

1959 Complete 599

Jan - Apr -

MATSUSHIRO SEISMOLOGICAL OBSERVATORY, JAPAN.

Seismological Bulletin

for January 1 to February 20, 1959

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
1.	iP iS iP:S	NEZ NEZ	02	58	18.6 21.1	3.	iP i S i	E E N N	05	40	48.3 41 07 43 57
1.	iPZ,PNE eS? iP:Dilatation	Z	06	33	24.2 46				33.7 N., 134.4 E. Shikoku, Japan. h:20 km ca. J.M.A.		
✓ 1.	PZ, ePNE eS L L L	N E N NE	07	37	21 46 41 54 36 41 56 11	3.	iP iP:S, Dilatation	NEZ	08	13	52.8
	Mag. 5 1/2 (Matsushiro) 19 S., 176 W. Tonga Is. region. H=07 26 12 USCGS					3.	P	NZ	10	32	56
✓ 1.	P i i	NEZ Z Z	07	41	47 56.6 28.6	3.	PN, ePEZ		10	48	61
							33.7 N., 134.4 E. Shikoku, Japan. h:20 km ca. J.M.A.				
✓ 1.	PZ, ePNE		08	00	48	3.	PKP eL eL eL	Z N N NE	11	57	08 12 19 16 20 10 24.1
1.	eP	NEZ	08	42	17		Mag. 6 1/2 - 6 3/4 (Matsushiro) 14 1/2 S., 75 1/2 W. Near coast of Peru. H=11 17 38 USCGS				
1.	iP i i eL iP:N	N NZ Z N	10	28	12.3 12.5 29 30 30 56	3.	iP i eS	NZ N N	12	12	57.1 57.5 13 21
1.	iP i iS eL iP:Compression	Z N NE N	14	31	24.7 25.1 32 26 50	3.	iP S iP:N	NZ N	20	28	05.6 19.1
2.	iPZ,PNE eS iP:Compression	NE	06	44	14.8 47	4.	PZ, ePNE eS SS eL	N N N N	03	25	52 53 16 37 07 ca. 44 05 ca.
							Mag. 5 1/2 - 5 3/4 (Matsushiro) 10 S., 111 1/2 E. South of Java. H=03 16 33 USCGS				
3.	P i i iS P:Compression	Z N E N	11	16	03 04.4 05 33.9	4.	P	NEZ	03	43	47
							21 S., 174 1/2 W. Tonga Is. H=03 32 15 USCGS				
2.	P S	NEZ NEZ	16	26	04.0 24	4.	P	NEZ	07	58	33
							46 1/2 N., 151 E. Kurile Is. h:100 km ca. H=07 56 27 USCGS				
2.	e eL	N NE	23	40	06 ca. 41 46 ca.	4.	iP i iS iP:Dilatation	Z N E	15	29	46.3 46.4 30 15.5

4.	P	NEZ	20	37	22	continued	Z		34.2		
	eS	E		38	04 ca.	i	Z	12.233	35.2		
4.	iP	NEZ	20	59	48.1	i	Z		36.4		
	iS	E			54	eL	N	37	36		
	iP:S,Dilatation					eL	E	38	20		
4.	iP	NZ	21	17	00.2	Mag. 5 1/4 (Matsushiro)					
	iP:N,Compression					47 1/2 N., 153 1/2 E. Kurile Is.					
	8 S., 126 1/2 E. Timor Is. region.					H=12 29 45 USCGS					
	H=21 08 52				6.	iPZ,PNE		13	59	25.6	
						iP:Compression					
5.	PZ,ePN		05	08	16	6.	iP	Z	14	57	21.7
	eS	N			49	eS	N	15	04	32	
+5.	P	Z	09	43	41	eSS	N		08	32	
	sPP	N			46	eL	E		14	37	
	eS	NE			50	eL	N		15	30	
	eL	N			57	37	iP:Compression				
	Mag. 5 3/4 (Matsushiro)					Mag. 5 1/4 - 5 1/2 (Matsushiro)					
	7 S., 156 1/2 E. Solomon Is.					7 1/2 S., 105 1/2 E. South of Java.					
	h:100 km ca.					h:100 km ca.					
	H=09 35 13 USCGS					H=14 48 03					
+5.	iP	NEZ	09	57	36.9	6.	iPZ,PN		15	28	10.9
	eL	NE	10	14	01	eS	E		29	17	
	eL	N			18	i	E			19.5	
	eL	E			30	i	N			37	
	iP:N,W,Compression						L	E		46	
	Mag. 6 - 6 1/4 (Matsushiro)						L	N		30	23
	22 S., 171 1/2 E. Loyalty Is. region.						iP:Compression				
	H=09 46 42 USCGS					+7.	eP	Z	05	24	19
5.	iPnZ,PnN		13	32	24.5	eL	N		52	40	
	Sn	Z			33	29 N., 55 E. Southern Iran.					
	Sg	Z			33	H=05 13 18 USCGS					
	iP:Dilatation					7.	P	Z	06	35	27
	34.3 N., 132.8 E.						i	Z			41
	Southwest of Honshu, Japan.						e	N		44	36
	J.M.A.						e	N		47	34
6.	iP	NEZ	04	28	16.2	7.	iP	EZ	08	32	34.9
	eS?	N			29	i	Z				46.7
	iP:S,E,Dilatation						iP:W,Dilatation				
6.	iPEZ,PN		04	43	33.2	7.	iP	Z	08	35	50.1
	S	NE			44						
	L	NE			45	7.	iPZ,PE		09	51	25.9
	iP:E,Compression						iP:Compression				
6.	iP	Z	10	41	01.9	7.	p	EZ	18	06	09
	i	N			02.0	eL	N		19	00	ca.
	i	E			06.0						
	eS	NE			42	8.	PKPZ,ePKPNE		01	52	07
	i	E			38	PP	N		53	56	
	iP:Compression						sPP	N		54	47
	29 N., 139 1/2 E. Bonin Is. region.						i	N		55	05
	h:450 km ca.						pPPP	N		57	13
	H=10 39 08 USCGS						e	N	02	04	58
8.	PZ,ePNE		12	33	28		SKKP	E		05	28
	(cont.)						(cont.)				

continued

e N 02 10 11
 sSS E 11 28
 L E 24 21

Mag. 6 $\frac{1}{4}$ (Matsushiro)
 15 $\frac{1}{2}$ N., 61 W. Windward Is.
 h: 100 km ca.
 H=01 33 48 USCGS

8. iP NZ, PE 06 38 30.6
 S N 13
 iP: N, Dilatation

8. iP NEZ 15 37 19.6
 iS N 36.0
 iP: S, Dilatation

8. iP N 15 53 05.7
 iS N 08.6

8. e N 16 42 45
 eL E 47 20
 eL N 48 45

~~8.~~ iP Z 22 43 53
 i N 48 27
 e N 49 04
 S N 50 01
 i N 08
 L E 54 01
 L N 06
 L N 56 17

iP: Dilatation
 Mag. 5 $\frac{3}{4}$ (Matsushiro)
 4 $\frac{1}{2}$ S., 138 $\frac{1}{2}$ E. New Guinea.
 H=22 36 08 USCGS

9. iPEZ, PN 03 44 25.2
 S N 45 15.2
 iP: Dilatation

10. P Z 03 04 30
 i NE 31
 eS N 05 10

10. P Z 05 24 29
 eS Z 25 07

10. P N 16 06 50
 S N 07 30

10. iP NZ 16 36 37.1
 iP: S, Compression

10. P NZ 21 58 23

~~11.~~ P NZ 07 38 15
 L N 40 57

11. eL N 07 56 56
 (cont.)

continued

eL N 08 10.2

11. iP NZ 08 38 19.5
 i Z 57.9
 S NE 39 01
 iL? E 24

iP: S, Compression
 40.1 N., 139.6 E. Near west coast
 of Honshu, Japan.
 h: 20 km ca. J.M.A.

11. P NZ 11 20 11
 i N 26

11. iP N 20 53 28.7
 iS? N 33.5
 iP: N

12. iP NEZ 02 16 24.0
 i E 31
 iP: N, W, Dilatation

12. iPZ, PN 03 14 59.3
 i NE 59.8
 i E 15 01
 iS NEZ 19.3
 iP: Dilatation

12. eP Z 03 26 58

12. iP EZ 09 54 18.1
 S N 45.8
 iS E 47.5
 iP: W, Dilatation

12. iP EZ 13 05 32.6
 i N 33.2
 e E 50
 iS? E 06 51
 iP: W, Compression

12. iP EZ 14 17 03.5
 i E 06.0
 i N 08.9
 S N 45
 iP: Dilatation

~~12.~~ P Z 14 18 46.8
 i NE 48.0
 S NE 20 27.0

P: Compression
 Mag. 5.5 (Matsushiro)
 44 N., 146 E. Near north coast
 of Hokkaido, Japan.
 h: 100 km ca.
 H=14 16 28 USCGS

12. iP NEZ 14 47 17.7
 (cont.)

i Z 14 47 31.0

12. iP Z 16 41 45.9
 i NE 46.5
 e N 42 49
 iP:Dilatation

12. iPEZ,PN 17 13 05.7
 i N 23
 e E 31
 iP:E,Dilatation

12. P Z 17 46 27.7
 i NEZ 29.2
 eS E 50 22
 L E 51 52
 P:Compression
 14½ N., 145 E. Mariana Is.
 h:150 km ca.
 H=17 41 29 USCGS

12. iP NEZ 19 36 08.0
 S N 48
 i N 56
 i N 37 26
 iP:N,W,Compression

✓ 13. P Z 01 20 43.3
 i N 43.9
 i E 45
 i E 48.5
 S N 24 44
 i NE 01 25 02
 Lr E 26 14
 L Z 28 13
 Mag. 6½ (Matsushiro)
 18½ N., 146 E. Mariana Is.
 H=01 15 25 USCGS

13. P EZ 05 51 57
 S E 52 03

✓ 13. iP Z 07 28 37.9
 i E 38.1
 i N 39
 eS E 34 49
 eL N 39 06
 iP:Dilatation
 53 N., 167½ W. Fox Is.
 H=07 20 58

✓ 13. iP Z 07 42 42.8
 i E 44.9
 L E 55 55 ca.
 eL N 58 21 ca.
 iP:Compression
 Mag. 6 (Matsushiro)
 3 S., 102 E. Near south coast
 of Sumatra.

continued

h:150 km ca.
 H=07 33 43 USCGS

13. P Z 09 15 54
 eS N 24 47
 e E 35 08
 e E 36 53
 19 S., 176½ E. Fiji Is.
 H=09 05 02 USCGS

✓ 13. P Z 09 49 35
 L N 10 10 59
 9 S., 67½ E. Chagos Archipelago
 region.
 H=09 37 18 USCGS

13. iPZ,PE 14 34 43.8
 i NE 44.5
 i E 50.3
 i NEZ 57.3
 S N 37 27
 L E 51
 iP:E,Dilatation
 Kurile Is.
 H=14 31 53 USCGS

13. ePKP Z 19 26 15
 i Z 41
 e E 43
 i E 58
 16½ S., 71½ W. Southern Pern.
 h:150 km ca.
 H=19 06 40 USCGS

13. iPNE,PE 19 47 43.7
 iS E 48 02.7
 iS N 03.2
 iP:N,W,Dilatation

14. P Z 09 11 48.6
 i E 50
 i N 52
 S E 12 43.6

14. iP E 12 59 17.0
 S E 35
 iP:E

14. P Z 13 07 49.9
 i NE 50.1
 i Z 51.0
 iS NE 08 33.1
 P:Compression

✓ 14. iP Z 13 27 51.4
 i NE 51.7
 iP:Dilatation
 21 S., 179 W. Fiji Is. region,
 h:650 km ca. (cont.)

continued

H=13 17 39

USCGS

14. iP NEZ 15 26 39.5
 S EZ 53
 S N 55
 iP:S,E,Dilatation

15. iP EZ 15 34 52.2
 i N 52.8
 i E 35 02.5
 i E 13.8
 i N 15
 iP:E,Dilatation

15. P EZ 15 42 21.3
 i N 23.8
 i NE 33
 i Z 35
 iP:W
 27 N.,128 E. Ryukyu Is.
 H=15 39 12 USCGS

15. iP NEZ 21 31 10.8
 iSE,SN 40 01.8
 sS E 42 59
 L N 50 35
 iP:S,E,Dilatation
 Mag.6 $\frac{1}{2}$ (Pasadena)
 25 $\frac{1}{2}$ S.,180 South of Fiji Is.
 h:500 km ca.
 H=21 20 26 USCGS

16. iP NEZ 01 38 47.6
 i N 39 41
 PPP Z 40 48
 iS NE 44 42
 Lq N 47 16
 Lr1 EZ 49 58
 Lr2 E 56 12
 iP:S,W,Compression
 Mag.6 (Matsushiro)
 55 $\frac{1}{2}$ N.,171 W. Fox Is.
 H=01 31 22 USCGS

16. iP NZ 11 02 40.6
 i E 43
 iP:S,Compression
 22 S.,170 E. Loyalty Is.
 H=10 51 52 USCGS

16. P Z 15 28 26

16. P Z 17 01 06.5
 eS E 09 54
 eL NE 16 51
 e E 21.2
 52 N.,131 $\frac{1}{2}$ W. Queen Charlotte Is.
 H=16 50 40 USCGS

17. P NEZ 10 20 54
 i N 21 03
 i E 04
 eL? N 26.4
 P:E,Dilatation
 45 $\frac{1}{2}$ N.,153 E. Kurile Is.
 H=10 17 19 USCGS

17. P Z 11 39 56.0
 P:Dilatation
 10 S.,162 $\frac{1}{2}$ E. Solomon Is.
 H=11 30 46 USCGS

17. P NEZ 15 53 55.3
 P:N,E,Dilatation

17. P E 16 21 26.1
 i NZ 26.4
 S N 22 06
 P:W

17. P NEZ 18 58 36.4
 S NE 46
 P:N,E

17. P EZ 19 22 11
 S NE 24

18. iP NEZ 10 32 20.6
 iS? E 34.6
 i N 37.4
 iP:S,W,Compression

18. iP Z 14 49 12.9
 i Z 41
 i E 51 02.5
 L E 15 03 16
 iL N 10 26
 iP:Compression
 Mag.5 $\frac{3}{4}$ (Matsushiro)
 5 S.,152 $\frac{1}{2}$ E. New Britain region.
 H=14 41 06 USCGS

18. P Z 15 55 45
 52 N.,166 $\frac{1}{2}$ W. Fox Is.
 H=15 48 18 USCGS

18. P NZ 19 16 45
 i E 46.6

18. P Z 19 33 52.1
 i Z 35 41.4
 L N 48 04
 P:Compression
 Mag.5 $\frac{1}{2}$ - 5 $\frac{3}{4}$ (Matsushiro)
 5 S.,152 $\frac{1}{2}$ E. New Britain region.
 H=19 25 45 USCGS

18. iP NEZ 21 37 18.9
 iP:N,W,Dilatation

18.	P	NEZ	22	33	38.6	i	N	02	29	10	
✓	PcP	N		34	00	S	E			12	
	pP?	Z		35	20						
	i	E			39	20.	iP	E	02	57	29.7
	eS	E		42	12.		iS?	Z			39.3
	P:S,E,Dilatation						iP:E				
	Mag.6 $\frac{1}{4}$ (Pasadena)										
	19°S.,178°W. Fiji Is. h:450 km ca.					20.	iP	NEZ	08	20	06.1
	H=22 23 15 USCGR						i	E			06.8
							iS	NEZ			47.3
19.	iP	NEZ	00	34	30.0		i	E		21	06.3
	eS	N			36		iP:S,E,Dilatation				
	i	N			52						
	iP:N,W,Dilatation					20.	iP	Z	11	20	24.2
							i	N			25.8
19.	eP	N	05	38	33		S	N			28.8
	i	N			50		iP:Dilatation				
19.	P	E	06	56	36.1	20.	P	NE	11	54	32.3
	i	NZ			37						
	i	N			51	20.	P	E	16	54	37.2
	iS?	E		57	18		i	E			40
	e	N			20		i	N			49
							i	N			55
19.	iP	Z	08	14	47.9		S?	N	17	01	34.
	i	N			15		S	E			39
	eL?	E			16.7		i	N			03
	iP:Compression						iL	E			05
	30 N.,132 E. South of Kyushu, Japan.						L	E			09
	H=08 12 46 USCGR						Mag.5 $\frac{3}{4}$ (Matsushiro)				
							9 S.,126 E. Timor Is.				
							H=16 46 11 USCGR				
19.	iPEZ,PN		10	53	46.2	20.	P	NE	23	20	15
	iP:E,Dilatation						S	NE			37
	16 S.,168 $\frac{1}{2}$ E. New Hebrides Is.										
	H=10 43 42 USCGR					20.	P	Z	23	21	48
19.	P	NE	11	17	05		i	N			48.7
	e	E			32		iE	E			50
	i	N			35		S	NE		22	11
19.	iP	Z	11	38	42.3	21.	P	NEZ	09	35	18
	i	E			43.3		S	NEZ			51
	S	E		39	06.2						
	i	N			07	21.	PZ,ePNE		09	57	09
	i	Z			08.3		i	NEZ			11
	iP:Dilatation						SNE,eSZ				50
							i	Z			54
19.	iPEZ,PN		21	49	16.8	21.	PZ,ePNE		11	09	38
	e	E			50						
	iP:W,Dilatation										
20.	P	Z	01	31	49.0	21.	PZ,ePN		11	13	27
	i	E			49.7		i	E			28.7
	i	N		32	01.8		i	N			56
	i	E			16.0		e	N		17	22
	P:Compression						S	Z			56
							S?	NE			59
20.	eP	Z	02	29	07		L	NE		21	49
	(cont.)						eL	Z			50
							e	N		23	23
							(cont.)				



continued

✓ iP:Dilatation
Mag. 5 1/4 - 5 1/2 (Matsushiro)
19 N., 120 E. Near north coast of
Luzon, Philippine Is.
H=11 08 10 USCGS

21. iP Z 12 54 27.3
i NEZ 27.6
S NEZ 45

iP:Compression
Mag. 4 3/4 - 5 (Matsushiro)
35.7 N., 137.2 E. Honshu, Japan.
h:10 km ca. J.M.A.

21. P EZ 13 03 22.3
i N 22.7
S NEZ 04 05
P:E,Dilatation

21. e N 14 37 57
e N 41 27
L N 45 56

21. eP NEZ 14 46 59
e NE 47 41

21. iP Z 16 49 46.0
iP:Dilatation

21. P Z 17 44 33
e Z 48 46

21. P Z 21 52 30.3
i E 37
SE, eSN 53 12
P:Dilatation

✓ 22. iPEZ,PN 05 11 23.5
S? N 12 07
iP:E,Dilatation
Mag. 6.6 (Matsushiro)
34 N., 142 E. Near east coast of
Honshu, Japan.
H=05 10 25 USCGS

22. eP NEZ 06 05 21

22. eP? NEZ 06 42 05 ca.
i NE 24

22. eP NEZ 06 47 13
e NZ 37

✓ 22. P NZ 07 35 16
i N 57
S? Z 36 51
i N 37 27
L E 38 00
(cont.)

L N 07 38 33
Mag. 5.4 (Matsushiro)
43 1/2 N., 144 1/2 E. Hokkaido, Japan.
H=07 33 14 USCGS

✓ 22. iP NEZ 09 47 34.9
i N 48 11
iS? Z 18
i NE 25
L N 26
i N 35
i E 39

iP:S,W,Compression
Mag. 5.8 (Matsushiro)
38 1/2 N., 142 E. Near coast of
Honshu, Japan.
H=09 46 40 USCGS

22. eP NEZ 11 56 36
S? E 12 00 43
eL N 03 51
eL E 04 17

Mag. 4 1/2 - 4 3/4 (Matsushiro)
52 N., 159 E. Near east coast of
Kamchatka.
H=11 51 30 USCGS

22. iP NEZ 12 05 13.6
iSNE,SZ 33
iP:S,E,Dilatation

22. eP NEZ 12 42 12
51 N., 180 Andreevof Is.
H=12 35 54 USCGS

22. P NEZ 12 42 31
S? N 43 20
S? E 22

22. iPEZ,PN 13 23 01.3
i N 13
i E 13.1
i EZ 30
i NZ 24 21
iP:E,Dilatation

22. iPEZ,PN 14 10 14.2
S NE 32
iP:W,Compression

22. P NEZ 16 57 25
S NEZ 58 12

22. e N 18 08 34
eL N 11 48
eL E 13 16

22. eP NEZ 19 04 27
e NE 05 20

22.	eP? S?	NE N	19 09 31 10 25		continued H=05 08 35		USCGS	
22.	eP eS?	NEZ NE	20 09 47 10 43		24.	PEZ, ePN S? N	05 46 12 47 15	
22.	eP i L	Z N E	23 56 17 21 00 04 06 ca.		24.	PEZ, ePN S EZ	07 49 12 32	
23.	eP i	NEZ Z	03 33 01 20		24.	iP i iS iP:E, Dilatation	07 52 31.1 36 46.1	
23.	P i i P:Compression	NEZ Z N	05 35 44.8 57 37 18	X	24.	P eS eLq eLr	NEZ N NE NE	07 58 56 08 05 33 03 36 10 56
23.	P i i i i i	NEZ NEZ Z N N E	07 00 52 01 11 36 50 05 21 38		Mag. 5 $\frac{1}{4}$ (Matsushiro) 1 $\frac{1}{2}$ S., 116 $\frac{1}{2}$ E. Near east coast of Borneo. H=07 50 52 USCGS			
23.	eP S?	N Z	07 06 25 07 14		24.	iP i i iP:S, Dilatation	NZ E N	09 39 42.6 40 31 32
23.	eP S	NEZ NZ	07 46 26 54		24.	eP i e eL eL	NEZ Z N E N	15 42 02 ca. 43 49 46 51 52 19 54 40
23.	iP S? S? iP:E, Dilatation	EZ N E	08 46 31.0 47 26 32		New Britain region. h:100 km ca. H=15 33 56 USCGS			
X 23.	eP eS i	NEZ NZ N	10 21 46 22 42 23 38	X	24.	P e	Z %	16 02 54 03 18
23.	P i P:Dilatation	Z NE	18 32 53.9 54.2		17 $\frac{1}{2}$ S., 175 W. Tonga Is. region. h:100 km ca. H=15 51 47 USCGS			
23.	P e	NEZ E	19 00 28 39		24.	PZ, eNE i	E	18 43 50 46 23
24.	eP	NEZ	02 01 08	X	24.	SKN e eS SS	N N N N N	20 09 11 14 05 16 04 20 04 23 09 28 10
24.	eP	Z	04 16 16		Mag. 6 $\frac{1}{4}$ (Pasadena) 15 N., 92 $\frac{1}{2}$ W. Mexico-Guatemala border. H=19 42 20 USCGS			
X 24.	iP i iSEZ, SN iP:W, Compression Mag. 5.1 (Matsushiro) 37 $\frac{1}{2}$ N., 141 E. Near coast of Honshu, Japan. h:100 km ca.	EZ N	05 09 17.7 17.9 38.1		24.	L? Mag. 6 $\frac{1}{4}$ - 6 $\frac{1}{2}$ (Pasadena) 37 $\frac{1}{2}$ N., 24 $\frac{1}{2}$ W. Azores Is.	N	20 56.5 ca.

(cont.)

(cont.)

continued					
H=19 55 14			USCGS		
24.	iP	EZ	22	03	09.5
	i	Z			25
	i	Z			40
	iP:W,Compression				
25.	P	NEZ	00	22	00
	i	Z			07
	S	Z			43
25.	iP	NEZ	05	06	03.5
	S	E			54
	i	N		07	00
	i	Z			17
	iP:N,E,Dilatation				
25.	P	NE	05	28	01 ca.
	i	E			09
	S?	Z			45
	i	N		29	12
25.	PZ,ePNE		06	22	08
	S	NE			29
25.	PEZ,ePN		10	44	55
	S?	Z			45 18
25.	PNZ,ePE		11	54	40
	i	E			55 34
25.	eP	Z	17	25	25
	i	E			31
	S?	N		26	09
	i	Z			13
25.	eP	EZ	17	44	18
25.	FN,ePEZ		18	59	23
	S	NE			35
25.	eP	NEZ	22	38	10
25.	eP	EZ	23	41	09
25.	eP	Z	23	56	10
	eS?	Z			45
26.	e	N	03	04	02
26.	P	Z	05	59	04.6
	PcP	Z	03		27
	e	E	06	02	20
	e	N		05	08
	P:Compression				
	16 $\frac{1}{2}$ S.,174 $\frac{1}{2}$ W. Samoa Is. region.				
	h:300 km ca.				
	H=05 48 27				
	USCGS				
26.	P	NEZ	12	37	27.7
	i	Z			38 15.5
	iS	NEZ			16.1
	P:N,W,Dilatation				
26.	iPZ,PNE		14	47	33.1
	iP:Dilatation				
26.	iP	NEZ	19	21	30.8
	iP:N,W,Dilatation				
26.	iP	NEZ	20	05	26.5
	S	NEZ		06	11
	iP:N,W,Dilatation				
26.	eP	NEZ	20	44	23
	eS	NEZ			45 04
26.	P	NEZ	21	46	27
	S?	N			49 14
	LN,eLE				50 12
	27 N.,128 $\frac{1}{2}$ E. Ryukyu Is.				
	H=21 43 12				
	USCGS				
26.	iPNZ,PE		23	23	28.3
	S	NE			56
	iP:S,E,Dilatation				
	Mag.4.6 (Matsushiro)				
	36.2 N.,140.9 E. Near coast of				
	Honshu, Japan.				
	h:40 km ca. J.M.A.				
27.	iPEZ,PN		01	44	27.7
	iP:N,E,Dilatation				
27.	eP	NE	01	50	06
	iS	E			06.6
27.	eP	Z	02	30	12
27.	iPE,PZ		12	38	24.4
	i	Z			34.9
	S?	NEZ		39	25
	L	N			43
	L	E			54
	L	Z			58
27.	eP	NE	17	34	03
27.	P	NZ	20	15	41
	i	E			42.0
27.	P	Z	21	11	58.0
	i	NE			58.1
	i	E		13	39
	L	E		19	31
	L	N			39
	Mag.4 3/4 - 5 (Matsushiro)				
	4 N.,126 E. Celebes Sea.				
	(cont.)				

continued

M=200 km ca.
H=21 05 29

27.	iPZ,PN		23	37	42.0
	i	E			42.4
	eS	NE	41	44	
	L	E	44.0		
	L	N	44	04	

iP:S,Compression
Mag.4 3/4 - 5 (Matsushiro)
52 N.,159 1/2 E. Near southeast coast of Kamchatka.
H=23 32 52 USCGS

28.	iP	NZ	01	22	15.0
	i	E			15.2
	i	E			35
	i	N			57 ca.
	i	Z	23	09	

iP:N,Compression

28.	eP	Z	01	54	41
-----	----	---	----	----	----

28.	PEZ,ePN		08	54	28
	S	Z		55	13
	L	N			47
	L	Z		56	17

28.	eP	Z	10	05	14
	i	E			19
	S	NZ			47

28.	PKP	Z	10	23	55.0
	e	NE		24	06
	i	Z		26	19

PKP:Compression
Mag.6 1/4 (Pasadena)
30 1/2 S.,79 W. Juan Fernandy Is. region.
H=10 04 10 USCGS

28.	iP	NZ	14	01	50.7
	i	E			50.8
	i	N	02	28	
	iSNE,SZ		03	21.3	
	i	Z		05.0	ca.

Mag.5 1/4 (Matsushiro) iP:S,Dilatation
23 1/2 N.,138 E. South of Honshu, Japan.
h:550 km ca.
H=13 59 53 USCGS

28.	P	Z	16	40	39.9
	S	E		42	06
	i	Z			24
	L	NE	43	45	

P:Dilatation

28.	iP	Z	17	14	47.6
-----	----	---	----	----	------

(cont.)

continued

	i	Z	17	17	01.3
	i	Z		19	23
	i	E			28
	i	Z			44
	e	N		21	06
	e	N		24	09
	eL?	N		27	37

iP:Compression

28.	eP	NZ	23	08	32
	i	Z			36
	i	NE			37
	iS	E		09	09.8

29.	P	Z	04	47	45.4
	i	E			48.9
	S	NE		48	37

29.	eP	Z	06	45	45
	i	Z		46	22
	S?	N		48	28
	L	N		49	39

29.	P	NEZ	07	04	58 ca.
	i	NZ		05	22
	i	E		06	49
	i	NE		07	05
	L	N			18

29.	PEZ,ePN		11	45	18
	iS	EZ			37.9

29.	iP	Z	14	07	26.8
-----	----	---	----	----	------

iP:Dilatation

29.	PZ,ePNE		20	28	40
	S	N		34	26
	L	N			36.9
	L	E		37	10
	L	Z			38.9

Mag.5 1/2 (Matsushiro)
52 N.,174 W. Andreanof Is.
H=20 21 27 USCGS

29.	iPEZ,PN		21	05	30.7
	PcP?	Z		07	49
	i	Z		08	22

iP:S,W,Compression
52 N.,174 W. Fox Is.
H=20 58 18 USCGS

29.	iPKP	Z	22	55	41.5
	i	N			43
	i	E			46
	i	N			49
	i	Z			54
	i	E		56	46
	i	N	23	02	22

iPKP:Dilatation

(cont.)

continued

Southern Bolivia.

h:150 km ca.

H=22 35 54

USCGS

29. eP Z 23 19 27
 i NE 30
 i NZ 34
 i E 35
 i NE 50

29. eP EZ 23 35 27
 i EZ 38 30
 i N 39 05
 iS N 44 23
 iSS N 48 46
 e E 51 32
 L E 56 35
 iL N 57 06
 eL Z 35

Mag. $6\frac{1}{4}$ - $6\frac{1}{2}$ (Matsushiro)
 71 N., 8 E. Off coast of Norway.

H=23 24 30

USCGS

30. iP EZ 00 28 28.7
 pPP N 30 42
 ScP? Z 33 11
 eL E 44 27

iP:W, Compression

Mag. $5\frac{3}{4}$ - 6 (Matsushiro)

10 S., 161 E. Solomon Is.

H=00 19 25

USCGS

30. eP? Z 01 20 54
 i EZ 21 00

30. eP EZ 01 28 25
 e N 29
 e N 29 02

30. PEZ, ePN 09 46 10
 e NE 34

30. iPZ, PNE 13 21 08.9
 e E 22 00
 i N 10

iP:W, Compression

30. iP NEZ 13 41 23.2
 i NE 31
 S NEZ 45

iP:S,E, Dilatation

35.7 N., 140.3 E. Central Honshu, Japan.

h:60 km ca.

J.M.A.

30. iP NEZ 15 30 24.0
 i NZ 33
 i E 31 03

(cont.)

continued

i i NN 15 31 22
 iP:N,E, Compression

30. PKP Z 16 35 45
 i EZ 58.9
 i N 59.5
 26 $\frac{1}{2}$ S., 71 W. Near coast of Chile.
 h:100 km ca.
 H=16 15 58 USCGS

30. iP NEZ 18 21 00.9
 i Z 31
 i N 32
 i Z 23 01
 PP NE 24 07

iP:S,E, Dilatation

31 S., 179 W. Kermadec Is.

H=18 09 02

USCGS

30. P NZ 20 40 57.4
 i NZ 59.2
 i E 41 23
 i N 24
 S NEZ 42 53
 L E 43 02
 L Z 31
 iL E 52
 L N 44 13 ca.

iP:N, Dilatation

Mag. 5.9 (Matsushiro)

44 N., 144 E. Hokkaido, Japan.

H=20 38 58

USCGS

30. eP NEZ 20 53 25

30. PNZ, ePE 21 03 05

30. PNZ, ePE 22 03 16

30. P NEZ 22 18 51
 i Z 53

S? E 20 20
 i Z 43
 L E 52

Mag. 6.1 (Matsushiro)

44 N., 144 E. Hokkaido, Japan.

H=22 16 47

USCGS

30. eP NEZ 22 37 37

30. eP NZ 22 42 39
 i E 41

31. P EZ 05 56 40.7
 i N 41.2

P: Compression

31. iP NEZ 08 12 04.0
 (cont.)

Sl.	Phase	Direction	Time	Lat	Long	Depth
			08	18	180	
	iP:N, E, Compression					
31.	P	NEZ	10	30	28	
31.	P	NZ	11	57	52.0	
	i	Z		59	29	
	L	E	12	01	05	
	P:Dilatation					
31.	eP	EZ	14	34	26	
	i	EZ			37.9	
	i	NZ			49	
31.	eP	NEZ	15	58	24	
	eL	E	16	01	20	
	eL	N			45	
31.	P	Z	21	24	01	
	S	Z			13	
	i	Z		25	07	
	i	N			24	
31.	P?	Z	21	25	30	
	i	EZ			33	
	S	Z			46	
31.	P	NZ	23	01	15	
	i	E		03	03	
	i	N			22 ca.	
	L	N		04	10	
	eL	E			57	

February

1.	iP	Z	03	22	27.2	
	pP	Z		23	22	
	e	E			27	
	PcP	Z			33	
	iP:Dilatation					
	36½ N., 71 E.					
	Hindu Kush					
	h:200 km ca.					
	H=03 13 26					
	USCGS					
1.	iP	Z	04	52	35.1	
	i	N			35.2	
	i	E			36.2	
	S	Z		53	00	
	iP:Dilatation					
1.	e	N	04	55	07	
	e	Z			09	
1.	P	EZ	05	38	19	
	e	N			20	
1.	iP	Z	06	38	10.1	
	i	NE			10.4	
	iP:Compression					
1.	iP	Z	06	52	05.6	
	i	N			05.8	
	i	E			05.9	
	S	Z			18.7	
	iP:Dilatation					
1.	eP	Z	08	50	19	
	i	Z			20	
	17½ S., 178 W.					
	Fiji Is.					
	H=08 39 18					
	USCGS					
1.	P	Z	09	06	18	
	e	E			19	
	eS?	N		09	29	
	eL	N		11	25	
1.	eP?	E	09	49	57	
	e	EZ			59	
	i	NZ		50	01	
	i	Z			09.25	
	i	Z			14	
	i	Z			52	
1.	P	Z	11	12	17.3	
	i	E			19.8	
	S	N		13	30.5	
	iS	Z			30.8	
	i	E			31	
1.	iP	Z	21	46	45.5	
	eS	NZ		47	07	
	iP:Dilatation					

Station	Phase	Time	Time	Time	Time	Time	Time	Time
2.	P	EZ	01	12	45.9			
	i	N			46.4			
	i	Z			57			
	i	Z		13	52			
	e	N		14	07			
	P:W., Compression							
2.	iP	NEZ	03	31	39.9			
	i	Z		32	56			
	iP:N., W., Compression							
2.	iP	Z	04	04	19.5			
	i	NE			19.7			
	e	E		05	51			
	iPcP	Z			55.9			
	e	Z		06	48			
	PPP	E		07	00			
	PPP	Z			04			
	iScP	Z		09	07.5			
	eS	NEZ		10	22			
	iP:Dilatation 6 1/2 S., 126 E. Banda Sea. h:150 km ca. H=03 56 12							
	USCGS							
2.	eP	NEZ	15	17	56			
	e	Z			57			
2.	iP	Z	16	47	49.0			
	i	NE			49.1			
	iP:Dilatation							
2.	eP?	Z	19	36	27			
	35 N., 24 E. Crete. H=19 20 37							
	USCGS							
2.	iPZ,PN		19	55	13.7			
	e	E			14			
	eS	N		20	00	14		
	eL	N			03	13		
	iP:Dilatation							
3.	iP	Z	01	52	06.8			
	e	NE			07			
	iP:Dilatation							
3.	eP?	Z	05	53	57			
	60 N., 151 W. Kenai Peninsula, Alaska. H=05 45 16							
	USCGS							
3.	P	EZ	07	49	00			
	iS	NEZ			02.2			
3.	iP	NEZ	08	14	45.0			
	S	NE		15	05			
	i	N			11			
	iP:S., W., Compression							
3.	iP	NEZ	08	38	29.0			
	eS	Z			47			
	eS	N			48			
	i	E			49.3			
	i	N			49.6			
	iP:S., W., Dilatation							
3.	iP	NEZ	11	52	40.8			
	S	NE			58			
	i	Z		53	02.8			
	i	Z			11.9			
	iP:S., E., Dilatation							
3.	iPZ,PN		14	25	17.7			
	e	E			18			
	e	Z		26	39			
	iN,eE			27	30			
	e	N		28	11			
	iP:Compression							
3.	PEZ,ePN		15	59	52			
	i	E			54.9			
	i	Z			55.1			
	i	E			58.5			
	i	N		16	00	00		
	S	E			25			
3.	P	NEZ	17	19	13			
3.	iP	Z	18	37	01.0			
	i	N			01.1			
	i	Z			25			
	S	NE		38	17			
	iP:Compression							
3.	P	NZ	19	18	43			
	i	E		20	26			
	i	N			27.1			
	i	Z			27.6			
	i	Z			36			
3.	iP	Z	23	11	57.2			
	i	NE			57.4			
	iS	E		12	15.7			
	i	N			15.9			
	i	Z			16.1			
	iP:Compression							
3.	eP	EZ	23	45	22			
	e	N			55			
4.	P	Z	00	13	26			
	i	Z			15	59		
	e	E			19	49		
	eL	E			21	53		
	Andreanof Is. H=00 06 25							
	USCGS							
4.	P	EZ	01	14	01			

8. PE,ePZ 05 56 42
 X i Z 42.7
 i N 44.4
 e E 06 05 20
 23 S.,180.
 South of Fiji Is.
 h:600 km ca.
 H=05 46 15 USCGS

8. e N 06 59 46
 eL N 07 01 44

8. e N 12 56 58

8. iP NEZ 13 00 37.0
 iS NEZ 01 16
 iP:S.,W.,Dilatation

8. P NEZ 14 59 30
 e E 34
 e N 15 00 28
 e N 01 39

8. P NE 15 22 23
 SE,eSN 48

8. iZ,eNE 16 06 08

8. iPZ,PN 16 06 41.3
 i E 41.8
 e E 13 27
 e N 46
 eL N 27 25
 iP:S.,Compression

8. P NZ 16 59 21
 i E 21.2

8. iP Z 23 53 34.0
 i E 34.2
 e E 54 37
 i N 38
 e N 40
 e Z 41
 iP:Compression

9. iP EZ 04 49 20.9
 X i Z 22.1
 i NE 22.2
 PP Z 50 36
 i Z 51 56
 PcP Z 59
 iS NE 54 50
 L E 56 31
 iL N 41
 i NE 57 06
 i Z 16
 i Z 54
 e E 59 45
 iP:W.,Compression
 Mag, 5 3/4 (Matsushiro)

(cont.)

continued
 50 1/2 N., 177 1/2 W.
 Andreanof Is.
 H=04 42 33 USCGS

9. P Z 05 54 00
 i Z 40

9. P Z 09 24 01
 eS Z 41
 e E 42
 e N 43

9. P NZ 11 50 26
 i E 27
 e Z 53 02

9. iP EZ 19 48 49.9
 i N 50.2
 S NEZ 49 02
 iP:E.,Dilatation

9. iPE,PN 20 50 46.0
 i Z 46.2
 S EZ 51 00
 iP:E.

9. P Z 21 21 20
 X i NE 21
 i Z 39
 e Z 23 30
 sPP EZ 35
 e N 26 53
 e N 30 42
 eL N 33 19
 5 S.,154 E.
 Solomon Is.
 h:100 km ca.
 H=21 13 18 USCGS

10. P EZ 05 27 29
 e Z 28 10
 e N 12

10. iP NZ 12 31 25.1
 i E 25.3
 S Z 35
 iP:N.,Dilatation

10. iP Z 14 47 59.6
 i NE 48 00
 S Z 40
 i N 41
 i E 42
 iP:Dilatation

11. iP Z 01 14 00.1
 i N 00.8
 i EZ 01.0
 i Z 09.7
 i NE

(cont.)

continued
 i Z 01 15 12.7
 i N 15
 i E 24.2
 iP:Dilatation

11. eP Z 03 49 46
 x e E 55
 e Z 53 51
 e N 55 33
 eL E 53
 eL NE 04 00.9
 9 N., 127 E.
 Near east coast of Mindanao,
 Philippine Is.
 H=03 43 58 USCGS

11. i EZ 14 10 43.8
 e N 44
 Mag. 6 (Pasadena)
 16 N., 97 W.
 Near coast of Oaxaca, Mexico.
 H=13 52 15 USCGS

11. e N 22 05.7
 eL E 08.2
 eL N 08.7
 eL Z 08.8
 15 1/2 S., 173 W.
 Samoa Is. region.
 H=21 36 48 USCGS

12. iP NZ 17 14 05.7
 i E 06.2
 i E 21.4
 eS E 22 52
 e N 54
 eLq E 30.4
 eL N 31 40
 iP:N., Compression
 22 S., 173 E.
 Loyalty Is. region.
 H=17 03 10 USCGS

12. eP N 18 03 01
 e EZ 02
 e N 08.0
 e N 10.3

13. iP NE 01 56 17.0
 i N 54
 i E 55
 e N 02 01 50
 e N 04.4
 iP:N., W.
 Tonga-Kermadec Is. region.
 H=01 44 47 USCGS

13. eP Z 06 21 36
 e N 24.2

13. iP Z 07 27 03.7
 e Z 35
 iP:Dilatation

13. iP EZ 08 14 23.5
 i N 26.7
 i N 24.5
 i NEZ 52
 i Z 56
 i N 15 02
 i E 06
 iP:E., Dilatation

13. iP NZ 17 24 07.8
 i E 08.5
 i Z 09.4
 i NE 09.8
 i Z 32.8
 i E 34.1
 i N 35
 iP:S., Dilatation

13. iP Z 21 11 44.6
 iP:Dilatation

14. i Z 00 58 59.0
 i NE 59 00.0
 i Z 14.9
 i N 17.0

14. eP Z 04 44 42
 x iNZ, eE 43
 i E 45 04.4
 eS E 51 29
 e N 34
 eL NE 55 03
 e N 05 01.4
 e N 06.9
 e N 14 32
 7 1/2 S., 122 E.
 Flores Sea.
 H=04 36 10 USCGS

14. iP NEZ 10 16 19.9
 iS EZ 24.2
 i N 24.5
 iP:N., E., Compression

14. iP Z 15 41 32.5
 i NE 32.8
 i Z 38
 iP:Compression

14. iP Z 22 17 47.2
 e N 29.9
 eL N 30.9
 eL N 44.0
 iP:Compression
 28 N., 96 E.

continued

Pakistan foreshock.
H=22 10 43 USCGS

14. ~~x~~ iP Z 22 32 53.2
i E 53.3
e N 54

iP:Dilatation
28 N., 97 E.
East Pakistan.
H=22 25 50 USCGS

14. e EZ 23 32 53
e Z 34 27
i Z 35 19.1

15. ~~x~~ ePKP Z 04 19 30
i Z 31
e E 37
e N 42

Mag. 6 1/2 - 6 3/4 (Pasadena)
59 1/2 S., 25 W.
Sandwich Is.
H=03 59 25 USCGS

15. ~~x~~ ePKP Z 05 02 31
e Z 37
c E 41

Mag. 6 3/4 (Pasadena)
59 1/2 S., 26 W.
Sandwich Is.
H=04 42 35 USCGS

15. iP Z 06 00 03.4
i Z 59
iP:Dilatation

15. iP Z 13 31 13.6
e N 34 48
iP:Dilatation

15. iP NZ 16 39 59.7
i E 59.8
iS NEZ 40 10.7
iP:S., Dilatation

15. e N 20 18.9

~~x~~ 16. ~~✓~~ e Z 00 58 44
e N 01 17.9
e N 22.9
e N 33.7

1 S., 81 1/2 W.
Near coast of Ecuador.
H=00 39 32 USCGS

~~x~~ 16. ~~✓~~ iP NZ 08 05 09.1
i E 09.4
e E 14
i Z 14.9
i N 15.1

(cont.)

continued

iP:S., Dilatation
25 S., 180.
South of Fiji Is.
h: 500 km ca.
H=07 54 28 USCGS

16. eP Z 08 08 36
e NE 37
iS N 09 18.6
i E 18.9

16. iP NZ 09 57 41.9
i E 42.0
i Z 53
i N 58 28.1
i E 30.7
iP:N., Compression

16. iP EZ 13 12 21.9
e N 22
i E 26
i Z 26.1
i N 28
i N 54.1
e Z 13 00
e N 03
i Z 16.1
iP:W., Compression

~~x~~ 16. iP NEZ 17 55 30.5
iS NEZ 34.4
iP:S., E., Compression

16. e Z 18 56 52
e E 58
e N 57 52

16. e N 20 04 43

17. iP NEZ 08 03 59.1
iS E 04 04
iP:N., E., Dilatation

17. iP NEZ 08 10 51.8
i N 54.5
iS NEZ 55.5
iP:N., Dilatation

17. iP NEZ 09 12 42.2
iS NEZ 46.2
iP:S., W., Compression

17. iP Z 11 29 32.5
i NE 32.8
i Z 42.7
i E 42.8
i Z 43
eS NE 31 16
i Z 16.5
iP:Compression

17. e N 11 55 16
 e Z 17
 iN,eE 18
 i E 18.9
 15 N., 142 $\frac{1}{2}$ E.
 Mariana Is. region.
 H=11 49 59 USCGS

17. iP EZ 12 10 29.1
 X i N 29.2
 i N 36.9
 i Z 11 29
 i N 59
 i Z 12 05
 i Z 41.6
 i Z 57.6
 S NE 16 28
 iLq N 19 01
 i N 20 04
 e Z 21.8
 e Z 24.2
 iP:E., Dilatation
 Mag. 6 - 6 $\frac{1}{4}$ (Pasadena)
 51 $\frac{1}{2}$ N., 171 W.
 Fox Is.
 H=12 03 05 USCGS

17. iP Z 12 50 45.2
 X i N 45.5
 i E 45.6
 i NEZ 48
 i Z 51 40
 i N 42
 i E 50
 i Z 58
 i N 52 08
 iP:Compression
 31.0 N., 141.0 E.
 South of Honshu, Japan.
 h:100 km ca. J.M.A.

17. iP E 14 31 54.6
 i N 54.7
 iS N 32 04.9
 i E 05
 EPW.

17. iP EZ 20 43 29
 i N 29.7
 i Z 34 00

18. iP Z 02 03 00.5
 i NE 01.1
 iP:Dilatation
 34 S., 173 $\frac{1}{2}$ W.
 100 km ca.
 H=01 17 21 USCGS

18. iP Z 02 53 53.1
 i NE 53.2
 i E 54 19.2
 i Z 24
 iP:Dilatation

18. iP Z 04 14 18.9
 i E 19.0
 i N 19.2
 i E 19.3
 i NEZ 47
 iP:Dilatation

18. iP Z 10 01 39.4
 i NE 39.5
 i N 40.8
 i Z 41.2
 iS NEZ 43.3
 iP:Compression

18. iP Z 12 07 09.3
 X i NEZ 10.7
 e E 08 09
 i N 09 16
 iP:Compression
 42.0 N., 143.4 E.
 Hokkaido, Japan.
 h:50 km ca. J.M.A.

18. iP NZ 12 17 45.2
 i E 45.4
 iS E 18 05.2
 i Z 05.7
 i N 05.9
 iP:N., Dilatation

18. iP EZ 15 23 57.7
 i N 59.1
 i E 24 16
 iSEZ,SN 21
 iP:E., Compression

18. iP NZ 15 27 42.0
 i NEZ 42.5
 iS NE 28 02
 i Z 02.4
 iP:S., Dilatation

18. iP Z 16 54 04.3
 iS EZ 06.9
 i N 07.1

18. iP Z 17 33 55.4
 e NE 56
 i NZ 34 01
 e E 02
 eS N 38 21
 eL N 40.6
 L N 42 13
 (cont.)

continued

14 N., 144 E.
Mariana Is.
h: 250 km ca.
H=17 29 07

USCGS

18. iP Z 21 25 04.1
i NEZ 04.7
i Z 22.3
iS NEZ 25.0
iP:Dilatation

19. eP? NZ 02 52 09
i NZ 11.3
i E 11.8
i Z 30
e E 37

19. iP Z 06 11 52.2
e N 52.8
e E 54
i Z 12 07.0
i E 10.5
e NZ 12
e E 14
iP:Compression

19. iP NEZ 07 09 44.1
i E 45.3
i Z 11 07.3
i E 07.6
e N 08.3
e NE 11
i Z 13.3
e N 41
e N 13 46
iP:S.,E.,Compression

19. e Z 07 39 57
e N 46 47

19. iP Z 11 27 39.6
i E 39.7
e N 40
i NZ 48
e EZ 28 20
i N 20.5
iP:Dilatation

19. iP NZ 15 06 03.9
i E 04.4
iN,eE 10
i Z 15
e E 17
iN,eZ 30
iP:N.,Compression

19. i Z 21 21 41.0
i N 41.3
i E 41.9

19. iP NEZ 22 36 52.4
i E 37 21
iP:N.,W.,Compression

20. iP Z 01 36 16.6
e NE 17
iP:Compression

20. iP EZ 01 56 36.2
i N 36.5
i Z 38.4
i NE 38.6
e NE 57 23
iP:E.,Compression

20. iP N 03 17 38.9
i E 39.3
i Z 54.4
e Z 18 04
i N 19 54.6
eS? N 21.1
e N 22.3
e N 23.6

20. eP NE 04 29 06
i Z 06.6
iE,eZ 42
i EZ 49.9
e E 31 04
e Z 10
e E 13
e N 21
e N 45

20. ~~iPKP~~ Z 04 32 42.1
~~e E 43~~
~~e Z 50~~
~~i EZ 33 07.1~~
~~i Z 23.3~~
~~i E 23.5~~
~~i N 23.6~~
iSPKP N 34 09
iSPKP Z 10.1
e N 47.6

Mag. $6\frac{1}{4}$ - $6\frac{1}{2}$ (Pasadena)

iPKP:Compression

$30\frac{1}{2}$ S., 71 W.

Central Chile.

h: 100 km ca.

H=04 12 54

USCGS

20. P EZ 12 12 03.2
i N 03.3

P:W.,Compression

18 S., $178\frac{1}{2}$ W.

Fiji Is.

h: 600 km ca.

H=12 01 57

USCGS

22. e N 21 06 44
 22. P Z 21 38 13.1
 i E 21
 e N 39 24
 e N 42 28
 eL? N 46 46
 P:Compression

22. P EZ 23 58 46
 eL? N 00 01 16
 44½ N., 149 E.
 Kurile Is.
 H=23 56 01 USCGS

23. iP NEZ 02 06 46.9
 i Z 59
 e N 08 49
 e N 09 37
 eS N 13 03
 i NE 36
 e E 15 54
 e N 57
 eL NE 18 16
 L N 20 20
 L E 21 54
 iP:N, W, Compression
 Mag. 6¼ - 6½ (Matsushiro)
 5½ S., 150 E.
 New Britain.
 H=01 58 38 USCGS

23. iPZ, FNE 02 19 25.9
 i Z 36.9

23. iP NZ 10 36 02.7
 i E 03.2
 i NZ 21.7
 i N 32.0
 S E 39 57
 S N 40 03
 e E 39
 e N 45
 e N 41 53
 e E 42 25
 i Z 43 26
 iP:N., Dilatation
 53½ N., 158½ E.
 Kamchatka.
 H=10 31 07 USCGS

23. iP EZ 11 56 19.0
 eL? NE 59 29
 iP:E., Dilatation
 45 N., 149 E.
 Kurile Is.
 H=11 53 28 USCGS

23. iP NEZ 16 09 16.8
 S NE 12 56
 PcP E 13 21
 (cont.)

continued
 PcP Z 16 13 28.4
 L NE 14 49
 e E 21 15
 iP:S, W., Compression
 Mag. 5½ - 5¾ (Matsushiro)
 50 N., 157 E.
 Kurile Is.
 H=16 04 48 USCGS

23. eP Z 20 43 40
 e N 54 11
 e N 59 47
 eL N 21 06 21

23. iP Z 22 32 56.5
 i E 57.0
 eS N 43 03
 eL E 56 48
 e N 57 51
 iP:Dilatation
 28½ S., 177 W.
 Kermadec Is. region.
 H=22 20 58 USCGS

24. PE, ePNZ 00 50 52
 i NEZ 51 05.0
 eL NE 53 43
 44½ N., 149 E.
 Kurile Is.
 H=00 48 03 USCGS

24. P Z 02 03 09
 i Z 15.8
 e N 08 14
 e N 12 54

24. iPZ, ePNE 02 47 11.8
 i NEZ 48 06.8
 e N 52
 iP:Compression

24. iP EZ 10 10 58.0
 i N 58.5
 SEZ, eSN 11 11
 iP:E., Dilatation

24. iP EZ 10 12 47.5
 i N 47.8
 S NEZ 13 02.0
 iP:E., Dilatation

24. iP 1EZ, P 1N 11 13 21.4
 iP 2EZ, P 2N 22.9
 i EZ 14 05
 iS NE 15 33.4
 i N 44.4
 i E 46.4
 e N 16 00
 eL N 50
 44 N., 149½ E.

continued

i EZ 09 50 53.9
 i N 51 11
 e N 26
 iP:N.,W.,Compression

27. ✓
 iP NZ 15 32 05.0
 i E 05.4
 eS NE 41 41
 eL? N 49 38
 iP:N.,Compression
 22½ S.,175 W.
 Tonga Is.region.
 H=15 20 27 USCGS

27. iPEZ,PN 16 16 13.4
 i N 14.9
 i Z 22.9
 S NE 17 02
 i N 30
 e N 34
 e Z 37
 e E 41
 i Z 20 04
 iP:W.,Compression

27. ✓
 iP NEZ 18 54 31.8
 PcP Z 56 02.7
 ScP Z 59 04.1
 iP:S.,W.,Dilatation
 7 S.,126 E.
 Banda Sea.
 h:600 km ca.
 H=18 47 05 USCGS

27. ✓
 iPZ,PNE 20 59 29.8
 i NEZ 43.3
 i Z 43.8
 iS NEZ 21 02 15.3
 L NE 53
 iP:Compression
 Mag.6.0 (Matsushiro)
 27½ N.,129 E.
 Ryukyu Is.
 H=20 56 30 USCGS

27. iP 1 Z 21 50 27.3
 iP 2 NEZ 27.8
 i E 55
 i N 51 13
 iP 1:Compression
 iP 2:N.,E.,Dilatation

27. P NEZ 23 12 27
 i NEZ 29
 S NEZ 52

28. ✓
 iPZ,ePN 01 40 03.3
 i Z 12.8
 i Z 16.3
 eS E 46 11
 (cont.)

continued

eL N 01 49 53
 eL E 50 13
 iP:Compression
 Mag.5¼ (Matsushiro)
 53 N.,168½ W.
 Fox Is.
 H=01 32 22 USCGS

28. iP Z 04 01 29.6
 i Z 41
 eS? N 07 39
 eL NE 10 57
 iP:Dilatation
 3 S.,129½ E.
 Ceram I.region.
 H=03 53 51 USCGS

28. P 1 Z 04 59 03.2
 iP 2 NEZ 05.5
 e N 05 03 05
 iP 2:S.,E.,Dilatation

28. P Z 05 44 36
 e N 46 41

28. iP NEZ 05 57 57.0
 i NEZ 58 19.5
 iP:N.,E.,Compression

28. iPZ,ePE 06 11 43.7
 e N 15 19
 eL? N 28 43
 iP:Compression
 24½ S.,179½ E.
 South of Fiji Is.
 H=05 59 58 USCGS

28. iPZ,PNE 08 19 52.3
 Dilatation

28. iP NEZ 08 39 20.2
 N.,W.,Dilatation

28. ✓
 iP Z 11 57 13.5
 i Z 22.5
 i Z 30.0
 eSKS NE 12 08 15
 S N 09 23
 e N 18 37
 eSSS E 21 01
 eL N 22 01

iP:Compression
 Mag.5 ¾ - 6 (Matsushiro)
 About 500 miles west of
 Macquarie I.
 H=11 44 05 USCGS

Takeshi Honda
 Director.

Date Phase Comp. Time(GMT)
h m s

continued

i Z 10 10 24.2
iS EZ 28.9
iP:Compression

26. e N 12 10 13
e E 11 00

26. P EZ 12 41 39
i Z 52
e Z 42 24
e Z 43 04
e Z 44 15
eS NE 46 59
eL E 49 19
eL E 51 24
L N 28

China-Burma border region.
H=12 34 49 USCGS

26. P EZ 14 57 46
46 1/2 N., 13 E.
Italy-Austria border.
H=14 45 16 USCGS

26. iP NEZ 18 35 25.6
i Z 54.9
iS E 36 00.3
iP:S,W,Compression

26. iP NEZ 20 44 35
i NZ 36.1
i E 36.2
i Z 40
S E 47 44
L E 49 33

iP:N,E,Compression
Mag. 7 - 7 1/4 (Matsushiro)
25 N., 122 1/2 E.
Near northeast coast of Formosa.
h:150 km.
H=20 40 38 USCGS

26. e Z 21 18 45

26. iP NZ 23 02 40.7
i E 41.3
e E 03 42
S E 45
iP:Dilatation

27. P E 05 14 30.9
i Z 40
i N 43
e E 16 09
e N 17 13

27. iP NEZ 08 56 43.4
S NEZ 59
iP:S,E,Dilatation

Date Phase Comp. Time(GMT)
h m s

27. iP NZ 09 56 22.5
i E 22.7
pP Z 55
PcS Z 10 01 43
iS NE 02 41
e N 05 08
eL N 06 05
L E 49

iP:S,Dilatation
7 S., 129 E. Banda Sea.
H=09 48 09 USCGS

27. iP Z 12 54 23.0
i E 23.7
i Z 35
ipPP Z 56 45
ePPP N 57 11
e N 13 03 26

iP:Compression
1/2 S., 124 E.
Celebes region.
h:200 km.
H=12 47 27 USCGS

27. eP Z 13 16 34
eS E 22 27
L N 25 16
L E 27 08
Mag. 6 1/4 - 6 1/2 (Matsushiro)
33 1/2 N., 93 E.
Tsinghai Province, China.
H=13 09 20 USCGS

27. iPZ,PE 14 26 39.3
S E 27 05
P:W,Dilatation

27. P Z 21 10 43
i N 44.1
i E 45
eS E 11 16
i NEZ 17.3

28. eP Z 01 52 20 ca.
eS N 58 23
L E 02 01 45
4 S., 135 E.
Western New Guinea.
H=01 44 21 USCGS

28. P NEZ 05 55 37
iS N 58.9
i E 39.5

28. e E 08 20 23
e Z 26
e N 22 29
S? E 49

Date	Phase	Comp.	Time(GMT)		
			h	m	s
28.	eP	EZ	11	24	00
	e	N		27	43
	ePKP	Z		28	05
	PP	NE			33
	i	Z			36
	PS	E		38	05
	e	E		44	03
	i	N			14
	e	E		48	23
	eL	E		55	09
	eLr	E		12	01
	Lr	Z			38
	L	EZ		08	26
	Mag. $6\frac{1}{2}$ - $6\frac{3}{4}$ (Matsushiro)				
15 N., 93 W.					
Mexico-Guatemala border.					
H=11 09 30 USCGS					
28.	iP	N	11	38	07
	eS	N		39	10
	iP:N				
28.	iP	NEZ	11	58	35.0
	S	NE			56
iP:N,W,Compression					
28.	iP	Z	13	08	52.3
	iPcP	Z		10	41.8
	iP:Compression				
5 S., $152\frac{1}{2}$ E.					
New Britain.					
h:100 km ca.					
H=13 00 57 USCGS					
28.	iP	NEZ	14	24	49.4
	i	Z		25	48
	i	Z		27	35
	iP:N,E,Dilatation				
Rat Is., Aleutian Is.					
H=14 18 10 USCGS					
28.	P	NZ	16	06	12
	e	E			33
	i	Z			42
	e	E			17.2
	$6\frac{1}{2}$ S., 150 E. Near south coast of New Britain.				
H=15 58 13 USCGS					
28.	iP	Z	17	18	23.6
	i	Z			34.1
	i	Z		19	03
	e	Z		20	58
	S	E		24	11
	eL	NE		26	57
	iP:Compression				
52 N., 173 W.					
Andreanof Is., Aleutian Is.					
H=17 11 15 USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
28.	iP	NEZ	19	27	50.5
	iP:N,W,Dilatation				
28.	iP	NEZ	22	01	40.4
	i	N			54
	iS	E		02	09
	iP:S,E,Dilatation				
34.9 N., 140.9 E. Off east coast of Honshu, Japan.					
h:60 km ca. J.M.A.					
29.	iPNZ,PE		01	42	49.0
	iS	NZ		43	05.1
	P:N,E,Dilatation				
29.	iP	Z	03	36	02.8
	i	N			03.2
	e	Z			16
	i	N			18
	i	E			21
	i	Z			32
	i	Z		37	50
iP:Dilatation					
29.	iPNZ,PE		11	14	43.9
	P:N,E,Dilatation				
29.	e	N	12	34	49
29.	iP	NEZ	12	56	02.9
	i	Z			16.7
	i	E			17.9
	iS	NZ			18.8
	iP:S,E,Dilatation				
29.	P	Z	15	40	47
	e	NE			48
	i	Z			56
	PP	Z		41	29
	e	Z		42	30
	eS	N		44	52
	e	E			54
	L	E		46	29
	L	NE		49	04
$16\frac{1}{2}$ N., 145 E. Mariana Is.					
H=15 35 45 USCGS					
29.	iP	Z	19	49	27.3
	i	NE			27.4
	iP:Dilatation				
29.	iP	NEZ	22	33	40.4
	i	E			46.4
	i	Z			47.1
	iP:N,W,Dilatation				
30.	iP	NEZ	01	24	47.9
	iS	NE		25	09.4
	iP:N,W,Compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
30.	P	Z	02	08	45
30.	iP	Z	03	00	20.7
	i	E			21.7
	i	N			37
	iS	Z			38.7
	iS	E			38.9
	iP:Compression				
30.	iP	Z	07	06	39.9
	i	Z		07	33
	iP:Compression				
30.	P?	E	07	10	45
	i	Z			46.2
	i	N			47.2
	iS	E		11	26.2
30.	iP	EZ	08	54	08.3
	i	E			10.2
	i	E			25.9
	i	N		55	30
	i	EZ			31
	S	E			41
	eL	E		56	18
	iP:E,Compression				
30.	iP	NEZ	11	32	29.0
	i	Z		33	12
	i	N			23
	i	E			25
	iP:N,E,Dilatation				
30.	iP	NZ	12	37	54.1
	i	E			55.2
	i	Z		38	35
	S	E		39	27
	i	N			29.1
	L	E		40	15
	iP:S,Dilatation				
30.	iP	NEZ	13	43	55.2
	S	EZ		44	16
	iP:E,Dilatation				
30.	i	NZ	13	46	09
	i	Z		50	13
	e	E		56	25
	e	E	14	09	00
	eL	E			32.2
	55 ¹ / ₂ S., 26 W. Sandwich Is. H=13 25 35				
	USCGS				
30.	iP	EZ	19	06	41.2
	i	N			41.7
	e	E		07	18
	i	N			19
	iP:W,Compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
30.	iP	Z	21	00	10.6
	i	N			10.7
	i	E			11.3
	iS	N		01	02.0
	iS	E			02.3
	iP:Compression				
30.	iP	NZ	22	53	04.9
	i	E		54	12
	iP:S,Compression				

X
✓

Takeshi Honda
Director.

MATSUSHIRO SEISMOLOGICAL OBSERVATORY, JAPAN.

Seismological Bulletin

for March 1 to April 30, 1959

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)			
			h	m	s				h	m	s	
✓ 1.	eP	Z	00	41	58	✓ 2.	iP	Z	01	47	08.4	
X	L	N	01	06	18	X	i	Z		48	00	
	Mag. 5 3/4 (Matsushiro)						P:Dilatation					
	74 1/2° N., 9° E.						7 S., 104 E. Sunda Strait.					
	Arctic Ocean.						h:100 km ca.					
	H=00 31 20 USCGS						H=01 37 59 USCGS					
1.	P	Z	16	56	20.3	2.	iP	NEZ	02	29	47.2	
X	i	E			22.9		iS	NZ			51.0	
	pP	E			39		i	E			52	
	i	N	57	04			P:S,W.					
	pPP	Z			52	2.	P	NEZ	07	54	37	
	i	NZ			55	2.	eP	NEZ	08	08	21 ca.	
	sPP	E	58	05		2.	P	NEZ	09	22	05	
✓	i	N			15		i	Z			11	
	PcP	Z			44		i	N			12	
	i	Z	17	01	48		i	N			56	
	iS	E			02 05.2		PcP	Z			23 36	
	L	E			04 37		i	Z			46	
	iLq	E			44		iPcSorScPZ				27 36	
	Lq	N			50		PcSorScP E				38	
	Lr	Z			08 59		S	E			28 54	
	Lr	N			07.0		i	N			29 01	
	Mag. 7 - 7 1/4 (Matsushiro)						e	N			31.4	
	1/2 S., 134 1/2 E. Near north coast of New Guinea.						i	E			32 07	
	h:100 km ca.						L	E			33 38	
	H=16 49 18 USCGS						Mag. 6 (Matsushiro)					
1.	iPEZ,PN		18	18	28.6		8 S., 128 E. Timor I.					
	i	E			42		H=09 13 42 USCGS					
	i	N			49		2.	e	NE	12	00	36
	P:E,Dilatation						2.	iPEZ,PN		16	00	28.0
1.	P	Z	21	10	51.0	X	PcP	Z		01	41.8	
	S	E			12 09.5		i	E			48	
	P:Compression						i	N			02 00	
1.	iP	NEZ	21	31	02.1		PP?	Z			40	
	i	N			27		i	Z			46	
	P:S,E,Dilatation						i	Z			07 06	
1.	P	NZ	21	45	07.6		S	N			51	
	i	E			19		sS	N			08 49	
	e	N			46 19		i	E			09 11	
1.	eS?	N	22	57	56		i	Z			10 47	
1.	iP	EZ	23	11	15.9		SS	E			11 41	
	S	EZ			31		SS	N			12 01	
	P:E						L	N			13 37	
							e	NE			19 39	
							P:S,E,Compression					
							Mag. 5 1/4 - 5 1/2 (Matsushiro)					

Date Phase Comp. Time(GMT)
h m s

continued

37 N., 70 $\frac{1}{2}$ E. Hindu Kush.
h:200 km ca.
H=15 51 38 USCGS

✓ 2. P Z 23 39 06
+ Mag.4.9 (Pasadena)
37 N., 122 W. Near coast of
California.
H=23 27 15 USCGS

3. P EZ 18 32 10
S? N 33 18
i E 23
e N 39
e E 50
L N 34 12

✓ 4. iP NEZ 00 57 38.8
+ i NEZ 59 19
e N 01 03.3
L N 05 25
P:S,W,Compression
Mag.5 $\frac{1}{4}$ (Matsushiro)
51 $\frac{1}{2}$ N., 159 $\frac{1}{2}$ E. Off north-
east of Kamchatka.
H=00 52 49 USCGS

4. eP Z 06 52 46
eL N 07 06 52
eL E 09.3
11 S., 165 $\frac{1}{2}$ E.
Santa Cruz Is.
h:100 km ca.
H=06 43 16 USCGS

4. P EZ 12 52 57
S NEZ 53 35

✓ 4. eP NEZ 19 06 22
+ 20 $\frac{1}{2}$ S., 175 $\frac{1}{2}$ W. Tonga Is.
h:100 km ca.
H=18 55 03 USCGS

✓ 4. P Z 20 06 36
+ PcP? Z 08 06
11 $\frac{1}{2}$ N., 91 $\frac{1}{2}$ E.
Andaman Is.
h:Slightly deeper than normal.
H=19 57 55 USCGS

4. P EZ 20 11 55.0
i E 12 03
e N 21 54
e N 23 32
P:Dilatation

✓ 4. iP NEZ 23 01 24.3
+ i N 41.9
(cont.)

Date Phase Comp. Time(GMT)
h m s

continued

iS NEZ 23 01 48.5
P:N,W,Dilatation
Mag.5 - 5 $\frac{1}{4}$ (Matsushiro)
37.9 N., 138.0 E. Near west
coast of Honshu, Japan.
h:140 km ca. J.M.A.

5. P NEZ 00 20 17
+ i NEZ 17.5
+ e N 21 33
i Z 52
S N 24 31

P:N,E,Dilatation
Mag.5 $\frac{3}{4}$ (Matsushiro)
54 N., 160 E. Near east
coast of Kamchatka.
H=00 15 08 USCGS

5. iP NZ 05 06 54.3
i E 54.4
S E 09 07
i N 09
eL N 10 05

P:N,Dilatation

5. P NZ 07 32 05
i Z 15
i Z 37
i E 44
e N 34 05
S? N 36 24
eL E 37 33
L N 38 34
Mag.4 $\frac{3}{4}$ - 5 (Matsushiro)
14 N., 145 $\frac{1}{2}$ E.
Mariana Is.
H=07 26 50 USCGS

5. eP Z 13 03 38
e NE 40

5. iPZ,PNE 14 12 08.2
+ i Z 15
+ S NE 13 54
i Z 56
i N 14 19
i Z 41
L NE 15 04

P:N,E,Dilatation
Mag.5.2 (Matsushiro)
44 $\frac{1}{2}$ N., 147 E.
Kurile Is.
h:100 km ca.
H=14 09 47 USCGS

5. iP NZ,PE 15 11 32.3
iS NEZ 33.2
P:Compression

Date 5. Phase eP Comp. NEZ Time(GMT) 23 04 32
 i Z 46
 PcP Z 05 58
 i N 07 01.0
 S N 11 36
 L E 15 54
 L N 16 00
 eLr E 20 58
 Lr N 21 08
 Mag. $5\frac{1}{2}$ - $5\frac{3}{4}$ (Matsushiro)
 2 N., 98 E. Sumatra.
 H=22 55 28 USCGS

6. eP Z 02 50 57
 i Z 51 09
 eS N 22
 i Z 23
 Mag. 3 β (Matsushiro)
 35.4 N., 140.5 E. Near east coast of Honshu, Japan.
 h:20 km ca. J.M.A.

6. eP Z 20 38 03
 PcP Z 39 14
 i Z 40 54
 eS NE 45 09
 SS NE 49 07
 L E 51 16
 L N 23
 Mag. $5\frac{1}{2}$ - $5\frac{3}{4}$ (Matsushiro)
 11 S., 162 E.
 Solomon Is. foreshock.
 H=20 28 43 USCGS

6. eP Z 20 51 09
 i E 14
 i E 17
 i Z 51.3
 i N 51 23
 10 $\frac{1}{2}$ S., 162 E. Solomon Is.
 H=20 41 53 USCGS

6. eP Z 20 53 53
 i NEZ 54.5
 i Z 54 10
 S E 59
 i N 55 00
 P:S,E,Compression

7. eP NEZ 07 01 42
 S N 02 17
 e E 42

7. eP EZ 07 58 50
 i Z 59 02
 eS? NE 16

Date 7. Phase eP Comp. Z Time(GMT) 09 21 37
 i NE 43
 i N 22 02
 e N 24 36
 eS? N 28 59
 e N 32 27
 e E 54
 L N 39 22
 eL E 40.3
 Mag. $5\frac{1}{2}$ (Matsushiro)
 3 S., 102 E. Sumatra,
 H=09 12 26 USCGS

7. eP Z 14 57 28
 S N 15 06 52
 L 1 N 15 54
 L 2 N 22 04

7. eP N 15 50 32
 i EZ 52.5
 i Z 42.5
 i N 44.0
 i Z 58
 S N 57 43
 53 $\frac{1}{2}$ N., 161 $\frac{1}{2}$ W.
 South of Alaska Peninsula.
 H=15 42 17 USCGS

7. iP EZ 16 01 09.1
 i N 09.5
 i N 52
 i Z 03 37
 P:W,Dilatation

7. eP E 17 56 18
 i NZ 18.1
 i NEZ 27.9

7. eP NEZ 19 26 58
 iS E 27 22.4

7. iPEZ,PN 20 29 06.4
 e N 13
 e N 32 04
 P:E,Dilatation

7. eP Z 23 56 22
 e Z 54

8. eP NEZ 02 21 37
 i N 42.4
 S E 59
 i Z 22 02

8. eP Z 11 44 54
 i Z 48 31
 e E 46 49
 e N 51 16

Date	Phase	Comp.	Time(GMT)		
			h	m	s
8.	eL	N	17	38	00
	eL	E			33
	Mag.5 - 5 $\frac{1}{4}$ (Matsushiro)				
	21 S., 170 E. Loyalty Is.				
	H=17 07 55 USCGS				
8.	P	Z	23	22	05
	11 $\frac{1}{2}$ S., 75 $\frac{1}{2}$ W.				
	Central Peru.				
	H=23 02 42 USCGS				
9.	eP	E	04	38	53
	i	NZ			53.3
	S	EZ			39 10
9.	eP	NEZ	06	25	54
	S	Z			26 13
9.	eP	Z	10	23	43
	i	NE			59
	PcP	Z			27 11
	L	N			28 15
	L	E			25
	Mag.5 $\frac{1}{4}$ - 5 $\frac{1}{2}$ (Matsushiro)				
	13 $\frac{1}{2}$ N., 125 $\frac{1}{2}$ E. Near north coast of Samar. P.I.				
	H=10 18 09 USCGS				
9.	P	NEZ	11	35	28
	i	Z			37
9.	iPEZ,PN		13	09	32.9
	i	Z			41
	i	N			10 13
	i	Z			26
	i	N			41
	L	N			54
	eL	EZ			11 07
	P:N,W,Compression				
9.	iP	NEZ	18	45	50.4
	i	E			46 37
	i	E			50
	S	NE			57
	i	N			47 22
	iL	E			26
	P:S,W,Compression				
	Mag.5 (Matsushiro)				
	41.2 N., 141.7 E. Near north coast of Honshu, Japan.				
	h:20 km ca. J.M.A.				
9.	iPZ,PN		21	19	12.3
	i	E			12.6
	i	N			28
	S	NE			39
	P:S,Dilatation				
9.	eP	NEZ	22	34	12

Date	Phase	Comp.	Time(GMT)		
			h	m	s
10.	iP	E	02	52	54.3
	e	NZ			55
	i	Z			55.9
	i	Z			53 04.1
	i	N			38
	i	E			40
	i	N			44
	i	N			54 00
	L	N			18
	L	E			44
	P:W				
	Mag.5 (Matsushiro)				
	Off east coast of Honshu, Japan.				
	h:40 km ca. J.M.A.				
10.	P	Z	06	22	33
	i	Z			36
	i	NE			37
	i	N			44
	S	N			23 40
	i	EZ			42
10.	iP	NZ	07	00	58.6
	i	E			59.0
	i	N			01 33
	iS	EZ			49.6
	P:N,Compression				
10.	eP	EZ	10	00	42
	i	NEZ			48
	i	Z			54
	e	N			05 41
	e	N			10 27
10.	iP	NEZ	10	24	00.1
	i	NE			54
	i	NZ			57
	i	E			25 01
	i	Z			26 28
	P:N,W,Dilatation				
10.	iP	EZ	12	50	44.2
	i	N			44.7
	i	EZ			51 01
	i	N			05
	i	Z			55
	i	E			52 35
	i	E			53 27
	i	N			43
	P:W,Compression				
10.	eP	EZ	16	22	14
	i	N			15
	i	N			31
	i	E			23 07
10.	iP	NEZ	21	12	29.4
	iS	NZ			32.4
	i	E			32.7
	P:N,E,Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
11.	iP	Z	03	35	38.4
	i	E			38.6
	i	N			39.2
	i	EZ			41.4
	i	Z			57.2
	S?	E	36	02	
	i	N			05
P:Dilatation					09.5

11.	iP	EZ	06	47	56.3
	i	N			56.9
	eS	E	48	26	
P:E,Dilatation					

11.	iP	Z	07	15	07.8
	e	Z		16	23
P:Compression					
			6 S., 127 1/2 E. Banda Sea.		
			H=07 06 58 USCGS		

11.	iP	NZ	09	34	50.1
	i	N			58.2
	i	Z		35	01.6
	eL	N		40	41
	P:S,W,Dilatation			49 N., 154 1/2 E. Kurile Is.	
			H=09 30 48 USCGS		

11.	iP	Z	10	33	23.2
	e	Z			33
	e	NE	34	21	
P:Dilatation					

11.	eP	NEZ	19	54	11
	e	N			30

11.	eP	Z	23	09	58
	i	N		10	01.7
	e	Z			03

12.	iP	NZ	01	31	16.7
	iPP	N		36	26
	i	N			38
	i	NZ			43.5
	eS	N	39	57	
	e	E	40	01	
	e	NEZ			10
	L	E	42	12	
	L	N			30
	P:N,Compression			Mag. 6 1/4 - 6 1/2 (Matsushiro)	
			7 N., 145 E. Caroline Is.		
			H=01 29 07 USCGS		

12.	eP	NZ	06	03	05
	S	NE			27
	i	Z			28

Date	Phase	Comp.	Time(GMT)		
			h	m	s
12.	iP	Z	09	08	34.8
	PP	Z			10 22.1
	e	N			22 23 ca.
	e	N			33 45
	P:Compression			5 S., 155 E. Solomon Is. region.	
			H=09 00 24 USCGS		

12.	eP	NEZ	11	23	18
	e	N			27
	e	Z			38
	e	N			57
	i	Z			24 00.2

12.	eP	Z	11	25	56
	e	EZ		26	00
	e	Z			38

12.	iP	NEZ	22	47	07.0
	iS	NEZ			33.4
	P:S,W,Dilatation				

13.	iP	N	12	23	15.9
	iS?	Z			37.8
	i	N			39.3
	i	E			40.1
	P:N				

13.	eP	Z	13	39	17
-----	----	---	----	----	----

13.	iP	NEZ	20	27	02.2
	e	Z			25
	e	N			30
	iS	E			36.0
	i	NZ			36.3
P:W,Dilatation					

13.	iP	Z	20	51	36.9
	i	NE			37.5
	i	Z			57.1
	eS	EZ		52	18
	P:Compression				

13.	iP	Z	22	30	19.8
	e	E			36
	eS	NE		31	03
P:Dilatation					

14.	P	Z	02	58	34.5	
	i	Z			35.2	
	i	Z			36.0	
	i	Z			48.1	
	i	EZ			49.4	
	eS	Z	03	00	58	
	eL	E		01	43	
	eL	N			45	
	P:N,Compression			45 N., 151 1/2 E. Kurile Is.		
				H=02 55 24 USCGS		

Date	Phase	Comp.	Time(GMT)		
			h	m	s
14.	iP	Z	07	06	36.4
	i	Z			45.5
	i	E			46.4
	SS	N	19	15	
	P:Compression 18 S., 166 E. New Hebrides Is. h:500 km ca. H=06 57 08				
	USCGS				
14.	e	N	11	30	57
14.	iP	EZ	12	05	01.8
	iS	E			24.7
	P:Dilatation				
14.	P	EZ	12	25	16
	iS	E			31.2
14.	e	N	17	31	37
14.	P	EZ	23	01	47
	i	Z			49.4
	e	EZ			56
	eS	NEZ	02	44	
	i	E			48.3
14.	P	EZ	23	19	46.9
	i	EZ			55.6
	i	Z	20	40.5	
	iS	NE			43
	P:W				
14.	iP	Z	23	57	56.9
	P:Dilatation				
15.	iP	EZ	01	01	43.4
	iS	EZ			49.2
	P:Compression				
15.	iP	EZ	02	11	16.0
	i	Z			27.3
	iS	E			40.6
	P:Compression				
15.	iP	EZ	04	28	05.7
	i	E			19.9
	i	E			29.8
	e	Z			37
	P:W,Compression				
15.	iP	NEZ	22	19	28.5
	iS	E			50
	i	EZ			52
	i	Z			59
	P:N,W,Compression 35.4 N., 140.2 E. Honshu, Japan. h:60 km ca.				
	J.M.A.				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
16.	iP	EZ	01	38	00.6
	P:W,Compression				
16.	iP	Z	01	45	10.5
	i	E			10.8
	i	Z			21.8
	P:Compression 53 1/2 N., 164 1/2 W. South of Unimak I. H=01 36 45				
	USCGS				
16.	iP	Z	01	56	16.0
	iS	Z			22.3
	P:Dilatation				
16.	P	Z	08	05	22
	i	Z			29.9
	i	NE			30.3
	i	Z	07	38.3	
	S?	Z			42.5
	i	E			45.4
	i	N	08	01.9	
	eL	NE			33
	45 1/2 N., 151 E. Kurile Is. H=08 02 10				
	USCGS				
16.	iP	NZ	10	44	21.9
	i	E			22.3
	e	E	45	34	
	i	N			37
	i	Z			42.2
	P:N,Compression				
16.	iP	NEZ	11	35	09.9
	i	Z			25.6
	e	N	37	34	
	P:S,W,Compression				
16.	eP	Z	19	50	41
	i	EZ			57.0
16.	iP	EZ	22	20	03.7
	e	E			43
	P:Compression Kermadec Is. region. h:100 km ca. H=22 08 23				
	USCGS				
16.	iP	NEZ	23	42	24.2
	eL	N			52 43
	eL?	N	00	00	36
	P:S,W,Compression 53 N., 168 1/2 W. Fox Is. h:60 km ca. H=23 34 48				
	USCGS				
17.	iP	Z	05	17	31.8
	i	Z			45.5
	iS	E			58.6
	i	NZ	18	00.5	

17. iP NZ 07 46 14.9
 iS E 48 09.9
 e NZ 12
 P:Dilatation

17. ~~iP~~ NEZ 08 28 12
~~i~~ NEZ 14.3
~~i~~ Z 24.3
~~i~~ NE 29 31
~~iS~~ N 30 40
~~i~~ EZ 50
~~i~~ N 59
 eL Z 31 29
 P:S,W,Dilatation
 Mag.6 (Matsushiro)
 27½ N.,130 E. Ryukyu Is.
 H=08 25 22 USCGS

17. P Z 10 44 00
 i N 00.7
 i E 01.2
 e Z 22
 17. e E 19 29 52
 e N 31 34 ca.

18. ~~iP~~ NEZ 00 44 13.9
~~i~~ E 26.7
~~i~~ Z 29.3
~~i~~ N 45 06
~~i~~ E 07
 eS N 46 29
 i E 40
 i N 56
 P:S,W,Dilatation
 Mag.5 3/4 (Matsushiro)
 27 N.,129 E. Ryukyu Is.
 H=00 41 17 USCGS

18. iP Z 02 56 55.7
 eS? NE 58 40
 P:Compression

18. eP NEZ 05 33 07
 e N 34 14

18. iP NZ 06 44 24.6
 i E 25.0
 iS N 45 05.1
 i E 06.4
 i Z 07.1
 P:N,Compression

18. ~~iP~~ NEZ 07 27 24.5
~~i~~ NEZ 43
~~i~~ E 53
 P:N,W,Compression
 Mag.6 (Matsushiro)
 36.6 N.,141.6 E. Near east
 coast of Honshu, Japan. J.M.A. - 7 -

18. iP EZ 10 05 01.8
 i N 02.0
 iS NEZ 29
 P:W,Dilatation

18. iP NEZ 16 19 21.2
 i NE 25
 P:N,W,Compression

19. iP NZ 02 07 03.0
 i E 03.4
 i Z 24
 i E 29.1
 i Z 12 01.1
 P:S,Dilatation
 6½ S.,125½ E. Banda Sea.
 H=01 58 43 USCGS

19. P Z 07 27 05.8
 e Z 19
 i N 41.2
 S E 29 34
 e N 30.2
 27 N.,130 E. Ryukyu Is.
 H=07 24 11 USCGS

19. eP Z 08 25 14
 i E 17.9
 i N 18.8

19. ~~S~~ E 08 52 24
~~PPS~~ N 55 56 ca.
~~SSS~~ N 09 04 19
 eL E 10.2
 iL N 16 47
 Mag.6¼ - 6½ (Matsushiro)
 35 N.,36 W.
 North Atlantic Ocean.
 H=08 25 32 USCGS

19. eP Z 09 32 24
 i EZ 27.6

19. eP? Z 09 46 24
 e N 41
 e Z 45
 61½ N.,148 W. Southern Alaska.
 h:100 km ca.
 H=09 37 53 USCGS

19. P NZ 10 18 09
 i Z 19 34.1
 e N 20 14
 e E 22

19. iPZ,PNE 11 31 50.0
 eS E 32 03
 F:Compression

Date	Phase	Comp.	Time(GMT)		
			h	m	s
19.	eP 1	NEZ	14	15	45
	iP 2	NEZ			46.5
	i	N			47.4
	S	NE	16	24	
	i	Z			29
	i	N	17	12	
	i	Z			22
	i	E			24
	P: N,W,Compression				
	35 N., 142 E. Off east coast of Honshu, Japan.				
	H=14 14 53 USCGS				
19.	iP	NEZ	19	15	24.0
	iS	NEZ			28.5
	P: N,E.				
19.	eP	Z	22	24	38
19.	iP	EZ	22	56	25.5
	eS	E			57 05
	P: E,Compression				
20.	iP	NEZ	01	07	28.9
	i	Z			39.4
	eS	E			11 32
	e	N			40
	eL	E			12 51
	eL	N			57
	P: S,W,Compression				
	Mag. 5 1/2 (Matsushiro)				
	52 N., 159 E. Near east coast of Kamchatka.				
	H=01 02 42 USCGS				
20.	iP	NEZ	02	21	58.8
	P: S,Dilatation				
	20 1/2 S., 174 1/2 W. Tonga Is.				
	H=02 10 33 USCGS				
20.	iP	NEZ	03	22	05.4
	i	E			24
	e	N			25
	e	E			26
	S	N			33
	P: N,E,Dilatation				
	36.6 N., 141.4 E. Near east coast of Honshu, Japan.				
	h: 60 km ca. J.M.A.				
20.	iP	NEZ	04	02	28.3
	i	Z			36.3
	S	E			03 41
	e	N			55
	P: S,W,Compression				
20.	iP	NEZ	15	45	31.1
	i	N			46 13
	i	N			19

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	N	15	46	47
	i	Z			47 20
	P: N,W,Compression				
20.	eP	NEZ	17	46	48
	eS?	N			48 31
	e	E			49 18
20.	e	Z	18	43	22
	i	E			24.0
	i	Z			24.9
20.	iP	NEZ	23	06	41.6
	iS	NEZ			07 23.2
	P: S,W,Dilatation				
21.	iP	NZ	00	02	23.6
	i	E			24.0
	i	E			40.1
	i	Z			43.2
	e	E			03 10
	S	N			09 34
	eL	N			15 00
	eL	E			15.1 ca.
	P: N,Compression				
	Mag. 5 1/2 ca. (Matsushiro)				
	10 S., 117 E. Sumbawa Is. region.				
	H=23 53 24 USCGS				
21.	P	Z	02	25	01.4
	i	E			02.7
	i	N			26 22.4
	i	E			23.4
21.	iP	NEZ	04	37	32.8
	i	Z			54
	i	N			57
	S	E			45 53
	e	N			46 15
	e	E			49 28
	sSP	N			53
	eSSS	N			53 40
	P: S,E,Dilatation				
	19 S., 178 W. Fiji Is.				
	h: 550 km ca.				
	H=04 27 21 USCGS				
21.	P	Z	06	58	12
	S	NEZ			14.3
21.	iP	EZ	07	37	20.9
	e	N			22
	S	N			38
	i	EZ			39
	P: W,Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
21.	iP	EZ	08	52	37.4
	i	N			37.9
	i	E			44.2
	i	Z	53	33	
P:W, Compression					
21.	iP	NEZ	14	06	12.2
	S	N			20
	i	EZ			21
	i	E			31.0
P:N, Compression					
21.	iP	Z	15	36	08.1
	S	NZ			48
	i	E			49.6
P:Dilatation					
21.	iP	NEZ	17	32	33.4
	e	Z			52
	i	E			33 03.4
	P:N,E, Compression				
21.	P	Z	17	45	13
21.	iP	EZ	19	45	11
	i	E			41
	eL	E			55 14
	eL	N			47
Mag.5 - 5 $\frac{1}{4}$ (Matsushiro)					
53 $\frac{1}{2}$ N., 165 W.					
Unimak I. region.					
H=19 37 03 USCGR					
21.	iP	NEZ	19	57	17.3
	i	E			32.2
P:S,E, Dilatation					
21.	iP	Z	22	01	17.0
	iS	NE			35.5
P:Compression					
22.	P	Z	03	33	09
	i	NZ			12.1
	S?	Z			32
22.	iP	EZ	09	13	27.0
	i	N			29
	i	Z			39.0
	i	E			42.0
	i	Z			48
P:E, Compression					
22.	P	Z	14	27	13
	S	N			26
	i	E			32
	i	E			43
22.	P	Z	19	29	08
	S	NEZ			22

(cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
23.	i	E	19	29	26
	i	E			39
23.	iP	Z	07	22	16
	S	E			32 01
	eSSS	NE			40 51
	L	N			46 51
	L	E			47 44
Mag.6 (Matsushiro)					
40 N., 118 W.					
Western Nevada.					
H=07 10 22 USCGR					
23.	iPZ,PNE		20	04	24.7
	e	E			09 39
	e	N			10 16
P:Compression					
24.	iP	NEZ	01	37	59.2
	e	N			41 02
P:N,E, Dilatation					
24.	iP	Z	04	52	31.0
	i	E			31.5
P:Dilatation					
24.	iP	NZ	07	33	47.3
	i	E			47.8
	i	Z			34 19.8
	S	E			21.4
P:S, Dilatation					
24.	iP	Z	12	35	28.7
	i	N			54
	i	Z			56.2
	e	N			38 25
eL	N			41 01	
P:Compression					
24.	P	Z	16	41	21
	i	Z			36
24.	iP	NEZ	17	19	26.6
	S	N			20 11.3
	i	N			50
	i	E			21 11
	i	Z			20
P:N,W, Compression					
34 N., 142 E. Off coast of					
Honshu, Japan.					
H=17 18 24 USCGR					
24.	iP	NEZ	18	10	44.9
	i	Z			56
	i	N			58
	iS	NEZ			11 29.9
P:S,E, Dilatation					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
24.	P	EZ	18	24	25
	i	N			25.6
	i	Z			38
	S	NE	25	10	
24.	P	EZ	18	30	33
	i	Z			59.5
	iS	N	31	17	
24.	iP	Z	18	32	33.2
	i	N			34.4
	S	N	33	18.0	
	P:Compression				
24.	P	NEZ	18	38	17
	S	N	39	01.5	
24.	iPZ,PNE		20	44	10.0
	S	NEZ			26
	P:E,Dilatation 36.6 N.,140.2 E. Honshu, Japan. h:40 km ca. J.M.A.				
24.	P	Z	22	58	41
	S	NZ			47.1
25.	iP	NZ	00	10	11.7
	i	N			17.6
	P:N,Dilatation				
25.	P	Z	00	46	03
	S	Z			13
25.	P	NEZ	01	09	34
	S	NE	10	17	
25.	P	Z	01	11	53
25.	eP	Z	04	55	16
	S	NZ			47
25.	iP	NEZ	06	42	39.1
	i	E			52.2
	S	NE			57.2
	i	E	43	04.7	
	P:S,E,Dilatation 36.2 N.,140.0 E. Honshu, Japan. h:60 km ca. J.M.A.				
25.	iP	NZ	12	28	28.8
P:S,Dilatation					
25.	iP	NE	21	33	54.6
	P:N,W				
25.	eP	Z	22	03	00
	i	N			12

Date	Phase	Comp.	Time(GMT)		
			h	m	s
25.	iPZ,PN		22	09	39.1
	S	N			10 01.1
	P:Compression				
26.	iP	NZ	02	32	35.7
	i	E			36.2
	pp	Z			53.2
	PP?	Z	34	10.7	
	PPP	Z	35	19.7	
	PcS	Z	38	00.7	
	eS	NE	39	04	
	e	N	41	54	
	e	E			59
	L	E	43	49	
	L	N	46	47	
	L	N	48	08	
P:N,Compression Mag.5 3/4 (Matsushiro) 7 S.,155 1/2 E. Solomon Is. h:60 km ca. H=02 24 12 USCGS					
26.	P	NEZ	04	38	22
	S	EZ			47
26.	iP	Z	05	01	34.5
	i	Z			53.8
P:Compression					
26.	iP	NEZ	05	32	08.8
	i	Z			09.8
	i	N			26.6
	i	E			27.0
	PP	Z	33	37.8	
	i	NEZ	35	18	
	PcS?	Z	38	05	
	eS	N			10
	L	NE	40	25	
	P:N,E,Compression Mag.5 1/4 (Matsushiro) 0.,125 E. Molucca Passage. h:200 km ca. H=05 24 42 USCGS				
26.	iPZ,PNE		09	01	59.4
P:Dilatation					
26.	iP	EZ	11	13	49.9
	eL	NE			33.3 ca.
P:E,Compression					
26.	iP	Z	11	55	38.9
	i	NE			39.2
P:Dilatation					
26.	P	Z	13	15	01.5
	e	NE			02
	S	NEZ			20
P:Compression					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
26.	iP	NEZ	13	54	05.3
	iS	NEZ			14
	P:N,E,Dilatation				
26.	iP	NZ	20	03	21.9
	i	E			22.8
	i	E			34.1
	i	N	04	54	
	eS	NE	05	13	
	eL	N			48
	eL	E			54
	e	N	15	30	
	e	E			38
	P:S,Dilatation				
26.	iP	Z	21	31	09.9
P:Dilatation					
27.	P	Z	00	58	57
	S	N		59	24
27.	eP	Z	05	15	18
27.	P	Z	06	58	23
27.	iPKP	NZ	07	20	47.1
	i	Z		22	26
	PKP:Dilatation				
	17 N., 61 W. Leeward Is. h:60 km ca. H=07 01 47 USCGS				
27.	eP	Z	19	03	31
	i	Z			35
	i	N		04	16
27.	eL	E	23	55	59
	eL	N		56	34
	eL	E	00	09	34
28.	P	Z	00	52	04
	S	N			29.7
28.	P	Z	04	27	45.2
	i	Z			59
	i	Z		29	01
28.	iP	NZ	05	01	32.0
	i	Z			34.7
	iS	NEZ			45.2
	P:Dilatation				
28.	iP	Z	05	50	03.6
	S	N			19
P:Compression					
28.	P	NZ	07	48	56
	i	NZ		49	00.3
	i	Z			06.8

(cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
28.	i	Z	07	50	30.6
	i	Z			46
	eS	N		52	09
	L	E		53	28
	L	N			30
48 N., 153 E. Kurile Is. H=07 45 14 USCGS					
28.	P	Z	08	40	49.2
	i	Z			54.1
28.	iPZ,PN		09	45	51.2
P:Dilatation					
28.	iPZ,PN		14	57	47.1
	i	Z		59	36
	eL	N	15	10	39
P:Compression					
28.	iP	Z	15	37	23.8
	i	N			35.2
	i	N			46.1
	S	NEZ			46.8
	P:Dilatation				
28.	iP	NZ	16	33	33.8
	i	N			42.0
	iS	NZ			48.1
P:S,Dilatation					
28.	iP	Z	16	46	51.8
	i	NZ			56.7
	S	Z		47	27
	P:Compression				
28.	iPZ,PN		17	16	12.0
	PP	N			37.5
	S	NE		20	13
	eL	N		22	34
	eL	E		25	16
	P:Compression				
	Mag.4 3/4 - 5 (Matsushiro)				
	20 N., 120 1/2 E. Off north coast of Luzon. H=17 11 09 USCGS				
28.	P	Z	18	52	12
	35 1/2 N., 71 E. Hindu Kush.				
h:200 km ca. H=18 42 45 USCGS					
28.	P	NZ	19	34	30
	i	NZ			46
28.	iP	NZ	19	53	39.0
	i	Z			59.3
	i	Z		54	00.1
	iS	N			00.6

Date	Phase	Comp.	Time(GMT)			
			h	m	s	
28.	iP	NEZ	19	57	23.6	
	ePcP	Z			40.1	
	i	N		58	03.1	
	i	N			36	
	sP	Z	20	00	26.6	
	sP	N			29	
	eS?	E		05	48	
	sPSorsSP	E		09	30	
	i	N			42	
	eSS	NE		10	32	
	SSS	NE		13	42	
	P:S,E,Dilatation					
	Mag. 5 $\frac{1}{2}$ - 5 $\frac{3}{4}$ (Matsushiro)					
20 S., 178 $\frac{1}{2}$ W. Fiji Is.						
h:600 km ca.						
			H=19 47 07	USCGS		

28.	P	NZ	21	00	40
	i	Z			45
	eS	N			55.9

28.	P	Z	21	13	17
	i	Z			27

28.	iP	Z	21	22	15.1
	iS	NEZ			16.9

29.	eP	Z	05	23	49
	i	Z			54.5
	i	N			56
	i	N		24	25

29.	eP	Z	06	48	06
	i	Z		49	13

29.	eP	Z	07	36	25
	i	Z			31

29.	P	Z	09	52	35.3
	i	Z			40.9
	iS	Z		53	14

29.	P	NZ	11	07	22.6
P:S,Dilatation					

29.	iP	NZ	19	11	35.6	
	i	N			36.2	
	i	Z			36.4	
	i	N			50.6	
	S	NEZ		13	12	
	P:S,Compression					
	45 $\frac{1}{2}$ N., 137 $\frac{1}{2}$ E.					
	Sikhota Alin.					
	h:300 km ca.					
				H=19 09 35	USCGS	

30.	iP	NEZ	03	00	47.6
	i	N			49.5
	iS	N		01	07.3
P:N,W					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
30.	iPEZ,PN		08	44	49.6
	S	E		45	04
	P:E,Dilatation				
30.	iP	NZ	12	19	40.1
	i	E			40.4
	i	Z			55.0
	S	NE			56
	P:S,Dilatation				
30.	eP	Z	12	47	47
	e	N		58	06
	L	N	13	01	46
	L	E			59
	25 $\frac{1}{2}$ N., 100 $\frac{1}{2}$ E.				
Yunnan Province, China.					
			H=12 41 03	USCGS	

30.	P	NEZ	13	23	53
	i	Z		24	51

30.	eP	Z	13	48	02
	i	NE			13.5
	i	Z			14.3
	i	E			41
	i	N		49	01

31.	iP	NEZ	01	10	24.8
	i	E		11	09.8
	i	NZ			10.4
P:Compression					

31.	iPZ,PNE		01	13	14.3
	i	Z			23.6
	i	Z			37.3
P:Compression					
53 N., 167 W. Fox Is.					
			H=01 05 24	USCGS	

31.	iP	Z	07	31	54.6
	i	NEZ			55.9
	sP?	Z		32	31.2
	S	N		41	05
	eL	N		48	38
	eL	E		49	03
	L	E		51	46
	L	N		52	58
P:Compression					

Mag. 6 - 6 $\frac{1}{4}$ (Matsushiro)					
15 S., 173 W. Samoa Is. region.					
			H=07 20 45	USCGS	

31.	iP	NEZ	09	39	28.2
	iS	NEZ			37.5
P:N,E,Compression					

31.	P	Z	11	04	49.1
	i	EZ		05	03.8
	i	N			04
(cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	N	11	05	33
	i	Z			33.7
	i	N	06	06	0
31.	iP	NEZ	13	00	22.1
	iS	NE			38
	i	N			56.6
	P:N,W,Compression				
31.	iP	Z	13	12	41.1
	P:C				
31.	P	Z	15	01	55
	S	NEZ		02	15
31.	iP	NEZ	15	58	50.0
	S	NEZ		59	38.8
	P:N,W,Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
April					
+ 1.	ePKP	N	00	53	22
	ePS	N	01	03	34
	eSS	N		09	40
	L	E		20	27
	L	E		36	04
	Mag.6 - 6 $\frac{1}{4}$ (Matsushiro)				
	27 $\frac{1}{2}$ N., 21 W. Canary Is.				
	H=00 34 18 USCGS				
1.	iP	NEZ	04	15	28.9
	i	E			34
	i	N			36
	iS	E			53
	iP:N,W,Compression				
	35.3 N., 140.4 E.				
	Honshu, Japan.				
	h:40 km ca. J.M.A.				
1.	iP	NEZ	07	54	38.2
	iP:N,W,Dilatation				
1.	P	NZ	07	59	49.8
	i	Z	08	00	14.8
	eS	N		01	21
	P:N,Compression				
1.	iP	NEZ	12	24	59.7
	i	Z		25	47
	L	E		31	57
	iP:N,E,Dilatation				
1.	eP	Z	14	24	26
	e	Z		34	06
	eS	N		35	12
	eL?	N		48	37
	eL	N		54	10
	Mag.5 $\frac{1}{4}$ - 5 $\frac{1}{2}$ (Matsushiro)				
	48 S., 98 $\frac{1}{2}$ E. Indian Ocean.				
	H=14 11 30 USCGS				
1.	iP	NZ	14	45	21.3
	iS	E			52.9
	iP:S,Dilatation				
+ 1.	iP	NZ	14	58	38.9
	i	E			39.4
	e	N	15	02	08
	e	N		09	56
	iP:S,Dilatation				
	Mag.5 - 5 $\frac{1}{4}$ (Matsushiro)				
	18 S., 169 W. New Hebrides Is.				
	h:150 km ca.				
	H=14 48 28 USCGS				
+ 1.	iPZ,PNE		18	30	14.9
	i	NE			15.1
	eL	N		50	56
	P:N,E,Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
40 N., 120 W. California, U.S.A. H=18 18 28 USCGS					
1.	P	EZ	18	44	56
	i	N			57
	e	NZ			59
1.	P	Z	19	26	57
	eS	N		36	11
	eL	N		44	12
	eL	E			37
	e	N		48	39
P:Compression 17 S., 173 W. Tonga Is. region. H=19 15 38 USCGS					
1.	iP	Z	22	58	03.1
	i	E			21
	eS	N	23	07	02 ca.
	e	E		13	14
iP:Dilatation 17 S., 168 1/2 E. New Hebrides Is. h:100 km ca. H=22 47 54 USCGS					
1.	P	Z	23	41	54.2
	i	Z			55.0
	i	Z			58
	i	Z		42	22
	PP	Z		43	35.0
	eS	NE		48	28
	e	E		52	24
	Lr	E		54	08
P:Compression Mag. 5 1/4 - 5 1/2 (Matsushiro) 6 S., 154 1/2 E. Solomon Is. H=23 33 36 USCGS					
2.	P	Z	04	06	19.3
	i	NEZ			20.2
	eS?	NE		09	28
	eL	N		11	24
	eL	E			57
P:Compression 26 N., 125 E. Ryukyu Is. region. H=04 02 31 USCGS					
2.	iP	Z	12	09	12.2
	e	Z			10 51
	e	NE			18 54
	L	E			24 09
	e	N			32 20
iP:Dilatation					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
2.	iP	NEZ	16	02	52.7
	i	NE		03	22
iP:N,W,Dilatation					
2.	iP	Z	17	36	27.6
	S	N			29.9
2.	P	NZ	19	26	32
	PP	EZ		27	04
	iS	NE		30	39
	i	Z			44
	iScS?	N		37	45
	i	N		39	30
P:Dilatation Mag. 5.9 (Matsushiro) 20 1/2 N., 121 E. Batan Is. region. H=19 21 34 USCGS					
2.	iP	NZ	21	54	06.4
	i	Z			22
iP:N,Dilatation					
2.	P	Z	21	59	53.9
Tonga Is. H=21 48 20 USCGS					
3.	eS?	N	00	38	28
	L	N		40	25
	L	E		41	28
3.	iP	NEZ	01	33	41.0
	i	E			59
	eS	N		39	28
	L	N		41	42
	L	E		43	49
iP:S,W,Compression 51 1/2 N., 179 E. Rat Is., Aleutian Is. H=01 27 06 USCGS					
3.	iP	Z	01	36	26.3
iP:Dilatation					
3.	P	EZ	03	44	05.4
	i	Z			08.9
	i	Z			13
	i	Z			15
3.	P	Z	05	52	55
	eS	N		56	28
	L	N		57	31
24 N., 122 E. Near east coast of Formosa. h:200 km ca. H=05 48 45 USCGS					
3.	iP	EZ	08	32	03.4
	S	E			23
iP:E,Dilatation					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
3.	P	Z	12	45	46
	i	Z		46	00
	e	N		54	30
	e	N		58	50
3.	eP	Z	12	55	14
	i	Z			21
	i	Z		56	02
3.	P	Z	14	32	19
3.	eP	Z	16	14	44
	eS?	N		24	04
	e	N		28	39
	L	E		31	17
3.	iP	NEZ	21	15	20.0
	i	E			29
iP:N,W,Dilatation					
3.	P	NE	22	32	20.3
	S	NE			25.9
	P:N,W				
4.	iP	NEZ	00	14	40.5
	S	NE			45
	iP:N,E				
4.	eP	Z	01	51	00
	e	Z			14
	e	N		56	22
	e	E		57	05
	eL	N		58	42
4.	P	Z	18	04	21.9
	i	E			24
	e	Z		05	56
	e	NE		06	06
	P:Dilatation				
4.	P	NZ	19	10	09.1
	i	E			10.2
	eS	E		14	23
	L	E		16	31
	P:N,Dilatation				
Mag.5 (Matsushiro)					
54 N.,161 E.					
Near east coast of Kamchatka.					
H=19 04 59 USCGRS					
5.	P	Z	02	40	47
	S	Z		41	03
5.	iP	EZ	03	00	23.4
	S	N			42
	iP:Dilatation				
5.	P	EZ	03	03	39

Date	Phase	Comp.	Time(GMT)		
			h	m	s
5.	P	Z	05	44	52
	i	Z		48	01.8
	e	N		55	35
	52½ N.,169½ W.				
Fox Is.,Aleutian Is.					
H=05 37 18 USCGRS					
5.	eL	N	11	35	55
	44 N.,7 E.				
	Southeastern France.				
H=10 47 52 USCGRS					
5.	P	Z	11	42	53
5.	P	NEZ	15	18	55
	P:Compression				
+ 5.	P	NEZ	20	05	13.1
	eS	N		05	51
P:Compression					
46 N.,151 E.					
Kurile Is.					
H=19 59 58 USCGRS					
+ 5.	iPZ,PNE		21	15	43.2
	i	NEZ			43.6
iP:Compression					
15½ S.,167½ E.					
New Hebrides Is.					
h:150 km ca.					
H=21 05 54 USCGRS					
+ 5.	iP	Z	23	37	23.9
	i	N			24.3
	i	Z			33
	iS	N		43	43.7
	i	N		46	53
	L	E		53	03
iP:Dilatation					
Mag.6 - 6¼ (Matsushiro)					
5½ S.,146 E. Near north					
coast of New Guinea.					
H=23 29 25 USCGRS					
5.	iP	EZ	23	58	39.2
	i	N			39.7
	S	E			53
iP:W,Compression					
6.	iP	Z	01	33	44.8
	i	NE			47.5
	i	NEZ			55.0
	i	N		39	01
iP:Dilatation					
6.	P	Z	05	31	04
	i	Z			19
50½ N.,177 W.					
Andreanof Is., Aleutian Is.					
H=05 24 11 USCGRS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
6.	P i S	NEZ N N	09	01	36 45 02 15
6.	iP i S	NEZ E NE	14	08	11.2 18 52
iP:N,E,Dilatation					
6.	ePKP	Z	14	11	08
2½ N., 72 W. Colombia. H=13 52 04 USCGS					
X 6.	iP iPcP PcS? i S SS Lr L	NZ Z E N N N Z N	14	21	27.2 39 41 55 57 32 13 35 34 36 06
iP:N,Compression Mag.6¼ - 6½ (Matsushiro) 10 S., 120½ E. Sumba Is. H=14 12 36 USCGS					
6.	P i S	NZ NEZ NE	19	56	25 25.8 47
6.	iPZ,PE i eS	 N N	20	04	02.2 03.5 41
iP:Dilatation					
6.	iP i i S	EZ N E N	21	38	13.6 15 27 53
iP:Dilatation					
6.	iP S	NEZ NE	23	28	39.3 29 14
iP:N,Dilatation					
7.	P i eS L	NEZ E E N	00	04	17 23 03 47 12 15
13 N., 146½ E. Mariana Is. region. H=23 58 52 USCGS					
7.	iPZ,FN eS?	 N	05	48	03.2 51 17
iP:Compression Northern Mariana Is. region. H=05 43 54 USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
7.	P i S	EZ E E	08	17	56.7 18 03 19 09
P:E,Dilatation					
7.	iP iS	NEZ NE	12	10	41.0 11 11.9
iP:N,W,Compression					
X 8.	iP i ScS L L	NEZ Z E N N	01	34	49.9 35 11 44. 10 55 26 02 00 44
iP:N,W,Compression 32½ S., 179½ E. Kermadec Is. region. h:400 km ca. H=01 23 26 USCGS					
8.	iP i S	NEZ E NE	05	51	19.3 21 56
iP:W,Compression					
8.	P i S	Z E E	06	08	51 52 09 15
8.	iP S	NEZ E	07	12	29.0 42
iP:N,W,Compression					
X 8.	iP pP e e eL	NEZ Z E N N	08	12	40.7 13 05 19 33 22 40 30 56 ca.
iP:N,W,Compression 17 S., 174½ W. Tonga Is. region. h:100 km ca. H=08 01 36 USCGS					
8.	P e i	Z Z E	08	52	34 42 49
X 8.	PKP i eSS eSSS L L	Z Z NE E N E	12	04	27 42.5 28 04 33 51 55 19 13 36 31
Mag.6 - 6¼ (Matsushiro) 50½ S., 73 W. Southern Chile-Argentina border. H=11 44 25 USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
9.1	iP	NZ	04	53	45.5
	i	E			46.5
	pP	Z		54	05
	e	N	05	01	54
	eL	N		10	49
	iP:S,Dilatation 14½ S., 167½ E. New Hebrides Is. h:100 km ca. H=04 43 58 USCGS				
9.	iP	NEZ	05	10	07.1
	i	E			55.0
	iP:S,W,Dilatation				
9.	iP	NEZ	05	13	35.1
	S	NEZ			50.7
	iP:N,E				
9.	iP	Z	06	31	45.8
	i	Z			46.9
	i	N			49.8
	eSKS	NE		42	23
	iS	E			52
	eSS	N		49	00
	e	E		55	05
	L	N		58	10
	Lr	Z	07	05	14
	iP:Dilatation Mag.6 - 6¼ (Matsushiro) 36 S., 76 E. Indian Ocean. H=06 18 30 USCGS				
9.	iP	NEZ	12	27	00.5
	eL	N		30	02 ca.
	iP:S,W,Compression 44½ N., 149 E. Kurile Is. h:60 km ca. H=12 24 20 USCGS				
9.	iP	Z	17	15	54.2
	i	Z			55.1
	i	E		16	18
	S	Z		21	48.6
	eL	N			27.8
	iP:Dilatation Mag.5 - 5¼ (Matsushiro) 25 N., 95 E. India-Burma border. H=17 08 30 USCGS				
9.	ePPS	N	18	08	31
	eSS	N		12	56 ca.
	SSS?	N		18	35
	L	N		28	10
	L	N		51	54
	Mag.6¼ (Matsushiro) 7 N., 82 W. South of Panama. H=17 36 10 USCGS				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
9.	P	EZ	18	28	07.3
	i	NE			35
	P:W,Compression				
9.	iP	NEZ	18	53	57.8
	i	NE		54	46
	iP:S,W,Dilatation				
9.	iP	EZ	19	30	03.1
	i	N			03.5
	eS?	NE		32	17
	iP:E,Dilatation				
9.	iP	NZ	23	54	07.6
	iS	E		55	36.7
	iP:N,Compression				
10.	iP	NEZ	05	58	06.4
	pP	Z	06	00	08.4
	S	E		06	43
	ScSorSP	E		07	24
	iP:S,E,Dilatation Mag.6.3 (Matsushiro) 25 S., 178½ E. South of Fiji Is. h:600 km ca. H:05 47 34 USCGS				
10.	eP	Z	13	56	49
	e	Z			57 04
10.	P	NEZ	20	24	33.1
	P:N,E,Dilatation				
10.	P	EZ	22	03	41.3
	S	E		04	06
	i	E			18
	P:S,Dilatation				
11.	P	Z	04	43	22
	i	Z			27.0
	iS	E			41.0
11.	iP	NEZ	08	00	58.4
	S	NE		01	15
	iP:N,E,Dilatation				
11.	iP	NEZ	11	36	15.8
	PcPorPPP	Z		38	34.3
	eS	NE		41	56
	eL	NE		44	59
	iP:S,Dilatation Mag.5 ¾ - 6 (Matsushiro) 1 S., 128 E. Spice Is. H=11 28 50 USCGS				
11.	iP	EZ	14	30	08.7
	i	N			09.2
	S	Z			21.2

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
iP:E,Dilatation					
11.	iP	NEZ	16	59	04.6
	i	NE			33.6
iP:S,W,Dilatation					
11.	eS?	E	18	16	09
	e	N		19	35
	eL	E		27	31
	eL	N			57
Mag. $5\frac{1}{4}$ - $5\frac{1}{2}$ (Matsushiro)					
15 S., 173 $\frac{1}{2}$ W.					
Samoa Is. region.					
H=17 55 53 USC GS					
11.	iP	NZ	19	06	27.7
	i	NZ			33
	i	NE			40
	i	Z		07	14
iP:N,Dilatation					
11.	e	N	23	09	10
11.	eP	NZ	23	27	05
	e	E		29	50
12.	iP	EZ	03	33	32.3
	i	N			32.8
	S	NE			44.8
iP:E,Dilatation					
12.	iP	Z	05	26	53.0
	e	N		33	05
	e	E		35	59
	e	N		36	12
iP:Compression					
12.	eL	N	06	36	52
Samoa Is. region					
H=06 04 18 USC GS					
12.	PKP 1	Z	08	30	43.0
	i	Z			54.0
	PKP 2	Z		31	15
PKP 1:Dilatation					
Chile-Bolivia border.					
H=08 10 44 USC GS					
12.	PP	Z	10	13	50
	e	NE		19	34
	eS	NE		20	51
	esPP?	N		23	50
	eSS	N		29	08
	e	N			12
17 $\frac{1}{2}$ N., 95 W. Mexico.					
h:100 km ca.					
H=09 54 51 USC GS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
12.	P	NEZ	11	00	46
	e	N		03	26
P:S,E,Dilatation					
12.	eP	Z	11	03	41
	i	NZ			52
	S	N		07	10
	eL?	NE		08	58
Mag. $5\frac{1}{4}$ - $5\frac{1}{2}$ (Matsushiro)					
24 $\frac{1}{2}$ N., 122 E.					
Near east coast of Formosa.					
H=10 59 21 USC GS					
12.	P	Z	15	30	13
	i	NZ			15
	iPP	NZ		31	56
	S	N		36	16
	SS	NE		39	23
	sSS	N			37
	ScS?	E		40	01
	Lr?	N		41	59
Mag. $6\frac{1}{2}$ - $6\frac{3}{4}$ (Matsushiro)					
4 $\frac{1}{2}$ S., 134 E.					
Near coast of New Guinea.					
h:100 km.					
H=15 22 33 USC GS					
12.	iP	NZ	15	57	11.7
	i	E			12.2
	i	NZ			22
iP:S,Compression					
12.	e	N	18	15	06
	eL	N			18.6
12.	P	EZ	21	05	08.2
	i	NEZ			21
	S	E		14	10
	i	N			15
	i	N		17	12
	Lq	NE		22	11
	Lr	E		25	36
	Lr	N			46
Mag. $6\frac{1}{4}$ - $6\frac{1}{2}$ (Matsushiro)					
15 $\frac{1}{2}$ S., 173 W.					
Samoa Is. region.					
H=20 54 00 USC GS					
12.	P	Z	23	27	28
	i	NEZ			34.8
13.	iPZ,PNE		00	33	16.5
iP:Compression					
13.	iP	NEZ	02	35	43.2
	S	E		36	04
13.	iP	NEZ	16	01	41.5
	e	E		02	00
(cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	Z	16	02	25
	i	N			38
	iP:N,W,Compression				
13.	P	NEZ	18	03	36.6
	S	E			54.1
	i	Z			55
13.	iP	EZ	18	39	42.0
	eL	N			53 55
	eLr	N			58 46
	iP:W,Dilatation 23 N., 93½ E. India-Burma border. H=18 31 57 USCGS				
13.	iP	EZ	22	39	10.7
	eS	E			44 46
	L	N			46 43
	iP:Dilatation 50½ N., 180. Andreanof Is., Aleutian Is. H=22 32 34 USCGS				
14.	P	Z	03	03	26
	i	E			27
	e	E			09 44
	Gulf of California. H=02 51 13 USCGS				
14.	eP	Z	03	06	23
	e	E			36 07
	e	E			40 07
	24 N., 109½ W. Gulf of California. H=02 53 04 USCGS				
14.	PKP	Z	06	39	47
	i	Z			40 03
	Northern Chile. H=06 19 46 USCGS				
14.	iP	NEZ	07	29	04.7
	PcP	Z			30 31.9.
	eS	E			36 20.
	eL	N			39 53
	iP:S,W,Compression 57½ N., 155 W. Alaska Peninsula. h:60 km ca. H=07 20 28 USCGS				
14.	iP	NZ	09	43	10.9
	i	E			11.4
	i	E			12.4
	i	N			14.4
	i	E			28.9
	i	E			44 36.9
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	E	09	44	50.9
	e	E			53
	e	N			45 11
	e	E			17
	e	N			51 49
	iP:Dilatation				
14.	iP	NEZ	11	29	55.4
	i	E			57.2
	S	NE			30 02
	i	NE			03
	i	E			07
	iP:N,W,Compression				
14.	iP	E	11	35	27.7
	i	NZ			28
	i	Z			37
	i	E			43
	i	NE			36 02
	iP:W				
14.	P	EZ	12	22	47.3
	i	NE			52
	i	Z			23 01
14.	iP	Z	14	21	47.9
	i	E			48.4
	i	NZ			54
	i	Z			56
	i	EZ			22 03.9
14.	e	N	15	23	26
	e	E			24 30
14.	iP	Z	17	02	14.9
	i	NE			15.4
	S	NEZ			35
	i	Z			45
14.	P	NEZ	18	03	34
	i	E			51.2
	i	EZ			05 10.
14.	iPZ,PE		18	28	37.0
	i	Z			44
	i	Z			52.5
	eL	N			41 29
	eL	E			51
14.	e	N	19	24	21
	e	NE			30 34
14.	P	Z	22	13	03.3
	i	E			04
	i	Z			11
	e	N			15 13
	S	NZ			37
	i	E			47
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
	e	N	22	18	09
✓ 15.	iP	NEZ	00	16	53.4
	iS	NEZ	18	03.4	
	i	NEZ		22.4	
iP:S,W,Compression Mag.5.6 (Matsushiro) 41.3 N.,143.2 E. Near south coast of Hokkaido, Japan. J.M.A.					
15.	iP	Z	01	20	24.7
	i	NE			25.2
	i	NEZ			29.7
iP:Compression					
15.	e	N	05	54	58
53½ S.,135 W. Pacific Ocean. H=04 59 14 USCGS					
15.	P	EZ	07	25	21
	i	N			23.6
	i	Z			41
	i	NZ	26	02	
	i	E			13.6
15.	iP	NEZ	11	50	35.6
	i	Z	51	48.3	
	i	Z	52	13.3	
	S?	NE			17.3
	e	NE	53	54	
iP:S,E,Compression					
15.	iPEZ,PN		17	09	39.8
	PcP	Z	12	11.3	
	eL?	N	18	03	
iP:W,Compression Mag.4 3/4 - 5 (Matsushiro) 51 N.,177 W. Andreanof Is.,Aleutian Is. H=17 02 45 USCGS					
✓ 15.	iP	NEZ	19	06	29.0
	i	Z	18	02	
	i	Z			03.5
	i	Z			49.5
	PcP	Z	20	16.0	
	i	Z			29.0
	S	NE			39
	eL	NE	22	21	
iP:S,W,Compression Mag.5 - 5½ (Matsushiro) 51 N.,160½ E. Near east coast of Kamchatka. H=19 11 20 USCGS					
15.	iP	EZ	22	14	36.9
	i	N			38.1
(cont.)					

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
	S	NE	22	15	12.9
iP:Dilatation					
✓ 16.	iP	Z	00	03	06.6
	i	NE			07
	PcP?	Z			18
	eS	N	11	42	
	e	E	12	10	
iP:Dilatation 23 S.,180. Fiji Is. region. h:600 km ca. H=23 52 40 USCGS					
16.	iP	NEZ	02	20	08.0
	iS	NEZ			27.7
iP:N,W,Dilatation					
16.	iP	NEZ	04	32	21.6
	i	Z			31.2
	i	E	34	37	
iP:N,E,Dilatation					
16.	iP	Z	07	37	56.1
	i	NE			56.6
	eS	NE	46	31	
	e	E	47	21	
	e	N	57	20	
	e	E			37
iP:Dilatation 23½ S.,179 E. South of Fiji Is. h:550 km. H=07 27 27 USCGS					
16.	iP	NEZ	07	47	24.7
	S	N			49
iP:S,E,Dilatation					
16.	P	EZ	15	24	33
	i	N			34
	S	E			59.6
P:Compression					
16.	iPEZ,PN		15	27	35.1
	i	E			57
iP:W					
16.	iP	NZ	16	19	08.4
	i	E			09.9
	pP	Z			24.9
	i	E			28.9
	sP	NE			32.9
	e	N	21	52	
	S	NEZ	23	19	
	i	NE	24	39	
	PcS	Z	26	19	
	i	NE			27
(cont.)					

Date Phase Comp. Time(GMT)
h m s

continued

ScS E 16 30 04
iP:S,Dilatation
Mag. 6 $\frac{1}{4}$ (Matsushiro)
12 $\frac{1}{2}$ N., 143 E.
Mariana Is. region.
h:100 km ca.
H=16 13 56 USCGS

17. iP Z 03 21 33.4
i E 33.8
S EZ 22 10
iP:Compression

17. P EZ 04 02 11.9
S E 57.9

17. iPEZ,PN 12 08 09.6
i Z 32.6
e E 11 03
e N 40
iP:E,Dilatation

17. iP NEZ 17 28 24.5
S NE 47.5
i Z 53.0
iP:W,Compression

17. iP Z 21 29 01.8
i NE 02
i EZ 07.3
i N 09.3
iP:Compression

17. P EZ 21 38 08.4
i N 08.9
i Z 18.9
i N 34

18. iP NZ 00 24 26.6
i E 27.6
iP:N,Compression

* 18. iP NZ 06 25 56.5
i E 57.0
PP Z 27 45.0
PP E 46.5
eS N 31 58
e N 32 50
e E 54
e E 35 51
eLq NE 37 31
eLr E 40 11
eLr N 14

iP:N,Compression
Mag. 5 $\frac{1}{2}$ (Matsushiro)
4 $\frac{1}{2}$ S., 154 E.
New Ireland Is. region.
H=06 17 51 USCGS

Date Phase Comp. Time(GMT)
h m s

18. iP NEZ 10 18 05.2
i Z 18
i N 21
iP:N,E,Dilatation

18. iPZ,PNE 15 29 49.6
i Z 30 01
S NE 20

18. iP Z 18 28 49.1
i NE 50
iS NE 53.8
iP:Compression

18. iP NEZ 21 26 48.0
iS NE 27 05.5
iP:S,E,Dilatation

18. iPZ,PE 23 19 10.1
i Z 22.6
iP:Dilatation

18. iP Z 23 47 15.2
i E 16
i N 17
S NEZ 37
iP:Dilatation

* 19. PKP 1 Z 07 46 01.6
i N 13
PKP 2 NE 27.3
e E 56 34
SKSP? E 59 55
e E 08 08 44
e N 57
ee NE 10 05
SSS? NE 14 42
e NE 21 48
eL N 27 16
eL E 46
eL N 32 56
eL E 33 04
eL N 36 10

PKP 1:Compression
Mag. 6 - 6 $\frac{1}{4}$ (Matsushiro)
45 S., 82 W.
Pacific Ocean.
H=07 26 15 USCGS

19. iP Z 09 10 54
i 40 N., 43 E.
Eastern Turkey.
H=08 59 17 USCGS

19. iPEZ,PN 12 10 24.0
S Z 51.3
iP:E

Date	phase	Comp.	Time(GMT)		
			h	m	s
19.	iP S	NEZ EZ	12	15	27.6
	iP:N,W,Dilatation				
19.	iP	NZ	14	54	09.1
	i	E			10.1
	i	Z	56		11.6
	i	EZ			19
	S	N			26
	e	E			35
	i	EZ	57		26
	e	N	58		16
	iP:S,Compression				
	24½ N.,142 E. Volcano Is.				
	H=14 51 03 USCGS				
19.	P	NEZ	15	12	16.1
	i	Z			22.1
	PcP	Z	13		38
	e	NE	16		34
	S	NE	19		22
	ScS?	NE	22		07
	eL	E	24		35
	eL	N	25		16
	Mag.5¼ - 5½ (Matsushiro)				
	58 N.,152½ W.				
	Near Kodiak Is.,Alaska.				
	H=15 03 26 USCGS				
19.	iP	NEZ	17	01	42.7
	iS	EZ	02		00.3
	iP:N,W,Compression				
19.	P	Z	17	51	37.3
	P:Compression				
	Near west coast of Greece.				
	H=17 38 50 USCGS				
19.	P	EZ	18	19	47
	eS?	E	26		46
	eL	N	32		56
19.	iPZ,PNE		19	54	20.0
	i	Z			37.5
	e	N	20	03	19
	e	N	11		47
	eL	N	15		05
	eL	E			19
	iP:Compression				
19.	iP	Z	22	23	01.8
	iS	NEZ			06.3
	iP:Dilatation				
20.	iP	NEZ	03	35	54.0
	i	Z	36		06.7
	sP	Z			29.7
	PP	Z	37		30
	PPP	NZ	38		23
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	N	03	39	37
	PcS	Z			41 29
	S	N			42 15
	i	EZ			24
	sS	E			45
	SS	E	45		19
	e	N			46
	L	NEZ	48		17
	Lr	N	49		13
	iP:N,W,Compression				
	Mag.6½ - 6¾ (Matsushiro)				
	6 S.,149½ E.				
	New Britain.				
	h:100 km ca.				
	H=03 27 52 USCGS				
20.	P	Z	10	05	24
	S	Z			38
20.	iPZ,PNE		13	15	13.9
	S	E			16.6
	iP:Dilatation				
20.	iPEZ,PN		13	15	38.1
	S	NEZ			40.6
20.	iP	NEZ	14	41	16.3
	i	NE			57.8
	i	Z			58.8
	e	N	48		50
	iP:N,E,Dilatation				
20.	iP	NEZ	19	31	19.4
	i	Z			23.9
	eL	NE	35		53
	eL	E	38		25
	iP:S,Compression				
	54 N.,157½ E.				
	Near east coast of Kamchatka.				
	H=19 26 01 USCGS				
21.	eP	E	00	32	05
	i	Z			06
	i	Z			33 06
	e	Z			51
	eL	E	34		42
21.	iP	NZ	01	38	05.2
	i	E			05.6
	iP:Dilatation				
21.	P	EZ	03	58	11.7
	i	Z			39
	i	EZ			59
21.	iP	Z	06	25	11.1
	i	N			11.3
	i	E			17.2
	iS	Z			27.4
	iP:Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
21.	iP	NEZ	10	05	47.5
	S	NZ		08	15
	L	E			45
iP:N,E,Dilatation 45 N., 152½ E. Kurile Is. H=10 02 30 USCGS					
21.	iP	NEZ	10	58	44.8
	S	Z		59	28
iP:S,E,Dilatation 33.5 N., 141.2 E. Off south coast of Honshu, Japan. h:60 km ca. J.M.A.					
21.	iP	Z	11	26	03.3
	i	Z			16.2
iP:Compression					
21.	iPEZ,PN		12	50	57.6
	i	Z		51	38.7
	PcP	Z		52	40.4
	i	Z		56	15.1
P:S,W,Compression 56 N., 162½ W. Bristol Bay. H=12 42 50 USCGS					
21.	iP	Z	16	56	25.1
	i	Z			35.8
iP:Compression					
22.	iP	Z	03	32	55.3
	i	NE			55.6
	e	Z		33	21
iP:Dilatation					
22.	P	Z	03	44	53
	i	N		45	41
	i	E			44
	e	Z		46	34
Hindu Kush region. h:200 km ca. H=03 36 49 USCGS					
22.	iP	NEZ	10	38	28.5
22.	iP	Z	11	02	52.4
	i	NEZ			52.9
	PP	NEZ		04	50
	i	Z		08	33.1
	eS	E			58
	eL	E		12	05
iP:Compression 54 N., 167 W. Fox Is., Aleutian Is. H=10 55 05 USCGS					
22.	P	NEZ	17	33	34
	i	Z		34	07.1
	eL	E		37	47

Date	Phase	Comp.	Time(GMT)		
			h	m	s
22.	PKP 1	Z	17	43	14
7½ N., 72 W. Venezuela-Colombia border. H=17 24 05 USCGS					
22.	P?	Z	19	04	20
	eL	N			11 57
22.	ePKP 1	Z	20	46	20
	e	N		21	06.5
	e	NE			11.6
	eL	N			22.5
	eL	NE			29.4
Mag. 5 3/4 - 6 (Matsushiro) 36½ S., 97½ W. Pacific Ocean. H=20 26 46 USCGS					
23.	iP	Z	06	03	43.2
	i	NEZ			43.4
	e	Z		05	29
iP:Compression					
23.	iP	EZ	08	31	38.5
	i	EZ			43
	S	N		32	07
	e	E			11
iP:E,Compression					
23.	iP	NEZ	17	29	22.4
	iS	Z			24.9
iP:N,W,Compression					
24.	iPNZ,PE		02	39	10.3
iP:S,Dilatation					
24.	iPZ,PNE		07	22	06.0
	i	E			42
	e	E		23	30 ca.
iP:Compression					
24.	iPZ,PN		08	02	02.4
	i	E			03.1
	iS	EZ			32.1
P:N,Compression					
24.	PKP 1	Z	09	50	18
	PS	E		10	01 15
	eL	NE			21 57
	eL	E			29 47
	e	E			31 03
Mag. 5 3/4 - 6 (Matsushiro) 11½ N., 86½ W. Near coast of Nicaragua. H=09 31 33 USCGS					
24.	eP	Z	15	26	15

599

MATSUSHIRO SEISMOLOGICAL OBSERVATORY, JAPAN.

Seismological Bulletin

for May 1 to June 30, 1959

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
1.	eP	Z	05	58	59		i	E	05	26	45.3
	e	Z		59	27		i	Z			47.3
	eL	E	06	06.5			iS	E	27	36	
	eL	N	06	30			i	NEZ			38
	45 $\frac{1}{2}$ N., 104 E. Outer Mongolia. H=05 53 26 USCGS						i	EZ			50
							iP:N,Compression				
X 1.	P	EZ	07	26	58	2.	iP	EZ	06	24	41.4
	i	N		27	00.3		i	N			41.6
	PcP	Z		29	04.0		iP:E,Compression				
	S	N		33	07	2.	P	Z	11	36	50.9
	e	E			24		i	E			52.1
	eL	E		36.1			i	Z			52.6
	eL	N		36	22		i	Z	38	31.6	
	Mag. 5 $\frac{3}{4}$ - 6 (Matsushiro) 3 $\frac{1}{2}$ S., 135 $\frac{1}{2}$ E. Western New Guinea. H=07 19 16 USCGS						e	E			36
							eL	N	39	05	
							eL	E	39.1		
X 1.	iP	NEZ	08	34	58.2	2.	iP	EZ	16	56	25.3
	S	E		43	35		iS	EZ			31.0
	e	N		43.7			iP:E,Dilatation				
	L	E	09	00	15	2.	P	NZ	20	39	08.3
	iP:S,E,Compression 36 $\frac{1}{2}$ N., 52 E. Near north coast of Iran. H=08 23 57 USCGS						i	Z			11.4
							i	Z			34.2
							iS	NE			38
							P:Dilatation				
1.	iP	NEZ	13	26	00.5	3.	eP	NEZ	01	02	51
	i	N		27			i	NEZ			55.2
	e	E		35			i	Z			55.5
	iP:S,W,Dilatation					3.	iP	Z	03	04	12.0
1.	iP	Z	13	40	25.4		i	NE			12.2
	i	NZ		25.8			i	E			27.6
	i	Z		54.8			i	Z			28.3
	iP:Dilatation						iP:Dilatation				
1.	iP	Z	15	05	00.8	3.	iP	E	03	10	34.0
	i	Z		07	07.2		i	NZ			45.7
	eL	NE		15.2			i	E			46.9
	iP:Compression 5 S., 154 E. Solomon Is. region. h:60 km ca. H=14 56 57 USCGS						L	E	24	49	
							iP:W 10 $\frac{1}{2}$ S., 161 $\frac{1}{2}$ E. Solomon Is. H=03 01 38 USCGS				
1.	iP	NZ	23	06	20.8	3.	e	E	05	36	58
	i	E		21.1		3.	eP	Z	07	14	03
	iP:S,Dilatation						e	N			25
2.	iP	NZ	05	26	43.5		iS	Z			28.3
	(cont.)						i	E			23.7

Date	Phase	Comp.	Time(GMT)		
			h	m	s
3.	iP	EZ	07	27	00.4
	i	N			00.7
	i	E			09.2
	i	NE			33
	i	Z			37
	i	NE			44

iP:E,Dilatation
Off east coast of Honshu,
Japan.
h:100 km ca.
H=07 26 08 USCGS

3.	eP	NZ	11	12	02
	e	E		17	58 ca.

3.	eL	E	14	10.7	ca.
	eL	N		13	28

4.	eP	Z	03	21	54
	i	E			54.6
	i	NZ			54.8
	i	N		22	10.0
	L	E		29	19 ca.

25 $\frac{1}{2}$ N., 123 E.
Off east coast of Formosa.
H=03 17 34 USCGS

4.	eP	Z	04	45	23
	e	N			52

4.	iP	NEZ	07	20	42.3
	i	NEZ			42.5
	e	E		22	29
	e	N			31
	e	E		23	14
	iS	N		24	40
	i	E			44
	i	N			47
	i	E			50

iP:N,E,Dilatation
Mag. 8 (Matsushiro)
52 $\frac{1}{2}$ N., 159 $\frac{1}{2}$ E.
Near east coast of Kamchatka.
h:60 km ca.
H=07 15 42 USCGS

4.	PNZ, ePE		07	54	23
----	----------	--	----	----	----

4.	iP	NEZ	08	07	14.6
	iP:S,W,Compression				

4.	iP	Z	11	28	07.6
	i	NE			08.0
	i	E			11.6
	iP:Compression				

4.	eP	NEZ	12	55	14
----	----	-----	----	----	----

4.	eP	NEZ	12	58	21
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
	continued				
	iS	Z	12	58	46
	i	E			47

4.	iP	NEZ	15	01	52.8
	e	N		02	10
	iP:N,E.				

4.	eP	Z	16	19	28
	e	N			30
	i	E			37.2

4.	eP	NZ	17	26	03
	i	Z			04.8
	L	NE		35	05
	eL	N		38	24
	eL	E			39.2 ca.
	29 N., 92 E. Tibet. H=17 18 33 USCGS				

4.	P	NEZ	17	39	43
	iS	NE		40	01

4.	iP	NEZ	19	59	44.2
	i	Z			53.6
	e	N		20	00 48
	i	E			50.1
	e	NE		01	06
	iP:S,E,Compression				

4.	iP	EZ	22	11	16.5
	i	N			16.9
	i	Z			25.6
	e	N		12	21
	e	EZ			23
	iP:W,Dilatation				

4.	P?	N	22	54	57
	i	Z			58.2
	Fiji Is. H=22 44 00 USCGS				

5.	iP	EZ	01	49	16.5
	iS	NE			23.9
	i	Z			24.1
	i	E			32.1

5.	eP	EZ	04	39	25
	e	N			28
	i	Z			29.0
	e	E		48	00

5.	iP	EZ	06	07	00.5
	i	N			01.5
	i	Z			11.6
	i	Z			26
	e	Z		08	08
	e	N			28
	e	E		09	01
	iP:W,Compression				

5. iP Z 07 21 58.9
 i NE 59.2
 iS E 22 19
 i NZ 21
 iP:Compression

5. iP N 07 28 01.0
 i E 01.2
 i Z 20.2
 iS E 21.2
 i N 22.4
 iP:S

5. eP Z 09 14 00
 i N 03.3
 e Z 16 30

5. iP EZ 11 49 28.1
 i Z 36.6
 e Z 48
 e Z 50
 e N 51

iP:W,Dilatation
 34 $\frac{1}{2}$ N., 71 $\frac{1}{2}$ E.
 Afghanistan.
 H=11 40 08 USCGS

5. P EZ 17 26 47.3
 i E 58.4
 i Z 58.8
 i Z 27 23.4

5. iP NEZ 19 09 12.7
 i E 18.2
 i N 10 45
 iS N 12 54
 i E 19 13 14
 i E 18
 i N 31
 L N 14 37
 L E 45
 iL Z 16 29

iP:N,E,Dilatation
 Mag. 3 $\frac{1}{2}$ - 6 $\frac{3}{4}$ (Matsushiro)
 53 N., 159 E.
 Kamchatka aftershock.
 H=19 04 16 USCGS

5. eP E 20 29 52
 e Z 57
 i Z 30 13.1
 e Z 56

6. iP NEZ 02 58 40.3
 iS NE 59 11
 iP:S,W,Compression

6. P? Z 07 09 26.9
 iS N 28.4
 i E 29.4

6. P Z 07 51 38.8
 i E 39.1
 i N 39.4
 e Z 52 05

51 $\frac{1}{2}$ N., 176 W.
 Andeanof Is.
 H=07 44 25 USCGS

6. e N 09 26 08

6. e N 12 31 17 ca.

6. eP E 13 21 14
 i NE 16.9
 i Z 29.8
 e N 50
 e E 22 02

6. iP NEZ 14 45 57.5
 i NE 45 14.3
 e N 56.2

iP:S,E,Dilatation

6. eP EZ 17 39 26
 i N 26.8
 S NE 47 35
 sS? N 51 23

18 S., 179 W.
 Fiji Is.
 h:600 km ca.
 H=17 29 26 USCGS

6. iP EZ 18 54 25.5
 i N 25.9
 i Z 26.3
 e NZ 55 19
 i E 24

iP:W,Compression

6. P NZ 19 00 08
 i E 07.1
 eS EZ 05 56
 e N 06 21
 eL NE 08 58
 eL Z 13 17

Mag. 5 $\frac{1}{2}$ (Matsushiro)
 3 S., 128 E.
 Ceram Is.
 H=18 52 22 USCGS

6. iP NE 22 00 51.1
 i Z 01 00.8
 iP:S

6. eP Z 22 55 49

7. eP Z 00 11 06
 i E 07.2
 i N 08.3

(cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
✓	ePP	N	00	12	48
	eS	E		17	09
	i	N			20
	iLq	E		20	24
	iLq	N			30
	iLr	N		23	03
	iLr	E			23

Mag. $6\frac{1}{2}$ (Matsushiro)

$3\text{ S.}, 148\frac{1}{2}\text{ E.}$
Bismarck Sea.

H=00 03 24 USCGS

7.	iP	NZ	02	24	50.8
	i	E			51.3
	i	N		25	55.9
	iP:S				
7.	eL?	N	05	01	.4
7.	e	N	05	38	01
	eL	N		44	17 ca.
	eL	E			34 ca.

7.	iP	Z	08	13	21.1
	iP:Compression				

7.	eP	Z	08	16	45
----	----	---	----	----	----

7.	eP	NZ	09	11	35
	eS	N		17	51
	e	E			55
	eL	E		20	54
	eL	N		23	24 ca.
	eL	Z		24	00

$3\frac{1}{2}\text{ S.}, 149\frac{1}{2}\text{ E.}$

Bismarck Sea.

H=09 03 46 USCGS

7.	iP	Z	11	25	04.3
✗	PP?	Z		26	46
	PPP	Z		27	08
	e	E		30	50
	e	N			55
	eLq	N		33	42
	eL	E		34	23
	eLr	N		36	48 ca.
	eLr	Z		37	26

iP:Dilatation

Mag. $5\frac{1}{2}$ (Matsushiro)

$3\frac{1}{2}\text{ S.}, 150\text{ E.}$

Bismarck Sea.

H=11 17 16 USCGS

7.	e	E	13	35	48
	e	N			38.2

7.	iP	Z	14	09	47.4
	iP:Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
7.	eP	NZ	14	33	54
	e	E			38.1
	e	NE			40.2
7.	eP	Z	15	59	32
	i	E			39.7
	e	N		16	00 19

7.	eL?	N	17	34	00 ca.
----	-----	---	----	----	--------

7.	iP	Z	17	56	50.7
	i	E			51.4

iP:Compression

7.	iP	Z	20	31	15.3
	i	NE			15.6

iPP Z 33 03.3

iPP N 33 03.8

eS NE 38 03

e N 40 13

eL NE 41 47

iP:Compression

$8\frac{1}{2}\text{ S.}, 123\frac{1}{2}\text{ E.}$

Flores Is.

H=20 22 41 USCGS

7.	P	Z	21	52	55
	i	E		53	01.8
	eL	NE			59.0

7.	iP	NZ	22	22	20.1
	i	NEZ			20.9
	e	Z		23	18

iP:Dilatation

39.6 N., 142.3 E.

Near northeast coast of Honshu, Japan.

h:40 km ca. J.M.A.

7.	eP	Z	23	46	23
	e	N		00	03 53

8.	iP	NEZ	00	55	22.1
	iS	NEZ		53	03.7
	i	Z			04.1

iP:N,W,Dilatation

8.	iP	EZ	05	18	39.7
	i	N			40.1
	S	N		21	31
	i	N			24
	eL	E			47
	eL	N		22	29

iP:W,D

$26\frac{1}{2}\text{ N.}, 127\frac{1}{2}\text{ E.}$

Ryukyu Is.

H=05 15 17 USCGS

8.	iP	NEZ	06	51	20.8
----	----	-----	----	----	------

(cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
	i	N	06	51	28.6
	PcP	Z		55	28.1
	iS	N			38
	e	E			44
	eL	E	56	51	
	L	N			54
	iL	N	59	29	
	iL	E			36
iP:N,E,Dilatation					
Mag. $5\frac{1}{2}$ - $5\frac{1}{2}$ (Matsushiro)					
$53\frac{1}{2}$ N., $159\frac{1}{2}$ E.					
Near east coast of Kamchatka.					
H=06 46 18			USCGS		

8.	eP?	Z	09	23	31
	e	N		30	09
	e	N		36	29
	e	E		37	0
	e	N		42	32
	e	E		43	45

8.	iP	NEZ	11	31	11.2
	iS	EZ			57.6
	i	NZ			58.6
iP:S,Dilatation					

8.	iP	Z	11	39	52.8
	i	NE			53.0
	i	NEZ			54.0
	iS	E		44	02
	i	NZ			03
	L	N		45	34
	L	E			36
	iPcS	Z		47	15
	i	E			20
	i	Z			44.5

iP:Compression
 Mag. $5\frac{3}{4}$ - 6 (Matsushiro)
 $53\frac{1}{2}$ N., $160\frac{1}{2}$ E.
 Near east coast of Kamchatka.
 h:60 km.
 H=11 34 50 USCGS

8.	iP	Z	15	32	00.3
	i	NE			00.9
	eS	E		34	26
	eL	NE			54

iP:Dilatation
 $45\frac{1}{2}$ N., $150\frac{1}{2}$ E.
 Kurile Is.
 H=15 26 58 USCGS

9.	eP	EZ	00	01	23
----	----	----	----	----	----

9.	P	NEZ	08	24	47
	i	Z			52.2
	i	Z		25	25.3
	e	N		26	11
	e	Z		27	05

Date	Phase	Comp.	Time(GMT)		
			h	m	s
9.	P	Z	08	31	36
	i	N			38.4
	e	N			32 54
	e	Z			33 19
	e	N			34.6
9.	iP	Z	08	50	07.6
	i	NE			08.2
	e	E			51 40
	e	N			52 34 ca.
	eS?	N			56 27
	eL	N	09	00	54 ca.
iP:Dilatation					

9.	iP	Z	10	28	35.4
	i	N			35.7
	i	E			35.9
	i	Z		29	32.1
	i	Z			48
	e	N		30	00
	e	NE			04

iP:Compression

9.	P	NEZ	12	54	00
	eS	N	13	00	19
	eL	N		04	55

$52\frac{1}{2}$ N., $168\frac{1}{2}$ W.
 Fox Is.
 H=12 46 22 USCGS

9.	iP	NEZ	13	03	21.0
	i	E			42.4
	e	N			45
	i	EZ			52.1
	e	Z			58

iP:S,E,Dilatation

9.	eP	NEZ	13	46	27
	i	Z			29.8
	i	Z			38.5
	i	NE			38.7

9.	iP	NEZ	18	18	49.4
	e	E			57
	iS	NEZ		19	06
iP:N,E,Compression					

9.	e	N	19	55	28
----	---	---	----	----	----

9.	iP	NZ	20	37	52.9
iP:N					

9.	iP	Z	23	59	52.8
	i	NE			53.0
	e	EZ	00	00	08
	e	N		01	24
	e	Z			42
	S	E		02	11
	e	N			28

(cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	e	E	00	02	34
	i	E		03	15
iP:Dilatation 45 N.,149 E. Kurile Is. H=23 57 03					
USCGS					
10.	eP	Z	00	20	18
	e	Z		21	00
10.	P	NZ	01	34	31.9
	e	Z		35	33
	i	N		36	09.6
	e	EZ			10
	i	Z			29.2
10.	P	N	01	42	35
	i	Z			38.5
	i	Z			47.1
	e	E		43	00
	iS	N			02.3
10.	P	Z	02	44	58
	i	NE			59.7
	e	N		45	56
10.	iP	NEZ	03	00	26.6
	eS	NZ			44
iP:N					
10.	iPZ,PE		06	17	37.5
	e	N			50
	iS	EZ			51.2
iP:Compression					
10.	eP	Z	06	50	00
	i	E			15
	i	Z			15.5
10.	iP	NEZ	08	28	53.0
	e	N		30	01
	e	E			02
	e	Z			11
iP:N,E,Dilatation					
10.	iP	NEZ	09	47	07.0
	i	Z			18.5
10.	eS	E	09	49	39
	e	NE			42
	i	N			45
	i	Z			47
iP:N,E,Dilatation 48½ N.,148 E. Sea of Okhotsk. h:400 km ca. H=09 44 02					
USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
10.	iP	NEZ	10	52	13.5
	i	E			20.2
	i	Z			26.0
	e	E		54	23
	eS	N			29
	e	E		55	14
iP:E,Dilatation 44½ N.,150 E. Kurile Is. H=10 49 08					
USCGS					
10.	iP	EZ	19	30	08.6
	i	N			08.9
	i	EZ			10.7
	i	N			32
	i	E			38
	eS	NE			40
	e	Z			44
iP:Dilatation					
10.	iP	NEZ	22	16	32.2
	i	Z			34.6
	eS	NEZ		17	01
	e	Z			03
iP:S,Compression					
11.	P	Z	01	45	11.6
	i	N			11.8
	i	E			11.9
	e	N		47	19
	e	E			30
P:Compression					
11.	iP	NEZ	03	10	52.8
	S	E		11	07.7
	e	NZ			08
iP:N,W,Compression					
11.	iP	NEZ	04	47	21.0
	iS	E			23.3
	i	N			23.5
iP:S,E,Compression					
11.	e	NE	08	55	32
11.	iP	NEZ	16	33	51.4
	i	NEZ			52
	i	Z			52.4
	i	Z		34	04.9
	S	E		37	55
	e	N			56
iP:S,W,Compression 53½ N.,160 E. Kamchatka. H=16 28 49					
USCGS					
12.	iP	Z	00	44	34.4
	e	E			45 45
(cont.)					

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
	e	E	00	55	09
	e	E	01	03	45
	32½ N., 79 E. Tibet - India border. H=00 35 46 USCGS				
12.	i	Z	02	00	13.3
12.	iP	NZ	05	03	24
	i	Z			24.7
	e	E			25
	i	Z			35
	e	E			39
	iSE,SZ		08	02	
	e	N			13
	e	E			28
	eL	NE	09.7		
	iP:N,Dilatation Mag. 6 3/4 (Matsushiro) 54½ N., 168 E. Komandorskie Is. H=04 57 35 USCGS				
12.	e	Z	06	14	56
	e	Z			15 25
12.	eP	Z	08	14	44
	L	E			26 58
	9½ S., 159 E. Solomon Is. h:100 km ca. H=08 06 01 USCGS				
12.	iPKPZ,ePKPE		10	06	51
	e	NZ			53
	i	Z			53.4
	e	E			54
	i	Z	07	20	
	e	E	10	37	
	e	NZ			40
	e	Z	11	12	
	e	Z	17	05	
	ePKPE	E			36
	e	N			42
	e	Z	19	55	
	iPKP:Compression Mag. 6 3/4 - 7 (Matsushiro) 23½ S., 64½ W. Salta Province, Argentina. H=09 46 51 USCGS				
12.	e	Z	10	22	30
	20½ S., 63½ W. Bolivia. H=10 14 00 USCGS				
12.	ePKP	Z	10	33	55
12.	e	Z	10	46	46
12.	e	Z	12	39	22

Date	Phase	Comp.	Time(GMT)		
			h	m	s
12.	e	Z	12	46	59
12.	iP	Z	14	32	50.8
	i	Z			58.1
	i	Z	33		23.6
	iP:Compression				
12.	iP	Z	21	39	23.5
	i	Z			25.0
	i	Z			42
	iP:Compression				
12.	iP	Z	21	47	16.5
	PcP	Z			49 49.8
	eS	NEZ			52 46
	L	E			55 40
	L	N			42
	L	Z			44
	iP:Compression Mag. 5 3/4 - 6 (Matsushiro) 51½ N., 177 W. Andreanof Is. H=21 40 22 USCGS				
12.	iP	Z	22	06	51.0
	PcP	Z			09 24.2
	e	E			13 17
	e	NE			14 57
	iP:Compression Mag. 6¼ - 6½ (Matsushiro) 51½ N., 177 W. Andreanof Is. H=21 59 56 USCGS				
12.	eP	Z	22	35	15
	S	E			36 08
	39.0 N., 142.5 E. Near northeast coast of Honshu, Japan. h:40 km ca. J.M.A.				
13.	e	E	00	30	13
13.	eP	Z	01	11	23
	17 S., 175 E. Fiji Is. region. H=01 00 49 USCGS				
13.	e	E	01	33.5	
13.	eP	Z	08	52	44
	i	Z			49.0
13.	e	N	17	48.3	
	22½ S., 63½ W. Argentina aftershock. H=16 30 48 USCGS				
13.	e	N	18	15.2	

Date	Phase	Comp.	Time(GMT)		
			h	m	s
14.	eP	Z	00	57	52
	e	NE	01	05.3	
	e	NE		09.4	
	e	N		14.3	
	e	E		14.5	
14.	e	Z	02	20	22
14.	e	Z	03	04	03
	e	Z			14
	e	Z		05	00
14.	iP	Z	06	49	35.3
	e	NE			42
	i	Z			42.1
	eS	NE		59	58
	e	Z	07	00	01
	eSSS?	N		10.4	
	e	N		20	10
	e	E			12
	eLq	NE		24.7	
	iP:Dilatation Mag. $6\frac{1}{4}$ - $6\frac{1}{2}$ (Matsushiro) $35\frac{1}{2}$ N., $24\frac{1}{2}$ E. Crete. H=06 36 57 USCGS				
14.	iP	Z	09	43	51.7
	i	Z			58.5
	eS	N		52.3	
iP:Dilatation 19 S., 179 E. New Hebrides. H=09 33 22 USCGS					
14.	iP	Z	10	52	18.4
	e	Z			25
	e	N	11	11	18
iP:Dilatation 19 S., 170 E. New Hebrides Is. h:150 km ca. H=10 41 56 USCGS					
14.	e	Z	11	59	41
	i	Z			43.8
	eS	NE	12	08	08
	L	NE		15.2	
	L	E		18	11
19 S., 170 E. New Hebrides Is. h:100 km ca. H=11 49 20 USCGS					
14.	e	Z	12	50	51
14.	e	Z	12	55	40
14.	iP	Z	13	29	48.2
	i	Z			54

(cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued	S	NE	13	38	14
	L	NE		45	16
	L	E		48	00
	iP:Dilatation 19 S., 170 E. Loyalty Is. h:150 km ca. H=13 19 32 USCGS				
14.	iP	Z	16	17	46.2
	i	Z			48.4
	i	Z			56.9
	e	N	18		56
iP:Compression					
14.	e	Z	16	49	23
	i	Z			41.9
14.	e	Z	17	34	25
	e	Z			32
	e	N		40	13
14.	e	N	20	08	04
	e	E			08
14.	e	Z	20	18	38
	e	Z		19	07
14.	e	N	21	38.9	
	e	N		43.5	
14.	e	Z	22	55	49
14.	e	Z	23	23	38
	e	Z			44
14.	e	Z	23	26	24
	e	Z		27	00
15.	P	Z	01	35	32
	e	Z		36	12
	L	E		41	16
	L	N			20
	54 N., 158 $\frac{1}{2}$ E. Kamchatka. H=01 30 35 USCGS				
15.	iP	Z	01	42	18.7
	i	Z			59.6
iP:Dilatation					
15.	P	NZ	06	32	36.9
	e	E			38
	e	Z			56
	e	Z		33	28
	P:Compression				
15.	P	NZ	08	49	41.8
	i	E			42.4

(cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
	continued				
	i	Z	08	49	46.1
	i	Z		50	13.6
	P:N,Compression				
15.	e	E	12	05	45
	i	Z			45.5
	i	Z			52.7
15.	e	N	22	24	21
	i	Z			24.9
	e	N		27	11
	e	E			28
16.	P	EZ	00	09	14.4
16.	eP	Z	03	20	52
	e	E			58
	e	Z		21	02
	S	Z		22	05.9
	i	E			07.3
16.	iP	E	04	39	24.0
	iS	Z		40	05
	iP:E.				
16.	eP	E	04	59	32
	i	Z			34.8
	i	Z			37.4
	i	E			48.6
	e	E	05	00	16
	iS	Z			21.1
16.	iP	Z	05	11	25.7
	i	E			26.0
	i	E			28.8
	i	E			35.6
	i	E	12	04	3
	iS	E			07
	iP:Dilatation				
16.	iP	EZ	05	23	27.3
	i	E			29.4
	i	E			45.5
	i	E	24	04	
	i	Z			05.8
	iS?	E			07
	iP:W,Dilatation				
16.	eP	E	05	33	17
	i	Z			17.8
	i	N			18.3
	i	Z			45.5
	i	E			57.8
	i	Z	34	02	0
16.	P	NZ	06	24	24.0
	i	E			24.8
	e	Z		25	35
	e	NE		30	14
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
	continued				
	eS	E	06	30	50
	eLq	NE		33	53
	eLr	N		37	19
	e	E			29
	P:N,Compression				
	Mag. 6 3/4 (Matsushiro)				
	4 1/2 S., 153 1/2 E.				
	New Britain.				
	h:60 km ca.				
	H=06 16 23				
	USCGS				
16.	iP	Z	08	06	35.3
	i	NE			36.3
	iP:Compression				
16.	iP	Z	08	43	48.0
	e	N			49
	e	Z		45	03
	i	E			03.5
	e	N			49.5
16.	iP	NEZ	11	55	26.7
	iS	E			29
	e	Z			30
	iP:S,W,Dilatation				
16.	iP	Z	14	31	00.7
	e	N			36.9
	e	E			39.9
	iP:Compression				
16.	e	N	15	52	7
16.	iP	NZ	16	59	34.5
	e	E			34.9
	eS	E			54
	e	Z			56
	iP:S,Dilatation				
17.	e	Z	09	42	38
	e	E			39
	e	EZ			51
17.	eP	Z	11	01	16
	e	NE			18
	i	Z			18.5
	e	NZ		03	56
	e	E		04	04
	Northern Mariana Is. region.				
	H=10 57 27				
	USCGS				
17.	iP	NEZ	13	47	53.3
	iS	E		48	02.0
	i	Z			03
	iP:N,E,Compression				
17.	iP	Z	19	20	42.5
	i	N			43.6
	i	EZ			43.8
	(cont.)				

Date Phase Comp. Time(GMT)
continued h m s
e N 19 24 50
iP:Compression
54 N., 159 $\frac{1}{2}$ E.
Near east coast of Kamchatka.
H=19 15 42 USCGR

17. iP NEZ 22 48 55.4
i Z 58.4
eS Z 49 18
e E 20
iP:S,E,Compression

18. e Z 05 13 57
e N 59
e E 14 00
e E 15 42
e N 48

18. iP Z 07 30 16.5
i NE 17.0
L NE 36.6
iP:Compression
52 $\frac{1}{2}$ N., 173 $\frac{1}{2}$ E.
Near Is., Aleutian Is.
H=07 24 11 USCGR

19. iP NEZ 03 32 14.0
iS N 18.8
i Z 19.0
iP:S,E,Compression

19. L E 08 01 40
eL N 02 16
13 N., 120 $\frac{1}{2}$ E.
Mindoro, Philippine Is.
H=07 50 38 USCGR

19. iP Z 14 12 38.2
i NE 38.4
i E 42.0
iS E 13 08.7
i N 09.0
i Z 09.2
iP:Compression

19. iP NEZ 15 11 20.0
iS Z 35.7
iP:S,E,Dilatation

19. P Z 15 27 24.9
i E 25.1
e N 27
eS N 35 08
e E 39 00
e N 10
L N 48 08
L E 10
e N 50 30
P:Dilatation

(cont.)

Date Phase Comp. Time(GMT)
continued h m s
Mag. 5.3/4 - 6 (Matsushiro)
33 N., 68 $\frac{1}{2}$ E.
Eastern Afghanistan.
H=15 17 44 USCGR

19. eP Z 18 54 47
e NE 49
e Z 57 07
e NE 58.1
23 N., 142 $\frac{1}{2}$ E.
Volcano Is. region.
H=18 51 27 USCGR

20. eL E 01 44.1
e N 44.5
L N 49 55
23 S., 114 W.
South Pacific Ocean.
H=00 50 03 USCGR

20. eP Z 01 46 01
e E 04
About 250 miles off south
coast of Java.
H=01 36 42 USCGR

20. e Z 03 31 38
i E 39.0
i Z 39.2
e Z 32 20
e E 21
e N 22

20. iP Z 03 38 21.4
i E 21.5
e E 39 00
iP:Dilatation

20. iP Z 10 18 03.3
i E 03.6
i N 03.9
iP:Compression

20. iP Z 11 27 45.3
i NE 45.5
iS NEZ 28 45
iP:Dilatation
32 $\frac{1}{2}$ N., 136 $\frac{1}{2}$ E.
South of Honshu, Japan.
h:450 km ca.
H=11 26 28 USCGR

20. eP E 19 37 51
i NZ 51.9
i NEZ 52.4
eS EZ 40 18
eL E 48
eL NE 41.5
44 $\frac{1}{2}$ N., 149 E. Kurile Is.
H=19 35 03 USCGR

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)								
			h	m	s				h	m	s						
20.	eP e i e e L	NZ E Z E Z E	20	00	31 32 47 14 06 23 25.9	21.	eP eS e	N NE Z	07	10	20 12 15						
<p>41$\frac{1}{2}$ N., 42 E. Georgia S.S.R. H=19 49 12</p>			USCGS			<p>21. P S</p>			<p>EZ Z</p>								
20.	eP i e	NE Z Z	20	13	27 27.7 40	21.	iP S i	NEZ E NZ	11	14	59.1 17 19						
<p>20. eP i e eS e</p>			<p>NZ Z Z Z E</p>			<p>21. iP:N, Compression</p>			<p>21. PKP i pPKP sPKP i sSS i L L</p>			<p>Z E E Z E E N E</p>					
<p>20. iP i e</p>			<p>Z NE E</p>			<p>Mag. 6 - 6$\frac{1}{4}$ (Matsushiro) Chile - Argentina border. h:60 km ca. H=11 34 23</p>			<p>USCGS</p>			<p>21. iP iP:N, Compression</p>					
21.	P i ePP e	NZ E Z N	02	27	33 33.5 28 11 32 30	<p>21. iP iP:N, Compression</p>			<p>21. P i S</p>			<p>EZ N NE</p>					
<p>18$\frac{1}{2}$ N., 121 E. Near north coast of Luzon, P.I. H=02 22 56</p>			USCGS			<p>21. iP iP:N, Compression</p>			<p>21. iP iS iP:S,W,Dilatation</p>			<p>NEZ EZ NEZ NEZ</p>					
21.	iP i i iS	Z E N NE	02	59	50.4 50.5 50.8 08.7	<p>21. iP iS iP:N,E,Compression</p>			<p>21. P S</p>			<p>EZ NE</p>					
<p>iP:Dilatation Mihoro - Dam Explosion.</p>			<p>21. iP i i iP:Dilatation</p>			<p>21. iP iS iP:N,E,Compression</p>			<p>21. iP S iP:S,E,Dilatation</p>			<p>NEZ EZ NEZ NEZ</p>					
21.	iP i i iP:Dilatation	Z N N	04	15	52.8 53.0 58.6	<p>21. iP S iP:S,E,Dilatation</p>			<p>21. P S</p>			<p>NEZ Z</p>					
21.	P	NZ	05	39	01.2	<p>21. iP i i eS L L</p>			<p>21. iP i i iS iP:Compression</p>			<p>NEZ NE NEZ Z N N</p>					
21.	P i	EZ E	06	29	23 30 08	<p>Mag. 5 (Matsushiro) 52$\frac{1}{2}$ N., 170$\frac{1}{2}$ W. Fox Is. H=06 51 40</p>			<p>22. eP e</p>			<p>NEZ Z</p>					
<p>21. iP i i eS L L</p>			<p>NEZ Z EZ NE E N</p>			<p>USCGS</p>			<p>00 19 38 20 15</p>			<p>21. iP i i iS iP:Compression</p>			<p>NEZ Z</p>		

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)			
			h	m	s				h	m	s	
22.	iP	E	02	49	00.5	24.	iP	Z	06	12	14.6	
	i	NZ			01.0		i	NE			14.8	
	iS	N			15.4		i	Z			31	
	i	EZ			16.2		eS	NE			35	
	iP:E.											
22.	iP	NZ	04	46	44.6	24.	iP	NEZ	11	36	10.3	
	i	E			45.1		eS	N			42 05	
	i	Z			47 02		e	E			27	
	eS	E			50 49		L	N			48 45	
	i	N			57		L	E			50 08	
	L	E			52 55		iP:S,E,Compression					
	L	N			53 08		26 1/2 N., 90 1/2 E.					
	iP:Compression						Bhutan - India border.					
	Mag. 5 - 5 1/4 (Matsushiro)						H=11 28 18 USCGS					
	51 1/2 N., 159 E.											
	Off southeast coast of					24.	iP	E	11	53	38.8	
	Kamchatka.						iS	E			52.0	
	H=04 41 57 USCGS					24.	iP	NEZ	14	02	54.2	
22.	iP	Z	07	09	34.8		i	EZ	03	03.2		
	i	E			35.8		iP:N,E,Dilatation					
	eS	N			19 51		Kurile Is.					
	L	E			35 49 ca.		H=14 00 10 USCGS					
	L	N			36 26 ca.	24.	iP	NEZ	14	03	14.6	
	iP:Compression						eS	E			33.6	
	Mag. 5 1/4 - 5 1/2 (Matsushiro)						e	E	07	02		
	40 S., 176 E.						e	N			13	
	North Is., New Zealand.						iP:N,W,Dilatation					
	H=06 57 00 USCGS					24.	P	NEZ	19	31	43	
22.	iP	EZ	08	03	49.1		pP	Z			32 03	
	i	N			49.7		i	N			35 14	
	iS	EZ			04 04.9		PP?	EZ			36 01	
	iP:E,Dilatation						SKS	E			42 21	
22.	iP	Z	08	38	21		SKKS	N			45	
	eS	NE			44 10		S	E			43 20	
	eL	N			50 39		SP	E			45 10	
	L	E			52 00		i	EZ			13	
	iP:Compression						i	N			45 17	
	Mag. 5 (Matsushiro)						sSS	Z			51 34	
	25 1/2 N., 95 1/2 E.						L	N	20		01 34	
	Northern Burma.						L	E			02 45 ca.	
	H=08 31 06 USCGS						L	Z			06 45	
							L	E			59	
22.	P	NEZ	14	00	31		P:N,E,Dilatation					
	i	NZ			35.7		Mag. 6 1/2 - 6 3/4 (Matsushiro)					
	i	E			41		17 1/2 N., 97 W.					
	e	N			02 08		Oaxaca, Mexico.					
	eL	E			14		h:100 km ca.					
							H=19 17 40 USCGS					
23.	PZ,ePE		03	01	22	24.	P	NEZ	21	04	38.6	
	e	NE			03 06 ca.		i	Z			05 00	
24.	iP	NEZ	00	36	56.2		iS	E			02	
	S	E			37 10		P:N					
	i	Z			11.2	25.	e	NE	02	57	45 ca.	
	iP:Compression					25.	iP	NEZ	04	54	18	

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
25.	iP	NEZ	05	14	09.5	26.	iP	NZ	02	32	01
	iP:N,W,Compression						iS	EZ			07.8
	Fiji Is. region.										
	H=05 03 07 USCGS					26.	P	EZ	03	47	28
25.	iP	N	10	50	51.1		i	N			29.4
	i	Z			51.7		eS	NE		48	03
	i	E			51.9	26.	P	NZ	04	04	44
	eS	E		52	00		i	N		05	01
	i	N			02	26.	iPNEZ,PN		04	16	02.6
	i	Z			30		i	NEZ			04
	iP:S.						i	N			07.1
25.	iP	NEZ	11	00	40.0		iP:W,Dilatation				
	eS	NE		01	48	26.	iP	NEZ	04	16	13.7
	i	Z		02	21		i	N		18	41
	iP:S,W,Compression						iS	N			49.9
	40.7 N.,143.0 E.						i	EZ			51.9
	Near northeast coast of						iScS	NE		28	32
	Honshu, Japan.						iP:S,W,Dilatation				
	h:30 km ca. J.M.A.						Mag. 6.1 (Matsushiro)				
25.	P	Z	14	24	04		27 $\frac{1}{2}$ N.,126 $\frac{1}{2}$ E.				
	e	N		38	11		Ryukyu Is. region.				
25.	iP	EZ	16	00	58.7		h:100 km ca.				
	iS	NE		01	11		H=04 13 01 USCGS				
	iP:E,Dilatation					26.	iP	Z	04	57	26.2
25.	iP	NZ	17	11	07.5		i	N			26.8
	i	E			07.9		iP:Dilatation				
	e	E		14	58	26.	iPKP	Z	05	46	37.3
	i	EZ		15	04		i	Z		47	09.5
	i	N			08		iPKP:Compression				
	iP:N,Compression						17 N.,61 W.				
	18 $\frac{1}{2}$ N.,147 E.						Leeward Is.				
	Mariana Is.						H=05 27 36 USCGS				
	H=17 03 24 USCGS					26.	iP	NZ	06	24	58.8
25.	iP	NEZ	17	37	35.1		i	NE			59.3
	e	E		39	12		e	E		26	08
	iP:N,Dilatation						i	E			18
25.	P	NEZ	18	14	03		iP:N,Compression				
	S	NEZ			55	26.	iPZ,PNE		06	45	19.8
25.	P	EZ	19	09	53		PcP	Z		46	29
	i	N			53.6		eL	E	07	04	08
	eS	N		10	42		eL	N			14
25.	eP	Z	19	28	00		Mag. 5 $\frac{1}{2}$ (Matsushiro)				
25.	iP	NEZ	21	25	22.0		37 $\frac{1}{2}$ N.,70 E.				
	iP:N,W,Dilatation						Northern Afghanistan - Tadzhib				
							border.				
							H=06 36 00 USCGS				
25.	iP	EZ	21	41	21.6	26.	iPNZ,PE		17	26	20.8
	i	N			22.4		i	N			23.9
	i	E			44.0		e	N		27	37
	iP:W,Compression						iP:S,Compression				
							43.2 N.,142.5 E.				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
Hokkaido, Japan.					
h:70 km ca. J.M.A.					
26.	eP	Z	22	02	44
	i	Z		03	05
26.	P	Z	23	51	24
27.	iP	NEZ	04	52	51.6
	i	Z		53	13.0
	S	Z			45.0
	i	E			46.0
iP:N,W,Compression					
53 N.,141 E.					
South of Honshu, Japan.					
H=04 51 45 USCGS					
27.	iP	Z	06	03	30.5
	i	NZ			32.0
	i	E			32.8
	S	NE	04	07	
27.	iPZ,PN		06	09	05.5
	i	NZ			07.5
	i	E			08.4
	iS	NE			42
27.	iPEZ,PN		06	25	51.5
	S	NEZ		26	17
	i	E			52
iP:E,Dilatation					
27.	iPNZ,PE		08	05	21.2
	iS	NE			37.7
	i	E			38.0
iP:S,Dilatation					
27.	iP	N	09	56	41.9
	i	Z			42.4
	i	E			42.9
	i	E			47.5
iP:S					
27.	iP	Z	12	24	23.6
	eS	EZ			43
iP:Compression					
27.	P	NZ	12	52	22
	i	E			26.7
	S	NEZ	53	52	
27.	P	EZ	13	54	24
	i	N			26
	eL	N	14	00	13 ca.
	eL	E			33 ca.
Mag. $4\frac{1}{2}$ - $4\frac{3}{4}$ (Matsushiro)					
$20\frac{1}{2}$ N., $120\frac{1}{2}$ E.					
Formosa.					
H=13 49 47 USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
27.	P	Z	18	49	57
	i	NE			58
27.	eL	E	21	21	11 ca.
	eL	N			15 ca.
Mag. $5\frac{1}{4}$ - $5\frac{1}{2}$ (Matsushiro)					
46 N., 21 E.					
Hungary - Roumania border.					
H=20 38 26 USCGS					
27.	eP	Z	22	00	53 ca.
	eL	N		06	27 ca.
	eL	E			31 ca.
Mag. 5 - $5\frac{1}{4}$ (Matsushiro)					
13 N., $124\frac{1}{2}$ E.					
Luzon Is., P.I.					
H=21 55 25 USCGS					
28.	iPNZ,PE		04	36	06.1
iP:Dilatation					
28.	iPZ,PNE		07	40	07.3
	i	N			18.8
	S	N			43 59
	i	E			44 06
	L	E			46 11
	L	N			48 01
iP:Compression					
17 N., 147 E.					
Mariana Is.					
h:100 km ca.					
H=07 35 30 USCGS					
28.	P	EZ	08	07	28
	i	N			29
28.	iPNZ,PE		09	02	42.7
iP:N,Compression					
28.	iPEZ,PN		09	37	21.8
	S	NE		38	13
iP:W,Dilatation					
28.	P	Z	15	20	09
	eS	N			24 49
	e	E			25 10
	L	N			26 11
	L	E			13
Mag. 5 (Matsushiro)					
13 N., 124 E.					
Luzon Is., P.I.					
H=15 14 29 USCGS					
28.	P	EZ	15	23	37
28.	iP	NZ	22	34	50.7
	i	E			52.1
	S	N			40 57
	e	E			45 08
(cont.)					

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
iP:N,Compression 4 S.,141 $\frac{1}{2}$ E. New Guinea. h:100 km ca. H=22 27 15 USCGS					
28.	iP	NEZ	22	44	31.6
	iS	NEZ			54.6
iP:N,E,Compression					
28.	P	Z	23	43	47.3
	eS	Z		44	12
29.	iP	NEZ	00	56	13.2
	S	E	01	00	12
	e	N			19
	L	E	02	12	ca.
iP:N,W,Compression					
29.	iPNZ,PE		01	39	57.8
	i	Z		40	10.3
	iS	NEZ			22.3
iP:N,Compression					
29.	iP	Z	03	52	53.0
	iS	N		53	33.8
	i	E			35
iP:S,E,Dilatation 33.5 N.,140.6 E. Near south coast of Honshu, Japan. h:80 km ca. J.M.A.					
29.	iPZ,PE		04	08	23.5
	i	N			24.2
	i	Z	09	02.3	
	eS	NE			03
iP:Compression					
29.	iPZ,PNE		04	18	31.1
	S	NE		19	10
29.	e	N	06	25	00 ca.
29.	iP	NEZ	06	26	16.7
iP:N,E,Dilatation					
29.	iP	Z	10	53	06.9
	i	NE			07.3
	pP	NZ			29.6
	sP	E			58
	pPP	Z	55	54.1	
	pPPP	Z	57	20	
	iS	E	11	01	31
	L	E		08	47
	L	N		09	19
	PKPPKP	Z	22	10	
iP:Compression Mag. 6 (Matsushiro)					

(cont.)

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
19 S.,169 $\frac{1}{2}$ E. New Hebrides Is. h:100 km ca. H=10 42 48 USCGS					
29.	P	NEZ	11	13	52.3
29.	P	NEZ	12	15	11
	iS	NEZ		16	09.6
	i	E			21
29.	iP	Z	12	32	06.8
	i	Z			10.1
	i	E			30.0
	eS	E		35	33
	L	E		36	37
	L	N			47
iP:Compression 21 N.,146 $\frac{1}{2}$ E. Mariana Is. H=12 28 06 USCGS					
29.	iP	Z	12	35	00
	i	N			10
	i	E			10.6
	i	Z			14
29.	P	Z	17	56	43
	i	Z			45.9
	i	N			46.9
	i	E			47.7
	e	NE		59	43
	eS	NE	18	00	01
	L	N		02	11
	L	E			51
Mariana Is. H=17 52 42 USCGS					
29.	iP	Z	18	05	19.9
	iS	E			23.1
iP:S,W,Compression					
29.	iP	NZ	18	33	55.4
	i	Z			56.4
	i	N			57.2
	PP	N		34	16
	S	N		37	46
	i	E			48
	L	E		39	17
	L	N			27
iP:S,Compression Mag. 5 $\frac{1}{4}$ (Matsushiro) 50 $\frac{1}{2}$ N.,157 E. Near south coast of Kamchatka. H=18 29 27 USCGS					
29.	iP	Z	19	15	42.9
	i	NZ			54.0
	i	N		17	49
iP:Compression					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
29.	P	NZ	20	23	13
	i	E			17
30.	eP	Z	00	38	19
	S	N		39	10
	i	E			11
30.	eP	NZ	06	38	32.6
	i	Z		39	45.1
	iP:E,Dilatation				
30.	iP	Z	13	05	04.5
	iP:Dilatation				
30.	iP	NZ	13	46	08.7
	i	E			09.3
	iP:N,Dilatation				
30.	iP	NEZ	14	02	31.2
	S	E		03	01
	i	N			05
	iP:N,W,Compression				
30.	iPN,PEZ		16	00	31
	S	N		01	22
	i	EZ			24
	iP:S.				
30.	iPZ,PN		16	04	28.2
	i	E			29.7
	S	NEZ		05	15
	iP:Dilatation				
30.	eP	Z	18	26	11
	i	NZ		27	11
30.	P	NEZ	19	10	41
	S	EZ			55
31.	iP	N	01	17	47.7
	i	Z			47.9
	i	E			49.4
	i	Z			51.9
	iP:N.				
31.	iP	NZ	09	19	16.1
	i	E			17.2
	iP:N,Compression				
31.	iP	Z	09	36	33.4
	i	Z			34.7
	i	E			36
	i	Z		38	08
	PP	Z			16
	S	NE		43	19
	L	E		46	33
	L	N		50	23
	L	Z		51	48
	L	E			55
	iP:Compression				

(cont.,)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
Mag. 6 $\frac{1}{2}$ (Matsushiro)					
6 $\frac{1}{2}$ S., 155 E.					
Solomon Is.					
H=09 28 09 USCGS					
31.	eP	Z	11	48	44
	i	EZ			52
31.	iP	Z	12	27	39.4
	i	N			39.7
	eL	E		54	40 ca.
	iP:Dilatation				
Mag. 4 $\frac{1}{2}$ - 4 $\frac{1}{4}$ (Matsushiro)					
46 $\frac{1}{2}$ N, 27 E.					
Rumania.					
H=12 15 51 USCGS					
31.	eL	N	13	36	40 ca.
	eL	E		37	40 ca.
31.	iP	Z	14	52	36.3
	i	N			36.6
	i	E			37.3
	iP:Compression				
31.	iP	Z	15	33	10.0
	i	NE			10.4
	iP:Dilatation				
31.	P	NEZ	17	21	44
	e	NE		24	44
	e	E		25	04
	e	N			13
31.	eP	Z	21	14	08
	iS	E			23.0
	i	NZ			23.2
31.	eP	NEZ	22	18	16
	iS	NEZ			25.0

Date June 1. Phase iP Comp. Z Time(GMT) 05 38 57.1
 X i NEZ 57.9
 i Z 39 24
 iP:Dilatation
 4 S., 153 E.
 New Britain.
 h:400 km ca.
 H=05 31 30 USCGS

1. iP NEZ 07 43 10.9
 iP:N,E,Compression

1. iP NEZ 12 38 50.0
 S E 39 10.8
 iP:N,W,Dilatation

X 1. P E 12 40 13.3
 pPorPcP Z 41 43.5
 S NE 46 20
 sS N 49 00
 e NE 51 48
 6 S., 154 E.
 Solomon Is. region.
 h:400 km ca.
 H=12 32 25 USCGS

X 1. P NEZ 17 15 40 ca.
 i Z 17 18
 eS E 22 17
 eSS E 25 43
 eL E 28 14
 L N 29 32
 Mag. 6 - 6 1/4 (Matsushiro)
 6 1/2 S., 155 1/2 E.
 Solomon Is.
 h:100 km ca.
 H=17 07 23 USCGS

1. iP Z 20 31 05.7
 i E 06.4
 i Z 07.4
 eS NE 36 06
 eL E 38 09
 iP:Compression

1. eP Z 22 50 23
 i E 35
 S? E 54 00
 eL E 56 28

1. eP Z 22 53 23

X 2. iP NEZ 00 49 06.7
 i NE 07.4
 e NE 20
 iS E 50 38
 L N 55
 L E 51 07
 i E 25
 (cont.)

Date continued Phase Comp. Time(GMT) h m s
 i Z 00 51 49
 e E 59 42
 iP:N,E,Compression
 Mag. 5.4 (Matsushiro)
 31.6 N., 131.9 E.
 Honshu, Japan.
 h:10 km ca. J.M.A.

X 2. P NEZ 02 03 41
 iPP Z 04 24
 ipP E 25
 PcP? Z 05 50
 eSS? NE 12 25

P:Compression
 Off south coast of Minahasa,
 North Celebes.
 h:200 km ca.
 H=01 56 32 USCGS

X 2. eP NE 02 42 43
 S N 46 38
 eL N 49 40 ca.
 21 N., 121 E.
 Batan Is.
 H=02 37 46 USCGS

X 2. eP Z 05 02 10
 i E 15
 i NZ 20
 i Z 36
 PP Z 51
 S N 06 12
 i E 20
 i Z 22
 eL N 09 16
 i Z 10 32
 eL N 11 12
 eL E 33
 ScS N 13 40

Mag. 6 1/2 - 6 3/4 (Matsushiro)
 21 N., 121 1/2 E.
 Batan Is. region.
 H=04 57 18 USCGS

X 2. P Z 05 47 26
 i Z 30
 i Z 50
 eS E 51 24
 e N 33
 eL E 53 17
 eL N 54 38
 eL N 57 52
 eL E 58 12

Mag. 5 3/4 - 6 (Matsushiro)
 21 1/2 N., 121 1/2 E.
 Batan Is. region.
 H=05 42 34 USCGS

X 2. ePKP1 Z 06 02 07
 (cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	Z	06	02	17
	i	Z			32
	iPKP2	Z			38
43 S., 72 W. Chile - Argentina border. h:150 km ca. H=05 42 26 USCGS					
2.	eP	Z	08	06	23
2.	eP	Z	12	56	06
	e	E	13	14	23
	e	N		16	42
2.	P	Z	17	47	30
	e	E	18	05	29
2.	eP	Z	19	18	04
	e	N			27
	eS	NE		21.7	
	L	NE		23.2	
Mag. 4 3/4 - 5 (Matsushiro) 23 N., 121 1/2 E. Near east coast of Formosa. H=19 13 30 USCGS					
2.	eP	Z	21	02	19
3.	PKP	Z	04	02	43
	i	Z			50
	i	NE			51.3
	e	N	04		52
4 N., 77 W. Near west coast of Colombia. H=03 43 42 USCGS					
3.	iP	NEZ	05	32	54.0
	i	E		33	10
	S	Z			10.8
iP:N,W,Compression					
3.	iP	Z	05	51	00.2
	i	NE			01
	PcPorPPP	Z		53	06.2
	i	Z			18.7
	eS	E		56	57
	eL	NE	06	00	17
	L	E		03	39
iP:Compression Mag. 5 1/4 - 5 1/2 (Matsushiro) 52 1/2 N., 170 W. Fox Is. H=05 43 28 USCGS					
3.	iPEZ,PN		08	41	32.1
	i	Z			34
	eS	E		45	59
	e	N		46	07
	eL	NE		48	49

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
iP:E,Compression Mag. 5 - 5 1/4 (Matsushiro) 55 1/2 N., 163 E. Near east coast of Kamchatka. H=08 36 04 USCGS					
3.	iP	NEZ	11	41	59.3
	S	NE		42	52.0
iP:S,W,Dilatation					
3.	P	EZ	12	01	16.0
4.	P 1	Z	00	37	19.9
	iP2	EZ			20.4
	iS	E		38	01.4
iP2:E,Compression					
4.	P	Z	07	24	11
4.	e	N	07	43	04
	eL	NE		48	31
4.	iP	Z	12	40	35.7
	i	NE			35.9
	eS	NE		47	33
	e	N		50	19
	L	NE		53	13
iP:Dilatation Mag. 5 - 5 1/4 (Matsushiro) 59 1/2 N., 153 W. Cook Inlet. h:100 km ca. H=12 31 56 USCGS					
4.	P	Z	17	38	14.0
	i	NEZ			14.5
	i	Z			17.0
4.	iP	EZ	18	40	50.1
	i	N			50.5
	S	E		41	10
iP:E,Dilatation					
4.	iP	NEZ	21	45	38.1
iP:S,Dilatation Tonga Is. region. H=21 34 21 USCGS					
4.	P	Z	22	03	41
	e	N		12	59
	e	E		13	29
	eL?	E		21	01
4.	P	EZ	22	24	58
	i	Z		25	11.6
5.	eL?	E	04		34.5
5.	P	Z	06	06	56

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
	i	N	06	06	59
	eS	N		13	39
	eSS	N		16.8	
	e	E		18.5	
	eL	N		22.3	
	Mag. $5\frac{1}{4}$ - $5\frac{1}{2}$ (Matsushiro)				
	7 S., $155\frac{1}{2}$ E.				
	Solomon Is.				
	h:150 km ca.				
	H=05 58 40				
	USCGS				
5.	P	EZ	07	57	35
5.	iP	NEZ	10	24	20.7
	S	EZ			37
	iP:S,E,Dilatation				
	36.1 N., 139.4 E.				
	Honshu, Japan.				
	h:70 km ca.				
	J.M.A.				
5.	P	Z	11	18	08
	i	NE			12
	i	N			52
5.	P	NEZ	12	20	42
	i	N		21	42
	i	E		22	10
5.	P	Z	14	27	46.2
	i	NE			47
	S	NEZ		28	05
	P:Compression				
5.	P	NEZ	17	23	04
	S?	NZ			26
	S	E			27
5.	P	Z	18	35	47
	eL	E		44	00
	eL	N		48	06
	eL	E		49	06
	$3\frac{1}{2}$ N., $126\frac{1}{2}$ E.				
	Molucca Passage.				
	H=18 28 57				
	USCGS				
5.	iPE,PNZ		18	48	49.9
	i	E		49	10
	i	N			12
	iP:W.				
5.	P	Z	19	26	14 ca.
5.	iPZ,PNE		19	48	04.5
	i	E			06.5
	iP:Dilatation				
5.	iP	NZ	19	54	45.0
	i	E			45.5

(cont.)

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
	eS?	E	19	59	14
	eL	E	20	01	06
	iP:N,Dilatation				
5.	P	NEZ	20	08	09
	S	NZ			11
5.	PKP	Z	20	55	52.5
	ePS	E	21	06	52
	e	E		21	57
	e	E		26	42
	eL	E		37	41
	12 N., $86\frac{1}{2}$ W.				
	Near coast of Nicaragua.				
	h:100 km ca.				
	H=20 37 15				
	USCGS				
5.	iP	NEZ	21	43	56.6
	iP:S,W,Compression				
6.	e	E	01	04	35
6.	iP	EZ	01	10	43.2
	i	N			44.2
	i	Z			47
	iP:Compression				
6.	eP	EZ	02	21	02
	i	Z			08
	i	EZ			29
	i	Z		22	26.7
	eL?	E		32	34
6.	P	NEZ	05	23	55.9
	i	Z		24	11
	e	E		28	39
	e	N			54
	e	E		31	12
	P:Compression				
6.	e	N	09	01	03
	e	N		04	55
6.	e	N	10	34	50
	e	N		43	39
	eL	E		46	00
	eL	N			21
6.	P	EZ	11	25	03.7
	i	N			04.2
	i	E			06.7
	i	Z			12.7
	S	Z			26
6.	P	NEZ	12	05	17.7
	S	E			43
	P:Dilatation				
6.	P	EZ	14	21	07.3
	i	NEZ		22	00.3

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
6.	P	NEZ	20	59	45.6	7.	ePP	Z	14	01	47
	PP	Z	21	01	22		e	E		02	02
P:Compression						X	ePPS	N	14	10	
6½ S., 155½ E. Solomon Is. H=20 51 19 USC GS							eSS	N	19	39	
7.	iP	NEZ	00	25	58.9	eSS	E		54		
	iS	NEZ		26	31	eSSS	N	24	53		
iP:N,E,Compression						e	E	25	10		
7.	P	NEZ	00	51	50.7	eL	E	37	42		
	e	N	01	02	33	eL	N		55		
	e	E			39	e	N	43	54		
	eL	N		05	10	e	E	51	18		
	eL	E			36	e	N	52	06		
Mag. 5 3/4 - 6 (Matsushiro) ½ N., 18 W. Atlantic Ocean. H=13 39 38 USC GS						7.	iP	NEZ	15	02	34.5
7.	e	E	02	17	57	S	E		57		
	e	NE		24	01	iP:S,E,Dilatation					
7.	P	Z	02	45	37.8	7.	P	NEZ	15	54	40
	e	E		50	33	i	Z			41	
	e	N		52	29	S	E		55	23	
	e	E		55	03	7.	e	E	16	43	06
Loyalty Is. region. H=02 34 51 USC GS						e	N		43		
7.	e	N	03	53	55	7.	eP	Z	17	41	31
	eL	N		56	33	i	E			38	
	eL	E		57	03	eL	E		44	06	
10½ N., 126 E. Samar Is. P.I. H=03 45 21 USC GS						eL	N		54		
7.	P	Z	04	48	19.9	7.	eP	Z	17	47	42
7.	e	N	05	48	32	19 S., 174 W. Tonga Is. H=17 36 19 USC GS					
	e	E		49	48	7.	iP	NEZ	18	32	39.2
7.	e	N	06	54	40	i	E		33	04	
	e	E			46	i	E			11.7	
	e	E		58	24	i	Z			33	
	e	N			46	iP:E.					
7.	P	Z	08	40	27	7.	iP	NEZ	18	35	08.7
	i	Z		41	23	S	E			18	
	e	E		44	23	7.	eP	NEZ	20	18	12
	e	NE		46	14	S	NE			38	
Samar, P.I. H=08 34 32 USC GS						i	E			40.8	
7.	P	Z	10	11	20.2	7.	eP	NEZ	20	44	37
	S	NEZ			26.2	S	E		45	06.8	
P:Dilatation						8.	eP	NEZ	01	11	55
7.	e	N	11	00	ca.	i	NZ			56.1	
	e	N		02	34	i	NZ		12	57.1	
	e	E		05	16	i	E			58.6	

Date continued	Phase	Comp.	Time(GMT)		
			h	m	s
	e	N	01	15	46
	eL	N		18	53
	eL	E		19	14
8.	P	NEZ	02	48	17
	S	E			20
	i	E			27.0
8.	P	Z	08	17	12
	i	NE			12.3
	i	E			51.3
	S	E			56.8
	e	NE	18	01	
	e	NE			24
8.	P	Z	09	53	44
	i	Z			57
	i	Z			54 10
	i	Z			55 02.5
	eL	N	10	07	11

About 150 miles south of east Java.
H=09 44 25

USCGS

8.	e	N	11	17	41
	eL	E		19	41
	eL	N			47
8.	P	NZ	11	38	03.5
8.	P	EZ	12	05	40.4
	i	Z			52.4
	i	Z			06 13.9
	e	N	08	08	
	e	E			41
8.	P	Z	12	50	19
	i	E			19.9
8.	ePKP	Z	14	31	48
					14 S., 77 W.
					Near coast of Peru.
					H=14 12 03
					USCGS
8.	iPEZ,PN		23	01	12.7
	i	E			20.0
	iS	E			29.6
					iP:E,Dilatation
9.	P	NZ	01	23	44.8
	i	E			46.8
	S	NZ	24	18	
	i	E			19.8
	i	EZ			26
					P:Compression
9.	e	NE	02	58	46
	e	N	03	00	10

Date	Phase	Comp.	Time(GMT)		
			h	m	s
9.	e	N	03	08	05
	e	E			33
	e	N			09 23
9.	e	N	03	17	59
	e	E			13 10
	e	N			53
9.	e	E	03	29	43
	e	N			52
	e	N			30 57
9.	P	Z	03	53	45
	e	E			57 13
	e	N			41
9.	e	E	05	07	22
	e	N			09 29
	e	E			34
9.	eP	Z	06	27	57

6 S., 146 $\frac{1}{2}$ E.
Near coast of New Guinea.
H=06 19 54

USCGS

9.	eP	Z	15	05	36
					33 S., 179 $\frac{1}{2}$ W.
					Kermadec Is. region.
					H=14 53 30
					USCGS
9.	P	NEZ	16	50	35
	i	E			35.2
	e	N			53 22
	e	E			54 18
					P:Compression
9.	iP	NEZ	16	58	04
	S	N			11
	S	NZ			14
					iP:W,Compression
9.	P	EZ	17	20	43
9.	iPKPZ,PKPE		23	30	28.7
	i	E			33
	eSKKS?	N	40	34	
	eSS	E	53	18	
	eSS	N			28
	eSSS	NE	59	26	
	eL	N	00	16	08
	eL	E			43
					iPKP:Compression
					Mag. 6.1 \pm 0.1 (Matsushiro).
					59 S., 172 $\frac{1}{2}$ W.
					About 500 miles southwest of
					Bovet Is.
					H=23 10 46
					USCGS
9.	iP	NEZ	23	38	30.7

(cont.)

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
continued					h	m	s	h	m	s	
	iS	E	23	38	47.7	12.	eP	NEZ	07	44	33
	iP:Compression										
10.	iP	Z	04	28	44.4	12.	eP	EZ	09	53	59
	i	NEZ			44.9		i	EZ		54	17
	i	EZ			32		iZ,eN				50
	e	E			34		i	E			51.1
	eSorSKSE										
	e	NE			38	12.	P	NEZ	10	48	14
	eSS	N			41		S	EZ			32
	e	E			44						
					54	12.	P	NEZ	13	17	11
	iP:Dilatation						eS	NE		20	35
	36 N.,23 E.						eL	NE		22	26
	Crete.										
	H=04 16 03										
					USCGS	12.	eP	NEZ	15	42	49
10.	eL	N	05	31	43		i	E		43	16
	eL	N			34		i	NZ			29
					12		i	E			30
10.	e	N	10	01	15	12.	P	EZ	20	39	14
	e	E			02		e	N			21
					11		eS	NE		43	30
11.	iP	NEZ	00	06	15.6		eL	E		46	04
	iP:S,Dilatation						eL	N			47
	24½ S.,179 W.					12.	eP	EZ	21	17	08
	Tonga Is. region.						e	N			09
	H=23 54 46						eS?	E			44
					USCGS						
11.	iS	EZ	03	41	38.4	13.	iP	NEZ	01	02	10.1
11.	iPZ,PE		04	35	17.8		iS	NE			24
	e	Z			36		iP:S,E,Dilatation				
	eS?	E			01						
	iP:Dilatation										
					18	13.	P	EZ	02	52	16
11.	iP	Z	08	39	07.4		iSEZ,SN	EZ			32.1
	e	EZ			40	13.	iP	NZ	07	47	11.7
	iP:Dilatation						i	E			12.3
					26		S	NE		48	11
11.	iP	EZ	13	34	23.2		iP:S,Dilatation				
	S	E			37	13.	P	NEZ	12	14	06.8
	i	Z			48		i	Z			18
	i	NE			35		i	Z			34
	iP:E,Compression						i	Z			43
					02		i	Z		15	14
12.	P	EZ	00	47	55.3		i	Z		20	09
	iS	EZ			56.9		i	NZ		23	29
12.	eP	NZ	00	53	27		i	Z		24	03
	iE,eN				33		eS	N		27	24
	51½ N.,175 W.						i	N		27	24
	Fox Is.						eL	NE		43.6	
	H=00 45 56						P:Compression				
					USCGS		Mag. 5¼ - 5½ (Matsushiro)				
							36 N.,32 E.				
							Near south coast of Turkey.				
							H=12 02 00				
							USCGS				
12.	eP	EZ	06	05	46	13.	iPEZ,PN		13	17	45.1
	iS	EZ			48.9						(cont.)
12.	P	NEZ	07	06	36 ca.						

Date	Phase	Comp.	Time(GMT)		
			h	m	s
	iS iP:W.	NEZ	13	17	47.8
13.	PZ,ePNE		16	09	53
	e	N		11	03
	e	Z			07
	e	E		15	02
	e	N			52
	eL	NE		17	00
13.	PZ,ePNE		16	29	33
13.	PZ,ePNE		19	47	07
	e	E		50	02
	e	N			04
	e	N			26
13.	iPZ,PN		20	06	56.8
	S	E			58
	i	NZ			59
	iP:Compression				
13.	PKP	Z	22	36	03.2
	i	Z			42.8
	ePKS	E		40	52
	e	N		43	07
	i	N		48	31
	PKP:Compression Southern Peru. H=22 16 24 USCGS				
14.	ePKP	Z	00	31	40
	i	NE			46
	i	Z			48
	i	Z		32	18
	iPP	EZ		35	26.7
	i	EZ		36	09.7
	e	N		39	52
	iSKKS	E		42	09.7
	i	Z		45	08
	iSKSP	E			45
	SKSP	Z			59
	SKKKS	E		48	57
	iSS	E		54	44
	SKSSKS?	N		55	33
	SKSSKS?	E			44
	L	E	01	11	32
	Lr	Z		22	06
	G?E,eG?N Mag. $7\frac{1}{2}$ - $7\frac{1}{2}$ (Matsushiro) $20\frac{1}{2}$ S., 68 W. Southwestern Bolivia. h:100 km ca. H=00 11 57 USCGS				
14.	iPZ,PNE		04	43	58.0
	i	Z		44	09
	S	E		46	03
	i	N			09
	L	NE		47	12

Date	Phase	Comp.	Time(GMT)		
			h	m	s
14.	iPZ,PN		06	58	42.7
	i	E			43.0
	S	EZ		59	19
	iP:Compression				
14.	PZ,ePNE		08	18	19
	e	N		23	33
	e	E		25	18
	iN,eE			27	41
	e	NE		30	51
14.	PNZ,ePE		15	08	26
	eS	N		17	51
	e	N		27	23
	eL	N		42	50
	Mag. $5\frac{1}{4}$ (Matsushiro) 20 S., $173\frac{1}{2}$ W. Tonga Is. H=14 56 57 USCGS				
14.	iP	NEZ	16	16	41.0
	i	E			56.4
	S	NE		17	11.4
	i	E			28
	iP:N,E,Dilatation Mag. 5.5 (Matsushiro) 37.5 N., 141.7 E. Honshu, Japan. h:40 km ca. J.M.A.				
14.	eP	NEZ	16	49	43
	i	Z		50	25
	eS	EZ		51	50
	e	N			55
	LE,eLN			52	13
	27 N., $143\frac{1}{2}$ E. Bonin Is. H=16 47 04 USCGS				
14.	eP	Z	20	57	16
	eL	E	21		11.7
	64 N., 152 W. Alaska. H=20 48 42 USCGS				
14.	iPNZ,PE		21	13	27.7
	iZ,eN			15	12
	iP:S,E,Dilatation $23\frac{1}{2}$ S., $179\frac{1}{2}$ W. Tonga Is. region. h:300 km ca. H=21 02 32 USCGS				
14.	iP	Z	22	32	08.0
	iS	EZ			53.0
	iP:Dilatation				
14.	eP	NEZ	23	42	42
	eL	NE		51	44

Date	Phase	Comp.	Time(GMT)		
			h	m	s
15.	P	Z	02	43	00
	i	Z			08
	i	E		44	22
	S	NE		46	19
	PcP	Z		47	33
	L	NE			55
	Mag. $4\frac{1}{2}$ - $4\frac{3}{4}$ (Matsushiro) 25 N., $122\frac{1}{2}$ E. Near northeast coast of Formosa. H=02 38 48 USCGS				
15.	P	Z	06	52	00
	eL?	NE	07	01	49
15.	eP	EZ	07	43	23
	eL	NE		54	23
15.	eP	Z	08	43	10
	eS	NE			31
15.	e	NE	14	37	34
15.	iPEZ,PN		14	43	32.4
	S	EZ			55
	i	E		44	13
iP:W, Compression					
15.	eL	NE	19	33.7	
15.	iPZ,PNE		21	17	16.4
	iS	NEZ			24.8
iP:Dilatation					
15.	iP	NEZ	22	29	43.1
	S	E		30	14
iP:S,E,Dilatation					
16.	eP	Z	02	48	28
	i	Z			50
$4\frac{1}{2}$ S., 143 E. New Guinea. H=02 40 34 USCGS					
16.	iPEZ,PN		08	45	06.3
	SEZ,eSN				20
	iP:E,Dilatation				
16.	P	NEZ	11	30	08
	eS	NE			28
16.	P	NEZ	11	38	28
16.	iP	NEZ	14	11	26.9
	S	N		13	39
	L	NE			52
	iP:N,E,Dilatation				
16.	P	Z	14	50	38
(cont.)					

Date	Phase	Comp.	Time(GMT)			
			h	m	s	
	L	NE	14	58	56	
	51 N., 177 W. Andreanof Is. H=14 43 45 USCGS					
	16.	P	NEZ	21	40	49
	i	Z			41	01
e	N			43	54	
e	E			44	04	
eL	N			45	28	
17.	P	NEZ	10	01	17	
	i	Z			36	
	i	N			50	
17.	eP	Z	10	51	29	
	e	Z			52	04
	e	N			57	26
	LN,eLE		11	03	49	
	Mag. $4\frac{1}{2}$ - $4\frac{3}{4}$ (Matsushiro) 3 S., $135\frac{1}{2}$ E. Western New Guinea. H=10 43 44 USCGS					
17.	eP?	Z	15	40	11	
	e	E			42	35
	eL?	N			43	37
17.	P	NEZ	15	50	57	
	i	Z			52	09
17.	eP	EZ	17	57	18	
	e	N	18	01	40	
	L	E			02	28
L	N			03	13	
17.	iPZ,PNE		20	55	24.6	
	iPcP	Z			56	22
	iP:Compression $12\frac{1}{2}$ S., $167\frac{1}{2}$ E. Santa Cruz Is. h:200 km ca. H=20 46 03 USCGS					
18.	P	Z	11	44	03.5	
	i	EZ			04.6	
	S	E			43 ca.	
	i	E			53	
18.	iPNZ,PE		15	36	31.5	
	i	EZ			38	
	i	E			38	59
	iPcP	Z			40	07.3
	i	Z			22	
	S	E			46	
	S?	N			48	
	L	E			42	45
L	E			45	43	
L?	E			47	43	
(cont.)						

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
	iP:N,E,Dilatation				
	Mag. 6 3/4 - 7 (Matsushiro)				
	54 N.,160 E.				
	Near east coast of Kamchatka.				
	H=15 31 25	USCGS			
18.	eP	NZ	15	42	11
18.	P	Z	15	43	58.4
18.	iP	Z	15	45	40.3
	iP:Dilatation				
18.	P	NEZ	16	03	43
X	iPP	E		04	11
	i	E		06	39
	i	Z		07	33
	iS	E			57
	i	E		08	53
	L	E		10	30
	Mag. 6 1/2 - 6 3/4 (Matsushiro)				
	54 N.,161 E.				
	Near east coast of Kamchatka.				
	H=15 58 38	USCGS			
18.	P?	Z	16	10	03
18.	PZ,ePE		17	57	07
	i	N		58	10
	i	E		58	09
	i	N			15
19.	iP	NEZ	01	47	29.2
	iSE,SN				38.5
	iP:S,E.				
19.	e	N	02	08	34
X	eLr	NE		15	43 ca.
	Mag. 5 1/2 - 5 3/4 (Matsushiro)				
	6 N.,82 1/2 W.				
	South of Panama.				
	H=01 37 51	USCGS			
19.	eP	NEZ	02	14	44 ca.
	S	E		15	06 ca.
	e	N			11 ca.
19.	P	EZ	04	09	04 ca.
	i	Z			20 ca.
	S	NE			49 ca.
19.	eP	Z	06	05	31
	eS	E		14	25
	eL	E		21	34
19.	iP	NEZ	16	08	04.8
	iS	NEZ			17.9
	iP:S,E,Dilatation				
	36.2 N.,139.3 E.				

(cont.)

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
	Honshu, Japan.				
	h:90 km ca.	J.M.A.			
19.	eP	NEZ	16	54	19
	i	Z		56	22
	i	N			32
	e	N		57	27
	eL	NE		59	07
19.	P	NEZ	17	30	11
	i	N			23
	e	E		32	32
	e	N			36
19.	eP	Z	20	47	40
	e	E		21	18 12
	eL	E		20	24
	Mag. 5 1/4 (Matsushiro)				
	27 1/2 N.,111 W.				
	Gulf of California.				
	H=20 30 40	USCGS			
19.	iP	NEZ	22	15	44.4
	iS	NE			55.4
	iP:S,W,Compression				
20.	iPZ,PE		08	19	10.0
	i	N			10.1
	i	N			23
	e	Z		21	13
	iP:Compression				
20.	P	NEZ	09	37	06
	S?	NEZ			09
20.	P	Z	10	14	23.1
	i	N			23.5
	i	EZ			23.7
	P:Dilatation				
20.	P	EZ	14	25	58.3
X	e	E		26	25
	e	E		30	57
	e	N		31	11
	P:Compression				
20.	iPZ,PNE		18	16	18.4
	S	NEZ		17	21
	iP:Dilatation				
20.	P	NZ	18	50	38
	i	E			39
	S	E		51	04
	i	N			05
20.	eP	NEZ	18	52	28
	S	NEZ			54
21.	iP	NEZ	03	00	34.9

(cont.)

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)				
continued				h	m	s	continued				h	m	s
	i	Z	03	00	35.2		Lr	NE	14	29	37		
	i	EZ			35.8		Lr	N		32	28		
	iS	EZ	01	01.8			P.N.						
	iP:E.						O., 124 E.						
21.	iP	N	03	07	36.5		Northern Celebes region.						
	i	NZ			38.6		H=14 13 23			USCGS			
	S	E	08	03		21.	iPKPZ,PKPNE		15	21	23.5		
	i	Z			06.8		iPKP:Compression						
	i	Z			53		21 S., 67 W.						
	i	E	10	53			Southern Bolivia.						
	iP:S.						H=15 01 45			USCGS			
21.	P	Z	03	16	00.0	21.	P	EZ	16	06	17		
	i	NEZ			00.3		S	Z			52		
	iS	NEZ			55.3		i	N			55.2		
	i	E	17	59			Mag. 5.2 (Matsushiro)						
	P:Dilatation						36.2 N., 141.8 E.						
							Honshu, Japan.						
21.	P	Z	03	25	37		h:20 km ca.			J.M.A.			
	i	E			39	21.	e	E	17	35	10 ca.		
	S	NZ	26	03			e	N		40	02 ca.		
	i	E			04.1								
21.	iP	Z	03	29	37.7	21.	P	Z	18	24	53.3		
	i	N			39		i	NE			55.0		
	S	NZ	30	04			i	Z		25	03		
	i	E			04.8		i	E			19		
	iP:Compression						S	Z			49		
							e	N			51		
21.	P	Z	03	35	55	21.	eP	Z	19	19	31		
	S	N			42 06		e	EZ			41		
	i	N			45 20		e	N			46		
	i	NE			59		eS	E		22	28		
	Lr	N			48 05		eL	N		23	00		
	L	E			51 28		eL	E			20		
	Mag. 5 - 5 $\frac{1}{4}$ (Matsushiro)					21.	iP	NEZ	22	13	45.0		
	3 S., 146 E.						iP:N,E,Dilatation						
	Bismarck Sea.						Hokkaido, Japan.			J.M.A.			
	H=03 28 10				USCGS								
21.	P	Z	05	55	29	21.	P	NEZ	22	21	22		
	i	NE			30		eS	NE		29	06		
	eScSorSSE		06	05	14		eLq	N		34	59		
	eL	E			06 32		Lr	E		37	31		
	4 $\frac{1}{2}$ S., 151 $\frac{1}{2}$ E.						L	N		40	28		
	New Britain.						Mag. 5 $\frac{1}{4}$ (Matsushiro)						
	H=05 47 27				USCGS		11 $\frac{1}{2}$ S., 167 E.						
							Santa Cruz Is.						
21.	P	Z	11	24	07.8		H=22 11 51			USCGS			
	P:Dilatation					21.	iP	Z	23	37	39.5		
	17 S., 174 $\frac{1}{2}$ W.						i	E			40.2		
	Tonga Is. region.						iP:Dilatation						
	H=11 12 55				USCGS		29 S., 178 W.						
							Kermadec Is.						
21.	P	N	14	20	50.7		H=23 25 46			USCGS			
	i	Z			51.2								
	i	E			52.2								
	eS	N			26 45								

Date	Phase	Comp.	Time(GMT)		
			h	m	s
21.	PKP i i	Z Z N	23	50	09 23 25
	Argentina, H=23 30 05		USCGS		
22.	iP i iS iP:S,Dilatation	NZ E E	01	31	18.1 18.3 38.0
22.	iP i S iP:S,Dilatation	NZ E N	02	03	30.9 32.0 51.0
22.	iPKP i iPKP:Dilatation	Z Z	03	42	05.9 36
	4 S., 81 W. Near coast of northern Peru. H=03 22 51		USCGS		
22.	eP e	Z N	09	24	40 38 27
	6 S., 152 $\frac{1}{2}$ E. New Britain region. h:100 km ca. H=09 16 34		USCGS		
22.	iP i S L L L iP:Compression	Z N N N E E	13	09	58.7 59.1 14 12 16 07 19 18
	Mag. 4 $\frac{3}{4}$ - 5 (Matsushiro) 54 $\frac{1}{2}$ N., 159 E. Kamchatka. H=13 04 53		USCGS		
22.	iP i iP:S,Dilatation	NZ E	14	17	49.5 50.0
	17 S., 177 W. Fiji Is. H=14 06 50		USCGS		
22.	PZ,ePNE i i	 N E	17	47	59 48 42 47
23.	P S	NEZ E	03	24	01 25 02
23.	iP i i i P:S	EZ E Z	03	30	23.3 32.5 37
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
	continued				
	eS iP:E,Dilatation	E	03	31	21 ca.
23.	iP S iP:S,E,Dilatation	NEZ Z	10	11	17.3 48.5
23.	P e e	Z N E	10	52	57 11 08 14 10 14
	41 $\frac{1}{2}$ N., 82 E. Sinkiang Province, China. H=10 44 55		USCGS		
23.	P i eS P:Compression	NZ E E	12	14	10.0 11 36
23.	P eS	Z N	12	16	01 34
23.	P i eS P:Dilatation	Z E E	13	34	49.5 50.9 35 21
23.	P i eS L L P:Dilatation	Z NE NE N E	14	46	53.5 53.9 56 41 15 07 13 53
	Mag. 5 $\frac{1}{4}$ - 5 $\frac{1}{2}$ (Matsushiro) 89 N., 119 W. Western Nevada. H=14 35 02		USCGS		
23.	eP i e	Z Z N	15	16	27 32 28 39
	39 N., 119 W. Nevada aftershock. H=15 04 36		USCGS		
23.	iP S iP:N,E,Compression	NEZ NE	21	05	28.7 37.9
23.	e	N	21	24	58
24.	P iS i i P:S	NZ NE NE E	00	26	01.9 22.1 31 48
24.	iP i iP:Compression	Z NEZ	04	29	16.8 18.1

Date	Phase	Comp.	Time(GMT)		
			h	m	s
24.	iP	EZ	04	31	21.1
	S	E		35	07
	i	NZ			09
	i	Z			33
	L	E		37	09
	L	N			45
	iP:E,Dilatation				

24.	P	Z	07	16	15
	i	NE			17
	i	E			20
	eS	E			26

24.	iP	EZ	07	16	34.5
	i	N			34.9
	i	N			52
	S	E		17	08
	i	E			20
	i	N			35
	iP:W,Compression				
	Mag. 4.8 (Matsushiro)				
	36.0 N., 141.8 E.				
	Honshu, Japan.				
	h:40 km ca. J.M.A.				

24.	P	NEZ	09	38	15
	S	NE			29 ca.

24.	P	Z	14	45	07
	e	N			47 22
	e	N			54 24

24.	eP	Z	16	13	53
-----	----	---	----	----	----

24.	e	N	16	43	24
	e	N			46 30

24.	P	NZ	22	23	40
	i	NE			45
	S	E		24	20
	e	N			24

24.	iP	NZ	23	25	12.4
	i	E			13.1
	S	NEZ		26	21
	iP:N,Compression				

25.	iP	NEZ	03	37	30
	i	NE			33
	S	N			36
	i	N			41.2
	Mt. Asama explosion.				

25.	P	Z	06	59	10.7
	e	E			12
	S	E		07	09 30
	eSSS?	N			18 51 ca.
	e	N			28 48 ca.
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s

continued

eL	E	07	31	52	
e	E		36	55	
P:Dilatation					
Mag. 5 1/2 - 5 3/4 (Matsushiro)					
62 N., 27 1/2 W.					
South of Iceland.					
H=06 46 55 USCGS					

25.	eP	Z	09	58	22
	eS	N		10	04 37 ca.
	eL	E			07 12
	eL	N			22

51 1/2 N., 170 W.
Fox Is.
H=09 50 48 USCGS

25.	P	Z	13	39	18
	i	E			19
	i	E			27
	i	NE			58

S?	E	40	58
e	N	41	17
i	NEZ	42	16
L	Z	43	24
L	N		38

30 1/2 N., 131 E.
Ryukyu Is.
H=13 37 10 USCGS

25.	eP	Z	15	18	22
-----	----	---	----	----	----

26.	iP	NEZ	00	08	33.4
	iS	NE			43.6
	iP:N,E,Compression				

26.	P	EZ	00	12	33.5
	S	NEZ			38.6

26.	P	Z	00	44	55
	e	N			45 01

26.	e	NE	00	46	56
-----	---	----	----	----	----

26.	eP	EZ	01	04	41
	i	EZ			45
	e	N		05	32
	eL	E		06	31

26.	P	NEZ	03	16	10
	e	E			59

26.	e	E	04	39	44 ca.
	6 S., 107 W.				
	100 miles southwest of				
	Galapagos Is.				
	H=03 52 32 USCGS				

26.	P	EZ	04	48	01
	eL?	E		05	00 45 ca.

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)			
			h	m	s				h	m	s	
26.	iP	NZ	05	05	59.5	27.	iP	EZ	02	50	15.8	
	i	E		06	00.0		S	NE			35	
	S	NZ		07	39		iP:W,Compression					
	iP:S,Compression						27.	eP	Z	04	00	20 ca.
26.	P	Z	05	36	13.1		e	E		30	51 ca.	
	i	NE			16		e	E	05	02.4		
	e	E	06	02	12	27.	P	NZ	06	19	10	
	eL	E		04	35		P:Dilatation					
26.	iP	NZ	08	37	22.3	27.	iP	EZ	12	40	01.5	
	i	E			22.8		S	E			37	
	S	NE		38	33		iP:E,Dilatation					
	i	EZ			36	27.	P	NZ	16	16	48	
	iP:N,Compression						i	NE			48.5	
26.	e	N	10	08	46 ca.		i	N			54	
	eL	NE		11	15 ca.		i	E			55	
26.	P	Z	10	53	35		i	N	17	19		
	i	N			36		eS?	N			42	
	i	E			38	27.	iP	Z	16	29	32.0	
	i	Z		54	53		e	EZ		30	57	
	S	NE		55	16		e	EZ		32	19	
							iP:Dilatation					
26.	iP	Z	11	02	03	27.	iP	Z	19	16	28.0	
	i	E			08		i	NE			29	
	S	N			27		sP	Z		17	09.5	
	i	E			28.1		sPP	NE		20	24	
	iP:Compression						iS	NE		26	15	
26.	iP	Z	11	40	40.7		ScS?	E			44	
	iS	EZ		41	01		i	E		35	29	
	iP:Compression						i	E			50	
26.	iP	EZ	16	06	10.8		ePKPPKP	Z		43	08	
	i	N			11.1		e	N			23	
	iS	EZ			22.9		iP:Compression					
	iP:E,Dilatation						Mag. $6\frac{1}{2}$ - $6\frac{3}{4}$ (Matsushiro)					
26.	iP	EZ	18	01	37.1		33 S., 179 W.					
	i	N			37.5		South of Kermadec Is.					
	i	N		02	28		h:100 km ca.					
	e	N			38		H=19 04 27 USCGS					
	iP:E,Dilatation					27.	P	NZ	19	19	35	
26.	iPNZ,PE		22	35	24.3		i	E			39.0	
	iP:N,Compression						42 N., 80 E.					
	17 S., 176 $\frac{1}{2}$ W.						China - U.S.S.R. border.					
	Fiji Is.						H=19 11 23 USCGS					
	h:350 km ca.					27.	P	NEZ	19	27	33.5	
	H=22 24 54 USCGS						iS	NE			50.2	
							P:N.					
27.	P	N	01	45	25.8	27.	P	NZ	19	47	21	
	i	Z			26.0		27.	P	Z	22	43	29.6
	i	E			26.3		i	N			30.3	
	iS	Z			46.3		S	NE		44	21	
	P:N.						P:Compression					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
28.	P	NZ	02	23	33.5
	i	Z			35.2
	S	EZ	24	55	
	i	E			07

P:S,Dilatation
 29 $\frac{1}{2}$ N., 141 $\frac{1}{2}$ E.
 Bonin Is. region.
 H=02 21 42

USCGS

28.	eP	Z	07	13	45
	i	Z			56
	S	EZ	14	48	

28.	P	Z	08	59	52
	i	N	09	00	09
	e	N	03	48	

28.	P	Z	09	05	01
	i	NE			02
	eS	E			39

28.	P	Z	09	57	45.3
	P:Dilatation				

28.	P	Z	17	56	02
	i	Z			15
	e	NE			58 03
	eL	NE			43
	eL	Z	18	00	09
	L	E			01 03

28.	P	NEZ	18	21	26.4
	i	NE			28.6
	iS?	E			22 48
	P:S,E,Dilatation				

28.	iP	Z	19	52	03.5
	i	NEZ			04.3
	iPcS	Z			57 20
	iS	E			58 53.4
	i	NEZ			55.3
	eScS	E	20	01	49
	ssS?	E			03 17
	L	Z			07 15
	ePKP1PKP1	Z			23 06
	ePKP2PKP2	Z			24 11

iP:Compression
 Mag. 6 $\frac{1}{2}$ (Matsushiro)
 9 $\frac{1}{2}$ S., 122 $\frac{1}{2}$ E.
 Sawoe Sea.
 H=19 45 22

USCGS

28.	Pn	EZ	21	42	34.7
	i	E			46.7
	Pg	Z			49
	Sn	Z	43	23	
	c	E			33
	Sg	Z			41

P:E,Compression
 Honshu, Japan.

J.M.A.

Date	Phase	Comp.	Time(GMT)		
			h	m	s
28.	e	N	22	07	00 ca.
	eL	N			14 04 ca.
	eL	E			27 58 ca.

29.	iP	Z	05	38	27.4
	iS	EZ			39 03
	iP:Compression				

29.	eP	Z	07	24	35
	PcP	Z			26 10
	eScP	N			29 33
	eS	N			31 16
	Lq	E			36 03

Mag. 5 $\frac{3}{4}$ - 6 (Matsushiro)
 7 S., 155 $\frac{1}{2}$ E.
 Solomon Is.
 H=07 16 07

USCGS

29.	eP	Z	09	28	17
	i	EZ			29

29.	eP	Z	10	17	10
	i	Z			12.4
	e	N			18 18
	S	N			22

29.	iP	NZ	12	04	08.9
	i	E			09.5
	i	Z			15
	S	EZ			26

iP:S,Dilatation

29.	P	Z	13	26	04
	i	N			05
	PcP	Z			28 53
	S	N			31 19
	PcS	Z			32 30
	eL	N			33 32
	eL	E			46

P:Compression
 6 N., 126 $\frac{1}{2}$ E.
 Near south coast of Mindanao,
 P.I.
 h:150 km ca.
 H=13 19 47

USCGS

29.	P	Z	14	26	47.1
	e	N			34 53 ca.
	e	N			41 11
	P:Dilatation				

29.	P	NZ	21	24	15
	i	E			17
	S	NZ			21
	i	N			23

Mt. Asama Explosion.

29.	P	NZ	22	04	18.5
	i	NZ			18.8

(cont.)

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
continued			h	m	s				h	m	s
	i	E	22	04	19.3	30.	eL7	E	23	29	52
	is	E			33.3		eL	N		30	42
30.	P	NEZ	00	01	01.8	$8\frac{1}{2}$ N., $71\frac{1}{2}$ W. Northern Venezuela. h:60 km ca. H=22 42 02 USCGS					
	S	NE			30						
	P:S,E,Dilatation										
30.	P	Z	02	10	16						
	e	E			18						
	e	E			13 40						
30.	P	Z	02	58	59.6						
	i	NE		59	01						
	i	N			04						
	i	E			19						
	S	N			22						
	P:Dilatation										
30.	P	Z	03	18	00.3						
	i	N			02						
	i	E			03						
	S	E			36						
	P:Dilatation										
30.	P	EZ	10	35	35						
	eS	N			45 40						
	eL	E			57 00						
	e	E	11	05	34 ca.						
	e	N			21 33						
	Mag. $5\frac{1}{4}$ (Matsushiro) 34 S., 179 W. South of Kermadec Is. H=10 23 17 USCGS										
30.	P	NEZ	11	29	45						
30.	P	Z	13	24	55.1						
	i	NE			55.4						
	i	E			25 06						
	e	N			20						
	e	E			26 40						
	P:Compression										
	30 N., 131 E.										
	Ryukyu Is.										
	H=13 22 45 USCGS										
30.	eP	Z	13	27	55 ca.						
	i	Z			28 48						
	e	E			35 34						
30.	iP	EZ	17	22	38.6						
	i	E			23 26						
	iP:W,Dilatation										
30.	P	NEZ	17	46	20.7						
	i	Z			39						
	i	E			50						
	P:Compression										

Takeshi Honda
Director

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
continued											
	i	E	10	42	53.3	4.	e	Z	17	48	12
	iP:S,Dilatation					4.	e	Z	19	59	11
3.	iPNZ,PE		18	05	32.8	4.	eP	Z	20	48	31
	pP	Z		06	15.8		i	Z			32.1
	pP	E			16.5		i	Z			37.3
	pP	N			16.7		S	EZ			51.5
	isP	Z			58.4	4.	e	Z	20	54	25
	ePPP	Z	09	42		5.	P	Z	01	11	39.0
	S	NE	14	01		5.	P	Z	05	38	04.4
	ScS?	N		49		P:Compression					
	SS	E	18	39		52 $\frac{1}{2}$ N.,159 E.					
	SS	N		40		Kamchatka.					
	SSS	N	21	16		H=05 33 07					
	e	Z	35	22		USCGS					
	iP:S,E,Dilatation					5.	iP	Z	14	13	43.3
	Mag.6 $\frac{1}{2}$ (Matsushiro)						i	N		14	00.1
	16 S.,172 $\frac{1}{2}$ E.						i	Z			44.0
	New Hebrides Is. region.						S	N		20	07
	h:200 km ca.						eL	E		23	41
	H=17 55 29					iP:Compression					
						6 S.,147 E.					
						Near northeast coast of New Guinea.					
						H=14 05 42					
						USCGS					
3.	iP	N	19	08	29.2	5.	iPP	EZ	16	16	15.7
	i	E			29.9	iPF:Dilatation					
	iS	E			49.8	8 S.,74 W.					
	i	N			50.2	Peru-Brazil border.					
	iP:S					h:200 km ca.					
						H=15 53 37					
						USCGS					
3.	iP	NE	19	45	06.8	5.	iP	NEZ	20	03	28.9
	iP:N,W						iS	NEZ			30.2
						iP:N,E,Compression					
4.	iPZ,PN		01	40	10.6	5.	iP	Z	23	05	45.0
	i	E			11.0		i	NZ			47.2
	i	N			11.9	iP:Dilatation					
	iP:N,Compression					5.	iP	Z	23	05	51.7
4.	iP	Z	05	05	43.1		i	EZ			54.1
	i	N			53.6	6.	iP	NEZ	03	00	21.6
	eS	N		15	02		i	Z			22.0
	e	E			49		S	E			41
	eSS	E		19	58	iP:S,Dilatation					
	eL	NE		25	29	Mihoro Explosion.					
	iP:Dilatation					6.	P	Z	04	24	08.7
	24 $\frac{1}{2}$ S.,177 W.						i	NE			09.0
	Tonga Is. region.					P:Compression					
	h:100 km ca.					6.	P	Z	04	24	47.5
	H=04 54 14						i	E			48.6
							i	N			48.8
4.	i	NEZ	06	40	41.2	(cont.)					
	i	E			43.7						
4.	iP	Z	11	12	37.2						
	i	N			37.8						
	i	N		13	00.8						
	S	NE			02						
	iP:Compression										
4.	e	NE	13	49	46						
	eL	NE		52	20						

Date	Phase	Comp.	Time(GMT)	Date	Phase	Comp.	Time(GMT)
			h m s				h m s
continued	iS?	E	04 25 08.9	continued			
	P:Dilatation				4 1/2 S., 145 E.		
					Eastern New Guinea.		
					H=05 49 46		USCGS
6.	eL	E	06 50 42	7.	P	Z	07 27 32
	14 1/2 S., 168 1/2 E.				S	E	29 41
	New Hebrides Is.				L	N	30 37
	H=06 25 11		USCGS	7.	e	Z	08 23 46
6.	iPKP 1	Z	09 29 12.4	7.	e	Z	08 25 45
	iPKP 2	E	56.2		i	Z	47.3
	iPKP 2	Z	56.6		i	E	50.1
	epPKP 1	Z	31 38	7.	iPKP 1	Z	13 49 38.5
	pPKP 2	Z	32 13		i	Z	44.2
	iPP	Z	33 40		iPKP:Compression		
	iPP	E	41		21 1/2 S., 67 W.		
	PPP	Z	37 22		Bolivia.		
	ipPPP	Z	39 25		h:200 km ca.		
	ipPPP	E	27		H=13 29 59		USCGS
	iPKP 1:Compression			7.	iP	NEZ	14 42 13.6
	Mag. 6 1/2 - 6 3/4 (Matsushiro)				i	E	54.5
	26 1/2 S., 61 1/2 W.				e	N	56
	Chao Province, Argentina.				S	N	43 12
	h:600 km ca.				i	Z	21
	H=09 10 17		USCGS		L	N	50
6.	iPKP 1	Z	09 42 23.3		iP:S,W,Compression		
	iPKP 1	E	24.3		40 N., 143 1/2 E. Off east coast		
	iPKP 2	Z	43 06.6		of Honshu, Japan.		
	pPKP 1	Z	44 41		H=14 40 55		USCGS
	ipPKP 2	Z	45 23	7.	e	Z	17 01 17
	iPP	Z	47 00		eL	NE	05 33
	iPPP	Z	50 38	7.	iP	E	17 18 16.1
	ipPPP	Z	52 34		i	Z	19 01.9
	ipPPP	E	40		i	E	02.4
	iPKP 1:Compression			7.	P	Z	21 17 56
	Mag. 6 3/4 (Matsushiro)				iS	N	18 58.0
	26 1/2 S., 61 1/2 W.				i	E	59.7
	Chao Province, Argentina.			7.	P	Z	23 42 36
	h:600 km ca.				i	E	36.5
	H=09 23 17		USCGS		iS	E	43 10.0
6.	iPEZ,PN		13 54 52.0	8.	eP	Z	02 15 26
	iS	E	55 14.1		71 1/2 N., 19 W.		
	i	Z	14.6		Near east coast of Greenland.		
	iP:E,Compression				H=02 04 00		USCGS
6.	iP	NZ	17 56 04.6	8.	iP	Z	04 02 56.2
	iS	NEZ	09.6		i	N	56.7
	iP:N,Dilatation				eS?	E	04 44
7.	iP	Z	02 44 51.9		e	Z	45
	i	NE	52.2		e	N	49
	iP:Dilatation						(cont.)
7.	P	Z	05 57 19				(cont.)
	e	Z	06 02 33				
	ScP	Z	43.7				
	Pos	Z	03 08.6				
			(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	E	04	04	55.5
	iP:Compression 44 N., 147 1/2 E. Kurile Is. h:100 km ca. H=04 00 37				
8.	iP	E	05	31	11.9
	i	Z			12.1
	e	N			13
	i	E			29.1
	i	N			33.6
	iP:W				
8.	iPZ,PNE		06	36	29.2
	iP:Dilatation				
8.	iP	Z	07	39	49.8
	i	E			50.9
	iS?	E	40		08.3
	iS?	Z			08.8
	i	N			09.1
8.	iP	NEZ	08	25	21.7
	iP:S,W,Dilatation				
8.	e	Z	11	44	29
	e	N			46
	i	E			46.4
8.	iP	Z	13	11	56.9
	PcP	Z	13		53.6
	eL	N	25		02
	iP:Compression 5 S., 134 E. Aroe Is. region. H=13 04 03				
	USCGS				
8.	i	Z	18	40	14.1
8.	iP	N	22	19	03.0
	i	Z			03.1
	i	E			03.2
	S	NE			50.0
	iP:N				
8.	iP	Z	22	23	39.7
	i	E			39.9
	i	E			41.5
	eS	E	24		52
	i	N	25		21.5
	iP:Dilatation				
9.	iPKP 1	Z	02	52	32.0
	i	E			34.2
	i	Z			35.9
	i	N			36.5
	eL	E	03	36.6	
	iPKP 1:Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	20 S., 72 W. Off coast of Peru. H=02 32 40				
	USCGS				
9.	iP	EZ	03	16	28.4
	i	N			28.6
	i	Z			32.3
	i	Z			53.9
	iP:E,Dilatation				
9.	i	Z	06	15	12.8
	i	Z			22.3
9.	eP	Z	09	18	19
	eS	N			27 30
	e	E			53
	eL	E	38		55
	15 S., 173 W. Samoa Is. region. H=09 07 12				
	USCGS				
9.	iP	Z	09	34	03.5
	i	E			03.6
	iP:Compression				
9.	eP	Z	10	26	24
	eL	E	38		27
	9 S., 153 E. D'Entrecasteaux Is. H=10 17 47				
	USCGS				
9.	iPKP 1	Z	16	24	59.3
	i	Z			25 02.8
	PKP 2	Z			35.8
	iPP	Z			28 46
	pPP	Z			29 10.4
	sPP	Z			26
	e	N	39		39
	i	E			47
	i	E			42 25
	SS	N			47 54
	sSS	N			48 50
	i	N	17	05	58
	eLr	EZ			15.3
	iPKP 1:Compression Mag. 6 1/2 - 6 3/4 (Matsushiro) 20 1/2 S., 68 W. Chile-Bolivia border. h:100 km ca. H=16 05 18				
	USCGS				
9.	iP	Z	20	21	11.0
	i	E			11.2
	i	E			36.3
	iP:Compression				
10.	P	EZ	02	33	59

10. ~~X~~ i ✓ Z 04 31 32.9
 i ✓ Z 46
 i Z 51.1
 19 S., 69 W.
 Chile-Bolivia border,
 H=04 11 40 USCGS

10. iP NZ 07 35 37.9
 S NZ 44.4
 iP:N, Dilatation

10. iP Z 08 56 49.6
 i N 49.8
 iP: Dilatation

10. iP Z 12 18 24.6
 eS N 21 32
 eL N 23 03
 iP: Compression

10. eP Z 17 59 49
 eS N 18 06 18
 eL E 10.8
 5 1/2 S., 145 1/2 E.
 New Guinea.
 H=17 51 46 USCGS

10. e N 18 56.0

10. iP Z 20 47 48.4
 i N 48.9
 S E 48 11.4
 iP: Dilatation

11. e Z 03 17 28
 Fiji Is. region.
 H=03 07 04 USCGS

11. ~~X~~ P N 05 01 53.1
 ✓ e Z 54
 e Z 56
 eS E 10 17
 eL N 17 02
 eL E 09
 Mag. 5 1/4 - 5 1/2 (Matsushiro)
 18 1/2 S., 169 E.
 New Hebrides Is.
 H=04 51 30 USCGS

11. ~~X~~ PNZ, ePE 12 14 51
 ✓ ipP Z 15 11.2
 esP Z 50
 iPP NZ 18 30.7
 e N 24 18
 iS NE 25 49
 eL E 38 10
 eL N 48
 P: Dilatation
 Mag. 6 1/4 - 6 1/2 (Matsushiro)

(cont.)

Date Phase Comp. Time(GMT)
 h m s
 continued
 36 S., 78 E.
 Indian Ocean,
 H=12 01 36 USCGS

11. iP NZ 17 42 22.4
 iS N 50.6
 i E 50.7
 i Z 51.4
 iP:S, Dilatation

11. ~~X~~ iP NEZ 18 25 41.7
 ✓ i Z 42.4
 e N 27 42
 eS E 56
 e N 28 42
 e E 29 12
 e N 30 22

iP:S, W, Compression
 Mag. 5.4 (Matsushiro)
 44 1/2 N., 148 1/2 E.
 Kurile Is.
 H=18 23 00 USCGS

11. eP NE 20 01 05
 i Z 05.6
 e N 06
 i Z 32
 e E 35
 i N 37.5
 i Z 39.1

12. eP EZ 00 22 15
 eS N 29 28
 eL E 33.0

Mag. 5 1/4 (Matsushiro)
 8 1/2 S., 157 1/2 E.
 Solomon Is.
 H=00 13 30 USCGS

12. ~~X~~ iP NEZ 00 34 55.2
 ✓ i NE 43 35

iP:S, E, Dilatation
 Mag. 5 3/4 - 6 (Matsushiro)
 19 1/2 S., 177 1/2 W.
 Fiji Is. region.
 h: 400 km ca.
 H=00 24 22 USCGS

12. iP NEZ 06 47 20.9
 i NZ 30.2
 e E 44
 e N 49
 e Z 50
 e EZ 48 10
 iP:N, E, Compression

Date	Phase	Comp.	Time(GMT)		
			h	m	s
12.	e	N	15	03	55
	e	E		04	17
	i	NZ			35.8
	e	EZ			54
	e	NE			59
	i	Z	05		33.3
	e	NE			34
	i	E			50.1
	i	Z			50.8
	e	Z			53
e	E	07		56	
12.	iP	NEZ	19	30	52.2
	i	EZ		32	12.0
	e	NE		48	23
iP:N,W,Compression					
12.	e	NE	20	54	16
	i	Z			23.5
	e	EZ			38
	i	NZ			40.3
	i	N			43.3
13.	eP	Z	02	43	55
	e	E	03	09	21
13.	e	Z	04	44	43
	Sumbawa Is. region. H=04 36 00			USCGS	
13.	iP	Z	07	49	47.4
	e	N			48
	e	Z		50	24
	e	N			28
	iP:Compression				
13.	iP	NZ	08	06	59.7
	iS	Z		07	05.6
iP:S,Compression					
13.	P	NZ	08	53	33.5
	eS	N		55	09
	e	Z			13
P:N,Dilatation					
13.	iP	NZ	09	23	04.6
	iS	NZ			10.2
	iP:S,Compression				
13.	iP	NZ	09	23	29.5
	S	Z			36
iP:S,Compression					
13.	iP	NZ	09	25	31.2
	i	NZ			36.7
iP:N,Compression					
13.	e	Z	09	25	55.3
	i	N			55.5

Date	Phase	Comp.	Time(GMT)			
			h	m	s	
13.	iP	NZ	09	27	12.5	
	iS	NZ			18.7	
	iP:S,Compression					
13.	iP	Z	09	28	29.5	
	i	N			29.7	
	iS	NZ			34.2	
	iP:Compression					
13.	i	Z	09	40	11.9	
	iS	Z			17.9	
	i	N			18.1	
13.	i	NZ	09	40	53.1	
	iS?	Z			58.6	
	i	EZ		41	07	
13.	iP	Z	09	43	37.3	
	i	N			37.4	
	iS	NZ			43.0	
	iP:Compression					
13.	iP	N	10	05	19.2	
	i	Z			19.4	
	S	N			24.9	
	e	Z			25	
13.	iP	NZ	10	16	39.2	
	e	Z			45	
iP:S,Compression						
13.	iP	NZ	10	21	27.9	
	iSN,SZ				34	
	iP:S,Compression					
13.	iP	NZ	10	31	14.2	
	i	NEZ			15	
	S	NEZ			21	
iP:S,Compression						
13.	iP	NEZ	12	36	04.2	
	i	Z			05	
	i	NE			06	
	PP	NEZ			37 30	
	iPcP	Z			38 20	
	S	N			41 57	
	S	E			42 00	
	e	NE			44 52	
	eScS?	NEZ			46.5	
	eLq 2	NE			49.0	
	eLr 2	E			51.9	
	iP:N,E,Dilatation Mag.6 - 6 $\frac{1}{2}$ (Matsushiro) 52 N., 172 $\frac{1}{2}$ W. Andreanof Is. H=12 28 45					
	13.	iPZ,PN		15	35	30.2
P:N,Compression						

Date Phase Comp. Time(CMT)
h m s

continued

25 1/2 S., 180
Kermadec Is. region,
h: 500 km ca.
H=15 24 44 USCGS

14. eP EZ 08 48 09
ePP EZ 49 33
eS NE 53 57
e E 56 37
e E 58 35
e N 59

Mag. 5 - 5 1/2 (Matsushiro)
51 1/2 N., 172 W.
Fox Is.
H=08 40 48 USCGS

14. iP Z 11 42 14.9
iE, eN 15
i Z 43.2
eL NE 52 25

iP: Compression
56 N., 159 W.
Alaska Peninsula.
H=11 33 42 USCGS

14. eP NE 13 10 39
i Z 39.8
e NE 19 06.8
e NE 22 56.2
e E 28 51

Mag. 5 1/2 (Matsushiro)
16 1/2 S., 173 E.
New Hebrides Is. region.
h: 100 km ca.
H=13 00 24 USCGS

14. eP Z 21 09 01
iS Z 06.8

14. iP Z 22 38 57.7
e N 59
eS E 44 50
eL E 47 52
e N 48 00
e NZ 51 06

iP: Compression
Mag. 5 1/2 - 5 3/4 (Matsushiro)
1/2 N., 120 E.
Near north coast of Celebes.
H=22 31 22 USCGS

15. iP Z 01 04 36.2
S N 52
i EZ 53.0
iP: Dilatation

15. iP NE 08 21 29.1
i N 31.1
(cont.)

Date Phase Comp. Time(CMT)
h m s

continued

i Z 08 22 03
eS EZ 06
e NZ 18

iP: S
38.0 N., 141.8 E.
Honshu, Japan.
h: 70 km ca. J.M.A.

15. iP EZ 09 21 23.6
i Z 27.1
i Z 28 11
iP: W, Dilatation

15. iP EZ 09 28 08.1
i Z 11.6
i Z 55.1
iP: E, Compression

15. iP EZ 09 34 40.3
i Z 45
e Z 35 21
iP: W, Compression

15. iP EZ 11 05 45.9
i NEZ 49.2
e Z 04 33
iP: W, Compression

15. iP Z 11 10 43.7
e N 44
i E 44.5
i N 52.2
i Z 11 39.7

iP: Compression
15. iP Z 12 49 08.0
i Z 14.8
i Z 55
iP: Compression

16. e E 13 57.6

15. iP EZ 19 39 34.7
i N 35.3
i N 50.7
i N 40 04
iP: E, Dilatation

16. iP Z 06 17 47.5
iE, eN 48
i E 18 18.1
e N 34
i Z 28
iP: Compression

16. e EZ 06 31 31
e N 32
i Z 42
e N 43

Date Phase Comp. Time(GMT)
 h m s
 16. e Z 07 07 50
 i Z 58.1
 54 N., 161 W.
 South of Alaska Peninsula.
 H=07 00 05 USCGS

16. iP NEZ 13 35 57.1
 e N 37 29
 e N 38 15
 iP:S,W,Compression

16. iP Z 15 24 16.7
 e E 17
 i N 17.7
 i N 48.2
 i Z 25 22.3
 e NE 26 51
 i Z 51.6
 i Z 27 04.8
 eL N 32 22
 eL E 28
 eL E 37.0
 e N 39.1
 iP:Dilatation
 50½ N., 177 W.
 Andreanof Is. region.
 H=15 17 27 USCGS

16. P Z 19 24 30.4
 i NZ 31.1
 P:Dilatation
 21½ S., 169 E.
 Loyalty Is.
 H=19 13 52 USCGS

16. iP NZ 23 28 32.3
 i E 32.6
 eS N 29 14
 e Z 15
 iP:S,Dilatation

17. e EZ 12 04 33
 i NEZ 05 14.5

17. iP EZ 13 52 22.8
 i E 24.3
 i NZ 24.8
 i N 47
 i Z 50
 iP:W,Dilatation

17. iP NEZ 15 41 20.7
 e E 25
 e N 42 59
 iP:S,W,Compression

17. iP NEZ 19 05 26.2
 e N 38
 i Z 58.5
 (cont.)

Date Phase Comp. Time(GMT)
 h m s
 continued
 i E 19 05 59.0
 e N 07 21
 e E 23
 iP:S,W,Dilatation

18. iP EZ 07 10 57.8
 i N 58.1
 epP? Z 13 01
 e N 19 27
 e E 20 12
 e E 22 10
 e N 23 26
 iP:E,Dilatation
 21½ S., 179 W.
 Fiji Is. region.
 h:600 km ca.
 H=07 00 36 USCGS

18. e N 12 47.1
 50½ N., 130 W.
 Off coast of Vancouver,
 British Columbia.
 H=12 18 35 USCGS

18. eP EZ 13 57 48
 e NZ 56
 i E 58 03.6

18. e Z 18 34 02
 e E 03
 e N 06

18. iP Z 19 40 24.9
 i N 25.1
 i E 25.4
 iP:Dilatation
 Fiji Is. region.
 H=19 29 22 USCGS

18. iP Z 20 00 19.4
 i NE 19.9
 i E 46.4
 e N 50
 e NEZ 03 48
 S N 04 31
 S E 33
 iZ,eE 38
 eL E 05.5
 iS,eS NE 11 02
 iP:Compression
 Mag.6 3/4 (Matsushiro)
 15½ N., 120½ E.
 Luzon.
 H=19 54 45 USCGS

18. iP Z 20 33 08.1
 i Z 10.8
 e Z 34 53
 e Z 37 08
 iP:Compression

Date	Phase	Comp.	Time(GMT)		
			h	m	s
18.	e	Z	20	41	02
18.	iP	Z	20	50	53.8
	e	NE			54
	iS	NEZ	51	09.0	
18.	iP	NEZ	21	00	27.5
19.	iP	Z	03	51	19.9
	e	NZ			21
	iPcP	Z	52	30	
	ePP?	N	53	18	
	i	Z	56	23.2	
	eS	N	58	36	
	e	Z	59	26	
	e	E			28
	eSS	N	04	02	41
	e	E			54
	e	EZ	04	59	
iP:Compression Mag. 5 1/2 - 5 3/4 (Matsushiro) 6 1/2 S., 105 E. Sunda Strait... H=03 42 02 USCGS					
19.	e	N	07	24.3	
19.	iP	EZ	13	28	37.4
	i	E			48.9
	i	Z			49.4
iP:Dilatation					
19.	iPKP	Z	15	25	30.7
	i	EZ			31.2
	i	NEZ			32
	i	NE			33.7
	e	EZ	26	21	
	ePP	N	28	49	
	e	Z			54
	e	E	29	44	
	ePKS?	Z			50
	iSKKS	E	35	30	
	iSKKS	N			32
	e	E	36	41	
	i	Z			41.7
	i	N			47
	e	NE	40	31	
	e	NE	44	14	
	i	N	47	39	
	i	EZ			46
iP:PKP:Dilatation Mag. 6 3/4 - 7 (Matsushiro) 15 S., 70 1/2 W. Peru. h:200 km ca. H=15 06 10 USCGS					
19.	iP	Z	15	41	29.2

Date	Phase	Comp.	Time(USP)		
			h	m	s
19.	iPKP	NZ	15	55	40.7
	i	E			41.2
	e	Z	56	29	
	epPKP	E			33
	isPKP	Z			54.2
15 1/2 S., 71 W. Southern Peru. h:200 km ca. H=15 36 17 USCGS					
19.	P	NEZ	20	19	27
	eS?	N			20 18
P:Dilatation					
19.	eP	Z	22	05	53
	e	NE			55
	eS	NE	06	45	
	i	Z			46
20.	iP	Z	02	49	07.4
	i	NE			07.6
	i	NEZ			08
	i	NZ	50	42	
	i	E			44
	e	E	52	20	
	e	Z			22
	e	NEZ	55	26	
	iN,eE		58	08	
	eSS	Z	59	05	
	eSS	NE			07
	e	NE	03	01	26
	ePKPPKP	Z	19	37	
	ePKPPKP	Z	20	54	
iP:Compression Mag. 6 1/2 (Matsushiro) 6 S., 110 E. Java Sea. H=02 40 13 USCGS					
20.	eP	Z	04	24	22
	e	NE			23
	iSZ, eSNE				25
20.	P	Z	13	33	40.2
	e	NE			41
	i	Z			51.2
P:Compression					
20.	e	E	14	09.0	
20.	iP	Z	17	04	02.2
	i	NE			02.7
	S	NE	12	40	
	e	E	20	34	
	e	NE			23.0
iP:Compression 23 1/2 S., 179 E. Fiji Is. region. h:600 km ca. H=16 53 38 USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
22.	eP	NE	02	30	50
	e	Z			58
	i	E			58.8
	i	Z	31	26	6
	S	E			33.7
	i	Z			34.7

22.	e	N	03	59	9
22.	e	N	05	50	9
<p>15½ N., 97½ W. Near coast of Oaxaca, Mexico. H=04 51 30 USCGRS</p>					

22.	eP	NZ	06	25	59
	e	NE		26	16
	e	N			18

22.	eP	E	07	01	22
	e	Z			23
	i	N			24.8
	i	E			26.4
	S	Z	02	06	5

22.	iP	NEZ	07	56	53.2
	iS	Z			55.6
iP:S,W,Dilatation					

22.	iP	NEZ	11	22	35.1	
	e	Z		24	26	
	PcP	Z		25	03	
	SN, eSE			27	58	
	PcS	Z		28	43	
	sS	Z		29	07	
	eL	E		30	12	
	i	N			45	
	i	E			46	
	iP:S,W,Dilatation					
	Mag. 5½ (Matsushiro)					
2 N., 126½ E.						
Molucca Passage.						
H=11 15 33 USCGRS						

22.	e	N	16	42	ca.
	e	NE		47	42
15½ N., 97½ W.					
Near coast of Oaxaca, Mexico.					
H=15 53 53 USCGRS					

22.	iP	NEZ	19	28	05.4
	sP	NEZ		30	35
	i	Z			42
	iS	NEZ		31	09
	PcP	Z			55
	i	Z		34	03
	iScP	Z			31.6
	iPcS	Z		35	52.1
	ScS	NE		38	13
	iP:N,E,Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s

continued
Mag. 6½ (Matsushiro)
53 N., 153 E.
Sea of Okhotsk.
h: 650 km ca.
H=19 24 17 USCGRS

22.	P	EZ	21	53	51
	i	Z			57.2
	i	N			57.7
	S	N		57	42
	i	E			45
	eL	E		59	17

22.	P	Z	22	29	18
	i	Z			42
	i	N			43
	eS	E		33	24
	eL	E		36	42

22.	iP	NEZ	23	10	28.6
	PcP	Z		12	11
	pPP	Z			18
	sPP	Z			39
	PcS	Z		16	09
	S	E		17	02
	i	N			08
	i	E		19	58
	i	E		20	30
	L	E		21	41
L	N		23	14	
L	Z			20	
eL	E	01	41	41	

iP:N,W,Compression
Mag. 6¾ - 7 (Matsushiro)
5 S., 152½ E.
New Britain.
h: 60 km ca.
H=23 02 27 USCGRS

23.	e	Z	00	14	42
-----	---	---	----	----	----

23.	eP	Z	02	16	44
	New Britain-Solomon Is. region.				
H=02 08 31 USCGRS					

23.	iP	Z	02	56	53.0
	iP:Compression				

23.	eL	E	04	51	ca.
	eL	E		57	15
3 N., 71 W.					
Colombia.					
h: 60 km ca.					
H=03 48 12 USCGRS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
23.	P i	Z Z	08	26	18 28
44 $\frac{1}{2}$ N., 124 $\frac{1}{2}$ W. Near coast of Oregon. H=08 15 12 USCGS					
23.	P i S i	NZ E E EZ	12	14	49 52.4 23 24
23.	iP S i i	NEZ NEZ NE Z	13	46	18.6 45 50 51
iP:N,E,Dilatation 38.3 N., 140.2 E. Honshu, Japan. h:85 km ca. J.M.A.					
23.	iP i S SS Lq eLr	Z NE NE NE NE E	15	08	18.6 18.9 47 43 25 27
iP:Dilatation Mag. 5 $\frac{3}{4}$ (Matsushiro) 24 $\frac{1}{2}$ S., 176 W. Tonga Is. region. h:60 km ca. H=14 56 45 USCGS					
23.	iP i i i	Z NE N Z	15	35	43.0 43.3 05.8 16
iP:Dilatation					
23.	iP i	NEZ NE	15	49	29.1 53.1
iP:S,W,Compression					
23.	P i	Z NE	15	58	50 50.4
P:Dilatation					
23.	e	N	17	20	0
23.	iPEZ,PN eS	N N	20	52	06.8 42
iP:E,Dilatation					
23.	iPZ,PN i PP S eL L	E Z N E N	21	29	31.7 32.3 04 39 32 34 45

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
iP:Dilatation 25 N., 125 $\frac{1}{2}$ E. Ryukyu Is. H=21 25 39 USCGS					
23.	iP i S i	EZ N EZ N	21	34	38.4 38.9 55.0 58.5
iP:E,Dilatation					
24.	P i S e i SSS L	Z Z N N N N E	01	34	31 36 51 51 32 42 00 48
Mag. 6 - 6 $\frac{1}{4}$ (Matsushiro) 41 N., 125 $\frac{1}{2}$ W. Off coast of northern California. H=01 23 09 USCGS					
24.	P e i i	NEZ Z E Z	02	47	00 11 23.4 24
24.	iPKP 1 PKP 2	Z Z	05	32	31.3 02
iPKP 1:Compression 21 S., 70 $\frac{1}{2}$ W. Chile. H=05 12 40 USCGS					
24.	iP i i i e S eL	EZ N EZ Z E N NE	16	24	58.6 59.2 33 47 23 23 36
iP:E,Compression 24 $\frac{1}{2}$ N., 94 $\frac{1}{2}$ E. India-Burma border. H=16 17 30 USCGS					
24.	P e S eL	Z Z N E	19	28	09 58 41 46
5 $\frac{1}{2}$ S., 153 E. New Britain Is. region. H= 19 20 03 USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
24.	PKP	Z	23	22	58.5
	i	Z		26	16.8
	i	Z			36.2
	iPP	Z	27	08	
	i	Z			50
	ePPP	E	30	47	
	eSKKS	E	33	56	
	i	E	34	07	
	iSS	E	46	53	
	eSSS	E	52	48	
	eL	E	00	08.5	
PKP:Dilatation					
Mag. 5 3/4 - 6 (Matsushiro)					
56 1/2 S., 28 1/2 W.					
Sandwich Is.					
H=23 03 08 USCGS					
25.	e	E	02	11	45
25.	iP	NEZ	02	37	58.9
	iS	NE		38	00.8
iP:N,E,Compression					
25.	P	Z	16	02	10
	i	N			19
	e	E		05	25
	L	E		06	46
50 N., 142 1/2 E.					
Sakhalin.					
H=15 58 50 USCGS					
25.	iP	NEZ	19	27	17.6
	i	E			35
	S	NE		29	54
	L	E		30	30
	L	NE		31	15
iP:N,E,Dilatation					
49 1/2 N., 142 1/2 E.					
Sakhalin.					
H=19 23 54 USCGS					
25.	iP	NEZ	21	21	07.4
	iS	NEZ			26
iP:S,E,Dilatation					
Mag. 5 (Matsushiro)					
36.8 N., 140.3 E.					
Honshu, Japan.					
h:80 km ca. J.M.A.					
25.	iP	Z	22	36	35.1
	iS	NEZ			39.4
iP:Dilatation					
25.	iPZ,PE		23	45	49.3
	S	E		46	34
P:W,Dilatation					
26.	iP	NEZ	03	43	57.5
	iS	E		44	08
iP:N,E,Compression					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
26.	P?	Z	04	58	02
26.	iP	EZ	08	55	55.0
	i	N			58.7
	iS	E		36	16.5
iP:W,Compression					
26.	iPE,PZ		10	07	44.8
	S	E			56.6
	i	Z			56.8
	i	N			56.9
iP:E					
26.	iP	NEZ	11	12	16.8
	iS?	N			30
	i	E			52
iP:N,W,Compression					
26.	P	Z	17	19	14
	i	Z			20
	i	N			21
	i	Z			22
	eS	N		29	19
	e	E		40	28
	eL	E		49	44
Mag. 5 1/4 - 5 1/2 (Matsushiro)					
41 N., 27 1/2 E.					
Northwestern Turkey.					
H=17 07 03 USCGS					
26.	P	NEZ	19	33	48
	e	NEZ			56
	i	N		34	45
	i	E			58
26.	iPZ,PN		19	42	39.9
	i	E			41
	i	NZ			53.2
	eS	E		46	43
	eL	E		49	14
iP:Compression					
53 N., 160 E.					
Kamchatka.					
H=19 37 40 USCGS					
26.	iP	NZ	21	20	27.7
	e	E		22	27
	i	E			46
iP:N,Compression					
26.	P	EZ	22	50	45.6
27.	P	EZ	02	15	22
	eS?	N		16	01
27.	iP	NEZ	02	34	35.2
	i	Z			38.6
	i	Z			45.7
iP:S,W,Compression					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
27.	iP e iP:W,Dilatation	EZ N	02	56 57	43.0 21
27.	iP iS iP:W,Dilatation	NEZ N	03	22	44.6 46.1
27.	e	N	04	37.2	
27.	ePKP 1 PPS? eL eL	Z N E N	05	46 57	18 57
	Mag.5 3/4 (Matsushiro) About 900 miles west of Galapagos Is. H=05 27 45 USCGR				
27.	eL	E	07	17	10
27.	iP S i iP:N,E,Compression	NEZ N E	08	17	13.7 33.8 41
27.	iP S iP:Dilatation	Z E	14	12 13	49.4 54
27.	eP i i i i	EZ Z N EZ N E	20	02 03	45 55 02 03.1 14.6 15.1
27.	P i i eS? e	Z N E E N	20	43 44	35 35.9 36.0 39 40
28.	iP i S i iP:Dilatation	Z E NE Z	02	27	16.7 17.0 41 42
28.	iP e iP:N,Compression	NZ E	07	50 56	40 59
28.	eP i i i i	NZ Z E N E	10	15	03 05.3 05.8 06.0 10.2

Date	Phase	Comp.	Time(GMT)		
			h	m	s
28.	iP iS iP:N,E,Dilatation	NEZ NE	11	11	23.6 40.5
28.	e i i e	Z Z NZ E	11	13	22 30.6 38 39
28.	iP i i iP:Compression	Z E N	21	26	22.3 23.3 23.4
28.	iP i S iP:E,Dilatation	EZ N EZ	22	13 14	54.6 55.1 05.0
28.	eP i e i	Z Z NE N	23	30	24 27.5 46 47.5
29.	P i i 18 1/2 S., 178 W. Fiji Is. h:650 km ca. H=00 30 54 USCGR	Z Z NE	00	41	02.4 02.8 03.1
29.	P i S i i	Z NE N E Z	02	11 12	24 24.9 03.8 05.0 06.4
29.	iPZ,PE iP:Dilatation		04	12	12.2
29.	P i i e e	Z NEZ Z E N	04	30 31	07.3 17.9 47 06 12
29.	iP iS iP:E,Dilatation	EZ NEZ	06	48	37.1 48.4
29.	iP iP:N,W,Dilatation	NEZ	09	44	25.2
29.	iP i i i e iP:Dilatation	Z N E N	10	07 08	41.7 41.9 42.5 02

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
29.	iP i S i iP:S,Dilatation	NZ E N EZ	11	42	54.5 54.7 10.5 10.7	30.	iP i iS iP:Dilatation	Z NE NEZ	18	41	11.7 11.8 16.7
29.	iP i iS iP:N,Compression	NZ E Z	11	47	38.7 39.0 53.7	30.	eP i e	NZ Z N	17	03	36 42 05 09
29.	iP i e iP:S,Compression	NZ E N	15	28	44.3 44.6 29 57	30.	iPZ,PN e iP:Compression	N	18	15	14.7 26 27
29.	P i S	NZ Z NEZ	18	37	58.5 59.4 38 16	30.	iP i iP:Compression	Z NE	19	04	50.5 50.9
29.	e e e 5 1/2 S., 154 E. Solomon Is. region. H=18 54 03	N N N	19	16	41 27 49 36 49	31.	PKP 1 i i i i i 16 1/2 S., 71 W. Southern Peru. h:150 km ca. H=01 51 45	Z Z NE E E Z	02	11	15 16.3 16.5 28.6 42.0 42.8
29.	iP i iP:Dilatation	Z E	23	51	12.7 12.9	31.	P e e eS eL eL 5 s., 152 1/2 E. New Britain. H=04 59 23	Z Z E N E E	05	07	30 09 05 13 27 13 58 17 21 18 49
30.	PZ, ePN i i S e i	E E N E E	03	40	11 11.9 38.8 53 56 41 03	31.	iP i e iP:E,Dilatation	EZ Z N	05	56	29.6 36 57 06
30.	P S i	Z N E	10	04	21.8 05 04 05	31.	iP i i iP:N,W,Dilatation	EZ Z N	09	06	45.5 45.7 04 26
30.	eP i S	Z NEZ NEZ	10	52	30 30.8 55	31.	iP i S iP:Dilatation	Z E N	09	06	45.5 45.7 04 26
30.	iP iS iP:N,W,Dilatation	NEZ NE	12	44	51.7 56.6	31.	iP e i iP:N,W,Dilatation	NEZ EZ Z	09	50	25.6 51 26 28
30.	eP ePPP e e eL eL 3 1/2 S., 177 1/2 W. Kermadec Is. H=12 53 56	Z N N N E E	13	06	03 11 03 16 57 21 38 27 23 31 09	31.	eP S	EZ NE	09	52	34 53 12
					USCGS	31.	iP i iS iP:E,Dilatation	EZ N EZ	09	56	20.5 20.7 32.0

Date	Phase	Comp.	Time(GMT)
			h m s
31.	eL	NE	11 04.5
31.	e	E	16 54.1
31.	iP	EZ	16 09 07.6
	S	Z	46
	i	NEZ	10 22
	iP: E, Dilatation		
31.	e	E	18 56.6
	61° S., 154° E. Solomon Is. H=18 55 12 USCGS		
31.	iP	NEZ	20 02 17.1
	eP	Z	06 28
	eS	N	09 48
	L	E	19 47
	iP: S, E, Compression 58° N., 70° E. Tadzhik, S.S.R. H=19 55 02 USCGS		
31.	P	Z	20 52 40
	i	NE	41
	S	E	21 02 45
	P: Compression 40° S., 174° E. North Is., New Zealand. h: 200 km ca. H=20 40 31 USCGS		

Date	Phase	Comp.	Time(GMT)
			h m s
August			
1.	P	EZ	01 59 50
	i	Z	40 01
	i	N	02
	i	E	03
	S?	Z	14
1.	P	Z	02 21 14.6
	i	E	15.8
	i	EZ	44
	i	Z	22 15
	eL	N	46 17
1.	eP?	Z	03 51 48
	i	N	52
	i	E	52 33 ca.
1.	eP?	Z	06 06 53
	e	N	07 00
1.	P	Z	10 21 41.7
	e	Z	22 27
1.	eP	Z	10 27 43
	S	N	36 10
	eL	N	43.5
1.	P	NEZ	13 07 34.0
	e	Z	08 50
	eS?	N	10 46
	eL	N	11 39
	L	E	12 53
	P: Compression		
1.	PEZ, ePN		13 07 43
	i	Z	54
	S	NEZ	56.4
1.	eP	Z	16 20 09
	e	Z	17
	e	N	27 04
	e	E	29 47
	L	NE	32 52
1.	iP	NEZ	17 47 10.5
	e	NE	50 07
	i	Z	08
	e	N	51 07
	P: N, E, Dilatation		
1.	eP	Z	21 58 51
1.	P	NEZ	21 59 54.3
	S	NZ	22 00 05
1.	iPZ, PN		22 29 56.4
	iS	NEZ	58.8
	P: Compression		

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
1.	P	Z	23	24	38.0	3.	P	EZ	08	23	36.8
	i	E			38.5		eS?	N		24	10
	i	Z		25	30		P:E,Dilatation				
	e	Z		26	59	3.	P	NZ	13	09	52.6
	SM,eSE			28	58		i	E			53.4
	eL	NE		30	38		i	NZ			54.1
2.	iP	Z	05	59	15.6		i	E			54.9
	i	N			20.5		i	Z	10	09	
	i	N			43		i	NE			20
	S?	NE	06	00	04		SEZ,eSN				
	i	Z			08		P:N,Compression				
	P:S,W,Dilatation						34.1 N.,139.4 E. Near south coast of Honshu, Japan.				
2.	eP	Z	12	06	20		h:0 J.M.A.				
	i	Z			30	3.	i	E	13	19	07.3
	e	N		12	41		i	Z			29
	e	N		16	20		i	N			30
	eL	E		19	00	3.	eP	NZ	13	30	58
	6 1/2 S.,154 1/2 E. Solomon Is. H=11 57 56						i	E			31 02
	USCGS						SE.eSN 34				
2.	P	Z	13	39	50.4	3.	eP	NZ	13	40	43
	iS	NEZ			51.7		eS	NEZ		41	18
2.	i	E	13	40	10.8	3.	P	Z	13	45	51
	i	NZ			11.6		SE,eSN			46	25
2.	iP	NEZ	13	51	46.4		i	N			35
	i	Z			55.7	3.	iP	NEZ	14	41	33.9
	S	Z		52	08.6		iSZ,SN				15.1
	i	NEZ			10		P:N,E,Compression				
	P:N,W,Compression					3.	P	NZ	15	41	20.7
2.	e	Z	20	30	51		i	NEZ			21.6
	i	E		31	01		S	NEZ			56
	i	Z			57		i	Z		42	02
	e	N		41	00		P:Dilatation				
	e	NE		54	12 ca.	3.	e	N	16	28	54
	e	NE	21	18	56		eS?	E		34	02
2.	iP	Z	21	43	59.7		e	N		35	11
	i	E		44	00.6		e	NE		47	16
	i	N			17		e	N		54	19
	i	Z		45	27		eL	N		59	24
	P:Dilatation						e	N	17	16	38
2.	P	Z	23	51	34.6 ca.		46 1/2 S.,98 E. Indian Ocean. H=16 09 54 USCGS				
	S	NEZ			54	3.	eP	NZ	16	21	09
2.	eP	Z	23	55	57		S	NE			44
	e	N		00	10.5	3.	P	NEZ	21	48	25.7
	49 1/2 N.,129 1/2 W. Off coast of Vancouver, British Columbia. H=23 45 19 USCGS						i	NZ			26.6
							i	Z			43
							SEZ,eSN				
							P:S,E,Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
3.	eP e eS	NZ E NEZ	23	11	09 12 44
4.	PKP iZ, eN e 27 S., 68 1/2 W. Chile-Argentina border. H=03 00 33	Z Z	03	20	38 47 59
4.	eP S	NEZ NEZ	07	28	17 34
4.	iPZ, PNE SE, eSN iN, eE L P:S, E, Dilatation		07	36	18.0 37 58 38 06 37
4.	iP i ePcP? i i i SN, eSE sS sS SS SS sSS sSS P:S, Dilatation 20 1/2 S., 178 W. Fiji Is. region. h: 600 km ca. H=08 02 17	NZ E Z Z E NE N E N E N E	08	12	35.3 35.7 54 13 30 15 04 35 21 04 24 39 25 09 25 55 26 02 29 02 06
4.	iP i i eL P: Compression	Z NE Z N	13	06	04.5 04.9 19.1 24 38
4.	iP i SEZ, eSN P:S, W, Compression	NEZ Z	15	25	33.9 46.0 51
4.	eP eS	Z NEZ	23	59	11 20
5.	iP eS eV, 28 P:N, E, Dilatation	NZ N Z	03	21	26.2 47 49
5.	iP eS i P:S, E, Dilatation	Z EZ Z	03	55	07.4 27 46

Date	Phase	Comp.	Time(GMT)		
			h	m	s
5.	P i PcP SN, eSE Lq Lr Mag, 5 1/2 (Matsushiro) 12 1/2 N., 125 E. Samar, P.I. H=05 16 39	Z E Z E N	05	22	22 26 25 45.9 27 06 28.5 29 28
5.	iPEZ, PN iS P:E, Dilatation	NEZ	06	04	57.4 05 13.7
5.	P? S	N NEZ	09	55	43 48
5.	iP i e L P:E, Compression	NEZ N E N	10	30	54.8 31 09 33 44 34 17
5.	eP eS i	NZ NZ E	12	34	54 35 38 42
5.	PZ, ePN i i ePPP? PPP ePcP e S i Lq Lr 5 1/2 N., 125 1/2 E. Near south coast of Mindanao, P.I. H=13 48 42	E NZ Z N Z N Z NE N	13	55	20 26 41 56 51 59 58 08 14 00 21 47 01 48 02 35 ca. 04 41
5.	P i iPcP i S P:S, Dilatation 14 N., 142 E. Mariana Is. H=19 52 54	NZ NZ Z E NZ	19	58	15.0 20 20 01 58 02 03 20
6.	iPNZ, PE e i P:N, W, Compression	Z Z Z	02	33	07.1 55 35 16

Date	Phase	Comp.	Time(GMT)		
			h	m	s
6.	P e i e	Z Z Z N	03	55	55
				56	47
				57	13
					16
	48 N., 120 W. Washington State. H=03 44 37				
			USCGS		
6.	iP i iSEZ,SN P:S,W,Dilatation.	NEZ Z	06	35	18.7
					49.2
				36	00
6.	P iS	NEZ E	09	44	41
					56
6.	eP	Z	12	29	25
6.	iP iS P:W,Dilatation	EZ NE	13	01	23.3
					35.1
6.	eP e iS	EZ N NZ	15	01	58
					59
				02	19.9
6.	P S	EZ NE	15	31	27
				33	06
6.	P iS e	NZ NZ E	16	54	29 ca.
				55	10.9
					11
6.	iP P:S,Dilatation	NZ	19	22	40.5
7.	iP S i P:N,W,Compression	NEZ EZ EZ	01	29	25.5
					48
				30	06
7.	eP i i S? i i	EZ Z N N Z E	03	29	18
					21
					24
					52
				30	01
					11
7.	iPZ,PN i i i i P:Dilatation	EZ N E N	05	02	33.0
					41
					42
					56
				03	15
7.	iP SEZ,eSN P:N,E,Compression	NEZ	08	39	57.1
				40	18

Date	Phase	Comp.	Time(GMT)		
			h	m	s
7.	iP i i i i S i Lr Mag.5 3/4 - 6 (Matsushiro) 56 N., 154 W. Kodiak I. region. H=10 43 32	NEZ EZ Z Z NE NE NE	10	52	18.6
					38
					41
				53	30
				59	24
			11	03	10
				06	12
			USCGS		
7.	P e e	NEZ Z N	10	57	21
					59 24
			11	02	08
7.	P i	NEZ NZ	11	23	10
					19
7.	iPZ,PE i i S i i LE,eLN i P:W,Compression	N E Z E N Z	15	29	10.6
					10.8
					13
				30	53
					54
					55
				31	20
					52
7.	eP i i i S	NEZ E NZ N Z	19	00	26
				01	02
					03
					19
					21
7.	PNZ,ePE i i i eL L 10 1/2 S., 162 1/2 E. Solomon Is. H=19 10 59	E N Z E N	19	20	09
					17
					19
					34
				33	58
				34	44
			USCGS		
7.	iP PcP i PP? i e i S i e SS Lr P:S,W,Compression Mag.5 3/4 - 6 (Matsushiro)	NEZ Z E Z N N N E N N NE	21	54	12.4
					55 37
					38
					43
					56 24
					57 50
					58 27
			22	01	10
					14
					04 02
					05 00
					08 02
			USCGS		
			Mag.5 3/4 - 6 (Matsushiro)		
			(cont.)		

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	56 $\frac{1}{2}$ N., 154 W.		Kodiak I.		
	H=21 45 26		USCGS		
8.	eP?	NEZ	00	34	55
8.	iP	NEZ	00	53	03.0
	i	Z		54	48
	i	N		57	05
	iS	NE			23
	i	Z			25
	Lq	NE	58	54	
	Lr	NE	59	57	
	P:S,W,Compression				
	Mag. 6 $\frac{1}{4}$ - 6 $\frac{1}{2}$ (Matsushiro)				
	55 N., 162 $\frac{1}{2}$ E. Near east coast of Kamchatka.				
	H=00 47 38		USCGS		
8.	P	NZ	01	40	45.4
	i	NZ			54
	i	E	41	09	
	i	Z			23
	i	NE			28
	P:S,Dilatation				
8.	eP	NEZ	08	33	10
8.	eP	NZ	11	03	47
	i	Z			49
	i	E			50
	S	NE	05	47	
	i	Z			48
8.	iPZ,PN		11	16	42.6
	i	E			51
	i	N	17	05	
	i	Z			12
	P:Dilatation				
8.	iP	NEZ	12	18	06.1
	P:N,E,Dilatation				
8.	eP	NEZ	12	32	09
	S	NE			58
	i	Z		33	00
8.	iP	EZ	12	33	43.1
	iS	NEZ			45.8
	P:W,Dilatation				
8.	iPNZ,PE		13	14	03.8
	S	E			18
	i	NZ			20
	P:S				
8.	P	NEZ	16	15	26.9
	i	N			39
	i	Z			40
	P:S,E,Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
9.	eP	Z	00	04	15
	6 S., 155 E. Solomon Is.				
	h:100 km ca.				
	H= 23 56 05		USCGS		
9.	P	EZ	02	41	42.6
	i	N			42.9
	i	Z			56
	i	E			57
	iPcP	Z		44	12
	S	E		47	12
	P:E,Compression				
	2 N., 128 E. Halmahera.				
	H=02 34 43		USCGS		
9.	iPZ,PNE		03	12	14.6
	i	Z			52
	P:Dilatation				
9.	P	Z	04	45	37.0
	i	Z			45
	i	E			46
	i	E		46	02
	e	Z			19
	e	E	05	22	56
	P:Dilatation				
9.	eP	NEZ	09	14	38
	S	NE		18	25
	e	Z			26
	17 N., 146 E. Mariana Is.				
	H=09 09 53		USCGS		
9.	iP	EZ	18	08	10.4
	i	NZ			25
	i	N			35
	P:E,Compression				
9.	P	NEZ	20	38	26
	i	Z			36
	i	N			39 21
	eS	NE			45 50
	eL	E			51.5
	L	N			52 06
	Mag. 5 $\frac{3}{4}$ - 6 (Matsushiro)				
	10 S., 161 E. Solomon Is.				
	h:100 km ca.				
	H=20 29 28		USCGS		
10.	P	Z	00	49	48
	i	E			52
	SKS	NE	01	00	50
	eSS	N		06	43
	eL	N		21	52
	Mag. 5 $\frac{3}{4}$ - 6 (Matsushiro)				
	55 $\frac{1}{2}$ S., 146 E. Indian Ocean., south of Australia.				
	H=00 36 35		USCGS		

Date	Phase	Comp.	Time(GMT)		
			h	m	s
10.	iP	Z	06	17	20.8
	i	E			21.2
	i	Z			34
	S	Z			47
	P:Compression				
10.	e	NEZ	08	02	01
10.	PZ,ePNE		14	30	46
10.	eP	NEZ	15	45	56
	e	N		52	14
	L	E		53	10
10.	PZ,ePE		21	48	59
10.	P	EZ	23	12	30
	i	NZ			31
	i	EZ			35
	i	N			36
	i	Z			52
	PcP	Z	16	24	9
	i	N			25
	eS?	N			37
	eL	N	18	08	
	L	E	19	08	
	35 N., 111 E. Shansi Province, China. H=23 07 27 USCGS				
11.	eP	Z	00	40	18
	i	N			34.9
11.	iP	EZ	03	07	23.0
	i	N			23
	S	E			40
	P:E,Dilatation				
11.	eP	NEZ	14	52	18
11.	iP	NEZ	15	27	11.1
	i	N			11.5
	i	E		29	04
	e	E			32
	L	E		30	39
	P:N,E,Dilatation 44½ N., 148½ E. Kurile Is. H=15 24 30 USCGS				
11.	e	E	17	00	27 ca.
11.	iP	EZ	21	33	45.5
	i	N			47
	P:W,Dilatation				
11.	P	Z	21	59	02
	i	N			03
	i	Z			09.2

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	S	E	22	06	32
	eSS	E		10	06
	L	E		11	36
	Mag. 5 3/4 - 6 (Matsushiro) 11 S., 168 E. Solomon Is. region. H=21 49 42 USCGS				
11.	P	EZ	23	33	40
	i	E			59.1
	i	N		34	20
12.	P	NEZ	03	37	29
	eS	NE			52
12.	iP	NEZ	05	45	18.1
	S	NEZ			20.2
	P:S,W,Dilatation				
12.	P	Z	10	09	18
	i	N			20.8
	i	Z			21.3
	i	E			22.6
	pP	E			47
	PP	N		11	43
	e	N		14	02
	S	NE		18	18
	L	N		25	46
	L	E			48
	Mag. 6 3/4 (Matsushiro) 16½ S., 177½ W. Fiji Is. region. H=09 58 22 USCGS				
12.	iPNZ,PE		17	36	06.1
	i	E			47.6
	i	E			56
	P:S,Compression				
12.	iP	NEZ	18	29	40.9
	S	EZ			43.3
	P:W,Dilatation				
12.	e	NE	19	14	34
	L	NE		15	29
12.	iP	NEZ	22	21	54.1
	i	N		22	20.7
	P:N,E,Dilatation				
12.	eL	E	23	52	26 ca.
	eL	N			30
13.	eP	EZ	00	44	06
	e	N			07
13.	iPEZ,PN		00	48	00.7
	P:W,Compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
13.	P S? i e	NZ N E NE	01	02	08
				03	05
					08
				08.9	
13.	iP e i i	EZ N Z Z	03	16	15.3
					16
					21.8
					59.9
	P:E,Dilatation				
13.	iP iS P:E,Compression	NEZ EZ	05	47	12.6
					21.3
13.	PEZ,ePN		12	07	00
13.	iPN,PEZ iS P:N	NEZ	14	45	05.1
					22.3
13.	iP i eL eL	Z E N E	15	37	41.2
					42
				46	08 ca.
					15 ca.
	P:Dilatation				
	51½ N.,176 W.				
	Aleutian Is.				
	H=15 30 42				
					USCGS
14.	iP e PP PcP	Z E Z Z	04	46	33.1
					34
				47	41.6
				48	46.8
	P:Compression				
	0.,125½ E.				
	H=04 39 07				
					Molucca Passage.
					USCGS
14.	iP P:Compression	Z	11	29	27.6
14.	P i S i	Z NEZ EZ Z	12	43	41
					44.3
				44	06.3
					06.4
14.	P i i S	EZ N E EZ	16	30	36
					37.2
					40.3
					53.2
15.	P i e eL	EZ Z N E	02	57	58
					58 06.7
			03	01	38
				03	45
15.	iPZ,PNE S i P:Compression	NEZ E	06	21	26.6
					39.8
					45.6

Date	Phase	Comp.	Time(GMT)		
			h	m	s
15.	P i e e	NEZ Z N E	06	31	18
					25
				41	11
					24
15.	iP pP i i S i i PcP L L	NEZ NE NE E E N E E E N	09	01	44.3
					59.0
				02	46
				03	27
				05	28
					35
					37
					46
				07	38
				08	29
	P:N,E,Compression				
	Mag.7.3 (Matsushiro)				
	23 N.,121 E. Formosa.				
	H=08 57 04 USCGS				
15.	P	NEZ	09	11	55
15.	PZ,ePNE		09	26	44
15.	P	EZ	10	11	55
15.	PZ,ePNE i	E	10	39	29
					32.0
15.	P	EZ	10	53	27
15.	PZ,ePNE		11	00	03
15.	PEZ,ePN		12	13	30
15.	iP i P:E,Dilatation	EZ N	12	21	39.8
					40.4
15.	P e eS e i i i i SS L L	NEZ E E N E N E E E N	13	25	57
					32 31
					35 27
					29
				36	20
					22
					49
				38	59
				40	06
				45	02
					28
	Mag.5 3/4 (Matsushiro)				
	21 S.,174 W. Tonga Is.				
	H=13 14 26 USCGS				
15.	iP iS P:Dilatation	NZ EZ	13	46	48.5
					54.2

Date	Phase	Comp.	Time(GMT)		
			h	m	s
15.	PNZ, ePE		16	27	23
	i	E			23.7
	S	NE	28	05	
15.	iP	Z	18	19	26.1
	iS	NEZ			51.6
	P:Compression				
15.	iPZ, PE		18	47	20.6
	i	N			21
	PP?	EZ			30.6
	i	Z			32.4
	eS	N	51	37	
	e	E			47
	L	N	53	39	
	L	E	54	17	
	P:Compression				
	Mag. $5\frac{1}{4}$ - $5\frac{1}{2}$ (Matsushiro)				
55 N., 162 $\frac{1}{2}$ E. Near east coast of Kamchatka.					
H=18 41 56			USCGS		
15.	iPZ, PE		21	40	41.5
	i	N			41.9
	P:Dilatation				
17 $\frac{1}{2}$ S., 177 W. Fiji Is.					
H=21 29 42			USCGS		
16.	P	NEZ	01	02	21
	i	Z			30.9
	S	N	10	59	
	i	E	11	03	
	eScS	E	12	22	
	i	N	13	20	
	L	E	18	22	
	L	N			34
	Mag. 6 (Matsushiro)				
	21 S., 169 E. Loyalty Is. region.				
H=00 51 40			USCGS		
16.	P	Z	01	25	47
	i	NEZ			49.1
	i	Z			56
	i	Z	26	13	
	i	Z	27	15	
	S	NEZ	29	38	
	L	N	31	01	
	L	E			18
Mag. 6 (Matsushiro)					
22 N., 121 E. Formosa.					
H=01 21 05			USCGS		
16.	PZ, ePNE		03	17	01
16.	P	Z	05	26	58
	e	N			31 04 ca.
16.	P	EZ	09	05	34

Date	Phase	Comp.	Time(GMT)		
			h	m	s
16.	iPZ, PNE		10	04	06.5
	i	N			07.7
	eS	NE	12	42	
	eL	NE	22	45	
	P:Compression				
18 S., 178 W. Fiji Is.					
h:350 km ca.					
H=09 53 52			USCGS		
16.	e	N	11	17	36 ca.
	e	N	22	04	ca.
	e	E			24 ca.
	5 S., 152 E. New Britain.				
H=11 07 49			USCGS		
16.	P	NEZ	13	24	47
	i	Z			51.8
	i	NE			52.3
16.	PNZ, ePE		13	25	28
	eS	NEZ			36
16.	P	NEZ	17	48	24
	iS	EZ			33.9
16.	P	Z	17	55	34
	i	EZ			44.1
16.	P	Z	18	54	41
17.	iPZ, PNE		01	07	16
	i	NEZ			18
	S	N	11	02	
	i	E			05
	L	E	12	50	
	L	N	13	51	
	L	Z	14	32	
	P:Compression				
	Mag. $5\frac{1}{4}$ - $5\frac{1}{2}$ (Matsushiro)				
	22 $\frac{1}{2}$ N., 121 E. Formosa.				
H=01 02 37			USCGS		
17.	P	Z	01	45	47
	e	NE			48
	ePP	Z			48 59
	S	N			56 03
	e	E	02	07	46
	L	E			14 13
	L	N			15 45
	L	Z			20 ca.
	Mag. 6 - $6\frac{1}{4}$ (Matsushiro)				
	41 $\frac{1}{2}$ N., 20 $\frac{1}{2}$ E. Albania-Yugoslavia border.				
H=01 33 15			USCGS		
17.	iP	NEZ	03	54	05.3
	iS	EZ			22.3
	P:S, E, Dilatation				

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
17.	P	NEZ	04	32	01	17.	1P	NEZ	11	35	41.4
	i	E			05		P:E,Dilatation				
	S	NE		35	43						
	L	E		37	34	17.	1PZ,PE		12	43	40.7
	L	N		38	34		S	NE		47	30
17.	1PZ,PE		04	41	34.8		eL	E		49	11
	i	N			36.3		eL	N		50	13
	i	Z			42.6		P:Dilatation				
	P:Compression					17.	1P	EZ	14	37	06.8
	41 N., 20 E.		Albania.				i	N			07
	H=04 29 00		USCGS				S	NE			45
							P:E,Dilatation				
17.	1PEZ,PN		05	05	23.2	17.	1P	NZ	16	34	10.5
	eL	E		14	06		i	Z			43.0
	eL	N		15	39		i	E			43.3
	P:Compression						S?	N		35	29
17.	e	E	07	27	23		e	E			31
	e	N			43		P:S,W,Compression				
17.	P	EZ	08	02	43	17.	1P	NEZ	17	03	16.9
	i	Z			46.0		P:N,E,Dilatation				
	S	N		06	26	17.	1P	NEZ	20	25	15.5
	i	E			31						
	L	E		08	14	17.	P	Z	21	07	56
	L	N		09	18		i	N			59.4
17.	1PZ,PE		08	29	55.2	17.	P	NEZ	21	13	15
	e	N			56		i	E			19.3
	i	NE			57.2		i	E		14	32
	i	E		31	19		i	Z			45.9
	S	N		33	41		i	E		15	29
	i	E			43		i	E		19	04
	L	E		35	26		i	E			09
	L	N		36	30		S	E		20	13
	P:Compression						Lq	E		23	59
17.	P	EZ	08	38	06.9		Lr	E		27	23
	i	E			35		Mag.7 $\frac{1}{2}$ - 7 $\frac{3}{4}$ (Matsushiro)				
17.	P	EZ	09	15	59		7 $\frac{1}{2}$ S., 156 E. Solomon Is.				
	eS	N		19	43		H=21 04 40 USCGS				
	eL	N		22	33	17.	PNZ,ePE		22	38	55
17.	P	EZ	09	19	34	17.	1P	NEZ	22	45	22.4
							i	Z			31.6
17.	P	NEZ	10	21	57		P:S,W,Compression				
	iS	E		22	09.7	17.	P	NEZ	22	50	32
17.	P	NE	10	44	22		eS	EZ			40
	i	E		45	23.2	17.	1P	NEZ	23	00	41.4
							S	NE			49.4
17.	1P	NEZ	10	57	29.4		P:N,E				
	eS	E		58	59	17.	P	Z	23	27	07
	L	E		59	30						
	L	N			32						
	P:N,W,Compression										

Date	Phase	Comp.	Time(GMT)		
			h	m	s
18.	iP P:N,E,Compression 0.,123 E. Northern Celebes. h:200 km ca. H=00 30 00	NEZ	00	37	10.1
18.	iP i PP S i i i L L Lr Lr P:Dilatation Mag.6.6 (Matsushiro) 22 N.,121½ E. Near south coast of Formosa. H=00 33 43	Z NEZ E E N Z Z E N E N	00	38	26.2 27 54 42 05 06 07 09 13 44 13 31 46 23 47 23
18.	iP i i i i i i iS i Lq Lr L P:Dilatation Mag.7.1 (m) (Matsushiro) 44½ N.,111 W. Yellowstone Park,Wyoming. H=06 37 13	Z NE E Z Z Z Z NE E E E N	06	49	12.6 13 19.4 51 44 54 06 55 11 56 28 32 59 12 14 07 10 13 15 25 41
18.	P 45 N.,111 W. Yellowstone aftershock.	NEZ	07	07	07
18.	PZ,ePE		07	15	31
18.	P	EZ	08	06	29
18.	PZ,ePNE Mag.6½ (Berk). Yellowstone aftershock. 45 N.,110½ W. H=07 56 18		08	08	17

Date	Phase	Comp.	Time(GMT)		
			h	m	s
18.	iP e P:Dilatation Mag.6 (Berk) 45 N.,110½ W. Yellowstone aftershock. H=08 41 50	Z E	08	53	46.3 47
18.	P Mag.5½ -5¾ (Berk) 45 N.,111 W. Yellowstone aftershock. H=11 03 49	Z	11	15	48
18.	iP iS	NEZ NE	12	05	47.9 49.7
18.	iP PP S i Lq L L Lr L P:N,E,Dilatation Mag.6¾ (Matsushiro) 44½ N.,111 W. Yellowstone aftershock. H=15 26 06	NEZ EZ E N E N Z E N	15	38	05.9 41 05 48 00 02 16 01 48 03 57 05 45 07 22 ca. 14 22 ca.
18.	iP e e P:Compression	Z N E	15	47	44.3 45 47
18.	eL	NE	20	31	22 ca.
18.	P eL eL eL 11 S.,162½ E. h:200 km ca. H=21 13 09	NZ N E N	21	22	04 34 47 ca. 35 45 ca. 37 34 ca.
18.					Solomon Is.
18.	eL	NE	20	31	22 ca.
18.	P eL eL Albania. H=22 04 01	NZ E N	22	16	36 48 22 ca. 49 22 ca.
18.					USCGS
19.	PZ,ePNE i S L L Mag.6¼ - 6½ (Matsushiro)		04	15	59 16 11.2 25 49 38 58 43 30

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
45 N., 111 1/2 W. Yellowstone aftershock. H=C4 04 03 USCGS					
19.	P	NEZ	07	13	10
	i	Z			12.5
	S	N		17	06
	i	E			14
	L	N		19	32
	L	E		21	00
21 1/2 N., 121 E. South of Formosa. H=07 08 23 USCGS					
19.	iP	Z	08	05	30.0
	i	NE			30.4
	i	E			30.8
	i	E			34.3
	eS	EZ	07	09	
	i	NE			11
P:Compression					
19.	PEZ,ePN		09	17	06
19.	iP	EZ	14	25	31.8
	i	NZ			32.8
	eS	N		26	08.1
P:E,Dilatation 36.9 N., 141.7 E. Near east coast of Honshu, Japan. h:30 km ca. J.M.A.					
19.	P	NEZ	17	23	04
19.	P	Z	20	49	40
	i	N			46
	i	Z		51	22
34.2 N., 131.0 E. Honshu, Japan. h:20 km ca. J.M.A.					
19.	P	NEZ	21	16	36
	e	Z		18	04
	iSN,SE				05.9
19.	PZ,ePNE		21	57	53
45 N., 111 1/2 W. Yellowstone aftershock. H=21 45 57 USCGS					
20.	P	Z	00	27	45
	i	NZ			47.1
	S?	E		28	40
20.	P	NZ	02	08	14
	S	E		15	36
	e	N			48
	L	N		21	40
(cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
L E 10 1/2 S., 161 E. H=01 59 06 Solomon Is. USCGS					
20.	eP	EZ	03	31	23
	eS	N			32 00
20.	P	N	04	38	07
	e	EZ			09
	i	E			13.2
	eS	N		39	32
20.	PZ,ePE		04	55	28
	eS	N			59 10
	e	E			21
20.	PKP	Z	07	37	48
	PKS?	NE			41 15
7 S., 85 W. Off coast of Peru. H=07 18 34 USCGS					
20.	eL	E	08	19	37
	eL	N			20 41
20.	PZ,ePNE		09	03	01
	eS	NE			09 24
	L	E			12 27
	L	N			13 51
New Britain. H=08 54 59 USCGS					
20.	e	N	09	50	15
	L	N			52 42 ca.
20.	e	Z	12	33	26
	e	Z			37
29 S., 78 E. Indian Ocean. H=12 20 08 USCGS					
20.	P	Z	12	37	11
	e	E			43 53
	e	N			44 38
	eL	N			57 55
	eL	E			58 07
20.	iP	EZ	13	04	01.0
	i	N			01.4
	i	E			13.6
	i	N		01	24
	iS	N			24.5
	i	E			35
P:W,Compression					
20.	e	Z	17	42	33
	e	E			51 13
	e	N			37

Date	Phase	Comp.	Time(GMT)		
			h	m	s
20.	PZ, ePN		20	34	12
	e	N		41	42 ca.
	e	E			44 ca.
20.	e	N	21	59	57
	eL	E	22	03	26
20.	P	NEZ	22	40	49
	i	Z			55.7
21.	iP	NEZ	00	52	01.0
	iS	NZ			10.3
	i	E			10.7
	P:Compression				
21.	iP	Z	04	44	50.8
	i	NE			51.6
	eS	NE		48	15
	eL	E			49.5
	eL	N		50	00
P:Dilatation					
21.	P	EZ	07	19	05
	eS	NE		24	12
	eL	N		26	14
	eL	E		27	03
38½ N., 104 E. Kansu Province, China. H=07 13 19 USCGR					
21.	P	NZ	08	16	00
	eS	NE		26	28
	e	N		28	42
	eSS	E		31	54
	eLq	N		37	50
	eLq	E		38	11 ca.
	iLr	E		41	52
	P:Compression Mag. 5 3/4 - 6 (Pasadena) 50½ S., 139½ E. In Indian Ocean, south of Australia. H=08 03 15 USCGR				
21.	iP	NZ	08	18	20
	i	NE			21
	iS	E		28	52
P:Compression					
21.	iP	Z	09	50	34.2
	i	N			34.9
	i	E			36.8
	e	Z		53	23
	e	N			49
	eS	E	10	01	08
	e	N			23
	eSS	E		06	39
eSSS	N		10	46	
eLq	E		12	56	
eLq	N		13	31	
(cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	iL	E	10	16	00
	eLr	N		17	30 ca.
P:Compression Mag. 6 (Matsushiro) 50½ S., 140 E. In Indian Ocean, south of Australia. H=09 37 49 USCGR					
21.	iP	NZ	14	45	18.0
	i	E			18.8
	i	N			19.8
	i	N			25.9
P:S,Compression					
21.	iP	NZ	16	52	10.4
	i	E			11.4
P:Compression					
21.	iP	EZ	21	13	13.9
	i	N			15.0
	i	NEZ			16.6
	S	N			40
	i	E			41
	i	Z			42
	i	NEZ			43
P:Dilatation					
22.	eP	Z	01	14	14
	e	E			55
	i	N			56.0
	i	Z			56.8
e	N		25	26	
22.	iP	NEZ	03	00	00.9
	i	N			47.9
	i	E			49.1
	e	E		01	06
P:N,E,Compression					
22.	iP	NZ	07	39	28.2
	i	E			28.8
	iS	E		40	16.8
	i	NZ			17.5
P:S,Dilatation					
22.	iP	Z	10	40	04.9
	i	E			05.7
	e	N		52	31
P:Compression					
22.	P	Z	10	52	56
	i	E			57.9
	e	N	11	16	47
e	N		24	23	
22.	eP?	NEZ	17	04	39
	e	NE		05	23
	e	N			25.7
	e	E			26.7

Date	Phase	Comp.	Time(GMT)		
			h	m	s
22.	eP	EZ	18	31	13
	iS	N			34.8
	i	Z			35.2
	i	E			36.1
	e	NEZ	32	58	
22.	iPKP	Z	21	47	34.6
	i	Z			38.7
	i	NE			39.0
	epPKP	Z	48	03	
	i	NE	49	05.4	
e	N	55	27		
PKP:Compression 17½ S., 69½ W. Peru-Chile border. h:150 km ca. H=21 28 02					
22.	eP	EZ	22	21	55
	e	N			22 01
	e	Z			03
	e	N			27.6
23.	eP	EZ	01	35	53
	e	N			36 02
	e	E			05
	e	Z			08
23.	iP?	Z	03	28	47.3
	e	N			49 31
P:Dilatation					
23.	P	NZ	04	01	02.6
	i	NZ			04.5
	i	E			05.7
	i	N			07.0
	e	EZ			17
	e	N			29
23.	P	Z	07	21	15.5
	iS	EZ			22.9
	i	N			23.2
23.	eP 1	Z	07	53	27
	iP 2	Z			28.2
	e	E			30
	i	N			32.2
	e	E			40
	e	Z			41.3
23.	e	E	09	55	57
	e	N			56 06
23.	e	N	11	40	16 ca.
	e	E			45 28 ca.
	e	N	12	24.3	

Date	Phase	Comp.	Time(GMT)		
			h	m	s
25.	eP	EZ	12	36	38
	e	Z			51
	i	E			37 04.0
	e	N			07
25.	iP	NEZ	20	24	22.4
	iS	NEZ			27.4
P:S,E,Dilatation					
23.	eL	E	23	09	06
	eL	N			14 50 ca.
	35½ N., 3 W. Mediterranean Sea, north of Spanish Morocco. H=22 21 30 USCGS				
24.	iPEZ,PN		01	01	11.0
	e	Z			18
	e	N			02 16
	e	Z			36
P:E,Dilatation					
24.	e	N	04	12	10 ca.
	e	E			13 55
	e	E			26 40 ca.
	e	N			55 ca.
24.	iP	NEZ	05	06	32.4
	S	E			51
	i	N			51.5
P:S,E,Dilatation					
24.	iP	EZ	08	20	39.4
	e	N			56
	e	E			57
	e	Z			21 02
	e	Z			51
	e	N			35.3
P:E,Compression					
24.	e	N	10	17.5	
	e	E			18.5
	e	N			45 26
	e	E			47 07
24.	iP	NZ	12	34	20.1
	i	E			20.3
	i	NEZ			21.4
	eS	NE			38 29
	eL	NE			40.3
	P:S,Compression 53 N., 159½ E. Kamchatka. H=12 29 20 USCGS				
24.	iPZ,PNE		15	50	49.0
	e	NE			52 31
	eS	E			58 02
	eL	N	16	03.2	
	eL	E			03 52
P:Compression					

(cont.)

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
continued.						25.	eP?	Z	00	14	45
Mag. 5 3/4 - 6 (Matsushiro)							e	E			47
10 1/2 S., 161 1/2 E.							e	N			49
Solomon Is. foreshock.							iS	NEZ			56.3
H=15 41 40 USCGS						25.	iP	NEZ	01	29	33.4
24.	iP	NZ	16	49	13.1		iS	N			36.3
	e	N			40		i	EZ			37.0
	eL	E	17	02	10		P:N,E				
P:S,Dilatation						25.	iP	EZ	04	59	57.7
10 1/2 S., 161 1/2 E.							iS	NEZ			40.5
Solomon Is. foreshock.						P:W,Dilatation					
H=16 40 04 USCGS						25.	iP	NEZ	05	18	43.7
24.	P	EZ	19	36	26		i	NE			52.3
	i	Z			27.8		iS	NEZ			55.0
	i	NE			28.1	P:Dilatation					
	e	N			50	25.	eL	N	06	24	25
	e	N	37	12			eL	E			26.3
	e	Z			19	25.	iP	Z	09	02	20.5
	i	E	38	16			e	NE			23
24.	P	NZ	21	39	52.7		e	N	24	24	
	i	NEZ			54.5	P:Compression					
	i	Z	40	01.2		25.	iPKP	Z	12	44	22.3
	i	E			02.2		e	N			25
	ePP	Z	41	59			e	E			33
	i	Z	42	26			eL	E	13	35	39
	iS	E	47	19			eL	N			42 13
	i	N			22	P:Dilatation					
	i	Z			45	Northern Chile.					
	L	N	52	40		H=12 24 18 USCGS					
	eL	E			56 ca.	25.	iPZ,PE		13	48	26.9
	eL	Z	54	46			i	E			46.8
	e	Z	22	10	15		eS	N			55 01
	ePKPPKP	Z			42		eL	E			58 44
Mag. 7 - 7 1/4 (Matsushiro)						6 1/2 S., 155 E. Solomon Is. USCGS					
10 1/2 S., 161 E. H=21 30 46 USCGS						H=13 40 06					
24.	iPZ,PN		23	41	33.3	25.	eP	Z	16	56	19
	i	E			35.8		e	E			21
	i	Z			36.7		e	Z			36
	i	N			38.6		i	E			41.4
	i	E			49.8		i	N			45.8
P:Compression							e	Z			46
10 1/2 S., 161 1/2 E.							e	EZ	57	41	
Solomon Is. aftershock.							i	N			41.4
H=23 32 23 USCGS						25.	iP	NEZ	17	59	49.7
24.	iP	Z	23	50	45.8		iS	NEZ			50.8
	i	Z			55.7	P:N,Dilatation					
P:Compression						25.	ePKP	Z	18	11	48
10 1/2 S., 161 1/2 E.							i	Z			12 10.2
Solomon Is. aftershock.							eSS	N			35 24
H=23 41 34 USCGS						(cont.)					
25.	iP	EZ	00	13	25.4						
	i	EZ			33.5						
P:W,Dilatation											

Date	Phase	Comp.	Time(GMT)
			h m s
continued			
	e	N	18 49 53
	eL	N	19 07 30
	eJ	E	14 41
	27½ S., 71 W. Northern Chile. H=17 51 49		
	USCGS		
25.	e	N	19 58 11
	e	E	59 57
	e	N	20 21.5
	e	E	21.6
26.	e	E	02 11 00
	e	N	15 35
26.	eP	Z	02 37 25
	iPcP	Z	39 14.0
	e	N	49 23
	5 S., 152 E. h:150 km ca. H=02 29 37		
	New Britain. USCGS		
26.	e	NE	03 20.5
26.	P	Z	03 56 00
	e	N	04 00 02
	e	E	12
26.	e	N	04 51 51
	e	N	05 01 00
	e	N	06.2
26.	P	NZ	05 01 07
	i	Z	32.1
	PcP	Z	02 56
	i	Z	03 07.8
	eL	E	10 49
	eL	N	13 27 ca.
	5½ S., 153½ E. New Britain region. H=04 53 00		
	USCGS		
26.	iP	NZ	07 28 09.8
	i	E	10.4
	iS	NE	35.8
	P:S,Dilatation		
26.	eP	Z	08 39 46
	e	N	43 24
	ePKP	E	45
	iPP	NEZ	44 11
	iSKS	NE	50 35
	iFS	Z	53 26
	iSS	N	59 03
	iSSS	EZ	09 03 28
	e	N	04 05
	iLq	E	08 19
	iL	N	11 06

Date	Phase	Comp.	Time(GMT)
			h m s
continued			
	eL	E	09 11 15
	eL	E	20 59
	eL	N	21 17 ca.
	Mag.6 3/4 - 7 (Matsushiro) 18 N., 94½ W. Vera Cruz, Mexico. H=08 25 30		
	USCGS		
26.	eP	Z	08 55 19
	i	Z	45
26.	iP	NEZ	09 48 07.4
	eS?	NE	18
	i	NE	22
	P:S,W,Compression		
26.	iPZ,PE		10 38 11.8
	i	NE	14.4
	i	Z	14.8
	e	E	39 15
	iPP	Z	40 30
	i	Z	39.5
	e	N	42
	e	Z	41 43
	e	Z	46 09
	S	E	51
	i	N	59
	Lq	NE	54 01
	iLr	E	56 23
	Lr	N	47
	L	Z	57 13
	P:Compression Mag.6½ (Matsushiro) 51 N., 132 W. South of Queen Charlotte Is. H=10 27 41		
	USCGS		
26.	eP	Z	11 13 46
26.	e	N	21 04 26
	e	N	10 51
26.	P	NEZ	22 38 24
	e	N	39 47
	e	E	40 08
27.	e	N	04 22 28 ca.
27.	iP	NEZ	04 53 51.3
	i	E	54 09
	i	N	09.4
	e	Z	55 33
	S?	NZ	35
	e	E	48
	eL	E	56 24
	eL	N	57 06
	P:N,E,Dilatation		

Date	Phase	Comp.	Time(GMT)		
			h	m	s
27.	eP	NZ	05	13	18
	i	Z		15	03
	eS	E		19	18
	i	N			22
	e	N		21	08
	eL	E		22	46

27.	iP	EZ	07	57	42.1
	i	N			42.6
	ipP	Z		58	25.3
	e	N			33
	isP	Z			46.3
	iPoP	Z		59	50.0
	eScP	EZ	08	03	14
	i	E			22.1
	S	NE			23
	iSS	N		06	29
	eL	N		10	04

P:W,Dilatation
 O.,122 E.
 Northern Celebes Is.
 h:200 km ca.
 H=07 50 28

27.	iP	NEZ	10	38	13.9
	i	Z			16.0
	i	N			18
P:N,E,Dilatation					

27.	iPZ,PNE		12	10	17.9
	iS	N			23.8
	e	E			25
P:Compression					

27.	eL	NE	12	48.5	
-----	----	----	----	------	--

27.	iP	Z	13	56	43
	i	N			46.0
	e	E			51
	i	Z		57	43.7
	e	N	14	19	36
	e	E			42
	e	E		25	26
	eL	E		45	27
	eL	N		46	26
	eL	Z		47	02
P:Dilatation					

27.	iP	NEZ	14	56	07.3
	i	N			28
	i	N			43.2
	i	Z		57	14.4
	e	E			16
	i	N		59	08
	i	E			26
P:W,Compression					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
27.	e	N	21	02	23
	eL	E		05	11
27.	iP	NEZ	22	48	35.6
	e	Z			52
	iS?	E			57.7
	i	Z		49	03
	i	E			05
P:N,E,Dilatation					

27.	iP	EZ	23	53	18.6
	i	N			19.0
	i	N			38.2
	iS	NEZ			40.7
P:E,Dilatation					

27.	iP	EZ	23	57	34.3
	i	N			34.5
	iS	Z			51.7
	i	N			53.4
	i	E			55.2
	i	Z			55.7
	i	E		58	52.1
	P:W,Compression				

28.	iP	EZ	00	00	27.5
	i	N			28.8
	e	Z		01	37
	iPP	EZ			57
	iS	E		06	18
	iLq	E		09	13
	eLq	N			31
	eLr	N		10	55
	iLr	E		11	13
	P:Dilatation				
Mag.5 $\frac{1}{2}$ - 5 $\frac{3}{4}$ (Matsushiro)					
25 N.,96 E.					
Northern Burma.					
H=23 53 10					
USCGS					

29.	iP	Z	02	00	56.3
	i	NE			56.8
	eS	E		04	07
	e	N			15
	L	NE			42
P:Compression					
48 N.,155 E.					
H=01 56 56					
Kurile Is.					
USCGS					

28.	iP	NZ	02	24	35.5
	i	E			36.1
	i	NE			40.6
	iS	N			58.8
P:S,Compression					

28.	iP	NZ	02	30	34.3
	i	E			34.9
	i	NEZ			38.5
	e	E		31	06
P:N,Dilatation					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
28.	iP	Z	02	45	37.0
	i	E			39.1
	i	E			53.7
	eL	N	56	57	
	eL	E	58	12	
P:Compression			Solomon Is.		
9 S., 158 E.			USCGS		
h:150 km ca.					
H=02 37 00					
28.	iP	Z	05	51	00.0
	i	N			00.3
	i	E			00.7
	i	NEZ			05
	iS	N			24
	i	E	05	51	27
	i	N			28
	i	EZ			52 10
P:Compression					
28.	P	NZ	05	54	12
	i	E			14
	i	E			17.8
	iS	NE			37
28.	eP	NEZ	06	07	29
	i	N			33.5
	i	E			34
	i	N			38.8
	e	E			43
iS?	NE		08	01.0	
28.	iP	NEZ	06	57	45.7
	i	E			50.9
	iS	N		58	07.6
	i	E			09.8
	i	EZ			11
	i	Z			12.3
P:N,E,Dilatation					
28.	P	Z	07	22	48.5
	i	N			51
	i	E			52
	eS	E		23	12
28.	iP	Z	11	47	50.9
	iSE,SN			48	05.9
	i	Z			07.3
P:Compression					
28.	iP	Z	12	16	39.7
	i	N			40.2
	i	Z			43.7
	i	E			45.5
	eS	N		23	46
	e	E		26	27
	e	N			45
	eL	E		32	16
	eL	N			54
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	eL	N	12	40	38
P:Dilatation			65 1/2 N., 149 W.		
			Central Alaska.		
			H=12 07 44		
			USCGS		
28.	iP	EZ	15	15	39.3
	i	N			45.2
	eS	E			53
P:Dilatation					
28.	iP	NEZ	16	02	21.9
	e	Z			43
	e	N		05	05
	PPP	N		06	06
	e	E			09
	eS	E		10	35
	i	N			45
	e	E		14	14
	iSS	N			54
	eL	E		17	02
eL	N			33	
P:S,E,Dilatation			Mag. 5 1/2 - 5 3/4 (Matsushiro)		
			17 S., 167 E.		
			New Hebrides Is.		
			H=15 52 10		
			USCGS		
28.	iP	Z	20	19	28.7
	i	E			29.0
	iS	N			43.6
	i	Z			48.0
	P:Dilatation				
29.	iP	NZ	02	16	16.0
	i	E			16.6
	i	E			30.8
	e	N		17	03
	eL?	NE		20	20
	eL	N		22	20
	P:N,Compression				
29.	P	Z	03	50	16
	eS	E		37	41
	e	N		38	42
	eLq	N		42	53
	eL	E		43	39
	eLr	N		44	33
	eLr	E			33
	Guadalcanal, Solomon Is. region.			H=03 21 07	
			USCGS		
29.	eP	NZ	03	37	49
	i	E			49.8
	i	Z			53.7
	i	E			59.1

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
29.	iPZ,PNE		05	40	29.8	30.	iP	NEZ	01	32	01.8
	e	Z		41	27		i	Z			05.2
	e	E		57	45		i	EZ			11
	e	N		58	20 ca.		i	N			13.6
	P:Compression						i	Z			15.0
	i	N			27		i	N			27
29.	P	Z	06	09	05.5		iS	Z			43
	i	E			06.5		i	E			44
	i	N			07.7		i	N			50
	i	Z			17.6		i	E			59
	e	NE		20	35						
	e	E		23.8		30.	P	Z	03	01	37.1
29.	P	NEZ	15	51	52		i	Z			47.4
	i	E			55.0		i	N			47.8
	i	N		52	31.0		e	Z		03	17
	e	N		53	05		eL	N		19	09
	e	E			06		8 S., 156 $\frac{1}{2}$ E. H=02 53 08 Solomon Is. USCGS				
29.	iP	NEZ	17	08	54.8	30.	P	EZ	10	36	45.5
	i	E		09	05.1		i	N			46.6
	i	NE			19		e	N			37 27
	ePP	Z			51						
	i	EZ		11	32.8	30.	iP	NZ	14	36	41.2
	i	N			59		i	E			42.2
	PcP?	NE		12	25		i	Z			44.6
	e	N			58		i	E			45.5
	i	Z			58.9		e	E			54
	S	E		13	41		i	E		37	40.8
	i	N			46		i	Z		39	01.6
	i	E			49		iS	E			24.8
	i	Z			55		i	N			26.5
	eLq	N		15	25		P:S,Dilatation				
	eLr	E		17	06	30.	eP	Z	14	45	08
	eLr	N			33		eS	N		50	25
	eL	Z		18	09		eL	E		53	00
	P:N,W,Dilatation						eL	N			38
	Mag.6 3/4 (Matsushiro)					30.	iP	NEZ	17	58	02.9
	52 N., 106 $\frac{1}{2}$ E.						i	NEZ			13.0
	Lake Baikal, U.S.S.R.						e	E		59	09
	H=17 03 10						e	N			14
	USCGS						P:N,W,Dilatation				
29.	P	Z	21	30	38.4	30.	iP	Z	18	59	32.7
	i	N			39.8		i	E			34.3
	i	Z			48.0		i	NZ			41.7
	e	N			49		i	E			41.9
	L	N		47	58 ca.		P:Dilatation				
	L	E		49	57 ca.		23 S., 171 $\frac{1}{2}$ E. Loyalty Is. region. H=18 48 34 USCGS				
	17 S., 168 E.					30.	eP	EZ	21	58	17
	New Hebrides Is.						e	Z		59	46
	H=21 20 27						e	E			51
	USCGS						i	N			52.9
30.	eP	Z	00	29	08		ePP	Z	22	01	52
	i	Z			15.3		(cont.)				
	i	E			15.5						
	e	N			16						
	i	Z			31.1						
	e	EZ			59						
	e	N		30	03						

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	e	E	22	02	16
	e	N			44
	e	Z		03	24
	eS	NE		09	15
	eSS	N		14	52
	PSPS	E		15	49
	eLq	NE		22	22
	eL	NE		31	42
Mag. 5 3/4 - 6 (Matsushiro)					
36 1/2 S., 78 1/2 E. Indian Ocean.					
H=21 45 07 USCGS					

30.	eP	NZ	23	06	34
	i	E			41.6
	i	N		07	24.6
	i	N			48.0
	eL	N		27	02
	eL	E			05
37 N., 68 1/2 E.					
Afghanistan Tadjik border.					
H=22 57 00 USCGS					

30.	eP	Z	23	42	24
	e	N		44	04
	e	E			39
	eS?	N		47	18
	e	E			37
	eL	E		49	22
	eL	N			50
	iL	E		50	33
53 N., 106 E.					
Lake Baikal aftershock.					
H=23 46 42 USCGS					

31.	iP	NEZ	05	41	12.2
	i	Z			14.1
	S	NEZ			36
P:S,W,Compression					

31.	eP	Z	06	00	11
	i	EZ			13.5
	i	N			13.8
	i	Z			14.0
	i	Z			17.0
	iS	NZ			37.6
	i	E			38.0

31.	eP?	E	09	13	40
	e	Z			41
	e	N			42
	e	Z		15	15
52 1/2 N., 171 W. Fox Is.					
H=09 05 56 USCGS					

31.	P	NZ	09	44	42
	i	Z			44.2
	iS	EZ			59
	i	N		45	01.7

Date	Phase	Comp.	Time(GMT)		
			h	m	s
31.	eP	NEZ	20	44	02
	e	Z			17
17 S., 167 1/2 E. New Hebrides.					
H=20 33 52 USCGS					
31.	iP	NEZ	21	21	44.1
	iS	NEZ			47.1
P:N,E,Dilatation					
31.	iP	Z	21	24	40.0
	i	Z			41.3
	i	E			42.7
	i	NZ			45.4
	i	N			49.5
	i	E			53.5
	eS	N	25	07	
	e	Z			16
P:Compression					

Takeshi Honda.

Director

Date	Phase	Comp.	Time(GMT)		
			h	m	s
3.	P	Z	02	49	26
	PcP	Z			55
	P:Dilatation				
	20½ S., 178½ E.				
	Tonga - Fiji region.				
	h:550 km.				
	H=02 39 04 USCGS				
3.	P	Z	04	14	37
	eN(L?)			50	15
	eN(L?)			55	49
	41 N., 20 E.				
	Albania.				
	H=04 02 00 USCGS				
3.	P	NEZ	04	23	39
3.	P	Z	04	24	56
	i	NE			56.8
	i	N		25	24.6
3.	P	Z	06	35	35.2
	i	N			36.0
	i	E			36.8
	i	Z		36	43
	PP	Z		37	13
	PPP	Z			57
	S	NE		41	49
	i	N		44	23
	i	E		45	15
	i	Z			23
	i	E		46	53
	L	E		55	45
	L	Z			55
	Mag. 6¼ - 6½ (Matsushiro)				
	4½ S., 123 E.				
	Celebes Island.				
	H=06 27 30 USCGS				
3.	iP	EZ	08	59	17.6
	i	E			51
3.	iP	NEZ	09	37	17.6
	S	NE			37.6
	iP:S,E,Dilatation				
3.	P	Z	11	45	50
	S	NE		46	30
3.	P	NZ	12	08	43
	i	E			44
	S	NE		09	04
3.	e	N	12	26	06
3.	e	N	12	57	57
	e	N		59	50

Date	Phase	Comp.	Time(GMT)		
			h	m	s
3.	e	N	21	49	41
	e	N		52	30
3.	eP	Z	22	00	01
	eS	N		09	07
	eScS?	N		10	21
	e	N		15	37
	eL	E		16	33
	eL	N			50
	Mag. 5¼ (Matsushiro)				
	15 S., 175½ W.				
	Fiji Is. region.				
	H=21 48 56 USCGS				
4.	eP?	Z	00	17	35
	e	E		19	01
	e	E		23	07
	e	NE		26	09
	e	N		29	30
	e	E			35
4.	iP	NEZ	04	21	08.3
	S	Z			54
	iP:S,Compression				
4.	P	Z	08	49	14
	eS	E		53	45
	e	N		54	14
	eL	E		56	05
4.	eP	Z	09	00	50
	4½ S., 152 E.				
	New Britain.				
	h:100 km ca.				
	H=08 52 55 USCGS				
4.	eS?	N	12	52	18
	eL	N	13	03	32
	eL	E		13	29
	31½ S., 177 W.				
	Kermadec Is.				
	H=12 30 00 USCGS				
4.	iP	NEZ	17	50	43.6
	i	NZ			44.6
	i	Z			56
	i	N		51	01
	i	Z			32.1
	S	NEZ		53	22
	iP:S,W,Dilatation				
	21½ N., 142 E.				
	Mariana Is.				
	h:250 km ca.				
	H=17 47 15 USCGS				
4.	PKP	Z	18	46	11
	eSS	N	19	07	42
	(cont.)				

Date continued
 e E 19 08 15
 eSSS? N 13 21
 L? N 34 35
 L? E 35 10
 1 S., 24 W.
 Atlantic Ocean.
 H=18 26 41 USCGS

4. P Z 19 30 11
 i Z 22
 52½ N., 168½ W.
 Fox Is., Aleutian Is.
 H=19 22 32 USCGS

4. PKP Z 23 42 57
 eL E 00 33 33
 eL N 34 43
 47 S., 75 W.
 Near coast of Southern Chile.
 H=23 22 56 USCGS

5. P NE 04 11 13
 S NE 54

5. iP NZ 06 14 45.5
 i E 47.0
 i NEZ 52.5
 PP NEZ 16 11
 S E 20 28.2
 i NE 35
 i NE 36
 L NE 23 11
 iP:Compression
 Mag. 6½ (Matsushiro)
 1 N., 129 E.
 Halmahera Island region.
 H=06 07 38 USCGS

5. P NZ 08 17 19.0
 i E 21
 i Z 23
 S N 19 02.0
 i Z 12
 P:Compression

5. P E 12 08 55.8
 i NZ 57
 S N 09 20

5. iP NZ 15 41 50.9
 i E 51.5
 PP N 43 12
 i Z 19
 S NE 47 39
 L NE 49 45
 iP:N,Compression
 Mag. 6 - 6¼ (Matsushiro)
 1 N., 129 E.

(cont.)

Date continued
 Halmahera aftershock.
 H=15 34 44 USCGS

5. P NEZ 16 15 05
 i N 10
 P:W.

5. P Z 17 31 57.9
 i Z 32 00

5. P NEZ 18 12 42
 S NE 13 43.8

5. P EZ 21 18 37
 51½ N., 179½ E.
 Rat Is., Aleutian Is.
 H=21 12 02 USCGS

5. P NEZ 21 35 16
 eS NE 40 36
 eL NE 43 01

P:Compression
 Mag. 5½ - 5¾ (Matsushiro)
 51 N., 179½ E.
 Rat Is., Aleutian Is.
 H=21 28 42 USCGS

5. P EZ 21 59 56
 PP Z 22 01 28
 P:Compression
 Rat Is., Aleutian Is.
 H=21 53 22 USCGS

5. iP NEZ 23 15 07.7
 eS E 23 22
 iP:N,W,Compression
 18 S., 178½ W.
 Fiji Is.
 h:550 km ca.
 H=23 05.00 USCGS

6. P EZ 00 34 33.6
 i Z 45.6
 i Z 35 48
 eS NE 40 12
 eL E 41 58

Mag. 5¼ (Matsushiro)
 5½ N., 126½ E.
 Near south coast of Mindanao,
 Philippine Is.
 H=00 27 59 USCGS

6. iPEZ,PN 00 40 42.9
 i Z 48
 i NE 41 38

iP:W,Dilatation

6. P Z 04 20 03
 (cont.)

Date Phase Comp. Time(GMT)
 continued h m s
 eS E 04 27 24
 eL E 33 46
 Mag. $5\frac{1}{4}$ - $5\frac{1}{2}$ (Matsushiro)
 10 S., $160\frac{1}{2}$ E.
 Solomon Is.
 H=04 10 54 USCGS

6. iPEZ,PN 06 41 19.0
 1 E 27
 iP:W,Compression

6. P NEZ 07 05 50.0
 e E 06 48
 P:N,W,Dilatation

6. e E 10 03 06
 e E 06 54

6. P Z 13 23 41.4
 i EZ 43.9
 i Z 24 06
 eS E 28 28
 e E 29 44
 eL E 31 00

Mag. 5 (Matsushiro)
 $13\frac{1}{2}$ N., 124 E.
 Luzon, P.I.
 H=13 18 03 USCGS

6. PKP1 NEZ 19 14 54.2
 PKP2 Z 15 19
 PKP1:Compression
 Peru - Bolivia border region.
 h:150 km ca.
 H=18 55 09 USCGS

7. P NZ 04 14 03.5
 i E 04.0
 P:S,Compression
 $5\frac{1}{2}$ S., 147 E.
 Near north coast of New Guinea.
 H=04 05 55 USCGS

7. eP? Z 19 00 00
 e E 06 10
 e E 07 49

7. iP NEZ 23 39 13.5
 i NE 15.1
 i E 40 03.5
 iP:N,Dilatation

8. P NEZ 03 48 41.8
 S NE 49 04.4

8. iP NEZ 10 04 02.0
 i EZ 15.5
 S NZ 28.9
 (cont.)

Date Phase Comp. Time(GMT)
 continued h m s
 i E 10 04 29
 iP:S,E,Dilatation
 Mag. 5.9 (Matsushiro)
 36.5 N., 140.7 E.
 Honshu, Japan.
 h:60 km ca.
 H=10 03 27 USCGS

8. eP? NZ 11 05 52
 e N 16 45
 e Z 51
 e E 18 41
 e E 31 43
 e N 32 11

8. e E 13 34 56

8. e E 14 16 32
 eL? E 19 04
 eL? N 57

Mag. $5\frac{1}{2}$ - $5\frac{3}{4}$ (Matsushiro)
 South Atlantic Ocean, about
 700 miles east of Bouvet I.
 H=13 12 04 USCGS

8. P NEZ 16 07 23
 e E 03 24
 e N 09 14
 e E 28

8. iP NEZ 18 56 60.1
 S NE 52.7
 i N 57 04.5
 iP:N,W.

8. P Z 19 09 27
 i EZ 45
 i Z 50
 e E 13 49
 e E 17 22

8. iP NEZ 19 21 17.0
 i NE 18.0
 i NEZ 37
 i N 22 34
 S NZ 59
 i E 23 20

iP:N,E,Dilatation
 Mag. 5.3 (Matsushiro)
 42.3 N., 143.2 E.
 Hokkaido, Japan.
 h:70 km ca.
 H=19 19 39 USCGS

8. PKP Z 20 38 57
 $58\frac{1}{2}$ S., $24\frac{1}{2}$ W.
 Sandwich Is.
 H=20 18 37 USCGS

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
9.	iP eS eL	NEZ E E	01	55	29.2	10.	iP eL?	NEZ NE	15	46	16.8
	iP:S,W,Compression Mag. 4 $\frac{1}{2}$ - 4 $\frac{3}{4}$ (Matsushiro) Near east coast of Kamchatka. H=01 50 05 USC GS						iP:N,E,Dilatation 45 $\frac{1}{2}$ N.,148 $\frac{1}{2}$ E. Kurile Is. H=15 43 28 USC GS				
9.	P	Z	05	53	38	10.	P	Z	16	26	37
	Hindu Kush. h:200 km ca. H=05 44 38 USC GS						9 $\frac{1}{2}$ S.,151 $\frac{1}{2}$ E. Near east coast of New Guinea. h:100 km ca. H=16 18 09 USC GS				
9.	P i	NEZ N	07	30	28	10.	iP S	NEZ EZ	16	40	17.9
	31 05.4						41 15 iP:S,E,Dilatation				
9.	iP iS iP:N,E.	NE NE	10	58	37.3	10.	iP i	NEZ E	17	23	36.7
	40.1						41.7 iP:S,E,Compression				
9.	P S	NEZ N	12	18	03.7	10.	P i e	Z NE E	18	19	29.1
	26						30.6 20 57				
9.	iP S i iP:E.	NE NE Z	20	43	16.1	10.	iP i S	EZ N E	20	10	55.6
	30.6						55.9 11 14.4 iP:E,Dilatation				
	32.6										
9.	P e	NE E	22	12	27	10.	P i eS eL eL i P:N,E.	NEZ NEZ E E N Z	23	00	06
	13 53						12 02 45 03 49 59 08 37.1				
10.	iP i S Lq Lr Lr	NEZ E N E E N	05	43	24.8		Mag. 4 $\frac{3}{4}$ - 5 (Matsushiro) 47 N.,152 E. Kurile Is. H=22 56 34 USC GS				
	27.1										
	49 53										
	54 16										
	56 10										
	58 14										
	iP:N,W,Compression Mag. 5 $\frac{1}{2}$ - 5 $\frac{3}{4}$ (Matsushiro) 6 $\frac{1}{2}$ S.,154 $\frac{1}{2}$ E. Solomon Is. H=05 35 04 USC GS										
10.	eP e S?	Z N NE	09	33	52	11.	P i i	EZ Z E	01	30	34.8
	56.3						36 44.8				
	34 19										
10.	iP i	NEZ EZ	12	40	44.1	11.	eP e e	Z E E	13	01	44
	41 15						27 08 ca. 34 00				
10.	e e	E E	14	34	49	11.	iP i i S	EZ N N N	16	14	43.7
	38 11						44.0 54 57 iP:W,Dilatation				
10.	iP i S i iP:S,Compression	NE E NE Z	15	22	11.1	11.	iP	NEZ	18	11	25.0
	11.4						(cont.)				
	40.9										
	44										

Date Phase Comp. Time(GMT)
continued h m s
iS NE 18 11 27.2
iP:S,E,Compression

11. P EZ 23 18 59
i N 19 01
eS N 36

12. eP Z 00 31 08
e N 39 10
eL N 46 32
6 S.,106 E. Near west coast of
of Java. h:100 km ca.
H=00 22 01 USCGS

12. P NEZ 01 08 19.7
S NEZ 40
P:W,Dilatation

12. PKP Z 02 00 40.5
i Z 45.8
PKP2 Z 01 16
i Z 20
i Z 25
PKP:Compression
20 S.,68 W. Southwestern
Bolivia. h:150 km ca.
H=01 41 03 USCGS

12. P Z 02 01 29
i Z 35
S EZ 07 36
i E 38
i Z 08 01
i E 10 43
iSS E 46
i(L?) Z 52
Mag. 6 $\frac{1}{2}$ - 6 $\frac{3}{4}$ (Matsushiro)
3 S.,146 $\frac{1}{2}$ E. Bismarck Sea.
H=01 53 47 USCGS

12. P NEZ 03 00 25.7
i N 27
S NE 44
P:E.

12. P NZ 07 09 25
S E 15 31
i N 40
L E 18 34
L N 19 13
ScS? E 29
3 S.,147 E. Bismarck Sea.
H=07 01 45 USCGS

12. iPZ, PNE 08 25 28.7
iP:N,Compression

12. eP Z 08 55 17.2
e N 09 01 22
(cont.)

Date Phase Comp. Time(GMT)
continued h m s
eL? E 09 04 46
e(L?) N 05 21

12. P NEZ 09 26 48.8
i N 27 03
P:Dilatation

12. P Z 10 28 42
i NE 42.8

12. P Z 11 33 16.7
i E 21.7
e N 40 01
S E 19
SS NE 43 40
L E 45 24
L E 47 31

P:Compression
Mag. 6 $\frac{1}{4}$ (Matsushiro)
9 $\frac{1}{2}$ S.,156 E. Coral Sea.
H=11 24 27 USCGS

12. eP Z 14 48 13
5 S.,152 $\frac{1}{2}$ E. New Britain.
H=14 40 10 USCGS

12. P NEZ 21 28 58
i EZ 29 45
i N 50
eS E 36 12
esS N 37 34
36 N.,71 E. Hindu Kush.
h:200 km ca.
H=21 19 57 USCGS

12. P NEZ 23 19 33.4
P:S,E,Compression

12. iP Z 23 42 35.9
S Z 53
i NZ 57
iP:Dilatation

12. eP Z 23 52 16
e N 58 24
eL E 00 01 44

13. P NZ 04 04 15.0
P:S,Dilatation
6 $\frac{1}{2}$ S.,130 E. Banda Sea.
H=03 56 11 USCGS

13. P NZ 04 45 42.6
S E 51 51
e N 55
L NE 55 24

P:Compression
3 $\frac{1}{2}$ S.,146 $\frac{1}{2}$ E. Bismarck Sea.
H=04 38 05 USCGS

Date	Phase	Comp.	Time (GMT)			Date	Phase	Comp.	Time (GMT)		
			h	m	s				h	m	s
13.	P	Z	09	42	24.7	14.	iPN,PEZ		02	32	16.6
	S	NZ			45		i	N			19
	P:Compression						S	NEZ			31
13.	iP	NZ	09	43	23.9		iP:S.				
	iS	NEZ			43.9		35.6 N., 139.1 E. Yamanashi - Kanagawa Pref. border, Japan. h:10 km. J.M.A.				
	iP:S,Dilatation					14.	iP	NZ	02	48	03.2
13.	iP	NZ	12	22	56.1		S	NE			18.3
	i	N		23	02.2		iP:S,Compression				
	i	Z			06.2	14.	e	N	06	24	02
	S	N			19.2		e	E		27	09
	i	Z			21		iP:S,Compression				
	iP:S,Compression					14.	P	Z	08	47	45
13.	Pn	NZ	12	45	06.4		i	E			46.0
	Pg	NZ			08.5		Northern Mariana Is. H=08 42 56 USCGS				
	Sn	E			34	14.	eP	Z	09	46	50
	Sg	NEZ			37		e	E	10	14	46 ca.
	P:S,Dilatation						e	N		20	35
13.	P	NZ	16	52	35.0		eL	N		23	35
	i	N			54		45 N., 111 W. Yellowstone aftershock. H=09 34 52 USCGS				
	S	NZ			53 00	14.	P	Z	13	27	24.9
13.	P	Z	19	24	45		S	E			36 56
	i	Z			51		i	N			37 23
	L	NE		42	38		eSS	E			41 45
	L	E			46		LqEorG				46 27
	39 1/2 N., 74 1/2 E. Kirghiz, S.S.R. - China border. H=19 15 52 USCGS						i	N			33
							L	Z			48 33
13.	P	Z	21	34	00		Lr	E			50 40
	i	Z			02		P:Dilatation				
	S	N			19		Mag. 6 1/2 (Matsushiro)				
	i	E			22		24 S., 176 1/2 W. Tonga Is. region. H=13 15 49 USCGS				
13.	iP	Z	22	47	44.1	14.	iP	NZ	14	21	35.4
	i	NZ			46.0		i	NEZ			36.5
	i	N			47.3		i	Z			53
	iPP	N		49	08		i	E		24	30
	i	Z			10		PP	Z			47
	S	NE		53	25		i	E			25 10
	SS	NE		56	16		i	E			26 17
	eScSorLNE			58	10		i	Z			28 35
	Lr	E		59	56		e	E			30 48
	iP:Compression						S	E	14	31	31.7
	Mag. 5 3/4 - 6 (Matsushiro)						i	Z			50
	1 N., 129 E. Halmahera Is. region. H=22 40 36 USCGS						e	Z			46 38
							L	E			47 07
14.	P	Z	01	40	34		Lr	Z			25
	e	E		49	08		ePKPPKP	N			49 10
	e	N		56	25		L	E			52 08
	L	E		58	05		L	E			55 48
	eL	N			43		iP:N,Compression				
	L	N	02	02	06						
	eL	N		05	13						

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
			Mag. 7 3/4 - 8 (Matsushiro)		
			28 1/2 S., 177 W. Kermadec Is.		
			H=14 09 39 USCGS		
14.	iP	NEZ	15	04	37.7
	S	N		05	08
	iP:S,E.				
14.	P	Z	15	10	37.7
	i	NE		17	38.4
	i	Z		19	03
	P:Compression				
	28 1/2 S., 176 1/2 W. Kermadec Is.				
	H=14 58 40 USCGS				
14.	eP	Z	16	00	51
14.	P	Z	16	08	02
	P:Dilatation				
14.	eP	Z	16	33	59
	28 1/2 S., 176 1/2 W. Kermadec Is.				
	H=16 22 01 USCGS				
14.	P	EZ	16	52	31
	i	E		52	32.6
	eS	N		53	55
	P:S,W,Compression				
	42.6 N., 143.0 E.				
	Hokkaido, Japan. J.M.A.				
14.	eP	Z	17	08	12
	i	E			20
	29 S., 176 1/2 W. Kermadec Is.				
	H=16 56 13 USCGS				
14.	iP	NEZ	17	18	12.1
	S	E		27	55
	L	Z		41	30
	L	E		43	07
	L	Z		44	00
	iP:N,W,Compression				
	Mag. 6 1/2 - 6 3/4 (Matsushiro)				
	29 S., 176 1/2 W. Kermadec aftershock.				
	H=17 06 15 USCGS				
14.	P	NEZ	17	25	48
	P:S,W,Compression				
14.	P	NEZ	17	49	55
	P:Dilatation				
14.	P	Z	19	21	36
	i	E			45
	P:Compression				
14.	eP	Z	19	47	00
14.	P	Z	20	39	08
	28 1/2 S., 176 1/2 W. Kermadec Is.				
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
			H=20 27 10 USCGS		
14.	iP	NEZ	22	35	50.5
	S	E		45	35
	SS	N		50	56
	eLq	E		55	55
	L	E		59	38
	eL	Z	23	00	36
	iP:N?,W,Compression				
	Mag. 6 1/2 (Matsushiro)				
	29 S., 177 W. Kermadec aftershock.				
	H=22 23 53 USCGS				
15.	iP	EZ	03	45	01.6
	iN(S?)				36
	i	NE			44
	iP:Dilatation				
15.	P	NZ	06	10	08.0
	i	E			19
	P:N,Dilatation				
15.	P	Z	06	11	35.9
	i	NEZ			38
	i	NEZ			39
	eS	E		21	26
	eSS	N		26	35
	L	E		32	05
	L	Z		35	47
	L	E		37	02
	Lr	Z			15
	P:Dilatation				
	Mag. 7 1/4 - 7 1/2 (Matsushiro)				
	28 1/2 S., 177 W. Kermadec aftershock.				
	H=05 59 42 USCGS				
15.	P	Z	06	15	31.0
	i	E			33.0
15.	P	Z	06	20	32
	i	Z			39
	e	Z			21 45
	28 1/2 S., 176 1/2 W. Kermadec Is.				
	H=06 08 35 USCGS				
15.	P	EZ	06	29	27
	i	E			31
	28 1/2 S., 176 1/2 W. Kermadec Is.				
	H=06 17 28 USCGS				
15.	iP	Z	06	52	55.0
	i	NZ		53	05
	i	E			07
	iP:W,Compression				
15.	P	N	08	12	19
	i	NZ			21
	28 1/2 S., 177 W. Kermadec Is.				
	H=08 00 23 USCGS				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
15.	P	Z	11	00	41
	e	EZ			51
	i	N			53
	29 S., 177 W. Kermadec Is. H=10 48 44				
	USCGS				

15.	iP	NEZ	11	15	53.2
	i	NEZ			54.2
	pP	Z		17	54
	i	Z		18	00
	PP	Z			39
	iS	N		24	22
	iScS	N		25	08
	sSP	N		28	00
	sSS	N		32	18
	eL	E		37	48
	PKPKP	Z		43	37
	ePKP2PKP3NE				44
	e	Z		45	49
	iP:E?, Dilatation Mag. $6\frac{1}{2}$ - $6\frac{3}{4}$ (Matsushiro) $21\frac{1}{2}$ S., $179\frac{1}{2}$ W. Fiji Is. region. h: 600 km ca. H=11 05 33				
	USCGS				

15.	iP	NZ	12	12	17.9
	i	E			19.0
	i	NE			27
	e	E		13	05
	e	N		19	49
	eS	E		22	22
	iP:N, Compression $28\frac{1}{2}$ S., $176\frac{1}{2}$ W. Kermadec Is. H=12 00 20				
	USCGS				

15.	P	NEZ	12	20	49.9
	i	EZ		21	00.7
	i	N			05.7
	P:Dilatation				

15.	P	NZ	13	27	19
	e	E			29

15.	iP	Z	13	44	49.6
	i	Z			59
	iP:Compression				

15.	P	NE	13	58	15.8
	i	E			16.3
	e	E	14	09	04
	eSS	N		13	19
	eL	E		18	84
	eL	N		23	14 ca.
	P:N, Compression 29 S., 177 W.				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
Kermadec Is.					
H=13 46 17					
USCGS					

15.	P	N	14	15	36.6
	i	Z			37.0
	P:N.				

15.	iP	NEZ	15	10	42.5
	S	NE			12 29
	iP:S,W, Compression 43.8 N., 146.8 E. Kurile Is. h: 80 km. H=15 08 16				
	USCGS				

15.	eP	Z	19	48	09
-----	----	---	----	----	----

15.	P	EZ	22	46	43
	e	Z			49
	i	N			54
	eS	N		55	44 ca.
	29 S., $176\frac{1}{2}$ W. Kermadec Is. H=22 34 42				
	USCGS				

15.	P	EZ	23	13	42
	i	N			44
	S	NE		14	19

15.	iP	NEZ	23	30	37.0
	i	N			38.2
	S	N			54.0
	iP:S,W, Dilatation				

16.	P	NEZ	01	40	38
-----	---	-----	----	----	----

16.	P	Z	02	15	34
	e	E			31 13 ca.
	29 S., $176\frac{1}{2}$ W. Kermadec Is. H=02 03 34				
	USCGS				

16.	P	EZ	02	47	59
	i	N			48 01
	i	E			07
	e	N			56 43
	eS	N			58 07 ca.
	e	NE	03	08	47 ca.
	eL	E			12 32
	eL	N			19 15
	Mag. $5\frac{3}{4}$ - 6 (Matsushiro) 29 S., $176\frac{1}{2}$ W. Kermadec Is. H=02 35 59				
	USCGS				

16.	P	NEZ	03	05	57
	P:Dilatation				

(cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
16.	P	NEZ	05	26	26.7
	P:S,E,Compression 35½ N.,26 E. Near coast of Crete. H=05 13 50 USCGS				
16.	iPZ,PNE		10	19	45.7
	eS	N		29	42 ca.
	eL	N		40	51
	eL	E		44	48
	eL	N		50	48
	iP:Dilatation Mag. 5 3/4 - 6 (Matsushiro) 29 S.,176½ W. Kermadec Is. H=10 07 45 USCGS				
16.	iP	Z	16	09	02.2
	i	NE			03
	S	NE		18	53
	SS	E		23	57
	L	E		29	33
	L	N			46
	Lr	Z		34	32
	iP:Compression Mag. 6 - 6½ (Matsushiro) 28½ S.,176 W. Kermadec Is. H=15 57 03 USCGS				
16.	eP	Z	17	16	56
	i	Z		17	06
16.	iP	NEZ	20	15	18.6
	eS	N			53
	iP:N,E,Dilatation				
16.	PNZ,ePE		20	38	34
	eS	N		39	01
	P:S,Dilatation				
16.	iP	EZ	21	10	33.1
	i	N			33.4
	eS	NE			55
	iP:W,Compression				
17.	iP	Z	00	32	48.6
	i	E			49.0
	iP:Compression				
17.	P	NZ	03	24	34
	i	Z			51
	i	N		25	08
	eS?	N			17
	P:N.				
17.	P	Z	07	22	27
	eL	N		47	36
	eL	N		53	29

Date	Phase	Comp.	Time(GMT)		
			h	m	s
17.	eP	Z	14	19	54
	28½ S.,176 W. Kermadec Is. H=14 07 54 USCGS				
17.	P	Z	14	48	09
	eS	N		57	58
	i	E		58	39
	L	E	15	14	40
	Mag. 5 3/4 - 6 (Matsushiro) 28½ S.,176 W. Kermadec Is. H=14 36 11 USCGS				
17.	eP	Z	15	03	39
	e	N			50
	28½ S.,176½ W. Kermadec Is. H=14 51 40 USCGS				
18.	P	Z	07	58	41.0
	i	E			51
	eS	N			59
	P:Compression				
18.	e	E	09	02	19
	eL	E		05	00
18.	PZ,ePE		09	36	33
	i	E			45
	e	E	10	23	03 ca.
	28½ S.,176½ W. Kermadec Is. H=09 24 35 USCGS				
18.	ePKP	E	12	21	27
	i	N			35
	e	E		34	23
	e	N		38	30
	e	E		44	40
	e	NE			53
	eSSS	N		51	07
	e	E		52	33
	e	E	13	01	08
	L	E		06	42
	L	N		19	39
	Mag. 6½ (Matsushiro) 57½ S.,24 W. Sandwich Is. H=12 01 11 USCGS				
18.	P	Z	18	02	38
	i	Z			59.9
	i	N		03	03
	i	E			05
	S	Z			10
18.	P	Z	18	03	24
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued	eS	EZ	18	03	31
	i	Z			34
	P:Dilatation				
18.	P	Z	19	59	10
	eS	NE			24
	P:Dilatation				
18.	P	Z	20	13	46
	e	E		15	42
	i	N			46
	32.9 N., 130.9 E. Southern part of Kumamoto Pref., Japan. J.M.A.				
19.	P	EZ	00	07	53
	i	N		08	06
	S	N		08	21
19.	iP	NEZ	04	12	01.9
	i	Z			04
	i	N			10
	S	E			49
	i	N			51
	i	N			57
	eE(1.7)		16	04	
	iP:N,E,Dilatation Mag. 5.0 (Matsushiro) 38.4 N., 142.0 E. Near east coast of Honshu, Japan. J.M.A.				
19.	iP	EZ	04	45	01.4
	S	E			29
	iP:E,Dilatation				
19.	eP	Z	11	57	07
	e	N	12	05	49
	e	N	16	14	
19.	eP	Z	16	13	36
	e	N		42	02
	e	E		43	53
20.	iP	NEZ	05	52	12
	S	NE			28
20.	eP	Z	06	10	54
20.	eE(ScrSKKS?)		06	34	35
	iE(PS?)			37	17
	eSS	E		43	03
	eL	E		59	32
	eL	Z	07	01	25
	Mag. 5 3/4 - 6 (Matsushiro) 13 1/2 S., 111 1/2 W. Pacific Ocean, north of Easter Is. H=06 07 59 USCGS				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
20.	iP	NEZ	08	19	25.7
	i	E			31
	S?	E			46
	i	E			49
	iP:S,E,Dilatation				
20.	P	Z	09	00	15.9
	S	E		01	06
	i	NZ			06
	i	NE			32
	P:Compression				
21.	P	Z	00	18	29.3
	i	E			30.1
	i	NZ			36.2
	S	NE	19		03.1
21.	iPNZ,PE		02	17	01.4
	i	E			02.4
	i	E			44.1
	i	E			59.0
	PP	N	18		40.4
	i	Z			52
	PPP	E	19		19.3
	iS	NEZ	25		53.1
	i	E	24		19
	i	N			22
	i	N	27		28
	L	N	31		08
	iP:S,E,Dilatation Mag. 5 1/2 (Matsushiro) 9 1/2 S., 149 E. Near coast of New Guinea. H=02 08 28 USCGS				
21.	iP	Z	03	01	25.1
	i	NE			25.6
	S	Z			28.6
	iP:Compression				
21.	iP	NZ	03	02	19.1
	i	E			19.3
21.	iP	EZ	03	02	22.3
	S	E			36.6
	i	Z			44.1
	iP:E.				
21.	P	NE	05	29	53.2
	i	E			54.4
	i	E		30	10.9
	S	N		31	07.4
	i	E			08.7
21.	iP	NE	06	58	37.3
	iS	E		59	14.3
	i	N			15.4
	iP:Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
21.	i	NZ	11	25	52.8
	e	N		32	49
	e	N		34	58
	eL	E		35	15
	eL	N		46	21
		E			25

21.	iP	E	11	32	27.7
	i	NZ			28.0
	i	E			42.1
	i	N			43.2
	i	E		33	09.9
	iP:E.				

21.	P	Z	12	28	21
	i	Z			23.4
	L	NE		46	15

40 N., 74½ E.
Kirghiz S.S.R. - China border.
H=12 19 30
USCGS

21.	P	NEZ	12	51	19.0
	i	N		52	01.3
	i	E			02.1

21.	iP	Z	13	18	27.8
	i	Z			29.1
	i	NE			29.3
	i	E			39.5
	eS	N		26	09
	L	N		29	31
	L	E		30	21
	iP:Compression				

10 S., 120 E.
Sumba I.
H=13 09 36
USCGS

21.	P	Z	16	18	07
	i	N			07.9
	i	Z			09.9
	i	EZ			12.9
	i	E			25.7

21.	iPZ,PNE		16	24	44.0
	eS	E		31	29
	eL	N		55	05
	L	NE		36	17

62½ N., 159 W.
Southwestern Alaska.
H=16 16 19
USCGS

22.	iP	NEZ	03	10	13.6
	iS	NE			35.3
	iP:S,E,Dilatation				

22.	P	E	04	56	04.2
	i	NZ			04.9

(cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
21.	i	E	04	56	22.9
	S	EZ			29
	i	N			31
	i	N			45

22.	P	Z	07	53	48.6
	i	Z			54 02.4
	e	E	08	05	35
	L	N		04	57

P:Compression
Fox Is., Aleutian Is.
H=07 45 55
USCGS

23.	iP	NEZ	02	27	40.2
	i	E			49.4
	iS	NE			50.2
	iP:N,E,Compression				

23.	iP	NZ	06	58	47.9
	iS	N			54.3
	i	NE			54.7
	iP:N,Dilatation				

23.	e	NE	07	29	18
-----	---	----	----	----	----

23.	eP	Z	10	47	45
	eS	N			54 44
	eL	E	11	05	30
	eL	N			06 03

83½ N., 113½ E.
North Polar region.
H=10 38 39
USCGS

23.	iP	Z	10	55	22.1
	i	NE			22.6
	iS	E			56.4
	i	NE			59.6
	i	NE		56	05.4

iP:Dilatation

23.	eP	Z	14	28	13
	e	N		32	48

23.	iP	NEZ	22	23	28.8
	S	E			42

iP:N,E,Compression
Mag. 5.7 (Matsushiro)
35.5 N., 138.3 E.
Western part of Yamanashi
Pref., Japan. J.M.A.
h:30 km ca:

23.	iP	NEZ	22	30	57.1
	S	NE		31	10

23.	eP	NE	22	37	49
	iS	NE		38	01.5

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)			
			h	m	s				continued	h	m	s
23.	i	E	22	48	21.8	continued	i	N	15	51	11.6	
	i	N			30.1		iS	NE			12.7	
	i	NE			31.2							
23.	i	N	22	49	23.8	24.	iP	NZ	19	56	29.8	
	i	NE			35.5		i	E			31.1	
23.	iP	N	22	53	03.9	iP:Dilatation 29 $\frac{1}{2}$ S., 176 $\frac{1}{2}$ W. Kermadec Is. H=19 44 29						USCGS
	i	E			04.2	25.	eP	Z	00	23	33.8	
	iS	E			17.2		e	NE			34.5	
	iP:N.						i	Z			36.1	
					i		E			37.5		
24.	iP	N	02	41	23.0	eL	NE			35.7		
	i	E			23.4	9 S., 115 $\frac{1}{2}$ E. Off east coast of Java. H=00 14 30						USCGS
	iS	N			35	25.	P	Z	01	51	07.0	
	iP:N.						i	Z			13.6	
					eL		E	02	16	41		
					29 S., 177 W. Kermadec Is. H=01 39 09						USCGS	
24.	P	NE	02	55	09.7	25.	P	NEZ	02	41	30.2	
	i	E			19.0		i	NEZ			32.1	
	i	N			41.6		S	E			45	21.4
	i	N			44.6		i	NEZ			22.8	
24.	i	E			47.7	i	N			23.4		
	iP	NEZ	03	37	26.8	L	N			46	12	
	iS	E			29.2	i	E			48	57	
	iP:S, Compression					i	Z			49	02	
24.	P	NE	04	00	43.4	i	N			08	08	
	i	Z			59.7	i	N			50	45	
	S?	NE	01	01		i	E			52	28	
	i	Z			03.5	i	N			52	28	
	P:S.					i	E			29		
24.	iP	NEZ	04	47	49.6	P:E, Compression Mag. 6 3/4 (Matsushiro) 22 N., 122 E. Near east coast of Formosa. H=02 36 48						USCGS
	iS	NE		48	12.3	25.	iP	Z	03	05	59.8	
	i	E			13.5		25.	eP	Z	07	30	54
	iP:W, Dilatation							25.	iP	NEZ	08	14
					S?				E			21.4
24.	e	E	06	11	03	i			N			21.9
	e	N			11	i	E				24.5	
	e	E		14	27	i	Z			25		
	e	N		16	33	iP:N, E.						
						25.	iP	NEZ	08	47	11.2	
24.	iP	NZ	07	39	43.7		(cont.)					
	i	E			44.0							
	iS	E			56.4							
	iP:Compression											
24.	e	NE	10	02	09							
24.	iP	Z	13	13	00.9							
	i	E			01.4							
	i	E			13.9							
	i	Z			14.2							
	S	NE			48.0							
24.	iP	NZ	15	50	54.9							
					(cont.)							

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued	S	E	08	47	32.7
	i	E			35.2
	i	N			35.7
	i	E			53.9
	iP:Compression				
25.	iP	Z	18	14	01.3
	i	E			01.9
	i	N			04.2
	iS	E			29.9
	i	E			35.3
	iP:Dilatation				
25.	iP	NEZ	19	22	16.2
	iP:S,W,Compression				
25.	P	Z	23	46	52.5
	i	Z			53.8
26.	P	Z	08	31	58.7
	i	NE			59.8
	i	Z			03.4
	P:Dilatation				
	43½ N., 128½ W.				
	Off coast of Oregon.				
	H=08 20 51 USCGS				
26.	PKP1	Z	10	38	01.8
	i	Z			03.0
26.	iP	NEZ	16	38	20.2
	S	NE			24.
	iP:N.				
26.	P	E	19	11	08.7
	i	E			09.9
26.	iP	NEZ	20	50	49.5
	iP:N,Compression				
27.	iP	E	00	23	26.9
	iP:W.				
27.	iP	E	10	28	22.3
	i	N			22.5
	i	Z			22.9
	5½ S., 129½ E.				
	Banda Sea.				
	H=10 20 18 USCGS				
27.	iP	NEZ	16	34	04.3
	i	E			21.2
	S	NEZ			25.7
	i	Z			33.1
	iP:N,E,Dilatation				
27.	iP	NEZ	16	39	35.0
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued	i	E	16	39	52.3
	iS	NE			54
	iP:N,E,Dilatation				
27.	iP	NEZ	21	06	54.2
	S	Z			07 03
	i	Z			04.3
	iP:N,E,Compression				
27.	iP	NEZ	23	39	21.5
	i	E			29.7
	i	Z			31.1
	iS	NE			32
	iP:N,E,Compression				
28.	iP	NEZ	01	09	04.2
	S	E			13.9
	i	N			14.1
	iP:Compression				
28.	eP	Z	01	21	03
28.	eP	Z	03	44	23
	e	NE			48.7
28.	P	Z	04	23	43.0
	i	E			49.2
	i	EZ			24 03.4
	i	Z			05
	eS	E			25 58
	e	N			26 09
	L	N			27 52
	L	E			28 01
	26½ N., 128 E.				
	Okinawa Is.				
	H=04 20 27 USCGS				
28.	P	EZ	08	19	51.8
	i	Z			53.7
	i	NEZ			20 03.4
28.	P	NEZ	08	39	48.7
	i	Z			40 01.2
	i	E			14.9
28.	iP	EZ	13	58	59.6
	i	N			59 00.3
	i	EZ			16.4
	i	E			21.9
	iP:E,Compression				
28.	iP	Z	18	18	05.2
	i	NE			05.4
	i	NE			19.4
	iS	NE			20.7
	iP:Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
28.	iP	EZ	20	24	18.9
	i	N			19.2
	iS	NE			41.6
	iP:E,Dilatation				
29.	iP	EZ	02	07	47.2
	i	N			47.5
	i	N			53.5
	i	E			54.2
iP:W,Compression					
29.	eP	NEZ	02	49	35
	e	N	03	08	43
29.	eP	NEZ	05	58	27
	e	NE	06	46	13
29.	iP	NEZ	10	48	21.7
	i	NE			32.7
	iS	NE			47.7
	iP:S,E,Dilatation				
29.	iP	NEZ	13	13	09.5
	i	E			26
iP:N,E,Compression					
29.	iP	NZ	14	03	53.0
	i	E			53.4
	i	N		04	43.9
	i	E			44.1
	e	E		16	23
	e	N			39
	iP:Compression				
29.	iP	Z	14	11	11.7
	i	E			14.5
	i	N			15.7
	i	E			39.5
	S	NE			47.5
iP:Compression					
29.	iP	NEZ	14	41	09.2
	S	NE			14
iP:N,E,Compression					
29.	iP	NEZ	14	54	52.7
	i	E		55	05.0
	i	E			11.1
	S	N			16
iP:S,E,Dilatation					
29.	P	Z	15	43	55.4
	i	E			57.1
	i	N			59.2
	pP	NE		44	15.4
	sP	EZ			40
	PP	Z		46	25
	i	NE		53	05
(cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
29.	S	NE	15	53	49
	i	NE			52
	ScS	NE			54 25
	i	NE			31
29.	i	EZ			53
	L	N	16	03	45
29.	L	E			04 31
	Mag. $6\frac{1}{2}$ - $6\frac{3}{4}$ (Matsushiro)				
29 S., $176\frac{1}{2}$ W.					
Kermadec Is.					
H=15 31 57					
USCGS					
29.	P	Z	15	53	20.0
	29 S., 176 W.				
Kermadec Is.					
H=15 41 21					
USCGS					
29.	P	Z	16	25	50
	i	Z			59.7
Kermadec Is.					
H=16 13 53					
USCGS					
29.	iP	N	17	19	47.7
	i	EZ			52.9
	i	EZ			58.0
	i	E		20	14.7
	i	Z			18.0
	i	E			18.5
29.	i	N			18.7
	29 S., $176\frac{1}{2}$ W.				
Kermadec Is.					
H=17 07 50					
USCGS					
29.	eP	Z	17	50	22
	i	Z			44.4
	i	E			47.1
29 S., $176\frac{1}{2}$ W.					
Kermadec Is.					
H=17 38 19					
USCGS					
29.	P	NZ	18	13	31.2
	i	E			32.0
	iS	NEZ			53.9
	i	NE		14	04.7
29.	iP	NEZ	18	56	39.7
	i	NE			50.7
	i	NE		57	01.9
	iS	NEZ			13.9
	i	E			15.5
iP:N,Compression					
30.	eP	Z	03	32	58
	i	Z		33	08.6
	i	E			16.9
	i	N			29.9
	eL	N		35	31
	eL	E			45
(cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
27 N., 125 E. Ryukyu Is. H=03 30 05					
USCGS					
30.	i	Z	04	54	55.3
	eL	N	05	13	53
	eL	E	14	03	
30.	iP	Z	05	08	17.9
	i	N			19.0
	i	E			19.4
	i	Z			28.9
	eL	E	28	59	
	i	E	36	01	
	eL	N	37	29	
iP:Compression 28½ S., 176½ W. Kermadec Is. H=04 56 21					
USCGS					
30.	iP	NE	08	29	31.8
	i	E			32.0
	i	E			34.6
	i	E			44.9
	i	E			47.7
	i	N			49.8
iP:Compression					
30.	iPEZ,PN		09	32	14.0
	S	N			34.1
	i	Z			34.3
	i	E			34.9
iP:N,E,Dilatation					
30.	e	N	10	29	36
30.	P	NEZ	13	43	28.8
	i	Z			39.8
	i	E			40.3
	i	N			41.8
	S	N	53	28	
	SS	N	58	35	
	eL	E	14	08	05
P:S,W,Compression 29 S., 176½ W. Kermadec Is. H=13 31 30					
USCGS					
30.	P	Z	15	05	22.8
	i	Z			41.2
	i	EZ			46.0
	e	N	14	06	
	e	N	15	23	
	e	E	16	01	
	eL	N	32	42	
30.	iP	N	16	09	53.4
(cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
16 09 53.6					
10 02.5					
iP:N.					
30.	iPEZ,PN		16	11	18.3
	i	N			28.4
	i	E			42.7
iP:W,Compression					
30.	iP	Z	16	42	24.6
	i	E			26.3
	e	N	53	00	
30.	iP	EZ	17	05	54.9
	S	NE	06	13.2	
	i	N			51.2
iP:E,Dilatation					
30.	iP	NEZ	20	36	17.2
	i	E			17.6
	i	Z			41.9
	i	Z			45.0
	i	Z			54.6
	i	N			55.4
	S	E	44	36	
	i	N			40
	L	E	52	36	
	L	N	53	02	
	ePKPPK	Z	21	05	37
	i	Z	06	08.2	
	W2	N	23	02	31
iP:S,Dilatation Mag. 6 (Matsushiro) 18 S., 168 E. New Hebrides Is. H=20 25 58					
USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
October	1.	iP	00	19	37.3
		iS			53.6
		iP:S,W,Compression			
1.	P	Z	01	58	50.8
	e	NE			51
	iS	E		59	10.6
1.	e	N	02	49	16
1.	iP	Z	03	18	33.0
	e	Z			42
		iP:Compression			
1.	e	N	03	43	49
	e	N			49.3
1.	iP	NZ	07	19	25.3
	i	E			25.8
		iP:N,Dilatation			
1.	e	N	08	43	58
	e	N			46 48
1.	iP	NEZ	12	51	44.2
	iS	NEZ			53
		iP:N,E,Compression			
1.	iP	NEZ	14	41	10.6
	iS	NE			27.6
		iP:N,E,Dilatation			
1.	iP	Z	19	41	56.3
	eS?	E		43	21
	i	E			21.3
	e	N			26
	e	NE			56
		iP:Dilatation			
2.	iP	NZ	02	10	29.8
	S	NZ			48.3
		iP:N,Dilatation			
2.	iP	Z	10	41	28.6
	i	NE			29.8
	S	NEZ			48
	i	Z			49.9
		iP:Dilatation			
		36.2 N., 139.8 E. Honshu, Japan. h:60 km ca. J.M.A.			
2.	iP	NZ	12	16	41.5
	i	E			42.0
	e	N	17	31	
	e	E			33
		iP:S,Dilatation			

Date	Phase	Comp.	Time(GMT)		
			h	m	s
October	2.	e	14	13	43
	2.	e	19	37	49
	2.	e	N	20	18
2.	P	EZ	20	52	28.0
	e	E			38
	eS	E		54	43
	e	N			45
	e	NE			58
3.	P	Z	00	47	17.0
	i	Z		49	21.7
	e	N		53	06
	e	N		55	53
	e	E		56	31
	e	N	01	02	20
	P:Compression				
3.	P	Z	03	32	16.8
	e	E		40	45
		P:Dilatation			
3.	e	E	06	56.0	
3.	iP	NZ	09	13	54.9
	e	E			56
	e	Z		14	20
	eS	N		17	52
	e	E			19.3
		iP:N,Compression 14 1/2 N., 142 E. Mariana Is. region. H=09 08 33 USCGS			
3.	iP	NEZ	12	22	44.6
	S	EZ		23	11
		iP:S,E,Dilatation			
3.	iP	NEZ	20	05	04.1
	e	N		06	19
	eS	N			40
		iP:S,W,Compression 42 N., 146 E. Off coast of Hokkaido, Japan. H=20 02 40 USCGS			
5.	P	NEZ	11	41	27
	i	Z			36.9
	i	Z			43 38.4
	eS?	E			47 12
	e	N			49.9
5.	iP	Z	14	31	46
	i	E			49.6
	e	N		36	15

Date continued	Phase	Comp.	Time(GMT)		
			h	m	s
	e	N	14	38	17
5.	eS	N	18	12	07
	eL	NE		22	39
	e	N		29	17
	e	N		35	55
84 N., 113 E. North Polar region. H=17 56 25 USCGS					
5.	P	Z	18	36	24
	ePP	Z		38	24
	eS	NE		43	28
	L	N		54	53
P:Dilatation Mag. 5 3/4 - 6 (Berk) 83 1/2 N., 112 1/2 E. Arctic Ocean. H=18 27 47 USCGS					
5.	eP	NEZ	20	46	39
	eS	N		57	00
	e	E			07
	eL	NE	21	16	.7
41 N., 20 E. Albania. H=20 34 04 USCGS					
5.	iP	EZ	23	12	07.6
	i	Z			26
iP:W, Compression					
6.	iP	NEZ	05	43	19.2
	iS	Z			22
iP:S, Dilatation					
6.	P	Z	05	51	48
	e	Z		52	17
	pP	E			37
	PcP	Z		53	57
	e	N		54	00
	e	Z		57	32
	eS	NE			36
	e	N	06	00	28
	eScS	N		01	30
	e	N			07.7
P:Compression 1/2 N., 122 1/2 E. Celebes I. h:200 km ca. H=05 44 37 USCGS					
6.	iP	NZ	07	56	33.1
	iS	N			39.1
	i	EZ			39.6
iP:N, Dilatation					
6.	P	Z	12	01	09
	e	N		06	48

Date	Phase	Comp.	Time(GMT)		
			h	m	s
6.	iP	NEZ	12	22	38.1
	iS	NEZ			55.1
iP:S,E,Dilatation					
6.	iPZ,PE		14	03	27.2
	S	NEZ			40.3
6.	P	Z	15	19	19
	e	N			32.1
6.	P	E	17	29	21.6
	i	Z			21.8
	i	Z			36
41.7 N., 142.2 E. Near Hokkaido, Japan. h:60 km ca. J.M.A.					
6.	e	N	21	32	55
6.	iP	NEZ	22	03	36.9
	S	EZ			50
iP:N, Dilatation					
7.	eP	Z	01	40	04 ca.
	i	Z			11.2
	S	Z			57
7.	iP	Z	02	09	48.8
	i	E			49.7
iP:Compression					
7.	P	NEZ	08	43	15
	S	NE			53 48
	eLq	E	09		11.6
	eLq	N			12.8
	eLr	NEZ			23.7
P:S,E,Compression 41 N., 20 E. Albania. H=08 30 41 USCGS					
7.	iP	Z	16	57	36.8
	i	E			37.1
	i	Z			43.9
iP:Compression					
7.	iP	NZ	19	03	59.3
	i	E			59.6
	S	Z		04	21
iP:S, Dilatation					
7.	iP	NEZ	20	59	24.2
	iS	NE			37.3
iP:N,W,Compression 35.6 N., 138.3 E. Honshu, Japan. h:10 km ca. J.M.A.					

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s	continued			h	m	s
7.	iP S	NEZ Z	21	15	43.8 56		e e	E N	23	29	07 37
	iP:N,Compression						iP:Dilatation				
8.	iP i eS eL	NZ E N E	00	13	56.6 57.1 22.3 29.8	9.	eP e e	NEZ NE Z NE	00	22	58 29 36 01
	ePKPPKP1 Z ePKPPKP2 Z iP:N,Compression 19 S.,169 E. New Hebrides Is. H=00 03 28						USCGS				
8.	iP i eS L	NEZ Z NE N	02	42	49.2 59.2 47 55	9.	eP eS eL	Z N N	11	15	37 38 23.6
	iP:N,E,Dilatation 52 1/2 N.,171 W. Fox Is. H=02 35 20						USCGS				
8.	iP e	NEZ N	03	09	00.1 12 09	9.	iP S	NEZ NEZ	13	02	07.7 27.2
	iP:S,E,Dilatation						iP:S,E,Compression				
8.	iP eS	Z NEZ	03	21	06.3 26	9.	P e e	Z E Z	23	23	54 51 06
	iP:Compression						P:Compression				
8.	iP i i e eL	Z EZ Z N N	07	57	46.2 11 13 24 03 09	10.	iP i e i	NZ E EZ Z	02	10	11.3 11.7 16 01.4
	iP:Dilatation						iP:N,Compression				
8.	iP i i	Z NE N	09	10	40.2 40.6 48.9	10.	P eP e eL	NEZ Z E	02	14	49 39 15 31
	iP:Compression						iP:E,Dilatation				
8.	iP S	Z NE	13	37	46.1 48	10.	P e	NZ E	18	24	09.9 22
	iP:N,E,Dilatation						iP:S,W,Compression				
8.	eP eS eLq	Z N E	14	19	52 54 26 38	10.	iP e e	EZ N E	19	11	25.5 43 52
	52 1/2 N.,107 E. Lake Baikal. H=14 14 10						USCGS				
8.	e	N	20	23	18 ca.	10.	iP S	NEZ Z	21	52	32.4 35.0
							iP:S,W,Compression				
8.	iP	Z	23	27	35.0 (cont.)	11.	e eL	NE N	01	18	19 26

Date	Phase	Comp.	Time(GMT)		
			h	m	s
11.	e	N	03	14	19 ca.
11.	P	Z	05	28	34
	i	NEZ			40.6
	S?	EZ		29	21.4
11.	e	N	06	59	19 ca.
X 11.	iP	NEZ	09	35	19.8
	i	E			32.0
	i	NZ			33.5
	S?	NEZ		36	25
	i	N			40.5
	i	E			58
	iP:S,Compression 41½ N.,142 E. Near coast of northern Honshu, Japan. H=09 33 44 USCGS				
11.	P	Z	09	47	01
	i	NE		48	13.0
	i	Z			17.5
	e	N	10	07	48
	L	E		10	42
	L	N		12	42
11.	P	Z	18	02	21
	i	NE			32.4
	e	N		23	31 ca.
	e	E		27	35 ca.
	28½ S.,176½ W. Kermadec Is. H=17 50 22 USCGS				
11.	iPZ,PE		20	15	22.9
	i	N			23.5
	i	Z			29.7
	i	N			32.4
	eS	N		17	33
	eL	E		21	54 ca.
	eL	N		24	14
	iP:Compression				
X 12.	iPZ,PNE		03	30	53.0
	i	Z			53.7
	i	NEZ			55
	i	E		31	09.8
	pP	NEZ			11
	PP	N		32	51
	i	N		34	14
	i	Z			15
	S	NE		38	06
	sS	NE			38
	sSS	E		42	19
	sSS	N			24
	L	E	03	47	00
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	L	N	03	47	04
	L	Z			09
	L2	N		51	14
	iP:Compression Mag. 6¼ (Matsushiro) 2 N.,98½ E. Near coast of Sumatra. H=03 21 52 USCGS				
X 12.	iP	EZ	04	03	23.1
	i	N			37.3
	i	NZ			55.3
	iP:N,E,Dilatation				
12.	iP	NEZ	08	16	17.5
	i	Z		17	02.0
	i	N			15.0
	iP:S,W,Compression				
12.	iP	NEZ	08	48	48.4
	i	N		49	24.0
	i	N			38.0
	iP:N,W,Compression				
12.	iP	NEZ	09	59	30.1
	i	E			31.1
	i	NZ			31.4
	S	N	10	00	00.6
	i	Z			07.6
	iP:E,Dilatation 36.5 N.,141.3 E. Near coast of Honshu, Japan. h:40 km ca. J.M.A.				
12.	iPZ,PE		13	14	46.2
	i	NZ		15	17
12.	iP	Z	14	11	35.9
	i	N			36.8
	iS	N		12	47.9
	iP:Dilatation				
12.	iPZ,PNE		17	14	44.0
	iS	NE		15	43.2
	iP:Dilatation				
12.	iP	Z	19	22	48.5
	i	NZ		23	13.2
	e	E		41	39
	e	N		43	33
	eL	N		55	31
	iP:Dilatation				
12.	P	NEZ	21	03	42
	S	NE		04	17
	i	Z			18
12.	PEZ,ePN		23	31	01

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
1	E		06	29	16.3
1	N				17.3
1	Z				33.3
1	Z		32	15	
SS	N				19.3
1	E				23.3
L	E		34	24	
L	N		35	00	
L	Z				10

iP:N,E,Compression
 Mag. 7 $\frac{1}{4}$ (Matsushiro)
 $\frac{1}{2}$ N., 120 $\frac{1}{2}$ E.
 Celebes.
 H=06 15 32 USCGS

15.	iP	Z	07	15	16.7
	i	N			17
	i	N			18.3
	i	E			53.3
	S	N	16	01.0	
	i	NE			01.3

iP:Compression

15.	iP	Z	07	43	13.0
	i	NZ			13.3
	S	NE	45	16	

iP:Dilatation
 44 N., 148 E.
 Kurile Is.
 H=07 40 20 USCGS

15.	P	Z	07	52	36
15.	iP	NZ	14	37	46.8
	iS	NZ	38	05.3	

iP:N,Compression

15.	P	Z	16	55	37
	S	N	56	11	

15.	iP	NZ	18	46	48.2
	iS	Z			59

iP:S,Compression

16.	iP	NEZ	00	51	50.9
	i	Z			52 06

iP:N,E,Dilatation

16.	iP	NEZ	05	55	13.5
	S	NE			37.7

iP:S,E,Compression

16.	P	Z	07	45	58
	iS	N			46 12.8

16.	iP	Z	08	21	54.3
	i	Z			22 03.0

Date	Phase	Comp.	Time(GMT)		
			h	m	s
16.	P	Z	09	09	57
	i	E			59.3
	eS	N	10	45	
16.	iPZ,PNE		16	22	33.1
	e	N			28 31
	L	NE			31 24

16.	iPZ,PN		17	40	30.3
	e	N			41 07

iP:Dilatation

16.	iPNZ,PE		22	15	07.6
-----	---------	--	----	----	------

iP:S,Dilatation

17.	PNZ,ePE		00	40	49
	i	Z			53.6
	i	NEZ			42 34
	i	N			40

17.	iPZ,PN		02	40	32.7
	i	Z			43

iP:Compression

17.	iP	NEZ	07	24	46.5
	i	Z			47.4
	i	E			26 07
	i	N			11.2

iP:S,Dilatation

17.	iP	NEZ	03	03	10.5
	i	E			18.2
	i	E			28
	i	Z			30.7
	S	N			34.5
	i	Z			41.7

iP:N,E,Dilatation

17.	iPZ,PN		20	37	12.8
	i	E			13.5
	i	Z			16.8
	i	N			26.7

iP:Compression

60 N., 133 $\frac{1}{2}$ W.
 Yukon - British Columbia border.
 H=20 27 35 USCGS

18.	iP	NEZ	02	56	42.4
	i	N			51.0

iP:N,W,Compression

18.	P	Z	05	45	31.0
	i	NEZ			34.7
	i	N			57.2
	i	NE			46 40
	L?	N			47 04
	L?	E			06

Date	Phase	Comp.	Time(GMT)		
			h	m	s
18.	iPNZ,PE		17	11	05.8
	i	Z			07.3
	iP:N,Dilatation 50 $\frac{1}{2}$ N., 156 E. Off south coast of Kamchatka. H=17 06 13 USC GS				
18.	iPEZ,PN		22	28	10.8
	S	NE			13.1
	iP:E.				
18.	P	E	22	50	34
	eS	NE			56
18.	P	NEZ	23	34	17
19.	iP	NEZ	00	59	02.2
	i	Z			03.6
	iS	NEZ			08.8
	iP:S,W.				
19.	iP	NEZ	01	01	33.3
	i	Z			37.7
	iS	NEZ			40.0
	iP:N,Compression				
19.	iP	NE	01	03	38
19.	iP	NEZ	01	55	17.9
	i	Z			19.0
	eS	NE			28
	iP:N,W,Dilatation				
19.	iPZ,PNE		02	08	50.3
	eS	NE			09 12
	iP:Dilatation				
19.	P	NEZ	02	49	25
	eS	N			51 16
	44 $\frac{1}{2}$ N., 148 E. Kurile Is. H=02 46 49 USC GS				
19.	P	NZ	08	39	16
	i	N			17.7
	S?	N			49 29
	e	E			55
	eL	N			59 51
	Mag. 6 $\frac{1}{2}$ (Matsushiro) 27 $\frac{1}{2}$ S., 177 W. Kermadec Is. H=08 27 21 USC GS				
19.	P	Z	09	27	15
	i	NE			18.4
	i	Z			27.0
	28 S., 176 $\frac{1}{2}$ W.				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
Kermadec Is. region. H=09 15 20 USC GS					
19.	iPZ,PNE		10	45	29.2
	i	N			35.0
19.	iPZ,PNE		10	47	46.0
	iP:Dilatation				
19.	P	EZ	10	52	49
	i	N			49.7
	i	N			54.0
19.	iP	NEZ	14	03	00.2
	i	N			10.7
	iP:S,E,Dilatation 22 S., 179 $\frac{1}{2}$ W. Fiji Is. region. h:600 km ca. H=13 52 40 USC GS				
19.	iP	NEZ	15	41	03.2
	iS	EZ			22.2
	i	N			23.2
	iP:S,W,Dilatation				
19.	PKP1	Z	16	15	31
	i	Z			32.2
	i	Z			43.2
	i	E			59.7
	PKP2	EZ			16 12.2
	PP	Z			19 48
	e	E			20 26
	e	E			46 06
	e	N			19
	e	E			48 08
	e	E			55 07
	eL	E	17	00	36 ca.
	Mag. 6 3/4 - 7 (Matsushiro) 54 $\frac{1}{2}$ S., 29 W. Sandwich Is. region. H=15 55 30 USC GS				
19.	iP	Z	16	51	55.7
	iS	N			58 20.9
	iP:S,W,Compression 36.2 N., 141.0 E. Near coast of Honshu, Japan. h:20 km ca. J.M.A.				
19.	P	NEZ	19	57	22
	i	N			32.9
	i	N			59 19
19.	iP	NEZ	20	10	05.5
	iS	Z			07.2
	iP:N,Compression				

(cont.)

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				continued	h	m
19.	iP	EZ	23	28	03.4		i	N	00	40	24.9
	i	N			04.8		S	N	41	41	X
	S?	N			41.7		iP:Compression				
	iP:Compression										
19.	iPZ,PNE		23	46	31.7	23.	e	Z	03	51	48
	eS	N		47	39		e	Z		52	09
20	iPZ,PNE		00	56	00.2	23.	PKP1	Z	06	37	33
	i	N			20		PKP2	Z		38	02
	iP:Compression						i	Z			12
							i	N			13
							pPKP	Z			23
20.	P	Z	07	00	13.5		i	EZ		40	16
	i	E			14.2		20 $\frac{1}{2}$ S., 68 $\frac{1}{2}$ W.				
	i	N			14.7		Chile - Bolivia border.				
	S	N			43		h:200 km ca.				
	P:Dilatation						H=06 17 54 USCGS				
20.	iP	NEZ	03	02	43.8	23.	P	NEZ	14	53	20
	i	Z		03	31.2		i	N			59
	iP:S,W,Compression										
21.	P	NEZ	06	09	57	23.	iP	Z	15	38	22.7
	10 S., 162 E.						i	E			24
	Solomon Is. region.						i	N			39
	H=06 00 51 USCGS						eS	N		39	11
							i	E			47
	iP:Compression										
21.	iP	Z	03	45	08.6	23.	eP?	Z	17	04	55
	i	NE			08.7	X	e	Z		05	27
	i	Z			22.5		e	NE		28	39
	S	EZ			27		33 $\frac{1}{2}$ N., 59 E.				
	iP:Dilatation						Eastern Iran.				
	36.1 N., 140.2 E.						H=16 54 23 USCGS				
	Honshu, Japan. J.M.A.										
21.	eP	Z	20	59	18	24.	P	EZ	07	38	29
	4 S., 154 E.										
	New Ireland region.										
	H=20 51 14 USCGS										
22.	PZ,ePE		19	34	38	24.	iP	Z	08	45	56.3
	e	E			51		i	E			56.5
	52 $\frac{1}{2}$ N., 170 $\frac{1}{2}$ W.						i	N			57.0
	Fox Is.						eS	N		46	24
	H=19 27 08 USCGS						iP:Dilatation				
22.	iP	NZ	21	24	53.8	24.	iP?	Z	11	21	30.1
	i	E			54.4		i	N			30.9
	S	N		25	29		S	NE		22	48
	i	E			30						
	i	Z			31						
	iP:N,Compression					24.	iP	NEZ	23	49	45.2
23.	iPZ,PNE		00	05	44.1	X	PP	N		51	50
	S	NE			55		e	N		52	09
23.	iP	Z	00	40	24.7		eL	NE	00	05.4	
	(cont.)						L	Z		11	35
							(cont.)				

Date continued
 Phase L
 Comp. N
 Time(GMT) 00 12 11
 h m s
 iP:S,E,Compression
 Mag. 5 3/4 - 6 (Matsushiro)
 41 1/2 N., 70 E.
 Kazakh S.S.R.
 H=23 40 34
 USCGS

25. P NEZ 02 24 30
 e E 53
 e E 56
 i N 56.9

25. iP NZ 06 38 28.2
 i E 28.7
 i Z 31.7
 e N 40 03
 S E 04
 i N 08
 iP:N,Compression

+ 25. eP Z 07 06 02

25. P Z 08 15 45.6
 i NE 46.0

25. P NEZ 15 50 20
 S N 40
 e Z 41
 i E 44

+ 25. iPZ,PNE 16 04 49.7
 iS NEZ 05 07.3
 iP:Dilatation

25. P Z 16 09 20
 i NEZ 23
 e N 28 34
 eL E 33 19
 eL N 34 40

Mag. 5 1/2 (Matsushiro)
 39 N., 42 E.
 Eastern Turkey.
 H=15 57 51
 USCGS

25. iP Z 16 47 22.2
 i E 22.7
 S NE 48 17
 iP:Compression

25. eP Z 17 14 40
 e Z 52
 eL E 22 13
 eL N 32

25. iP? Z 17 15 33.4
 i NE 33.9
 i NEZ 39.0
 (cont.)

Date continued
 Phase i
 Comp. E
 Time(GMT) 17 15 56.1
 h m s
 i Z 56.2
 iP:Compression

26. P NEZ 04 43 40

26. iPZ,PE 06 18 42.4
 i Z 43.2
 i N 44.2
 iP:N,Compression

26. iP NEZ 07 27 26.4
 S E 28.8
 iP:S,W,Dilatation

26. iPZ,PN 07 31 59.0
 S NEZ 32 01
 iP:W,Dilatation

26. iP EZ 07 36 09.2
 i N 09.7
 S E 55

iP:W,Compression
 Mag. 6 1/2 (Matsushiro)
 37 1/2 N., 142 1/2 E.
 Near east coast of Honshu,
 Japan.
 h:60 km ca.
 H=07 35 12
 USCGS

26. eP? Z 07 44 59 ca.

26. e Z 07 49 24 ca.

26. eP NZ 09 04 17
 e Z 31

+ 26. iP NEZ 10 33 37.7
 S NEZ 37 22
 i N 38 01
 i Z 07
 e N 39 11
 i E 42
 ScP Z 41 10
 ScS E 44 52

iP:N,E,Dilatation
 Mag. 6 1/2 - 6 3/4 (Matsushiro)
 51 1/2 N., 157 1/2 E.
 Near east coast of Kamchatka.
 h:150 km ca.
 H=10 29 09
 USCGS

26. iPZ,PNE 11 01 41.4
 eS N 02 48

26. P Z 12 18 39
 e Z 55
 (cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	Z	12	19	11
	e	N		22	47
	e	N		27	55
26.	eP	Z	16	00	55
	i	N			56.7
	e	N		01	58
26.	eP	Z	19	09	26
	i	EZ			27
	eS	N		10	13
	i	E			14
27.	iP	Z	02	49	24.6
	i	E			24.9
	i	N			36.8
	eS	N		50	12
	e	N			31
	iP:Compression				
27.	P	Z	06	23	30
	i	Z			48
	S	E		32	44
	SS	E		37	10
	SS	N			16
	eL	NE		40	24
	eL	Z		44	36
	Mag. 5 3/4 (Matsushiro)				
	42 1/2 N., 127 W.				
	Off coast of Oregon.				
	H=06 12 17 USCGS				
27.	iP	NEZ	06	55	57.2
	eS	E		58	29
	L	NE		59	13
	L	E			40
	eW2	E	09	21.5	
	eW2	N			31.0
	eW2	N			44.1
	eW2	E			46.2
	iP:S,W,Compression				
	Mag. 6 1/2 (Matsushiro)				
	45 1/2 N., 151 E.				
	Kurile Is.				
	h:100 km ca.				
	H=06 52 50 USCGS				
27.	iP	EZ	08	00	23.7
	i	N			24.0
	iS	Z			40.8
	iP:W,Compression				
27.	P	Z	08	18	21
	e	E			24
	e	NZ			28
	eS	N		19	20

Date	Phase	Comp.	Time(GMT)		
			h	m	s
27.	iP	NEZ	13	22	06.2
	i	Z			17.9
	e	Z		23	52
	eS	Z		24	27
	e	E			39
	L	N		25	23
	iP:N,E,Dilatation				
	46 N., 151 E.				
	Kurile Is.				
	H=13 18 51 USCGS				
27.	iP	NZ	14	55	48.0
	i	E			48.2
	iSZ,SE			56	09.4
	i	N			10.4
	iP:N,Compression				
27.	iP	Z	22	17	51.6
	i	E			52.1
	i	NEZ			53
	i	EZ	18		02
	i	Z			37
	S	N			41
	iP:Compression				
27.	P	EZ	22	39	56
	i	N			58.3
	i	Z		40	32
	eS	E			41
	P:Dilatation				
28.	iPZ,PNE		03	00	23.0
	i	E			23.2
	i	N			23.3
	iS	Z			38.5
	i	Z			42.7
	iP:W,Dilatation				
28.	P	Z	03	17	55
	i	N			56.0
	i	Z		18	02.3
	P:Compression				
28.	iPZ,PN		05	47	52.3
	e	Z		48	22
	i	N			35
	i	Z			38
	iP:Dilatation				
28.	eP	NZ	08	12	23
	eS	N		16	31
28.	iP	NEZ	09	07	33.6
	eS	N		08	18
	e	N			24
	iP:N,W,Compression				

Date Phase Comp. Time(GMT)
 h m s
 28. PNZ,ePE 09 33 13
 i Z 31
 22 S.,178½ W.
 Fiji Is. region.
 H=09 21 51. USCGS

28. P NEZ 11 33 46
 i Z 34 20
 i E 35 04
 i E 36 19
 eS N 37 08

28. P Z 17 28 34
 i Z 35.0
 iS NEZ 36.6

29. iP Z 03 13 25.4
 e N 44
 e E 48
 e N 59
 iP:Dilatation

29. iP Z 10 10 25.3
 i N 25.5
 i E 25.8
 iS NEZ 53.6
 iP:Dilatation

29. iP NEZ 10 38 34.8
 i Z 45
 i N 46
 i E 47
 i N 40 48
 iS NE 56
 i N 41 22
 L NE 29
 i Z 42 03
 iP:N,E,Dilatation
 46 N.,151 E.
 Kurile Is.
 H=10 35 20 USCGS

29. iP Z 14 31 47.8
 i Z 32 06
 e N 41 52
 eL NE 51 56
 eL Z 52 01
 eL NZ 55 42
 eL E 53
 iP:Dilatation
 Mag. 6¼ - 6½ (Matsushiro)
 29½ S.,176½ W.
 Kermadec Is.
 h:60 km ca.
 H=14 19 51 USCGS

29. iP NEZ 14 32 26.3
 (cont.)

Date Phase Comp. Time(GMT)
 h m s
 continued
 S NEZ 14 34 01
 i E 03
 i Z 04
 ScP Z 40 35
 ScS NE 44 08

iP:N,W,Dilatation
 Mag. 6 ¾ (Matsushiro)
 43 N.,131 E.
 China - Corea border.
 h:550 km ca.
 H=14 30 24 USCGS

29. iPZ,PE 19 50 32.6
 i NEZ 33.5
 iS N 58.3
 i E 51 02.8
 iP:Compression
 35.9 N.,140.5 E.
 Honshu, Japan.
 h:50 km ca. J.M.A.

30. P Z 00 38 22.7
 PP NZ 39 13
 PcP Z 41 38
 S E 45 02
 eLq E 44 08
 Lr Z 45 43
 i N 47 06
 Mag. 5 ¾ - 6 (Matsushiro)
 8½ N.,138 E.
 Caroline Is.
 H=00 32 29 USCGS

30. P NZ 04 06 50
 i E 36
 PcP Z 09 36
 i Z 40
 S N 11 35
 i Z 52
 L E 12 57
 eL E 14 28
 L N 16 31
 66 N.,136½ E.
 Yakutsk, A.S.S.R.
 H=04 00 26 USCGS

30. iP NEZ 05 03 33.1
 S EZ 57.0
 i N 57.7
 iP:N,W,Compression
 35.9 N.,140.6 E.
 Honshu, Japan.
 h:40 km ca. J.M.A.

30. PKP1 Z 05 39 50.8
 PKP2 Z 40 09.8
 4 S.,80½ W.
 (cont.)

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
Peru - Ecuador border.					
H=05 20 36 USCGS					
30.	iP	EZ	06	36	04.1
	i	N			04.8
	e	N	39	24	
	eS	NE			41
	eL	NE	43	19	
	i	N	44	01	
	eL	E	46	08	
iP:W,Dilatation					
7 S., 123 1/2 E.					
Flores Sea.					
H=06 24 38 USCGS					
30.	iPEZ,PN		06	33	28
	S	E			50
	i	N			53
iP:W,Compression					
30.	iPNZ,PE		07	15	14.7
iP:S,Dilatation					
19 S., 177 1/2 W.					
Fiji Is.					
h:450 km ca.					
H=07 04 48 USCGS					
30.	eP	Z	07	53	38
	e	N			59 48
	i	N	08	02	27
30.	eP	Z	11	18	39
Solomon Is.					
H=11 10 16 USCGS					
30.	iP	EZ	11	25	05.5
	i	N			05.7
	i	E			27
	i	N			36
iP:W,Compression					
30.	ePKP	Z	11	47	33
	i	Z			48
	i	Z			58
Sandwich Is. region.					
H=11 27 33 USCGS					
30.	iP	NEZ	14	02	55.6
iP:S,E,Dilatation					
30.	P	NZ	14	10	05
	i	N			08
	i	Z	11	22	
	eS	EZ	19	44	
	ScS	E	20	19	
	e	E	24	39	
	e	E	28	07	
(cont.)					

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
	eL	E	14	32	58
	eL	E		35	32
Mag. 5 3/4 - 6 (Matsushiro)					
23 1/2 S., 175 1/2 W.					
Tonga Is. region.					
H=13 58 25 USCGS					
30.	iP	NEZ	14	18	53.0
	S	EZ		19	08
	i	NEZ			11
iP:N,E,Compression					
30.	P	NEZ	20	09	19
	i	N			23.4
	i	E			23.7
	S	EZ			59
30.	e	E	20	17	52
30.	iP	Z	21	47	50.4
	i	N			50.6
	i	E			50.9
iP:Compression					
19 S., 177 1/2 W.					
Fiji Is.					
h:600 km ca.					
H=21 37 35 USCGS					
31.	iP	NEZ	01	09	39.5
	iS	NE			40.2
iP:E,Compression					
31.	P	Z	04	37	23
	i	Z			24.1
	i	N			24.3
	i	E			24.5
	pP?	Z	38	55	
	e	Z	39	36	
	esP?	Z			56
	e	NE	45	35	
	iS	E			45
	iScS	E	46	47	
	isS	E	48	27	
	sSP	E	49	39	
	i	E	52	32	
	e	N	53	54	
P:Compression					
Mag. 6 1/4 - 6 1/2 (Matsushiro)					
16 1/2 S., 178 W.					
Fiji Is.					
h:450 km ca.					
H=04 27 12 USCGS					
31.	iP	NEZ	10	08	14.5
	S	Z			15.2
iP:N,E,Dilatation					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
31.	P	NZ	11	04	37
	i	E			38
	eS	NE		05	36
	i	E		06	44
31.	iP	NZ	17	03	09.8
	S	NE		04	21
	iP:N,Dilatation				
31.	P	NZ	23	43	13
	e	Z			15

Takeshi Honda

Director

MATSUSHIRO SEISMOLOGICAL OBSERVATORY, JAPAN.

Seismological Bulletin

for November 1 to December 31, 1959

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
1.	iPEZ,PN		14	13	09.9		continued				
	S?	N			32		h:100 km ca.				
	i	Z			39		H=09 02 20 USCGS				
	iP:E										
1.	iP	NEZ	14	27	23.8	+ 2.	e	N	12	30	14
	i	Z			41						
	S	NE			46	+ 2.	iP	EZ	13	23	29.7
	i	Z			52		i	N			30.7
	iP:S,E,Dilatation						SN,eSE 29 47				
							eLq N 32 45				
							eLq E 33 07				
							eLr N 34 41				
							Lr E 41 34				
							iP:E,Compression				
							Mag. 5 3/4 - 6 (Matsushiro)				
							21 1/2 N., 92 1/2 E.				
							Pakistan-Burma border.				
							h:100 km ca.				
							H=13 15 40 USCGS				
1.	iPZ,PN		18	01	01.7						
	i	N			03						
	S	NE			33						
	iP:Dilatation										
1.	PZ,ePE		22	01	57 ca.						
	i	N			57.0						
	i	N		02	22						
	S	NE			44						
	i	N		03	00						
1.	S?	N	22	03	53	2.	P	NEZ	13	39	31.8
	L?	N		04	05		P:N,E,Dilatation				
2.	eP	NEZ	07	54	02	2.	iP	Z	14	57	15.3
	SN,eSZ			55	22		i	N			15.4
							S	NEZ			36
							iP:Dilatation				
2.	iP	NZ	08	47	32.8	2.	P	EZ	17	48	01
	i	E			35.8		i	EZ			08.3
	i	NZ			38.1		i	Z			41
	i	E			41		S	NEZ			46
	i	Z	48	38							
	i	N	49	42							
	i	Z			52	2.	iPZ,PN		18	51	05.3
	S	NE	50	09			S?	N			34
	Lq	NEZ			26		iP:Dilatation				
	i	Z			37						
	Lr	E	51	44		2.	iP	NEZ	19	36	05.8
	Lr	N	52	19			i	Z			09.8
	iP:S,Dilatation						i	Z			37
							S	NEZ			40
							eL?	N	37	22	
							iP:S,W,Compression				
						2.	eP	Z	19	57	40
							L	E	20	03	39
							eL	N		04	39
2.	P	Z	09	05	51	2.	iP	Z	20	11	32.8
	i	NEZ			54		i	N			32.9
	i	Z			56		i	E			33.5
	S	NE	08	29			i	E			48
	i	E			38		PP?	E			13 21
							(cont.)				
							22 N., 144 1/2 E.				
							Volcano-Mariana Is. region.				
							(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	N	20	13	48
	SN, eSEZ			17	57
	Lq?	NE		21	04
	Lr	N		24	02
	Lr	E		25	01
	iP:Compression				
	Mag. $6\frac{1}{2}$ - $6\frac{3}{4}$ (Matsushiro)				
	$5\frac{1}{2}$ S., $151\frac{1}{2}$ E.				
	New Britain.				
	h:60 km ca.				
	H=20 03 32 USCGS				
2.	PNZ, ePE		20	17	03
	i	N		22	36
	i	E		23	01
2.	iP	Z	21	13	07.1
	i	NE			07.8
	iP:Compression				
2.	eP	Z	22	04	42
	i	Z			55
	i	N			57
	i	E		05	01
	L	N		22.3	
	L	E		23	35
	Mag. $5\frac{1}{2}$ - $5\frac{3}{4}$ (Matsushiro)				
	$25\frac{1}{2}$ S., $175\frac{1}{2}$ W.				
	Tonga Is. region.				
	H=21 53 05 USCGS				
5.	P	Z	00	39	12.8
	S	N		44	57
	eL	NE		46	53
	Lr	N		49	30
	Lr	E		50	06
	Mag. $5\frac{1}{2}$ - $5\frac{1}{2}$ (Matsushiro)				
	$5\frac{1}{2}$ N., $126\frac{1}{2}$ E.				
	Molucca Passage.				
	H=00 32 19 USCGS				
3.	eP	EZ	02	06	07
	e	N			09
	S	N			51
	e	E			52
3.	iPNZ, PE		02	14	59.5
	S	NE		15	23
	iP:S, Dilatation				
3.	iP	EZ	04	21	03.8
	i	N			04.3
	iS	NE			32.8
	i	Z			34.5
	iP:E, Compression				
3.	e	N	04	56	11

Date	Phase	Comp.	Time(GMT)		
			h	m	s
3.	eP	Z	06	47	24
	SNE, eSEZ				
				48	02
3.	iPNZ, PE		03	23	21.1
	S	NEZ		30	07
	iP:S, Compression				
3.	eP	Z	09	03	42
	iSN, SEZ				
				07	16.2
3.	eP	Z	09	16	37
	eS	E		26	45
	eL	N			37.3
	L	E			42.3
	Mag. $5\frac{1}{2}$ (Matsushiro)				
	$23\frac{1}{2}$ S., $175\frac{1}{2}$ W.				
	Tonga Is. region.				
	H=03 04 53 USCGS				
3.	iP	NEZ	09	49	29.0
	i	Z		50	29
	i	Z		51	15
	i	Z		53	04
	iS	NEZ		57	00
	ScS	E		59	20
	Lr	NE	10	05	42
	ePKPKP	Z		19	44
	iP:S, W, Dilatation				
	Mag. 6 - $6\frac{1}{2}$ (Matsushiro)				
	$10\frac{1}{2}$ S., 111 E.				
	South of Java.				
	H=09 40 05 USCGS				
3.	iP	NEZ	11	01	01.9
	S	Z			28
	iP:S, E, Dilatation				
3.	iPEZ, PN		13	05	22.3
	iSNE, SEZ			06	19.8 ca.
	P:S, E, Compression				
3.	eP	EZ	16	36	21
3.	eP	Z	17	56	27
	i	N			28.3
	S?	N			57 02
3.	iP	NEZ	18	44	17.4
	iSN, SE				36.8
	iP:S, E, Dilatation				
	35.5 N., 140.2 E.				
	Honshu, Japan.				
	h:70 km ca. J.N.A.				
3.	eP	NZ	19	01	02
	i	E			04.4
	i	Z			08

Date	Phase	Comp.	Time(GMT)		
			h	m	s
3.	P S	EZ N	19	33	44.0
3.	eP S	NEZ NEZ	20	05	38 57
3.	iP i	NEZ NE	20	38	40.5 39 19 ca.
iP:S,W,Dilatation					
4.	e i i	NZ NZ E	08	10	50 52.4 53.3
4.	eP e eS?	EZ N N	10	26	55 57 48
4.	P e i	NZ N E	10	44	17 49 49
4.	eP	NEZ	17	25	23
Tonga Is. region. H=17 13 50 USCGS					
4.	eP eS eSS eL? eL	NEZ N N N E	19	18	08 26 36 31 46 34 02 39.3
20 S., 169 1/2 E. Loyalty Is. H=19 07 36 USCGS					
4.	e e eL	N N E	22	26.3	31 13 38 02
5.	eP eS? e L eLr	NZ N N E N	05	53	19 59 11 03 09 04 39 05 51
4 1/2 S., 153 E. New Britain Is. region. h:100 km ca. H=05 45 23 USCGS					
5.	P S	NEZ NE	06	42	55 43 00
5.	eP eL eL	Z E N	11	11	35 36 59 40.3
5.	iP i S	NEZ Z NE	11	59	52.6 00 08 07 39

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	SS	NE	12	11.3	
	eLq	NE	13	47	
	Lr	NE	16	11	
iP:N,W,Compression Mag.5 3/4 - 6 (Matsushiro) 13 S., 166 1/2 E. New Hebrides region. h:100 km ca. H=11 50 17 USCGS					
5.	iP i i iS i i ScS	NEZ NEZ Z EZ Z NE E	15	01	55.1 02 03.6 03 51 04 01.1 02.1 03.1 14 26.6
iP:N,E,Compression Mag.5 3/4 - 6 (Matsushiro) 30 N., 129 E. Ryukyu Is. region. h:250 km ca. H=14 59 37 USCGS					
5.	eP i i i S i i	Z E N Z N E Z	16	48	31 32 34 38 59 49 00 01
5.	PE, ePNZ SE, eSN ScS Lq Lr Lr		17	46	55 53 59 56 55 59 01 18 00 57 02 42
Mag.5 3/4 - 6 (Matsushiro) 9 S., 158 E. Solomon Is. H=17 37 40 USCGS					
5.	iPZ, PNE S	NEZ	20	23	12.7 30
iP:Dilatation					
5.	iP i i	NEZ EZ N	21	45	56.6 46 11 31
iP:S,E,Dilatation					
6.	PZ, ePN S Lq Lr		01	16	17 23 31 28 23 32 04
Mag.5 3/4 - 6 (Matsushiro) 9 S., 157 1/2 E. Solomon Is. H=01 07 31 USCGS					

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
6.	PZ,ePNE 9 S.,157 $\frac{1}{2}$ E. Solomon Is. H=01 11 36		01	20	21	6.	iP S	NZ NEZ	17	20	00.3 06
		USCGS					iP:S,Dilatation				
6.	iP iS iP:S,E,Dilatation	NEZ NEZ	02	38	42.8 58.5	6.	iPN,PZ i S i i	 E NE EZ N	21 22	59 01	57.9 59.2 10 17 18
							P:N,Dilatation				
6.	P i i S	Z NE Z NEZ	04	24	18.5 19.0 29 43	7.	iPNZ,PE S i i	 N EZ Z	02	50	21.3 27 28.3 36.1
							iP:S,W,Compression				
6.	P i i eL	EZ Z Z NE	05	10	39 48 11 35 23.3	7.	P i	Z NE	03	02	05.7 05.8
							P:Dilatation				
6.	eP e i i	NEZ E Z E	05	42	00 48 59 43 57	7.	iP S i	NEZ NE EZ	03	02 03	10.3 23 55
							iP:N,E,Dilatation				
6.	eP i i i i S i	Z N Z E Z EZ N	08	04	02 02.4 02.5 02.9 05 37 42 44	7.	L eL	E N	03	23 24	52 14
							Mag.5 $\frac{1}{2}$ - 5 $\frac{3}{4}$ (Matsushiro) 36 $\frac{1}{2}$ N.,2 $\frac{1}{2}$ E. Near coast of Algeria. H=02 32 07				USCGS
6.	eP eL L	Z N E	11	40	31 50 13 33	7.	P S	NEZ NEZ	13	51 52	46 06
		Bismarck Sea. H=11 32 50									USCGS
6.	iPNZ,PE S SS Lq eLq Lr Lr	 NE N N E N E	11 12	54 04	50.4 25 07 22 41 51 49	7.	PZ,ePE e e	 E N	15 16	29 00.3	53 01.3
						7.	P i i S SS Lr Lr Lr	Z N E NE E E N N	22	27	53.8 54.7 55 29 26 26 10 55
							P:Compression Mag.6 (Matsushiro) 23 $\frac{1}{2}$ S.,175 $\frac{1}{2}$ W. Tonga Is. region. H=22 16 15				USCGS
6.	P 10 S.,161 $\frac{1}{2}$ E. Solomon Is. H=12 25 06	Z	12	34	09	8.	iP iS	NEZ NEZ	00	41	23.7 50.7
							iP:S,Dilatation				
6.	eP e	EZ N	13	43	30 31						

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
8.	PZ,ePNE iSE,SNZ		04	48	43 57.2	9.	iP i S	Z NE NEZ	04	26	35.9 36.2 27 09
8.	iP eS iP:N,Compression	NEZ NEZ	11	45	01.2 03.3	9.	L L	NE NE	05	07	12 12 40
8.	eP eS e	NZ NEZ N	12	37	45 38 12 30	9.	eP	NEZ	13	43	45
8.	iP iS i i i i i L ScS ScS iP:S,W,Compression Mag.6.4 (Matsushiro) 43.5 N.,140.8 E. Hokkaido, Japan. h:20 km ca. J.M.A.	NEZ NEZ Z N E E E E N E	13	56	51.3 11.7 24.7 27 30 48 59 28 14 00 02 10 35.2 41.7	9.	6 1/2 S.,132 E. Banda Sea. H=13 35 40 USCGS				
8.	eP	NZ	14	36	45	9.	iP S iP:S,E,Dilatation	NEZ NEZ	14	45	33.1 55
8.	eP	NEZ	14	37	12	9.	eP i S? i	EZ N N Z	15	23	23 24.3 24 18 24
8.	eP	NEZ	14	37	12	9.	eP i	NZ E	19	59	40 41.3
8.	eP i	NZ N	18	19	42 55	9.	P e S?	NEZ N N	23	40	20 ca. 41 46 42 09
8.	iPEZ,PN iS iP:E,Compression	Z	18	22	02.2 04.3	10.	eP	NEZ	00	16	16
8.	iP S iP:Compression	Z Z	18	22	13.0 57.7	10.	eP S?	NZ NE	00	17	25 19 04
8.	iP i iP:N,W,Dilatation	NEZ NEZ	20	19	51.9 20 15.9	10.	eP	NEZ	01	13	47
8.	P e	NEZ NZ	23	17	20 ca. 40	10.	P e i SN,eSE	NZ Z N E	08	15	54.4 17 45
8.	eP e i i	NEZ N Z E	23	54	45 55 36 40 48	10.	iPcP? P:N,Compression 3 1/2 S.,153 1/2 E. New Ireland region. h:200 km ca. H=08 08 18 USCGS				
8.	eP i i	NEZ N Z E	23	54	45 55 36 40 48	10.	P e i i eL eL	Z N E Z E N	14	15	02 03 04 16 44
8.	eP e i i	NEZ N Z E	23	54	45 55 36 40 48	10.	PZ,ePE i i i eL eL	Z Z E Z E N	16	49	10 37 58 50 49 59 33 17 04 04
							7 S.,156 E. Solomon Is. H=16 40 45 USCGS				

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
10.	P	NEZ	18	11	01 ca.	12.	P	NEZ	06	21	05
							i	E		22	44
							e	N			55
10.	eP	EZ	21	03	45	12.	e	N	07	05	44
	SN,eSE			09	50		e	N		11	14
	eSSE,SSN			12	40	12.	e	N	07	40	31
	iLq	N		15	10	12.	iP	Z	17	38	58.7
	iLq	E			14	12.	P	Z	20	39	38.7
	Lr	E		19	40		i	NZ			50
	Lr	NZ		21	14		eL	E		55	45
	Mag.5 3/4 - 6 (Matsushiro)						11 S., 166 1/2 E.				
	36 N., 89 E.						Santa Cruz Is.				
	Northern Tibet.						H=20 30 12 USCGS				
	H=20 56 12 USCGS										
10.	iP	NEZ	23	09	57.9	12.	P	NZ	23	43	31.7
	S	NE		10	16		i	E			41.2
	iP:S,E,Dilatation						H=20 30 12 USCGS				
	35.6 N., 140.2 E.										
	Honshu, Japan.										
	h:70 km ca. J.M.A.										
11.	P	NEZ	03	31	24	13.	iP	NEZ	03	28	04.5
	iS	Z			48.5		iNE,eZ				16.2
							S	N			17.8
11.	e	N	07	40	28		iP:N,Compression				
	e	E		42	05		36.3 N., 137.0 E.				
	eL?	N			29		Honshu, Japan. J.M.A.				
11.	iPNZ,PE		10	20	35.8	13.	P	EZ	04	15	25
	i	E			56.6		i	Z			27.9
	i	Z			57.6		e	N		18	44
	i	N			58.6	13.	P	Z	10	16	36.7
	iP:N,Dilatation						23 S., 179 E.				
11.	e	E	16	05	.9		South of Fiji Is.				
							h:600 km ca.				
							H=10 06 14 USCGS				
11.	iP	NEZ	19	40	30.7	13.	P	EZ	16	59	16
	iS?	N		41	04		e	N	17	09	10
	i	E			15		P:Compression				
	iP:S,Dilatation					13.	iP	NEZ	22	24	27.7
12.	iP	NZ	03	37	09.9		i	NE			52
	i	E			10.7		i	Z			52
	i	Z		38	17		iP:N,E,Dilatation				
	i	E			25	14.	iP	NEZ	02	40	28.7
	i	N			26		S	E			48
	e	N		41	14		i	Z			48.7
	iP:S,Dilatation						iP:S,E,Compression				
12.	eP	Z	03	53	02	14.	iP	NEZ	05	31	43.6
	i	N			12		S	Z		32	07.1
	i	EZ			15		iP:N,W,Compression				
	i	N		54	01	14.	P	NEZ	06	24	51
	i	Z			09		i	Z		25	02.5
	i	E			13						
12.	e	N	05	37	43						
	e	N		43	40						

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
14.	iP	NEZ	09	33	56.4	15.	iP	Z	04	30	14.2
	iS	EZ		34	13.9		i	NE			15
	iP:N,Dilatation						S	NEZ			39
14.	eS	N	10	47	56	15.	P	Z	08	14	47
	eL	E		51	30		i	NEZ			47.6
	eLr	E		53	12		i	Z			15 00
	Lr	N			58		Fiji Is. region. h:500 km ca. H=08 04 45				
	Mag.5 $\frac{1}{2}$ (Matsushiro) 3 S.,148 $\frac{1}{2}$ E. Bismarck Sea. H=10 33 56						USCGS				
14.	iP	Z	10	56	50.3	15.	iP	Z	08	37	24.8
	i	NZ			52		i	NE			25.1
	i	N			56		i	Z			35.6
	S	Z		57	17		iP:Compression				
14.	iP	NEZ	11	02	50.3	15.	iPZ,PNE		10	33	58.3
	i	Z		03	05		iPcP	Z		35	22.3
	S	E			06.4		ePP	NEZ		36	11
	iP:S,E,Dilatation						S	NE		41	00
14.	P	NEZ	16	32	52		i	EZ			02
	i	N		33	33		eSS?	E		44	42
							L?	N		45	06
							eLr	NE		47	43
							eL	NE		51	28
							iP:Dilatation Mag.6 - 6 $\frac{1}{4}$ (Matsushiro) 38 N.,74 $\frac{1}{2}$ E. Tadzhik, S.S.R. H=10 25 03				
14.	iP	NZ	19	05	53.5		USCGS				
	i	N		06	10.0	15.	eP	Z	13	04	58
	i	E			12.0		e	E		08	03
	i	N			26.5		e	E		14	43
	iP:N,Compression						e	N		17	58
14.	iP	NEZ	19	17	38.4	15.	P	NEZ	15	31	55
	i	N		18	23.5		S	Z		32	14.5
	i	E			25		i	NE			16
	iP:N,W,Dilatation					15.	P	Z	17	21	26
14.	iP	Z	20	48	03.7		i	NEZ			27.5
	i	EZ			27.6		i	E			49
	iP:Dilatation						i	NE		22	11
14.	e	N	21	00	48		i	N		24	31
14.	eL	N	23	48	30		PP	Z			48
							PP	NE			52
15.	iP	NEZ	00	24	25.2		S	NE		31	48
	i	E			52.7		i	NE			50
	i	N		25	02		PPS	E		33	53
	iP:E,Dilatation						SS	NE		38	08
15.	iPZ,PN		00	47	35.7		Lq	E		44	24
	i	E			36.2		L	N		49	24
	i	Z		48	15.2		L	E		51	20
	iP:Compression						Lr	Z	18	03	38
							Lr	N			46
							L	EZ		08	58

Date Phase Comp. Time(GMT)
h m s

continued

Mag.7 - $7\frac{1}{2}$ (Matsushiro)
37 $\frac{1}{2}$ N., 20 $\frac{1}{2}$ E.
Near west coast of Greece.
H=17 08 41 USCGRS

15. iP Z 18 21 55.0
S NEZ 22 18.0
iP:Compression

16. PKP NZ 01 19 15
i E 17.6
i NEZ 29.6
35 S., 70 W.
Chile-Argentina border.
h:100 km ca.
H=00 59 22 USCGRS

16. iP NEZ 09 11 55.5
i E 12 33
iP:S,E,Dilatation

16. ePKP Z 10 40 49
e Z 41 35
ePP N 44 10
e N 11 03 05
e E 07
e N 14 46
eL N 25 54
eL E 31 46
eL E 35 44

Mag.6 - $6\frac{1}{2}$ (Matsushiro)
1 N., 26 $\frac{1}{2}$ W.
Mid-Atlantic Ocean.
H=10 21 17 USCGRS

16. iPNE,PZ 11 22 23.0
i N 41
S N 50
iP:S,W

16. iP NEZ 12 17 15.3
S E 24.5
iP:W,Dilatation

16. iPZ,PN 18 43 30.0
i E 31.5
i Z 37
iP:Compression

16. P Z 23 50 24.5
4 N., 126 $\frac{1}{2}$ E.
Talaud Is.
H=23 43 40 USCGRS

16. P Z 23 55 10
i E 14
i N 15
i N 17

(cont.) - 8 -

Date Phase Comp. Time(GMT)
h m s

continued

eS NE 23 58 50
eL NE 00 00 31
Mag.5 - $5\frac{1}{4}$ (Matsushiro)
18 N., 147 E.
Mariana Is.
H=23 50 35 USCGRS

17. iP Z 02 45 01.6
i E 02.6
i Z 07
eS E 55 25
e N 40
eSS? E 03 00 54
eL E 10 35
eL N 13 00
eL E 32

iP:Compression
Mag.5 $\frac{3}{4}$ - 6 (Matsushiro)
11 S., 66 $\frac{1}{2}$ E.
Indian Ocean.
H=02 32 37 USCGRS

17. iP Z 07 31 55.7
i NE 56
iP:Compression

17. iPZ,ePNE 14 54 35.2
i NE 56
S E 55 00

iP:Compression
Mag.5.5 (Matsushiro)
34.5 N., 139.9 E.
Honshu, Japan.
h:20 km ca. J.M.A.

17. iP NEZ 15 25 30.7
PcP Z 26 54
iP:N,E,Compression
9 S., 119 E.
Sumbawa I.
H=15 16 59 USCGRS

17. e NE 15 50 50

17. iP Z 16 51 00.4
i NE 00.7
iP:Compression

17. P Z 17 31 13
eS N 37 23
eL? NE 43 44
5 S., 141 E.
New Guinea.
H=17 23 28 USCGRS

17. P NEZ 22 26 25
eS? NE 27 04
e NE 44

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
18.	iP	NEZ	00	10	41.7	19.	iP	Z	11	14	40.7
	i	NZ			46		i	N			41
	i	E			57.7		iP:Compression				
	i	N			59						
	iP:S,W,Compression					19.	P	Z	11	16	14
18.	eL?	N	00	13	34		P:Compression				
	Mag. 5 (Matsushiro)					19.	iP	NZ	11	16	34.2
	30 1/2 N., 94 E.						i	E			34.7
	Sikang Province, China.						i	Z			03
	H=23 55 01 USCGS						i	E			15
18.	e	N	06	04	42		i	N			18
	e	N	09	09	45		i	Z			22 00
18.	iP	Z	17	35	48.5		iS	NE			47
	i	NZ			49.7		i	NE			23 42
	i	E			50.0		L	EZ			25 53
	S	N	38	30			L	N			57
	e	N	40	12			L	E			27 06
	iP:Dilatation						L	N			24
	Northern Mariana Is. region.						L	Z			23 15
	h:200 km ca.						iP:N,Compression				
	H=13 32 08 USCGS						Mag. 7 1/4 - 7 1/2 (Matsushiro)				
							5 1/2 S., 146 E.				
							Near north coast of New Guinea.				
							H=11 08 32 USCGS				
18.	iP	EZ	21	44	45.8	19.	iP	NEZ	12	27	16.7
	i	N			46.0		S	NEZ			18
	iP:W,Dilatation						iP:S,W				
19.	iP	NEZ	02	52	03.8	19.	P	Z	14	12	53
	S	NE			20 ca.		eL	E			45 54
	iP:S,E,Dilatation						eL	N			46 34
	35.6 N., 139.2 E.						38 1/2 N., 26 E.				
	Honshu, Japan.						Off west coast of Turkey.				
	h:50 km ca. J.M.A.						H=14 00 24 USCGS				
19.	iP	NEZ	04	41	58.3	19.	iP	NEZ	15	08	09.7
	eS	NE			47 46		i	N			09 19
	e	E			50 10		iP:N,E,Compression				
	eL	NE			51 03	19.	iPEZ,PN		18	00	52.2
	iP:S,W,Compression						i	E			01 01
	Mag. 5 - 5 1/4 (Matsushiro)						i	NZ			02
	51 1/2 N., 175 1/2 W.						i	N			56
	Andreanof Is.						iP:W,Compression				
	H=04 34 57 USCGS					19.	iPZ,PNE		21	16	14.2
19.	iPZ,PN		05	37	31.8		S	NEZ			45
	i	Z			46		iP:Compression				
	eL?	NE			57 26	20.	P	Z	00	05	02
	eL	NE	06	00	48		eS	E			14 16
	Mag. 5 1/2 (Matsushiro)						eSS	N			18 50
	24 1/2 S., 177 W.						eL	E			21 58
	Tonga Is. region.						eL	N			22 26
	H=05 25 53 USCGS						Mag. 5 1/2 (Matsushiro)				
19.	eP	NEZ	07	53	28		42 1/2 N., 126 1/2 W.				
	i	Z			33		Off coast of Oregon.				
	i	E			34.7		H=23 53 49 USCGS				

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
20.	iP i S	EZ N N	03	00	23.4 23.6 39	21.	e	N	08	39	15
	iP:W,Dilatation Mihoro Explosion.					21.	P i S	Z NEZ N	14	38	31.4 32.5 48.2
20.	iPEZ,PN i	NZ	08	24	28.7 45		P:Dilatation 36.1 N., 139.9 E. Honshu, Japan. h:65 km ca. J.M.A.				
	P:S,E,Compression					21.	eS? eL	N N	15	26	32 ca. 28 43
20.	iP i S	NEZ NE NEZ	09	20	42.7 43.6 21 13.2	21.	iP e	Z Z	16	58	50.8 59 24
	iP:S,W,Dilatation						iP:Compression				
20.	iP i i S	NEZ NE E NE	10	34	29.4 30.2 51.8 53.2	21.	P i S	Z NEZ NE	20	14	12.7 13.2 49
	iP:S,W,Dilatation Mag.4.7 (Matsushiro) 35.6 N.,136.5 E. Honshu, Japan. h:20 km ca. J.M.A.						P:Compression				
20.	iPZ,PNE S	NE	10	54	43.2 55 05	22.	iP i i	NZ EZ N	02	24	03.2 04.2 25 59
	iP:Compression						iP:N,Dilatation				
20.	iPZ,PN PcP? eL	Z N	11	04	53.0 06 42.7 17 55	22.	P i S i	NZ E N NEZ	11	52	35.4 36.3 58.8 53 00.0
	iP:Compression 4½ S.,153 E. New Britain region. h:100 km ca. H=10 56 59 USCGS						P:N,Dilatation				
20.	iP i S	NZ E NEZ	12	05	05.2 06 35	22.	iPZ,PN e eS eLq eLr	E N E N	12 13	55	27.7 32 01 24 04 51 06 40
	iP:N,Compression						iP:Dilatation Mag.5½ (Matsushiro) 3 S.,140 E. Near north coast of New Guinea. H=12 47 56 USCGS				
20.	iP eL	NZ N	16	38	57.2 48 54	22.	eP	Z	14	31	41
	iP:Compression 7 S.,129 E. Banda Sea. H=16 30 45 USCGS					22.	eP e e	Z N E	16	07	08 08 07 10 54
21.	P i S	NZ E NEZ	02	45	35.7 36.2 46 05	22.	eSSorPSPS eL eL Lr	N NE NE E	17	02	30 34 08 28
	P:N,Compression						Mag.6½ (Matsushiro) 54 S.,136 W. South Pacific Ocean. H=16 26 34 USCGS				
21.	P i i i S	NZ E Z Z NE	05	04	28.0 28.6 33 42.7 45.2		P:S,Dilatation				

22. P Z 18 53 25
 i Z 31
 i Z 54 38

22. ~~iP NEZ 19 44 59.5
 esP NE 47 46
 iS E 53 34.2
 sSP NE 57 12
 sSS E 20 00 54~~

~~iP:S,E,Dilatation
 21½ S.,178½ W.
 Fiji Is. region.
 h:550 km ca.
 H=19 34 35~~ USCGS

22. eP Z 22 53 38
 i Z 54 07.6
 eS N 23 02 32
 eL E 10 09
 L N 14 51

19½ S.,175 E.
 Fiji Is. region.
 H=22 42 49

USCGS

23. eP E 00 54 40
 e N 55 00
 i Z 08
 e N 28
 eS N 56 20 ca.
 i Z 27

23. iP NEZ 09 36 59.6
 i Z 59.9
 iS NEZ 37 35.2
 iP:S,Compression

23. e N 14 15 41 ca.
 e N 18 12 ca.

23. eP Z 14 49 33
 i Z 55
 e NE 53 00
 eS N 55 27
 eL E 15 02 40

½ S.,128½ E.
 Spice Is.
 H=14 41 42

USCGS

23. ~~iP NZ 16 25 36.2
 S N 34 28
 L E 41 58
 L N 42 09~~

~~iP:S,Dilatation
 Mag.5½ - 5¾ (Matsushiro)
 20 S.,174½ E.
 Fiji Is. region.
 H=16 14 47~~ USCGS

23. P NZ 19 53 14.7
 i E 15.2
 S NE 52

P:N,Compression

23. iP NEZ 20 57 23.2
 i NZ 34
 iS NEZ 57.2
 i E 58.2
 iP:N,E,Dilatation

23. ~~P Z 21 09 32.7
 i NEZ 35.2
 i N 37.6
 i Z 40.2
 eS N 12 51
 e N 13 34~~

~~24½ N.,122 E.
 Near coast of Formosa.
 H=21 05 18~~ USCGS

23. P NZ 21 54 42
 P:S

23. P Z 22 47 17.5
 i NE 18
 S NEZ 34
 P:Dilatation

24. P Z 14 14 38
 19 S.,178½ W.
 Fiji Is. region.
 h:500 km ca.
 H=14 04 17

USCGS

24. eP Z 15 02 42
 eS NE 07 10
 e N 08 00
 eL N 11 10

17½ N.,120 E.
 Off west coast of Luzon Is.,P.I.
 H=14 57 15

USCGS

24. P Z 15 45 18.2
 i N 20.7
 i NEZ 25.0
 P:Compression

24. P Z 18 25 07
 i E 11
 iS N 25.2

24. ~~e E 21 01.8
 eL E 05.8~~

~~7½ N.,37 W.
 Atlantic Ocean.
 H=20 06 35~~ USCGS

Date	Phase	Comp.	Time(GMT)		
			h	m	s
24.	iP	NZ	21	50	55.6
	i	E			56.2
	i	Z		51	29
	iP:S,Dilatation				
25.	P	Z	10	50	34.7
	e	NE		53	34 ca.
	P:Compression				
25.	P	NEZ	16	15	28.9
	iS	NE			45.2
	P:S,Dilatation				
25.	P	NEZ	18	31	28.7
	S	NE			44.9
	P:N,Compression				
25.	P	Z	19	10	52.7
	i	NE			53.2
	eL	NE		18.3	
	P:Dilatation				
	6 N., 127 E.				
	South of Mindanao, P.I.				
	H=19 04 20 USCGS				
25.	P	Z	19	13	39
25.	eL	N	20	25	53
26.	PZ, ePNE		00	48	45
	i	Z			47
	i	E		49	00
	e	N			50
	eS	N		54	33
	Lq	E		57	04
	eScS	N		59	14
	eL	N	01	02	17
	Mag. 5 1/4 - 5 1/2 (Matsushiro)				
	1 1/2 N., 127 1/2 E.				
	Halmahera.				
	H=00 41 35 USCGS				
26.	iP	NEZ	04	14	16.0
	e	E		15	37
	iP:N,E,Dilatation				
26.	iP	NEZ	07	15	39.6
	i	N			45.7
	i	Z			52
	i	N		17	17
	S	N		23	05
	i	E			17
	i	NE			56
	iSS	N		27	23
	i	N		29	54
	L	E		32	00
	i	N		33	43
	i	N		36	32
	Lr	E		41	25

Date	Phase	Comp.	Time(GMT)		
			h	m	s
	continued				
	Lr	N	07	41	50
	iP:N,Compression				
	Mag. 6 1/4 - 6 1/2 (Matsushiro)				
	5 1/2 S., 102 1/2 E.				
	Near coast of Sumatra.				
	H=07 06 19 USCGS				
26.	iP	NEZ	09	30	08.6
	i	N			14
	iP:S,W,Dilatation				
26.	iP	NEZ	12	29	52.1
	iS	NZ			54.7
	iP:W,Dilatation				
26.	eP	Z	16	17	44
	i	N			49
	Tonga Is.				
	H=16 06 03 USCGS				
26.	iP	Z	23	18	43.2
	i	NEZ			44
	i	NEZ			44.6
	i	E			47.1
	i	N			49.6
	i	Z			50
	S	NE		26	25
	i	NE		27	00
	SS	E		30	21
	i	N		36	53
	L	N		37	02
	L	N		39	45
	iP:Compression				
	Mag. 6 3/4 - 7 (Matsushiro)				
	5 1/2 S., 103 E.				
	Near coast of Sumatra.				
	H=23 09 23 USCGS				
26.	P	NEZ	23	21	56
	i	Z		22	09
27.	eP	Z	00	01	30
	e	N			31
27.	P	Z	07	19	34.8
	i	E			35.1
	e	E		20	00
	iS	N			26.4
	i	E			26.8
	P:Dilatation				
27.	e	N	03	26	12 ca.
27.	iP	NEZ	09	29	34.3
	i	Z			39.1
	iS	NEZ			42.1
	iP:N,E,Compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
27.	P	Z	10	53	09
	i	E			10
	i	N			11
	P:Compression				
	22 S., 177 $\frac{1}{2}$ W.				
	Tonga Is. region.				
	h:250 km ca.				
	H=10 42 10 USCGS				
27.	iP	NEZ	17	14	40.5
	i	N			41
	iS	N	15	10	
	iP:E,Dilatation				
	36.7 N., 141.2 E.				
	Honshu, Japan.				
	h:40 km ca. J.M.A.				
27.	iP	Z	19	00	48.7
	i	N			51.1
	eS	N	08	14	
	e	E	09	05	
	eSS	E	12	38	
	eL	N	22	17	
	iP:Dilatation				
	5 $\frac{1}{2}$ S., 103 E. Off west				
	coast of Sumatra.				
	H=13 51 27 USCGS				
27.	iP	NZ	20	44	41.5
	e	N			55
	i	Z	45	05	
	iP:N,Dilatation				
28.	P	NZ	02	56	34.6
	i	E			35.7
	eS	E	03	05	26
	eLq	E	12	57	
	Lr	E	15	58	
	Mag. 5 $\frac{3}{4}$ - 6 (Matsushiro)				
	19 $\frac{1}{2}$ S., 174 $\frac{1}{2}$ E.				
	Fiji Is. region.				
	H=02 45 45 USCGS				
28.	iP	NEZ	03	17	16.0
	iS	NEZ			45.7
	iP:N,W,Compression				
28.	P	EZ	03	23	38
	i	E			47
	i	N			52
	i	E			58
	26 N., 128 $\frac{1}{2}$ E.				
	Ryukyu Is.				
	H=03 20 24 USCGS				
28.	P	Z	09	00	26
	i	EZ			31
	eS	E			56

Date	Phase	Comp.	Time(GMT)		
			h	m	s
28.	iPZ,PE		09	08	34.4
	i	EZ			38
	i	N			59
	iP:Compression				
28.	iP	NZ	10	38	46.4
	i	E			47
	S	E	40	00	
	iP:N,Compression				
28.	PKP 1	Z	12	54	47.4
	i	Z			48
	i	NE			49
	i	Z			56.1
	i	Z			55 10
	PKP 2	EZ			19
	ePP	Z			58 45
	e	N	13	03	18
	PSPS	E			19 03
	eSSS	E			23 12
	Lr	E			45 05
	PKP 1:Compression				
	Mag. 6 $\frac{1}{2}$ - 6 $\frac{1}{2}$ (Matsushiro)				
	28 $\frac{1}{2}$ S., 71 W. Chile.				
	H=12 34 53 USCGS				
28.	iP	NEZ	19	14	17.5
	S	NEZ			18.8
	iP:N,E				
28.	iPZ,PE		20	48	33.6
	i	N			35.6
	i	EZ			50.1
	e	NE	50	28	
	iP:Dilatation				
28.	iPEZ,PN		22	48	58.3
	i	E			59.1
	S	N			56 37
	i	E			48
	Lq	NE	23	03	03
	P:N,Compression				
	13 S., 167 $\frac{1}{2}$ E.				
	New Hebrides Is.				
	H=22 39 13 USCGS				
29.	P	Z	01	42	14
	21 S., 177 W.				
	Tonga Is.				
	H=01 30 52 USCGS				
29.	P	NEZ	03	11	20
	S	N			59
29.	P	Z	05	31	08
	i	N			05
	S	E			11

Date Phase Comp. Time(GMT)
 h m s
 29. iP Z 05 58 13.1
 i NE 13.5
 iP:Dilatation
 26 $\frac{1}{2}$ S., 178 W.
 Kermadec Is. region.
 h:300 km ca.
 H=05 46 56 USCGS

29. P Z 09 03 25.5
 e N 09 41
 eL N 12 24

29. P EZ 10 36 01.0
 i N 01.4
 P:W, Compression

29. P EZ 15 30 33.6
 i N 35.0
 i Z 42.5
 i E 57
 i N 31 08
 S N 18
 P:Dilatation
 Shikoku, Japan. J.M.A.

29. ePS? N 19 45 47
 ePSPS E 52 44
 Lq E 20 03 34
 Lq N 39
 Lr E 09 27
 Lr N 50
 eL E 25 33
 eL N 26 54
 Mag. 5 $\frac{3}{4}$ - 6 (Matsushiro)
 57 S., 147 $\frac{1}{2}$ W.
 South Pacific Ocean.
 H=19 17 40 USCGS

30. iP NEZ 02 15 10.5
 iS Z 11.5
 iP:N,E,Dilatation

30. P EZ 11 21 01.9
 eS E 27 27
 i N 29
 e E 30 50
 Lq E 35 01
 Lq N 55
 Lr N 38 06
 P:Dilatation
 44 $\frac{1}{2}$ N., 80 $\frac{1}{2}$ E.
 Sinkiang Province, China.
 H=11 12 43 USCGS

30. eP Z 15 27 28
 i NEZ 34
 i Z 28 55.0
 eS N 34 31
 eSS NE 38 27

(cont.) - 14 -

Date Phase Comp. Time(GMT)
 h m s

continued
 eL N 15 42 41
 59 $\frac{1}{2}$ N., 152 W.
 Kenai Peninsula, Alaska.
 H=15 18 37 USCGS

30. P Z 20 46 42
 i E 42.4
 i N 43.6
 eS N 47 32 ca.

X

X

X

December

Date	Phase	Comp.	Time(GMT)			
			h	m	s	
1.	eP	Z	11	03	23	
	i	E			25	
	i	N			25.6	
	i	Z			26.5	
	i	Z			28.6	
	i	N	04	02.1		
1.	iP	Z	12	51	31.3	
	eS	N	13	02	09	
	eL	NE	26	00		
	L	NE			41	
	P:Dilatation 38 N., 21 1/2 E. Near west coast of Greece. H=12 38 46 USCGS					
1.	ePP	Z	15	17	30	
	i	Z			47.2	
	ePPP	Z	19	40		
	eSKS	N	24	15		
	S	E	25	14		
	PS	N	26	33		
	SS	N	31	59		
	i	E	32	04		
	i	N	33	43		
	Lq	N	42	24		
	Lr	N	48	16		
	Mag. 6 1/4 - 6 1/2 (Matsushiro) 63 S., 154 E. Balleny Is. region. H=14 59 40 USCGS					
	1.	iPKP 1	EZ	15	58	19.1
i		Z			48.6	
iPKP 1:W, Compression 31 1/2 S., 67 1/2 W. San Juan Province, Argentina. h:200 km ca. H=15 38 07 . USCGS						
1.	iPZ,PNE		16	12	30.9	
	i	N	13	04.8		
	i	E			05.1	
	iP:Dilatation					
1	iP	NEZ	13	17	57.3	
	iS	N	22	49.7		
	i	E			50.5	
	i	E			57.2	
	i	Z	23	41.3		
	eL	NE	25	40		
	iP:S,W,Dilatation 5 N., 125 E. Near south coast of Mindanao, P.I. h:400 km ca. H=18 11 49 USCGS					
1.	iP	NEZ	19	03	10.8	
iP:S,W,Dilatation						

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
9 S., 124 1/2 E., Timor I. region, h:150 km ca. H=18 54 48 USCGS					
2.	P	Z	02	58	13.0
	i	E			13.4
	i	N			13.9
	S	E			29.1
	i	N			29.6
2.	P	EZ	04	22	55.1
	i	N			55.4
	eS	N	26	36	
	L	E	28	54	
2.	L	N	29	05	
	eL	N	06	34	37
2.	ePKP 1	Z	07	22	15
	9 S., 80 W. Off coast of Peru. H=07 02 52 USCGS				
2.	P	Z	07	39	09.8
	i	N			10.5
	S	N	46	56	
	SS	N	50	54	
	L	E	52	16	
	L	N	53	17	
	i	N	57	32	
5 S., 104 E. Near coast of Sumatra. h:150 km ca. H=07 30 05 USCGS					
2.	iP	EZ	07	51	24.8
	i	Z			48.0
	i	E			48.1
	i	N			48.2
iP:W,Dilatation					
2.	iP	NEZ	09	41	37.7
	PP	Z	43	02	
	PPP	Z			47
	i	Z	46	35.8	
	i	Z	47	33	
	i	Z			34.8
	iS	N			35
	SS	E	51	00	
	ScS	E			47.7
	Lr	N	54	10	
	iP:N,E,Compression Mag. 6 3/4 - 7 (Matsushiro) 1 S., 123 E. Celebes. H=09 34 00 USCGS				
2.	P	Z	20	05	40.0
(cont.)					

(cont.) 15 20 05 40.0 (cont.)

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
	i	Z	20	05	44.3
	4½ S., 140 E. New Guinea. H=19 57 55				
	USCGS				
2.	P	Z	22	58	58.1
	i	N			58.3
	P:Dilatation 52 N., 174 E. Near Is., Aleutian Is. H=22 52 45				
	USCGS				
3.	eL	N	03	28	06
3.	iP	Z	06	58	18.5
	i	N			18.8
	i	Z			42.6
	iP:Dilatation				
3.	iP	Z	12	40	11.1
	i	E			11.3
	iP:Compression				
3.	e	Z	13	27	26
	e	Z			33
	eL	NE	44	00	
	16½ S., 177½ W. Fiji Is. region. H=13 16 26				
	USCGS				
3.	iP	Z	21	20	03.3
	iP:Compression				
4.	i	Z	01	17	02.0
	15 S., 174 W. Samoa Is. region. H=01 06 00				
	USCGS				
4.	iP	Z	03	43	29.5
	i	NE			29.8
	iS	NE			50.2
	iP:Dilatation				
4.	iP	Z	04	48	51.0
	i	E			51.3
	i	N			52.0
	iP:Compression				
4.	iP	EZ	07	19	10.9
	i	N			11.1
	iS	NE			31.9
	iP:W, Compression				
4.	i	NZ	08	01	18.7
4.	iP	Z	09	54	20.8
	i	N			21.0
	i	E			21.7
	21 S., 176½ W.				

Date	Phase	Comp.	Time(GMT)		
continued			h	m	s
	Fiji Is. region. h: 350 km ca. H=09 24 04				
	USCGS				
4.	eP	Z	12	00	31
	i	Z			31.7
4.	P	NZ	14	10	45.2
	i	E			46.6
	i	E	11	03	7
	i	Z			09.6
5.	iP	EZ	06	17	21.0
	iS	N			40.8
	iP:Dilatation				
5.	iP	Z	08	25	08.3
	iP:Compression 40½ N., 126 W. Off coast of northern California.				
5.	iP	Z	11	05	04.7
	i	E			05.2
	i	N			05.5
	iS	NEZ			37.9
	iP:Compression				
5.	iP	Z	13	34	40.4
	i	NE			40.5
	iP:Dilatation				
5.	i	EZ	19	20	54.9
5.	eP	Z	22	07	40
	i	Z			42.2
	eL	N	17	34	
	L	E	18	54	
	Off coast of Mindanao, P.I. H=22 01 10				
	USCGS				
6.	P	Z	04	05	55.1
	e	N			09 56
	L	E	11	25	
	L	N			33
6.	i	Z	08	18	47.6
	e	Z	19	00	
	i	Z			25.3
6.	P	Z	14	20	15.1
	e	E			17
	i	N			36.6
6.	P	Z	17	22	23.2
	New Britain region. H=17 14 20				
	USCGS				
6.	P	NEZ	17	38	17.6

Date Phase Comp. Time(GMT)
 h m s
 7. P Z 01 20 00.1
 i N 00.5
 i E 00.9
 P:Dilatation
 6 S., 143 $\frac{1}{2}$ E. Near northeast
 coast of New Guinea.
 H=01 12 05 USCGS

7. ~~iP~~ NEZ 03 11 51.1
~~i~~ Z 58.0
~~i~~ E 58.8
 iP:S,E,Dilatation
 18 S., 178 W.
 Fiji Is.
 h:600 km ca.
 H=03 01 44 USCGS

7. iP Z 03 54 28.6
 i NE 28.8
 i E 45
 S NZ 47
 iP:S,E,Dilatation

7. ~~iP~~ E 05 16 45.1
~~i~~ NZ 45.2
~~i~~ NZ 17 15
~~i~~ NZ 16
~~i~~ N 36
~~S~~ E 37
~~i~~ NE 39
 iP:N,W,Compression
 32 $\frac{1}{2}$ N., 139 $\frac{1}{2}$ E.
 South of Honshu, Japan.
 H=05 15 24 USCGS

7. P NZ 07 46 45
 i E 46.9
 S E 47 39.3
 eL E 58
 i N 49 45

7. P EZ 08 14 29

7. iP EZ 12 00 01.2
 i N 01.8
 iP:E,Dilatation

7. iP EZ 17 05 34.0
 i N 34.3
 S NE 06 07
 iP:E,Dilatation

8. ~~iP~~ Z 03 00 48.3
~~i~~ E 48.5
~~i~~ N 48.7
~~iS~~ Z 01 22
~~i~~ E 24
~~i~~ E 36
 iP:Dilatation

Date Phase Comp. Time(GMT)
 h m s
 continued

37.5 N., 141.5 E. Near east
 coast of Honshu, Japan. J.M.A.
 h:40 km ca.

8. ~~iP~~ Z 04 37 43.0
~~i~~ NE 43.5
~~S~~ N 43 54
~~L~~ N 47 08
~~L~~ E 32

iP:Dilatation
 1 S., 124 E. Celebes region.
 H=04 30 06 USCGS

8. iP NEZ 08 48 25.2
 i Z 50 39.4
 S N 44.1
 L N 51 24
 L E 38
 iP:N,E,Dilatation

8. eL N 09 21 54
 eL E 56

8. ~~P~~ Z 12 30 01.1
~~eScS~~ N 39 44
~~eL~~ N 48 58
~~eL~~ E 49 02

P:Compression
 37 $\frac{1}{2}$ N., 72 $\frac{1}{2}$ E.
 Afghanistan-Tadzhik border
 H=12 20 55 USCGS

8. ~~P~~ Z 13 01 34.5
~~PcP~~ Z 02 06.7
~~S~~ N 10 29
~~eL~~ N 22 43
~~L~~ N 26 22
~~L~~ E 28

P:Dilatation
 Southern Iran.
 H=12 50 45 USCGS

8. ~~P~~ Z 13 45 10.1
~~i~~ E 11.2
~~S~~ NE 54 23
~~ScS~~ N 55 03
~~eL~~ NE 14 02 28

Mag. 6 $\frac{1}{2}$ (Matsushiro)
 42 N., 44 $\frac{1}{2}$ E. Georgia S.S.R.
 H=13 35 59 USCGS

8. iP N 16 17 00.1
 i EZ 00.5
 i N 01.5
 iP:S

8. P Z 18 13 53.8
 i E 54.8

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	Z	18	14	03.3
	i	Z			21.3
	i	N			59.5
	eL	N	19	39	
8.	P	Z	19	13	48.8
	i	E			49.5
	i	N			51.1
	S	N	14		02.5
	i	E			03.0
8.	P	Z	22	20	26.7
	i	E			27.2
	i	Z	21		05.7
	i	N			09.9
	i	Z			10.2
9.	L	N	04	26	40
	L	E		27	22
9.	iP	EZ	06	19	43.7
	i	N			44.2
	S	NEZ	20		04.6
	iP:E,Dilatation				
9.	e	N	06	56	16
	e	E			29
9.	iPZ,PN		14	14	45.2
	i	E			45.5
	eS	N		23	10
	eScS	E		24	12
	iP:Dilatation				
	17 S., 177½ W. Fiji Is.				
	h:450 km ca.				
	H=14 04 28 USCGS				
9.	eP	Z	17	05	31
	L	E		32	14
	L	N			50
9.	eP	Z	13	32	17
	e	N		47	41
9.	iP	NZ	20	53	04.7
	i	E			04.9
9.	P	Z	21	36	59
	e	N		46	56
	e	E		47	24
	5 S., 153 E.				
	New Britain region.				
	H=21 28 57 USCGS				
10.	e	N	03	29	50
	e	E			55
	L	N		41	47
	L	E		42	32

Date	Phase	Comp.	Time(GMT)		
			h	m	s
10.	iP	NZ	04	42	22.5
	iP:Compression				
10.	P	Z	07	03	47.4
	i	N			47.6
	eL	E		13	07
	eL	N		14	08
10.	iP	EZ	07	45	11.9
	iP:E,Dilatation				
10.	iP	Z	08	06	48.9
	i	N			49.4
	i	E			50.0
	i	Z		07	22.4
10.	P	Z	20	41	02.4
	i	N			03.6
11.	iP	NZ	00	39	34.7
	i	E			35.9
	PcP	Z		41	32
	eS	E		45	43
	i	N			49
	eL	N		48	50
	eL	E		50	10
	L	NE		52	16
	iP:N,Compression				
	Mag.5 3/4 (Matsushiro)				
	5 S., 130 E. Banda Sea.				
	H=00 31 40 USCGS				
11.	P	Z	01	50	13
	e	N			16
	S	NE			59 40
	ScS	E	02	00	36
	eSS	E		04	40
	eSSS	N		07	56
	e	E			59
	eL	NE		09	34
	i	N		10	36
	eL	NE		13	36
	Mag.5 3/4 (Matsushiro)				
	23 S., 175 W.				
	Tonga Is. region.				
	H=01 38 33 USCGS				
11.	e	N	03	59	54
	e	E		04	08.7
11.	iP	NEZ	04	29	24.4
	iS	Z			28.1
	iP:S				
11.	iP	Z	10	18	50.9
	eS	N		28	14
	iP:Compression				
	23 S., 175 W.				
	Tonga Is. region.				
	H=10 07 12 USCGS				

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
11.	iPEZ,PN iP:S,W,Compression		11	09	36.1	continued					
11.	iP i i e e	NZ E E E NZ	11	11	32.8 33.2 59 12 05 06	L	E		03	24	00
	iP:S,Dilatation					iP:N,E,Dilatation 41.8 N.,142.5 E. Hokkaido, Japan. h:80 km ca. J.M.A.					
11.	iPZ,PN i iP:Dilatation	E	11	54	35.8 36.2	13.	iP i iS	Z NEZ NE	04	35	31.7 32.6 36 11.3
11.	P e e	NEZ N N	17	55	59 56 38 45	13.	eP e i e eS	EZ NZ Z N N	05	48	54 49 02 07 53 00 56 41
11.	eP i i eS	NZ E Z NE	20	12	12 13.9 18.0 54	9 1/2 S.,106 1/2 E. Off south coast of Java. H=05 39 31 USCOS					
11.	iPZ,PE e iP:Dilatation	N	22	15	11.2 16 01	13.	iP S iP:S,E,Dilatation	NEZ Z	17	16	16.0 29.5
12.	iP i i i e	NZ E E E NZ	04	49	30.7 50 31 57 51 04 11	13.	P i e eS e Lq Lq Lr Lr	Z NE NE N E N E N E	17	47	27 28 41 56 49 57 06 18 05 27 38 09 14 10 03
	iP:N,Dilatation					P:Compression Mag.5 3/4 (Matsushiro) 18 S.,173 1/2 W. Tonga Is. H=17 36 07 USCOS					
12.	eP i i eS	Z N Z NE	07	36	36 37.9 46.2 37 19	13.	iP i S	NZ E EZ	18	32	36.0 36.6 33 03
	iP:N,Compression					iP:N,Compression					
12.	P S	Z E	15	17	07 29	13.	iP i iS	Z E NE	19	06	30.8 32.0 58.5
	iP:N,Dilatation					iP:Compression					
12.	e	N	18	46.3		13.	P S	NZ N	23	23	36 26 09
13.	iP e e e	NZ Z E N	01	42	16.9 26 43 38 44 01	14.	iPZ,PE i S	Z N	00	21	29.6 38.7 22 01
	iP:N,Dilatation					iP:Compression					
13.	iP i S e	Z NE Z N	02	45	50.0 50.4 46 15 18	14.	iP eS	Z NZ	01	05	49.1 06 05
	iP:Dilatation					(cont.)					
13.	iP i S	NEZ Z NE	03	22	17.2 37.9 23 27	(cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	i	N	01	06	08.7
	i	E			09.7
	iP:Dilatation				
14.	P	Z	01	26	41
	i	Z		27	01.1
14.	iP	Z	05	16	34.8
	eL	N		22	10
	eL	E		23	02
	iP:Compression				
14.	iPNZ,PE		09	34	31.3
	e	N		35	22
	iP:S,Dilatation				
14.	iP	NEZ	13	35	57.1
	S	E		36	37
	iP:S,W,Compression				
14.	iP	EZ	18	04	56.0
	i	N			56.3
	iPP	E		06	03.5
	i	N			13.5
	i	Z			15.0
	sPP	NE			24
	iS	NE		10	03.5
	iScP	Z		11	08.5
	L	N		12	20
	L	E			26
	eL	NZ		14	31
	iScS	NE		15	09
	eL	N		17	06
	eL	E			25
	Lr	Z			40
	iP:E,Compression				
	Mag. $6\frac{1}{2}$ (Matsushiro)				
	5 N., 126 E. Near south coast of Mindanao, P.I.				
	h:150 km ca.				
	H=17 58 31 USCGS				
14.	iP	Z	18	36	08.5
	i	Z			10.6
14.	iP	NEZ	19	58	45.2
	iS	NEZ			46.5
	iP:N,E,Compression				
14.	iP	NEZ	19	59	38.2
	iS	NE			40.0
	iP:N,E				
14.	iP	NEZ	21	16	49.7
	iS	NEZ			50.9
	iP:N,E,Compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
14.	iP	Z	21	56	29.8
	i	NEZ			30.1
	i	Z			38.9
	e	Z		57	43
	PP	Z		58	03
	iPcP	Z			57.3
	iS	NE	22	02	13
	L	E		04	48
	eL	N			50
	eL	E		07	51
	eL	N			53
	iP:N,E,Compression				
	1 N., 125 E. Celebes.				
	H=21 49 10 USCGS				
14.	iP	NEZ	22	08	32.7
	i	Z			47.1
	i	Z			52.9
	i	Z		10	30
	PcP	Z			39
	e	E		14	30
	iSN,SE				43
	i	Z			46
	Lq	N		17	18
	eLq	E			42
	e	N		18	33
	ScS	NE			40
	Lr	Z		19	29
	iP:S,W,Compression				
	Mag. $6\frac{1}{4}$ - $6\frac{1}{2}$ (Matsushiro)				
	$52\frac{1}{2}$ N., 168 W.				
	Fox Is., Aleutian Is.				
	H=22 00 50 USCGS				
14.	iPKP 1	Z	23	41	50.9
	i	N			52.9
	i	E			56.9
	i	N		43	57.9
	e	EZ		44	07
	e	N			50
	i	Z		45	39
	PP	NZ			48
	e	E			56
	PPP	Z		50	00
	eL	N	00	23	36
	eL	E		26	30
	eL	N		35	40
	L	Z			46
	eL	N		38	45
	eL	E		39	12
	iPKP 1:Compression				
	Mag. $7\frac{1}{2}$ (Matsushiro)				
	$59\frac{1}{2}$ S., 31 W.				
	Sandwich Is.				
	H=23 21 56 USCGS				
15.	iP	NZ	01	40	02.7
	i	E			02.9
	iP:N,Compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
17½ N., 145 E. Mariana Is.					
H=01 35 23			USCGS		
15.	eP	NZ	01	52	03
15.	PZ, ePE		02	22	30
15.	iP	Z	03	27	23.4
	i	NZ			24.5
	eS	N	28	09	
	iP:Compression				
15.	iP	NEZ	04	04	52.6
	iS	NE			53.9
	iP:S,E,Compression				
15.	iP	Z	05	08	55.9
	i	E		09	00.8
	e	N		12	40
	i	E			58
	eL	E		13	33
	eL	N		15	00
	iP:Compression				
17 N., 145 E. Mariana Is.					
H=05 04 14			USCGS		
15.	P	Z	05	19	07
	i	N			13.5
15.	iP	NEZ	05	53	50.5
	iS	NE			51.9
	i	E			54.7
	iP:N,E,Compression				
15.	iP	NEZ	07	04	18.0
	i	E			23.0
	i	NE			23.2
	i	NE			27.0
	i	E			28.1
	iS	N			44.2
	e	E			47
	i	N			53
	iP:N,W,Compression				
15.	e	E	07	09	43
	e	N		10	38
15.	PZ, ePN		07	28	42
	i	E			43
	i	Z		29	32.3
	i	N			35
15.	iP	NEZ	09	00	57.6
	e	N		02	38
	iS, SE			04	47.2
	L	E		05	20
	eL	N		06	46
	iP:N,W,Compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
17½ N., 145 E. Mariana Is.					
H=08 56 20			USCGS		
15.	iP	EZ	09	36	59.0
	i	N			59.4
	iP:E,Compression				
5½ N., 125½ E. Near south coast of Mindanao, P.I.					
H=09 30 22			USCGS		
15.	iP	Z	10	57	05.5
	e	N		11	16 13
	iP:Dilatation				
37 N., 70 E. Hindu Kush.					
H=10 47 42			USCGS		
15.	P	NEZ	11	29	45
	S	NE			33 34
	eL	E			34 08
	eL	N			35 43
17 N., 145 E. Mariana Is.					
H=11 25 07			USCGS		
15.	iPKP 1	Z	12	35	43.8
	i	Z			52.5
	i	N			53 06.5
	i	Z			07.0
	iPKP 1:Dilatation				
59 S., 24 W. Sandwich Is.					
H=12 15 45					
15.	iP	EZ	17	12	29.9
	i	N			30.2
	i	N			39.5
	iP:W,Compression				
15.	iP	Z	18	27	56.7
	i	E			57.0
	e	N		28	59
	e	E		29	02
	iP:Compression				
15.	iP	NZ	18	37	19.2
	iS	NE			28.2
	i	Z			28.5
	iP:N,Compression				
15.	iP	Z	20	14	52.0
	i	E			52.5
	i	Z			57.0
	iP:Dilatation				
15.	iP	NEZ	21	20	51.8
	i	E		21	18.8
	iS	NE			18.8
	iP:S,E,Dilatation				

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
16.	P	NZ	01	34	06	17.	iP	Z	03	03	10.0
	i	E			06.5		i	NEZ			10.5
	eS	Z			20		eS	N	10	55	
16.	P	Z	02	35	18		e	NE	11	24	
	eS	N		39	05		eL	NE	15	01	
	eL	E			55		eL	NE	20	49	
	eL	N		41	32		iP:S,W,Dilatation Mag. 5 7/8 - 5 3/4 (Matsushiro) 5 1/2 S., 102 1/2 E. Off south coast of Sumatra. H=05 53 46 USC GS				
16.	iP	NZ	05	54	16.3	17.	iP	NZ	13	53	2'
	eS	EZ		55	01		i	E			2'
	e	N			02		S	Z			1'
	iP:N, Compression										
16.	P	Z	11	25	20	17.	e	NE	17	26	18
	i	Z			28.0		G	NE		43	05
	e	N		28	34		eL	N		50.4	
	eL	N		29	30		eL	E		53	28
	eL	N			50		Mag. 5 3/4 (Matsushiro) 36 1/2 S., 101 1/2 W. South Pacific Ocean. H=16 48 55 USC GS				
	e	E			54						
	47 1/2 N., 152 E. Kurile Is. H=11 21 47										
16.	iP	NEZ	11	50	56.7	17.	iP	Z	20	21	03.2
	iS	Z		51	15.1		i	NEZ			03.1
	iP:N,E, Compression						S	E			29
16.	iP	NEZ	21	39	02.5		i	Z			29.1
	i	Z			13.5		iP: Compression				
	i	N			26						
	iP:S,E,Dilatation					18.	iP	Z	07	03	03.1
17.	iP	NEZ	00	11	25.2		i	NEZ			04.1
	iP:N,E, Compression						i	E			19.5
							iS	E			30.5
							iP:Dilatation 36.4 N., 140.8 E. Honshu, Japan. h:40 km ca. J.M.A.				
17.	P	Z	02	35	00	18.	eP	Z	16	12	4'
	i	Z			51.1						
	i	E			51.3	18.	iPEZ,PN		16	32	20.0
	i	N			52.5		i	EZ		33	45
	eS	NE		39	48		e	NZ		34	12
	i	E		40	10		i	E			20.0
	eL	E		41	47		i	Z		37	34.0
	eL	E		43	22		iS	NE		38	35.0
	eL	N			41		eL	N		41	16
	L	N		46	20		eL	E			40
	L	E			48		iScS	NE		42	36.0
	P:Dilatation 21 1/2 N., 121 E. Off south coast of Formosa. H=02 31 02 USC GS						eL	Z		43	05
							Lr	Z		46	06
17.	iP	NEZ	05	06	05.0		iP:S,W, Compression Mag. 6 1/4 .. 6 1/2 (Matsushiro) 53 N., 168 1/2 W. Fox Is., Aleutian Is. H=16 24 50 USC GS				
	S	N		07	03						
	i	E			07						
	i	N			34						
	iP:S,W, Compression 40.2 N., 142.7 E. Near east coast of Honshu, Japan. h:20 km ca. J.M.A.										

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
18.	P	Z	16	45	44	18.	P	Z	22	56	22.5
	i	N			52.5		i	N			22.8
							i	E			28.4
18.	iP	NZ	16	46	15.5		i	N			48.9
	i	E			16.0		i	E			49.7
		iP:N,Compression					i	N	57	11	
							e	N	23	02	08
18.	iPZ,ePE		16	56	04.9	19.	iP	NZ	03	27	29.6
	i	NZ			05.1		i	E			28 57
	i	E			06.0		i	Z			30 00
	e	E		57	26		i	N			50.4
		iP:Compression					S	N			31 20
18.	PZ,ePNE		17	15	54		i	E			22
	i	N			16 02.0		eL	E			32 02
							eL	N			58
								iP:N,Compression			
18.	P	NZ	18	26	36	19.	iP	Z	09	19	56.1
	e	N			28 30		i	Z			20 05
	e	E			29 43						
	e	N			30 08						
18.	P	NEZ	19	09	17	19.	iPZ,PN		10	33	55.1
	S	N			13 26		i	E			59.9
	e	E			57		i	E			34 09.1
	eL	N			15 31		iSN,SE				10.4
	e	E			16 56			iP:Compression			
18.	iP	Z	19	52	09.7	19.	iP	Z	10	42	54.1
	i	N			09.9		e	E			41
	i	E			53 47		e	E			43
	eS	E			55 49		e	N			49 20
	i	E			56 02		e	N			55 01
	L	E			33			iP:Dilatation			
	L	N			57 38	19.	iP	N	13	42	20.3
		iP:Compression					iN,eZ				43 02
18.	iP	Z	20	24	12.2		i	E			03
	i	Z			33.5		i	N			37
	i	Z			26 12			iP:N			
		iP:Compression				19.	iPZ,PE		13	45	14.2
18.	iPZ,FNE		21	32	06.6		i	N			15.9
	i	N			07.6		eS	NE			54
		iP:Compression						iP:Compression			
18.	e	E	21	33	45	19.	iP	Z	14	45	32.6
	i	E			34 00.3		i	E			32.8
	e	N			10		iS	NE			46 25.8
	e	Z			12		i	Z			25
	e	E			16			iP:Compression			
18.	P	Z	21	45	04.6	19.	iP	N	18	51	20.7
	i	N			06.6		S	NE			40
	i	NEZ			10.1			iP:N			
	i	N			13.1	19.	iP	Z	20	50	53.8
	i	Z			39.8		i	NE			54.1
	eS	NE		49	18		S	Z			31 13
	eL	N			51 09			iP:Compression			
	L	E			52 00						
		iP:Compression									

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
19.	iP	Z	21	17	07.4	21.	iP	Z	04	55	32.2
	i	E			07.6		S	N		56	33
	i	NE			31.5		i	EZ			35
	iP:Compression						i	NZ			40
19.	iPZ,PN		22	59	43.3		iP:Dilatation				
	i	E			43.7		33.5 N., 133.9 E.				
	i	N	23	01	18		East part of Kochi Pref., Japan.				
	i	E			37		h:10 km ca. J.M.A.				
	e	E			42	21.	iPZ,PN		10	32	27.6
	iP:Compression						i	E			29.8
19.	iPNZ,PE		23	09	52.4		i	NZ			37.5
	i	N			10 37		ePP	N		35	35
	e	N			11 23		iS	N		42	24
	iP:S,Compression						eSS	NE		47	33
20.	eP	Z	08	17	53		eSSS	N		50	46
	eL	N			42 30		Lq	NE		52	46
	Mag. 5 $\frac{1}{2}$ - 5 $\frac{3}{4}$ (Matsushiro)						Lr	N		57	05
	South of Kermadec Is.						iP:Compression				
	H=08 05 34 USCGS						Mag. 6 - 6 $\frac{1}{4}$ (Matsushiro)				
							27 $\frac{1}{2}$ S., 176 W.				
							Kermadec Is. region.				
							H=10 20 33 USCGS				
20.	iP	EZ	08	58	03.7	21.	iP	Z	11	26	10.7
	i	N			03.9		i	NE			11.1
	S	N			22		iS	N		36	06
	i	Z			24.8		e	E			16
	iP:E,Dilatation						eSS?	N		40	59
20.	P	Z	12	40	41		eL	E		45	58
	i	N			43.0		eL	E		49	51
	i	E			44.7		eL	N		50	18
	e	Z			41 48		iP:Compression				
	e	N			42 17		Mag. 6 $\frac{1}{4}$ - 6 $\frac{1}{2}$ (Matsushiro)				
							27 $\frac{1}{2}$ S., 176 W.				
							Kermadec Is. region.				
20.	iP	Z	12	59	38.8		H=11 14 17 USCGS				
	PcP	Z	13	02	50	21.	eP	Z	11	31	22
	eL	N			07 04		e	NE			25
	iP:Dilatation						e	E		33	56
	10 $\frac{1}{2}$ N., 126 $\frac{1}{2}$ E.						iS	NE		41	23
	North of Mindanao, P.I.						iSS	N		46	25
	H=12 53 37 USCGS						iL	N		52	30
							iL	N		56	09
							iLr	N	12	03	35
20.	iPZ,PNE		14	21	07.2		Mag. 7 $\frac{1}{4}$ (Matsushiro)				
	iP:S,E,Compression						14 N., 52 E.				
							Gulf of Aden.				
							H=11. 13 14 USCGS				
20.	iP	NZ	14	21	25.2	21.	iP	Z	11	48	50.9
	i	E			27.2		iP:Compression				
	e	E			53						
	e	N			22 24						
	i	EZ			36						
	i	Z	23	02							
	iP:N,Compression										
21.	iP	Z	04	55	15.0	21.	iP	NEZ	12	41	22.8
	i	E			15.2		e	Z		42	18
	i	N			15.7		e	Z			27
	iP:Dilatation						iP:N,E,Compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
21.	iP	NEZ	16	15	37.9
	iP:S,W,Compression				
21.	iP	Z	17	48	41.5
	i	E			41.7
	i	N			43.5
	iS	NE	49		06.4
	i	Z			07.2
	iP:Compression				
21.	iP	NEZ	20	21	58.5
	iS	NEZ	22	17	0
	iP:N,W,Compression				
21.	eP	Z	20	45	20
	i	Z			22.6
	i	E			25.7
	i	N			30.8
22.	eP	NEZ	01	45	05
	eS?	NZ			24
22.	e	N	05	12	25 ca.
22.	P	NZ	05	23	35
	i	Z			42.5
	e	E	24		26
	e	E			47
	e	N			56
22.	P	Z	10	02	01
	i	E			04.2
	eS?	E	03		50
	e	N	04		01
	i	Z			02.5
	eL	E	05		14
	eL	N			31
22.	iPEZ,PN		15	55	30.6
	e	N			59
	iP:W,Compression				
22.	iP	NEZ	17	21	12.6
	i	NE			20
	i	E			39
	i	N			43
	i	NE			54
	i	E	22		01
	i	N			03
	iP:N,E,Dilatation				
	57.8 N., 141.8 E. Off east coast of Honshu, Japan.				
	h:60 km ca. J.M.A.				
22.	iP	NEZ	18	13	03.7
	iS	NE			24.5
	e	Z			26
	iP:N,Dilatation				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
23.	iP	NEZ	00	57	43.9
	iP:N,E,Dilatation				
23.	iP	NEZ	03	57	31.5
	i	N			33.0
	eL	N	04	11	04
	iP:S,W,Compression				
	56 $\frac{1}{2}$ N., 158 W.				
	Alaska Peninsula.				
	H=03 49 00 USCGS				
23.	eP	Z	04	42	56
	i	E			57.5
	i	N			58.0
	i	Z	43		04.1
	i	Z			12.6
	iS	N	52		47
	e	E	53		13
	eL	N	05	03	36
	28 S., 176 W.				
	Kermadec Is. region.				
	H=04 31 00 USCGS				
23.	eL	N	10	17	32
	eL	E			57
	38 N., 14 $\frac{1}{2}$ E.				
	Near north coast of Sicily.				
	H=09 28 56 USCGS				
23.	P	Z	14	10	56.6
	i	N			57.8
	i	E			58.3
	i	Z	11		03.5
	eS	NE	20		43
	eL	N	31		02
	eL	N	37		20
	eL	E	38		08
	27 $\frac{1}{2}$ S., 176 W.				
	Kermadec Is. region.				
	H=13 59 02 USCGS				
23.	P	NEZ	16	25	09
	e	Z			20
	iS	E			32.8
	i	N			34.8
24.	iP	NZ	01	15	58.8
	i	E			57.1
	i	E	26		18.3
	iP:N,Compression				
24.	e	E	05	39	58
	e	N			40 02
	e	N			42 48
	e	E			45 56
24.	iP	NEZ	09	28	19.3
	i	Z			31.5
	iS	N			33 14

Date Phase Comp. Time(GMT)
 h m s
 continued
 eL N 09 54 59
 eL E 55 44
 iP:S,E,Dilatation
 27½ S., 176½ W.
 Kermadec Is. region.
 H=09 14 24 USCGS

24. iP Z 10 12 57.0
 i E 57.1
 i N 57.5
 iS E 13 52.8
 i N 53.8
 iP:Dilatation

24. eP NZ 13 14 37
 ePP Z 15 32
 eS E 19 27
 iL E 20 43
 eL N 23 00 ca.
 9 N., 126½ E. Near north
 coast of Mindanao, P.I.
 H=13 03 34 USCGS

24. eP Z 17 03 10
 i N 12.7
 i Z 13.6
 e EZ 20
 i N 22.1
 S N 04 03.8
 i Z 06.7
 i E 07.8
 i Z 11.8

24. iP NZ 19 24 37.7
 i E 38.7
 eS Z 25 34
 i E 35.0
 i N 35.9
 iP:S,Dilatation

25. e N 00 30 34
 e E 39
 e N 33 09

25. eP E 01 07 00
 i Z 00.9
 e Z 11
 eL E 14 42

25. iP NZ 04 00 53.4
 i E 53.9
 i Z 59.2
 i NE 01 05.9
 eS E 10 45
 i N 49
 e E 11 24
 eSS N 15 49
 eLq NE 21 05

Date Phase Comp. Time(GMT)
 h m s
 continued
 eLr E 04 25 40
 eLr N 59
 iP:N,Compression
 Mag. 5 3/4 (Matsushiro)
 27½ S., 176 W.
 Kermadec Is. region.
 H=03 48 58 USCGS

25. iP EZ 06 51 41.1
 i N 41.4
 iS NE 52 05.9
 i Z 06.9
 iP:E

25. iP E 07 15 35.1
 i Z 35.9
 e Z 50
 i E 51.2
 i N 51.5
 e N 22 10
 e E 27 30
 eL N 29 29
 iP:E

25. 1PKP 1 E 10 38 32.0
 i Z 40.7
 e E 42
 i N 44.9
 i Z 56.3
 i E 57.1
 i N 58.3
 1PKP? 2 Z 39 10.0
 i Z 24.8
 1pPKP 2 Z 36
 ePP Z 42 31
 eSKS? E 46 10
 eSKKS? E 49 55
 e N 50 09
 eSKSP NE 52 38
 ePPS E 57 40
 eSS E 11 02 49
 eSS N 02 58

PKP 1:Dilatation
 Mag. 5 3/4 - 6 (Matsushiro)
 25½ S., 67 W.
 Chile-Argentina border region.
 H=10 18 35 USCGS

25. eP EZ 16 03 45
 e N 14 24
 e N 20 42

25. iP NZ 22 14 55
 i E 56.4
 i Z 15 33.4
 iS E 34.8
 iP:Dilatation

25. eP Z 23 30 31

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
26.	iP eS iP:Compression	Z NE	00	56	35.0 57	27.	iP eS eL iP:S,W ₂ Compression	NEZ E E	01	28	58.2 07 26
26.	iP S i iP:N,E,Dilatation	NEZ EZ N	00	57	43.3 05 07	27.	iP i i eL iP:Dilatation	Z E N E	01	56	02.3 02.7 03.4 50
26.	P e e P:Compression	Z N E	16	27	11.3 36 55 ca. 37 40	27.	iP i iS i eL eL iL M M M iP:N,E,Dilatation Mag.6 (Matsushiro) 52½ N., 160½ E. Kamchatka foreshock. H=04 47 45	NEZ Z E N E Z N	04	52	44.3 58.7 50 57 51 34 49 24 25 51
26.	iP i sPcP eS e e eSS i eL iP:Compression 59½ N., 151½ W. Kenai Peninsula, Alaska. H=18 19 10	Z N Z E E N E	18	28	00.8 01.1 27.0 35 20 37 29 51 38 59 39 14 40 14	27.	iP iP:N	N	04	55	25.5
26.	eP i i i e e	NEZ E N N N E	21	56	11 17.9 18.2 44.3 03 29 04 01	27.	iP eL iL iP:N,E,Dilatation 52½ N., 160 E. Kamchatka foreshock. H=05 01 55	NEZ N E	05	06	53.7 12 59 13 10
26.	iP i i iS i L L eL M M M iP:Dilatation 53 N., 160 E. Kamchatka foreshock. H=22 02 35	Z N E E N E N Z E Z N	22	07	30.4 30.6 31.6 11 37 43 13 34 39 40 16 11 24 17 09	27.	iP i i iP:Compression 52½ N., 160 E. Near southeast coast of Kamchatka. H=05 06 14	Z NE E	05	11	12.2 12.5
26.	PNZ, ePE		22	39	45	27.	P i i P:Dilatation	Z E N	05	12	35.2 38.3 38.5
26.	eP e e e	NEZ E E N	22	41	13 46 40 48 10 20 ca.	27.	eP e 35 N., 26 E. Near east coast of Crete. H=05 22 39	Z EZ	05	35	16 24
						27.	PZ, ePE		05	56	11

27. iP Z 06 23 05.0
 i N 05.3
 i E 05.7
 eL E 29 33
 eL N 30 10 ca.
 iP:Compression Near southeast coast of Kamchatka.
 H=06 18 08 USCGS

27. P NEZ 06 49 31
 eL E 56 27

27. iP NEZ 06 56 31.2
 i NE 32.2
 iS E 07 00 42
 i N 51
 L E 02 36
 eL N 41
 iL N 03 40
 iP:N,E,Dilatation
 52½ N.,159½ E.
 Kamchatka foreshock.
 H=06 51 35 USCGS

27. P Z 07 18 58.5
 i E 58.9
 i NZ 59.5
 iS NE 19 41
 i Z 42

27. iP NEZ 07 50 22.2
 iS E 54 31
 eL E 56 20
 iL N 57 27
 iP:S,W,Compression
 52½ N.,159½ E.
 Near southeast coast of Kamchatka.
 H=07 45 25 USCGS

27. P Z 07 59 52.0
 i E 52.2
 i NZ 52.8
 i E 58.7
 iS E 08 04 02
 i N 15
 eL E 05 49
 L N 06 00
 L E 38
 L N 55

27. iP NEZ 08 10 28.9
 i N 11 01.2
 i E 05.4
 eL N 16 35
 L E 17 04
 iP:N,E,Dilatation
 52½ N.,160 E. Near southeast coast of Kamchatka.
 H=08 05 30 USCGS

27. e N 09 51 38
 eL N 52 12

27. P NEZ 10 21 29
 eL E 27 55
 eL N 28 37

27. iP NEZ 11 53 52.8
 iS E 58 02
 i N 58 08
 eL NE 12 00 30 ca.
 iP:S,Compression
 52½ N.,160 E. Near southeast coast of Kamchatka.
 H=11 48 55 USCGS

27. iP Z 11 59 46.3
 i NE 47.2
 S E 12 03 56
 i N 04 09
 eL E 06 34
 iL N 46
 iL N 09 11
 iP:Compression
 52½ N.,160 E.
 Kamchatka foreshock.
 H=11 54 48 USCGS

27. iPKP 1 Z 12 58 04.2
 i E 06.2
 e Z 37
 iPKP 2 EZ 48.7
 iPKP 2 N 49.7
 ipPKP 2 Z 13 00 59.9
 i N 01 01.2
 i E 08 22
 i N 24
 eSPP E 14 33
 eSS NE 22 03
 e E 26 38
 eSSS N 28 20
 iPKP 1:Compression
 28 S.,63 W. Santiago del Estero Province, Argentina.
 h:650 km ca.
 H=12 39 09 USCGS

27. iP EZ 13 19 04.9
 i N 05.2
 iP:W,Compression

27. iP Z 15 58 24.5
 i E 24.7
 i NEZ 25
 i E 27
 S EZ 16 02 42
 i E 50
 i N 56
 eL N 04 47

(cont.)

Date Phase Comp. Time(GMT)
h m s

continued

iL NE 16 05 40
eL Z 06 06
M N 35
M E 07 11
M Z 09 43

iP:Compression
Mag.6 - $6\frac{1}{4}$ (Matsushiro)
56 N., $162\frac{1}{2}$ E. Kamchatka.
H=15 52 55 USCGS

27. iP Z 19 33 32.7
i NE 33.5

iP:Compression
56 N., 162 E.
Near east coast of Kamchatka.
H=19 28 39 USCGS

27. P NZ 19 34 10.4
i E 11.0
eS? N 38 23
eL E 40 44
eL N 41 03

27. iP NEZ 21 02 12.1
i N 19.3
e E 06 46
eL E 09 48
eL N 10 00 ca.
iP:S,E,Compression

28. iP Z 01 45 52.0
i NE 52.5
iP:Compression

28. iP Z 01 48 22.4
i NE 22.9
e E 52 24
e E 53 44
iP:Compression

28. iP EZ 02 21 21.3
i N 22.8
i Z 28.5
iP:E,Compression
37 N., $70\frac{1}{2}$ E. Hindu Kush.
h:200 km ca.
H=02 12 18 USCGS

28. iPZ,PN 07 25 31.2
i NEZ 31.4
i NE 32.8
i NEZ 36.3
i N 28 57
eS NEZ 29 35
i E 41
i N 45
i Z 51
iL E 52 00

Date Phase Comp. Time(GMT)
h m s

continued

L Z 07 32 17
eL N 31
M Z 34 25
M N 35 54
M E 36 48

iP:Compression
Mag. $6\frac{1}{4}$ - $6\frac{1}{2}$ (Matsushiro)
 $52\frac{1}{2}$ N., 160 E. Near east
coast of Kamchatka.
H=07 20 32 USCGS

28. iP KP 1 Z 10 23 00.2
i Z 28.4
i N 38.2

iPKP 1:Dilatation
 $22\frac{1}{2}$ S., $87\frac{1}{2}$ W.
Chile-Bolivia border.
h:100 km ca.
H=10 03 08 USCGS

28. iP Z 10 45 45.0
i N 45.5
i E 45.7
iP:Compression

28. iP NEZ 12 05 30.6
eS N 09 41
eL E 12 00
eL N 36

iP:N,E,Dilatation

28. e N 13 02 41

28. iP Z 13 09 30.0
i Z 30.4
i NE 31.1
i Z 43.7
i Z 11 07.2
S E 13 33
i N 43
i Z 52
eL N 15 37
L E 48
iL N 16 30
eL E 44
M N 19 48
M E 21 38

iP:Compression
Mag.6 (Matsushiro)
 $52\frac{1}{2}$ N., 160 E. Near southeast
coast of Kamchatka.
H=13 04 30 USCGS

28. iP NZ 13 15 03.2
i E 03.7
iP:S,Compression

28. iP NEZ 19 35 08.2
 iS N 46
 i EZ 50
 iP:S,E,Dilatation

28. iPZ,PN 19 47 26.4
 i NE 27.7
 iS E 51 32
 i N 38
 eL E 53 24
 eL N 32
 L N 54 30
 iP:Dilatation

28. eP Z 21 34 28
 eS N 38 36
 eL E 42 46

28. iP Z 23 36 22.4
 i N 22.7
 eS E 40 31
 e N 40
 eL E 42 27
 eL N 30
 iP:Compression

29. iPEZ,PN 02 58 20.4
 i N 32.2
 i E 33.8
 i Z 37.7
 eS E 03 02 24
 e N 31
 eL E 04 48
 eL N 05 16
 iP:W,Compression

29. P NEZ 05 35 19

29. iP NEZ 06 18 57.7
 iS NE 19 29.2
 iP:N,W,Compression

29. iP Z 07 11 53.7
 i N 59.8
 iPcP Z 14 00
 eS N 18 06
 eL N 21 02
 iL E 06
 2 S.,126 E. Spice Is.
 H=07 04 14 USCGS

29. P EZ 14 41 49
 i Z 42 07.2
 e N 55 29

29. iP NZ 14 51 50.5
 i E 50.7
 iS N 52 09.2

Date Phase Comp. Time(GMT)
 h m s
 continued
 i Z 14 52 09.4
 i E 09.7
 iP:S,Dilatation

29. iP NE 17 26 13.7
 + i E 14.2
 i NEZ 27 09.2
 eS N 35 23
 e E 31
 eL N 46 50
 eL E 49 20
 eL E 53 29
 iP:N,Compression
 21½ S.,174 W. Tonga Is.
 H=17 14 40 USCGS

29. iP NEZ 17 55 47.7
 e NE 56 06
 e Z 12
 i N 30.8
 i E 46.7
 iP:N,E,Compression

29. P N 18 13 38
 i Z 39.2
 i E 39.4

29. eL E 20 25 51
 eL N 26 10 ca.

29. iP Z 20 39 17.4
 + i N 17.9
 i E 18.8
 iS NE 42 36
 eL E 44 17
 iP:Dilatation
 Mag.6 - 6½ (Matsushiro)
 18 N.,145 E. Mariana Is.
 h:350 km ca.
 H=20 35 08 USCGS

29. iP Z 20 46 16
 i Z 37.3

29. iP Z 21 35 53.7
 + i N 54.4
 i E 54.8
 e N 42 15
 eL NE 47 03
 iP:Compression
 8¼ S.,122 E. Flores Is.
 H=21 27 17 USCGS

30. eP Z 00 36 57
 i N 37 04.5
 i Z 16.7
 e E 35
 i N 36.8

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
30.	iP e e	EZ E N	01	17	01.9 29 30	30.	eL	E	14	28	40 ca.
	iP:E,Dilatation					31.	iP iS i	EZ Z E	01	46	11.5 51.4 55
30.	iP iS iP:Dilatation	EZ NE	01	18	39.3 41.4	31.	P i i iS	Z N Z NEZ	03	26	57.2 57.7 59.0 16.4
30.	iP i iP:N,Dilatation	NZ EZ	03	11	52.8 53.3	31.	iP i iS	Z NE NEZ	04	19	20.2 20.4 39.1
30.	iPZ,PN i i e	E Z E	05	15	03.7 04.9 17.3 26 50	31.	iP S	NEZ NE	04	20	38 57
30.	iP i i iP:Dilatation	Z N N	06	24	55.6 55.8 25 17.4	31.	P i iS P:W	E N NZ	06	31	11.4 11.9 30.2
30.	iP iP:S,E,Dilatation	NEZ	07	46	05.0	31.	iP i iS	Z N NZ	09	06	09.5 10.1 28.6
30.	iPZ,PNE iP:Compression		11	24	15.2	31.	iP i iS iP:Dilatation	Z N NZ	10	36	54 55.4 57.3 37 06.6 13.6 42 49 45 50 52 48 14
30.	P i i eS i iL i iL	NZ E E E Z E E N	11	24	28 29.1 31 25 39 45 53 26 10 21	31. <p>Mag. 5 3/4 - 6 (Matsushiro) 3 S., 139 1/2 E. Northern New Guinea. H=10 29 23 USCGS</p>					
30.	iP i iS iP:S,Dilatation	NZ E NEZ	12	49	52.9 53.3 50 11.7						
30.	iP i iS iP:Compression	Z E Z	12	56	56.1 58.8 57 16.3	31.	P S	Z Z	15	06	26 44
30.	iP i iP:Compression 6 S., 105 1/2 E. Sunda Strait. h:150 km ca. H=13 55 45 USCGS	Z N	14	04	50.1 50.8	31.	eL eL eL	E E N	21	46	18 50.4 52 10 ca.
30.	iP i e iP:S,E,Dilatation	NEZ Z N	14	21	52.2 22 06.7 07	<p>37 1/2 N., 25 W. Azores Is. H=20 52 55 USCGS</p> <p>Takeshi Honda. Director.</p>					