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	e : 1	$\frac{r}{T_o^2}$		T_s (Galv.)	T (Pend)	μ^s	V_s
N	1	208	7.7	6.6	0.004	4	11.8	11.9	+0.04	410
	3	154	9.4	6.5	0.028					
E	1	213	7.5	4.8	0.005	4	12.3	12.2	-0.02	490
	3	163	8.3	2.5	0.016					
Z	2					4	11.0	11.0	0.0	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.	
Unless otherwise stated, readings are from the Galitzins. The amplitudes of initial impulses on the Galitzins are computed by Galitzin's method. Jeffreys' & Bullen's Tables (1940) are used, unless otherwise stated.									
	1947		h m s	s	μ	μ	μ	km.	
1	Jan. 2	iP_Z	17 00 02	3			+4	3140	Compression
		eS_N	04 39	8				28°2	H 16 54 10
		iS_N	04 44	8	-8				
		isS_{NEZ}	05 03	8	-19	-4	+8		
		eLR_E	07.6	24					
		ME	09 30	14		7			
		MZ	11 47	16			12		
		MN	11 52	14	9				
		F	18 00						
2	" 3	eP_Z	02 28 53	7				8730	H 02 17 09
		iZ	32 18	5			+4	78°6	
		iS_E	38 46	10		+9			
		iS_N	38 47	10	+6				
		eSS_N	43 51	14					
		eLQ_E	49.4	24					
		MZ	58 54	20			6		
		ME	59 25	19		5			
		MN	59 43	20	4				
		F	05 20						
3	" 3	$e(P)_Z$	09 22 38						
		$e(S)_E$	32 29						
		MZ	52 41	19			1		
		F	10 25						
4	" 4	$e(P)_Z$	05 32 55	4					
		iN	32 59	4	+4				
		$e(S)_{NE}$	37 26	9					
		MZ	42 55	13			2		
		ME	43 01	12		1			
		MN	43 18	12	2				
		F	06 25						
5	" 4	eP_{NZ}	17 25 01	9				3010	H 17 19 19
		iS_N	29 34	10	-16			27°1	
		iZ	29 53	10			+15		
		iN	29 56	10	-43				
		iE	29 59	10		+28			
		iN	30 17	7	+41				
		eL_E	31.0	19					
		MZ	35 33	15			27		
		MN	36 08	12	29				
		ME	36 41	13		27			
		F	19 20						

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No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
6	Jan. 5	e?E	18 41.9						
		e?E	49.4						
		e(L)Z	54.8						
		F	19 15						
7	" 6	iP?Z	00 54 07	4			+4		Obscured by very heavy microseisms.
		iZ	54 25	4			-5		
		e(S)E	58 33	10					
		eLRE	01 01.1	25					
		eLRZ	01.4	23					
		MN	02 28	19	5				
		MZ	02 41	20			6		
		ME	03 03	16		3			
		F	01 20						
8	" 7	eN	07 44.6						Masked by heavy microseisms.
		eN	48.8	15					
		MZ	49 58	15			6		
		MN	51 16	16	2				
		ME	52 20	15		2			
		F	08 15						
9	" 8	iPZ	00 13 18	4			+3	5340	Compression.
		ipPZ	13 30	4			+4	48°0	
		eSN	20 13						Microseisms present.
		ePSN	20 23	8					
		eE	23 45	9					
		eN	23 52	12					
		iN	29 34	4	+4				
		iE	29 41	4		-4			
		eLN	29.7	21					
		MN	31 08	18	4				
		ME	31 48	18		4			
		MZ	36 26	16			3		
		F	01 05						
10	" 9	e(P)Z	12 28 12						
		eSNE	37 51						
		eLQE	50.2	18					
		MZ	58 47	20			3		
		MN	59 32	19	2				
		ME	13 00 32	20		2			
		F	13 55						
11	" 10	eN	02 22.7						
		MNE	39.1	10	1	1			
		F	02 50						
12	" 10	e?Z	05 08.0						
		MZ	18 03	9			1		
		F	05 25						
13	" 10	eLNE	16 16.3	13					
		F	16 20						
14	" 10	eN	21 14.9						
		eLE	15.7	14					
		MN	17 33	11	1				
		ME	18 38	13		1			
		F	21 25						
15	" 10	e(P)E	21 54 48						
		eE	59 15	8					
		eLN	22 00.8	20					
		ME	01 57	14		1			
		MZ	02 19	16			2		
		MN	02 41	14	1				
		F	22 40						
16	" 11	eLEZ	03 51.6	18					
		F	04 00						
17	" 11	i(S)N	20 23 13	8	-2				Masked by microseisms.
		eLZ	25.5	20					
		ME	28 51	15		1			
		MZ	29 09	15			2		
		MN	29 22	13	2				
		F	21 00						

RIVERVIEW COLLEGE OBSERVATORY
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No.	Date 1947	Phase	Time (G.M.T.) h m s	Per. s	Amplitude AN μ	Amplitude AE μ	Amplitude AZ μ	Δ km.	Remarks
18	Jan.15	eLR_Z	19 20.3	25					
		MEZ	35.8	17		1	1		
		F	Merged in	No.19					
19	" 15	iS_E	19 53 35	8		+3			Preliminaries obscured by microseisms.
		$i(sS)_{EZ}$	56 48	9		+6	+2		
		i_N	56 52	9	+5				
		i_Z	57 05	7			+3		
		$i(ScS)_N$	58 51	7	-4				h 600? km.
		MN	20 01 48	12	1				
		F	20 20						
20	" 18	$e(P)_Z$	04 18 27	8					Obscured by heavy micro-seisms.
		eS_{NE}	22 05	8					
		i_{NE}	22 16	6	-6	+8			
		eLQ_N	22.4	14					
		i_Z	22 28	7			-8		
		eLR_N	23.1	21					
		$eLRZ$	24.0	20					
		MN	24 09	19	4				
		ME	25 05	17		3			
		MZ	25 34	18			5		F 04 45
21	" 21	$eLRNEZ$	20 58.5	25					
		F	21 15						
22	" 23	ME	16 50.4	18					A few waves.
23	" 24	eS_N	17 07 50	12					
		$iPPS_N$	08 22	13	+12				Masked by heavy microseisms.
		$ePPS_E$	08 24	13					
		e_N	08 35	18					
		$iSSS_E$	15 24	10		-7			
		e_E	18.2	20					
		ME	21 58	20		7			
		MNZ	34.3	17	4		3		F 18 00
24	" 24	$e(S)_N$	21 39 22	9					
		eL_E	41.6	21					Masked by micro-seisms.
		ME	44 34	14		3			
		MN	46 01	15	3				
		MZ	46 07	15			3		F 22 05
25	" 25	$e(SKKS)_E$	04 19 50	8					
		$e(PS)_E$	23 15	14					Masked by micro-seisms.
		eLR_E	49.0	36					
		eLR_Z	49.4	30					
		MN	55 41	18	2				
		MEZ	56.4	20		2	3		
		eW_2E	05 59.0	22					F 06 20
26	" 26	eZ	10 22 45	11				13,780	
		$iPKP_Z$	25 33	4			+5	124°	Compression,
		ePP_E	27 13	16					
		ePP_Z	27 21	15					h 0.01 ca.
		$epPP_E$	27 43	19					
		eZ	27 49	21					
		i_Z	28 27	11			+13		
		$iSKS_{NE}$	32 23	7	-7	+14			
		$iSKKS_E$	34 05	9		+38			
		i_E	34 22	9		+29			epPP, $iP'_2P'_2$ and eG_2 are after Gutenberg.
		$iSKSP_{EZ}$	37 08	10		+21	-42		
		eSS_E	44 07	22					
		ME	44 28	35		49			
		e_E	44 48	48					
		$iP'_2P'_2E$	47 10	16		-52			
		eLQ_E	58.8	36					
		eLR_Z	11 03.6	30					
		MNZ	06.3	22	16		17		
		ME	06 30	22	13				
		eG_2E	58 39	50					
		eW_2N	12 06.3	27					
		MN	14 45	23	3				
		MZ	17 31	24			9		
		ME	17 48	22		3			
		F	12 45						

RIVERVIEW COLLEGE OBSERVATORY,

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No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1947		h m s	s	μ	μ	μ	km	
27	Jan.28	eL$_E$	04 27.6	14					A few waves.
		F	04 35						
28	" 28	eE	10 43 52						
		eE	48 23						
		eL$_E$	56.9	20					
		MEZ	11 04.3	19		2	3		
		F	11 30						
29	" 29	iSKS$_N$	08 41 13	6	+8				Masked by large microseisms.
		e$_N$	42 22	6					
		e$_N$	44 53	10					
		F	09 05						
30	" 29	eL$_E$	18 43.0	20					Masked by micro-seisms.
		F	19 00						
31	" 30	iP$_{NZ}$	14 42 16	7	+6		+6	2320	Compression
		iPPP$_{NZ}$	42 51	7	+8		+5	20°9	
		iS$_E$	46 02	10		+7			H 14 37 38
		iS$_N$	46 08	8	+8				
		iPcP$_Z$	46 23	6			+13		
		eLR$_{NZ}$	47.1	20					
		ME	49 18	10		31			
		MNZ	49 21	12	12		9		
		iZ	50 17	8			+22		
		F	15 55						

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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	$\epsilon : l$	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	214	7.7	6.5	0.002	4	11.8	11.9	+0.04	410
	3	156	9.4	6.1	0.027					
E	1	228	7.3	4.9	0.006	4	12.3	12.2	-0.02	490
	3	177	8.2	4.2	0.013					
Z	2					4	11.0	11.0	0.0	450

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
			h. m. s.	s.	μ	μ	μ	km.	
Unless otherwise stated, readings are from the Galitzins. Tha amplitudes of initial impulses on the Galitzins are computed by Galitzin's method. Jeffreys' & Bullen's Tables (1940) are used unless otherwise stated.									
	1947		h m s	s	μ	μ	μ	km.	
32	Feb. 2	iP_Z	18 55 30	4			+2	2640	Compression.
		iP_{NE}	55 32	4	+3	+3		23°7	h 0.01
		ipPZ	55 55	5			-5		H 18 50 27
		iPP_E	56 10	4		+3			
		iPP_{NZ}	56 12	4	-5		+8		
		$iPPP_N$	56 22	4	+4				
		iS_N	59 34	7	-9				
		iS_E	59 35	7		-5			
		i_N	59 41	7	-13				
		isS_{NE}	19 00 13	6	+14	-6			
		i_N	00 51	7	-20				
		i_N	01 03	7	+28				
		ME	03 18	14		3			
		MZ	03 30	14			2		
		MN	03 39	14	4				
		F	19 50						
33	" 3	eP_N	09 58 57	3				3280	Readings from the
		e_E	59 46	3				29°5	Wiechert.
		$ePPP_N$	10 00 05	5					
		eS_E	03 47	8					
		eSS_E	05 23	9					
		eLR_E	07.7	16					
		ME	08 34	13		5			
		MN	09 19	12	3				
		F	10 30						
34	" 6	e(P)Z	14 59 39						
		e_E	15 0 31	13					
		$e(S)_E$	04 32	9					
		e_N	05 11	9					
		eLEZ	06.3	27					
		MN	07 22	20	5				
		ME	08 21	20		8			
		MZ	08 50	19			10		
		F	15 40						
From Feb.3, 06h 22m to Feb.5, 04h 25m no Galitzin records were obtained									

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
	1946								
35	Feb. 7	iP_{NZ}	08 46 06	5	+4		-5	2860	Dilatation
		i_{NE}	46 23	4	+15	+9		25°7	H 08 40 37
		i_N	46 53	4	+13				
		i_E	47 03	4		+7			
		iS_N	50 30	5&15	-18				
		isS_Z	50 44	11			+37		
		i_N	50 54	11	-41				
		i_E	50 57	10		+31			
		i_Z	51 08	14			+58		
		i_E	51 22	11		+34			
		i_N	51 25	9	+54				
		i_Z	51 59	10			+47		
		eLR_{EZ}	52.6	30					
		MN	53 51	22	103				
		MZ	54 08	22			125		
		ME	55 32	19		50			
		$iScS_E$	57 03	12		+28			
		F	10 25						
36	" 7	e_E	14 39.7						
		eL_E	42.7	19					
		F	14 50						
37	" 8	e_E	20 09.3						
		eL_E	13.1	15					
		MNE	14.3	13	3	4			
		MZ	14 50	11			4		
		F	20 50						
38	" 9	e_E	05 26.7						
		ME	35 55	15		1			
		MZ	36 05	15			1		
		F	05 50						
39	" 9	$i(P)_Z$	19 02 06	4			+4		Compression
		e_N	18 44	9					
		e_E	19 03	12					
		eL_E	23.2	20?					
		ME	27 39	19		2			
		MN	28 59	18	1				
		MZ	29 14	20			3		
		F	19 40						
40	" 10	ePP_Z	04 18 37	8				10,100	Δ from Gutenberg's Tables.
		$eSKS_N$	25 29	8				91°	
		$eSKKS_E$	25 41	7					
		eS_N	25 58	11					
		i_Z	26 59	5			-2		
		ePS_N	27 05	15					
		ePS_Z	27 14	15					
		iSS_E	32 03	9		+4			
		eLQ_N	39.7	22					
		e_E	42.6	30					
		eLR_E	43.2	42					
		MNE	48 31	30	20	20			
		MN_2	52 59	22	10				
		MEZ	54 31	24		7	10		
		eW_2Z	06 25.9	20					
		F	07 00						
41	" 10	eL_E	08 43.4	15					
		F	08 50						
42	" 10	e_N	19 37 42	11					
		eL_Z	39.7	20					
		MZ	41 31	17			2		
		ME	41 51	17		2			
		F	19 55						
43	" 11	i_Z	10 14 53	6			+3		
		e_E	20 54	5					
		i_N	20 56	5	+2				
		e_E	22 09	5					
		i_E	24 12	5		-1			
		ME	32 32	15		1			
		F	10 45						

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No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
44	Feb.11	eE	19 16.1	15					
		ME	22.0	13		1			
		F	19 50						
45	" 12	eL_E	10 55.7						
		F	11 05						
46	" 12	eL_E	20 44.0	24					Masked by micro-seisms.
		ME	47 20	19		3			
		MZ	48 12	20			4		
		F	21 00						
47	" 15	e(S)Z	18 52 37						Obscured by large microseisms
		i(S)NE	52 38	7	+7	+6			
		eL_E	54.8	21					
		F	19 05						
48	" 16	eLZ	01 36.6	21					Masked by micro-seisms.
		MEZ	38.1	20		1	2		
		F	01 50						
49	" 18	ePZ	13 40 40	3				7500	
		iPNZ	40 42	4	+3		-4	67°5	Dilatation
		ipP_Z	42 07	5			-3		h 0.06
		isP_Z	42 52	5			+3		H 13 30 27
		iS_E	49 04	9		+6			
		$iScS_E$	50 03	7		+4			Gutenberg's
		isS_E	51 44	8		-3			Tables give;
		i_E	52 59	9		+7			Δ 7540 km, 67°8,
		eL_E	58.4	27					h 400 km.,
		MEZ	14 02.0	16		3	2		H 13 30 23
		MN	03 31	15	2				
		F	14 50						
50	" 20	eE	06 01.6						
		eL_N	02.8	14					
		MNE	05.3	12	1	1			
		F	06 20						
51	" 20	MN	23 07.3	12	1				A few waves.
		ME	08.0	12		1			
		F	23 20						
52	" 21	iN	22 21 01	7	+6				Masked by micro-seisms.
		eE	22 00	13					
		eL_E	34.1	19					
		MZ	40 51	19			3		
		F	23 05						
53	" 23	eLZ	17 56.9						Masked by very large microseisms
		F	18 00						
54	" 24	ePPZ	17 51 29	5				13,000ca	
		iPPZ	51 42	5			-5	117°ca	
		$iSKS_{NE}$	57 13	8	-3	+3			
		ePS_N	18 01 17	16					
		ePS_E	01 27	15					
		ePS_Z	01 32	16					
		eE	02 41	16					
		eSS_E	07 40	18					
		mE	09 11	18		4			
		eLR_{EZ}	26.5	30					
		MN	30 31	20	3				
		ME	30 42	19		5			
		MZ	30 57	19			7		
		F	20 20						
55	" 26	eL	05 48.3						A few long waves
56	" 26	e(L)E	15 00.5	15					
		ME	03 11	11		1			
		F	15 20						
57	" 28	eE	04 26 12	14					Masked by micro-seisms.
		eLE	29.0	21					
		ME	31 57	18		7			
		MNZ	32.1	18	4		7		
		F	05 15						

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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	$\epsilon : l$	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	206	7.7	5.9	0.004	4	11.8	11.9	+0.04	410
	3	144	9.6	5.1	0.029					
E	1	228	7.3	4.7	0.014	4	12.3	12.2	-0.02	490
	3	174	8.2	5.6	0.019					
Z	2					4	11.0	11.0	0.0	450

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

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h. m. s.	s.				km.	
58	Mar. 1	ME	03 44 09	16		1			A few waves.
59	" 2	iPNZ	19 15 29	5	-20		+21	3320	Compression
		iNZ	16 10	5	+23		-26	29°9	H 19 09 22
		iPPN	16 28	5	+21				
		iPPPNZ	16 41	5	+38		-24		Masked by very
		iSN	20 23	9	+34				large microseisms.
		isSN	20 38	7	-30				
		iN	21 02	8	-46				
		iEZ	21 18	7		-38	-29		
		i(SS)Z	21 49	8			+33		
		ME	28.5	13		80			
		MN	29.6	10	60ca				
		MZ	29.9	11			72		
		F							
60	" 4	eE	17 49 42	8					
		eLE	52.6	19					
		MN	53 08	12	1				
		MZ	54 04	16			2		
		ME	54 40	15		1			
		F	18 15						
61	" 5	eLZ	17 57.0						
		MEZ	58.5	17		1	2		
		F	18 10						
62	" 8	eLNE	15 27.5	22					
		MN	31 45	11	3				
		MEZ	34.1	16		3	4		
		F	16 15						
63	" 9	eLE	10 18.9	24					
		ME	20 30	15		1			
		F	10 30						
64	" 11	e(L)E	23 10.8						
		MEZ	14 21	18		2	3		
		F	23 30						
65	" 16	eE	10 02.9						
		ME	11 05	19		5			
		F	10 20						

N.B. Large microseisms from Mar.10 to Mar.13, and very large microseisms from Mar.14 to Mar.18

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1947		h m s	s	μ	μ	μ	km.	
66	Mar.17	iPZ	08 31 59	3			+4	9470	Compression
		iZ	32 03	5			-17	85°2	H 08 19 25
		iS_{NE}	42 25	8	-12	-30			Large micro-
		iSKSN	42 40	9	+20				seisms present.
		iE	47 55	9		+9			
		eSSE	48 04	28					
		eSS_N	48 18	28					
		$e(G)_E$	53.7	34					
		eLQN	55.4	60					
		eLN	57.1	52					
		MN_1	09 04 36	26	31				MN_1,ME & MN_2 are
		ME	07 18	23		26			from the Wiechert
		MN_2	08 04	23	37				
		$M(W_2)NZ$	10 45.2	20	8		13		
		ME	46 04	20		5			
		F							
67	" 21	eLZ	15 51.4	19					A few lnng waves
		F	16 00						
68	" 23	$e(S)_N$	01 08 05	8					
		eLQE	11.3	30					
		eLRZ	12.9	25					
		ME_1	14 35	16		5			
		MN	15 38	16	2				
		MZ	15 51	17			6		
		ME_2	18 00	11		8			
		F	$\cup_2$ 00						
69	" 25	e_N	02 25.6	18					Masked by micro-
		eLE	28.1	20					seisms.
		MEZ	31.0	19		4	4		
		MN	31 33	19	3				
		F	02 55						
70	" 25	iE	18 10 09	8		-4			Masked by micro-
		eN	10 17	10					seisms.
		eLE	13.3	18					
		ME	14 44	13		5			
		MN	15 43	11	3				
		F	18 30						
71	" 25	iPNEZ	20 37 18	6	+10	-24	+35		Compression
		iN_E	37 35	8	-32	+55			
		iPPZ	37 45	7			-		
		iPPE	37 47	7		+63			
		iPPPZ	37 55	8			+82		
		iNE	37 59	8	-26	-48			
		iE	38 18	10		-100			
		iN	38 23	11	-42				
		iZ	38 28	12			+185		
		iE	40 14	10		+90			
		iN	41 31	9	+37				
		iE	41 33	9		-54			
		iN	41 43	9	-49				
		iE	41 49	11		-100			
		iSS_Z	41 54	16			+180		
		iSS_N	41 58	11	-79				
		iSS_E	42 03	11		-110			
		$iSSS_{NE}$	42 11	15	-300	-300			
		$iSSS_Z$	42 14	21			+315		
		eLE	43.2	32					
		MZ	45 32	20			760		
		MN	46 29	15	900				MNE from Wiechert
		ME	46 38	15		700			
		F	00 15						
72	" 26	eLZ	09 23.5						
		MNE	25 15	13	4	3			
		MZ	27 32	14			2		
		F	09 50						

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude			Δ	Remarks
					A_N	A_E	A_Z		
	1947		h m s	s	μ	μ	μ	km	
73	Mar.27	e_E	04 51 00	10					Masked by micro-seisms.
		e_N	51 18	10					
		i_E	52 14	7		+4			
		eL_E	53.9						
		M_E	55 15	15		2			
		M_N	56 40	13	2				
		M_Z	59 04	10			2		
		F	05 15						
74	" 27	iP_Z	18 30 17	4			-4		Dilatation
		e_E	34 41	10					
		e_Z	34 43	10					
		$e(SS)_Z$	35 03	12					
		eL_E	36.8	20					
		eL_{NZ}	37.1	21					
		M_N	39 22	15	3				
		M_{EZ}	39.6	16		5	6		
		F	Merged in	No.75					
75	" 27	$e(PP)_E$	19 25 23						
		$i(S)_E$	29 28	9		+8			
		eL_E	33.1	27					
		M_E	34 55	20		3			
		M_Z	35 10	19			5		
		M_N	35 57	15	2				
		F	20 20						
76	" 29	e_N	13 12.2						
		M_N	14 50	11	1				
		F	13 20						
77	" 30	eL_Z	00 01.5	18					
		M_{NE}	03 45	13	1	1			
		F	00 15						
78	" 30	eL	03 06.5	18					A few long waves
		F	03 20						

T.N.BURKE-GAFFNEY,S.J.
Acting-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	Vs
N	1	203	7.7	7.2	0.003	4	11.8	11.9	+0.04	410
	3	153	9.4	8.3	0.020					
E	1	231	7.2	5.5	0.017	4	12.3	12.2	-0.02	490
	3	181	8.2	4.9	0.025					
Z	2					4	11.0	11.0	0.0	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.	
Unless otherwise stated, readings are from the Galitzins. The amplitudes of initial impulses on the Galitzins are computed by Galitzin's method. Jeffreys' & Bullen's Tables (1940) are used, unless otherwise stated.									
	1947		h m s	s	μ	μ	μ	km.	
79	April 2	iPZ	05 46 04	7			+18	3800	Compression
		iPNEZ	46 10	10	+47	-23	-76	34°2	
		iPPNE	47 14	11	-39	+20			
		iPPPE	47 32	11		+25			
		iPPPN	47 33	11	-85				
		iSN	51 27	12	+30				
		iE	51 41	11		+93			
		iN	51 58	9	+110				
		iN	52 27	9	-69				
		iE	52 32	9		-60			
		iN	53 10	12	-140				
		iE	54 34	11		-110			
		iE	55 43	12		+150			
		eLE	55.8	35					
		i(ScS	E 56 15	7		+90			
		ME1	06 00 17	15		980			ME1, MN1, ME2 & MN2 are from the Wiechert.
		MN1	00 26	15	650				
		MZ1	01.0	14			250		
		ME2	02 34	11		650			
		MZ2	02.8	13			460		
		MN2	04 00	11	570				
		eW2N	08 26.5	27					
		ME	27 38	24		5			
		MZN	28.1	24	6		7		
		F	10 45						
80	" 2	eNE	16 06.7	7					
		eLN	08.9	17					
		F	16 20						
81	" 2	iPZ	20 55 43	5			+7	7150	Compression
		iSNE	21 04 17	6	-8	+3		64°3	H 20 45 09
		iZ	04 29	7			-7		
		iPSN	04 42	6	+6				Gutenberg's Tables give Δ 7240km., 65°2 H 20 45 00
		iN	05 16	5	-6				
		iSKSN	05 31	7	-5				
		eE	06 06	18					
		eE	07 58	15					
		eN	08 01	18					
		ME1	20 20	27		16			
		MZ	21 34	20			13		
		MN	22 45	19	15				
		ME2	23 29	19		16			
		F	Merged in No. 82						

RIVERVIEW COLLEGE OBSERVATORY, SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
82	Apr. 2	ME	21 59 52	15		3			Masked by Coda
		MN	22 00 19	14	3				of No.81
		MZ	00 53	15			4		
		F	22 35						
83	" 3	ePZ	21 15 48	7					
		iPZ	15 55	5			-4		Dilatation.
		$iPPZ$	16 26	5			-4		
		$iPPPZ$	16 44	5			-5		
		$e(S)E$	20 15						
		$eLQN$	21.3	19					
		eLE	22.1	27					
		$eLRZ$	22.4	25					
		MN	24 48	16	8				
		ME	25 03	15		7			
		MZ	25 48	16			8		
		F	22 50						
	" 4	Long waves, possibly non-seismic, from 01h 45m to 02h 50m.							
84	" 6	$eLNE$	23 05.5	21					
		eLZ	05.6	20					
		MNE	06.0	15	3	8			
		MZ	07 15	21			4		
		F	00 --						
85	" 7	eLE	02 13.9	18					
		MNE	14 42	15	3	6			
		iN	15 40	6	+5				
		MZ	17 54	13			3		
		F	02 30						
86	" 9	eN	09 11 14	6					
		eEZ	11 21	7					
		eLE	13.9	16					
		F	09 25						
87	" 9	eLE	12 30.3	23					
		ME	34 07	14		1			
		MZ	35 28	14			2		
		F	12 45						
88	" 10	$ePEZ$	15 51 17	8					
		$eLRZ$	57.8	27					
		MN	59 48	16	2				
		MZ	16 00 29	17			5		
		ME	00 50	16		4			
		F	Merged in	No.89					
89	" 10	eE	16 12.2						
		eLE	33.3	22					
		MEZ	55.7	19		3	4		
		F	Merged in	No.90					
90	" 10	ME	18 11 47	18		1			
		MZ	12 13	18			2		
		F	18 45						
91	" 11	iPZ	14 39 47	5			+6	6920	Compression
		iSN	48 09	6	+4			62°3	H 14 29 25
		eSE	48 09	10					
		e E	48 20	19					
		$iPSN$	48 31	6	+5				
		$ePPSE$	48 41	11					
		$e(L)E$	53.8	20					
		eLZ	55.4	20					
		ME_1	15 01 02	17		4			
		MN_1	01 38	17	2				
		MZ_1	02 35	17			3		
		MNZ_2	06.4	19	4		8		
		ME_2	06 31	19		5			
		F	16 05						
92	" 11	eN	19 49 00	8					
		eLE	54.1	15					
		MEZ	56.2	15		2	3		
		MN	57.0	12	2				
		F	20 10						

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km	
93	Apr.14	iP_Z	03 07 45	3			+4	2450ca	Compression
		$iPPP_Z$	08 23	7			-8	22°ca	
		iN	08 24	7	-6				
		eLQ_E	12 08	24					
		iSS_N	12 21	10	+15				
		eLR_Z	12.9	24					
		MZ	14 35	19			26		
		MN	15 06	15	14				
		ME	16 49	12		16			
		F	05 10						
94	" 14	iP_Z	07 27 36	4			+4	8800	Compression
		$iPcPNZ$	27 46	6	+4		+18	79°2	Slightly deeper
		ipP_Z	27 55	6			+6		than normal.
		iS_{NE}	37 32	10	+25	+36			H 07 15 33
		$iScS_{NE}$	37 49	8	+16	-19			
		eE	37 52	21					
		iE	41 49	10		-7			
		mE	42 24	22		13			
		iSS_N	42 39	19	-32				
		eE	45.4	26					
		$iSSS_N$	45 57	13	+20				
		eLQ_E	47.9	23					
		eG_E	49.1	32					
		eLR_{EZ}	52.8	31					
		MN	57 30	20	44				
		MZ	57 45	20			70		
		ME	08 03 13	19		31			
		$M(W_2)_{NZ}$	09 50.4	21					
		F	11 20						
95	" 18	iP_{EZ}	14 29 37	4		-5	+5	2480	Compression
		iS_N	33 35	8	+9			22°3	
		eLQ_E	34.2	21					
		eSS_N	34 16	10					
		$eSSS_N$	34 28	10					
		eL_N	34.7	23					
		eLR_{NZ}	35.1	19					
		MZ	36 21	16			3		
		ME	36 44	15		3			
		MN	37 03	13	9				
		F	15 10						
96	" 18	$e(PP)_Z$	20 24 35						
		iS_E	28 08	6		-4			
		iS_N	28 09	7	+7				
		i_N	28 42	10	+8				
		eLR_{NZ}	30.3	17					
		MNE	32 19	13	3	3			
		MZ	33 52	15			4		
		F	21 10						
97	" 19	e_E	01 09.9						
		eL_E	11.4	22					
		ME	14 00	13		2			
		F	01 20						
98	" 21	iP_Z	03 30 59	6			+4	4840	Compression
		ePP_Z	32 39	6				43°5	H 03 22 57
		$iPcP_Z$	32 45	5			+4		
		iS_N	37 23	6	-4				
		iS_E	37 25	8		+3			
		$e(SS)_{NE}$	40 42	11					
		$iScS_E$	40 58	6		+4			
		eLR_E	43.5	21					
		ME	45 43	19		9			
		MN	45 52	19	8				
		MZ	49 22	18			10		
		F	05 30						
99	" 21	e_E	20 35 20						
		e_Z	38 31	9					
		MNE	43.9	18	4	4			
		MZ	47 27	18			4		
		F	21 10						

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
100	Apr.22	eE	05 39 21						
		eE	42 31						
		eLE	47.5	19					
		eLZ	50.0	20					
		MN	50 46	12	2				
		MEZ	51.5	15		2	3		F 06h 20m
101	" 24	ePKPZ	19 55 08						
		eLQE	20 38.9	30					
		eLRZ	49.5	26					
		MZ	56 25	20			27		
		MNZ	56.8	20	9	11			
		eW2Z	21 21.4	20					
		F	22 20						
102	" 25	eLEZ	10 04.1	20					
		F	10 20						
103	" 26	eE	08 10 36	7					
		F	08 15						
104	" 26	iPEZ	12 52 48	6		+2	+4	5290	Compression
		iN	52 51	6	+3			47°6	H 12 44 13
		iPcPZ	54 17	4			+3		
		iPPZ	54 37	5			+4		Gutenberg's
		iPPPZ	55 28	5			+3		Tables give;
		eSNE	59 40	8					Δ 5300 km, 47°7
		eSSZ	13 03 10	14					H 12 44 08
		iNE	03 13	7	+5	-3			
		iE	03 22	7		-4			
		iE	03 28	7		+6			
		MEZ	10 21	17		2			
		MN	14 12	19	3				
		MZ	15 07	18			5		F 14h 00m
105	" 26	iPZ	17 33 40	5			+6	5290	Compression
		iN	33 42	5	+2			47°6	H 17 25 05
		iPPZ	35 29	5			+3		
		eSNE	40 31	9					Replica of No.
		eSSZ	44 03	12					104
		iE	44 05	6		-3			
		iE	44 13	8		-7			
		MEZ	51 13	17		2			
		MN	55 47	16	2				
		MZ	56 01	18			4		F 18h 35m.
106	" 27	iPZ	12 26 47	3			+5	2570	Compression
		ipPNE	26 53	4	+4	+4		23°1	
		ipPZ	26 54	4			-6		
		iE	27 09	4		-4			
		iZ	27 11	4			-6		
		iSN	30 52	6	+4				
		isSE	31 08	6		+5			
		eLQNE	31.3	15					
		iSSE	31 33	8		-8			
		iSSN	31 36	10	+11				
		MNE	34.7	16	3	3			
		MZ	36 25	15			3		
		F	13 30						
107	" 29	eN	07 45 34	8					
		eE	45 46	8					
		eLZ	49.1	22					
		F	Merged in No.108						
108	" 29	eE	07 47 42	7					
		eE	49 42	8					
		eLEZ	58.1	23					
		ME	08 02 28	16		1			
		MZ	04 39	15			1		
		MN	07 23	13	1				F 08h 35m
109	" 29	eE	09 27 18	10					
		eLEZ	32.1	20					
		MEZ	36.4	16		1	2		
		MN	37 16	12	1				
		F	09 55						

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

P.F.RHEINBERGER

No. 5 1947, May.

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	$\epsilon : 1$	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	209	7.5	7.4	0.002	4	11.8	11.9	+0.04	410
	3	131	9.4	7.3	0.012					
E	1	232	7.1	6.3	0.016	4	12.3	12.2	-0.02	490
	3	143	8.1	5.6	0.017					
Z	2					4	11.0	11.0	0.0	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.	
Unless otherwise stated, readings are from the Galitzins. The amplitude of initial impulses on the Galitzins are computed by Galitzin's method. Jeffreys' & Bullen's Tables (1940) are used, unless otherwise stated.									
	1947		h m s	s	μ	μ	μ	km.	
110	May 2	eSE	02 43 35	10					Preliminaries masked by microseisms.
		iSE	43 42	10		-3			
		isSE	44 06	10		-3			
		eLRZ	03 03.7	34					
		MNE	07.3	18	1	1			
		F	03 30						
111	" 3	e(PcP)Z	9 47 04						
		iSE	55 59	6		-3			
		iSN	56 02	6	+3				
		iPSN	56 20	5	+3				
		ePSE	56 25	8					
		iScSE	56 53	6		-2			
		eN	57 01	7					
		eLRE	10 08.4	25					
		eLZ	12.3	25					
		MZ	14 46	23			2		
		MNE	15.2	23	1	1			
		F	11 00						
112	" 4	iPZ	06 17 37	5			+3	2670	Compression
		iPcPE	21 16	5		+4		24°0	
		iSN	21 49	6	+3				
		iSSZ	22 43	6			+3		
		iN	22 47	5	+5				
		iSSSNE	22 58	5	-4	-4			
		ME	28 25	13		4			
		MN	30 14	13	2				
		MZ	31 38	13			2		
		F	07 00						
113	" 5	iSNE	04 44 49	1	+3	+3			Nearby shock. Felt at Canberra, and Gunning, N.S.W.
		iSZ	44 51	1			+4		
		eN	44 51	1					
		iE	44 52	1		+10			
		LNE	44 55	5					
		iMZ	45 02	5			+9		
		MN	45 02	4	7				
		MEZ	45 12	4		6	7		
		F	04 47						
114	" 5		04 47.2	Small repetition of No.113					
115	" 5		04 58.4	Small repetition of No.113					

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
116	May 6	e(P)Z	11 51 46						
		eSN	56 22	10					
		eLE	58.9	27					
		ME	12 01 22	17		4			
		MZ	02 47	16			4		
		MN	03 10	16	2				
		F	Merged in No.117						
117	" 6	eZ	12 35.1						
		eN	35 33	8					
		iE	35 36	4		+3			
		eLEZ	38.2	17					
		MZ	39 53	17			2		
		ME	40 31	16		1			
		F	13 00						
118	" 6	iPNZ	20 36 22	6	+8		-17	3020	Dilatation
		ipPNZ	36 30	6	-42		+55	27°2	H 20 30 38
		iN	36 55	10	+50				
		iPPNZ	37 10	10	+29		-81		
		iN	37 24	8	+57				
		iPcPN	39 38	6	+40				
		iSN	40 57	10	+28				
		iN	41 09	12	+148				
		isSE	41 11	7		-78			
		iN	41 23	12	-500				
		iZ	41 28	13			-200		
		iN	41 53	10	-305				
		iZ	41 57	14			-180		
		eLQN	42.6	24					
		eLRE	43.7	27					
		ME1	45 16	24		1000			
		ME2	46 32	16		500			Horizontal Maxima from the Wiechert.
		MZ	47.6	19			310		
		MN1	48 46	16	480				
		ME3	49 14	12		350			
		ME4	50 26	11		370			
		MN2	51 04	13	500				
		MN3	52 03	11	370				
		eW2Z	23 18.1	27					
		MNE	26.3	23	6	3			
		MZ	30.0	22			12		
		F	00 30						
119	" 7	eNE	07 47 05	½					Small local shock.
		F	07 48						
120	" 7	e(S)N	08 49 06	10					Preliminaries masked by microseisms.
		eLE	51.6	23					
		MEZ	55 40	16		3	2		
		MN	57 30	15	1				
		F	09 15						
121	" 7	eSE	14 19 15	8					Preliminaries masked by microseisms.
		eN	19 24						
		eLE	22.1	24					
		ME	24 03	20		6			
		MZ	24 13	20			10		
		MN	24 23	20	5				
		F	15 00						
122	" 7	eZ	15 35.7						
		F	15 40						
123	" 8	e(S)E	04 05 40	13					Masked by microseisms.
		e(SS)E	06 44	14					
		eLRZ	08.1	24					
		eLRNE	08.2	23					
		ME	10 05	15		6			
		MZ	10 18	19			6		
		MN	10 44	18	6				
		i(ScS)E	11 55	8		+5			
		i(ScS)N	12 11	6	+11				
		F	04 40						

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude A_N μ	Amplitude A_E μ	Amplitude A_Z μ	Δ km.	Remarks
	1947								
124	May 8	eE	07 45.6						Masked by micro-seisms.
		eL_E	46.9	20					
		eL_Z	47.5	22					
		ME	48 50	14		2			
		MZ	49 03	19			3		
		MN	49 26	16	2				F 08h 05m
125	" 8	eL_E	11 33.5	20					
		ME	35 52	16		1			
		F	11 50						
126	" 8	eL_E	12 25.0	21					
		ME	27 03	16		2			
		MZ	29 55	13			1		
		F	12 45						
127	" 8	eL_E	13 36.5	15					
		F	13 45						
128	" 8	$i(P)_Z$	18 32 33	3			+3		Compression
		$e(SS)_E$	38 24	8					
		eL_Z	40.5	19					
		ME	41 54	15		1			
		F	Merged in	No.129					
129	" 8	e_Z	18 57 23						
		$i(SKS)_N$	19 07 00	5	+3				
		eL_E	23.0						
		F	19 45						
130	" 9	eL_Z	00 50.0	18					
		ME	59 25	16		1			
		MZ	01 00 25	16			1		F 01h 15m
131	" 9	e_N	04 48.7						
		eL_Z	52.4	19					
		ME	54 11	16		2			
		MNZ	54.8	18	2		2		F 05h 10m.
132	" 9	eL_E	06 28.8	17					
		ME	31 43	12		1			
		MN	31 58	13	1				
		MZ	32 11	15			1		F 06h 40m.
133	" 9	eL_E	11 19.3	18					
		eL_Z	20.6	20					
		F	11 30						
134	" 9	e_E	13 54.2						
		eL_N	57.3	20					
		ME	58 16	15		1			
		MZ	58 51	18			2		
		MN	59 01	18	1				F 14h 15m
135	" 9	eL_Z	18 52.4	22					
		MZ	54 51	18			4		
		MN	55 10	16	2				
		ME	56 21	12		4			F 19h 15m
136	" 11	eP_Z	18 48 44	5				5440	
		$ePcP_Z$	49 59	7				48°9	
		$iPPP_Z$	51 32	6			+4		
		eS_E	55 44	10					
		iS_E	55 52	12		+9			
		iSS_{NE}	59 31	[illegible]	+8	+7			
		i_Z	59 38	8			+8		
		$iSSS_E$	19 00 32	10		+13			
		eL_N	03.0	20					
		MN	07 09	12	35				
		MZ	10 13	12			15		
		ME	10 23	13		20			
137	" 11	$e(P)_Z$	22 10 10						F 21h 00m
		eL_E	22.1	18					
		eL_Z	24.8	16					
		ME	27 15	12		8			
		MZ	28 04	12			12		
		MN	28 32	11	9				
		F	23 05						

RIVERVIEW COLLEGE OBSERVATORY,

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
138	May 12	eL_Z	00 45.9	18					
		ME	47 55	12		2			
		MZ	48 25	15			2		
		F	01						
139	" 12	e_N	10 10.0	12					
		e_E	11.2	12					
		eL_E	12.1	27					
		ME	16 05	13		10			
		MZ	17 43	13			7		
		MN	18 16	12	8				
		F	11 00						
140	" 12	eL	14 05.1	20					
		F	14 25						
141	" 14	iP_{NEZ}	02 12 20	7	+4	+5	-5	2350	Dilatation
		mNE	12 30	9	3	4		21°1	
		iZ	12 48	6			-7		
		$iPPP_{NE}$	12 50	6	+10	+8			
		iS_E	16 08	6		+6			
		iZ	16 11	7			+9		
		$iPcP_N$	16 22	7	-9				
		mZ	16 23	7			7		
		mE	16 25	6		7			
		eL_E	18.0	19					
		MZ	18 58	18			12		
		ME	19 09	18		9			
		MN	20 25	12	12				
		F	03 50						
142	" 14	e_N	07 40.8						
		eL_Z	44.0	17					
		ME	45 03	14		3			
		MN	45 43	12	1				
		F	08 05						
143	" 14	eL_E	08 17.9	14					
		F	08 25						
144	" 15	eL	17 26.1	16					
		F	17 35						
145	" 17	iP_Z	07 11 32	4			+8	2500	Compression
		$iNEZ$	11 54	7	+15	-34		22°5	
		$mNEZ$	12 07	7	16	30	35		Galitzin records preceded by large microseisms and lines badly tangled.
		iS_N	15 31	9	+31				
		iSS_N	16 12	7&13	-71				
		LZ	16.3	21					
		iSSSE	16 29	7&13		+50			
		iN	16 39	7&13	+130				
		iNE	16 52	14	+275ca	+340			
		MEZ	19.4	21		1080	870		ME & MN from the Wiechert.
		iMN	19 29	13	-195				
		MN	22 07	13	1340				
		F	11.0						
146	" 22	eL_E	07 54.2	15					
		F	08 05						
147	" 22	eL_N	08 37.0	20					
		eLR_Z	39.4	26					
		MN	40 00	14	3				
		MZ	40 44	18			4		
		ME	40 50	19		3			
		F	09 05						
148	" 22	$i(P)_Z$	13 23 38	5			-2		Dilatation
		$e(SS)_E$	28 31	8					
		eE	28 51	21					
		ME	29 29	16		6			
		eLRZ	29.6	17					
		MZ	31 34	13			8		
		MN	31 39	13	7				
		F	14 05						

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
149	May 22	e_E	14 25 10	8					
		eL_E	28.1	15					
		ME	29 52	11		3			
		F	14 40						
150	" 22	eL_E	15 14.5	18					
		F	15 25						
151	" 23	eL_E	12 50.9	19					
		F	13 00						
152	" 23	e_E	19 16.8	11					
		eLE	20.3	16					
		ME	23 45	14		1			
		F	19 30						
153	" 24	iP_{NZ}	13 16 24	5	-2		-4	2020	Dilatation
		eS_E	19 43					18°2	
		eLQ_E	19 48	13					
		iSS_E	20 05	14		+20			
		$iSSS_N$	20 20	13	+11				
		ME	21 33	10		6			
		MN	21 44	10	4				
		MZ	22 04	10			3		
		F	13 50						
154	" 25	MNE	00 14.3	15	8	5			Preliminaries masked by micro-seisms.
		MZ	14.9	13			3		
		F	01 00						
155	" 25	eN	05 43 57						Masked by micro-seisms.
		ME	55 53	17		2			
		MZ	57 41	20			3		
		MN	57 59	18	2				
		F	06 15						
156	" 25	eP_Z	11 53 41					5020	
		eS_E	12 00 18	6				45°2	
		iPS_{NE}	00 38	6	+3	+4			
		e_N	01 56	11					
		eLR_Z	06.2	18					
		MN	10 19	15	3				
		ME	10 26	18		3			
		MZ	10 39	18			4		
		F	12 50						
157	" 25	ME	23 40.0	17		2			Masked by micro-seisms & non-seismic waves
		F	- -						
158	" 26	$e(PP)_N$	11 06 37						
		$e(S)_E$	13 36	6					
		eLR_Z	30.0	24					
		ME	33 27	20		1			
		MZ	36 28	16			2		
		MN	36 40	16	2				
		F	12 10						
159	" 26	e_E	14 35.4						
		ME	39.0	14		1			
		MZ	42.4	13			1		
		F	14 50						
160	" 26	e_Z	17 41 15	6					Masked by micro-seisms.
		$i(S)_E$	42 43	6		-2			Forerunner of No.161
		ME	45 25	10		1			
		$i(ScS)_E$	48 43	6		-2			
		F	18 05						
161	" 26	iP_{NZ}	19 45 48	4	-2		+6	2880	Compression
		iZ	48 16	6			+5	25°9	h 0.07
		iS_E	49 44	6		-10			H 19 40 54
		iS_N	49 46	6	-8				
		eL_N	50.0	21					
		MNE	52 26	10	5	5			
		iE	52 50	7		-13			
		$iScS_E$	55 44	7		-10			
		iScSN	55 46	6	+6				
		MZ	56 01	14			5		
		F	20 40						

1947, May.

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude A_N μ	Amplitude A_E μ	Amplitude A_Z μ	Δ km.	Remarks
	1947								
162	May 27	iP_{NEZ}	03 41 45	4	+4	-5	-12	3840	Dilatation
		ipP_Z	42 09	4			-5	34°5	h 100 km.
		iPP_Z	43 06	5			-7		H 03 35 01
		iPP_E	43 07	5		-5			Δ, h & H from
		i_N	43 10	5	-6				Gutenberg's
		$isPP_{EZ}$	43 31	3		+5	+6		Tables.
		iS_E	47 10	5		+5			
		iS_N	47 12	5	+8				
		$i(sS)_N$	47 53	5	+8				
		i_E	47 59	7		+13			
		$i(SSS)_Z$	50 01	7			+18		F 05h 05m
163	" 27	iP_{NEZ}	06 05 50	4	+15	-5	-	3920	Dilatation
		ipP_{NE}	06 00	4	+14	-3		35°3	H 05 58 56
		iNE	06 29	4	+9	-4			
		iPP_E	07 11	4		-3			After iP all
		$iPPP_E$	07 23	4		+4			readings, except
		$iPPP_N$	07 25	4	+14				W_2, from the
		i_N	07 51	5	-13				Wiechert.
		i_N	08 14	6	-4				
		i_E	08 18	4		-3			
		iS_{NE}	11 21	8	+19	+38			
		e_E	11 40	32					
		iSS_E	13 32	7		+12			
		$iSSS_E$	14 09	9		+26			
		eLR_E	15,4	32					
		$iScS_E$	15 59	5		-20			
		i_N	16 05	6	-60				
		ME_1	18 42	16		>1500			
		MN_1	19 18	16	1520				
		ME_2	19.4	16		>1700			
		MN_2	21 57	13	1300±				
		eW_2Z	08 50.7	22					F 10h 10m
164	" 27	eL_Z	18 22.9	20					Obscured by
		MZ	24 51	17			3		microseisms.
		ME	26 04	12		2			
		F	18 40						
165	" 28	iP_{EZ}	14 53 35	5		-3	+6	2890	Compression
		ipP_Z	53 45	5			+4	26°0	
		iEZ	53 56	5		-5	+7		
		iPP_Z	54 15	5			-7		
		$iPPP_E$	54 26	6		-5			
		iEZ	54 40	5			+7		
		iE	54 51	5		-7			
		e_E	57 14	22					
		iSS_N	58 59	10	+9				
		$iSSS_{NE}$	59 23	10	+8	+11			
		eLR_{EZ}	15 00.2	30					
		MN	01 40	18	14				
		MEZ	02.8	18		15	26		F 16h 05m
166	" 28	e_E	19 03 47						Masked by micro-
		iZ	05 21	5			-4		seisms.
		iEZ	05 35	5		-6	-8		
		iNE	06 34	5	-6	-4			
		eL_E	07.0	15					
		MNZ	09.9	11	13		13		
		ME	10 15	10		6			
167	" 30	eL_Z	13 31.5	20					
		MZ	35.1	18			4		
		F	13 55						
168	" 31	iP_Z	01 13 57	4			+3	2670	Compression
		iS_{NE}	18 09	7	+6	-6		24°0	
		isS_E	18 26	10		+10			
		i_N	18 31	8	+7				
		eL_E	20.1	21					
		MN	21 20	15	4				
		MZ	21 34	18			5		
		ME	21 40	16		4			F 01h 40m

T.N.BURKE-GAFFNEY, S.J.
Acting-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. Galitzin 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	213	7.2	6.1	0.009	4	11.8	11.9	+0.04	410
	3	153	9.3	6.4	0.018					
E	1	~~232~~	7.1	4.8	0.025	4	12.3	12.2	-0.02	490
	3	168	8.2	6.1	0.019					
Z	2					4	11.0	11.0	0.0	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.	
Unless otherwise stated, readings are from the Galitzins. The amplitudes of initial impulses on the Galitzins are computed by Galitzin's method. Jeffreys' & Bullen's Tables (1940) are used, unless otherwise stated.									
	1947		h m s	s	μ	μ	μ	km.	
169	June 2	$e(P)_N$	22 08 16						Masked by very heavy microseisms.
		$e(S)_N$	13 27						
		eLR_N	16.8	20					
		ME	18 27	15		9			
		MN	19 01	15	8				
		MZ	20 17	14			8		
		F	22 40						
170	" 3	i?Z	04 59 18	4			+8		Masked by very heavy microseisms.
		$e(S)_N$	05 04 50	9					
		$e(LQ)_E$	05.6	18					
		eLR_N	07.5	23					
		ME	09.6	14		45			
		MN	11 06	14	18				
		MZ	11 47	14			21		
		F	Lost in Microseisms.						
171	" 3	eL_E	09 32.3	15					Masked by very heavy microseisms.
		F	Lost in microseisms.						
172	" 4	eL_E	14 45.6	18					
		ME	50 30	17		2			
		MZ	50 42	17			2		
		F	15 15						
173	" 5	iP_Z	12 01 06	4			-4	2760	Dilatation
		ipP_Z	01 22	4			+13	24?8	h 0.005 ca.
		iS_{NZ}	05 20	6	+16		+12		
		iS_E	05 21	6		+20			Large microseisms present.
		i_N	06 34	6	+10				
		i_E	06 48	5		-8			
		eL_N	07.3	19					
		MN	09 34	12	5				
		ME	09 46	13		3			
		$iScS_N$	12 15	5	+6				
		F	12 40						
174	" 6	e_N	04 13 36	10					Masked by micro-seisms.
		i_N	15 44	5	+6				
		i_E	15 47	5		+4			
		eL_E	18.8	16					
		MNX	21.0	15	5		4		
		ME	21 50	15		4			
		F	04 45						

RIVERVIEW COLLEGE OBSERVATORY, SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude A_N μ	Amplitude A_E μ	Amplitude A_Z μ	Δ km.	Remarks
	1947								
175	June 7	iP_Z	18 56 57	5			-15	5870	Dilatation
		i_Z	57 17	5			-13	52°8	H 18 47 43
		$iPcP_Z$	58 04	5			+9		
		iPP_Z	58 56	8			-16		
		i_Z	59 14	6			+12		
		e_E	19 03 53	14					
		iS_{NE}	04 21	12	+23	+40			
		$iPPS_N$	04 43	13	+31				
		i_E	04 56	9		+23			
		i_E	05 33	9		+30			
		iSS_E	07 59	10		-13			
		iSS_N	08 00	12	-22				
		iSS_Z	08 20	12			+23		
		i_E	08 45	9		-20			
		i_N	08 55	15	+38				
		i_E	10 04	11		+27			
		LQ_E	10.4	20					
		eLR_E	12.4	21					
		ME	15 27	15		35			
		MZ	17 12	18			57		
		MN	17 18	17	40				F 21h 10m.
176	" 8	eL_E	12 36.8	19					
		F	12 45						
177	" 9	eL_Z	11 01.7	18					
		F	11 10						
178	" 10	$e(L)_Z$	05 46.5						Obscured by microseisms.
		MZ	49 30	12			2		
		ME	50 08	12		2			F 06h 00m.
179	" 10	$i(P)_Z$	11 21 52	4			-7		Dilatation
		i_Z	24 19	5			+6		Masked by micro-
		$i(S)_{NE}$	29 16						seisms.
		$e(L)_N$	32.9	20					
		MNE	40.0	13	4	4			M from Wiechert
180	" 12	iP_Z	09 10 19	6			+14	4700	Compression
		i_{NEZ}	10 22	6	+15	-10	-38	42°3	Dilatation
		iZ	10 33	6			+21		H 09 02 27
		i_{NE}	10 36	6	+19	-11			
		i_Z	10 49	5			+32		
		i_N	10 50	6	+18				
		i_Z	11 52	6			+14		
		e_N	16 27	15					From 09h 16.6m
		e_Z	16.6	42					to 09h 19.5m
		iS_E	16 36	8		+30			very conspic-
		iS_N	16 39	8	+56				uous long waves
		e_{NE}	16.8	40					with short per-
		iSS_Z	19 40	12			-42		iod waves super-
		i_{EZ}	19 56	8		+40	-78		imposed.
		eLQ_{NE}	20.8	50					
		eLR_E	22.2	38					
		ME	29 05	20		120			
		MZ_1	29 11	24			225		
		MNZ_2	31.1	18	225		190		
		eW_2Z	11 53.3	22					F 13h 00m
		eW_3E	12 36.5						
181	" 12	eL_N	19 16.4	21					Masked by micro-
		ME	24 45	20		2			seisms.
		MNZ	25.7	19	3		3		
182	" 12	i_Z	21 55 06	6			+4		Masked by micro-
		e_N	59 25	12					seisms.
		eL_E	22 00.5	22					
		MZ	04 46	14			3		
		MN	05 12	13	3				
		ME	05 29	13		6			
183	" 12	eL_N	23 38.2	18					Masked by micro-
		MN	40 29	14	1				seisms.
184	" 13	eL_E	05 16.6	21					Masked by micro-
		ME	18.0	17		2			seisms.
		F	05 35						

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No.	Date	Phase	Time (G.M.T.) h m s	Per. s	Amplitude AN μ	AE μ	AZ μ	Δ km.	Remarks
	1947								
185	June 13	$e?_E$	15 22 38						Masked by micro-seisms.
		eL_E	29.2	26					
		MNZ	36 21	15	4		3		F 16h 00m
		ME	36 42	14		4			
186	" 13	iP_{NZ}	20 34 33	4	-4		+10	6090	Compression
		ipP_Z	34 46	8			+18	54°8	H 20 25 04
		$iPcP_E$	35 34	6		+6			
		$iPPP_N$	37 46	8	+8				Gutenberg's
		$iPPP_Z$	37 51	7			+16		Tables give;
		iS_N	42 10	10	-9				Δ 6200 km, 55°8
		iS_E	42 11	12		-20			H 20 24 52
		i_N	42 51	13	+37				
		$iScS_N$	44 22	7	-24				
		$iScS_E$	44 26	8		+27			
		eLQ_E	47.7	28					
		MN_1	50 45	24	77				
		ME	51 53	24		200			
		MZ_1	53 51	21			77		
		MN_2	57 31	17	80				F merged in 187
		MZ_2	21 00 45	17			83		
187	" 14	$i(S)_E$	00 07 46	12		+8			Aftershock of
		iE	09 51	12		+8			No.186. Beginn-
		iN	10 04	6	+8				ing lost while
		MN_1	16 08	24	18				changing records
		ME	16 51	24		36			
		MZ_1	19 15	21			14		
		MN_2	23 38	18	21				F merged in 188
		MZ_2	23 51	19			25		
188	" 14	iZ	00 39 42	6			+6		Aftershock of
		ME	57 19	23		18			No.186
		MZ	59 42	18			7		
		MN	01 02 30	19	8				
189	" 14	eL_E	07 39 9	22					A few long
		F	07 55						waves.
190	" 14	eL_{NE}	14 54.6	21					
		F	15 15						
191	" 14	iP_Z	16 39 41	5			+4		Compression
		eS_E	47 21						Aftershock of
		$i(ScS)_E$	49 40	9		-3			No.186
		ME_1	56 38	24		4			
		MN	17 02 02	16	4				
		MZ	04 45	18			5		
		ME_2	05 18	16		4			
192	" 16	$iPEZ$	11 00 43	4		-4	+4		Compression
		$i(SS)_Z$	05 14	7			+4		
		$i(SS)_E$	05 17	7		+2			
		iE	06 01	7		-5			
		eLR_Z	06.1	16					
		ME	08 03	17		5			
		MZ	08 15	16			4		F 11 30
		MN	08 49	15	5				
193	" 17	$iPEZ$	01 03 51	5		+8	-9	2300	Dilatation
		$ipPEZ$	04 01	5		-8	+12	20°7	
		$iPPNE$	04 15	5	+6	+6			
		iS_N	07 35	6	-8				
		iS_E	07 36	6		-9			
		iZ	07 38	7			-28		
		$i(PcP)_N$	07 55	7	-21				
		iZ	07 59	7			+11		
		eLQ_N	08.0	25					
		iE	08 03	7		-10			
		eL_N	08.6	19					
		eLR_Z	08.9	18					
		MN	11 09	13	24				
		MZ	11 22	13			9		
		ME	11 39	12		8			
		F	02 05						

RIVERVIEW COLLEGE OBSERVATORY,
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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
	1947								
194	June 17	i_Z	13 51 48	6			+6		Masked by micro-
		$i(S)_E$	56 09	6		+5			seisms.
		i_N	56 46	7	-7				
		eL_E	58.4	21					
		eL_Z	14 00.5	18					
		MN	01 20	20	7				
		ME	01 27	18		13			F 14h 20m
		MZ	03 02	16			8		
195	" 18	eL_E	00 01.8	18					Masked by large
		MZ	02 20	14			6		microseisms.
196	" 18	eL_N	03 03.8						Masked by large
		MN	05 44	15	6				microseisms.
		MEZ	06.7	15		4	5		
197	" 18	eL_N	18 12.4	19					Masked by large
		MN	14 55	12	7				microseisms.
198	" 19	eL_E	02 40.1	21					
		eL_Z	45.2	20					
		MZ	49.0	18			7		
199	" 19	eL_E	06 54.7	25					
		MEZ	57.9	18		3	4		
200	" 19	iPZ	07 44 17	4			[illegible]	3180	Compression
		iZ	44 48	4			-8	55°6	
		iS_{NE}	51 55	10	-7	-8			
		$iPPS_E$	52 17	7		+9			
		$iScS_E$	54 03	7		-10			
		$iScS_N$	54 06	7	-23				
		eLQ_E	58.0	30					
		eLR_N	59.8	27					
		ME_1	08 01 25	26		14			
		MZ	03 59	24			35		
		ME_2	07 08	19		20			F 09h 40m
		MN	07 15	15	31				
201	" 21	e(P)E	06 44 51						
		$e(S)_N$	50 03						
		eLZ	53.6	27					
		MZ	56 09	16			9		
		ME	56 14	15		9			F 07h 40m
		MN	57 00	15	9				
202	" 22	e(P)Z	18 07 06						
		iZ	07 22	6			-6		
		ePP_Z	07 58	7					
		eS_E	11 48	11					
		isS_E	12 04	8		+7			
		i_N	13 19	8	+7				
		eL_Z	14.3	27					F 18h 45m
		MN	18 10	11	6				
203	" 28	$e(PP)_Z$	01 57 29	[illegible]					Masked by micro-
		$i(S)_N$	02 01 30	6	-6				seisms.
		$e(SS)_N$	04 41	14					
		eL_E	08 22	30					
		ME	14 05	26		10			
		MNZ	16 05	20	11		12		
204	" 29	eL_E	14 27.6	16					A few waves mask-
		F	14 45						ed by microseisms.
205	" 30	eP_Z	07 59 18	7				4690	
		e_Z	08 01 21	7				42°2	
		eS_E	05 36						
		eSS_Z	08 41	14					
		i_N	09 34	6	-5				
		eL_{EZ}	15.8	28					
		ME	18 10	20		6			
		MZ	18 29	23			12		F 09h 00m
		MN	19 55	20	16				
206	" 30	iPZ	23 46 14	4			-4		Dilatation.
		eE	50 40						Masked by micro-
		iN	50 46	4	+4				seisms & non- seismic waves.

T.N.BURKE-GAFFNEY, S.J.
Acting-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	$\epsilon : l$	$\frac{r}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	204	7.5	7.0	0.004	4	11.8	11.9	+0.04	410
	3	150	9.3	5.3	0.018					
E	1	225	7.2	6.1	0.021	4	12.3	12.2	-0.02	490
	3	183	8.1	4.0	0.018					
Z	2					4	11.0	11.0	0.0	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.	
Unless otherwise stated, readings are from the Galitzins. The amplitudes of initial impulses on the Galitzins are computed by Galitzin's method. Jeffreys' & Bullen's Tables (1940) are used, unless otherwise stated.									
	1947		h m s	s	μ	μ	μ	km.	
207	July 3	e_N	02 53.2	9					
		eL_N	54.8	20					
		MN	56 12	15	2				
		F	03 10						
208	" 6	iP_Z	12 13 52	4			-5	2370ca	Dilatation
		iS_{NE}	17 41	6	-4	+7		21°3ca	h 0.01 ca.
		$iPcP_E$	17 48	6		+6			
		isS_N	18 08	6	+6				
		eLQ_E	18.2	13					
		iSS_N	18 17	7	+7				
		iE	18 20	7		-4			
		iE	18 51	5		-4			
		F	12 40						
209	" 7	eL_E	04 20.5	22					Masked by micro-seisms.
		MN	22 13	15	4				
		ME	22 45	15		3			
		MZ	23 17	16			5		
		F	04 30						
210	" 8	eL_N	12 34.7	15					Masked by micro-seisms.
		MN	35 38	13	1				
		F	12 40						
211	" 10	eL_E	09 23.2	15					Masked by micro-seisms.
		ME	24 41	12		2			
		F	09 30						
212	" 10	eE	10 51 39	15					
		ME	11 17 00	21		3			
		MZ	17 28	21			5		
		F	11 40						
213	" 11	eL_E	20 14.3	16					
		MZ	15 44	15			2		
214	" 12	P?Z	02 11 00	5					
		$i(S)_N$	20 47	5	-4				
		$i(S)_E$	20 50	5		+4			
		LR_Z	38.0	22					
		MN	41 54	19	2				
		MZ	42 11	20			3		
		ME	42 37	20		2			
215	" 12	eL_E	09 18.0	18					
		ME	18 39	15		1			
		F	09 25						

RIVERVIEW COLLEGE OBSERVATORY,

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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
	1947										
216	July 12	iP_Z	12	36	22	6			-6	3890	Dilatation
		iPP_EZ		37	46	7		-6	+6	35°0	
		e_N		41	43	10					
		iS_N		41	51	9	+9				
		$e(LQ)_N$		44	.3	17					
		i_N		44	57	12	-15				
		i_E		45	07	10		-7			
		i_N		46	22	11	+15				
		MN		49	56	12	21				
		ME		50	39	15		32			
		MZ		50	51	15			42		
		F	14	30							
217	" 13	iP_Z	13	03	59	5			-4	3750	Dilatation
		i_Z		05	15	6			+4	33°7	h 0.02
		i_E		05	42	6		+5			H 12 57 31
		iS_N		09	09	8	+4				
		eS_E		09	11	13					
		iSS_N		11	29	8	+8				
		i_N		11	49	13	-11				
		LQ?N		12	.1	24					
		eL_Z		12	.4	21					
		e_E		12	.9	45					
		$iScS_E$		14	21	6		+12			↘ ↙
		i_E		15	18	8		-5			
		MZ		16	42	18			3		F 13h 40m
218	" 16	MNE	20	03	.1	15	2	1			Masked by micro-seisms and non-seismic waves.
219	" 17	iP_Z	04	38	25	5			+5	3280	Compression
		S_E		43	16	10				29°5	H 04 32 22
		eS_N		43	20	13					
		i_E		46	00	10		+27			
		eLR_E		46	.1	31					
		ME_1		49	47	16		54			
		ME_2		50	47	14		53			
		MZ		50	54	15			38		
		MN		50	58	15	42				F 06h 25m
220	" 17	$e(L)_N$	14	40	.7	19					
		MZ		45	43	15			2		
		ME		45	54	15		1			
		MN		46	45	18	1				F 15h 00m
221	" 18	eL_E	09	31	.0	18					
		ME		32	56	15		5			
		MZ		37	25	13			4		
		MN		37	29	13	3				
		F	09	50							
222	" 19	iP_Z	12	29	43	5			-4	2910	Dilatation
		iS_E		34	11	6		+5		26.2	
		iS_N		34	15	6	+5				
		eLQ_N		35	.2	24					
		eLR_Z		35	.8	21					
		MNZ		37	.4	13	3		2		
		ME		37	42	12		2			F 13h 00m
223	" 19	i_N	14	00	54	5	+5				
		MZ		05	30	13			1		
224	" 19	ME	20	50	.3	11		1			Masked by non-seismic waves.
		MNZ		50	.4	11	1			2	
		F	21	00							
225	" 20	ME	04	36	51	14		1			Masked by non-seismic waves.
226	" 20	eZ	08	37	49						Masked by micro seisms.
		e_E		43	51						
		i_E		44	12	5		-2			
		eL_E		47	.4	20					
		ME		48	54	14		9			
		MN		49	29	13	8				
		MZ		50	27	12			6		
		F	09	50							

RIVERVIEW COLLEGE OBSERVATORY,
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No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks.
	1947		h m s	s	μ	μ	μ	km.	
227	Jly.20	eNE	10 40 35	13					Obscured by microseisms & non seismic waves.
		eL_E	45.4	26					
		eL_Z	48.2	26					
228	" 20	eL_N	12 30.3	17					Masked by micro-seisms etc.
		MN	32.1	14	2				
		F	12 40						
229	" 20	ME	13 32 32	11		3			Masked by non-seismic disturb-ances.
		MN	33 03	12	2				
		MZ	36 49	12			3		
230	" 20	ME	19 23 55	12		3			Masked by non-seismic disturb-ances.
		MN	24 09	13	4				
		MZ	24 19	13			5		
231	" 21	iZ	00 40 51	3			+2		Masked by non-seismic disturb-ances.
		i_{NE}	44 05	4	-3	+4			
		i_Z	46 37	5			-4		
232	" 21	$i\{PP\}_E$	10 06 10	5		-3			
		$i\{S\}_N$	10 15	7	+5				
		$e\{SS\}_N$	13 07	11					
		$e\{SS\}_Z$	13 09	11					
		eL_N	16.1	30					
		MNE	18 09	20	11	5			F 11h 20m.
		MZ	22 18	15			7		
233	" 21	iP_Z	12 46 31	3			-3		Dilatation
		iN	46 32	3	+3				
		eL_Z	50.8	18					
		eE	50 49	7					
		eN	50 55	10					
		i_E	51 11	9		+5			
		MN	52 13	10	2				F 13h 15m.
		ME	52 51	10		1			
234	" 21	eE	18 36 22						
		MNZ	41.2	11	1		1		
		ME	41 25	10		1			F 18h 50m
235	" 22	$eL(Q)_E$	14 39.9	24					
		eLR_{NZ}	43.9	24					
		ME	45 30	16		1			
		MNZ	47.1	16	2		2		F 15h 00m.
236	" 23	eP_Z	17 26 29	7				10,300	
		$eSKS_N$	37 00	10				92°7	H 17 13 19
		$eSKKS_E$	37 13	9					
		eE	37 23	18					
		eS_N	37 27	10					
		ePS_N	38 44	19					
		eZ	39 12	8					
		$e\{SS\}_N$	43 01	21					
		$e\{SS\}_E$	43 11	16					
		eSS_Z	43 42	17					
		eLQ_{NE}	51.3	21					
		eLR_Z	56.5	24					
		eLR_E	57.4	20					
		MZ_1	18 03 01	19			6		
		ME_1	03 26	19		5			
		MN_1	04 42	18	5				
		MN_2	10 05	18	10				↘ ↙
		ME_2	10 12	16		4			F 20h 05m
		MZ_2	10 53	18			12		
237	" 24	eN	09 10.5						
		eLE	26.4	19					
		ME	30 59	16		4			
		MN	31 45	18	1				
		MZ	32 10	18			2		
		F	10 10						

RIVERVIEW COLLEGE OBSERVATORY,
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No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km	
303	Sept.27	eL_E	08 51.3	16					
		MZ	54 15	13			2		
		F	09 05						
304	" 28	eP_Z	03 15 44	4				4190	
		ePP_Z	17 14	10				37°.7	
		eS_{NE}	21 31	8					
		eLQ_E	23.7	22					
		iSS_E	24 09	16		+13			
		eLR_Z	25.6	22					
		ME	26 53	10		8			
		MN	27 01	10	4				
		MZ	27 41	15			5		
		F	04 30						
305	" 28	eL_E	10 28.4	14					
		MNZ	29.4	11	1		1		
		F	10 35						
306	" 29	eE	19 28.1						
		eL_{EZ}	38.0	23					
		MEZ	40.7	18		3	4		
		F	Merged in No.307						
307	" 29	eL_{EZ}	20 10.0	21					
		MZ	12 23	13			2		
		ME	12 36	18		1			
		F	20 30						
308	" 30	eL_Z	00 34.4	22					
		MEZ	36.7	19		3	4		
		F	00 55						

T.N.BURKE-GAFFNEY,S.J.
Acting-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. Galitzin Aperiodic Seismometer with Galvanometer registration (NS, EW, Vert)

		V	T_o	$\epsilon : \lambda$	$\frac{\epsilon}{T_o^2}$		T_1 (Galv.)	T (Pend)	μ^2	V_s
N	1	212	7.5	5.7	0.003	4	11.8	11.9	+0.04	410
	3	154	9.3	6.4	0.019					
E	1	228	7.3	4.4	0.014	4	12.3	12.2	-0.02	490
	3	163	8.3	5.8	0.020					
Z	2					4	11.0	11.0	0.0	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.	
Unless otherwise stated, readings are from the Galitzins. The amplitudes of initial impulses on the Galitzins are computed by Galitzin's method. Jeffreys' & Bullen's Tables (1940) are used, unless stated otherwise.									
	1947		h m s	s	μ	μ	μ	km.	
309	Oct. 1	iP_Z	12 37 02	6			+6	2890	Compression
		ip^2P_Z	37 28	7			+10	26?0	h 0.015
		iS_N	41 21	7	-11				H 12 31 39
		i_Z	41 23	6			+14		
		i_E	41 26	7		+8			
		i_E	41 39	8		-13			
		isS_N	42 12	6	+21				
		i_E	42 16	7		-12			
		eLQ_E	42.5	20					
		i_{NZ}	42 31	7	-40	-17			
		i_E	43 05	8		+20			
		i_E	43 48	6		-5			
		i_E	43 58	7		-19			
		eLR_Z	44.1	22					
		$i(ScS)_E$	47 15	6		+9			
		MNEZ	48.0	15	7	8	11		
		F	13 45						
310	" 2	e_N	04 54.6	13					
		eL_E	57.4	22					
		MEZ	59.2	16		2	3		
		F	05 05						
311	" 3	eL_Z	05 14.7	21					
		MZ	19 00	17			1		
		ME	19 05	15		1			
		F	05 30						
312	" 3	$i?_Z$	06 31 09	7			+5		Perhaps deeper
		$i(PKP)_Z$	32 26	5			+6		than normal.
		$i(SK3)_{NEZ}$	39 25	7	+8	+13	+4		
		$i(SKKS)_E$	40 30	8		+6			
		$e(S)_E$	41 46	9					
		i_E	41 53	9		+15			
		$i(PS)_E$	43 12	7		+7			
		eLR_Z	07 08.0	30					
		ME_1	10 34	25		3			
		MZ_1	10 40	25			5		
		MEZ_2	19.0	19		3	6		
		F	08 00						
313	" 4	$e(SS)_E$	00 07.1	16					
		eLR_{EZ}	25.1	30					
		MEZ	28.5	19		3	4		
		F	01 20						

RIVERVIEW COLLEGE OBSERVATORY,

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s		μ	μ	μ	km.	
314	Oct. 4	e?Z	08 42.0						
		eN	44 19	13					
		eL$_E$	46.5	14					
		MN	47 17	15	1				F 09h 10m
		MEZ	48.7	16		2	3		
315	" 4	eZ	15 36 39						
		iE	37 24	5		-3			
		iE	41 27	7		-4			
		iE	42 06	7		-5			
		eL$_N$	44.2	18					
		eL$_Z$	44.9	19					
		MN	47 23	13	8				F 17h 00m
		MEZ	48 52	16		12	16		
316	" 5	iE	12 29 28	7		-3			
		i$_N$	29 31	5	+3				
		ME	32 31	9		1			
		MN	33 29	10	2				
		F	12 50						
317	" 5	iPZ	18 47 28	6			-8	3580	Dilatation
		eS$_E$	52 38	10				32°2	After eL Galitzin
		eLR$_E$	56.5	35					record indeciph-
		ME	59 56	12		850ca.			erable. ME from
		MN	19 00.2	12	520ca				Wiechert, MN from
		F	22 05						Mainka.
318	" 6	eE	03 55 38						
		iE	58 24	7		+5			F 04h 10m
		iE	58 42	7		+5			
319	" 6	eE	05 04.2						
		e(L)$_E$	05.1	14					
		F	05 15						
320	" 6	eL$_E$	07 27.3	16					
		MEZ	30.7	14		1	1		
		F	07 40						
321	" 6	eL$_E$	12 08.5	18					
		ME	09 55	13		1			
		MZ	11 52	11			2		
		F	12 20						
322	" 6	eL$_E$	13 16.5	17					
		ME	19 55	15	1				F 13h 30m
323	" 6	eL$_E$	18 05.8	19					
		F	18 20						
324	" 6	ePKPZ	20 14 54	10				15,560	ca
		ePPEZ	17 54	11				140° ca	
		eEZ	18 05	28					Gutenberg's
		iSKKKS$_E$	25 12	8		+6			Tables give;
		iN	26 23	11	-5				Δ 15,600 km.,
		iSKSPN	28 05	6	-3				140°4
		eNE	28 09	21					
		iPS$_E$	28 28	20		-10			
		iPPS$_E$	30 45	15		+8			
		eZ	31 34	21					
		iSS$_N$	36 09	12	-18				
		iSS$_E$	36 18	18		+13			
		ePSPS$_E$	37 35	25					
		iN	37 45	13	+14				
		iN	38 14	13	+16				
		eE	38 47	18					
		eE	39 27	37					
		eSSS$_N$	41 34	27					
		eL$_E$	47.7	37					
		eL$_N$	54.8	33					
		MZ$_1$	21 09 19	30	29				
		ME$_1$	09 42	30		24			
		MN$_1$	09 54	30	19				
		MN$_2$	16 23	25	17				
		MEZ$_2$	17.8	20		15	23		
		F	23 20						

RIVERVIEW COLLEGE OBSERVATORY,

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude AN	Amplitude AE	Amplitude AZ	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
325	Oct. 7	e_N	00 21.1						
		MN	25 33	13	1				
		F	00 40						
326	" 7	iP_{NZ}	03 03 47	4	-3		+6	2780	Compression
		iS_E	08 06	6		-4		25°0	H 02 58 25
		iS_N	08 08	6	+8				
		i_N	08 13	7	-36				
		eLR_Z	10.0	30					
		eLR_N	10.4	30					
		MZ	12 45	18			28		
		MN	13 10	13	24				F 04h 40m
		ME	13 27	11		33			
327	" 7	eN	05 24 33						
		MN	29 32	14	1				
		ME	29 59	10		1			F 05h 40m
		MZ	30 10	13			1		
328	" 7	P?Z	05 47 34						Perhaps after-
		i_N	52 00	7	-3				shock of No.326
		eL_{NZ}	54.6	22					
		MZ	56 32	16			1		
		MN	56 54	16	1				F 06h 15m
		ME	57 15	12		1			
329	" 7	eL_E	07 16.9	18					
		ME	18 46	12		1			
		F	07 25						
330	" 7	e_N	18 43.7						
		eL_E	46.1	18					
		MNZ	47.9	15	1		1		
		ME	48 18	13		2			
		F	19 00						
331	" 8	e?Z	02 06.7	5					
		e_N	07.1						
		e_E	09 17	7					
		MZ	13 12	6			2		
		ME	13 38	9		3			
		MN	14 14	9	3				F 02h 30m
332	" 8	e_E	09 56.1						
		eL_Z	58.8	22					
		MZ	10 01 47	22			1		
		MN	02 26	20	1				
		F	10 10						
333	" 8	eE	19 44.7						
		MNZ	48.8	11	1		1		
		F	19 55						
334	" 8	eL_E	23 39.6						
		MNE	40.1	12	2	2			
		MZ	41.8	12			1		
335	" 10	e_N	02 49 37	10					
		eL_Z	51.1	25					
		ME	51 57	22		2			
		MZ	52 13	22			3		
		F	03 10						
336	" 10	iPZ	07 44 13	7			+5	9000	Compression
		iZ	46 24	4			+5	81°0	H 07 32 00
		iPP_Z	47 09	6			-2		Normal depth.
		$ePPP_Z$	49 13	9					
		eS_{NE}	54 18	9					
		ePS_E	55 09	9					
		eSS_N	59 39	8					
		eLQ_E	08 05.2	18					
		eLR_N	10.0	27					
		ME	12 33	22		4			
		MNZ	13.5	23	4		7		
		F	09 25						

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
	1947								
337	Oct.10	ePEZ	13 48 26	5					
		e_N	53 16	18					S hard to identify.
		i_E	53 31	9		-22			
		i_N	54 00	8	+33				
		LQ_N	54.1	24					
		eLR_E	55.3	30					
		eLR_Z	55.4	24					
		MN_1	57 20	16	52				
		MEZ_1	58.7	17		48	55		
		MN_2	58 53	13	43				
		ME_2	14 01 01	15		40			
		MZ_2	03 06	13			50		
		F	16 45						
338	" 13	eZ	06 38 32						
		eN	43 21	10					
		eL_E	45.9	27					
		ME	48 56	19		2			
		MZ	49 32	17			3		
		MN	51 24	16	1				
		F	07 10						
339	" 13	iPNEZ	07 35 20	4	-13	+12	-13	1950	Dilatation
		mNEZ	35 30	4	20	18	17	17?5	H 07 31 17
		iPP_{NZ}	35 35	4	+16		+7		
		iS_E	38 32	10		+7			
		eS_N	38 32						
		iLQ_{NE}	38 42	15	+64	+33			
		iSS_{NEZ}	38 52	12	-77	-110	+66		
		$iSSS_{NE}$	39 07	13	-220	-130			
		eLR_Z	39.3	20					
		MNE	39.6	13	105	90			
		MZ	41 32	13			39		
		F	10 00						
340	" 13	ME	16 11.0	14		1			A few waves.
341	" 14	iPZ	01 46 44	4			+5	2970	Compression
		iEZ	46 49	7		+12	-17	26?7	H 01 41 06
		i_{NZ}	47 12	7	-7	-19			
		iPP_E	47 27	8		+17			
		$iPPP_N$	47 40	8	-7				
		iEZ	47 43	8		-17	+17		
		iZ	48 23	7			+11		
		i_E	48 26	7		-18			
		i_N	48 41	7	+9				
		iE	49 07	6		+7			
		iZ	49 11	7			+12		
		iS_E	51 15	9		+12			
		isS_N	51 32	9	-14				
		i_E	51 35	7		-20			
		i_N	52 07	8	-29				
		iSS_N	52 27	10	-23				
		i_N	52 52	11	+30				
		eL_E	54.0	22					
		eL_Z	54.3	22					
		MN	55 07	16	43				
		ME	56 33	13		40			F 04h 10m
		MZ	56 44	16			52		
342	" 14	eE	08 25 17	8					
		MN	28 23	11	1				
		MEZ	28 29	10		1	1		
		F	08 35						
343	" 14	eL_N	15 27.1	16					
		MZ	28 51	16			2		
		MNE	29.1	16	1	1			
		F	15 40						
344	" 14	eL_Z	19 14.2	15					
		F	19 20						
345	" 15	eLE	17 54.0	19					
		ME	56 24	13		1			F 18 00m

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
346	Oct.16	ePNZ	02 24 13					12,100	Δ from Guten-
		iPPPNZ	28 43	11	-7			109°	berg's Tables.
		iSKSE	34 44	6		+5			
		iSKSN	34 54	10	-8				
		eE	35 29	14					
		iSKKSN	35 52	8	+7				
		i(S)E	36 31	9		-9			
		ePSN	37 44	10					
		eN	38 26	27					
		eE	38 32	16					
		iSSE	43 55	16		-17			
		eLQE	54.5	30					LQE period in-
		eLQN	56.1	28					creases grad-
		eLRE	03 00.8	33					ually to 40s.
		MZ	02 59	24			60		
		MN	03 31	25	60				F 05h 55m
		ME	08 22	20		30			
347	" 17	eE	09 23.2						
		eE	26.7						
		eLE	34.7	21					F 09h 45m
348	" 17	eLZ	16 57.4	18					
		MN	59 06	13	2				
		ME	17 01 10	13		1			F 17h 10m
349	" 18	iPZ	01 06 24	4			+3	3490	Compression
		ePPZ	07 24	6				31°4	
		iE	07 28	4		+2			
		eSE	11 28	11					
		eE	11 31	12					
		eN	12 34	10					
		eLQE	13.2	26					
		eLZ	13.6	26					
		MN	15 36	15	2				
		MEZ	15.7	17		4	5		F merged in 350
350	" 18	MZ	01 53 25	15			2		
		ME	55 24	15		1			F 02h 10m
351	" 20	eE	02 14 25	13					
		eSSE	18 30	16					
		eLQE	29.1	25					
		eLRZ	35.6	25					
		MN	40 19	22	6				
		MZ	40 39	22			17		
		ME	42 44	21		10			F 04h 20m
352	" 20	eLE	13 02.8	21					
		F	13 15						
353	" 21	eLZ	01 41.2	15					
		F	01 50						
354	" 22	iPNZ	17 28 03	4	-10		+15	2820	Compression
		iN	28 29	4	-10			25°4	H 17 22 37
		iPPN	28 41	4	+8				
		iPPPN	28 56	4	+12				
		iSE	32 24	6		+10			
		iZ	32 28	6			+11		
		iN	32 30	8	-80				
		iE	32 34	[illegible]		+42			
		i(sS)N	32 47	8	+87				
		iE	32 57	8		+28			
		iSSE	33 26	10		+10			
		iE	33 32	6		-13			
		iN	34 25	7	+24				
		eLRZ	34.5	25					
		iE	34 31	6		-14			
		eLN	34.7	30					
		MN	37 34	13	46				F 19h 45m
		MEZ	37.8	13		70	33		
355	" 24	e(S)NE	13 34 06	10					Masked by
		MN	37 13	15	2				microseisms.
		ME	39 11	14		2			
		F	13 45						

RIVERVIEW COLLEGE OBSERVATORY,
SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
356	Oct.24	iP_{NZ}	17 06 45	6	-5		+6	2850	Compression
		ipP_Z	06 54	6			+13	25°6	H 17 01 09
		$iPcP_Z$	10 06	5			-7		
		$e(S)_E$	11 06						
		iS_N	11 15	8	-19				
		iE	11 19	8		+17			
		isS_N	11 31	7	+15				
		$e(LQ)_E$	12.0	22					
		iSS_E	12 22	9		-25			
		eL_N	12.5	26					
		i_E	13 18	6		+7			
		eLR_E	13.5	26					
		MNE	16.5	12	29	86			
		MZ	16 58	12			25		
		$iScS_E$	17 33	9		+25			
		F	18 30						
357	" 24	eL_Z	22 49.0	21					Masked by
		MNEZ	52.4	17	6	5	6		microseisms.
		F	23 05						
358	" 26	$e(S)_E$	13 04 35	13					
		eL_EZ	07.2	21					
		MEZ	10.6	18		3	4		
		MN	11 03	14	3				F 13h 30m
359	" 27	eZ	04 55 27	7					
		eE	59 57						
		eL_E	05 02.8	21					
		MEZ	07.0	15		2	3		
		MN	07 50	13	3				F 05h 35m
360	" 27	eL_N	08 06.4	19					
		MEZ	09.3	18		4	5		
		F	08 25						
361	" 27	$e(PP)_Z$	11 27 33						
		$e(SKS)_E$	35 01	12					
		e_N	35 09	12					
		$e(PS)_E$	36 09	20					
		$e(SS)_E$	40 18	20					
		eZ	40 44	20					
		e_N	41 05	12					
		eLQ_E	47.7	22					
		$e(G)_N$	48.0	23					
		eLR_Z	50.9	27					
		ME	55 02	19		3			
		MN	55 13	18	3				
		MZ	55 17	19			5		
		F	13 00						
362	" 28	eL_Z	04 23.2	22					
		ME	24 33	19		1			
		MNZ	24.9	19	2		1		F 04 40
363	" 28	eL_E	10 26.3	27					
		ME	35 45	17		1			
		MZ	35 54	17			2		F 11 00
364	" 29	eL_E	19 18.4						Masked by micro-
		F	19 25						seisms.
365	" 30	eL_E	03 05.0	17					
		MN	07 21	13	2				Readings from the
		ME	09 22	13		5			Wiechert.
366	" 31	eZ	00 38.0						Masked by micro-
		eL_Z	45.2	19					seisms.
		MN	46 07	15	3				
		MEZ	47.2	17		3	4		F 01 10
367	" 31	eZ	01 34 32	11					Masked by micro-
		eL_Z	41.4	21					seisms.
		MN	43 04	18	5				
		MEZ	43.9	18		5	7		
		F	02 25						

T.N.BURKE-GAFFNEY, S.J.
Acting-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. Galitzin 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	208	7.5	5.2	0.002	4	11.8	11.9	+0.04	410
	3	162	9.3	6.4	0.022					
E	1	230	7.2	4.8	0.015	4	12.3	12.2	-0.02	490
	3	177	9.2	7.5	0.025					
Z	2					4	11.0	11.0	0.0	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	
Unless otherwise stated, readings are from the Galitzins. The amplitudes of initial impulses on the Galitzins are computed by Galitzin's method. Jeffreys' & Bullen's Tables (1940) are used, unless otherwise stated.									
	1947		h m s	s	μ	μ	μ	km.	
368	Nov. 1	iP_Z	06 09 17	4			-7	6090	Dilatation
		i_Z	09 40	4			+9	54°8	H 05 59 48
		iS_{NE}	16 54	7	+12	+13			Heavy microseisms
		i_{NE}	17 22	5	-10	-12			present.
		$iScS_N$	19 01	5	+4				ScS from Wiechert.
		eLR_{NE}	25.5	28					
		MN_1	31 14	19	32				
		MN_2Z	33 33	19	39		25		F 07 35
		ME	33 39	19		28			
369	" 1	$iPKP_Z$	15 17 51	6			+8	13,100	ca. Compression
		iPP_{NEZ}	18 52	7	+11	-5	+19	118°	ca Obscured by large
		i_Z	19 08	7			-21		microseisms and
		i_Z	19 23	9			+26		tangling of lines.
		$iPPP_N$	21 07	6	-10				
		i_E	23 48	4		-10			
		$eSKS_E$	24 40	13					
		i_N	24 53	10	+17				
		e_{NE}	25. 49	11					
		iPS_E	28 36	12		+7			
		i_{NE}	28 50	14	-33	+19			
		eSS_N	35 10	35					
		eSS_E	35 19	35					
		$ePSPS_N$	35 48	30					
		m_E	36 14	33		112			
		i_N	38 22	6	+18				
		$iSSS_N$	39 49	12	+30				
		$e(LQ)_N$	45.4	33					
		eLQ_N	48.5	35					
		eLR_E	53.6	36					F 19h 00m
		$MNEZ$	16 02.3	18	55	40	43		
370	2	eL_E	07 49.0	32					Masked by microseisms
		ME	54 38	19		2			
		MZ	54 56	19			3		F 08h 15m.
371	" 2	iP_{NZ}	16 18 54	4	-10		-14		Dilatation
		i_Z	19 09	5			-7		
		i_E	23 51	4		+4			
		eL_E	23.9	14					
		i_N	24 58	7	+5				
		MN	25 59	11	3				
		MZ	25 33	11			3		
		ME	26 02	11		5			
		F	17 25						

RIVERVIEW COLLEGE OBSERVATORY,

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
372	Nov. 4	iPNZ	00 21 12	4	+6		-13	8870	Dilatation
		iPcPNZ	21 20	6	-8		+23	79°8	H 00 09 06
		iS_E	31 11	11		-7			
		i_N	31 16	7	+11				
		i_E	31 37	13		+12			
		i_N	31 47	7	+12				
		iSS_N	36 39	16	+26				
		eLQ_E	42.8	27					
		eLR_Z	46.3	30					
		ME	47 34	21		16			F 02h 10m
		MNZ	51.2	18	15		15		
373	" 4	$(iP)_Z$	09 50 24	4			-5		Masked by large microseisms.
		i_Z	53 47	5			-6		
		i_E	53 48	4		+5			Perhaps deeper than normal.
		$i(S)_N$	55 21	5	-8				
		eLR_Z	57.9	13					
		$i(ScS)_E$	10 01 26	4		+7			
		F	10 15						
374	" 5	e_E	01 13 13	10					
		eL_N	14.9	18					
		ME	15 54	12		1			
		MZ	16 42	15			4		F 01h 28m.
		MN	16 52	17	4				
375	" 5	iP_Z	02 08 15	4			+4	2710	Compression
		iS_N	12 31	6	-7			24°4	Masked by microseisms.
		$i(SS)_N$	13 22	6	-8				
		eLR_Z	14.4	15					
		MN	15 49	15	3				F 02h 20m.
		ME	16 39	14		1			
376	" 5	P	13 57 09					2410	Masked by micro-
		eSN	14 01 02	8				21°7	seisms.
		e_E	01 09	9					
		eLR_Z	02.6	24					
		ME	03 15	13		3			F 14h 20m
		MNZ	04.1	16	5		4		
377	" 5	e_N	16 10.4						
		eL_N	11.8	16					
		MEZ	14.4	19		4	6		F 16h 25m.
		MN	14 57	13	3				
378	" 7	eL_{NE}	12 28.4	19					
		eL_Z	29.6	22					
		F	12 55						
379	" 7	eL_E	13 33.2	17					
		eL_Z	34.9	25					
		F	13 55						
380	" 7	eL_E	14 09.4	17					
		F	14 20						
381	" 7	eL_Z	23 57.2	26					
		MNE	00 03 16	16	1	1			F 00h 50m
		MZ	03 29	16			2		
382	" 8	iPNEZ	06 44 47	4	+3	+3	-9	3650	Dilatation
		i_E	46 07	4		+3		32°8	H 06 38 15
		i_N	48 07	3	+4				Provisional epi-
		iS_{NE}	50 01	5	-6	+12			centre:
		e_N	51.1	16					8°S.,129°E.
		$iScS_E$	55 10	4		+18			approx.
		MZ	56 40	5			15		
		MNE	57.5	6	18	12			
		F	07 45						
383	" 8	$P?_Z$	15 25 08						Masked by micro-
		i_Z	25 41	4			+4		seisms.
		e_E	29 25						
		e_N	29 59						
		eL_Z	32.4	19					
		MNE	33.6	13	2	1			
		F	15 50						

RIVERVIEW COLLEGE OBSERVATORY,

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km	
384	Nov. 8	e_N	20 57.2						
		MN	21 04 52	13	1				
		F	21 10						
385	" 8	ePNEZ	22 46 21	6				2710	
		iP_{NEZ}	46 25	5	-5	+8	-13	24°4	Dilatation
		i_{EZ}	46 47	6		-4	+7		H 22 41 05
		iS_N	50 36	6	-6				
		eNE	50 50	18					
		eLR_{NZ}	52.5						LR N 22s. per.
		MZ	54 44	19			15		LR Z 27s. per
		MN	55 08	16	20				
		ME	55 18	16		11			F 00h 00m
386	" 9	iP_{NEZ}	05 02 26	7	-63	-110	+142	2200	Compression
		iPP_{NE}	02 43	7	-71	-135		20°0	H 04 57 54
		i_N	03 06	7	+150ca				
		i_E	06 11	8		+170			S cannot be
		i_N	06 22	8	+153				identified.
		M_E	06 24	8		120			
		iSS_N	06 29	8	+135				
		LR_E	07.2	22					
		ME	11 31	13		220			Maxima from
		MN	11 55	12	260				Wiechert.
387	" 9	i_N	15 19 01	9	+14				F 08 30
		eL_N	23.8	24					Obscured by
		MN	25 59	19	17				exceptionally
		MEZ	28.2	19		13	18		large microseisms
388	" 10	$i(S)_E$	06 38 38	4		+6			Masked by micro-
		eL_E	43.5	22					seisms,
		ME	45 41	16	14	11			F 07h 25m
		MZ	49 36	12			10		
389	" 10	$e(P)_Z$	09 57 14	7					
		$e(S)_E$	10 00 50	7					
		e_N	00 54	8					
		$i(SS)_{NE}$	01 17	7	+9	-5			
		eLR_{NZ}	01.2	20					
		MZ	03 26	17			3		F 10h 30m
		MNE	03.8	16	9	2			
390	" 11	e_N	00 09.5	11					
		eL_{NE}	14.7	22					
		eLR_Z	16.2	25					
		MNE	17.8	20	3	2			F 00h 30m
		MZ	18.4	20			2		
391	" 12	iP_{NEZ}	10 33 17	6	-4	-7	+10	2340	Compression
		ipP_Z	33 25	6			+14	21°0	Foreshock of
		iS_E	37 04	6		+5			No.393.
		i_E	37 15	5		+5			
		i_N	37 17	6	-10				
		eLR_E	38.3	23					
		eLR_Z	38.4	23					
		MEZ	40.8	16		6	6		
		MN	41 07	13	11				
		F	Merged in No. 392.						
392	" 12	iP_{NEZ}	10 43 44	6	-6	-10	+12	2350	Compression
		ipP_{EZ}	43 53	6		-20	+32	21°1	Repetition of
		i_E	44 21	5		-22			No.391.
		i_N	44 25	5	+21				
		iS_{EZ}	47 32	6		+24	-14		
		isS_N	47 43	6	-30				
		i_Z	47 57	9			+26		
		iSS_N	48 03	10	+21				
		eLR_E	48.7	28					
		eLR_Z	48.8	28					
		ME	51 16	15		20			
		MZ	51 44	15			27		F 12h 30m
		MN	53 01	11	34				

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
393	1947 Nov.12	iP_{NEZ}	16 23 30	8	-21	-40	+49	2380	Compression
		iPP_N	23 53	8	+30			21°4	H 16 18 43
		$iPPP_E$	24 05	7		+28			
		i_N	24 13	6	+23				Repetition of
		e_N	27 15	17					Nos.391 & 392
		iS_E	27 20	6		+60			
		iS_Z	27 21	8			+105		
		$iPcP_N$	27 34	6	-61				
		i_Z	27 45	7			+98		
		iSS_N	27 51	8	+90				
		i_N	28 15	8	+91				
		eLR_E	28.5	28					
		eLR_Z	28.6	28					
		i_N	28 41	8	+70				
		ME_1	29 46	20		100			
		ME_2	31 40	13		70			
		MNZ	32.6	12	154		70		
		F	19 00						
394	" 12	eL_N	22 50.4	15					
		F	22 55						
395	" 12	eL_N	23 37.3	16					
		MN	38 15	11	1				
396	" 12	eL_Z	23 51.6	21					
		MN	55 11	11	1				F 00h 15m
		MEZ	55 39	11		1	1		
397	" 13	iP_{NEZ}	11 25 04	6	+3	+2	-5	2730	Dilatation
		ePZ	25 39	7				24°6	h 200 km.
		$iPPZ$	25 53	6			+8		H 11 19 55
		iPP_{NE}	25 54	6	-4	-4			Δ, h & H from
		i_E	26 12	6		-4			Gutenberg's
		i_Z	26 15	6			+3		Tables.
		eS_E	29 06	8					
		iS_N	29 09	7	-6				
		iE_Z	29 25	7		-4	+7		
		i_E	29 53	7		-4			
		i_N	29 58	7	-7				
		isS_N	30 17	7	+7				
		isS_E	30 18	7		+10			
		i_Z	30 20	7					
		eL_Z	30.5	19					F 11 55
		i_N	30 35	7	+6				
398	" 13	e_E	14 52.3						
		MNEZ	55.1	13	3	1	3		
		F	15 00						
399	" 12	eL_E	19 52.5	19					
		MN	56 32	11	1				
		F	20 05						
400	" 14	i_N	05 26 48	6	-4				Masked by micro-
		eL_E	42.9	21					seisms.
		eL_Z	43.5	21					
		F	06 00						
401	" 14	ipP_{NZ}	11 03 07	4	+3		-5	8560	Dilatation
		$ipPPZ$	05 56	4			+4	77°0	h 200 km.,
		iS_N	11 37	5	+4				H 10 50 40
		ePS_E	12 48	11					Δ, h & H from
		isS_E	13 08	7		-4			Gutenberg's
		e_N	13 34	19					Tables.
		eSS_N	16 40	11					F 11 45
		eL_E	25.1	21					
402	" 15	iP_{EZ}	07 16 00	5		+6	+7	2270	Compression
		eS_N	19 41	8				20°4	
		i_Z	19 43	6			+4		
		i_E	19 47	9		95			
		i_{NE}	20 00	7	-9	+7			
		eL_N	20.6	22					
		eL_Z	21.0	25					
		MEZ	23.2	16		4	4		F 08h 10m
		MN	25 50	11	9				

RIVERVIEW COLLEGE OBSERVATORY,

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km	
403	Nov.15	eL_Z	23 38.7						Masked by micro-seisms.
		MZ	40 54	21			3		
		F	23 50						
404	" 16	e_E	06 11 15	8					Masked by micro-seisms.
		eL_Z	12.5	24					
		ME	14 21	12		2			
		MN	16 12	12	3				
		F	06 25						
405	" 16	eL_E	17 51.4	23					Masked by micro-seisms.
		MN	54 44	13	3				
		MZ	55 01	13			3		
		ME	55 06	18	3				
		F	18 30						
406	" 17	eL_Z	11 57.5						A few long waves
407	" 18	eL_Z	17 38.9	17					" " " "
		F	17 50						
408	" 18	eL_N	23 08.6	16					" " " "
409	" 20	e_N	01 06.8						A few waves.
410	" 20	eL_E	01 51.6	24					
		ME	54 11	22		5			
		MZ	57 01	13			3		
		MN	57 20	14	3				
		F	Merged in	No.411					
411	" 20	ME	02 12 44	15		3			A few Waves
		F	02 25						
412	" 20	iP_Z	08 32 14	6			-5	9340	Dilatation
		eS_N	42 34	8				84°0	H 08 19 46
		$iScS_N$	42 45	5	-3				
		eLR_Z	58.5	35					
		MNEZ	09 04.3	22	4	2	8		
		F	Merged in	No.413					
413	" 20	iP_{EZ}	09 42 24	3		+3	-5	3510	Dilatation
		ipP_{EZ}	43 53	4		+3	-4	31°6	h 0.08
		eS_E	46 54	7					H 09 36 44
		eSS_E	49 44	11					
		i_Z	49 53	7			-5		
		$iScS_{NE}$	51 57	5	+6	+4			
		MN	54 31	11	2				
		F	10 20						
414	" 21	$(PKP)_Z$	04 12 42						
		ePS_E	22 37	14					
		$ePPS_E$	23 48	9					
		e_E	24 29	12					
		eSS_E	28 41	12					
		$eSSS_E$	32 38	24					
		eLR_Z	44.4	27					
		MNEZ	47.1	23	2	7	7		
		F	06 20						
415	" 21	iP_Z	17 56 46	4			+5		Compression
		$i(S)_{EZ}$	18 00 18	5		-5	+3		Perhaps deep focus.
		e_Z	03 17						
		i_N	03 45	6	-4				
		MEZ	11 19	13		1	1		
		F	18 20						
416	" 21	e?Z	19 08 00						e?Z & eN poss-ibly Max. of small preceding shock masking preliminaries of 416.
		e_N	08 15	12					
		eS_N	12 35	13					
		e_E	12 46	22					
		m_{NZ}	13 14	19	43		26		
		eLR_Z	16.0	37					
		eLR_N	16.2	30					
		MNEZ	18.8	19	42	30	54		
		F	20 55						

RIVERVIEW COLLEGE OBSERVATORY, SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
417	Nov.22	iP_Z	09 27 06	3			-2		Dilatation
		ePP_E	27 43	4					
		$e(S)_E$	31 21						
		$e(SS)_E$	32 23	10					
		eL_Z	33.6	21					
		MZ	35 52	19			9		F 10h 15m
		MNE	35 57	17	7	5			
418	" 22	eL_Z	12 31.9	21					A few waves.
		F	12 45						
419	" 22	iPE_Z	19 22 27	5		-3	+4	3260	Compression
		i_N	22 31	6	+5			21°2	H 19 17 44
		$ipPE_Z$	22 35	7		-5	+8		
		i_N	23 11	5	-7				
		iS_N	26 16	8	+9				
		iS_{EZ}	26 18	6		-5	+8		
		iSS_N	26 47	7	+10				
		iSS_Z	26 49	9			+19		
		eL_E	27.2	23					
		eLR_Z	27.6	22					
		ME	28 56	18		6			F 20h 25m.
		MN	29 15	15	10				
420	" 23	eLE	03 03.8	17					A few waves.
		F	03 15						
421	" 23	eZ	07 32 54						
		eL_Z	41.6	23					
		F	07 55						
422	" 23	eL_E	10 43.2	21					
		eL_Z	44.7	23					
		MEZ	48.2	19		3	3		F 11h 25m.
		MN	50 21	19	1				
423	" 23	MNE	15 07 02	16	1	2			A few waves.
		F	15 10						
424	" 25	eL_E	12 21.3	14					
		MN	23.8	13	1				
		F	12 30						
425	" 25	eE	12 29 54	9					Obscured by microseisms.
		eN	41 16	12					
		eL_E	45.5	22					
		eLZ	49.4	25					
		ME	52 59	19		4			
		MZ	54 13	20			6		F 13h 10m
		MN	54 19	20	9				
426	" 25	eLZ	19 12.9	19					
		F	19 35						
427	" 26	MNE	08 53.8	16	4	3			
		F	09 05						
428	" 26	eNE	22 55 39	6					All readings from the Mainka.
		i_N	56 15	5	-2				
		MN	23 00 49	12	2				
429	" 28	ME	08 56 24	13		1			
		F	09 00						
430	" 28	eE	14 22 28	7					
		ME	28 16	15		2			
		MZ	32 33	13			3		
		MN	33 05	13	1				
		F	14 45						
431	" 28	ePZ	23 41 02	5				2360	H 23 36 17
		ePPZ	41 28	7				21°2	
		iS_{NEZ}	44 51	7	+6	+3	+3		
		$iPcP_E$	45 08	7		+5			
		eL_E	46.0	24			2		
		MZ	47 38	20					
		ME	47 44	22		1			
		F	23 55						

T.N.BURKE-GAFFNEY, S.J.
Acting-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. Galitzin Aperiodic Seismometer with Galvanometer registration (NS, EW, Vert)

		V	T_o	$\epsilon : \lambda$	$\frac{r}{T_o^3}$		T_g (Galv.)	T (Pend)	μ^2	V_s
N	1	206	7.5	8.4	0.003	4	11.8	11.9	+0.04	410
	3	178	9.3	4.2	0.031					
E	1	223	7.3	4.8	0.015	4	12.3	12.2	-0.02	490
	3	136	9.9	5.1	0.022					
Z	2					4	11.0	11.0	0.0	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.	
Unless otherwise stated, readings are from the Galitzins. The amplitudes of initial impulses on the Galitzins are computed by Galitzin's method. Jeffreys' & Bullen's Tables (1940) are used, unless otherwise stated.									
	1947		h m s	s	μ	μ	μ	km.	
432	Dec. 1	e_E	04 37.8						
		eL_E	40.9	22					
		F	05 05						
433	" 1	eL_E	11 11.5	17					
		F	11 25						
434	" 2	e_E	06 01 24	12					
		MZ	12 35	14			4		
		MN	13 33	15	5				F 06h 50m.
		ME	16 44	16		5			
435	" 2	i(SS)N	21 41 55	8	-6				Deep focus.
		i_E	50 01	8		+4			
		i(ScS)NE	51 53	4	-5	+5			
		F							
436	" 3	e_N	11 03.3	7					Masked by micro-seisms.
		e_E	05 45	7					
		F	11 25						
437	" 4	iP_Z	14 24 36	3			+5	5350	Compression
		iS_{NE}	30 56	7	+12	+8		48°2	h 500 km, H 14 16 37
		$iScS_E$	33 30	5		+5			from Gutenberg's
		F	15 05						Tables.
438	" 5	iP_{EZ}	23 26 37	6		+3	-4	2780	Dilatation
		i_Z	26 54	6			-5	25°0	
		iPP_Z	27 16	6			-5		
		iPP_E	27 17	6		+4			
		eS_E	30 56	6					
		iS_N	30 57	6	+3				
		i_E	31 19	6		-5			
		i_N	32 04	6	+6				
		eL_N	32.2	22					
		MN	35 08	16	7				
		MZ	36 30	16			9		F 00h 15m.
		ME	37 05	16		7			
439	" 7	e_E	11 45.7						
		e_E	52.6	14					
		eL_E	55.3	22					
		MZ	56 28	19			2		
		MN	57 25	13	1				
		ME	58 23	13		1			
		F	12 20						

RIVERVIEW COLLEGE OBSERVATORY,

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
440	Dec. 8	iP_{NEZ}	17 23 56	4	-4	-4	+6	2590	Compression
		ipP_{NEZ}	24 11	7	+7	+6	-9	23°3	h 0.005
		iPP_{NEZ}	24 23	5	+7	+6	-8		H 17 18 53
		iS_N	28 00	9	-21				
		iS_E	28 04	9		-15			
		i_Z	28 07	9			+18		
		isS_E	28 30	10		-26			
		i_Z	28 36	9			+21		
		iSS_E	28 49	10		+16			
		eLR_E	29.8	27					
		MZ	31 24	19			29		
		ME	31 31	18		21			F 18h 55m.
		MN	31 50	14	12				
441	" 10	eL_E	00 43.5	23					
		ME	52.9	20		1			
		F	01 15						
442	" 11	eL_N	07 11.4	15					
		MN	12 57	12	1				
		ME	13 26	12		1			
		F	07 25						
443	" 12	eZ	02 24 23						Masked by micro-seisms.
		eN	28 40						
		e_N	29 16	17					
		eL_Z	32.8	28					
		MZ	34 45	21			9		
		MNE	35 11	16	6	8			F 03h 20m
		ME_2	37 17	12		10			
444	" 13	eL_N	01 40.4	18					
		MN	42 42	15	1				
		ME	44 28	17		1			
		MZ	44 47	16			1		
		F	02 10						
445	13	eL_N	09 38.5	17					
		eL_E	40.9	20					
		MN	41 10	13	1				
		MEZ	42.0	17		2	3		
		F	10 10						
446	" 14	eL_E	19 42.3	19					
		F	20 00						
447	" 15	e_N	00 17 24						
		eL_E	19.8	24					
		ME	23 08	16		5			
		MZ	25 42	15			3		
		F	00 40						
448	" 15	iP_{NEZ}	19 28 10	5	-6	+4	-16	4640	Dilatation
		$i(pP)_Z$	28 29	5			+13	41°7	h 0.01 ca.
		$iPcP_{EZ}$	30 03	5		+6	-16		H 19 20 29
		i_N	33 57	7	+10				
		iS_N	34 19	7	+14				
		i_{NE}	34 27	7	+15	-17			
		iNE	34 43	8	-60	+35			
		iE	34 50	8		-42			
		iSS_E	37 28	12		+28			
		i_N	37 37	12	-37				
		$i(ScS)_N$	37 46	15	+64				
		eLR_{NZ}	39.3	23					
		MZ	41 32	19			100		
		ME	41 55	10		50			
		MN	42 02	10	60				
		F	21 45						
449	" 16	$e(L)_E$	01 56.6	15					
		ME	02 00 29	12		1			
		F	02 10						
450	" 17	eL_Z	04 23.6	20					
		F	04 30						

RIVERVIEW COLLEGE OBSERVATORY.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km	
451	Dec.17	e_E	06 20.3						
		eL_Z	26.0	20					
		F	06 40						
452	" 17	i_N	14 39 27	6	+3				
		i_E	39 28	6		+2			
		eL_E	41.8	21					
		F	14 55						
453	" 18	e_E	15 55.6						
		F	16 35						Irregular waves, no definite
454	" 18	eL_E	17 21.8	16					
		eL_Z	23.0	18					
		F	17 45						
455	" 19	e_Z	01 11.8						A few waves.
		F	01 25						
456	" 19	eL_E	01 32.3	20					
		ME_Z	34.3	17		2	2		
		F	01 45						
457	" 19	$e(P)_Z$	16 46 29						
		$e(S)_N$	54 40	10					
		e_E	54 58	22					
		eL_E	17 01.4	22					
		ME	06 37	19		2			
		MN	07 01	27	3				
		MZ	07 26	20			2		
		F	17 40						
458	" 21	$e(S)_E$	00 19 40	12					Masked by micro-
		[illegible]	22.3	21					seisms,
		$e(SS)_N$	22 28	13					
		eLR_Z	24.0	21					
		MN	27 48	11	7				
		ME	29 21	20		5			
		MZ	29 33	18			7		
		F	01 15						
459	" 21	e_E	11 47.2	9					
		ME	50 23	11		1			Masked by micro- seisms.
		F	11 55						
460	" 21	eP_Z	16 52 55					4280	Microseisms
		$iPPE_Z$	54 29	4		-4	+5	38°5	present.
		eS_E	58 48	9					
		eL_E	17 03.3	19					
		eLR_Z	03.6	24					
		MZ	05 52	17			6		
		ME	06 14	17		5			
		MN	06 46	12	6				
		F	17 55						
461	" 24	$iPNE_Z$	05 28 43	5	+5	+	+14	3880	Compression
		i_{NEZ}	28 49	5	-10	-10	-29	34°9	H 05 21 52
		$iPPNE_Z$	29 58	5	+7	+7	+10		
		iS_E	34 11	9		-12			
		iS_N	34 13	9	-15				
		$iSSS_E$	36 46	8		+14			
		$iSSS_N$	36 48	8	+23				
		eL_E	38.5	24					
		ME	39 30	14		17			
		MN	40 44	16	23				
		MZ	40 48	16			30		
		F	07 25						
462	" 25	$e(S)_N$	02 09 20	11					
		MN	15 59	18	7				Masked by micro- seisms.
		MZ	16 31	18			7		
		ME	17 12	14		6			
		F	03 05						

RIVERVIEW COLLEGE OBSERVATORY.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
463	Dec.26	iP_Z	16 48 53	4			+5	2540	Compression
		iP_{NE}	48 55	4	+3	+4		22°8	H 16 43 52
		ipP_{NEZ}	49 01	4	+14	+17	-32		
		iPP_{NEZ}	49 20	7	+20	+25	-44		
		$iPPP_N$	49 33	7	+23				
		iZ	49 34	7			+23		
		i_E	49 46	7		-27			
		iS_N	52 55	7	+27				
		iEZ	53 00	7		+36	+16		
		isS_E	53 11	8		+95			
		iN	53 13	7	+64				
		iN	53 26	8	+107				
		iSS_N	53 37	8	+77				
		$iSSS_E$	53 51	7		+36			
		e_N	53.9	20					
		eL_Z	54.1	28					
		eLR_E	54.5	23					
		MN_1	55 41	15	54				
		MZ	55 48	19			60		
		ME	56 03	17		40			
		MN_2	57 41	12	49				
		F	18 40						
464	" 26	iPEZ	20 00 00	4		-4	+4		Compression
		eL_E	06.2	23					
		eL_Z	07.0	30					
		ME	08 57	19		33			
		MZ	09 02	k9			40		
		MN	09 18	16	12				
		F	21 40						
465	" 26	iP_Z	23 20 57	4			+5	2590	Compression
		eS_N	25 03	9				23°3	
		iS_E	25 05	6		-5			
		i_E	25 16	6		-6			
		i_N	25 32	9	-10				
		e_E	25 39	11					
		MZ	27 45	16			3		
		MN	27 56	16	3				
		ME	28 03	17		2			
		F	merged in No. 466						
466	" 26	MZ	23 53 31	16			2		
		MN	53 49	15	3				
		ME	53 58	16		2			
		F	00 20						
467	" 27	eP_Z	05 29 48	9				2540	
		iS_E	33 50	8		-4		22°8	
		eLR_E	35.4	26					
		MZ	36 39	18			1		
		ME	36 47	19		1			
		MN	38 01	13	1				
		F	06 05						
468	" 27	e_N	16 41 35	6					
		eL_E	45.3	16					
		F	Merged in No.469						
469	" 27	eP_{EZ}	16 44 24	4					
		eL_N	50.9	17					
		MN	54 53	12	2				
		MEZ	56.2	15		2	3		
		F	17 30						
470	" 27	e(P)Z	17 39 28						Masked by micro-seisms.
		i(S)E	43 27	6		-4			
		e_E	43 53	12					
		eL_N	45.4	16					
		MN	46 36	15	2				
		F	18 10						

RIVERVIEW COLLEGE OBSERVATORY.

SEISMOLOGICAL BULLETIN.

No.	Date	Phase	Time (G.M.T.)	Per.	Amplitude A_N	Amplitude A_E	Amplitude A_Z	Δ	Remarks
	1947		h m s	s	μ	μ	μ	km.	
471	Dec.27	$i(S)_N$	18 29 31	5	+3				Masked by micro-seisms.
		$i(S)_E$	29 35	6		-3			
		e_N	30 07	11					
		eL_N	32.3	16					
		F	18 45						
472	" 28	e_N	15 58.4						Masked by micro-seisms.
		MN	16 03 26	12	4				
		MZ	04 50	15			3		
		ME	05 38	14		2			
		F	16 25						
473	" 30	$e(SS)_E$	02 33 12	20					
		eLR_E	55.1	22					
		ME	03 02 36	18		1			
		MZ	02 48	18			2		
		F	03 45						
474	" 30	$e(S)_N$	18 39 30	11					
		i_E	39 45	5		+6			
		i_N	39 50	10	-6				
		eL_N	40.4	20					
		MN	42 27	16	4				
		ME	42 50	15		3			
		F	18 55						
475	" 31	$e(S)_N$	09 19 08	11					Masked by very heavy micro-seisms.
		iE	19 11	7		-6			
		i_E	20 12	7		+6			
		eL_Z	22.3	21					
		ME	23 19	16		4			
		MNZ	24.4	16	3		6		
		F	09 40						
476	" 31	eP_Z	15 13 41	10				4150	Very heavy micro-seisms present
		eP_E	13 43	10				37°3	
		iPP_Z	15 07	7			+7		
		iPP_E	15 09	7		-7			H 15 06 30
		$iPPP_{EZ}$	15 31	7		-20	+30		
		i_N	15 53	7	+14				
		$iPcP_E$	15 58	5		-10			
		S_E	19 21						
		e_E	19 41	15					
		eSS_E	21 42	17					
		eLQ_N	22.2	24					
		eLR_{EZ}	24.2	31					
		ME	26 47	19		18			
		MZ	26 59	19			28		
		MN	27 09	13	14				
		F	16 20						

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

P.F.RHEINBERGER.

Addenda to Acknowledgments :
Warsaw. Bull, 1,2,3 de l'Obs. Seism. Varsovie. Activite du Service Geodgique de Pologne ,1939,1947
Wien,Zentralanstald fur Met.& Geophy. Smn 156-31,156-33.