawatan Meteorologie dan Geofisik, Verhandelingen Nos.42, 43.
Gottingen Akademie der Wissenschaften Nachrichten IIa 1952 nr.1-11, IIb 1952 nr.1,2.
Harvard University Seismograph Station, Bull. No.38. Committee on Experimental Geology & Geophysics Paper Nos.119,129,130, part A 131.
Helwan, Royal Observatory, Seismological & Magnetic Report for year 1943.
Hong Kong, Royal Observatory, Annual Departmental Reports 1951-52.
Japan Academy, Proceedings Vol.XX-XXV, XXVI nos.1,2-5, XXVII no.10, XXVIII nos.2-9, XXIX nos.1,2. Table of contents Vol.XXVI, XXVII, XXVIII.
Japanese Hydrographic Office, Bulletin No.31,32,33,34,35. Special No.9.
Jena, Zentralanstalt fur Erdbebenforschung, Mitteilungen des Deutschen Erdbegendienstes Heft 3.
Kiruna, Observatoire Geophysique, Observations Seismographiques Juillet a Decembre 1951.
Kobe Marine Observatory, Memoirs Vol.X.
Lamont Geological Observatory, Contributions Nos.9, 18-23, 24, 26, 28, 31-33, 35, 36, 44, 46, 47, 49, 41, 52, 56-58, 61. A seismic wave guide phenomenon. Surface area of deep sea sediments.
La Plata, Observatorio Astronomico de la Universidade Nacional, Publicaciones Serie Geofisica VIII.
Lisboa, Observatorio Central Meteorologico do Infabte D.Luiz, Anais Vol.LVIII, LIX, LX, 1 Parte. Inst.Geofis. Anais Vol.LXXXIX- Ano de 1951.
Lisboa, Servico Mat. Nac., Boletim Geomagnetico Preliminar Observatorio de San Miguel, Ano II-1952 no.5-7, 9-13, Ano III-1953 nos.1-4.
Liverpool Observatory & Tidal Institute, Annual Report 1952.
Macau, Servico Meteorologico, Resultados do Observacoes Meteorologicos Vol.1 num.1-12. Notas Cientificas nos.5, 6.
Malta, Royal University, General Abstract of Met. Observations 1952 Jan-Dec. Meteorological Records 1952 Jan-Dec. Meteorological Observations 1952
Melbourne, Bureau of Mineral Resources, A new Type of Surface Wave for Earthquakes by Dr. F. W. Wood.
Mizusawa, International Latitude Observatory, Publications Vol.1, no.1. The Determination of the Constant of Nutation from the Latitude Observations of the International Latitude Observatory. T. Hattori. On the Secular Variation of Latitude. Hattori. Latitude Variation in a Uniform System. Hattori. On the Periodic Components of Latitude Variation. Hattori. A New Study of Latitude Variation.Hattori.
New Zealand Dept. of Scientific & Industrial Research, Geophysical Memoir No.1

Ottawa, Dominion Observatory Publications Vol.XIV no.2, Vol.XIV no.10 Bibliography of Seismology, Vol.XVI nos.3,4. Contributions Vol.1 nos. 7, 8, 9, 13.

Pasadena, Seismological Laboratory, California Institute of Technology, Division of Geological Sciences Contributions nos.546,551,558,569, 575,582,587,591.
Wave velocities in the outer part of the Earth's mantle.Gutenberg. Earthquakes in California.Gutenberg. Arvin-Tehachapi Earthquake. Comptes rendus no.10 ter. Assco. Internat. de Seismologie et de Physique de l'Interieur de la Terre.

Pennsylvania, State College Geophysical Laboratory Seismograph Report XVI.

Pittsburgh, Seismological Observatory Bulletin Vol.2, No.4.

Porto, Instituto Geofisico da Universidade do Porto, Boletin Mensais e Resumo Annual 1951.

Praha, Geophysical Institute of the Czechoslovak Academy of Sciences, Publ. SUG BS 50, BS 51.

Rome, Instituto Nazionale de Geofisica, Settimana internazionale dei microsismi periodo 16 Marzo-5 Aprile 1952.

Saint Louis, Institute of Technology Publications nos.59-65. Annual Survey of Geophysical Education 1951-1952.

San Miguel, Observatorio de Fisica Cosmica, Boletin Mensual Vol.VI Julio-Deciembre 1951, Vol.VII Enero-Marzo 1952. Memoria No.1.

Strasbourg Universite, Annales de l'Institut de Physique du Globe, Nouv.Ser. Tome IX, X, XI, Deux. parte Seismologie. Le Seismographe composante verticale electromagnetique courte-periode de Strasbourg.Peterschmitt La structure de l'Atlantique. J. P. Rothe. La Radioactivite des Vosges Hercyniennes. J.P.Rothe & E. Peterschmitt.

Stuttgart Wurtt. Erdbebendienstes, Probleme und Aufgaben der Erdbebenforschung in Europa.

Sydney University, Dept. of Mathematics, On Strain Energy and Stress in the Earth's Upper Mantle. K.E.Bullen. On Density and Compressibility at Pressures up to Thirty million Atmospheres. K.E.Bullen.

Tokyo, Central Meteorological Observatory, The Seismological Bulletin of the Tokyo C.M.O. 1951. The Geophysical Magazine Vol.23, nos.1-3.

Tokyo University, Earthquake Research Institute Bulletin Vol.XXX part 2-4, Vol.XXXI part 1. Contents of the Publications 1926-51.

Tokyo University, Geophysical Institute, Geophysical Notes Vol.V no.1,2.

Toronto University, Geophysical Institute, Some considerations regarding geochronology with special reference to Precambrian Time. J.T.Wilson Orogenesis as the fundamental geological process. J.T.Wilson. The Refelection of a Pulse by a Spherical Surface.D.V.Anderson, T.D.Northwood & C.Barnes.

Trieste, Instituto Talassog afico Publ.No.256,277,278,279,280,281,285,286. Osservatorio Geofisico, Nouva Serie Publ.No.23-26.

Union Geodesique et Geophysique Internationale, Comptes rendus No.10, 10 bis, 10 ter. Bulletin d'Information 2 Annee No.2, April 1953.

Uppsala, Observatoire Meteorologique, Observations Seismographiques de Juillet 1950 a Decembre 1951. Bulletin Mensual Vol.LXXXIII.

Uppsala, Met. Inst. vid Kungl. Universite, Meddelande No.31.

Washington University, Publications in Seismology No.3.

Wellington, Seismological Observatory, Bulletin S-93, S-96.

Zagreb, Geofozicki Institut, Meteorological Bulletin 1949, Bulletin of Sunspot Observations 1949 June-1950 January.

Zagreb, Geophysical Institute, University of Zagreb, Papers III Ser.Br.1,2.

Zurich, Jahresbericht des Erdbebendienstes der Schweiz im Jahre 1951.