

# UNIVERSITY OF QUEENSLAND SEISMOLOGICAL STATION

BRISBANE

$\phi = 27^{\circ} 28' 41''$  S.,  $\lambda = 153^{\circ} 1' 52''$  E.,  $h = 15$ m.

*Foundation* : Semi-consolidated alluvium of raised river terrace.

INSTRUMENTS AND CONSTANTS.

INSTRUMENT.	COMPONENT.	FREE PERIOD.	DAMPING.	MAGNIFICATION.
Milne Shaw No. 58 .. .. .	N.—S.	12 sec.	20 : 1	250
Milne Shaw No. 60 .. .. .	E.—W.	12 sec.	20 : 1	250

Both instruments have been modified by the incorporation of electric driving mechanisms. These have doubled the speed of the recording drums, which is now 16 millimetres per minute.

The station is maintained and operated by the University of Queensland assisted by a grant from the Australian Council for Scientific and Industrial Research.

DATE.	PHASE.	G. M. T.			REMARKS.
		h.	m.	s.	
1944 Jan. 4	iPN iSN eSE iSSN iSSE eL <sub>2</sub> E eL <sub>2</sub> N	22-09-39 13-37 13-46 14-15 14-16 17-52 18-29			$\Delta = 22^{\circ}$ ca.
" 7	iPE iPN iPPN iSN eSE iSSE iL <sub>1</sub> E iL <sub>2</sub> E	2-54-31 54-32 54-57 58-48 58-58 59-38 3-01-06 2-57			
" 8	eE eE iE eL?E	14-22-31 33-06 35-12 36-35			
" 16	eN eN iN iN	0-04-05 8-28 14-46 17-56			
" 17	iN	13-27-47			
" 19	eP?N iS?E iS?N MN	0-30-46 34-40 34-45 38-44			
" 20	iE eN iE eG?N iE iLN MN	3-05-45 5-46 7-05 13-24 16-04 16-12 17-10			

DATE	PHASE	G. M. T. h. m. s.	REMARKS
Jan. 24	eN eE iN	7-05-10 5-30 6-08	
" 25	iPE iPN ipPE ipPN iSN eSE isSN esSE iGN eL <sub>1</sub> N eL <sub>2</sub> N	7-40-20 40-22 40-43 40-45 46-03 46-06 46-43 46-45 48-43 50-42 53-31	$\Delta = 38^\circ$ ca; h = .01R
" 28	iPN iPE iSE iSN isSN isSE iSSN esSE	11-04-32 4-36 8-38 8-39 9-00 9-01 9-32 9-40	$\Delta = 23^\circ$ ca.

*W.H. Bryan*

W.H. Bryan

Officer in Charge.

# UNIVERSITY OF QUEENSLAND

## SEISMOLOGICAL STATION

BRISBANE

$\phi = 27^{\circ} 28' 41''$  S.,  $\lambda = 153^{\circ} 1' 52''$  E.,  $h = 15$ m.

*Foundation* : Semi-consolidated alluvium of raised river terrace.

### INSTRUMENTS AND CONSTANTS.

Instrument.	Rate of Recording.	Component.	Free Period.	Damping.	Static Magnification.
Milne-Shaw No. 58 (Modified) ..	16 m.m. per minute	N.—S.	12 sec.	20 : 1	250
Milne-Shaw No. 60 (Modified) ..	16 m.m. per minute	E.—W.	12 sec.	20 : 1	250
Benioff No. 12 .. .. .	15 m.m. per minute	N.—S.	1.5 sec.		
Benioff No. 11 .. .. .	15 m.m. per minute	E.—W.	1.5 sec.		
Benioff No. 13 .. .. .	15 m.m. per minute	Vertical	1.5 sec.		

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DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
1944 Feb. 1	iPPE ePPN iN ePPPE iSSN iSS:SN eGN iN iL <sub>1</sub> N FN	3-44-07 44-12 46-04 47-15 4-01-42 6-28 17-15 21-08 30-00 7-30-ca			M-S " " " " " " " " "	Serious damage reported from Turkey.  G waves with period of 61 sec.
" 5	eE iZ iE eZ iE iE eE	17-30-04 30-07 33-55 20-06-06 6-09 6-26 10-52			M-S B M-S B M-S " "	
" 7	iPZ iPN iSE iSN	19-24-43 24-45 28-36 28-38			B M-S " "	$\Delta = 21.6^{\circ}$
" 11	iPZ ipP?Z	9-34-53 35-19			B "	Dilatation
" 13	eN eN	23-31-07 38-38			M-S "	
" 23	iPNZ iPN iSNE iSN	20-13-36 13-39 17-30 17-31			B M-S " B	Compression. $\Delta = 21.9^{\circ}$

DATE.	PHASE.	U. T.			UNIT.	REMARKS.	
		h.	m.	s.			
Feb. 29	iPZ	16	40	09	B	Compression. $\Delta = 79.0^\circ$ .	
	iPNE		40	11	B, M-S		
	ePN		40	17	M-S		
	iPPE		42	43	"		
	iZ		44	07	B		
	iSN		50	04	M-S		
	iSE		50	06	"		
	iE		55	36	"		
	iSSN		58	43	"		
	iGE	17	01	17	"		
	eGN		1	33	"		
	eL <sub>1</sub> N		5	02	"		
	eL <sub>1</sub> E		5	05	"		
	MN		7	27	"		
	F		19	30	ca		"

N.B. An unusually quiet month for the South-west Pacific.

*W.H. Bryan*  
 \_\_\_\_\_  
 W.H. Bryan  
 Officer in Charge.

# UNIVERSITY OF QUEENSLAND

## SEISMOLOGICAL STATION

79

### BRISBANE

$\phi = 27^{\circ} 28' 41''$  S.,  $\lambda = 153^{\circ} 1' 52''$  E.,  $h = 15$ m.

*Foundation* : Semi-consolidated alluvium of raised river terrace.

#### INSTRUMENTS AND CONSTANTS.

Instrument.	Rate of Recording.	Component.	Free Period.	Damping.	Static Magnification.
Milne-Shaw No. 58 (Modified) ..	16 m.m. per minute	N.—S.	12 sec.	20 : 1	250
Milne-Shaw No. 60 (Modified) ..	16 m.m. per minute	E.—W.	12 sec.	20 : 1	250
Benioff No. 12 .. .. .	15 m.m. per minute	N.—S.	1.5 sec.		
Benioff No. 11 .. .. .	15 m.m. per minute	E.—W.	1.5 sec.		
Benioff No. 13 .. .. .	15 m.m. per minute	Vertical	1.5 sec.		

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DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
1944						
Mar. 3	eN iN iE	13-30-55 35-41 35-48			M-S " "	
" 5	iPN ePPN iSN isSN eGN eL <sub>1</sub> N eL <sub>2</sub> N	17-23-48 25-24 29-56 30-18 33-12 35-46 38-51			" " " " " " "	
" 7	iPN ipPN eSE iSN isSN isSE	2-27-13 27-33 31-13 31-14 31-50 31-51			" " " " " "	$h = .01R, \Delta = 23.0^{\circ}, H = 2-22-16$
" 8	eN eN MN	23-10-12 13-53 17-45			" " "	
" 9	iNZ	16-01-37			B	Compression
" 10	eZ iZ	6-50-50 50-58			B "	
" 11	iPZ iPN iSN eSZ iN	17-34-55 34-57 38-48 38-49 39-08			B " " " "	$\Delta = 21.7^{\circ}$
" 12	ePN iSN iN iLN MN	13-05-24 9-45 11-06 14-23 15-14			M-S " " " "	

DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Mar. 14	iZ	11	29	23	B	
	eN		29	26	"	
	eN		29	34	M-S	
	eE		29	37	"	
	eE		34	36	"	
	iPEZ	18	37	52	B, M-S	h = .01R.
	ePN		37	53	B	
	ePN		37	54	M-S	
	ipPN		38	09	"	
	epPE		38	12	"	
	eSN		41	44	"	
	iSN		41	47	B	
	iSE		41	52	M-S	
	isSN		42	14	"	
	isSE		42	15	"	
	eE		43	18	"	
" 15	eE	22	02	23	M-S	
	eLE		4	40	"	
	eLN		5	13	"	
	MN		7	42	"	
" 16	iZ	6	54	29	B	
	eZ	12	34	45	B	
	iPN	23	34	39	M-S	$\Delta = 19.6^\circ$ , H = 23-30-12 Compression
	iPNZ		34	40	B	
	iPE		34	42	M-S	
	ePPN		35	05	"	
	iSNE		38	14	B, M-S	
	eSZ		38	19	B	
	eSSN		38	35	M-S	
	iL <sub>1</sub> E		40	06	"	
	eL <sub>1</sub> N		40	15	"	
	eL <sub>2</sub> N		42	10	"	
" 17	iPNZ	16	38	44	B	Compression
	iPN		38	45	M-S	
	iZ		39	14	B	
	eSN		42	42	M-S	
	iSN		42	44	B	
	isSN		43	23	M-S	
" 18	iPZ	14	40	15	B	
" 22	iPN	00	49	37	M-S	$\Delta = 31.4^\circ$ . H = 00-43-17 Azimuth = 303° Dilatation to N.W. Epicentre 8.6°S. 126.8° E.
	iPE		49	38	"	
	iPNZ		49	39	B	
	iPPN		50	55	M-S	
	iSZ		54	43	B	
	iSE		54	44	M-S	
	eSN		54	52	"	
	iSSN		56	25	"	
	iGN		56	46	"	
	eL <sub>1</sub> N		58	43	"	
	MN	01	01	35	"	
	iPNZ	12	46	28	B	
	ipP?Z		46	52	B	
	eN	19	21	40	M-S	
MN		25	30	"		
" 24	iPNZ	22	01	17	B	Dilatation
" 26	eN	16	21	30	M-S	
	iN		30	34	"	

DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Mar. 28	eN	22	46	40	M-S	
	iZ		47	46	B	
	eN		52	39	M-S	
	eN		56	21	"	
	eN	23	05	49	"	
" 29	eN	16	28	30	B	
	iZ		28	31	"	
	eN		30	45	"	
" 31	iPE	2	57	47	M-S	Dilatation to N.W. $\Delta = 29.2^\circ$ , H = 2-52-48
	iPNZ		57	48	B	
	iPN		57	49	M-S	
	iE		58	17	"	
	iPPE		58	38	"	
	iN		58	46	B	
	iPcP?N	3	00	38	M-S	
	iSZ		2	37	B	
	iSNE		2	38	M-S	
	iL1Z		5	38	B	
	iL1N		5	40	M-S	
	L2?N		7	27	"	
	L2?Z		7	33	B	

*W.H. Bryan*

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Officer in Charge.

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## SEISMOLOGICAL STATION

BRISBANE

$\phi = 27^{\circ} 28' 41''$  S.,  $\lambda = 153^{\circ} 1' 52''$  E.,  $h = 15$ m.

*Foundation* : Semi-consolidated alluvium of raised river terrace.

### INSTRUMENTS AND CONSTANTS.

Instrument.	Rate of Recording.	Component.	Free Period.	Damping.	Static Magnification.
Milne-Shaw No. 58 (Modified) ..	16 m.m. per minute	N.—S.	12 sec.	20 : 1	250
Milne-Shaw No. 60 (Modified) ..	16 m.m. per minute	E.—W.	12 sec.	20 : 1	250
Benioff No. 12 .. .. .	15 m.m. per minute	N.—S.	1.5 sec.		
Benioff No. 11 .. .. .	15 m.m. per minute	E.—W.	1.5 sec.		
Benioff No. 13 .. .. .	15 m.m. per minute	Vertical	1.5 sec.		

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DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
1944						
April 2	eN	4-46-34			M-S	
	eN	48-14			"	
" 3	iPNZ	6-02-30			B	Compression from N
	ipP?N	2-50			"	
	ipP?Z	2-51			"	
	iS?N	5-50			"	
	eE	17-57-29			M-S	
	eE	18-02-05			"	
	eN	2-13			"	
	eN	4-07			"	
	eLN	4-46			"	
	eN	8-26			"	
" 4	iZ	18-06-50			B	
	eE	12-32			M-S	
	eN	12-36			"	
" 8	iP?NZ	8-16-19			B	Dilatation
	iP?NZ	9-22-14			B	
" 10						No record
" 12	iZ	15-27-37			B	
" 14	ePN	18-14-36			M-S	Compression
	iPNZ	14-38			B	
	eSN	17-54			M-S	
" 16	eLN	12-54-07			M-S	
" 17	iZ	17-46-14			B	
	iN	53-09			M-S	
	eN	56-17			"	
	iN	18-01-48			"	
	iL <sub>1</sub> ?N	2-23			"	



DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
April 22	iP?N	1-33-29			B	$\Delta = 30.8^\circ$ , $h = .01R$ ; $H = 2-14-15$
	iP?Z	33-30			"	
	iPZ	2-20-23			B	
	iPN	20-27			"	
	ePE	20-29			M-S	
	ipPE	20-43			"	
	iSE	25-18			"	
" 23	iPN	11-02-57			M-S	
	iSN	7-07			"	
	iL <sub>1</sub> N	9-24			"	
" 26	iPE	2-00-38			M-S	$\Delta = 32.3$ ; $H = 1-54-11$
	iPZ	0-39			B	
	iPN	0-41			"	
	iPN	0-42			M-S	
	iZ	0-43			B	
	iN	0-44			"	
	iPPN	2-02			M-S	
	iSN	5-54			B	
	iSN	5-55			M-S	
	iSE	5-57			"	
	iGN	8-10			"	
	MN	16-10			"	
" 27	iPNZ	14-44-31			B	
	ipP?N	44-38			M-S	
	ipP?E	44-41			"	
	iZ	44-44			B	
	iSZ	49-44			"	
	iSN	49-46			M-S	
	ME	59-ca			"	
	MN	15-00-ca			"	
	FN	18-00-ca			"	
	iPN	19-11-36			M-S	
	iPZ	11-37			B	
	iPNE	11-38			B, M-S	
	ipP?N	11-45			B	
	iSN	16-54			M-S	
	iSE	16-55			"	
	iSSN	18-33			"	
	iL <sub>1</sub> N	20-56			"	
	eP?N	21-09-40			M-S	
	eSE	13-38			"	
	eSN	13-41			"	
	iSS?E	14-16			"	
	eLN	17-06			"	
" 28	eN	5-16-04			M-S	
	eN	19-42			"	

*W.H. Bryan*  
W.H. Bryan  
Officer in Charge

# UNIVERSITY OF QUEENSLAND

## SEISMOLOGICAL STATION

BRISBANE

Bulletin No. 81

$\phi = 27^{\circ} 28' 41''$  S.,  $\lambda = 153^{\circ} 1' 52''$  E.,  $h = 15$  m.

*Foundation* : Semi-consolidated alluvium of raised river terrace.

### INSTRUMENTS AND CONSTANTS.

Instrument.	Rate of Recording.	Component.	Free Period.	Damping.	Static Magnification.
Milne-Shaw No. 58 (Modified) ..	16 m.m. per minute	N.—S.	12 sec.	20 : 1	250
Milne-Shaw No. 60 (Modified) ..	16 m.m. per minute	E.—W.	12 sec.	20 : 1	250
Benioff No. 12 .. .. .	15 m.m. per minute	N.—S.	1.5 sec.		
Benioff No. 11 .. .. .	15 m.m. per minute	E.—W.	1.5 sec.		
Benioff No. 13 .. .. .	15 m.m. per minute	Vertical	1.5 sec.		

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DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
1944						
May 1	iPNZ	23	22	11	B	Compression
" 4	iPNZ	6	44	58	B	Compression
	iPN		44	59	M-S	
	iSN		48	54	M-S	
	eSE		49	2	"	
	iL <sub>1</sub> E		51	07	"	
	iPNZ	6	53	48	B	
	iPZ	7	08	36	B	
	iPN		8	37	"	
	iPNZ	7	10	18	B	Very similar to preceding
	iPZ	7	57	23	"	Dilatation
	iPN		57	24	"	
" 5	eZ	5	54	50	B	
	eN		54	53	"	
	eN	6	01	06	M-S	
	eN		3	33	"	
" 12	iPNZ	7	06	26	B, M-S	
	ePN		6	28	B	
	iSN		10	04	M-S	
	iL <sub>1</sub> N		11	51	"	
" 14	iPN	8	56	12	M-S	
	iSN		59	51	"	
	iN	11	02	13	"	
	eN		8	30	"	
" 15	iPZ	19	23	30	B	Compression $\Delta = 23.6^{\circ}$ . H = 19-18-21
	iPN		23	33	M-S	
	ePE		23	36	"	
	iSNE		27	39	"	
	iSSE		28	07	"	
	eSSN		28	14	"	
	iL <sub>1</sub> N		29	40	"	

DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
May 18	ePZ	4	48	42	B	
	iPN		48	45	M-S	
	ePE		48	47	"	
	eSNE		52	45	"	
	iSS?N		53	19	"	
" 19	iPNZ	0	24	42	B, M-S	Dilatation
	ePE		24	48	M-S	
	i?N		28	40	"	
	i?E		28	45	"	
	iS?E		29	10	"	
	iS?N		29	19	"	
	MN		36	55	"	
" 22	iPZ	9	05	30	B	Dilatation
" 23	iZ	22	46	40	B	Dilatation
" 25	iPZ	1	11	22	B	Dilatation
	iPN		11	23	"	
	iPN		11	26	M-S	
	iSN		15	09	"	
	iPN	13	03	28	M-S	Compression
	iPZ		3	30	B	
	iPN		3	31	"	
	iSZ		8	22	"	
" 29	iPNZ	7	34	09	B	Compression
30	iZ	10	07	05	B	

*W.H. Bryan*  
W.H. Bryan  
 Officer in Charge.

# UNIVERSITY OF QUEENSLAND

## SEISMOLOGICAL STATION

Bulletin No. 82

### BRISBANE

$\phi = 27^{\circ} 28' 41''$  S.,  $\lambda = 153^{\circ} 1' 52''$  E., h=15m.

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#### INSTRUMENTS AND CONSTANTS.

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DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
1944						
June 2	eN	2-55-08			B	
	eZ	55-42			"	
" 3	1PNZ	4-19-49			B	
	eN	8-04-51			B	
	eZ	4-52			"	
	1E	9-52			M-S	
	1PNZ	8-18-46			B	Compression from N. $\Delta = 24.7^{\circ}$ ; H = 8-13-27
	1SE	23-03			M-S	
	1SZ	23-04			B	
	1SN	23-05			"	
	eN	25-29			"	
	eZ	25-30			"	
	eLE	27-11			M-S	
" 6	1PN	3-49-11			M-S	$\Delta = 22.5^{\circ}$ ; H = 3-44-13.
	ePE	49-12			"	
	ePN	49-14			B	
	ePZ	49-16			"	
	1N	49-26			M-S	
	1SN	53-11			"	
	1SE	53-12			"	
	1SN	53-16			B	
	1L1N	55-15			M-S	
	1L1E	55-16			"	
" 7	1PNZ	10-25-26			B	Compression
	1pP?Z	25-42			"	
	1pP?N	25-43			"	
" 8	1PNZ	14-36-19			B	Compression from N.
	1S?N	40-19			M-S	
" 9	ePZ	20-23-49			B	Sudden change in wave length and amplitude.
	eE	20-55-06			M-S	
	eN	59-04			"	
	eE	59-18			"	
	1E	21-01-24			"	
	1N	1-28			"	

DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
June 12	iN iE	5-55-07 50-09			M-S "	
" 15	eN eeZ iN	17-27-39 27-40 27-44			B B,M-S M-S	
" 16	eN eZ	17-27-46 27-48			B "	
" 18	iLN	2-14-19			M-S	
" 21	iPZ iPNE iN iZ iSNE iE	11-02-01 2-03 2-28 2-42 5-59 6-35			B B,M-S M-S B M-S "	$\Delta = 22.5^\circ$ ca Azimuth N. $63^\circ$ E.
" 23	iPNZ eSN	2-10-06 13-14			B "	Dilatation to S.
	eN iE iZ eLN	16-43-14 43-33 43-34 49-15			B M-S B M-S	
" 25	iPN iSN iGN	14-21-18 24-29 25-19			M-S " "	
" 26	iPN iPNZ iZ iSN	4-49-25 49-27 49-45 53-17			M-S B " M-S	Dilatation to N.
" 28	ePZ iPN	9-59-24 59-25			B "	

*W.H. Bryan*

W.H. Bryan

Officer in Charge.

# UNIVERSITY OF QUEENSLAND

## SEISMOLOGICAL STATION Bulletin No. 83.

BRISBANE

$\phi = 27^{\circ} 28' 41''$  S.,  $\lambda = 153^{\circ} 1' 52''$  E.,  $h = 15$ m.

*Foundation* : Semi-consolidated alluvium of raised river terrace.

### INSTRUMENTS AND CONSTANTS.

Instrument.	Rate of Recording.	Component.	Free Period.	Damping.	Static Magnification.
Milne-Shaw No. 58 (Modified) ..	16 m.m. per minute	N.—S.	12 sec.	20 : 1	250
Milne-Shaw No. 60 (Modified) ..	16 m.m. per minute	E.—W.	12 sec.	20 : 1	250
Benioff No. 12 .. .. .	15 m.m. per minute	N.—S.	1.5 sec.		
Benioff No. 11 .. .. .	15 m.m. per minute	E.—W.	1.5 sec.		
Benioff No. 13 .. .. .	15 m.m. per minute	Vertical	1.5 sec.		

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DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
1944						
July 2	iN iN	8-45-09 51-01		M-S "		
" 4	iPNZ	4-53-09		B	Dilatation	
" 7	eZ eZ	17-30-46 32-42		B "		
" 10	iPZ ePN iPcP?E iE eSN	13-31-13 31-14 32-18 32-32 38-44		B " M-S " "	Dilatation	
	iPEZ ePN iSZ iSE iGE eL1N	15-53-11 53-12 58-14 58-15 16-00-17 1-41		B, M-S B " M-S " "	Compression, $\Delta = 31.2^{\circ}$ , $H = 15-46-52$	
" 11	iPNEZ iSN eL1N	18-36-14 39-26 40-43		B, M-S M-S "	Dilatation to N.E., $\Delta = 17.5^{\circ}$ , $H = 18-32-11$	
" 13	ePZ iN eLN	0-18-11 23-14 24-44		B M-S "		
" 16	iS?N iSS?N	10-31-17 34-27		M-S "		
" 17	iPNZ eS?N	9-42-18 45-44		B "	Dilatation to N.	
" 19	iN eE	10-40-03 23-06-06		M-S "		
" 23	eLN ePN ipP?N iSN	11-27-34 11-51-14 52-06 54-35		M-S " " "	Deep focus ? Surface waves of very small amplitude.	

DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
July 24	iPNEZ	7	34	43	B, M-S	Dilatation to N.E., Azimuth = 21°. $\Delta = 20.0^\circ$ , H = 7-30-11. Epicentre 8.5° S.Lat., 160.0° E. Long.
	iSN		38	21	M-S	
	iSE		38	24	"	
	iSSN		38	37	"	
	iSSE		38	39	"	
	iL <sub>1</sub> N		40	16	"	
	MN		42	21	"	
" 27	iPNZ	0	17	15	B, M-S	
	iSKSN		27	40	M-S	
	iSKKSN		28	10	"	
	eGN		45	15	"	
	eZ	8	29	53	B	
	iE		39	05	M-S	
	iE		39	32	"	

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## SEISMOLOGICAL STATION Bulletin No. 84

BRISBANE

$\phi = 27^{\circ} 28' 41''$  S.,  $\lambda = 153^{\circ} 1' 52''$  E.,  $h = 15$  m.

*Foundation* : Semi-consolidated alluvium of raised river terrace.

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Benioff No. 13 .. .. .	15 m.m. per minute	Vertical	1.5 sec.		

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		h.	m.	s.		
1944						
Aug. 1	iZ	23	58	19	B	
	iN		58	20	"	
	eNZ		58	40	"	
" 4	iNZ	9	18	46	B	Compression
" 6	iPN	16	36	15	M-S	
	iN		38	09	"	
	iSN		40	40	"	
	eL <sub>2</sub> N		44	39	"	
	iP?N	18	48	32	M-S	
	eSN		53	52	"	
	iLN		57	07	"	
	MN		58	31	"	
" 7	ePZ	12	45	10	B	$\Delta = 21.8^{\circ}$ , $H = 12-40-19$
	iPN		45	12	"	
	ePN		45	15	M-S	
	ipPZ		45	17	B	
	iE		45	35	M-S	
	iN		46	09	B	
	iSNE		49	04	M-S	
	iSN		49	06	B	
	eSZ		49	07	"	
	eLN		51	11	M-S	
" 8	iPNZ	8	38	56	B	Compression
	iPNE		38	58	M-S	
	iPPN		39	30	"	
	iSN		43	26	"	
	eSE		43	37	"	
	iGN		44	08	"	
" 10	eN	10	54	18	B	
	eZ		54	19	"	
	eN		54	24	M-S	
	eN		55	06	"	
	iN		58	45	"	
	iS?E		58	55	"	
	eLN	11	04	28	"	



DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Aug. 11	iPNZ	1-14-56			B	Reported from near Madang, New Guinea.
	iSN	19-07			M-S	
	eSE	19-10			"	
	iPN	17-03-48			B, M-S	$\Delta = 25.1^\circ$ , H = 16-58-25
	iPZ	3-49			B	
	iZ	4-00			"	
	iSE	8-08			M-S	
eSN	8-10			"		
" 14	iZ	11-20-44			B	
	ePE	14-30-41			M-S	$\Delta = 51.9^\circ$ , H = 14-21-36 Compression
	iPNZ	30-43			B	
	iPN	30-44			M-S	
	iZ	30-49			B	
	iZ	31-20			"	
	iSN	38-02			M-S	
	eSE	38-04			"	
	iN	42-08			"	
	eZ	16-41-02			B	
" 15	iPNZ	11-55-15			B	Compression
iN	55-36			M-S		
iZ	55-44			B		
iSN	12-01-15			M-S		
iSN	1-20			B		
iSE	1-22			M-S		
" 18	iPZ	10-43-56			B	Dilatation
iPN	43-57			B, M-S		
iSN	52-32			M-S		
eSE	52-41			"		
iSKSE	53-35			"		
" 19	iZ	8-37-12			B	
	iZ	22-34-46			B	
" 21	iN	11-03-20			M-S	
	iPZ	12-58-40			B	Compression
	ePN	58-41			"	
" 22	iZ	1-38-40			B	
" 25	eN	3-22-53			M-S	
	eL?N	25-17			M-S	
	eZ	5-12-36			B	
	iPNZ	12-30-58			B, M-S	Dilatation; Unusually short wave lengths for P. $\Delta = 28.5^\circ$ , H = 12-25-04.
	iSN	35-42			M-S	
	iSNZ	35-44			B	
	eN	15-25-07			M-S	
" 30	iPNZ	1-18-12			B, M-S	Dilatation
	iPNE	18-13			B, M-S	
	ipP?N	18-30			B	
	epP?Z	18-36			"	
	iSN	21-37			M-S	
	iE	21-49			"	
	iSSN	22-08			"	
	eL <sub>1</sub> N	24-05			"	
	eN	16-27-40			M-S	
	eZ	22-54-22			B	

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## SEISMOLOGICAL STATION

BRISBANE

$\phi = 27^{\circ} 28' 41''$  S.,  $\lambda = 153^{\circ} 1' 52''$  E.,  $h = 15$ m. Bulletin No. 85

*Foundation* : Semi-consolidated alluvium of raised river terrace.

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DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Sept. 3	iPN	19	22	09	M-S	
	ePPN	24	21		"	
	iSN	30	53		"	
	iSSN	35	11		"	
	eGN	40	07		"	
" 5	ePN	12	38	42	M-S	
	eSN	42	17		"	
	iE	15	37	20	M-S	
	eN	37	30		"	
	eLN	45	40		"	
" 6	eLE	45	46		"	
	iPNEZ	5	56	38	B, M-S	Compression from E
	ePN	56	41		B	
	iPPZ	57	23		"	
	iSNZ	59	51		"	
	iSE	59	52		M-S	
	iSN	59	57		"	Very clear
" 11	iN	59	58		B	
	iPNZ	9	52	45	B	
	iPN	52	46		M-S	
	iPE	52	49		"	
	iZ	53	24		B	
	iN	54	15		"	
	iE	54	16		M-S	
	iS?Z	56	21		B	
	iS?E	56	24		M-S	
	iN	58	37		B	
	iLE	10	07	34	M-S	
" 12	eE	2	41	04	M-S	
	iE	45	21		"	
	eN	45	29		"	
	iN	46	05		"	
	iE	48	40		"	
	iZ	11	03	59	B	
	iN	4	00		"	

DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Sept. 14	iPEZ	6-47-22			B, M-S	
	ePN	47-23			B	
	eN	57-22			M-S	
	iE	57-40			"	
	iLN	7-05-05			"	
" 15	iNZ	14-01-34			B	
" 17	iPN	23-16-30			M-S	
	iSN	20-25			"	
	eLN	22-50			"	
" 21	iPZ	6-19-52			B	Compression from N.
	ePN	19-53			M-S	
	eSN	23-24			"	
" 22	iPZ	19-25-11			B	
	iPZ	22-34-49			B	Compression
	iP?Z	35-05			"	
" 23	iPZ	3-17-09			B	
	ePN	17-10			"	
	iPZ	12-25-30			B	
	iPN	25-32			"	
	ePE	25-39			M-S	
	eE	28-58			"	
	iSE	35-44			"	
	iSSE	40-53			"	
	iGE	47-20			"	
		iPE	16-06-50			M-S
	iPZ	6-52			B	
	ePN	6-53			"	
	iPP?E	7-30			M-S	
	iS?E	11-22			"	
	eLE	15-10			"	
" 25	iPNZ	18-51-21			B	Compression
" 27	iPZ	13-25-31			B	
	iPN	25-32			"	
	iSKS?E	16-49-22			M-S	
	eSKS?N	49-24			"	
	iSKKS?E	51-42			"	

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## SEISMOLOGICAL STATION

BRISBANE

Bulletin No. 86

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		h.	m.	s.		
1944 Oct. 2	1S?N 1S?E	20-49-44 49-45			M-S "	
" 3	1PNZ 1PNZ 1Z eSN iSE eSN 1N	16-15-18 15-20 15-28 22-06 22-07 22-09 25-46			M-S B " M-S " B M-S	$\Delta = 47.0^{\circ}$ . $H = 16-06-49$ Dilatation
" 5	1PNZ 1PN 1pPZ 1pPN iSE 1SN 1SS?N	17-02-02 2-04 2-17 2-20 6-04 6-05 6-41			B M-S B " M-S " B	Compression; Surface waves relatively small. $h = .005$ ; $\Delta = 22.8$ ; $H = 16-53-00$
	1PNZ 1PN ePE 1SN 1SN 1SZ 1N 1N	17-32-33 32-35 32-41 35-50 35-55 35-58 44-11 44-55			B M-S " " B " "	Dilatation to S; $\Delta = 18.0^{\circ}$ ; $H = 17-27-24$ .
	1Z 1N	21-18-02 18-03			B B	
" 6	ePNZ 1N 1E 1SN 1SE 1SSE	8-51-26 51-31 51-37 55-33 55-35 56-07			B M-S " " " "	Superimposed aftershock ?

DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Oct. 7	iPNZ	18	56	09	B	
	ePE		56	17	M-S	
	iSN	19	00	21	B	
	iSE		00	22	M-S	
	iSZ		00	26	B	
	iSSNE		00	57	B, M-S	
" 9	iN	<del>20</del> 19	49	27	M-S	
	eE		57	10	"	
	eL?E		59	43	"	
	eL?N		59	45	"	
" 11	ePNZ	5	30	36	B	
	iSN		30	44	M-S	
	iN		31	15	M-S	
	iPE	9	51	57	M-S	
	iPZ		51	58	B	Compression
	iSE		57	20	M-S	
" 12	iS?N		57	27	"	
	iE	14	15	34	M-S	
" 12	eN		15	37	B	
	iZ		15	38	"	
	iPE	16	11	35	M-S	
	iPNZ		11	36	B, M-S	Dilatation to N.
	ipP?E		12	17	M-S	
	ipP?N		12	27	"	
	iSN		15	02	"	
	iSNE		15	03	B, M-S	
	iSZ		15	04	B	
	isS?E		15	43	M-S	
	iE		15	47	"	
" 13	ePN	11	25	41	M-S	
	iPE		25	44	"	
	ePZ		25	46	B	
	eSE		30	12	M-S	
	iN		30	28	"	
	iN		32	38	"	
" 14	iPE	2	23	03	M-S	
	iPNZ		23	04	B	Dilatation to N.
	iPPNZ		23	18	"	
	iSE		26	56	M-S	
	iSS?N		27	05	B	
	iPZ	9	13	17	B	
	ePE		13	23	M-S	
	iSE		17	48	"	
	iE		18	52	"	
	iPZ	15	08	19	B	
	ePZ	16	26	14	B	
	iPNZ	20	23	21	B	Compression
	ipPNEZ		23	29	B, M-S	
	iE		26	12	M-S	
	eSE		29	14	"	
iSSE		31	52	"		
iL <sub>1</sub> E		36	02	"		
ME		38	50	"		
" 14	iPZ	22	11	52	B	
	iPE		11	58	M-S	
	iSE		16	27	"	
	iZ		16	51	B	
" 15	eN	8	03	10	M-S	
	iN		13	04	"	
	eZ		13	12	B	
	iN		15	13	M-S	
	iN		15	50	"	

DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Oct. 17	eN	3	45	47	M-S	
	eS?N		49	54	"	
	eLN		53	05	"	
	iS?E	19	00	36	M-S	
" 21	iS?N		00	43	"	
	MN		24	ca	"	
	eZ	10	36	57	B	
" 28	eN		36	41	B	
	iZ		42	34	B	
	iZ	21	21	21	B	
	eN		21	23	B	
" 31	eE	10	27	42	M-S	
	eE		32	14	"	
" 31	iPNZ	9	31	36	B	Dilatation to N.
	iPP?N		32	12	B	
	iPP?Z		32	13	B	
	iS?N		35	27	B	

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		h.	m.	s.		
1944 Nov. 1	1PNZ	12	10	31	B	Compression
	ePN		10	40	M-S	
	1pP?Z		11	04	B	
	eS?E		17	53	M-S	
	eS?N		17	55	"	
	ePN	20	54	36	B	
" 5	1SN	21	00	41	"	
	1N		00	59	"	
	eN	16	23	11	M-S	
" 6	eN		25	41	"	
	eS?N		27	42	"	
	eZ	17	16	03	B	
	eNE		21	15	M-S	
" 7	eN		25	30	"	
	1N		26	14	"	
	eN		28	03	"	
	1PEZ	9	42	01	B.M-S	Compression
" 13	1PEZ	19	27	51	B, M-S	
	1SE		30	29	M-S	
	esSE		31	20	"	
" 15	1PNEZ	20	54	36	B, M-S	Compression from N-W. Azimuth = $319^{\circ}$ $\Delta = 40.0^{\circ}$ ; H = 20-47-03
	1NZ		54	54	"	
	1PP?E		56	28	M-S	
	1SN	21	00	39	"	
	1SE		00	41	"	
	1N		00	57	"	
	1SSNE		3	39	"	
	eL1N		6	55	"	
MN		9	32	"		

DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Nov. 16	iPNEZ	12	15	26	B, M-S	$\Delta = 21.2^\circ$ ; H = 12-10-41
	ipPNZ		15	31	B	
	iSN		19	15	B, M-S	
	eLZ		21	58	B	
	MNE		36	ca	M-S	Trace amplitude 115 mm.
	iPNZ	12	28	55	B	
	iPNZ	15	32	33	B	
	iPE	16	43	30	M-S	
	iPNZ		43	31	B	
	ePN		43	33	M-S	
	iSN		47	14	M-S	
	iE		48	05	"	
	eLE		49	19	"	
	iPE	18	47	19	M-S	Aftershocks of above
	iPNZ		47	22	B	
ePN		47	23	B		
iSN		51	05	M-S		
iSE		51	08	M-S		
eSZ		51	11	B		
eSN		51	12	B		
iPNEZ	19	25	12	B, M-S	Compression	
iS?N		29	01	M-S		
eS?E		29	02	"		
" 17	iPZ	1	40	49	B	Compression
	iPNE	1	59	53	M-S	
	iPZ		59	54	B	
	eSE	2	03	33	M-S	
	eSN		03	37	"	
	iPZ	2	33	34	B	
	iPE	4	37	20	M-S	
	ePN		37	21	"	
	ePZ		37	23	B	
	iSN		41	07	M-S	
	eSE		41	12	"	
	iPZ	7	00	37	B	
	eS?N		4	35	M-S	
	iPZ	7	42	22	B	
	iPNEZ	22	14	54	B, M-S	Dilatation to N.E.
	iSN		18	36	M-S	
	eSE		18	44	M-S	
	iL <sub>1</sub> N		20	22	"	
" 18	iPNZ	11	58	33	B	Compression
	eS?N	12	06	47	"	
	eS?Z		06	54	"	
" 20	ePE	4	49	20	M-S	
	eSE		53	27	"	
	eSN		53	31	"	
	eL <sub>1</sub> N		55	36	"	
" 21	iS?N	15	04	53	M-S	
" 24	iPZ	4	52	54	B	Dilatation to N. P unusually large; Deep focus?
	iPN		52	55	B, M-S	
	iSN		56	05	M-S	
	iSN		56	07	B	
" 26	ePN	8	22	37	M-S	
	iSN		26	38	"	
" 27	iPN	13	30	38	M-S	
	iPNZ		30	41	B	
	eSN		34	30	M-S	
	eSNE		34	36	B, M-S	
	iE		34	48	M-S	



DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Nov. 29	1PNEZ 1SN 1N	18-55-12 58-22 58-37	B, M-S M-S B		Dilatation to N.E. Azimuth = 59°.	
" 30	ePZ ePNE 1E 1N eSN	1-51-04 51-06 51-43 51-48 56-35	B B, M-S M-S B M-S			
	oPZ eE	19-53-09 53-10	B M-S			

*W.H. Bryan*  
 \_\_\_\_\_  
 W.H. Bryan  
 Officer in Charge.

# UNIVERSITY OF QUEENSLAND SEISMOLOGICAL STATION

BRISBANE

Bulletin No. 88

$\phi = 27^{\circ} 28' 41''$  S.,  $\lambda = 153^{\circ} 1' 52''$  E.,  $h = 15$ m.

*Foundation* : Semi-consolidated alluvium of raised river terrace.

INSTRUMENTS AND CONSTANTS.

Instrument.	Rate of Recording.	Component.	Free Period.	Damping.	Static Magnification.
Milne-Shaw No. 58 (Modified) ..	16 m.m. per minute	N.—S.	12 sec.	20 : 1	250
Milne-Shaw No. 60 (Modified) ..	16 m.m. per minute	E.—W.	12 sec.	20 : 1	250
Benioff No. 12 .. .. .	15 m.m. per minute	N.—S.	1.5 sec.		
Benioff No. 11 .. .. .	15 m.m. per minute	E.—W.	1.5 sec.		
Benioff No. 13 .. .. .	15 m.m. per minute	Vertical	1.5 sec.		

Time is correct to the nearest second and is checked daily against radio-signals giving Eastern Australian Standard Time.

The station is maintained and operated by the University of Queensland assisted by grants from the Commonwealth Council for Scientific and Industrial Research.

DATE.	PHASE.	U. T.			UNIT.	REMARKS.	
		h.	m.	s.			
Dec. 1	iPEZ	4-05-18			B, M-S	Dilatation	
	iPN				B		
	iN				M-S		
	iE				"		
	iN				B		
	iZ				"		
	iE				M-S		
	iN				"		
	iE				"		
" 4	iPZ	20-42-32			B		
	iPN				M-S		
	ePE				"		
	eSN				"		
	iE				"		
	iN				"		
" 5	ePZ	14-31-05			B		
	eN				M-S		
	iE				"		
	eN				"		
	iE				"		
	eZ		14-48-37				B
	iN						M-S
	iE						"
	iE						"
	iN						"
" 7	iPZ	4-46-08			B	Considerable damage reported from Japan.	
	iPE				M-S		
	ePN				"		
	iSN				"		
	MN				"		
		5-09-ca				Trace amplitude 54 mm.	

DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Dec. 8	iPNZ	7-20-54			B, M-S	Dilatation
	iPNE	20-55			M-S	
	ePN	13-03-10			B	
	iPZ	3-13			"	
	iPE	3-13			M-S	
	iSE	6-27			"	
	iSN	6-29			"	
	iE	7-35			"	
	iZ	13-28-45			B	
	eZ	31-15			"	
	ePZ	18-31-25			B	
	eE	40-03			M-S	
eN	40-04			"		
eN	44-10			"		
" 10	iN	5-33-23			M-S	
	iPN	16-28-53			M-S	
	iN	29-10			"	
	iSN	32-01			"	
" 11	iN	7-43-22			M-S	
	iE	43-27			"	
" 12	iPZ	4-29-30			B	
	ePN	29-37			M-S	
	iSNE	39-47			"	
" 17	iPN	21-22-03			M-S	
	iSN	26-04			"	
	eN	26-38			"	
" 19	eZ	14-20-19			B	
" 20	ePE	20-50-37			M-S	
	iPZ	50-41			B	
	iZ	51-10			"	
	eSE	55-30			M-S	
	eL <sub>1</sub> E	58-15			"	
" 21	iPEZ	9-05-40			B, M-S	Deep focus
	iPN	5-43			B	
	iPPE	6-07			M-S	
	iSE	9-08			"	
	iPE	20-19-21			M-S	
	iPNZ	19-23			B	
	iN	20-07			"	
	iPP?E	20-13			M-S	
	iSE	24-09			"	
	iL <sub>1</sub> E	26-49			"	
	iPE	22-33-15			M-S	
	iPZ	33-17			B	
	ePN	33-19			"	
	iPPE	34-09			M-S	
	iSE	38-00			"	
iL <sub>1</sub> E	40-44			"		
" 22	iPEZ	5-41-01			B, M-S	
	ePN	41-10			M-S	
	eSN	46-13			"	
	iPN	10-40-35			M-S	
	iPNE	40-38			"	
	iSN	44-23			"	
	iSE	44-26			"	
	iPZ	22-56-39			B	
	ePE	56-42			M-S	
	eE	23-04-12			"	
" 26	iPNZ	4-24-01			B	

Almost identical patterns



DATE.	PHASE.	U. T.			UNIT.	REMARKS.
		h.	m.	s.		
Dec. 27	iPE	15	30	23	M-S	$\Delta = 22.5^\circ$ ; H = 15-25-25
	iPNZ		30	26	B	
	iZ		30	52	"	
	iE		31	28	M-S	
	iE		31	49	"	
	iSZ		34	23	B	
	iSE		34	25	M-S	
	ME		39	08	"	
" 29	iPZ	20	36	24	B	Compression. $\Delta = 22.2^\circ$ ; H = 20-31-29
	iN		36	31	M-S	
	iSN		40	22	"	
	iSZ		40	23	B	
	eSE		40	27	M-S	
" 30	iPZ	8	43	54	B	

*W.H. Bryan*

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Officer in Charge