

Jan - March
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UNIVERSITY OF ADELAIDE SEISMOLOGICAL STATION

ADELAIDE (MT. BONYTHON)

Latitude: 34° 58.1' S Longitude: 138° 42.9' E

Height above sea level: 650 metres (approximately)

Foundation: Sandstone

Instruments: Benioff variable reluctance seismometers with three component long and short period paper recorders.

T_g = 75 sec. and T_g = 0.2 sec. respectively

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A _n	A _e	A _z		
Jan. ✓ 1	eP	NEZ	07 34 13				4750	USCGS 19S, 176W, Tonga Is. region
✓ -1	eP	NEZ	07 57 44					
2	eP	NEZ	12 19 46					
3	iP	NEZ	07 40 39			+		
3	eP	NEZ	08 10 11					
3	iP	NEZ	09 09 56			-		
3	eP	NEZ	13 48 46					
3	iP	NEZ	15 53 09			+		
3	eP	NEZ	17 35 45					
✓ .4	iP	NEZ	03 23 30				3900	USCGS 10S, 111½ E, South of Java
	iPP	NEZ	24 52					
4	e(P)	NEZ	03 30 22					
4	e(P)	Z	03 40 22				4850	USCGS 21S, 174½ W, Tonga Is.
.4	iP	NEZ	04 14 28			+		
4	eP	N Z	05 01 12					
4	iP	NEZ	21 15 06			-	3200	USCGS 8S, 126½ E, Timor Is. region
	i	NEZ	16 16					
	i	E	21 50					
✓ .5	iP	NEZ	09 41 32				3600	USCGS 7S, 156½ E, Solomon Is. h about 100 Km.
✓ .5	iP	NEZ	09 53 09			+	3500	USCGS 22S, 171½ E Loyalty Islands region.
	iPP	NEZ	54 10					
	iPPP	NEZ	54 22					
	iS	NE	58 08					
	i	NEZ	10 00 56					
	iScS	N	04 02					
5	iP	NEZ	12 36 12			+		
5	eP	NEZ	13 56 42					
6	iP	Z	10 48 59			+		
6	iP	NEZ	11 59 55			-	3550	USCGS 6½ S, 155E, Solomon Is. h about 150 Km.
✓ -6	iP	NEZ	14 55 47			-	4550	USCGS 7½ S, 105½ E, South of Java.
✓ -8	iPKP	NEZ	01 53 40				17050	USCGS 15½ N, 61W, Windward Is. h about 100 Km.
8	iP	NEZ	04 13 03				3600	USCGS 5S, 151½ E, New Britain h about 150 Km.
✓ 8	iP	NEZ	22 42 22				3400	USCGS 4½ S, 138½ E, New Guinea.
	e	NE	49 40					
	i	NEZ	52 20					
9	eP	NEZ	00 32 40					
✓ # 10	eP	Z	02 09 10					

Date 1959	Phase		Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
Jan. 10	iP	NEZ	05 59 28			+			
10	iP	NEZ	21 59 41			-			
11	iP	NEZ	01 07 45			-			
✓ 11	iPKP iSKP	NEZ Z	07 41 34 44 42			-	14650	USCGS Guatemala h about 200 Km.	
11	eP		16 30 48						
11	iP	Z	16 56 55				10100	USCGS 37N, 79E, SinKiang Province, Chin..	
12	eP	Z	03 06 40				3350	USCGS North Eastern New Guinea.	
✓ 12	iP	Z	14 28 27				8800	USCGS 44N, 146E, Near north coast of Hokkaido, Japan.	
12	iP	NEZ	17 50 08			-	5550	USCGS 14½ N, 145E, Mariana Is. h about 150 Km.	
✓ 13	iP i(S) eL	NEZ NE NEZ	01 24 15 31 15 35 00			+	5450	USCGS 13½ N, 146E, Mariana Is.	
✓ 13	eP i	NEZ Z	07 42 03 42 08				5150	USCGS 3S, 102E, Near south coast of Sumatra. h about 150 Km.	
13	eP	EZ	09 12 15				4100	USCGS 19S, 176½ E, Fiji Is.	
✓ 13	eP	Z	09 48 41				7650	USCGS 9S, 67½ E, Chagos Archi- pelago region.	
14	iP	NEZ	03 12 23			+	3600	USCGS 10S, 161E, Solomon Is.	
14	eP	NEZ	04 42 19						
✓ 14	iP	NEZ	13 24 19			-	4400	USCGS 21S, 179W. Fiji Is. Region. h about 650 Km.	
15	iP i(S)	NEZ NEZ	20 05 18 05 35					Local	
✓ 15	iP iP iPcP iS iScP iScS	NEZ Z Z NE Z NE	21 26 55 28 20 29 12 32 00 32 08 36 16				4050	USCGS 25½ S, 180 South of Fiji Is. h about 500 Km.	
16	iP	NEZ	10 58 08				3350	USCGS 22S, 170E, Loyalty Is.	
16	iP	NEZ	20 39 45			+			
16	eP	NEZ	22 45 30						
16	e(P)	NEZ	22 50 50						
✓ 17	iP iPP	NEZ Z	09 33 06 35 00			-	5200	USCGS 10½ N, 126E, Near north coast of Mindanao, P.I.	
17	iP	NEZ	11 37 19			+	3650	USCGS 10S, 162½ E, Solomon Is.	
✓ 18	iP	NEZ	14 47 39				3600	USCGS 5S, 152½ E, New Britain region.	
18	iP	NEZ	19 15 33						
✓ 18	eP	NEZ	19 32 19				3600	USCGS 5S, 152½, New Britain region.	
✓ 18	iP iS	NEZ NE	22 30 26 36 04				4600	USCGS 19S, 178W, Fiji Is. h about 450 Km.	
19	iP	N Z	08 23 33				7200	USCGS 30N, 132E, South of Kyushu, Japan.	
19	eP e(S)	NEZ NEZ	08 54 21 56 01						

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A_n	A_e	A_z		
Jan. 19	eP	10 50 22					3650	USCGS 16S, 168 $\frac{1}{2}$ E, New Hebrides Is.
20	eP NEZ	15 21 40						
20	eP NEZ	16 52 04					3150	USCGS 9S, 126E, Timor Is.
✓	i NE	58 13						
	e NEZ	17 01 00						
21	eP N Z	04 55 49						
✓	iP NEZ	11 17 55				-	6300	USCGS 19N, 120E, Near north coast of Luzon, P.I.
	i NEZ	18 04						
22	iP NEZ	05 21 54					7650	USCGS 34N, 142E, Near East coast of Honshu, Japan.
✓	iPP Z	24 34						
	iS NE	31 12						
	iScS NE	32 16						
	eL NEZ	36 00						
22	iP NEZ	05 43 36				-	4400	USCGS 4N, 132 $\frac{1}{2}$ E, About 300 Miles north east of Halmahera.
✓	iP Z	07 45 19				-	8700	USCGS 43 $\frac{1}{2}$ N, 144 $\frac{1}{2}$ E, Hokkaido, Japan.
✓	eP Z	09 58 11					8150	USCGS 38 $\frac{1}{2}$ N, 142E, Near coast of Honshu, Japan.
24	iP NEZ	00 36 18				+		
✓	iP NEZ	05 19 55				-	8050	USCGS 37 $\frac{1}{2}$ N, 141E, Near coast of Honshu, Japan. h = 100 Km.
✓	iP NEZ	07 58 22					4350	USCGS 1 $\frac{1}{2}$ S, 116 $\frac{1}{2}$ E, Near East Coast of Borneo.
24	iP NEZ	09 34 53				+		
24	iP NEZ	15 40 21					3400	USCGS New Britain region. Felt at Rabaul. h about 100 Km.
✓	iP NEZ	15 59 56					4950	USCGS 17 $\frac{1}{2}$ S, 175W. Tonga Is. h about 100 Km. Region.
✓	iPKP ₁ Z	20 15 22				+	18450	USCGS 37 $\frac{1}{2}$ N, 24 $\frac{1}{2}$ W, Azores Is.
	iPKP ₂ Z	16 21						
	iPP	20 18						
24	iP NEZ	22 28 05				-		
25	iP NEZ	05 21 05				+		
26	iP NEZ	05 56 23				+	5050	USCGS 16 $\frac{1}{2}$ S, 174 $\frac{1}{2}$ W. Samoa Is. h about 300 Km. region.
26	iP NEZ	14 49 09				-		
26	iP NEZ	15 38 43						
26	iP NEZ	17 48 48						
26	eP Z	21 53 41					6950	USCGS 27N, 128 $\frac{1}{2}$ E, Ryuky Is.
✓	iPKP NEZ	00 40 05					17000	USCGS 18N, 68 $\frac{1}{2}$ W. Eastern Dominican Republic, h about 100Km.
27	iP NEZ	09 36 59				+		
27	iP NEZ	14 18 23				-		
27	iP NEZ	20 13 37				+		
27	iP NEZ	21 12 58				+		
✓	iP NEZ	14 09 36				+		
28	iP NEZ	17 14 36						
29	eP NEZ	11 11 05						
✓	iPKP NEZ	23 43 55					15050	USCGS 71N, 8E. Off coast of Norway.

4.

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A _n	A _e	A _z		
✓ Jan. 30	iP	NEZ	00 25 56			+	3600	USCGS 10S, 161E, Solomon Is.
	iS	NE	31 08					
	eL	NEZ	33 30					
30	iP	NEZ	13 48 07			+		
✓ 30	iP	Z	16 28 15					
✓ 30	iP	NEZ	18 15 59			+	3950	USCGS 31S, 179W, Kermadec Is.
	i	Z	17 31					
	i	Z	17 46					
	i(S)	NEZ	20 48					
	i	Z	21 18					
30	i	NE	25 18					
30	iP	NEZ	20 34 17			-		
✓ 30	iP	NEZ	20 51 01				8750	USCGS 44N, 144E, Hokkaido, Japan.
✓ 30	iP	NEZ	22 28 52				8800	USCGS 44N, 144E, Hokkaido, Japan. Mag. 6- $\frac{1}{4}$ (Pas.)
31	eP	Z	07 01 34					
31	eP	NEZ	07 39 58					
31	eP	NEZ	12 41 09					
31	eP	NEZ	12 58 02					
31	iP	Z	22 10 26			+		



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Latitude: 34° 58.1'S

Longitude: 138° 42.9E

Height above sea level:

650 metres (approximately)

Foundation: Sandstone

Instruments: Benioff variable reluctance seismometers with three component long and short period paper recorders.

 $T_g = 75 \text{ sec. and } T_g = 0.2 \text{ sec. respectively}$

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A_n	A_g	A_z		
Feb. 1	iP NEZ	02 58 53						
1	iP Z	03 06 52						
1	iP NEZ	03 14 30						
✓ 1	iP NEZ	03 26 30				10550	USCGS: 36½ N, 71E, Hindu Kush, h about 200 Km.	
1	eP NEZ	05 35 50						
1	eP Z	08 38 52						
1	iP NEZ	08 47 18				4700	USCGS: 17½ S, 178W, Fiji Is.	
✓ 2	iP NEZ	04 02 22				3450	USCGS: 6½ S, 126E, Banda Sea.	
	i Z	03 30						
	i Z	03 34						
	iS NE	06 48						
3	iP Z	22 52 17				-		
3	iP NEZ	23 29 03						
4	iP NEZ	05 05 20				5500	USCGS: Off north coast of Mindanao, Phillipine Is.	
4	iP NEZ	08 42 44				+ 4350	USCGS: 22S, 179W, Fiji Is.	
6	iP NEZ	05 23 06						
6	iP NEZ	21 36 22				-		
7	eP NEZ	03 28 33						
7	iP NEZ	03 58 33				+		
✓ 7	iPKP NEZ	09 55 57				- 13950	USCGS: 4S, 81½ W, Near coast of northern Peru.	
	iPP NEZ	57 48						
	ePKS NE	59 30						
	iSKS ₁ NE	10 02 58						
	iSKS ₂ NE	03 08						
	i(PS) NE	07 50						
	ePSP (Z)	09 15						
	eSS NE	14 15						
7	iP NEZ	10 20 43				+ 5700	USCGS: 16N, 146E, Mariana Is.	
7	iP NEZ	16 52 02				- 4100	USCGS: 6½ S, 113E, Near north coast of Java. h about 600 Km.	
	iS NE	57 06						
✓ 8	iP NEZ	05 52 46				+ 4150	USCGS: 23S, 180, South of Fiji Is. h about 600 Km.	
	iS NE	57 58						
8	eP Z	16 01 13				4150	USCGS: 32S, 176½ W. Kermadec Is. h about 100 Km.	
✓ 9	eP Z	04 55 59					USCGS: 50½ N, 177½ W, Andreanof Is. Aleutian Is.	
9	iP NEZ	21 19 55				3650	USCGS 5S, 154E, Solomon Is. h about 100 Km.	
	iPcP Z	22 36						
	iS NE	25 06						
	iPcS NE	26 18						
10	iP NEZ	12 51 10				+		

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				^u n	^u e	^u z		
Feb. 10	eP	NEZ	18 21 32					Local Earthquake
✓ 11	iP	NEZ	03 51 57				4050	USCGS: 9N, 127E, Near east coast of Mindanao Is. Phillipine Is.
11	iP	NEZ	03 56 01					
11	iP	NEZ	08 37 40			+		
11	iP	NEZ	12 55 56			-	3800	USCGS: 12S, 166½E, Santa Cruz Is.
11	eP	NEZ	21 45 22				5250	USCGS: 15½S, 173W, Samoa Is. region
12	eP	NEZ	00 08 34					
12	iP	NEZ	17 09 40				3650	USCGS: 22S, 173E, Loyalty Is. region
✓ 12	iS	E	14 40					
12	i	NE	17 15					
12	iP	NEZ	18 04 49					
13	iP	NEZ	02 06 50					
✓ 13	iP	NEZ	15 16 16				4650	USCGS: 20S, 177W, Tonga Is.
13	i	Z	18 30					
✓ 14	iP	NEZ	04 42 33			+	3450	USCGS: 7½ S, 122E, Flores Sea.
✓ 14	eS	E	47 38					
14	e	NEZ	48 36					
✓ 14	iP	Z	22 37 25				8200	USCGS: 28N, 97E, East Pakistan.
✓ 15	iP	NEZ	04 12 02				9400	USCGS: 59½ S, 25W, Sandwich Is.
15	i(S)	E	22 26					
✓ 15	iP	Z	04 15 43				10450	USCGS: 44½ N, 83½ E, SinKiang Province, China.
15	iP	NEZ	04 55 10				9450	USCGS: 59½ S, 26W. Sandwich Is.
✓ 15	iS	NE	05 05 44					
15	e	NE	06 33					
✓ 16	iP	NEZ	08 00 58			-	4100	USCGS: 25S, 180, South of Fiji Is. h about 500 Km.
17	iP	NEZ	11 58 59			-	5550	USCGS: 15N, 142½ E, Mariana Is. Region.
✓ 17	iP	NEZ	13 00 02				7500	USCGS: 32½ N, 140½ E, South of Honshu, Japan.
✓ 18	iP	NEZ	02 03 59				4200	USCGS: 24S, 179½ W, South of Fiji Is. h about 500 Km.
18	iS	NE	09 13					
18	iP	NEZ	14 08 02					
18	iP	NEZ	17 37 55				5450	USCGS: 14N, 144E, Mariana Is. h about 250 Km.
19	iP	NEZ	01 13 42					
19	iP	NEZ	07 42 30					
20	iP	NEZ	01 36 38					
20	iP	NEZ	12 08 58			+	4600	USCGS: 18S, 178½ W. Fiji Is. h about 600 Km.
20	iP	NEZ	12 23 16			-		
✓ 20	iPKP	Z	18 35 28				14600	USCGS: 15½ N, 91W, Guatemala. h about 150 Km.
20	iPSP	Z	49 27					
21	eP		05 28 02					
21	eF	NEZ	08 36 24				5750	USCGS: 14N, 120½ E, Luzon Is. Phillipine Is.
21	iP	NEZ	13 00 58			+		
22	eP	Z	02 32 32					
✓ 22	iP	Z	03 42 40				8600	USCGS 28½ N, 91½ E, Southeastern Tibet.

3.

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A _n	A _e	A _z		
Feb. 22	iP	NEZ	10 32 18			-	3400	USCGS: 5½ S, 131E, Banda Sea.
	i	NEZ	33 08					
	iS	NE	37 08					
	eL	NEZ	38 30					
23	iP	NEZ	01 14 15				3450	USCGS: 5½ S, 150E, New Britain.
23	iP	NEZ	02 04 58					
	iS	NE	10 12					
	ePcS	NE	11 30					
	eL	NEZ	11 45					
23	iP	NEZ	18 01 25					
23	iP	NEZ	18 41 47			-		
23	iP	NEZ	22 28 18			-	4200	USCGS: 28½ S, 177W, Kermadec Islands region.
	iPcP	Z	30 35					
24	iP		12 28 04					
24	iP	NEZ	12 54 15				5400	USCGS: 11N, 122½ E, Panay Is. Phillipine Is. h about 100 Km.
	i	Z	54 23					
	iPcP	Z	55 43					
24	iP	NEZ	16 19 43					
25	eP	NEZ	03 32 56					
25	iP	NEZ	10 09 57			-	4650	USCGS: 19S, 177W, Fiji Is. region. h about 500 Km.
25	iP	NEZ	11 28 45			+	7050	USCGS: 28½ N, 139E, South of Honshu, Japan.
25	eP	NEZ	12 18 40					
25	iP	NEZ	20 14 40			-	3850	USCGS: 2S, 129E, Ceram Sea. h about 200 Km.
	i	Z	16 11					
25	iP	NEZ	23 46 06			+	2600	USCGS: 53S, 160E, Macquarie Is. region.
	iS	NE	50 26					
	eL	NEZ	52 25					
26	eP	NEZ	01 52 51				6900	USCGS: 25½ N, 125E, RyuKyu Is.
26	iP	NEZ	04 47 13			+	3400	USCGS: 5½ S, 147E, Near northeast coast of New Guinea.
26	eP	NEZ	16 19 03					
27	iP	NEZ	13 52 47			+		
	i	NEZ	53 36					
	i	NEZ	58 22					
27	iP	NEZ	15 28 25			+	4650	USCGS: 22½ S, 175W, Tonga Is. region.
27	iP	NEZ	18 52 36			+	3350	USCGS: 7S, 126E, Banda Sea, h about 600 Km.
	i	NEZ	54 02					
	iS	E	56 58					
27	iP	NEZ	21 07 00			-	7000	USCGS: 27½ N, 129E, RyuKyu Is.
	i	Z	07 13					
28	iP	NEZ	04 00 30				3650	USCGS: 3S, 129½ E, Ceram Island region.
	i	Z	00 42					
28	iP	NEZ	11 48 50			+	2350	USCGS: About 500 miles west of Macquarie Island.
	iS	NE	52 56					
	eL	NEZ	54 00					
28	iP	NEZ	13 32 31				4350	USCGS: About 350 miles south of Fiji Is.

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ADELAIDE (MT. BONYTHON)

Latitude: 34° 58.1'S Longitude: 138° 42.9'E
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 Foundation: Sandstone
 Instruments: Benioff variable reluctance seismometers with three Component long and short period paper recorders.
 T_g = 75 sec. and T_g = 0.2 sec. respectively

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A _h	A _e	A _z		
Mar. 1	iP NEZ	00 24 18						
1	eP NEZ	02 23 28						
✓ 1	iP NEZ	16 55 55				+	3900	USCGS: 1/2°S, 134 1/2°E, Near north coast of New Guinea. h about 100 Km.
	i NEZ	58 02						
	e(S) NE	17 01 15						
	eL NEZ	02 57						
1	eP NEZ	18 30 44						
1	eP Z	20 49 06					3900	USCGS: 1/2°S, 135°E, Near north coast of New Guinea.
✓ 2	iP NEZ	01 45 54				+	4650	USCGS: 7°S, 104°E, Sunda Strait h about 100 Km.
2	iP NEZ	07 55 42				+		
✓ 2	eP NEZ	09 19 40					3100	USCGS: 8°S, 128°E, Timor Island.
	iPcP Z	22 40						
	e NEZ	25 00						
2	eP NEZ	10 35 50						
2	iP NEZ	12 21 54						Local Tremor
✓ 2	iP Z	16 04 40				-	10650	USCGS: 37°N, 70 1/2°E, Hindu Kush h about 200 Km.
4	iP NEZ	00 47 07				-		
4	iP NEZ	06 49 57				-	3750	USCGS: 11°S, 165 1/2°E, Santa Cruz Is. h about 100 Km.
✓ 4	iP NEZ	19 02 55				+	3750	USCGS: 20 1/2°S, 175 1/2°W, Tonga Is. h about 100 Km.
✓ 4	eP NEZ	20 08 34					7100	USCGS: 11 1/2°N, 91 1/2°E, Andaman Is. Slightly deeper than normal.
✓ 5	eP Z	00 28 11					10100	USCGS: 54°N, 160°E, Near east coast of Kamchatka.
5	iP NEZ	03 03 45				+	3400	USCGS: 20 1/2°S, 169°E, Loyalty Is.
5	eP EZ	05 50 27					4050	USCGS: 29 1/2°S, 178°W, Kermadec Is.
5	eP NEZ	07 35 35					5500	USCGS: 14°N, 145 1/2°E, Mariana Is.
5	iP N Z	07 47 42				-		
✓ 5	iP Z	14 21 43				+	8900	USCGS: 44 1/2°N, 147°E, Kurile Is. h about 100 Km.
5	aP NEZ	16 36 02				+	4050	USCGS: 29 1/2°S, 179°W, Kermadec Is.
5	eP NEZ	16 49 18						
5	iP NEZ	16 53 36				-		
✓ 5	iP NEZ	23 04 50				+	5900	USCGS: 2°N, 98°E, Sumatra.
6	iP NEZ	04 29 06				-		
6	iP NEZ	07 14 21				-		

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A _n	A _e	A _z		
Mar. 6	iP	EZ 20 35 12					3550	USCGS: 11S, 162E, Solomon Is. foreshock.
6	iP	NEZ 20 48 23				+	3600	USCGS: 10 1/2 S, 162E, Solomon Is.
6	iP	NEZ 21 18 18				-		
✓ 7	iP	NEZ 09 20 57				+	5150	USCGS: 3S, 102E, Sumatra.
7	iP	NEZ 16 01 31				+		
8	iP	NEZ 00 32 35				+		
8	iP	NEZ 00 47 54				+		
9	iP	NEZ 10 27 02					5550	USCGS: 13 1/2 N, 125 1/2 E, Phillipine Is.
✓ 11	iP	Z 03 11 13					7800	USCGS: 23N, 104 1/2 E, Szechwan Province China.
11	iP	NEZ 07 13 15				-	3400	USCGS: 6S, 127 1/2 E, Banda Sea.
	i	NEZ 07 14 23						
11	eP	NEZ 08 34 25						
11	iP	NEZ 18 25 38				-		
11	iP	NEZ 23 19 14						Local earthquake.
11	iP	NEZ 23 27 37						
11	iP	NEZ 23 42 49						
✓ 12	iP	NEZ 01 37 03					4700	USCGS: 17N, 145E, Caroline Is.
	iPP	NEZ 38 50						? 7N, 145E, Caroline Is.
✓	iS	NEZ 43 24						
	iSS	NEZ 46 27						
	iSSS	NEZ 46 42						
	eL	NEZ 47 00						
12	iP	NEZ 09 07 04				+	3700	USCGS: 5S, 155E, Solomon Is. Region
13	iP	NEZ 02 02 46				+		
13	iP	N Z 12 45 01						
13	iP	NEZ 15 53 22						
✓ 13	iP	NEZ 16 47 46					4500	USCGS: 21S, 176 1/2 W, Tonga Is. h about 200 Km.
13	iP	Z 21 49 00						
16	iP	NEZ 22 15 28					3850	USCGS: Kermadec Is. region h about 100 Km.
	iPP	Z 16 00						
✓ 17	iP	NEZ 08 35 46				-	7000	USCGS: 27 1/2 N, 130E, Ryukyu Is.
	iPP	Z 38 08						
✓ 17	eP	N Z 13 11 46					9650	USCGS: 57S, 25W, Sandwich Is.
17	eP	NEZ 19 11 29						
✓ 18	iP	NEZ 00 51 46					6950	USCGS: 27N, 129E, Ryukyu Is.
	ePP	Z 54 04						
✓ 18	eP	N Z 07 37 57					7450	USCGS: 32N, 141E, Near east coast Honshu, Japan. h about 100 Km.
	iPP	Z 38 22						
19	iP	NEZ 02 05 13				+	3450	USCGS: 6 1/2 S, 125 1/2 E, Banda Sea.
	i(PP)	NEZ 06 18						
	eS	NE 10 04						
	i	NEZ 11 04						
19	iP	Z 07 34 37					6950	USCGS: 27N, 130E, Ryukyu Is.
✓ 19	ePKP ₁	Z 08 45 45					19500	USCGS: 35N, 36W, North Atlantic Ocean.
	ePKP ₂	Z 47 32						
✓ 19	iP	NEZ 22 26 20				+		

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A_n	A_e	A_z		
Mar. 20	iP NEZ	02 18 37				+	4850	USCGS: 20 $\frac{1}{2}$ S, 174 $\frac{1}{2}$ W, Tonga Is.
20	eP Z	15 56 04						
20	iP NEZ	21 55 25						
	i NEZ	56 50						
20	iP NEZ	23 59 50					3500	USCGS: 10S, 117E, Sumbawa Is. Region.
	i NEZ	24 06 10						
21	iP NEZ	04 34 27				-	4600	USCGS: 19S, 178W, Fiji Is.
	iS NEZ	40 02						h about 550 Km.
21	iP NEZ	08 53 53				+		
	i N Z	54 14						
21	iP NEZ	19 53 40				-		
23	iP NEZ	13 32 36					5150	USCGS: 16S, 173 $\frac{1}{2}$ W, Samoa Is. Region
								h about 150 Km.
25	iP NEZ	00 07 00				+		
25	eP NEZ	00 43 45						
25	iP NEZ	12 26 31						
26	iP NEZ	02 30 37					3550	USCGS: 7S, 155 $\frac{1}{2}$ E, Solomon Is.
	iP Z	30 49						h about 60 Km.
	iPP Z	31 43						
	i Z	31 55						
	iPcP Z	33 26						
	iS NE	35 45						
	i NEZ	37 07						
	e NEZ	38 00						
26	iP NEZ	05 31 56				+	4150	USCGS: 0, 125E, Molucca Passage.
26	iP NEZ	08 59 37						
26	iP EZ	11 51 22						
26	eP NEZ	14 09 44						
27	iP NEZ	07 00 12						
27	ePKP NEZ	07 21 34					17150	USCGS: 17N, 61W, Leeward Is.
	i N Z	21 51						h about 60 Km.
27	eP Z	13 21 20						
28	iP NEZ	08 02 13				+		
28	iP NEZ	14 56 15						
28	iP NEZ	17 21 16				-	6400	USCGS: 20N, 120 $\frac{1}{2}$ E, Off north coast
								of Luzon Is. Phillipine Islands.
28	iP Z	18 37 38						
28	iP NEZ	19 54 02					4500	USCGS: 20S, 178 $\frac{1}{2}$ W, Fiji Islands,
	i EZ	55						h about 600 Km.
	iS NEZ	59 30						
	i(sS)NE	20 02 42						
	iScS N	03 03						
28	eP Z	21 18 23						
29	eP NEZ	00 23 04						
	i NEZ	24 59						
29	iPKP ₁ NEZ	06 00 00					17100	USCGS: 19N, 64 $\frac{1}{2}$ W, Virgin Islands.
	iPKP ₂ EZ	10 00						
29	iP NEZ	11 08 25						
30	iP N Z	18 27 39					5200	USCGS: 17 $\frac{1}{2}$ S, 172W, Tonga Islands.
30	eP NEZ	19 20 07						
31	iP NEZ	07 29 21					5250	USCGS: 15S, 173W, Samoa Is. region.



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Apr copied y.B. May & June copied y.B. APR - JUN 59

UNIVERSITY OF ADELAIDE SEISMOLOGICAL STATION

ADELAIDE (MT. BONYTHON)

Latitude : 34°58.1'S Longitude : 138°42.9'E.

Height above sea level : 650 metres (approximately)

Foundation : Sandstone

Instruments : Benioff variable reluctance seismometers with three component long and short period paper recorders.

T_g = 75 sec. and T_g = 0.2 sec. respectively

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A _n	A _e	A _z		
April 1	iP NEZ	00 39 24						
✓ 1	iP NEZ	14 17 59					3550	USCGS: 48S, 98 1/2 E, Indian Ocean
✓ 1	iP NEZ	14 54 41					3550	USCGS: 18S, 169E, New Hebrides Is. h about 150 Km.
✓ 1	iP NEZ	19 24 11				+	5150	USCGS: 17S, 173W, Tonga Is. Region
✓ 1	iP NEZ	22 54 10					3600	USCGS: 17S, 168 1/2 E, New Hebrides Is. h about 100 Km.
✓ 1	iP NEZ	23 40 10				+	3600	USCGS: 6S, 154 1/2 E, Solomon Islands
	iPcP Z	42 57						
✓ 2	eP NEZ	04 12 42					6950	USCGS: 26N, 125E, RyuKyu Islands.
2	eP NEZ	12 06 46						
2	iP NEZ	17 24 54						
✓ 2	iP NEZ	19 31 26				+	6450	USCGS: 20 1/2 N, 121E, Batan Is. Region
2	eP NEZ	21 56 20					4950	USCGS: Tonga Islands
3	eP NEZ	00 29 27						
✓ 3	eP NEZ	05 58 45					6000	USCGS: 24N, 122E, Near east coast of Formosa. h about 200 Km.
3	iP NEZ	10 32 17						
3	iP NEZ	14 29 38						
3	iP NEZ	16 14 33						
3	iPKP Z	19 52 55				-	14000	USCGS: 4S, 81W, Near coast of Northern Peru
5	iP NEZ	10 42 55				-		
5	eP NEZ	13 20 30						
5	iP NEZ	15 20 00				-		
5	iP NEZ	18 10 52.5						*
✓ 5	iP NEZ	21 12 18.5					3600	*USCGS: 15 1/2 S, 167 1/2 E, New Hebrides Islands. h about 150 Km.
	iPcP Z	15 01.5						
✓ 5	iP NEZ	23 35 40.5				-	3400	*USCGS: 5 1/2 S, 146E, Near north coast of New Guinea.
	i NEZ	38 30.5						
	eS NEZ	40 40.5						
	eL NEZ	41 58.5						
6	eP NEZ	07 12 12						*
✓ 6	iP NEZ	14 18 47.5				+	3300	*USCGS: 10S, 120 1/2 E, Sumba Island
	i NEZ	19 17.5						
	iPcP Z	21 57.5						
	iS NEZ	23 41.5						
	eL NEZ	24 40.5						
6	iP Z	19 31 29						*
7	iP NEZ	00 07 37						*
7	iP NEZ	01 00 21				-		*

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A_n	A_e	A_z		
April 7	iP NEZ	08 24 47.5				-	*	Z long period film not operating from 0618 G.M.T. - 7th April to 0605 G.M.T. - 8th April.
7	iP NEZ	13 36 39.5				+	*	
7	iP NEZ	17 35 32					*	
7	iP NEZ	18 07 43				-	*	
✓ 8	iP NEZ	01 29 40				+	3750	*USCGS: 32 1/2 S, 179 1/2 E, Kermadec Is. Region. h about 400 Km.
	i E	29 46						
	e E	31 10						
8	eP NEZ	07 44 02.5					*	
	eL NEZ	48 01						
✓ 8	iP NEZ	08 09 53.5				+	5050	*USCGS: 17S, 174 1/2 W, Tonga Is. region. h about 100 Km.
✓	i NEZ	10 06.5						
✓	i NEZ	10 37.5						
✓ 8	iP NEZ	11 57 33.5				+	10000	*USCGS: 50 1/2 S, 73W, Southern Chile-Argentina border.
8	eP NEZ	20 21 44					*	
9	iP NEZ	00 32 49					*	
✓ 9	iP NEZ	04 50 27					3700	*USCGS: 14 1/2 S, 167 1/2 E, New Hebrides Islands. h about 100 Km.
	iScP NEZ	56 51						
✓ 9	iP NEZ	06 27 28				+	5550	*USCGS : 36S, 76E, Indian Ocean, about 1,000 miles north of Kerguelen Islands.
	iS NE	34 45						
	eL NEZ	39 01						
9	iP NEZ	07 54 26					*	
✓ 9	iP NEZ	17 20 06				-	8050	*USCGS : 25N, 95E, India Burma border.
✓ 9	ePKP N Z	17 56 10					14800	*USCGS : 7N, 82W, South of Panama.
✓ 10	iP NEZ	05 53 46				+	3500	*USCGS : 25S, 178 1/2 E. South of Fiji Islands. h about 600 Km.
	i NEZ	54 36						
	iS NEZ	58 38.5						
	iScP Z	58 50.5						
	iPcS NE	59 42.5						
	eLq NEZ	06 01 53.5						
	iScS NE	02 55						
10	eP NEZ	07 42 25.5					*	
10	iP NEZ	18 27 45.5				-	*	
✓ 11	iP NEZ	11 35 52				-	3500	*USCGS : 1°S, 128E. Spice Islands.
	i(S) E	11 41 22.5						
	eL NEZ	43 34.5						
	iScS NE	45 30						
11	iP NEZ	18 04 32.5					5250	*USCGS : 15S, 173 1/2 W, Samoa Islands Region.
12	iP NEZ	01 51 10					*	
12	iP NEZ	05 27 01.5					*	
✓ 12	iPKP NEZ	10 13 52					14350	USCGS : 17 1/2 N, 95W, Mexico. h about 100 Km.
	ipPKP NEZ	14 16						
	esPKP NEZ	14 29						
	iPKS NE	17 12						
✓ 12	iP NEZ	11 09 37					6800	USCGS : 24 1/2 N, 122E. Near east coast of Formosa.
	i Z	09 48						

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A _n	A _e	A _z		
April	12 iP NEZ	15 28 45					3400	USCGS : 4 $\frac{1}{2}$ S, 134E. Near coast of New Guinea. h about 100 Km.
	i NEZ	29 42						
	iS NE	33 34						
	i NEZ	34 08						
	eL NEZ	35 08						
	12 eP Z	17 37 20						
	12 iP NEZ	20 38 20						
	12 iP NEZ	21 02 34					5250	USCGS : 15 $\frac{1}{2}$ S, 173W. Samoa Islands Region.
	i EZ	02 52						
	13 iP NEZ	17 31 09						
	13 iP NEZ	18 43 17					8000	USCGS : 23N, 93 $\frac{1}{2}$ E, India-Burma Border.
	i	43 30						
	15 iP NEZ	00 27 11					8500	USCGS : 41 $\frac{1}{2}$ N, 143E, Near south coast of Hokkaido, Japan.
	15 iP NEZ	00 58 12						
	15 iP NEZ	01 04 43						
	15 iP Z	19 24 23					10100	USCGS : 54N, 160 $\frac{1}{2}$ E, Near east coast of Kamchatka.
	16 iP NEZ	00 40 32						
	i N Z	40 56						
	i NEZ	47 18						
	16 iP NEZ	07 33 52					4100	USCGS : 23 $\frac{1}{2}$ S, 179E, South of Fiji Islands. h about 550 Km.
	ipP NEZ	35 28						
	iS NEZ	38 55						V short period not operating from 0550 G.M.T. 16th April, until 0447 G.M.T. 22nd April.
	i(PcS) NE	39 38						
	i E	39 58						
	iScS NE	43 05						
	16 eP NEZ	12 16 45						
	16 iP NEZ	16 22 28					5250	USCGS : 12 $\frac{1}{2}$ N, 143E, Mariana Islands region h about 100 Km.
	ipP NEZ	22 46						
	i N Z	22 58						
	i NEZ	24 24						
	iScS E	32 15						
	16 iP NEZ	17 21 07						
	i NE	21 11						
	e NE	27 17						
	16 iP NEZ	19 46 56						
	16 eP NEZ	20 11 12						
	18 iP NEZ	06 24 31					3700	USCGS : 4 $\frac{1}{2}$ S, 154E. New Ireland Island region.
	iS NE	29 43						
	18 iP NEZ	08 25 15						
	19 eP NEZ	19 51 48						
	20 iP NEZ	03 34 02					3400	USCGS : 6S, 149 $\frac{1}{2}$ E, New Britain. h about 100 Km. Z long period not operating
	iS NE	39 00						
	i NE	39 25						
	eL NE	40 46						
	20 iP NEZ	11 49 06						Z short period not operating from 0550 G.M.T. 16th April until 0447 G.M.T. 22nd April inclusive.
	e NE	53 30						
	e NE	56 00						
	22 iP NEZ	07 40 21					10150	USCGS : 36 $\frac{1}{2}$ S, 97 $\frac{1}{2}$ W, Pacific Ocean.
	i NEZ	41 31						
	22 iP NEZ	19 11 00						
	22 eP NEZ	20 39 54						

4.

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks	
				A _n	A _e	A _z			
✓ April 22	iP	NEZ	21 01 13						
	i	Z	01 30						
23	iP	NEZ	17 54 49						
23	iP	NEZ	18 56 53				+		
23	iP	NEZ	19 16 40				+		
23	iP	NEZ	22 31 24						
✓ 24	iP	NEZ	18 05 4.5				+	4050	USCGS : 31S, 178W, Kermadec Islands.
	iPP	EZ	06 30						
	iPPP	EZ	06 50						
	i	Z	07 16						
	i	Z	10 16						
	i(S)	NE	10 36						
	i	NEZ	11 00						
	i	Z	11 26						
	i	N	11 52						
	i	N	12 15						
	eL	Z	12 28						
	iScS	N	15 08						
	25	iP	NEZ	05 28 30				-	
25	eP	Z	18 16 07						
26	iP	NEZ	05 26 30					5350	USCGS : 16S, 171½ W, Samoa Is. Region
26	eP	NEZ	05 53 56.5					3500	USCGS : 19½ S, 169½ E, New Hebrides Is.
26	iP	NEZ	08 53 56				-	3600	USCGS : 7½ S, 157E, Solomon Islands.
26	eP	NEZ	12 07 58						
✓ 26	eP	NEZ	12 46 22					7700	USCGS : China-Burma border region.
✓ 26	iP	NEZ	13 22 16						
	i	NEZ	22 30						
	iP	NEZ	20 50 42.5				+	6900	USCGS : 25N, 122½ E. Near northeast coast of Formosa. h about 150 Km.
	ipP	NEZ	51 10						
	i	Z	51 13						
	i	Z	55 41						
	e(S)	NE	20 58 56						
	iPS	NE	59 40						
	isS	NE	21 00 03						
	iScS	NE	00 24						
iSS	NE	03 02							
eP'P'	NEZ	19 49							
✓ 27	iP	NEZ	09 54 15				+	3250	USCGS : 7S, 129E, Banda Sea.
	i	NEZ	54 45						
	i	NEZ	55 13						
	i	NEZ	55 48						
eLq	NEZ	10 00 50							
✓ 27	iP	NEZ	12 54 26.5				-	4100	USCGS : ½ S., 124E, Celebes region h about 200 Km.
✓ 27	iP	NEZ	13 21 36.5				+	8950	USCGS : 33½ N, 93E, Tsinghai Province China.
28	iP	NEZ	01 50 40.5				-	3450	USCGS : 4S, 135E, Western New Guinea.
	i	NEZ	50 51						
	e	N Z	51 40						
	i	Z	52 13						
	i(PcP)	Z	53 24						
	i	Z	55 56						
	e	NEZ	57 36						
	eL	NEZ	02 00 50						
✓ 28	iPKP	NEZ	11 28 40.5					14350	USCGS : 15N, 93W, Mexico-Guatemala border.
	ePKS	NE	32 04						
	eL	NEZ	12 13 00						

5.

Date 1959	Phase	Time (G.M.T.)	Pcr	Amplitude			Δ Km.	Remarks
				A_n	A_e	A_z		
April 28	iP	NEZ	13 07 23				3600	USCGS : 5S, 152½ E, New Britain. h about 100 Km.
	i	NEZ	07 43					
	i	NEZ	08 04					
28	iP	NEZ	14 31 33				3400	USCGS : 6½ S, 150E, Near south coast of New Britain
28	iP	NEZ	16 04 19.5					
	i	Z	04 28					
✓ 28	iP	NEZ	22 12 6.5			-	7900	USCGS : 36N, 141E, Near East coast of Honshu, Japan.
29	iP	NEZ	23 29 05					
30	iP	NEZ	11 33 50			+		
	i	Z	34 01					
	i	Z	34 09					
	i	Z	34 11					
✓ 30	iP	NEZ	13 38 31			-	9800	USCGS : 55½ S, 26W, Sandwich Islands.
	i	NEZ	38 58.5					
	iPP	NEZ	42 00					
	iS	NEZ	49 05					

N.B. * Owing to a failure in our time service the readings between 18-10-52.5 on the 5th April and 05-27-01.5 on the 12th April inclusive, are correct to within one second.

UNIVERSITY OF ADELAIDE SEISMOLOGICAL STATION
ADELAIDE (MT. BONYTHON)

Latitude: $34^{\circ}58.1'S$ Longitude: $138^{\circ}42.9E$
 Height above sea level: 650 metres (approximately)
 Foundation: Sandstone
 Instruments: Benioff variable reluctance seismometers with three component long and short period paper recorders.
 $T_g = 75$ sec. and $T_g = 0.2$ sec. respectively

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A_n	A_e	A_z		
May ✓ 1	iP	NEZ	07 25 41			+	3500 USCGS: $1\frac{1}{2}$ S, $135\frac{1}{2}$ E Western New Guinea	
	i	Z	25 54					
	i	Z	26 12					
	i	Z	26 30					
	i(PP)	N Z	26 40					
	i	Z	32 00					
	e	E	32 08					
	i	N	33 20					
	eL	N	35 36					
	eL	E	35 50					
	e	E	36 28				Z Long period missing	
✓ 1	eP	NEZ	08 51 41				3650 USCGS: 5S, 154E Solomon Islands (h about 60 km.)	
	e	Z	51 47					
	e	NEZ	52 13					
	i	N	52 36					
	e	N	58 38					
	i	N	58 54					
	e	E	09 01 48					
	e	Z	02 24					
	1	iP	NEZ	15 03 30				
		i	Z	03 55				
	i	Z	03 57					
	i	NEZ	04 00					
1	iP	NEZ	23 08 01			-		
	i	N	08 44					
	i	E	08 09					
	i	E	08 13					
2	iP	NEZ	04 44 32					
	i	Z	45 25					
2	iP	NEZ	10 16 10			+		
	iP	NEZ	23 08 07			+		
	i	E	08 45					
3	iP	NEZ	03 08 06.5			-	3600 USCGS: $10\frac{1}{2}$ S, $161\frac{1}{2}$ E Solomon Islands	
	i	Z	09 17					
3	eP	NEZ	13 41 04					
3	iP	NEZ	15 32 00					
3	iP	NEZ	17 14 11					
3	iP	NEZ	18 40 55				4750 USCGS: Sunda Strait	
	i	Z	41 09					
	i	NE	41 11					
	ePP	Z	42 35					
4	iP	Z	04 57 29					
✓ 4	iP	NEZ	07 28 38			+	9950 USCGS: $52\frac{1}{2}$ N, $159\frac{1}{2}$ E East coast of Kamchatka h about 60 km. No long period vertical record	
	i	N	28 54					
	i	Z	29 09					
	i	N	29 25					
	i	EZ	29 41					
	i	NE	29 44					
	i	N	29 48					
	i	NE	29 56					

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A _n	A _e	A _z		
May 4 (cont.)	i N	30 26						
	i E	30 44						
	i(PP) N	32 20						
	i E	32 36						
	iSKS N	38 56						
	iS NE	39 24						
	i(SP) NE	40 14						
	i(PS) N	40 44						
	i E	41 14						
	i E	43 21						
	iPKKP N	45 50						
	iPKKS N	49 30						
	i E	53 09						
	i N	54 17						
	eP'P' Z	54 27						
eL NEZ	58							
eP'P'P' Z	08 15 09							
i NEZ	15 23							
4 iP NEZ	10 26 57							
i Z	26 59							
4 iP E	15 22 59							
4 eP NEZ	16 33 02							
✓ 4 iP Z	17 30 31				-	8600	USCGS: 29N, 92E, Tibet.	
4 iP NEZ	22 51 54				-	4450	USCGS: Fiji Islands	
i Z	51 58							
i EZ	52 04							
✓ 5 eP Z	19 17 19					10000	USCGS, 53N, 159E, Kamchatka off shock.	
6 iP NEZ	06 14 39							
i Z	14 46							
i Z	14 48							
i Z	14 52							
i Z	14 58							
✓ 6 iP NEZ	17 36 20					4550	USCGS: 18S, 179W, Fiji Islands h about 600 Km.	
i EZ	36 23							
i EZ	36 48							
6 iP NEZ	18 59 04					3700	USCGS: 3S, 128E, Ceram Island	
i NE	59 16							
i E	19 00 35							
i N	00 43							
e N	05 36							
e NE	06 00							
e Z	06 34							
i E	08 10							
e E	09 33							
6 iP N Z	20 00 50							
✓ 7 iP NEZ	00 10 02					3650	USCGS: 3S, 148 1/2 E, Bismarck Sea.	
i Z	10 27							
e N	11 06							
i Z	11 15							
i E	11 40							
i Z	15 26							
eS N	15 30							
e E	15 40							
eL NE	17 28							
eL N	17 50							
e Z	20 00							
i E	24 56							
i N	28 15							
7 iP NEZ	09 10 23				-	3650	USCGS: 3 1/2 S, 149 1/2 E, Bismarck Sea.	

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A _n	A _e	A _z		
May 7	iP NEZ	10 18 16				-		
7	iP NEZ	10 36 54				-		
✓ 7	iP NEZ	11 23 54				-	3650	USCGS: 3 1/2 S, 150E, Bismarck Sea.
	i N	24 01						
	i E	24 05						
✓ 7	iP NEZ	20 28 51				+	3350	USCGS: 8 1/2 S, 123 1/2 E, Flores Islands.
	i N Z	28 58						
	i N	29 23						
	i Z	29 30						
	i Z	29 46						
	i Z	30 04						
	i Z	30 19						
	i Z	31 44						
	eL NE	34 35						
	eL Z	34 41						
	e E	37 22						
	e N	38 02						
7	iP NEZ	23 43 47				+		
	e NEZ	49 56						
✓ 8	iP NEZ	11 47 47				+	10050	USCGS: 53 1/2 N, 160 1/2 E, Near east coast of Kamchatka h about 60 Km.
	i Z	47 51						
	i E	47 53						
	i E	48 16						
8	iP NEZ	23 44 29.5						
	i Z	44 39.5						
9	iP NEZ	08 48 16.5						
	i Z	48 20						
	i E	48 23						
	i N Z	48 29						
	i Z	48 42						
	i Z	49 40						
10	iP NEZ	00 09 14					8950	USCGS: 45N, 149E, Kurile Islands.
10	eP NEZ	05 07 09						
10	eP NEZ	09 03 12						Local Tremor
	iS NEZ	03 34						
10	iP NEZ	23 05 25				+		
11	iP NEZ	13 23 28				-		
11	iP NEZ	14 33 04				+		
✓ 11	eP Z	16 41 48				+	10050	USCGS: 53 1/2 N, 160E. Kamchatka, slightly deeper than normal.
✓ 12	eP NEZ	05 10 50					10300	USCGS: 54 1/2 N, 168E, Komandorskie Islands.
	iSKS N	21 24						
	iS E	21 54						
	ePS N	23 13						
	e E	24 04						
	eL Z	41 23						
	eL NE	37-						
12	iP NEZ	08 12 15					3550	USCGS: 9 1/2 S, 159E, Solomon Islands h about 100 Km.
	i Z	12 24						
	i E	12 36						
	i E	12 47						
	eL NE	22 04						
	eL Z	23 10						
12	ePKP NEZ	10 05 39					13000	USCGS: 23 1/2 S, 64 1/2 W, Salta Province, Argentina. Mag. 6 3/4 (Pas.)
	ePP Z	06 52						
	e Z	16 03						
	eL N	44 06						
	eL Z	44 27						
	eL E	45 36						

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A _n	A _e	A _z		
May 12	eP	NEZ	23 50 50					
13	iP	NEZ	01 07 59				4100	USCGS: 17S, 175E, Fiji Islands region.
	i	E	08 07					
	i	N	08 14					
13	iP	NEZ	10 00 25				5350	USCGS: Samoa Islands region.
14	iP	EZ	00 57 41					Maintenance from 0154 - 0657 Not operating during this period
	i	N Z	57 50					
	i	E	57 54					
	i	Z	58 03					
	i	Z	58 13					
14	iP	NEZ	08 24 37				3500	USCGS: 7S, 154 1/2 E, Solomon Is. h about 100 Km.
14	iP	NEZ	09 39 57				3550	USCGS: 19S, 170E, New Hebrides.
	eL	NE	47 40					
	eL	Z	49 44					
14	iP	NEZ	09 51 04					
14	eP	NEZ	10 48 17				3550	USCGS: 19S, 170E. New Hebrides Is. h about 100 Km.
14	iP	NEZ	11 55 41				3550	USCGS: 19S, 170E, New Hebrides Is. h about 100 Km.
	e	E	12 01 16					
	eL	N	03 08					
	e	Z	04 36					
14	iP	NEZ	13 25 51				3550	USCGS: 19S, 170E, Loyalty Islands. h about 150 Km.
	e	Z	26 06					
	e	N	31 34					
	e	NEZ	34 04					
14	iP	NEZ	17 41 23					
	i	Z	41 38					
15	iP	NEZ	06 44 22				-	
15	iP	NEZ	08 48 01				-	
	i	Z	48 51					
	i	N	48 53					
	e	NE	54 08					
	e	Z	54 06					
15	iP	NEZ	09 28 37				-	
15	iP	NEZ	15 31 15				-	
16	iP	NEZ	00 06 10				-	
16	iP	NEZ	06 22 57				+ 3700	USCGS: 4 1/2 S, 153 1/2 E New Britain Mag. 6 - 3/4 (Pas.) h about 60 Km.
	epP	N Z	23 13					
	i	E	23 15					
	i	Z	23 24					
	i	Z	23 44					
	i	Z	23 56					
	i	N	24 44					
	i	Z	25 13					
	i	E	26 39					
	i	N	26 43					
	i	Z	25 48					
	e	Z	27 47					
	eS	N	28 04					
	iS	E	28 09					
	iPcS	N	29 26					
	eL	NEZ	30--					
16	iP	NEZ	14 30 09					
	i	Z	30 13					
	i	E	30 20					
	i	N Z	30 28					

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A _n	A _e	A _z		
May 17	iP Z	01 34 17						
17	iP Z	16 32 56						
17	iP NEZ	17 18 22						
18	iP NEZ	06 14 57				350	USCGS: 36S, 148E, Southeastern Australia. Felt in N.S.W. and Victoria. Epicentre Berridale.	
18	iP NEZ	17 08 42						
18	iP NEZ	19 06 24				3350	USCGS: Near North Island, New Zealand	
19	iP NEZ	07 59 42				5650	USCGS: 13N, 120 1/2 E, Phillipine Is.	
19	iP Z	15 31 05				- 10500	USCGS: 33N, 68 1/2 E, Eastern Afghanistan.	
19	iP Z	23 41 24						
20	iP Z	12 47 21						
20	iP NEZ	19 47 16				8900	USCGS: 44 1/2 N, 149E Kurile Islands.	
	i Z	47 31						
	i N	47 33						
21	iP NEZ	11 29 40					Local	
	i Z	30 22						
	iS EZ	30 35						
	i NE	30 40						
21	iP NEZ	12 18 11						
22	iP NEZ	07 03 02.5				3350	USCGS: 40S, 176E, North Islands, New Zealand	
	i E	03 13						
	ipP NEZ	03 17						
	i Z	03 51						
	i Z	04 11						
	e Z	06 12						
	e N	06 17						
	e Z	09 45						
22	iP NEZ	08 42 38				8100	USCGS: 25 1/2 N, 95 1/2 E, Northern Burma.	
22	iP NEZ	10 14 42						
22	iP NEZ	14 29 32						
22	iP NEZ	16 47 55						
23	iP NEZ	10 15 17.5						
23	iP NEZ	21 31 57						
24	iPKP ₁ NEZ	00 29 27				17150	USCGS: 19 1/2 N, 64 1/2 W, Puerto Rico Region.	
	iPKP ₂ Z	29 41						
	i NEZ	29 44						
24	iP NEZ	04 46 08				4450	USCGS: 20 1/2 S, 179W, Fiji Islands region h about 700 Km.	
	i EZ	46 11						
	i E	46 14						
	i N	46 15						
24	iP NEZ	11 40 09.5				8500	USCGS: 26 1/2 N, 90 1/2 E, Bhutan-India border	
24	iP NEZ	13 45 05						
	i N	46 01						
	e Z	46 11						
	e Z	51 34						
24	iPKP NEZ	19 36 40				14200	USCGS: 17 1/2 N, 97W, Oaxaca, Mexico h about 100 Km.	
	i Z	36 42						
	ipPKP Z	37 02						
	ePP EZ	38 42					Mag. 6 3/4 - 7 (Pas.),	
	i NE	39 58					6 3/4 (Berk)	
	i(PKS) E	40 18						

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A _n	A _e	A _z		
May 24 (cont.)	e	E	45 36					
	e	E	48 46					
	o	Z	49 24					
	e	Z	53 19					
	e	N	54 44					
	eL	Z	20 16 28					
	eL	E	17 30					
	eL	N	19 42					
25	iP	NEZ	05 11 06.5				4450	USCGS: Fiji Islands region
	i	N	11 08					
	i	Z	11 10					
	i	N	11 12					
	i	Z	11 14					
25	iP	NEZ	13 33 43					Local
	e	E	34 43					
	i	N	34 45					
	i	Z	34 52					
25	iP	NEZ	19 31 53					
	i	Z	31 58					
26	iP	NEZ	04 23 19				7050	USCGS: 27 1/2 N, 126 1/2 E, Ryukyu Islands region h about 100 Km.
	i	N	23 25					
	i	Z	23 27					
	i	Z	23 43					
	i	E	23 50					Mag. 6 1/2 - 6 3/4 (Pas.)
	i	Z	25 13					
	iS	N	31 43					
27	iP	NEZ	01 21 50					Local - felt at Cummins
	iS	NEZ	22 20					
27	eP	NEZ	05 02 53				7550	USCGS: 33N, 141E, South of Honshu, Japan.
27	iP	NEZ	06 04 45					Local. Felt at Cummins, S. Aust.
	eS	NEZ	05 13					
27	eP	Z	13 59 59				6450	USCGS: 20 1/2 N, 120 1/2 E, Formosa.
27	iP	NEZ	16 27 59				-	
	i	Z	28 08					
27	iP	NEZ	22 04 18				5550	USCGS: 13N, 124 1/2 E, Luzon Island, Phillipine Islands.
28	iP	NEZ	04 39 43				+	
28	iP	NEZ	15 23 25				-	5000 USCGS: 13N, 124E, Luzon Island, Phillipine Islands.
28	iP	NEZ	17 57 58					
	e	NEZ	58 58					
28	iP	NEZ	22 33 30				3450	USCGS: 4S, 141 1/2 E, New Guinea. h about 100 Km.
	i	Z	33 54					
	e	E	34 47					
	e	E	35 01					
28	iP	NEZ	22 42 56					
	i	NEZ	43 19					
	i	Z	44 31					
	i	Z	44 54					
	i	NE	47 26					
	i	NEZ	47 48					
	i	N Z	47 57					
29	iP	NEZ	10 49 01				-	3550 USCGS: 19S, 169 1/2 E, New Hebrides Is h about 100 Km.
	ipP	Z	49 30					
	iPP	EZ	50 02					Mag 6 1/2 (Pas.)
	i	Z	50 30					
	iS	NEZ	53 59					
	e	N	54 17					

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A _n	A _e	A _z		
May 29 (cont.)	i(sS) E	54 34						
	eL NE	56 00						
	eL Z	57--						
30	iP NEZ	07 23 46			-			
30	iP NEZ	18 25 00						
	i Z	25 14						
	i E	25 18						
30	iP NEZ	21 47 28						
30	eP NEZ	22 29 10						
31	iP NEZ	04 54 48						
31 ✓	iP NEZ	09 34 45			-			
	i N Z	34 51						
	i N	34 57						
	i NE	35 45						
	e Z	35 52						
	i Z	36 56						
	i E	36 10						
	e E	39 52						
	i N	40 02						
	i E	42 12						
	i N	42 22						
	i Z	42 44						
	i Z	43 53						
	eL NE	45 00						
	eL Z	46 34						
31	iP NEZ	11 00 03			+			
31	iP NEZ	15 29 56.5			-			
	i Z	30 00						
	i E	30 14						
31	eP NEZ	16 39 10						
	i E	39 18						
	i E	39 25						
31	eP NEZ	17 51 37				3700	USCGS: 6S, 156 1/2 E, Solomon Islands.	
	i NEZ	51 43						
31	iP Z	17 58 10						
31	iP NEZ	19 02 33			+			

UNIVERSITY OF ADELAIDE SEISMOLOGICAL STATION
ADELAIDE (MT. BONYTHON)

Latitude: $34^{\circ} 58.1'S$ Longitude: $138^{\circ} 42.9'E$
 Height above sea level: 650 metres (approximately)
 Foundation: Sandstone
 Instruments: Benioff variable reluctance seismometers with three component long and short period paper recorders.
 $T_g = 75$ sec. and $T_g = 0.2$ sec. respectively

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A_n	A_e	A_z		
June 1 ✓	iP	NEZ	12 38 22			+	3550	USCGS: 6S, 154E, Solomon Is. region. h about 400 Km.
	i	NEZ	39 40					
	i	Z	39 47					
	iS	NEZ	43 05					
1 ✓	iP	NEZ	15 44 36			-		
1 ✓	iP	NEZ	17 13 51			+	3600	USCGS: $6\frac{1}{2}S$, $155\frac{1}{2}E$ Solomon Is. h about 100 Km.
	i(PP)	NEZ	14 56					
	i	EZ	16 20					
	eL	NEZ	22 08					
1 ✓	iP	NEZ	19 32 46			+		
2 ✓	eP	NEZ	00 58 10				7450	USCGS: 32N, 131E, Kyushu, Japan.
	i	NEZ	58 19					
2 ✓	iP	NEZ	02 03 33			+	4350	USCGS: Off south coast of Minaha North Celebes. h about 200 Km.
	i	NEZ	05 00					
2 ✓	iP	NEZ	02 47 41				6500	USCGS: 21N, 121E Batan Islands region.
	iS	N	55 42					
	iPS	N	56 04					
2 ✓	eP	NEZ	03 39 32				4450	USCGS: $25\frac{1}{2}S$, 176W. Tonga Islands region.
	e	NEZ	45 10					
2 ✓	iP	NEZ	03 59 45				4440	USCGS: $25\frac{1}{2}S$, 176W, Tonga Islands region
	eL	NEZ	04 14 40					
2 ✓	iP	NEZ	05 07 14			-	6500	USCGS: 21N, $121\frac{1}{2}E$, Batan Islands region
	i	Z	07 18					
	e	Z	07 22					
2 ✓	iP	NEZ	05 52 31				6550	USCGS: $21\frac{1}{2}N$, $121\frac{1}{2}E$, Batan Islands region.
2	iP	NEZ	15 34 38			-		
2	iP	NEZ	17 23 57.5			-	3250	USCGS: South Island, New Zealand.
4 ✓	iP	NEZ	01 58 56					
4	iP	NEZ	02 47 14					
4	iP	NEZ	03 38 11					
4	iP	Z	19 37 34.5					
5	iP	NEZ	06 04 54				3550	USCGS: 7S, $155\frac{1}{2}E$, Soloman Is. h about 150 Km.
5	iP	NEZ	09 38 47			-		
5	iP	NEZ	17 52 34			+		
5	iP	NEZ	18 36 38			-	4450	USCGS: $3\frac{1}{2}N$, $126\frac{1}{2}E$, Molucca Passage.
5	iP	NEZ	19 48 37.5					
6	iP	Z	08 37 50					
6	eP	Z	11 25 47					
6	iP	NEZ	20 19 29					Local
	iS	NEZ	19 58					
6	eP	NEZ	20 57 52				3600	USCGS: $6\frac{1}{2}S$, $155\frac{1}{2}E$, Solomon Is.

Date- 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A _n	A _e	A _z		
7	eP Z	00 59 30						
7	eP NEZ	03 53 56				5200	USCGS: 10 $\frac{1}{2}$ N, 126E, Samar Island, Phillipine Islands.	
7	iP NEZ	08 43 07			+	5450	USCGS: Samar, Phillipine Islands.	
	i Z	43 18						
7	iP NEZ	12 33 55			+			
	i Z	34 26						
	e NEZ	34 34						
8	eP NEZ	01 14 21						
8	eP NEZ	07 46 10						
8	eP Z	09 51 16				3650	USCGS: About 150 miles south of east Java.	
8	iP NEZ	11 14 49.5			-			
	e Z	14 55						
8	iP NEZ	11 40 24.5			+			
	i Z	40 41.5						
9	iP NEZ	13 42 09						
9	iP NEZ	13 48 41.5			-			
9	iP NEZ	15 00 16			-	3800	USCGS: 33S, 179 $\frac{1}{2}$ W, Kermadec Islands region.	
	i NEZ	00 30						
	e NEZ	00 50						
	e NEZ	02 28						
	i NEZ	06 14						
	e NEZ	08 04						
9	iP NEZ	23 23 09				9050	USCGS: 59S, 7 $\frac{1}{2}$ W, About 500 miles southwest of Bouvet Island.	
10	e(PKP)NEZ	04 35 09				14250	USCGS: 36N, 23E, Crete.	
	i NEZ	37 08						
10	iP NEZ	09 58 56			-	5700	USCGS: 13 $\frac{1}{2}$ N, 120E, Mindoro, Phillipine Is. h about 100 Km.	
	e N Z	59 20						
10	iP NEZ	10 57 20.5			-	4450	USCGS: 20 $\frac{1}{2}$ S, 179W, South of Fiji I. h about 600 Km.	
10	iP NEZ	13 13 52						
11	iP NEZ	00 02 06			-	4150	USCGS: 24 $\frac{1}{2}$ S, 179W, Tonga Islands region.	
	i NEZ	02 19						
	i NEZ	02 35						
	i NEZ	02 43						
	i NEZ	03 10.5						
11	iP NEZ	01 17 17			-	4550	USCGS: 23 $\frac{1}{2}$ S, 176W, Tonga Is. region	
11	eP N	13 12 49						
13	eP Z	16 25 17						
13	eP Z	23 55 26						
14	iPKP NEZ	00 30 43				13200	USCGS: 20 $\frac{1}{2}$ S, 68W, Southwestern Bolivia h about 100 Km.	
	iPP NEZ	31 58						
	i NEZ	32 43						
	eSKS N	37 20						
	e(S) NEZ	39 46						
	ePKKP Z	41 02						
	i(SP) Z	41 36						
	i(PS) N	41 46						
	i N	42 30						
	i NE	44 04						
	e(SS) E	48 10						
	i Z	48 52						
	i N	49 06						

Date 1959	Phase		Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
June 14 (cont.)	e	NE	51 36						
	i	E	53 44						
	eL	NE	01.0						
	eL	Z	07.0						
14	iP	NEZ	05 58 43						
	i	NEZ	06 00 13						
14	eP	NEZ	08 17 05				3500	USCGS: Ceram Sea.	
	i	NEZ	17 12						
14	eP	NEZ	15 05 10				4950	USCGS: 20S, 173½W, Tonga Islands	
14	iP	NEZ	17 22 25						
14	eP	NEZ	20 58 15						
14	iP	NEZ	21 09 28				4200	USCGS: 23½S, 179½W, Tonga Islands region.	
	i	Z	09 55						
	i	Z	14 37						
	i	N	14 47						
15	iP	NEZ	02 49 08				6900	USCGS: 25N, 122½E, Near northeast coast of Formosa.	
	i	Z	49 35						
16	iP	NEZ	03 37 16						
16	iP	NEZ	08 20 31.5						
	i	E	20 36						
	i	Z	20 56						
	i	Z	21 29						
	i	N	21 40						
16	iP	Z	17 54 19.5						
16	iP	Z	20 24 58						
17	iP	N Z	01 38 10.5						
17	iP	NEZ	10 50 15				3500	USCGS: 3S, 135½E, Western New Guinea.	
	i	N	50 18						
	i	E	50 20						
	i	Z	50 22						
	i	Z	50 25						
	i	N	50 55						
	i	Z	50 56						
	i	E	51 16						
	i	Z	51 20						
	i	E	51 23						
	i	Z	51 36						
	i	N	56 42						
	e	NEZ	11 00 36						
	17	iP	NEZ	13 29 22.5					
17	iP	NEZ	20 52 35				3800	USCGS: 12½S, 167½E, Santa Cruz Is. h about 200 Km.	
	i	E	53 24						
	i	Z	53 26						
	i	Z	53 40						
	iS	NEZ	57 43						
18	iP	NEZ	12 29 09					Local Earthquake	
	iS	NEZ	29 58						
18	iP	NEZ	15 44 31				10100	USCGS: 54N, 160E. Near east coast of Kamchatka. Mag. 6¼ - 6½.	
	i	Z	44 35						
	i	Z	44 59						
	ePP	Z	48 16						
	iS	NE	55 26						
	i	N	55 38						
	eL	E	16 10-						
	eL	N	12-						
	eL	Z	17-						

Date 1959-	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
				A _n	A _e	A _z		
June 18	iP Z eL NEZ	16 11 44 38-					10150	USCGS: 54N, 161E, Near East Coast of Kamchatka. Mag. $6\frac{1}{2} - 6\frac{3}{4}$.
19	iP NEZ	10 46 47				+		
19	iP N Z i N	14 54 37 55 37						
19	eP NEZ iS NEZ	22 34 48 35 28						Local Earthquake.
20	iP NEZ	09 30 18						
20	iP Z	15 31 13						
20	iP N Z	15 35 24						
20	iP NEZ	16 37 03						
21	eP NEZ	03 34 49.5					3650	USCGS: 3S, 146E, Bismarck Sea. Local Earthquake.
21	eP NEZ iS NE i Z	03 38 19 39 03 39 07						
21	eP NEZ	05 54 03					3600	USCGS: $4\frac{1}{2}$ S, $151\frac{1}{2}$ E, New Britain.
21	iP Z i N i Z	11 21 17 21 19 21 21				+	5050	USCGS: 17S, $174\frac{1}{2}$ W, Tonga Islands region.
21	iP NEZ i N	14 20 38 20 49					4150	USCGS: 0, 124E, Northern Celebes region.
21	iP NEZ	22 18 40.5					3900	USCGS: $11\frac{1}{2}$ S, 167E, Santa Cruz Is.
21	iP NEZ	23 32 57				+	4100	USCGS: 29S, 178W, Kermadec Islands.
21	eP NEZ i Z e NEZ	23 51 26 52 46 57 03						
22	iPKP Z	03 41 57					14000	USCGS: 4S, 81W, Near coast of Northern Peru.
22	eP NEZ	10 44 36 44 43						
22	eP N Z	12 27 53						
22	iP NEZ i E	14 14 48 14 51				-	4800	USCGS: 17S, 177W, Fiji Islands.
23	iP N Z	02 57 07						
23	eP Z	13 47 02						
25	iP NEZ	04 33 30						
25	eP Z	07 06 49					16800	USCGS: 62N, $27\frac{1}{2}$ W, South of Iceland.
25	iP NEZ i NEZ i Z	14 41 15 41 21 41 27				+	3600	USCGS: 5S, 152E, New Britain. h about 150 Km.
25	eP NEZ iS NEZ	18 03 04 04 02						Local Earthquakes.
26	iP N Z	04 44 12						
26	eP NEZ i Z	05 31 23 33 44						
26	iP N Z	14 04 34						
26	iP NEZ i Z	22 32 22 32 26				+	4850	USCGS: 17S, $176\frac{1}{2}$ W, Fiji Islands. h about 350 Km.
26	iP NEZ i Z	23 11 07 11 11				+		

Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
				A _n	A _e	A _z		
June 27	iP NEZ	16 32 48				+		
27	eP NEZ	17 43 50						
27	iP NEZ	19 11 09				+	3900	USCGS: 33S, 179W, South of Kermadec Islands. h about 100 Km.
	ipP EZ	11 48						
	isP Z	12 02						
	iPP EZ	12 26						
	i Z	12 49						
	e(sPP) Z	13 04						
	e E	13 08						
	iPcP NEZ	13 43						
	i Z	14 13						
	e N Z	14 40						
	i N	15 42						
	iS NEZ	16 22						
	i NEZ	17 09						
	i NEZ	17 31						
	eLQ NE	18 20						
	eL Z	18 40						
	iScS NE	21 11						
27	iP NEZ	19 24 43					10450	USCGS: 42N, 80E, China - U.S.S.R. Border.
	i Z	25 01						
28	iP NEZ	07 52 14						
28	iP NEZ	09 56 44.5				-		
28	iP NEZ	19 49 30					3250	USCGS: 9 1/2 S, 122 1/2 E, Sawoe Sea.
	i NE	50 00						
	i Z	50 08						
	i NE	50 18						
	i E	50 30						
	i EZ	50 45						
	i E	50 48						
	i Z	51 29						
	i N	52 54						
	iS N	54 44						
	iS E	55 02						
	i N	55 23						
	i N	55 35						
	i N	55 48						
	i Z	56 30						
	e NEZ	20 00 38						
28	iP NEZ	21 44 06				+		
29	iP NEZ	07 22 31					3550	USCGS: 7S, 155 1/2 E, Solomon Is. Mag. 6 - 6 1/4 . (Pas).
	iS NE	27-36						
	e NE	28-40						
	eL NEZ	30-						
29	iP NEZ	13 27 31.5				+	4700	USCGS: 6N, 126 1/2 E, Near south coast of Mindanao P.I. h about 150 Km.
	i N Z	28 00						
	ePP Z	29 06						
	i Z	29 24						
	i Z	33 07						
	eS NE	33 38						
29	iP NEZ	14 27 21				-		
	i Z	27 31						
	i E	27 36						
	i N Z	27 43						
30	iP NEZ	00 09 50				-		
30	iP NEZ	10 30 14				-	3800	USCGS: 34S, 179W, Kermadec Islands.
	i Z	30 23						
	i E	30 29						
	i Z	31 00						
30	eP Z	13 33 32				+	7250	USCGS: 30N. 131E. RvuKvu Islands.

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59

Latitude: $34^{\circ} 58.1'S$ Longitude: $138^{\circ} 42.9'E$
 Height above sea level: 650 metres (approximately)
 Foundation: Sandstone
 Instruments: Benioff variable reluctance seismometers with three component long and short period paper recorders.
 $T_g = 75$ sec. and $T_g = 0.2$ sec. respectively

210

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks		
					A_n	A_e	A_z				
1	July	1	iP NEZ ipP Z i(P) NEZ iS NE i N Z i(SP) N iScS NE	02 37 22 39 13.5 39 46 45 08 45 22 45 42 46 23				+	7100	USCGS: 28N, 139 $\frac{1}{2}$ E, Bonin Islands h about 550 Km, Mag. 6.	
2		1	iP Z	05 43 03				-			
3		1	iP NEZ i N Z	08 36 09.5 37 35				+			
4		1	iP NEZ	11 42 47				-			
5		1	iP NEZ	20 06 33.5				-			
6		2	iP NEZ	11 34 33				-	4550	USCGS: 20S, 178 $\frac{1}{2}$ W, Fiji Is. h about 650 Km.	
7		2	iP NEZ	11 41 08					4550	Ditto	
8		3	iP NEZ ipP Z i Z i(S) E i(PcS) NEZ eL	18 02 12 02 54 05 25 07 48 08 34 12.0					3950	USCGS: 16S, 172 $\frac{1}{2}$ E, New Hebrides h about 200 Km.	
9		4	eP N Z	01 47 05							
10		4	eP NEZ	02 00 55							
11		4	iP NEZ	05 01 42				-	4400	USCGS: 24 $\frac{1}{2}$ S, 177W, Tonga Is. h about 100 Km.	
12		4	iP NEZ	08 28 36.5							
13		4	eP NEZ	13 39 52							
14		4	iP	17 35 54							
15		5	eP NEZ	14 11 51					3350	USCGS: 6S, 147E, New Guinea	
16		6	iP NEZ i Z	03 54 59 55 18							
17		6	eP NEZ i Z	06 31 48 32 07					3700	USCGS: 14 $\frac{1}{2}$ S, 168 $\frac{1}{2}$ W, New Hebrides.	
18		6	iPKP NEZ i Z i(P) Z i Z iPKKP Z i Z i Z eSKKKS E	09 27 56 28 07 29 15 29 37 38 32 38 35 40 54 48 17				-	12800	USCGS: 26 $\frac{1}{2}$ S, 61 $\frac{1}{2}$ W Argentina Mag. $6\frac{1}{2}$, h about 600 Km.	

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
19	July 6	iPKP NEZ i Z iPKKP ₁ Z 2 Z i Z iSKKKS E	09 41 07 41 16 51 42 51 49 54 02 10 01 27				-	12800	
20	6	eP Z	12 04 11						
21	6	iP NEZ	15 19 52						
22	7	iP NEZ	12 23 29				-		
23	8	iP NEZ	06 34 34						
24	8	iP NEZ iPP Z e E e E e E	13 10 14 11 18 16 38 18 24 20 15					3400	USCGS: 5S, 134E Aroe Islands.
25	8	iP NEZ i N Z	20 51 55 52 49						
26	9	iP NEZ	00 44 35						
27	9	iP Z	04 30 28.5						
28	9	eP NEZ	09 15 48					5300	USCGS: 15S, 173W Samoa Islands
29	9	eP NEZ	10 23 49					3300	USCGS: 9S, 153E, D'Entrecasteaux
30	9	eP N Z	15 36 43						
31	9	ePKP NEZ ePP Z e(PKKP ₁)Z iPKKP ₂ Z e(SKKP) Z	16 24 02 25 17 34 19 34 48 38 15					13150	USCGS: 20 1/2 S, 68W, Chile Bolivia Border h about 100 Km. Mag. 6 3/4.
32	9	iP NEZ	23 50 37						
33	10	iP NEZ	02 20 49					4250	USCGS: 27 1/2 S, 177 1/2 W, Kermadec Is
34	10	eP N Z	16 01 54						
35	10	eP N Z	17 58 04						
36	11	eP NEZ	04 57 53					3500	USCGS: 18 1/2 S, 169E, New Hebrides
37	11	iP NEZ i Z i(PP) Z iS NEZ iScS N eL NEZ	12 10 25.5 11 10 12 15 17 32 20 21 24					5450	USCGS: 36S, 78E, Indian Ocean Mag. 6 1/4.
38	11	iP NEZ	16 07 56						
39	11	iP NEZ	18 55 09				+		
40	12	iP NEZ i Z	00 19 57 20 02					3550	USCGS: 8 1/2 S, 157 1/2 E, Solomon Islands.
41	12	iP NEZ iS NE	00 31 34 37 17				+	4650	USCGS: 19 1/2 S, 177 1/2 W, Fiji Is. h about 400 Km, Mag. 6 1/4.
42	12	iP NEZ	05 33 36						Seismic?
43	12	eP NEZ	08 47 05						
44	12	iP NEZ	12 49 33				+		
45	12	eP NEZ	18 25 35						
46	13	iP NEZ	04 42 31						USCGS: Sumbawa region.

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
47	July 13	iP Z ePP Z	12 42 17 46 17					10700	USCGS: 52N, 172½ W, Aleutian Is. Mag. 6.
48	13	eP Z	13 27 09						
49	13	iP NEZ i(ScP) EZ	15 31 10 36 28			-		4050	USCGS: 25½ S, 180 Kermadec Is. h about 500 Km.
50	13	i(P) Z	16 40 56						
51	14	iP NEZ iPcP Z	13 07 19 09 47					3950	USCGS: 16½ S, 173E, New Hebrides, h about 100 Km.
52	14	iP NEZ	18 21 33					4550	USCGS: 21S, 177W, Tonga Is.
53	14	i(P) Z	18 26 53						
54	14	iP NEZ	22 38 51					4400	USCGS: ½ N, 120E, Celebes
55	14	iP NEZ	23 34 26						
56	15	iP NEZ iS NEZ	12 27 57 12 28 35						Local
57	15	eP NEZ	16 14 19						
58	16	iP NEZ	04 43 00						
59	16	eP NEZ	09 30 00						
60	16	eP NEZ	10 20 43			+			
61	16	eP NEZ	10 57 45						
62	16	eP NEZ	11 28 16			-			
63	16	eP Z	15 30 44			+		10450	USCGS: 50½ N, 177W, Andreanof Islands region.
64	16	eP NEZ	19 20 03					3250	USCGS: 21½ S, 169E, Loyalty Is.
65	17	eP NEZ	07 42 48			-		4900	USCGS: Tonga Islands.
66	17	eP NEZ	12 41 03						
67	17	iP NEZ	16 23 19.5			-			
68	17	iP NEZ	22 26 21			+			
69	18	iP NEZ i N Z i Z i N	07 07 17 07 20 07 37 07 46			-		4350	USCGS: 21½ S, 179W, Fiji Islands region. h about 600 Km.
70	18	eP NEZ i N Z e NE e Z	18 32 03 32 54 37 50 37 56						
71	18	iP NEZ i Z	19 37 22.5 37 40			-		4600	USCGS: Fiji Islands region
72	18	iP NEZ i N ipP Z i E i Z i N i E iScP Z i N i E iS NEZ i Z i Z i N iScS E e Z	20 04 05 04 38 04 44 05 31 05 45 06 08 07 20 09 00 11 19 11 21 11 24 11 25 12 40 13 40 13 41 14 25			-		5950	USCGS: 15½ N, 120E, Luzon. H = 19-55-00 h = .02

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					Δ _n	Δ _e	Δ _z		
72	(Cont.)	eSS NEZ	15 12						
		eSSS NE	17 06						
		i N	20 32						
		eL NEZ	21 -						
		i NE	21 02						
73	July 18	iP NEZ	20 30 46						
74	19	iP NEZ	03 28 42						
		e NEZ	34 40						
75	19	iP NEZ	03 49 56				4650	USCGS: 6 1/2 S, 105E, Sunda Strait.	
		i N Z	50 25						
		i Z	51 52						
76	19	iP NEZ	13 51 23				4050	USCGS: 23 1/2 S, 179E, Fiji Is. region. h about 550 Km.	
		i Z	51 27						
77	19	iPKP NEZ	15 24 47				13600	USCGS: 15S, 70 1/2 W, Peru. h about 200 Km.	
		i Z	24 54						
		iPP N Z	26 25						
		i E	26 34						
		i NE	27 38						
		isPP Z	27 42						
		i Z	28 06						
		e E	28 28						
		i N	28 38						
		eSKS N	31 26						
		eSKKS N	33 02						
		e N	34 38						
		e Z	34 47						
		e NE	36 22						
		e Z	37 13						
		eSKKP Z	38 10						
		i Z	42 22						
		i N	44 52						
		eL E	57 22						
		eL N	16 01 16						
		i N	07 50						
		eL Z	02 34						
78	19	eP NEZ	18 55 05						
79	20	iP NEZ	02 47 48				4400	USCGS: 6S, 110E, Java Sea.	
		i Z	49 29						
		i Z	49 49						
		i Z	52 18						
		i Z	52 48						
		i(S) NEZ	53 04						
		i E	55 40						
		i N	56 24						
		i EZ	56 34						
		e E	58 37						
		i Z	58 53						
		i Z	59 14						
		eL NEZ	59 28						
80	20	eP NEZ	06 15 23						
		i Z	15 31						
81	20	iP NEZ	09 15 04						
82	20	iP NEZ	17 00 02				4050	USCGS: 23 1/2 S, 179E, Fiji Islands region. h about 600 Km.	
		iS NEZ	05 07						
83	21	eP NEZ	00 49 31				3150	USCGS: 9S, 151E, Off coast of eastern New Guinea.	
84	21	iP NEZ	07 49 55						
		eL NEZ	08 01 42						
85	21	iP NEZ	09 37 46				16800	USCGS: 19N, 68 1/2 W, Near north coast of Dominican Republic.	
		i Z	37 55						
		i N	38 08						

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
					A_n	A_e	A_z		
86	July 22	iP NEZ i Z i Z iPP Z i EZ iS NEZ	11 23 03 23 16 23 20 24 35 24 48 28 57				-	4250	USCGS: 2N, 126 $\frac{1}{2}$ E, Molucca Passage.
87	22	iP NEZ i Z	19 36 04 36 15				-	9900	USCGS: 53N, 153E, Sea of Okhotsk. h about 650 Km.
88	22	iP NEZ iS NE eL NE eL Z	23 08 56 14 10 16 50 20 04					3600	USCGS: 5S, 152 $\frac{1}{2}$ E, New Britain. h about 60 Km. masked by microseisms.
89	23	iP NEZ	15 04 18					4450	USCGS: 24 $\frac{1}{2}$ S, 176W, Tonga Is. Region. h about 60 Km. masked by microseisms.
90	24	iP NEZ i NEZ i Z	16 28 54 28 59 29 30				+	8050	USCGS: 24 $\frac{1}{2}$ N, 94 $\frac{1}{2}$ E, India-Burma border.
91	24	iP NEZ	16 35 25				+		
92	24	iP NEZ i NEZ	22 12 16 17 56				-		pronounced microseisms.
93	24	iP NEZ i N i Z i Z iPP N Z iS NE	23 16 00 16 20 16 29 16 50 19 27 26 34				+	9700	USCGS: 56 $\frac{1}{2}$ S, 28 $\frac{1}{2}$ W, Sandwich Islands.
94	25	iP NEZ	09 09 24				+		
95	26	eP NEZ e NEZ	22 48 16 53 53						
96	27	iP N Z	21 42 33						
97	27	eP NEZ i(S) NEZ	23 01 25 01 53						Local Earthquake.
98	28	iP NEZ	11 10 40						
99	28	iP NEZ	17 44 13.5						
100	29	iP NEZ	00 37 56				+	4600	USCGS: 18 $\frac{1}{2}$ S, 178W, Fiji Island. h about 650 Km.
101	29	(iP) NEZ	22 59 37						
102	30	iP NEZ i N i N e Z	13 01 05 01 12 01 25 03 08				-	4050	USCGS: 31 $\frac{1}{2}$ S, 177 $\frac{1}{2}$ W, Kermadec Islands.
103	30	iP NEZ	18 13 14						
104	31	iP NEZ ipP Z	20 46 11 46 52				-	3150	USCGS: 40S, 174E, North Island, New Zealand. h about 200 Km.

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 Latitude: $34^{\circ} 58' 01''$

 Longitude: $138^{\circ} 42' 32''$

Height above mean sea level:

2150'

Foundation: Sandstone

Instruments: Benioff variable reluctance seismometers with three component long and short period paper recorders.

 $T_g = 75$ sec. and $T_g = 0.2$ sec. respectively

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
					A _n	A _e	A _z		
1	Aug. 1	iP NEZ	14 51 22						
2	1	iP NEZ	21 56 19						
3	2	iP NEZ i(S) NEZ	15 54 21 55 28					Local	
4	2	iP Z	20 07 14						
5	2	iP N Z e Z	21 42 01.5 43 26						
6	✓4	iP NEZ	08 09 07				4500	USCGS: $20\frac{1}{2}$ S, 178 W. Fiji Is. region. h about 600 km. Strong short period microseism	
7	✓5	iP NEZ i Z i N Z i N	13 56 36 56 50 56 54 57 24				4700	USCGS: $5\frac{1}{2}$ N, $125\frac{1}{2}$ E Philippine Islands	
8	5	iP NEZ i N	20 01 52 01 59				5450	USCGS: 14 N, 142 E Mariana Islands	
9	6	eP NEZ	01 17 44 17 52						
10	6	iP NEZ	02 32 57						
11	7	iP N Z	10 37 32						
12	9	iP NEZ i N Z	00 02 34 02 42						
13	✓9	iP NEZ i N iPP Z i N i N i E	02 42 09 42 49 43 35 43 38 43 53 44 43				4200	USCGS: 2 N, 128 E Halmahera	
14	9	eP NEZ	09 19 06				5750	USCGS: 17 N, 146 E. Mariana Is.	
15	✓9	iP NEZ i N Z i Z e NEZ	11 29 10 29 59 30 09 35 10						
16	✓9	iP N Z	20 35 54				3550	USCGS: 10 S, 161 E. Solomon Is. h about 100 km.	
17	✓10	iP NEZ i N Z i N i E i Z e NE eS N i E e Z	00 41 23 41 26 41 30 41 48 42 17 45 08 45 20 45 25 46 44				2350	USCGS: $55\frac{1}{2}$ S, 146 E South of Australia	

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
18	Aug. 10	iP NEZ	17 48 04						
19	11	eP NEZ	05 44 22						
		i Z	44 32						
		i Z	44 41						
		i Z	44 49						
		i N	44 56						
		i E	44 59						
20	11	eP NEZ	16 56 22						
21	11	eP NE	21 56 16				3600	USCGS: 11S, 163E, Solomon Is. Strong short period microseisms No short period vertical from 21 47 30 on 11th to 07 16 00 on 12th	
22	12	iP NEZ	10 06 29				4750	USCGS: 16 1/2 S, 177 1/2 W. Fiji Islands region Mag. 6 1/2	
		i Z	07 10						
		i Z	09 48						
		i(SS) NE	16 26						
		eL N	17 30						
		eL Z	20 33						
23	12	iP NEZ	23 04 32						
24	12	eP NEZ	23 48 35						
25	13	iP NEZ	02 38 32						
26	13	iP NEZ	07 07 43						
27	14	iP NEZ	04 46 21				4100	USCGS: 0, 125 1/2 E Molucca Passage	
		i Z	30						
		i EZ	35						
		i Z	40						
		i Z	47 30						
		e Z	48 08						
28	14	eP Z	09 47 53					(N short period missing) Santa Cruz Islands.	
29	14	iP NEZ	21 15 12					(N short period missing)	
30	15	iP NEZ	03 41 34					(N short period missing)	
31	15	iP NEZ	09 07 04				6650	USCGS: 23N, 121E Formosa Mag. 6 3/4 - 7	
		i Z	07 08						
		i N	07 59						
		i Z	08 36						
		i Z	09 00						
		iPP Z	09 20						
		i Z	09 36						
		i Z	10 15						
		iS NE	15 08						
		i Z	15 13						
		iScS NE	16 54						
32	15	iP NEZ	10 58 44						
33	15	i(P) Z	11 05 17						
34	15	eP NEZ	13 22 30				4800	USCGS: 21S, 174W. Tonga Is.	
35	15	iP NEZ	13 30 30						
36	15	iP Z	17 07 54.5						
37	15	iP NEZ	21 37 43				4750	USCGS: 17 1/2 S, 177W, Fiji Is. USCGS: Costa Rica (?)	
38	15	iP Z	23 15 33						
39	16	eP Z	00 12 04						
40	16	iP Z	00 20 59						

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
					A _n	A _e	A _z		
41	Aug. 16	iP NEZ	00 57 53				3350	N Short period missing USCGS: 21S, 169E, Loyalty Islands.	
		iS E	01 02 52						
		e N	05 52						
		eL E	06 26						
		eL Z	06 42						
42	16	eP NEZ	01 31 06				6600	USCGS: 22N, 121E. Formosa	
43	16	iP NEZ	04 03 41						
44	16	iP NEZ	10 00 59				4650	USCGS: 18S, 178W. Fiji Islands h about 350 km.	
		i EZ	01 09.5						
		i Z	01 11						
		i Z	01 46						
45	16	e(P) NEZ	11 14 15				3550	USCGS: 5S, 152E. New Britain	
46	17	iP NEZ	01 09 11					N short period missing	
		i Z	09 15						
		i Z	09 30						
		e EZ	12 41						
47	17	iP NEZ	05 11 49					Local	
		i(S) E	12 59						
		i Z	13 08						
		i E	13 09						
		i E	13 17						
		i E	13 34						
		i Z	13 36						
		i Z	13 42						
48	17	eP Z	08 08 08						
49	17	eP NEZ	08 35 17						
50	17	eP NZ	11 06 15						
51	17	eP NEZ	21 11 06				3500	USCGS: 7½ S, 156E Mag. 7¼	
		i Z	11 17						
		e Z	11 56						
		iPP N Z	12 16						
		i E	12 42						
		i Z	12 46						
		i Z	13 10						
		i E	13 13						
		i E	14 12						
		e E	15 25						
		e Z	16 14						
		iS N	16 16						
		i E	18 26						
		e Z	19 52						
		i Z	22 48						
52	17	iP NEZ	21 19 54					? surface waves for this one or previous one	
53	18	iP NEZ	00 37 02				4200	USCGS: 0, 123E. Northern Celebes h about 200 km.	
		i Z	37 36						
		i N	37 38						
		i Z	37 52						
		iPP NEZ	38 30						
		iS NEZ	42 39						
54	18	iP NEZ	00 43 45						
		i NEZ	44 30						
		e E	44 54						
		i(PP) Z	45 14						
		e Z	51 35						
		e(S) NE	51 40						
55	18	iP Z	05 45 05				3400	USCGS: 22½ S, 172E Loyalty Islands Region	

No.	Date 1959.	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A_n	A_e	A_z		
56	Aug. 18	ePKP NEZ iPP NEZ eSKS E e E e(SPP) Z e E e(SS) N eL	06 56 25 58 28 07 03 36 08 38 09 46 14 34 15 26 30				14050	USCGS: 44 $\frac{1}{2}$ N, 111W. Wyoming Mag. 7.1	
57	18	e EZ	08 15 27						
58	18	iPKP NEZ iPP Z i(SKP) Z ●(SPP) Z	15 45 14 47 13 48 36 58 36					USCGS: 44 $\frac{1}{2}$ N, 111W Yellowstone aftershock	
59	18	eP NEZ e NEZ	22 54 47 55 07						
60	19	eP NEZ e Z e Z e NEZ e E e Z	04 05 36 06 22 06 47 13 08 15 39 16 08						
61	19	eP Z	07 18 22				6550	USCGS: 21 $\frac{1}{2}$ N, 121E South of Formosa	
62	19	i(P) Z	11 41 33						
63	19	eP Z	17 20 32						
64	20	eP NEZ eL Z eL N eL E	02 05 35 17.6 14.0 15.0				3500	USCGS: 10 $\frac{1}{2}$ S, 161E Solomon Islands.	
65	20	iP NEZ i Z i Z i NEZ	02 43 30 43 35 43 49 43 59					Local: Felt Eyre Peninsula	
66	20	eP NEZ	07 56 35						
67	20	iP NEZ eL NEZ	09 01 34 14 06						
68	20	iP NEZ eL NEZ	12 28 52 42 52			-	5650	USCGS: 29S, 78E. Indian Ocean	
69	20	iP NEZ	16 09 33						
70	20	iP NEZ i Z	17 41 53.5 42 25						
71	20	eP NEZ e Z	17 58 54 59 16						
72	20	iP NEZ	18 10 14						
73	20	eP Z	21 53 03						
74	21	iP NEZ	04 44 52			+			
75	21	iP NEZ	06 12 49						
76	21	iP NEZ i Z i Z iS NE i Z eL NE eL Z	08 06 55 07 05 07 53 09 48 10 03 10 34 10 36			-	1700	USCGS: 50 $\frac{1}{2}$ S, 139 $\frac{1}{2}$ E Indian Ocean - South of Australia.	
77	21	iP NEZ	08 09 16						
78	21	iP NEZ	08 20 05						

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					Δ_n	Δ_e	Δ_z		
79	Aug. 21	iP NEZ i N Z iS NE i Z eL NEZ	09 41 28 41 34 44 23 44 36 45 11				-	1700	USCGS: 50 $\frac{1}{2}$ S, 140E
80	21	iP Z	09 54 26						
81	23	eP NEZ	22 41 20				+		
82	24	iP N Z	08 25 01				-		E short period not operating from 0620GMT(24th) until 0643GMT(25th).
83	24	eP N Z	11 09 16						
84	24	eP N Z e N Z	12 57 57 58 48						
85	24	iP N Z i N Z eL N eL Z	15 48 08 48 18 57 06 57 38					3500	USCGS: 10 $\frac{1}{2}$ S, 161 $\frac{1}{2}$ E Solomon Islands foreshock
86	24	iP NEZ i Z i EZ i N Z i N i Z iS NE e E iL NE i Z eL Z	21 37 13 37 26 38 19 38 48 41 38 42 10 42 33 43 44 44 00 44 08 45.0					3550	USCGS: 10 $\frac{1}{2}$ S, 161E. Solomon Is. Mag. 7.
87	24	iP N Z	23 31 14						
88	24	eP N Z	23 38 50						Solomon Islands aftershock.
89	24	iP N Z	23 48 03						E Short period not operating from 0620GMT until 0643GMT (24th) (25th) (Solomon Islands aftershock.)
90	25	iP NEZ	11 51 23						
91	25	iP NEZ iPcP Z	13 46 37 49 25						
92	26	iP NEZ	02 35 53						
93	26	iPKP NEZ iPKS ₁ NE i(PKS ₂) N eL EZ eL N	08 44 45 48 08 48 20 09 29.0 31.1						
94	26	iP NEZ	11 25 06						
95	26	iP NEZ	18 00 39						
96	27	iP NEZ i Z i Z i(PP) Z eS NE e Z	05 11 42 11 44 11 46 13 04 16 28 16 32					3550	USCGS: 5S, 150 $\frac{1}{2}$ E New Britain region h about 300 km.
97	27	iP NEZ ipP NEZ iPP NEZ e(S) N Z	07 57 35 58 15 59 05 08 03 11					4300	USCGS: 0, 122E Northern Celebes h about 200 km.
98	27	eP NEZ	14 06 10						
99	27	iP NEZ	15 04 37						

No.	Date 1959	Phase		Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
						A_n	A_e	A_z		
100	Aug. 28	eP	NEZ	00 04 37						
101	28	eP	NEZ	02 04 04						Local Earthquake
		i	NEZ	04 54						
		i	Z	05 13						
		i	N	05 17						
		i	NEZ	05 19						
		i	Z	05 25						
102	28	iP	NEZ	02 09 32				9300		USCGS: 48N, 155E. Kurile Is.
103	28	iP	NEZ	02 43 08				3500		USCGS: 9S, 158E Solomon Islands h about 150 km.
		e	E	43 25						
		i(pP)	Z	43 34						
104	28	iP	NEZ	15 58 32				3450		USCGS: 17S, 167E New Hebrides
		eS	E	16 03 36						
105	28	eP	NEZ	23 14 38						
		e	NEZ	15 07						
		e	NEZ	20 30						
106	29	eP	NEZ	03 27 36						USCGS: Guada canal
		eL	E	33.5						
		eL	N	35.5						
		eL	Z	42.0						
107	29	eP	NEZ	10 58 54						
108	29	eP	NEZ	13 02 17						No long period records from 12h.20 to 06h. 28 on 30th.
109	29	iP	NEZ	17 16 20				10150		USCGS: 52N, 106 $\frac{1}{2}$ E. U.S.S.R.
110	29	iP	Z	21 26 49				3500		USCGS: 17S, 168E New Hebrides Islands.
111	29	iP	NEZ	23 04 53						
112	30	iP	NEZ	03 44 45						
113	30	iP	NEZ	03 55 51						
114	30	e(P)	Z	18 54 36				3450		USCGS: 23S, 171 $\frac{1}{2}$ E. Loyalty I.
115	30	iP	Z	16 55 09						
116	30	eP	NEZ	21 53 56				5400		USCGS: 36 $\frac{1}{2}$ S, 78 $\frac{1}{2}$ E, Indian Ocean.
		i(PcP)	Z	55 28						
117	31	iP	NEZ	08 38 19						
118	31	eP	NEZ	22 50 34						
		e	NE	52 15						
		e	Z	52 19						

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UNIVERSITY OF ADELAIDE SEISMOLOGICAL STATION
ADELAIDE (MT. BONYTHON)

Latitude: 34° 58' 01"

Longitude: 138° 42' 32"

Height above mean sea level:

2150'

Foundation: Sandstone

Instruments: Benioff variable reluctance seismometers with three component long and short period paper recorders.

 $T_g = 75 \text{ sec.}$ and $T_g = 0.2 \text{ sec.}$ respectively

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
1	Sept	1	eP Z i Z						
2		1	eP NEZ e NEZ						
3		1	ePKP NEZ e Z				17150	USCGS: 20N, 64 1/2 W Puerto Rico	
4		1	eP Z				13550	USCGS: 41 1/2 N, 20E. Albania	
5		1	iP Z						
6		2	iP Z						
7		2	iP NEZ i N Z i E						
8		2	eP NEZ i NEZ						
9		2	eP NEZ						
10		2	iP NEZ						
11		3	iP NEZ i Z iPP Z e Z e Z i E e E i N e E eS N eL NE i E				3750	USCGS: 4 1/2 S, 123E Celebes	
12		3	eP NEZ e NEZ						
13		3	eP NEZ						
14		3	iP NEZ						
15		4	iP NEZ i NEZ i NEZ i N Z					Local	
16		4	iP NEZ i NEZ						
17		4	iP NEZ				3650	USCGS: 4 1/2 S, 152E. New Britain h about 100 km.	
18		4	iP NEZ i(PcP) Z				4100	USCGS: 31 1/2 S, 177W Kermadec Islands.	
19		4	ePKP N Z i Z				15550	USCGS: 1S, 24W, Atlantic Ocean	
20		5	iP NEZ i N Z iPP N Z e Z				4100	USCGS: 1N, 129E Halmahera Island	

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Km.	Remarks
					A _n	A _e	A _z		
20. Cont.	Sept 5	i N	16 59						
		i N	18 12						
		eS N Z	20 32						
		e E	22 50						
		e(SS) N	23 10						
		eL E	28.0						
		eL N	29.6						
		eL Z	30.0						
21	5	eP NEZ	07 06 31				3200	USCGS: 62S, 156E. Balleny Is.	
22	5	iP NEZ	10 45 33						
23	5	eP NEZ	14 28 52						
24	5	eP NEZ	15 35 44						
		e Z	35 59						
25	5	iP NEZ	15 41 56						
		i N Z	42 00						
		i Z	42 19						
		e E	43 12						
		i Z	43 17						
		i N Z	43 20						
		e E	44 08						
		e E	47 40						
		i N	47 46						
		eL E	56.6						
eL N	59.6								
eL Z	59.8								
26	5	iP NEZ	17 05 57						
27	5	iP NEZ	17 32 02						
28	5	iP NEZ	23 12 05				4600	USCGS: 18S, 178 $\frac{1}{2}$ W	
		i Z	12 10					Fiji Islands	
		i Z	12 13					h about 550 km.	
		e E	12 20						
29	6	iP NEZ	00 35 56				4650	USCGS: 5 $\frac{1}{2}$ N, 126 $\frac{1}{2}$ E	
		i Z	36 16					Philippine Islands	
		iPP NEZ	37 35						
		iS NEZ	42 11						
30	6	eP Z	04 17 26				3550	USCGS: 10S, 160 $\frac{1}{2}$ E. Solomon Is.	
31	6	eP NEZ	13 27 02				5550	USCGS: 13 $\frac{1}{2}$ N, 124E	
		i Z	27 29					Luzon	
32	6	iP Z	19 05 25						
33	8	eP NEZ	01 08 35						
34	8	eP NEZ	03 51 48						
35	8	eP NEZ	13 24 01					USCGS: South Atlantic Ocean,	
		i N Z	24 09					about 700 miles east of Bouvet Island.	
36	8	iP NEZ	14 44 12						
37	8	iP Z	16 34 03						
38	8	eP NEZ	20 31 29				9500	USCGS: 58 $\frac{1}{2}$ S, 24 $\frac{1}{2}$ W. Sandwich Is.	
39	9	iP NEZ	04 15 07					Local earthquake	
		iS NEZ	18 39					Felt in Melrose, S. Australia.	
40	9	iP NEZ	11 08 19						
41	9	eP N Z	15 39 25						
42	9	iP NEZ	18 56 11						
43	9	eP NEZ	22 04 10						
44	10	iP NEZ	05 41 35				3550	USCGS: 6 $\frac{1}{2}$ S, 154 $\frac{1}{2}$ E	
		i N Z	41 49					Solomon Islands.	

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
44 cont.	Sept 10	iPcP Z	44 23						
		iS NE	46 42						
		iPcS NE	48 06						
45	10	e(PKP)NEZ	10 42 56						
46	10	eP NEZ	12 38 05						
47	10	iP NEZ	13 15 52					Local earthquake	
48	10	iP NEZ	13 20 06					Local earthquake?	
49	10	iP NEZ	13 35 12					Local earthquake	
		i NE	35 14						
50	10	iP NEZ	14 31 10						
51	10	eP NEZ	16 23 50				3100	USCGS: 9 1/2 S, 151 1/2 E, Near New Guinea. h about 100 km.	
52	10	iP NEZ	17 06 37						
53	10	iP NEZ	18 24 37					Local Earthquake	
54	10	iP Z	23 08 55				9200	USCGS: 47N, 152E. Kurile Island	
55	11	iP NEZ	02 40 06						
56	12	iP NEZ	00 29 42				4650	USCGS: 6S, 106E Near Java. h about 100 km.	
		i NEZ	29 53						
57	12	eP NEZ	02 00 23				3600	USCGS: 3S, 146 1/2 E Bismarck Sea	
		e N Z	00 38						
		iPP N Z	01 26						
		i Z	00 41						
		e Z	05 38						
		iS NE	05 44						
		i E	07 27						
		eL E	07.6						
		eL N	10.5						
		eL Z	11.0						
58	12	eP NEZ	07 08 20				3650	V long period missing USCGS: 3S, 147E Bismarck Sea.	
		eL E	18.5						
		eL N	21.0						
59	12	iP Z	09 09 23						
60	12	iP NEZ	11 30 39				3350	V long period missing USCGS: 9 1/2 S, 156E Coral Sea.	
		i NE	30 51						
		iS NE	35 38						
		e E	37.3						
		e N	38.2						
61	12	eP Z	14 46 39				3600	USCGS: 5S, 152 1/2 E. New Britain	
62	13	iP NEZ	04 02 18				3300	USCGS: 6 1/2 S, 130E Banda Sea	
		i Z	02 23						
		e NEZ	02 49						
		e NE	08 22						
		e Z	08 42						
		i E	10 19						
63	13	eP Z	04 44 38				3550	USCGS: 3 1/2 S, 146 1/2 E. Bismarck	
64	13	eP Z	13 00 24						
65	13	iP NEZ	15 58 38						
66	13	iP NEZ	21 28 29						
67	13	iP N Z	21 51 29						
68	13	iP NEZ	22 47 49				4100	Z long period missing USCGS: 1N, 129E Halmahera Is.	
		i N Z	47 55						
		i E	47 59						
		iS NE	53 40						

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Km.	Remarks.
					A _n	A _e	A _z		
69	Sept 14	iP NEZ i N i Z i E i Z i(PcP) Z i(S) N eL NEZ	17 13 35 14 14 14 40 15 20 15 31 15 52 19 40 24.7				4200	USCGS: 29S, 176 $\frac{1}{2}$ W Kermadec aftershock	
70	14	eP NEZ i E e E e Z e N	22 31 12 31 28 43 15 43 20 43 52				4150	USCGS: 29S, 177W Kermadec aftershock	
71	15	eP NEZ	06 05 37						
72	15	iP NEZ i N i(PP) EZ i(PcP) Z i E i N i Z i E iS E i N i Z e Z e N eL NEZ	06 07 04 07 14 08 40 09 18 09 26 09 34 09 54 12 08 12 58 13 04 13 24 13 44 14 38 15.8				4200	USCGS: 28 $\frac{1}{2}$ S, 177W Kermadec aftershock	
73	14	iP NEZ i EZ	01 40 55 41 05						
74	14	eP NEZ	13 23 29				4450	USCGS: 24S, 176 $\frac{1}{2}$ W. Tonga.	
75	14	iP NEZ i Z i Z i E i E i(PP) Z i E i Z e Z i N e N i(S) N i Z eL NEZ	14 16 59 17 04 17 20 17 26 17 46 18 30 18 52 18 59 20 34 21 08 22 02 23 08 23 22 25 00				4200	USCGS: 28 $\frac{1}{2}$ S, 177W Kermadec Islands Mag. $7\frac{3}{4}$ Microseisms pronounced.	
76	15	iP NEZ i Z i N i NEZ	08 07 44.5 07 57 08 00 10 00				4200	USCGS: 28 $\frac{1}{2}$ S, 177W Kermadec Islands	
77	15	eP NEZ	10 56 10				4200	USCGS: 29S, 177W. Kermadec Is.	
78	15	iP NEZ i E i E i E i E ipP EZ iS NEZ	11 12 13 12 28 12 56 13 14 13 30 13 56 17 28				4250	USCGS: 21 $\frac{1}{2}$ S, 179 $\frac{1}{2}$ W Fiji Islands h about 600 km. Mag. $6\frac{1}{2}$	
79	15	iP EZ i(S) E	11 17 04 21 16						
80	15	i(P) Z	11 42 04						

No.	Date 1959	Phase		Time (G.M.T.)	Per	Amplitude			Km.	Remarks
						A _n	A _e	A _z		
81	Sept. 15	eP	NEZ	12 07 45					4200	USCGS: 28½ S, 176½ W. Kermadec Islands.
82	15	iP	NEZ	13 02 05					4500	USCGS: 21½ S, 177½ W. Tonga Is.
83	15	iP	NEZ	13 53 39					4200	USCGS: 29S, 177W Kermadec Islands
		i	Z	53 52						
		iPcP	Z	55 55						
84	15	eP	NEZ	14 10 59						
85	15	eP	NEZ	14 55 39						
86	15	iP	EZ	22 42 04					4200	USCGS: 29S, 176½ W Kermadec Islands
		iPcP	Z	44 20						
87	16	iP	EZ	02 10 55					4200	USCGS: 29S, 176½ W Kermadec Islands
		iPcP	Z	13 12						
88	16	iP	NEZ	02 43 20				+	4200	USCGS: 29S, 176½ W Kermadec Islands
		i	Z	43 30						
		i	Z	43 43						
		iPcP	Z	45 36						
89	16	eP	Z	03 38 32						
90	16	iP	NEZ	10 15 09					4200	USCGS: 29S, 176½ W Kermadec Islands
		iPcP	Z	17 24						
91	16	eP	NEZ	16 04 28					4250	USCGS: 28½ S, 176W, Kermadec Islands
		ePcP	NEZ	06 43						
		i(S)	E	10 24						
		eL	NE	16.3						
		eL	Z	18.2						
92	16	eP	Z	17 21 34						
93	16	oP	NEZ	21 43 14						Local
		iS	NEZ	45 50						
94	17	eP	NEZ	00 33 45						
		i	NEZ	33 54						
95	17	eP	NEZ	07 17 42						
96	17	eP	NEZ	14 15 22					4250	USCGS: 28½ S, 176W, Kermadec I.
97	17	eP	NEZ	14 43 36				-	4250	USCGS: 28½ S, 176W, Kermadec I.
		ePP	EZ	45 06						
		iS	E	49 30						
		eL	N	56 14						
		eL	EZ	56 45						
98	17	eP	NEZ	14 59 06					4200	USCGS: 28½ S, 176½ W, Kermadec Is.
99	18	iP	NEZ	09 32 00					4200	USCGS: 28½ S, 176½ W, Kermadec Islands.
		i	Z	32 11						
		e	N Z	34 14						
100	18	iP	NEZ	12 13 58				+	9600	USCGS: 57½ S, 24W, Sandwich Islands.
		eL	N	47.2						
		eL	Z	48.3						
101	18	iP	NEZ	16 58 43						
		i	Z	56						
102	19	eP	Z	11 57 08						
103	21	iP	NEZ	01 22 45				+		
		i	Z	22 56						
104	21	iP	NEZ	02 14 13				+	3050	USCGS: 9½ S, 149E, Near coast of New Guinea
		i	NEZ	14 29						
		i	Z	14 38						
		i	N	16 06						
		e	E	16 19						
		i	E	17 15						
		i	E	18 28						

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
104 cont.	Sept 21	iS N eL E eL N Z	18 50 23.9 24.8						
105	21	eP NEZ i Z i Z e NE e Z i N	13 15 47 16 00 21 16 21 33 22 09 22 37			+	3400	USCGS: 10S, 120E Sumba Island	
106	22	iP NEZ	08 39 32						
107	22	eP NEZ	17 36 58						
108	23	eP NEZ i Z	00 47 55 48 27						
109	23	iP NEZ	15 18 45			-			
110	23	eP NEZ	20 56 35			+			
111	23	eP NEZ	22 34 29				7800	USCGS: 35½ N, 138½ E, Honshu, Japan.	
112	24	eP NEZ	14 20 05						
113	24	eP NEZ i Z	19 00 26 00 39						
114	24	eP NEZ i Z iPcP Z	19 51 50 52 04 54 06				4200	USCGS: 29½ S, 176½ W, Kermadec Islands.	
115	25	iP NEZ i NE i Z i E e Z e Z i E i N e Z i E i Z	00 21 20 21 27 21 39 22 44 22 55 23 48 24 23 25 47 28 22 29 08 30 55			+	3900	USCGS: 9S, 113½ E, Off east coast of Java.	
116	25	eP NEZ e NEZ e Z e Z iPcP Z	01 46 26 46 37 46 52 47 16 48 45				4200	USCGS: 29S, 177W, Kermadec Islands	
117	25	iP NEZ i N Z i E i E i E i E i N i E i E i E i E i N Z i N e N iS N eS E i NEZ i N eL E e Z eL N i E	02 46 50 47 04 47 08 47 16 47 20 47 30 47 32 47 35 47 41 47 44 47 55 48 53 49 21 51 12 54 52 54 54 54 57 56 10 03 06 50 08 00 09 34 47 22			+	6550	USCGS: 22N, 122E, Near East Coast of Formosa.	

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Km.	Remarks
					A _n	A _e	A _z		
118	Sept 25	iP NEZ	03 51 51						
119	25	eP NEZ	15 38 50						
120	25	iP NEZ i Z	22 21 33 21 58						
121	26	iP NEZ i Z	15 36 41 36 52						
122	27	iP NEZ i E i NEZ i Z i NEZ i E i Z i N e N i E e Z i Z i N i N i E i Z i N	10 26 32 26 42 27 00 27 22 27 25 27 29 29 09 32 28 32 31 32 41 32 47 33 53 34 21 34 57 36 27 36 39 36 59				3400	USCGS: 5 1/2 S, 129 1/2 E, Banda Sea.	
123	28	iP NEZ	07 05 41						
124	29	eP Z	14 38 41						
125	29	eP NEZ i NEZ i Z i E i Z eS NE eL N i Z eL E eL Z	15 39 22 39 37 39 52 40 24 41 37 45 18 48.4 48 46 49.8 51.3				4200	USCGS: 29S, 176 1/2 W, Kermadec Islands Mag. 6 1/2 - 6 3/4 (Pas.) 6 1/4 (Berk.) Microseismic disturbance	
126	20	eP Z e Z	13 39 07 41 08						
127	30	iP NEZ	19 35 17						
128	30	iP Z i Z i NEZ i N i N iS NE eL E eL N eL Z	20 32 22 32 33 32 39 32 49 34 58 37 24 39.2 39.5 40.3				3450	USCGS: 18S, 168E, New Hebrides Islands Mag. 6 1/2 (Pas.)	
129	30	iP Z	23 36 01.5						

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ADELAIDE (MT. BONYTHON)

Latitude: 34° 58' 01" Longitude: 138° 42' 32"

Height above mean sea level: 2150'

Foundation: Sandstone

Instruments: Benioff variable reluctance seismometers with three component long and short period paper recorders.

T_g = 75 sec. and T_g = 0.2 sec. respectively

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No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
1	Oct. 1	iP NEZ	00 47 20						
		i Z	47 25						
		i Z	48 08						
2	2	iP NEZ	02 49 07					Correct to one second	
3	2	iP NEZ	08 28 32			-			
4	3	eP NEZ	00 46 41						
		i	47 49						
5	3	iP NEZ	01 02 20						
6	3	eP NEZ	04 17 20						
7	3	eP N Z	09 17 34				5500	USCGS: 14 1/2 N, 142E Mariana Islands region	
8	3	iP NEZ	09 25 00						
9	3	iP NEZ	10 22 22.5			-			
		i Z	22 26						
10	3	e NEZ	12 11 56						
		e NEZ	15 42						
		e NEZ	17 54						
11	3	eP Z	13 49 10						
12	3	eP Z	23 22 03						
13	5	eP Z	04 41 57						
		e NE	47 42						
		i N	47 47						
		e Z	48 08						
		i Z	48 40						
14	5	iP NEZ	10 05 35			-			
		i EZ	05 37						
		i E	05 40						
		i Z	05 45						
		i N	05 48						
15	5	eP NEZ	12 35 54						
16	5	iP Z	14 25 13						
17	5	iP Z	14 58 25			-			
18	5	ePKP Z	18 46 35				13200	USCGS: 83 1/2 N, 112 1/2 E Arctic Ocean.	
19	6	iP NEZ	05 51 46			+	4150	USCGS: 1/2 N, 122 1/2 E Celebes Island h about 200 km.	
		i Z	51 47						
		i E	51 50						
		i N	51 57						
		i N	52 17						
		i Z	52 20						
		i E	52 21						
		i Z	52 30						
		i N	52 45						
		i Z	57 41						
20	8	iP NEZ	00 09 51			+	3450	USCGS: 19S, 169E New Hebrides	

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
21	Oct. 8	iP NEZ eS NEZ i E i E i E	12 33 31 34 27 34 32 34 36 34 41					Local earthquake	
22	8	eP NEZ	20 46 17						
23	9	eP NEZ e Z i Z	11 17 53 18 01 18 25				4900	USCGS: 0 : 11 09 23 Near Mindanao, P.I.	
24	9	eP NEZ e Z e Z	13 57 59 58 35 14 03 28						
25	10	iP NEZ e NEZ	02 10 27 11 40						
26	11	eP NEZ	02 30 32						
27	✓ 11	iP NEZ	10 00 03				3750	USCGS: 3 ½ S, 152E. New Ireland.	
28	11	eP NEZ i Z	17 57 51 57 58				4200	USCGS: 28 ½ S, 176 ½ W Kermadec Islands.	
29	11	eP NEZ i Z	20 09 40 10 51				3400	USCGS: 5 ½ S, 147E Near New Guinea.	
30	✓ 12	iP NEZ i Z i Z i Z i Z i E i Z i N i E eS NEZ	03 31 13 31 20 31 24 31 30 31 37 31 53 31 59 32 19 34 54 38 44				-	5800 USCGS: 2N, 98 ½ E Near Sumatra.	
31	12	iP NEZ	08 46 23				-		
32	12	iP NEZ	13 13 28				-		
33	12	iP NEZ	15 10 47				-		
34	✓ 12	iP NEZ i Z i Z i Z	19 28 17 28 22 28 28 28 47				-	3550 USCGS: 7S, 155 ½ E Solomon Islands.	
35	12	eP NEZ i Z e Z	21 26 52 29 07 30 16						
36	13	eP NEZ i Z e NE e Z	02 36 23 36 35 41 49 42 17						
37	13	iP NEZ i Z i Z i N	17 09 26 10 33 10 38 10 41				-		
38	14	iP NEZ	10 07 01				7250	USCGS: RYUKYU Islands region.	
39	14	iP NEZ	23 31 45				+		
40	15	eP NEZ	04 29 01				-	3350 USCGS: 5 ½ S, 146E Near New Guinea.	
41	✓ 15	iP NEZ i(pP) NEZ iPP NEZ i E	06 23 02 23 08 24 34 25 04				+	4400 USCGS: ½ N, 120 ½ E Celebes Mag. 6 ½	

No.	Date 1959	Phase		Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks		
						A _n	A _e	A _z				
41 Cont.	Oct. 15	iS	NEZ	29 02								
		i	E	30 05								
		i	E	31 36								
		iSS	NEZ	31 52								
		eL	NEZ	33.5								
		i	E	40 18								
42	15	iP	NEZ	07 39 35				-	4450	USCGS: Tonga Islands		
43	15	eP	NEZ	07 52 39					8800	USCGS: 44N, 148E, Kurile Islands.		
		e	Z	52 55								
44	15	iP	NEZ	15 08 50						+		
		i	NEZ	08 54								
45	15	iP	NEZ	15 57 47								
		i	Z	57 54								
46	15	iP	N Z	17 20 39					-			
47	16	iP	NEZ	16 22 42						+	4750	USCGS: 6N, 125E Near Mindanao.
		i	NEZ	22 50								
		i	Z	22 54								
		i	Z	22 58								
		i	Z	24 10								
48	16	iP	NEZ	22 15 17					-			
49	17	iP	NEZ	05 45 31					+			
50	17	iP	NEZ	08 43 24						+	5050	USCGS: 57 1/2 S, 161W South Pacific Ocean.
		i	EZ	43 30								
51	18	iP	NEZ	09 32 33								
52	18	iP	NEZ	19 19 49								
		53	18	iP	NEZ	23 33 02					4700	USCGS: 6S, 105E Sunda Strait, h about 150 Km.
				i	Z	33 29						
i	Z	33 32										
54	19	iP	NEZ	01 32 42					4050	USCGS: 30S, 178W, Kermadec Is. h about 60 Km.		
55	19	iP	NEZ	08 34 46						-	4200	USCGS: 27 1/2 S, 177W, Kermadec Islands Mag. 6 1/4 (Pas.) (Berk.)
		i	EZ	34 59								
		iPP	EZ	36 22								
		i	Z	36 44								
		eS	NE	40 46								
		eL	E	45 26								
		eL	N	47 00								
		eL	Z	47 06								
56	19	eP	NEZ	09 22 45					4250	USCGS: 28S, 176 1/2 W Kermadec Islands.		
57	19	iP	NEZ	13 59 19					4350	USCGS: 22S, 179 1/2 W, Fiji Is. region, h about 600 Km.		
58	19	iP	NEZ	16 08 24						-	10000	USCGS: 54 1/2 S, 29W, Sandwich Islands region.
		i	Z	10 05								
		ePP	Z	12 04								
		e	Z	12 50								
		e(S or SKS)	NEZ	19 12								
		i	Z	19 32								
		eL	N	40.5								
		eL	Z	42.5								
		eL	E	43.5								
		59	20	iP	NEZ	21 29 06						
60	20	iP	NEZ	21 43 42								
61	21	iP	NEZ	06 07 22					-			
62	21	iP	NEZ	06 20 04								

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
63	Oct. 21	eP Z	08 57 57						
64	22	iP NEZ	10 08 59						
65	22	eP NEZ i Z	11 16 13 17 02						
66	23	iP NEZ e Z e NE i Z	03 50 04.5 50 54 51 12 52 42				3750	USCGS: 4S, 154E, New Ireland region h about 150 Km.	
67	24	iP NEZ	07 10 37						
68	24	iP Z	23 54 19				11000	USCGS: 41 1/2 N, 70E, Kazakh S.S.R.	
69	25	iP Z	02 14 31						
70	25	iP NEZ i Z	17 15 23 15 30						
71	26	iP NEZ i Z i N i Z ePP Z e N iS NE i E i N eSS N eL E eL Z eL N	07 46 37 46 46 46 51 47 08 49 06 51 12 55 59 57 02 57 22 08 00 36 10 50 12 06 16 20				8050	USCGS: 37 1/2 N, 142 1/2 E, Near East Coast of Honshu, Japan. h about 60 Km. Mag. 6 1/2 (Pas.) 6 (Berk.)	
72	26	iP NEZ	10 41 47				9750	USCGS: 51 1/2 N, 157 1/2 E, Near east coast of Kamchatka, h about 150 Km.	
73	26	iP NEZ	11 38 28						
74	26	eP NEZ	12 13 59						
75	26	eP NEZ e NEZ	12 23 56 24 19						
76	26	iP NEZ i N Z	23 40 18 41 46						
77	27	iP NEZ i Z i Z e Z iS E iS N i E i N e E eL EZ eL N	07 05 02 05 06 05 56 07 32 15 10 15 12 15 34 15 56 20 14 26.5 29 00				9050	USCGS: 45 1/2 N, 151E, Kurile Islands h about 100 Km. Mag. 6 1/4 - 6 1/2 (Berk.)	
78	28	iP NEZ	09 29 18						
79	28	iP NEZ	21 11 17						
80	29	iP NEZ i Z i Z e(S) NE eL NEZ	14 27 10 27 28 29 29 33 18 36.0						
81	29	iP NEZ e Z	14 41 28 43 30				8700	USCGS: 43N, 131E, China-Korea border, h about 550 Km. Mag. 6 1/7 (Pas.)	

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A_n	A_e	A_z		
82	Oct. 29	iP NEZ	22 07 46				+		
		i N Z	08 10						
		i Z	10 43						
83	30	iP) (Z	00 40 35				-	4800 USCGS: $8\frac{1}{2}$ N, 138E, Caroline Islands.	
		e) (NE							
84	30	iP Z	06 31 03						
		i NEZ	31 11						
85	30	iP NEZ	07 12 00				4600	USCGS: 19S, $177\frac{1}{2}$ W, Fiji Islands h about 450 Km.	
		i E	14 13						
		i(ScP) EZ	17 04						
86	30	iP Z	07 55 49						
87	30	iP NEZ	11 16 49				-		
		i Z	17 00						
88	30	i(PKP) Z	11 40 08				+		
		i Z	40 24						
89	30	iP NEZ	14 01 01						
		e N Z	02 03						
90	30	i(P) NEZ	14 06 13						
		eL NEZ	21.3						
91	30	iP NEZ	21 44 38				-		
92	30	iP Z	22 12 54						
93	31	iP NEZ	04 34 31				+	4700 USCGS: $16\frac{1}{2}$ S, 178W, Fiji Islands h about 450 Km. Mag $6\frac{1}{2} - 6\frac{3}{4}$ (Pas.)	
		i NEZ	34 32						
		i Z	36 25						
		i Z	39 28						
		iS NEZ	40 25						
94	31	iP NEZ	06 05 02						
		i EZ	06 32						

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UNIVERSITY OF ADELAIDE SEISMOLOGICAL STATION

ADELAIDE (MT. BONYTHON)

Latitude: 34° 58' 01"

Longitude: 138° 42' 32"

Height above mean sea level:

2150'

Foundation: Sandstone

Instruments: Benioff variable reluctance seismometers with three component long and short period paper recorders.

$T_g = 75$ sec. and $T_g = 0.2$ sec. respectively

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
1	Nov. 1	iP NEZ	04 23 55						
2	1	iP NEZ	01 18 46					Local earthquake	
		iS NEZ	19 20					Felt Eyre Peninsula	
3	2	iP NEZ	08 53 46			+	6450	USCGS: 22 1/2 N, 144 1/2 E, Mariana Islands region.	
		iPP Z	55 53						
		i Z	56 38						
		i N	56 42						
4	2	iP Z	13 26 57				7950	USCGS: 21 1/2 N, 92 1/2 E. Pakistan- Burma border. h about 100 Km.	
5	2	iP NEZ	20 09 52			+	3550	USCGS: 5 1/2 S, 151 1/2 E, New Britain	
		ipP Z	10 04						
		i Z	12 46						
		iS NEZ	14 54					Mag. 6 3/4 (Pas.)	
		iScP Z	16 25					h about 60 Km.	
		eL NEZ	16.5						
6	2	iP NEZ	22 00 51			-			
7	3	iP NEZ	00 39 57			-	4450	USCGS: 3 1/2 N, 126 1/2 E, Molucca Passage.	
		i Z	40 13						
8	3	iP NEZ	04 57 59					Local Earthquake.	
		iS NEZ	58 17						
9	3	iP NEZ	09 47 01			-	3900	USCGS: 10 1/2 S, 111 E South of Java.	
		i E	48 38						
		iS NEZ	52 35						
		i EZ	53 39						
		i N Z	53 58						
		eSS N	54 36						
		i N	55 57						
		eL NE	56.5						
		eL Z	10 01.5						
10	3	iP NEZ	19 05 07			+			
11	4	eP NEZ	15 49 25						
		e Z	50 43						
12	4	iP NEZ	18 29 55			-	3700	USCGS: Tonga Is. Region.	
13	4	iP Z	20 07 25			+			
14	5	iP Z	11 11 00				7650	USCGS: Chagos Archipelago reg.	
15	5	iP NEZ	11 56 53			-	3700	USCGS: 13S, 166 1/2 E. New Hebrides region. h about 100 Km.	
		i Z	57 02						
		i N	57 12						
		i Z	57 16						
		i Z	59 44						
		iS N	12 02 12						
		eL E	05.5						
		eL N	07.2						
		eL Z	08.3						
16	5	iP Z	15 09 59			-	7250	USCGS: 30N, 129E, RyuKyu Is. region. h about 250 Km.	

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
17	Nov. 5	iP eL eL eL	NEZ N E Z	17 44 32 55.3 55.9 58.1				3500	USCGS: 9S, 157 1/2 E, Solomon Islands.
18	5	iP	Z	18 06 40			+		
19	6	iP eL eL	NEZ NE Z	01 13 55 25.0 29.8			-	3500	USCGS: 9S, 157 1/2 E, Solomon Is. ? surface readings for No. 18 or No. 19.
20	6	iP	NEZ	01 18 00				3500	USCGS: 9S, 157 1/2 E, Solomon Is.
21	6	iP eL	NEZ EZ	11 50 57 12 06.4			+	4600	USCGS: 24S, 174 1/2 W Tonga Islands region
22	7	iP i	NEZ N Z	02 36 45 36 49			+		
23	7	iP i	NEZ Z	08 24 49.5 25 05			+	3800	USCGS: 11 1/2 S, 166 1/2 E, Santa Cruz Is.
24	7	eP i (pP) eL eL	NEZ Z NE Z	22 24 02 24 15 36.5 37.7				4550	USCGS: 23 1/2 S, 175 1/2 W Tonga Islands region. Mag. 6 1/4 (Fas.)
25	7	iP	NEZ	23 11 31					
26	8	iP i iS eL	NEZ Z NE N Z	14 07 01 07 44 17 02 40.0			+	8750	USCGS: 44N, 140 1/2 E. Near west coast of Hokkaido, Japan. Mag. 6 1/2 (Fas.)
27	8	iP	NEZ	14 34 09			-	3700	USCGS: 13S, 167E, New Hebrides Islands. h about 100 Km.
28	9	eP i	NEZ Z	13 42 14 47 38					
29	10	eP	Z	08 14 47				3800	USCGS: 3 1/2 S, 153 1/2 E, New Ireland region. h about 200 Km.
30	10	iP	NEZ	13 41 37					
31	10	iP i i	NEZ Z NEZ	16 47 13 47 26 47 45				3600	USCGS: 7S, 156E, Solomon Islands.
32	12	iP	NEZ	18 10 35			+		
33	12	eP	Z	20 37 11				3800	USCGS: 11S, 166 1/2 E, Santa Cruz Islands.
34	13	iP	NEZ	10 12 41			+	4100	USCGS: 23S, 179E, South of Fiji Islands. h about 600 Km.
35	13	iP	NEZ	17 59 09			-		
36	14	iP	NEZ	02 19 26			-		
37	14	eP	Z	15 14 43					
38	15	iP	NEZ	08 11 53			+	4100	USCGS: Fiji Islands region h about 500 Km.
39	15	iP i i i	NEZ Z Z Z	10 38 31 39 37 39 54 40 10				10450	USCGS: 38N, 74 1/2 E, Tadzhik S.S.R.
40	15	iP ePP iPKS iPKS i i i	NEZ Z EZ N NE N N	17 28 02 30 10 31 20 31 30 31 38 31 56 32 12				14550	USCGS: 37 1/2 N, 20 1/2 E, Near west coast of Greece Mag. 6 1/2 - 6 3/4 (Fas.)

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
40	Nov. 15	i Z	32 24						
Cont.		i Z	33 24						
		iSS N	47 38						
		i N	49 08						
		e N	50 04						
		eL EZ	18 21.5						
		eL N	23.5						
41	16	iP NEZ	23 51 26				+	4500 USCGS: 4N, 126 1/2 E, Taland Islands	
		i Z	51 30						
		i Z	59 56						
42	17	iP NEZ	02 43 46				-	7650 USCGS: 11S, 66 1/2 E, Indian Ocean.	
43	17	iP NEZ	16 50 55				+		
		e Z	52 21						
44	17	eP NEZ	17 29 41					3350 USCGS: 5S, 141E, New Guinea.	
		e Z	30 35						
		i Z	36 47						
		i N	38 28						
		e Z	39 17						
		eL NEZ	39.6						
		i E	40 17						
45	17	iP NEZ	16 50 55				+		
		i Z	52 20						
46	17	eP NEZ	22 48 13					Local Earthquake	
		iS NE	49 06						
		iS Z	49 09						
47	17	eP NEZ	23 18 13						
48	19	iP NEZ	11 14 46				+	3350 USCGS: 5 1/2 S, 146E, Near north coast of New Guinea. Mag. 7 (Pas.)	
		i N Z	15 12						
		i(PP) Z	15 44						
		iS NE	19 35						
		iS Z	19 38						
		eL NE	20.2						
		e Z	21.8						
49	20	iP NEZ	11 03 31					3700 USCGS: 4 1/2 S, 153E. New Britain region. h about 100 Km.	
50	20	iP NEZ	13 43 24.5						
51	20	iP NEZ	15 00 28				-		
52	20	iP NEZ	15 25 18						
		i Z	25 38						
53	20	eP NEZ	16 36 50					3300 USCGS: 7S, 129E, Banda Sea.	
		e Z	37 18						
		i(S) NEZ	42 29						
		i E	43 40						
		i E	44 08						
54	20	iP NEZ	20 41 56						
55	21	eP Z	13 06 27						
56	21	iP NEZ	15 19 16						
57	22	eP NEZ	12 54 24					3550 USCGS: 3S, 140E, Near North coast of New Guinea.	
		i Z	55 24						
		eL E	13 03.0						
		eL N Z	04.0						
		i N	05 08						
58	22	iP ?	?						
		eL NEZ	16 24.5						
59	22	iP NEZ	19 41 24				-	4400 USCGS: 21 1/2 S, 178 1/2 W, Fiji Islands region h about 550 Km.	
		i(PcP) Z	43 20						
		iS NEZ	46 47						
		e(SS) NEZ	49 10						
		iScS NE	50 26						

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
60	Nov. 23	e Z	09 53 36						
61	23	iP NEZ i(ScP) Z	14 48 34 54 29			+	3950	USCGS: 1/2 S, 128 1/2 E Spice Islands.	
62	23	eP Z eL NE eL Z	16 21 45 31.5 33.3				3800	USCGS: 20S, 174 1/2 E, Fiji Is. region.	
63	23	iP NEZ	20 42 25			+			
64	23	iP NEZ e NEZ iPcP Z	21 15 40 16 05 16 18				6750	USCGS: 24 1/2 N, 122E, Near coast of Formosa.	
65	24	eP NEZ	12 48 36				4500	USCGS: 25S, 176W. Tonga Is. region.	
66	24	iP NEZ	15 06 48			-	6100	USCGS: 17 1/2 N, 120E. Off west coast of Luzon Is. Phillipine Is	
67	24	eP Z	15 42 03						
68	24	iP NEZ	21 47 31			+			
69	25	eP NEZ	00 42 50						
70	24	eP	16 22 36						
71	25	iP NEZ	10 06 04			-			
72	25	iP NEZ e NEZ	19 12 16.5 12 51			-	4700	USCGS: 6N, 127E, South of Mindanao, Phillipine Islands.	
73	25	eP NEZ	20 21 13						
74	26	iP NEZ i(pP) NEZ ePP NEZ e NEZ	00 48 54 48 57 50 20 58 38				4150	USCGS: 1 1/2 N, 127 1/2 E, Halmahera.	
75	26	iP NEZ	02 41 05						
76	26	iP NEZ i(pP) NEZ i NEZ iS NEZ e N e Z eL N eL E eL Z	07 14 33 14 36 14 46 21 02 24 24 24 38 28.5 31.0 31.2				4950	USCGS: 5 1/2 S, 102 1/2 E, Near coast of Sumatra Mag. 6 1/2 (Pas.)	
77	26	eP NEZ	16 14 05				3700	USCGS: Tonga Islands.	
78	26	iP NEZ	18 14 47			-			
79	26	iP NEZ i EZ i Z i Z i N i Z iS NEZ i Z e Z i(SS) N eL N eL EZ	23 17 38 17 51 17 59 19 34 19 54 21 03 24 08 24 22 26 40 27 22 30.6 34.0				4900	USCGS: 5 1/2 S, 103E, Near coast of Sumatra. Mag. 6 3/4 (Pas.)	
80	27	eP NEZ e NEZ	00 00 24 00 39						
81	27	iP NEZ e NEZ	05 56 26 57 18			-			
82	27	eP NEZ i NEZ	06 34 08 36 18						

No.	Date 1959	Phase		Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
						A _n	A _e	A _z		
83	Nov. 27	eP	NEZ	18 59 41					4900	USCGS: 5 1/2 S, 103 E, Off west coast of Sumatra.
84	28	iP	NEZ	02 52 44				-	3900	USCGS: 19 1/2 S, 174 1/2 E, Fiji Islands region.
		ePP	NEZ	54 03						
		eS	N	58 16						
		eS	Z	58 20						
		eL	N	01.						
		eL	Z	02.9						
		eL	E	03.1						
85	28	iP	NEZ	03 30 45				-	6800	USCGS: 26N, 128 1/2 E, RyuKyu Islands.
		i	Z	30 54						
86	28	eP	NEZ	14 11 39					4550	Local earthquake.
		iS	NEZ	12 10.5						
87	28	iP	NEZ	22 45 58				+	3750	USCGS: 13S, 167 1/2 E New Hebrides Islands.
		i	Z	46 35						
88	29	iP	NEZ	01 38 39					4550	USCGS: 21S, 177W, Tonga Is.
89	29	eP	N Z	09 03 06						
90	29	eP	NEZ	10 52 29						
91	29	iP	Z	19 27 06					5900	USCGS: 57S, 147 1/2 W, South Pacific Ocean.
		eL	Z	19 42.6						
		eL	N	42.5						
92	30	eP	NEZ	15 22 16						
		e	Z	28 04						

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UNIVERSITY OF ADELAIDE SEISMOLOGICAL STATION

ADELAIDE (MT. BONYTHON)

Latitude: 34° 58' 01"

Longitude: 138° 42' 32"

Height above mean sea level:

2150'

Foundation: Sandstone

Instruments: Benioff variable reluctance seismometers with three component long and short period paper recorders.

$T_g = 75$ sec. and $T_g = 0.2$ sec. respectively

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			Δ Km.	Remarks
					A _n	A _e	A _z		
1	Dec. 1	iP NEZ	09 53 20.5				-		
2	✓ 1	iP NEZ e Z e NEZ	15 05 55.5 06 54 13 30				+	3350 USCGS: 63S, 154E, Balleny Islands region.	
3	✓ 1	iP NEZ i NEZ i Z	18 19 11.5 19 15.5 24 13.5				+	4650 USCGS: 5N, 125E, Near Mindanao P.I. h about 400 Km.	
4	1	eP NEZ e(S) NEZ	19 00 44 06 20					3250 USCGS: 9S, 124 1/2 E, Timor Is. region. h about 150 Km.	
5	2	iP NEZ	04 25 13.5				-		
6	✓ 2	iP NEZ eL N eL EZ	07 38 02 53 .3 55 .0				+	4900 USCGS: 5S, 104E Near Sumatra.	
7	✓ 2	iP NEZ	07 54 57						
8	✓ 2	iP NEZ i(pP) NEZ iS NEZ eL NEZ	09 41 12 41 22 46 58 48.2				-	4100 USCGS: 1S, 123E, Celebes Mag. 6 1/2.	
9	2	eP NEZ e Z e Z iS NEZ i E i E	20 04 10 05 02 13 36 14 18 14 56 15 24					3400 USCGS: 4 1/2 S, 140E New Guinea.	
10	4	iP NEZ	15 28 52						
11	5	i(P) NEZ	22 09 04						
12	6	eP NEZ	15 58 59					Local?	
13	6	eP NEZ iS NEZ	21 56 58 57 20					Local.	
14	7	iP NEZ i N	01 18 04 19 12						
15	✓ 7	iP NEZ ipP NEZ	03 08 49 10 48					4650 USCGS: 18S, 178W, Fiji Is. h about 600 Km.	
16	✓ 7	iP NEZ	05 26 20					7500 USCGS: 32 1/2 N, 139 1/2 E, South of Japan.	
17	7	iP	18 50 17						
18	✓ 8	iP NEZ i Z	04 37 16 38 39					4050 USCGS: 1S, 124E, Celebes region	
19	✓ 9	iP NEZ i Z	14 11 51 11 56				-	4800 USCGS: 17S, 177 1/2 W, Fiji Is. h about 450 Km.	
20	✓ 11	iP NEZ i Z e NE	00 38 04 38 13 47 00				-	3450 USCGS: 5S, 130E, Banda Sea.	

No.	Date 1959.	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks
					A _n	A _e	A _z		
21	Dec. 11	eL N	01 57.5						
		eL Z	02 00.5						
		eL E	01.3						
22	12	iP NEZ	19 46 40						
		i Z	47 08						
23	12	iP Z	22 12 43						
24	12	iP NEZ	23 35 41					Local.	
25	✓ 13	iP NEZ	05 46 59				4350	USCGS: 9½ S, 106½ E, Off South Coast of Java.	
		i Z	47 11						
26	13	e(P) NEZ	10 40 33.5						
27	13	iP NEZ	15 43 38						
28	13	iP NEZ	16 00 10						
29	✓ 13	eP Z	17 44 44				5100	USCGS: 18S, 173½ W, Tonga Islands.	
		eL N	18 00.6						
		eL EZ	18 01.5						
30	14	eP NEZ	01 24 58						
31	14	eP NEZ	13 01 40					Local earthquake.	
		e NEZ	02 08						
		i Z	02 16						
32	14	iP Z	13 04 08						
33	✓ 14	iP NEZ	18 06 11.5				4700	USCGS: 5½ N, 125½ E, Near Mindanao, h about 200 Km.	
		i Z	06 20						
		e N Z	06 36						
		iS NEZ	12 18						
		i(ScS)NE	15 26						
		i NE	15 32						
		i Z	15 38						
34	✓ 14	iP NEZ	21 56 31				4200	USCGS: 1N, 125E, Celebes.	
		i NEZ	56 44						
		(i) E	22 02 18						
		(i) E	06 38						
35	✓ 14	iP NEZ	23 34 34				9500	USCGS: 59½ S, 31W, Sandwich Islands. Mag. 7.	
		i Z	34 50						
		i N	35 10						
		i N	36 14						
		e N	37 04						
		iPP Z	38 10						
		iSKS NEZ	44 59						
		i Z	46 12						
		e Z	47 08						
		e(SS) N	50 20						
		i(PKKP)N Z	52 44						
		i Z	52 50						
		e E	56 28						
		eL Z	56 48						
		iP'P' Z	00 00 51						
		e N	02 40						
		iPKPPKSNE	04 12						
36	15	eP EZ	09 05 34				5900	USCGS: 17½ N, 145E, Mariana Islands.	
37	15	iP NEZ	09 38 18				4700	USCGS: 5½ N, 125½ E, Near Mindanao, P.I.	
		i NEZ	38 24						
38	✓ 15	iP NEZ	12 28 27				9450	USCGS: 59S, 24W, Sandwich Islands.	
		i(PcP)NEZ	28 35						
		eL N Z	13 03.0						
39	15	eP N Z	20 14 34						
40	16	iP NEZ	02 27 45						

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No.	Date, 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks.
					A _n	A _e	A _z		
41	Dec. 16	iP Z	11 34 15.5					9250	USCGS: 47½ N, 152E, Kurile Is.
42	✓ 17	iP NEZ	02 41 02					6550	USCGS: 21½ N, 121E, Off south coast of Formosa.
43	17	eP NEZ	03 03 24						
44	✓ 17	eP NEZ	06 02 03					4950	USCGS: 5½ S, 102½ E, Off south coast of Sumatra.
45	17	iP Z	11 10 14				+		
46	17	eP Z e Z	13 33 55 34 32						
47	18	iP NEZ	09 22 05				-		
48	18	iP NEZ	10 04 09				-	4350	USCGS: 18S, 178½ E, Fiji Is. h about 600 Km.
49	19	iP NEZ	09 16 54						
50	19	eP NEZ i Z e Z	10 40 07 46 40 49 05						
51	19	eP NEZ	22 18 48						
52	20	iP NEZ	06 31 02						
53	✓ 20	eP NEZ e Z	08 12 38 15 05					3800	USCGS: South of Kermadec Is.
54	✓ 20	iP NEZ i(pP) Z i Z iPP Z	13 02 10 02 19 02 21 04 05				-	5200	USCGS: 10½ N, 126½ E, North of Mindanao, P.I.
55	✓ 21	eP NEZ i EZ eFP EZ	10 28 03 28 06 29 44					4350	USCGS: 27½ S, 176W, Kermadec Islands region Mag. 6 (Pas.)
56	✓ 21	iP NEZ i N e Z i E i E e N e E e Z	11 21 44 22 23 23 22 23 26 27 40 30 38 32 00 33 40					4350	USCGS: 27½ S, 176W, Kermadec Islands.
57	✓ 21	eP Z	11 32 53					10600	USCGS: 14N, 52E, Gulf of Aden, Mag. 6½ - 6¾ (Pas.)
58	22	iP Z i Z	11 43 47 44 12						
59	✓ 22	eP NZ iPcP Z	17 31 47 32 00					8050	USCGS: 37½ N, 141½ E, Off east coast of Honshu, Japan. Slightly deeper than normal.
60	✓ 23	eP NEZ ipP Z e E e(S) E i E i Z eL NE eL Z	14 06 30 06 42 08 04 12 10 13 16 15 48 20.7 21.4					4350	USCGS: 27½ S, 176W, Kermadec Islands.
61	23	eP Z	15 34 53						
62	23	eP NEZ iS Z	18 32 44 33 28						Local Earthquake.
63	✓ 24	iP NEZ	07 25 08.5						
64	24	eP NEZ	09 21 53					4300	USCGS: 27½ S, 176½ W, Kermadec Islands region.

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks.
					A _n	A _e	A _z		
65	Dec. 24	iP NEZ i NEZ i Z iPP Z i E	13 17 00 17 05 17 23 18 42 19 00				5050	USCGS: 9N, 126 1/2 E, Near north coast of Mindanao, P.I. Z long period missing.	
66	24	iP NEZ i Z e Z	13 48 57 49 07 50 52						
67	25	iP NEZ	00 27 01						
68	25	iP NEZ i Z e N e E e Z	03 56 25 57 12 08.5 09 00 09.3			-	4350	USCGS: 27 1/2 S, 176W, Kermadec Is. region.	
69	25	iP NEZ i Z	07 14 03.5 16 43						
70	25	iP NEZ	11 46 15			-			
71	25	iP NEZ i Z	16 01 35 01 43						
72	26	eP NEZ	01 13 06						
73	26	iP NEZ i Z	12 17 33 17 42						
74	26	iP Z	15 33 02						
75	26	iP N Z	16 22 46						
76	27	eP NEZ i N Z i E iSKS N iS NE e Z e E eSS NE (eL) NE (eL) Z	16 06 10 06 22 06 38 16 38 17 14 18 07 19 08 23 15 30 00 31.3				10300	USCGS: 56N, 162 1/2 E, Kamchatka.	
77	28	eP NEZ e Z	07 33 31 33 41				9950	USCGS: 52 1/2 N, 160E, Near east coast of Kamchatka, Mag. 6 1/2 (Pas.) 6 1/4 (Berk.)	
78	28	eP Z	13 17 28				9950	USCGS: 52 1/2 N, 160E, Near south-east coast of Kamchatka, Mag. 6 (Pas.)	
79	28	eP Z e Z	20 39 50 45 50						
80	29	eP NEZ	01 21 08						
81	29	eP NEZ i Z iPP Z i NEZ iPcP EZ	07 11 09 11 16 12 26 12 32 13 43				3900	USCGS: 2S, 126E, Spice Islands.	
82	29	iP NEZ i Z	14 40 00 43 00						
83	29	iP NEZ e NEZ	17 22 44 22 24			+	4750	USCGS: 21 1/2 S, 174W, Tonga Islands.	
84	29	iP NEZ	18 13 35			-			
85	29	iP NEZ	19 50 36						
86	29	iP NEZ i(PcP) Z	20 43 47 45 08				5950	USCGS: 18N, 145E, Mariana Is. h about 350Km. Mag. 6 - 6 1/4 (Pas.)	

No.	Date 1959	Phase	Time (G.M.T.)	Per	Amplitude			△ Km.	Remarks.
					A _n	A _e	A _z		
86	Dec. 29	iS	NEZ	50 52					
Cont.	Dec. 29	iP	NEZ	21 33 32			3450	USCGS: 8½ S, 122E, Flores Islands.	
87	29	e(S)	NEZ	39 36					
	29	i	Z	42 36					
88	30	eP	NEZ	00 04 22					
89	30	iP	NEZ	14 03 24			4650	USCGS: 6S, 105½ E, Sunda Strait, h about 150 Km. No Long Period records.	
	30	i	Z	03 33					
90	30	iP	Z	23 42 12					
91	30	iP	Z	00 03 14					
92	31	iP	NEZ	10 35 52			3550	USCGS: 3S, 139½ E, Northern New Guinea.	
	31	e	NEZ	36 36					
	31	e	Z	42 48					
	31	eL	NE	43 00					
	31	i	Z	47 12					
	31	eL	Z	49 14					
93	31	eP	NEZ	20 43 07					
94	31	eP	NEZ	23 40 22					

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