

Canberra

Jan'y. 1965.

Department of Geophysics
 Australian National University
 CANBERRA A.C.T., AUSTRALIA
 MONTHLY SEISMOLOGICAL BULLETIN
 JANUARY, 1965.

Latitude: 35° 19' 15"S Longitude: 148° 59' 55"E Height: 700 M

Instruments: Three-component Benioff variable reluctance seismograph.

$T_s = 1$ sec.

$T_g = 0.25$ secs. (Short periods VNE)

$T_g = 16$ sec. (Long period vertical V_1)

$T_g = 70$ sec. (Long period horizontals $N_1 E_1$)

Three-component Press Ewing long period seismograph

$T_s = 30$ secs. }

$T_g = 100$ secs. }

V'N'E'

Mount Stromlo quartz clocks provide accurate time marks and 50 c/s for drum drive.

Direction of first motion taken from the three short-period components.

Epicentre locations are those given by USCGS.

This bulletin contains only earthquakes of magnitude $5\frac{1}{2}$ and over as quoted on the USCGS cards.

Date	Phase	Component	Time	Direction of Motion	Remarks	
1	ePKP ₁	VE	21 58 28.9		35.7N. 4.4E. 10 km.	
	e	NE	33			
	iPKP ₂	V	50.2		Algeria	
	eL	V'N'	22 57.9			
2	iP	VNVEV'	13 53 32.4	u	19.1N. 145.4E. 142km.	
	i	VNEV ₁	33.8	u		Mariana Is.
	iP	VNV ₁ V'	54 03.3			
	ePP	V ₁ V'	55 33			
	e(PPP)	V ₁ N'	56 42			
	eS	V'N'	14 00 40			
	e	V'N'	04 38			
	e(SS)	V'	07 22			
	eL	V'	09 24			
	Lr	V'N'E'	10 36			
4	iP	VNEV ₁ E ₁	07 13 27.2	d,e	19.1S. 177.5W. 570 km.	
	i	N	27.5	n		Fiji Is. region.
	eL	V'N'	21 30			
4	iP	VNEV ₁ N ₁ E ₁	11 37 35.4	u,s,e	1.8N. 127.2E 34 km.	
	e	N'	38 27			Halmahera.
	e(S)	N'	43 52			
	e(sS)	N'	44 39			
	eL	N'	46.3			
	eL	V'	47 15			
	eLr	V'	50.3			
5	iP	VNEV ₁ E ₁	18 12 55.3	d,n,e	20.3S. 174.1W. 33 km.	
	i	N	13 11.3			Tonga Is.
	ePP	V ₁	14 11			
	eS	N ₁ E ₁	18 30			
3	iP	VV ₁	19 02 21.7	d	59.4S. 24.CW. 39 km.	
	i	VN ₁	22.1	u,n		Sth. Sandwich Is. region.
	eL	E'	24.8			

Date	Phase	Component	Time	Direction of Motion	Remarks
8	eP	V	20 30 19		33.3S. 179.3E. 33 km. South of Kernadec Is.
	e	VV ₁	21 ¹ / ₂		
	e	EE ₁	24		
	e	N ₁	33		
	eS	N'E'	34 47		
	eL	N'	35.6		
	eL	E'	33.9		
8	eP	VEV ₁ E ₁	21 21 03		13.2S. 112.0W. 33 km. Northern Easter Is. Cordillera.
	i(PcP)	VV ₁	06.5		
	eSKS	E ₁ N'E'	31 30		
	ePS	N'E'	32 54		
	eSS	N'E'	37 50		
	eLq	N'	44.9		
	eLr	N'E'	49.5		
9	eP	VNEV ₁ E ₁	01 43 15.3		34.2S. 179.5W. 33 km. South of Kernadec Is.
9	iP	VNEV ₁ N ₁	13 41 56.8	d,n	11.9N. 126.2E. 5km. Philippine Is. region.
	i	V	42 03.5		
	i	V	09.8		
	i	V ₁	21		
	i	N ₁	37.6		
	iPcP	VV ₁	43 11.6		
	e(PF)	VNE	54		
eS	EE ₁	49 22			
10	iP	VNEV ₁ E ₁	07 43 30.3	u,s	5.3S. 147.3E. 113 km. East New Guinea region.
	pP	VNV ₁	57		
	e(sP)	VN ₁	44 04.6		
	ePP	V	32		
	iPcP	VV ₁	46 33.5		
	i	EE ₁	41.4		
	i	V ₁	47 48.9		
iScP	VV ₁	50 07.1			
10	iP	VV ₁	13 42 11.2	u	13.5S. 166.6E. 32 km. New Hebrides Is.
	i	VNEN ₁ E ₁	12.1	d,n,e	
	i	V	14.7		
	i	VV ₁ N ₁ E ₁	13.9		
	i	V ₁ N ₁ E ₁	49		
	i	VN ₁	50.2		
	eS	N ₁	46 46		
	iS	NEN ₁ E ₁	43		
	Lq	N ₁	43 16		
	iScP	V ₁	49 12.8		
eLr	V ₁ E ₁	49.5			
11	e	N	09 15 59		6.0S. 130.5E. 129 km. Banda Sea.
	i	E	16 21.7		
12	eP	V	09 29 37 ¹ / ₂		3.5N. 121.4E. 33 km. Mindanao, Philippines.
12	iP	VNEV ₁	13 44 59.3	d	27.6N. 83.0E. 23 km. Nepal.
	i(PcP)	VV ₁	45 05.1		
12	eP	VE	20 59 21.1		5.5S. 102.5E. 33 km. Southern Sumatra.
14	eP	NE	08 34 41.9		6.2S. 149.9E. 63 km. New Britain region.
	e	V	45.3		
	e	E	35 01.5		
	i	V	33 46.9		
	eS	N'E'	39 27		
	e	E ₁	40 33		
	e(Lr)	E'	41 20		
eL	N'E'	42 25			

Date	Phase	Component	Time	Direction of Motion	Remarks
14	iP	VNEV ₁	17 29 03.2	u	2.3N. 126.9E. 94 km. Molucca Passage.
	e	VN	15		
	eS	N'	35 20		
	eL	N'	43.1		
14	eL	E'	44.8		30.8S. 176.0E. 82 km. North Island, N.Z.
	eP	VNEV ₁ E ₁	13 51 09.2		
	e	N	31		
	e	V	35.4		
	L	N'E'	55 32		
	eT	E	19 09 45		
	eT	N	53		
15	eP?	V	03 14 13		49.9N. 79.0E. 0 km. Eastern Kazakh, S.S.R.
	e	V	32 $\frac{1}{2}$		
15	eP	VN	16 44 33.7		23.6N. 121.7E. 33 km. Taiwan.
	e	V	51		
	eL	N'	19 04.4		
15	eP	VV ₁ N ₁ E ₁ N'E'	23 23 20.3		13.3S. 166.3E. 3 km. New Hebrides Is.
	i	V	24.0		
	e	V ₁	47		
	e	VNE	57		
	S	N ₁ E ₁ N'E'	27 55		
	e	V ₁ E ₁	20.3		
	eL	N ₁ '	20.8		
16	eP	VNE	03 40 17.9		5.7S. 151.3E. 60 km. New Britain region
	eS	N'	45 11		
	e	V'	37		
	eLr	V'N'E'	47.2		
	eL	V'N'	49.6		
16	eP	VV ₁ V'N'	11 45 19.5	u	56.3S. 27.4W. 101 km. Sth. Sandwich Is. region.
	iPcP	VNE	20.7		
	pP	N	45.8		
	PP	VV ₁ V'N'	43 50		
	eSKS	N ₁ '	55 37		
	eS	V'N'E'	55		
	sS	E ₁ E'	56 33		
	eSP	V ⁺	57 05		
	ePS	N'	12		
	eSS	V'N'E'	12 01 46		
	eLq	N'E'	03.6		
	eL	V'N'	14.8		
	16	eP	VV ₁ E ₁		
eP		E ₁ '	14.7		
i		VNV ₁ N ₁	17.4		
eS		N ₁ '	57 28		
e		E'	23 00 02		
eL		N'E'	01.2		
17	iP	VNEV ₁ N ₁ E ₁ V'N'E'	10 43 21.9	u,s,w	24.5S. 173.4E. 563 km. South of Fiji Is.
	i	V ₁	30.8		
	ePP	VNV ₁	49 42		
	e(sP)	V ₁ '	50 40		
	e	E'	51 42		
	e	VEE ₁	46		
	eS	EE ₁ E'	52 26		
	iScP	VV ₁ V'	54 09.1		
	eL	N ₁ V'N'E'	55.1		
	eL	E ₁ V'	55 24		
	e	E ₁	57 02		
	iScS	EE ₁ E'	58 02		

Date	Phase	Component	Time	Direction of Motion	Remarks
17	iP	VNV ₁ N ₁ E ₁ E'	21 05 45.5	d,n,w	6.8S. 109.1E. 242 km. Java
	i	VNE ₁	06 05.8		
	pP	V	33.9		
	iPcP	VV ₁	07 16.3		
	ePP	V ₁	33		
	eS	E ₁ N'E'	12 14		
	e	N ₁	15 33		
	eL	E'	15.7		
	eL	N ₁ E ₁ V'	15.9		
L	N ₁	16 03			
20	eP	VNE	02 12 18.2		4.9S. 142.8E. 93 km. New Guinea
21	eP	VNEV ₁ E ₁	06 15 25.3	d u,w,	34.2S. 179.8E. 33 km. South of Kermadec Is.
	i	VV'E ₁	28		
	i	VE	31.7		
	i	NEN ₁	41.5		
	ePP	VN ₁	13 09		
	i	V	35.4		
	iS	N ₁ E ₁ V'N'E'	19 56		
	eLq	N ₁	20.3		
	eL	V'E'	21.6		
22	eP	VE	02 53 13.1		20.1N. 94.5E. 76 km. Burma.
24	iP	VV ₁	00 13 41.2	u d,n u,s,e	2.4S. 126.0E. 6 km. Halmahera, Ceram Sea.
	i	VN ₁	41.7		
	i	EV ₁ N ₁ V'	42.4		
	i	NE ₁	44.3		
	i	NN ₁	19 03.9		
	ePP	NN ₁ E ₁	20 15		
	i	E ₁	23.6		
	ePcP	VN	55		
	eS	N ₁	24 51		
	e(S)	E ₁	58		
	eL	E ₁	27 23		
	eL	N ₁	42		
	24	iP	VNE		
25	iP	VEE ₁	12 10 13.1	u	2.6S. 126.1E. 33 km. Ceram Sea.
	i	N	16.3		
	i	VNEV ₁ N ₁ E ₁	16.3		
	i	VE	21.6		
	ePcP	V	12 28.5		
	eL	E'	13.3		
	eL	N'E'	22.6		
26	eP	V	06 34 43.1		2.9S. 102.4E. 39 km. Southern Sumatra.
23	iP	VNEV ₁ E ₁	02 43 23.0	u,e	2.5S. 102.5E. 33 km. Southern Sumatra.
	iPcP	V	44 29.2		
	iScP	V	43 09.2		
	eS	N'E'	50 43		
	eL	V'E'	53.1		
	eL	N'	53.9		
	eL	V'	03 02.6		
	29	iP	VNEV ₁		
iPcP	V	34.6			
e(S)	N'	59 03			
eS	E'	15			
ePS	N'	10 00 31			
eSS	N'E'	05 35			
eLq	E'	12 14			

(Continued over)

Date	Phase	Component	Time	Direction of Motion	Remarks
29	eL	V'	10 18.3		
	eL	N'	19.3		
	L	E'	20.6		
30	eP	V	04 50 15.3		51.6N. 179.3W. 88 km. Andreanof Is, Aleutian Is.
	e	V	45		
30	iP	V	12 22 26.3	d	5.9S. 129.9E. 149 km. Banda Sea.
	iP	NE	26.9	n	
31	e	N'	13 26 15		21.2S. 67.3W. 71 km. Chile-Bolivia border.
	ePS	N'E'	40		
	e	V'	27 16		
	e(SS)	N'	32 52		
	SS	E'	33 30		
	e	V'	34 47		
	eL	N'E'	45.3		
	eL	V'	43.4		

Canberra

Feb. 1965

Department of Geophysics
Australian National University
CANBERRA, A.C.T., AUSTRALIA
MONTHLY SEISMOLOGICAL BULLETIN
FEBRUARY, 1965

Latitude: $35^{\circ} 19' 15''S$ Longitude: $148^{\circ} 59' 55''E$ Height: 700 M

Instruments: Three-component Benioff variable reluctance seismograph.

$T_s = 1$ sec.

$T_g = 0.25$ secs. (Short periods VNE)

$T_g = 16$ sec. (Long period vertical V_1)

$T_g = 70$ sec. (Long period horizontals N_1E_1)

Three component Press Ewing long period seismograph

$T_s = 30$ secs.)
 $T_g = 100$ secs) V'N'E'

Mount Stromlo quartz clocks provide accurate time marks and 50 c/s for drum drive.

Direction of first motion taken from the three short-period components.

Epicentre locations are those given by USCGS.

This bulletin contains only earthquakes of magnitude $5\frac{1}{2}$ and over as quoted on the USCGS cards.

Date	Phase	Component	Time	Direction of Motion	Remarks
1	iP	VV ₁ V'	05 33 04.5	u	13.6S. 173.1W. 472 km. Fiji Is. region
	i	VNEN ₁ E ₁ E'	05.1	d,n,e	
	ePP	V	34 43		
	sP	E'	35 24		
	eS	NNN'E'	37 52		
	e(ScP)	N [†]	38 23		
	eL	V'N'E'	40 43		
	e	N'	41 33		
	e(ScS)	E ₁ N'E'	42 33		
e	N [†]	46 04			
2	iP	VNV ₁ N ₁ E ₁ V'	08 05 05.3	u	2.1S. 130.9E. 12 km. West New Guinea
	e	E	08		
	i	VNN ₁	14.9		
	e	E	08 20.7		
	eS	N'E'	10 36		
	eL	N'	13.6		
	eL	E'	13.7		
	eL	V'N'E'	14.3		
2	e(SP)	V'	16 23 32		37.5N. 73.4E. 33 km. Tadzhik, S.S.R.
	eSS	E'	29 03		
	e(SS)	N'	28		
	eLq	N'E'	30.6		
	eL	V'	43.5		
4	iP	VNV ₁ N ₁ E ₁ V'N'E'	03 29 07.0	u,n,e	51.3S. 139.7E. 33 km. South of Australia.
	iPP	VV ₁	20.0		
	i	N ₁	20.7		
	i	VN	33.2		
	i	EE ₁	39.9		
	e	E ₁	55		
	i	E [†]	30 17.9		
	e	V ₁ N ₁	40		
	e	V [†] ₁	31 11		
	Lq	E [†]	32.4		
	e(S)	E'	32 26		
	eS	EV ₁ N ₁ E ₁ V'N'	32 $\frac{1}{2}$		
	e	N ₁	40		
	Lr	V'	33.1		
L	EV ₁ N ₁ E ₁	33.3			

Date	Phase	Component	Time	Direction of Motion	Remarks
4	eP	V	05 06 54.6		51.1N. 173.4E. 40 km. Rat Is. Aleutian Is.
4	eP	VE ₁	05 14 20.0		51.3N. 173.3E. 40 km
	i	VV [†]	26.8		Rat Is. Aleutian Is.
	i	VNEV ₁ N ₁ N [†] E [†]	32.7		
	e	N [†]	38		
	i	VNV ₁ V [†]	41.5		
	e	N ₁ E ₁ E [†]	46		
	i	VN ₁ [†]	15 00.5		
	e	N ₁	18 25		
	e	E ₁	24 05 ¹ / ₂		
	e(SKS)	N ₁	47		
	eS	N ₁	25 02		
	e	EE ₁	36		
	ePPS	NN ₁ E ₁	26.7		
	eL	N ₁ E ₁ [†]	39.5		
4	eP	VN	05 32 02		50.1N. 173.1E. 38 km. Rat Is. Aleutian Is.
4	iP	V	06 17 54.6	d	51.7N. 174.9E. 35 km. Rat Is. Aleutian Is.
4	eP	V	06 50 01.4		52.6N. 172.0E. 35 km Rat Is. Aleutian Is.
4	eP	V	06 52 23.6		51.7N. 175.3E. 30 km. Rat Is. Aleutian Is.
4	eP	V	07 24 19.0		51.1N. 177.7E. 35 km
	i	V	31.0		Rat Is. Aleutian Is.
4	iP	V	07 27 56.2	u	52.0N. 173.9E. 25 km Rat Is. Aleutian Is.
4	eP	V	07 53 42.5		52.7N. 172.9E. 33 km. Rat Is. Aleutian Is.
4	e(P)	V	08 19 22.4		51.9N. 174.3E. 40 km. Rat Is. Aleutian Is.
4	eP	V	08 46 38.5		51.9N. 174.0E. 30 km. Rat Is. Aleutian Is.
4	eP	V	08 53 39.3		51.3N. 179.5E. 40 km.
	i	VNEV ₁ N ₁ E ₁	42.1		Rat Is. Aleutian Is.
	i	VNV ₁ [†]	44.7		
	e	V ₁	53 29		
	ePP	V ₁	57 18		
	eSKS	N ₁ E ₁	09 04 11		
	eS	V ₁ E ₁	31		
	(S)	EN ₁ E ₁	40		
	PS	N ₁ E ₁ [†]	05 42		
	e(SS)	N ₁	10 13		
	SS	E ₁	36		
	SS	N ₁	41		
	eSSS	N ₁	14 30		
	Lq	E ₁	17 12		
4	iP	VNE	09 12 18.2	u	52.4N. 173.7E. 25 km.
	i	V	25.6		Rat Is. Aleutian Is.
4	eP	V	10 05 09.3		51.5N. 175.9E. 30 km. Rat Is. Aleutian Is.

Date	Phase	Component	Time	Direction of Motion	Remarks
4	eP	V	12 19 03.4		52.6N. 172.1E. 25 km. Rat Is. Aleutian Is.
	e	EE ₁	10		
	e	NN ₁	14		
	i	VV ₁	19		
	ePP	NV ₁ N ₁ E ₁	22 43		
	iSKS	N ₁ ⁺ N ₁ ⁺ E ₁	29 30		
	iS	N ₁ E ₁ N ₁ E ₁	59	W	
	iPS	N ₁ ⁺	31 03		
	eSS	E'	35 53		
	SS	N ₁ E ₁ N ₁	36 04		
	eSSS	E ₁ N ₁ ⁺	39 26		
	e	E ₁ E ₁ '	42.5		
	eL	N ₁ ⁺ E ₁ '	44.2		
	L	N'	47.6		
4	eP	VE	14 31 27.2		53.0N. 171.0E. 30 km. Rat Is. Aleutian Is.
	e	N	30		
	i	VV ₁	35.8		
	e	N ₁ ⁺	41 43		
	SKS	N'E'	52		
	e(s)	E'	42 12		
	iS	V ₁ E ₁ E ₁ '	20		
	PS	N ₁ ⁺	43 29		
	eSS	N'E'	43 20		
	e	E'	55 05		
	eL	N'E'	56.3		
	eL	N'	59.9		
	4	eP	VV ₁	16 04 23.0	
e		N ₁	25		
eS		E ₁ E ₁ '	15 16		
eSS		N ₁ ⁺ E ₁ '	21 34		
eL		N'E'	29.6		
L		N'	33.4		
5	eP	V	06 33 20.9		51.3N. 177.0E. 40 km Rat Is. Aleutian Is.
5	eP	V	06 52 43.3		51.3N. 175.1E. 25 km Rat Is. Aleutian Is.
	eSKS	N'	07 03 16		
	eS	N'E'	33		
	PS	N'E'	04 42		
	eSS	N'E'	09 34		
	eSSS	N'	13 13		
	SSS	N'	40		
	eLq	E'	16.2		
	eL	V ₁ N'	21.2		
5	eP	VNEV ₁ E ₁	09 45 07.1		52.3N. 174.3E. 41 km. Rat Is. Aleutian Is.
	e	V	23.3		
	e(P)	V ₁ N'	43 52		
	eSKS	N	53 30		
	eS	E ₁ V ₁ N'E'	50		
	ePS	V ₁ N'	57 07		
	e(PPS)	N'	52		
	SS	E'	10 02 03		
	SS	N ₁ N'	10		
	eSSS	N ₁ ⁺	05 51		
	e	E'	03 33		
	e	N'	09.1		
	eL	N'E'	10.0		
	L	N'	14.1		
	L	V'	14.3		

Date	Phase	Component	Time	Direction of Motion	Remarks
5	eP	V	13 51 42.7		52.0N. 174.0E. 35 km Rat Is. Aleutian Is.
	eSS	N'	14 03 47		
	e	N'	16.9		
	eL	N'E'	20.4		
	eL	V'	21.3		
5	e(P)	V	14 04 50		52.1N. 173.3E. 35 km. Rat Is. Aleutian Is.
5	eP	VV'	21 00 09		51.0N. 174.6E. 35 km. Rat Is. Aleutian Is.
	ePP	V'N'	03 37		
	eSKS	N'	10 36		
	eS	V'N'E'	58		
	PS	N'	12 04		
	eSS	N'	16 56		
	iSS	N'	17 06		
	e(SSS)	N'	21 04		
	eL	N'	24.6		
	eL	E'	25.6		
	eL	N'	28.7		
	L	V'	29.0		
5	eP	V	22 23 58.5		51.5N. 176.7E. 25 km. Rat Is. Aleutian Is.
	SS	N'	43 06		
	eL	N'E'	53.3		
	L	N'	57.7		
	eL	V'	23 00.3		
6	eP	VV ₁ V'N'	01 54 07		53.2N. 161.9W. 33 km. South of Alaska.
	ePP	VV ₁ V'N'	53 08		
	e	E' ₁	02 01 54		
	SKS	N ₁ N'E'	04 40		
	S	E ₁ N'E'	05 33		
	eSP	V ₁ N'	06 43		
	ePPS	N'E'	07 46		
	eSS	N ₁ V'N'	12 31		
	eSS	E ₁ E'	40		
	eSSS	N ₁ E'	15 53		
	eL	N'E'	21.1		
	eL	V'N'	26.0		
	6	eP	VV ₁	04 15 51.1	
i		VNEV ₁	16 07.6		
eSKS		N' ₁	23 12		
S		N ₁ E ₁ V'N'E'	40		
PS		N ₁ ₁	27 50		
eSS		E'	32 40		
iSS		N ₁ V'N'	52		
eSSS		N ₁ ₁	36 34		
e		E'	39.4		
e		N'	40.3		
L		N'E'	41.1		
L		N'	44.5		
L		V'	44.8		
6		eP	V	08 59 49	
	eS	N'E'	09 10 39		
	ePS	N'E'	11 52		
	eSS	N'	16 44		
	eSS	E'	52		
	eL	N'	28.3		
	eL	V'E'	23.7		

Date	Phase	Component	Time	Direction of Motion	Remarks
6	e	V	14 24 15		51.7N. 174.2E. 33 km Rat Is. Aleutian Is.
	e	V	23.2		
	e(SKS)	E'	34.5		
	eS	N'E'	34 53		
	ePS	N'	36 07		
	eSS	N'	41 14		
	eL	E'	49.3		
	eL	V'N'	53.1		
6	eP	VV ₁ V'N'	17 04 03.3		53.3N. 161.8W. 33 km. South of Alaska.
	e	V'N'	58		
	ePP	VV ₁ V'N'	03 05		
	e	V'N'	17		
	e	V'N'	09 34		
	SKS	N'	14 40		
	S	V ₁ V'N'E'	15 36		
	e	V'E'	16 24		
	PS	V'N'	57		
	PPS	N'E'	17 43		
	i	V'E'	18 03		
	eSS	N ₁ V'N'E'	22 13		
	iSS	N ₁ N'E'	32		
	eSSS	V'N'E'	25 46		
	eLq	V'N'E'	31.0		
	eL	V'N'	35.6		
7	iP	VV'	02 30 01.2	d	51.4N. 173.4E. 40 km Rat Is. Aleutian Is.
	e	V	31 25		
	eSKS	N'	40 26		
	e	V'	45		
	eS	V'N'E'	52		
	ePS	V'N'	41 54		
	eSS	N'E'	43 33		
	iSS	V'N'E'	56		
	eL	N'E'	54.4		
	eL	V'N'E'	53.5		
	7	e	V	04 24 25	
e		V	27 $\frac{1}{2}$		
S		N'E'	35 10		
e(PS)		N'	36 20		
eSS		E'	41 11		
iSS		N'	26		
eSSS		N'	45 09		
eL		N'E'	49.7		
eL		V'	53.1		
eL		N'E'	53.4		
8	eP	VNEV ₁ V'N'	15 59 52.2		55.1N. 165.7E. 40 km. Komandorsky Is. Region.
	i	V	16 00 03.8		
	ePP	V'	03 42		
	eSKS	N'	10 25		
	S	N'E'	53		
	PS	V'N'	12 05		
	eSS	N'E'	16 57		
	eLq	E'	23.3		
	eL	N'E'	25.5		
	eLr	V'	26.1		
	eL	V'N'	23.8		
	8	eP	V	17 50 23.2	
eL		V'N'E'	18 19		

Date	Phase	Component	Time	Direction of Motion	Remarks
9	iP	VNEV ₁ E ₁ V'	01 50 43.8	u,s	1.3N. 127.2E. 102 km. Halmahera.
9	eP	VNV ₁	05 47 06	d,n,e	13.8S. 169.2E. 223 km New Hebrides Is.
	i	VNEE ₁	07.6		
	epP	VNV ₁	46		
	iPP	VNEV ₁ E ₁	51.5		
	e	VV ₁	48 07.3		
	eS	N'E'	51 03		
	e	V'	16		
	eL	V'	52.3		
9	eP	V	17 50 13.0		52.8N. 171.9E. 41 km
	eSKS	N'	13 00 46		Rat Is. Aleutian Is.
	eS	N'E'	01 10		
	ePS	N'	02 12		
	ePPS	N'	40		
	eSS	V'N'E'	07 12		
	iSS	N'E'	28		
	e	E'	14.2		
	eL	N'E'	15.7		
	eL	V'N'E'	19.3		
9	e	V	23 24 23 ¹ / ₂		52.2N. 173.3E. 33 km
	ePS	N'	36 23		Rat Is. Aleutian Is.
	eSS	N'	41 26		
11	iP	VNEV ₁ E ₁ V'	02 39 50.1	d,e	21.8S. 176.4W. 174 km
	ePcP	V	42 34.2		Fiji Is. region.
	eS	N	44 55		
	ScP	V	45 42		
	sS	N ⁺	46 04		
	eL	N'	47.4		
	eL	V'E'	48.2		
	eL	N'	48.5		
12	eSKS	N'	01 06 43		51.5N. 175.3E. 33 km
	eS	N'	07 14		Rat Is. Aleutian Is.
	e(Ps)	N'	03 12		
	e(PPS)	V'	38		
	eSS	N'	13 10		
	SS	N'	34		
12	e(P)	V'	01 03 10		52.2N. 172.8E. 25 km
	e	VV ₁	14.2		Rat Is. Aleutian Is.
	ePP	V'N'	11 36		
	eSKS	N'	18 28		
	eS	V'E'	53		
	PS	N'	20 05		
	eSS	V'N'E'	24 54		
	iSS	N'	25 09		
	eSSS	V'N'	23 27		
	eL	N'E'	33.1		
15	eP	V'N'	01 38.5		51.4N 179.4E 42km
	i	V ₁	15.1		Rat Is, Aleutian Is.
	eSKS	N'	48 33		
	sS	N'E'	57		
	ePS	N'	49 55		
	ePPS	E'	50 28		
	e	N'	52 48		
	eSS	N'	54 18		
	eL	N'	02 03.3		

Date	Phase	Component	Time	Direction of Motion	Remarks
15	iP	VV ₁	10 51 25.5	u	3.0N 125.9E 33km
	i	VNE ₁ E ₁			Talau Is
	i	V ₁			
	i	V	52 10.8		
	e	VE'	53 40.3		
	ScP	VV ₁	56 55.2		
	S	NEN ₁ E ₁ N'E'	57 49		
	SS	N'E ₁	11 01 04		
	eL	N'E'	03.6		
	LMax	N'E'	07		
16	eP	V	12 35 48		39.5N 141.8E 33km
	i	V	36 13.5		Honshu, Japan
	eS	N'E'	45 08		
	eSS	N'	50 30		
	eL	E'	56.7		
	eL	N'E'	58.5		
17	e	V	10 32 06		51.8N 176.6E 44km
	eSKS	N'	42 18		Rat Is, Aleutian Is
	eS	N'E'	34		
	ePS	N'	43 48		
	eSS	N'	48 44		
	iSS	N'E'	58		
	eSSS	N'	52 30		
	eL	E'	56.6		
17	eL	N'	57.0		
	eP	VNE	18 33 09		21.6N 142.8E 290km
18	iP	VNE ₁ E ₁ N'E'	22 46 34.7	u,n	Mariana Is region
	e	N	51 36		7.3S 126.9E 33km
	S	NEN'E'	52 02		Banda Sea
	eScP	V ₁	27.3		
	Lq	N'E'	54 36		
18	e(P)	VV ₁	23 26 37		51.4N 179.1E 28km
	eS	E ₁	37 32		Rat Is, Aleutian Is
	eL	E'	50 08		
	eL	V'N'	26		
19	eP	VNEV ₁ E ₁	19 05 39		51.1N 178.4E 35km
	e	VV ₁	52		Rat Is, Aleutian Is
	e	E ₁	08 23		
	eS	N'E'	16 24		
	ePS	N'	17 42		
	ePPS	E'	18 20		
	eSS	N'	22 38		
	SS	N'E'	23 18		
	eSSS	N'E'	26 28		
	L	N'	34.4		
21	eP	VNEV ₁ E ₁ V'N'E'	11 21 40.6		15.1S 123.2W 33km
	i	V	41.5		Tonga Is
	e	VEV ₁	50		
	e	EE ₁	22 25		
	ePP	V'N'E'	23 19		
	S	V'N'E'	27 30		
	e	V'	57		
	Lq	N'	30.8		
	eL	V'E'	30.9		
	eL	V'E'	32.6		

Date	Phase	Component	Time	Direction of motion	Remarks
22	ePS	N'	09 39 36		51.9N 173.4E 35km Rat Is, Aleutian Is
	eSS	N'	45 15		
	eSSS	N'	48 17		
	eL	V'N'	50.0		
	eL	E'	53 40		
23	eP	V	18 31 46		5.5N 128.7E 67km East of Philippine Is
	Lq	N'E'	41.7		
	eL	V'	50		
23	ePd _{diff.}	V'N'E'	22 26 12		25.7S 70.5W 30km Near coast of Northern Chile
	iPd _{diff.}	V'	30		
	e	N'E'	29 53		
	iPP	V'N'E'	30 36	u	
	iPP	VNEV ₁ N ₁ E ₁	39.1		
	e	V ₁ V'N'E' ₁	51		
	e	V ₁ N'E'	31 52		
	e	V'N'	34 28		
	eSKS	E V'N'E'	36 36		
	SKS	N ₁ N'E'	37 10		
	S	N ₁ E'	38 10		
	PS	N ₁ V'N'E'	40 08		
	PPS	V ₁	41 06		
	ePKKP	VV ₁	25		
	iPKKP	V ₁	35.8		
	e	N'E'	45 20		
	eSS	N'E'	42		
	e	V'	46 23		
	e(SSS)	N'	49 42		
	SSS	E'	50 05		
	e	V'N'E'	53 24		
	Lq	V'N'E'	56.8		
	Lr	V'N'E'	23 01.7		
24	e(PS)	E'	08 39 28		14.0N 92.2W 56km Near coast of Chiapas, Mexico
	e(SS)	N'E'	46 18		
	e	N'	09 00.3		
	eL	N'	03.3		
24	eL	E'	05.4		6.1S 130.2E 128km Banda Sea
	iP	VNEV ₁	17 00 18.2	u,n,w	
25	i	VN	55.8		59.2S 26.2W 33km South Sandwich Is region
	iP	VN	03 43 03.3	d	
25	e	V	30		5.5S 152.0E 35km New Britain region
	eP	VNE	04 57 33.7	u	
	i	VNE ₁ V'N'E'	35.0	d	
	i	V'N ₁	39		
	ePP	V'N'	58 29		
	iPP	VNE	32.5		
	e	E ₁	38		
	e(PcP)	EE ₁ V'E'	05 00 34		
	e	N' ₁	01 18		
	e	V'	40		
	e(S)	V'N'E'	02 12		
	iS	E V'E'	30		
	e	E ₁	03 03		
	e(Lq)	N'	03.6		
	SS	V'	04 06		
	L	E'	12		
L	V'N'	05.7			
25	e	V	05 35 22.6		52.1N 173.2E 35km Near Is, Aleutian Is
	e	V	26.5		
	e(SS)	N'	52 10		
	eL	E'	58.8		
	eL	N'	59.3		
	eL	V'N'	06 03.6		

Date	Phase	Component	Time	Direction of Motion	Remarks
25	P	VNN'	10 25 17.4	d	5.5S 152.3E 31km New Britain region
	e	E	23		
	ePP	V'N'	26 14		
	eS	V'N'E'	30 05		
	eL	E'	31.9		
25	L	V'N'	34.1		11.4S 166.1E 86km Santa Cruz Is
	iP	VNEE V'N'E'	19 29 21.1	d	
	e(sP)	EE V'E'	30 01		
	e(S)	E'l	33 56		
	S	V'N'E'	34 05		
	i	V'N'E'	20		
	Lq	V'N'E'	35.7		
26	Lr	V'	37 03		6.7S 102.7E 33km Southwest of Sumatra
	eP	NEE V'E'	09 04 45.5		
	e	V'l	05 32		
	e	E'E'	10 27½		
	eS	N†	11 58		
	S	V'E'	12 23		
	eSS	E'	15 32		
	SS	N'	38		
	e(L)	N'	16.5		
	e	V'	16 50		
	eL	V'	20.7		
	eL	N'E'	21.2		
	L	V'	23.6		
	26	e(S)	N'	18 06 14	
eL		V'N'E'	12.5		
eL		V'	14.8		
eL		V'E'	16.4		
eL		N'	16.6		
26	iPKP	VE	23 55 10.5	u	6.9N 73.0W 146km Northern Columbia
	e	V	55		
	SKP	VNEV'	53 21.1		
	eSS	N'E'	24 15 04		
	eL	N'	30.5		
27	eL	V'N'E'	39.7		24.2N 5.1E 0km Southern Algeria
	iPKP	VNEE ₁	11 49 44.9		
	e	E ₁	50 28		
	i	V ₁	43.3		
	e	V	51 34		
	e	N'	12 00 54		
e	N'E'	19 56			

J.C. JAEGER
Professor of Geophysics

Seismograms read by
Angela Day