

MARCH-APRIL 1960 599



MATSUSHIRO SEISMOLOGICAL OBSERVATORY, JAPAN.

Seismological Bulletin
for March 1 to April 30, 1960

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
1.	iP e iS	NEZ N E	01	50	00.2 17 20.5	2.	e e eL	N N E	00 01 07	58 06 59	39 39 59
	P:S,E,dilatation						19 N., 101½ W. Michoacan, Mexico. H=00 10 26 USCGS				
1.	P NZ, eP E	E	03	36	48.7	2.	e	N	22	51	05
	P:N, compression 18½ S., 178 W. Fiji Is. h: 600 km ca. H=03 26 41 USCGS						52 N., 30 W. North Atlantic Ocean. H=21 56 25 USCGS				
1.	P i S e	Z Z N N	03	56	25.7 33 57 41 44	3.	iP i i PP eL	Z NE N Z N	01	10	49.7 50.3 11 10.3 12 23.8 22 34
	P: compression						P: compression 7 S., 156 E. Solomon Is. H=01 02 20 USCGS				
1.	iP i i	EZ NE E	06	54	12.4 34 48	3.	P i S	Z NE N	08	09	23.1 23.8 50
	P:W, compression						P PPP e e				
1.	iP S	Z NE	07	14	34.5 53.5				14	20	08 23 32 37 00 ca. 39 00 ca.
	P: dilatation						11½ S., 122½ E. Timor I. region. H=14 11 29 USCGS				
1.	e eL eL	N E N	08	35	44 45 14 46 11	3.	P i i i i	Z N E N N	21	53	41 46 54.3 54 08
1.	P i i i eS eScS eSS L	Z NEZ Z N NE E N N	20	11	05.6 06.6 10.1 12 24 20 49 21 34 25 32 31 31	4.	iP i pP PcP i i eS L L	EZ N Z Z Z Z N E N	02	22	52.9 53.6 23 14.2 25 24.6 27.6 57.6 27 35 30 55 59
	P: dilatation Mag. 5¼ - 5½ (Matsushiro) 22S., 175W. Tonga Is. H=19 59 33 USCGS						P: E, dilatation 50½ N., 177 W. Andreanof Is., Aleutian Is., H=02 15 56 USCGS				
1.	eP e e	EZ N N	22	02	42 09 12 12 16						

Date	Phase	Comp.	Time(GMT)		
			h	m	s
4. ✓	iP	NEZ	03	55	09.6
	i	NEZ			10.8
	i	NE			56.6
	iS	N	56	44	48.6
	i	EZ			48.6
P:N,E Mag. 6.6 (Matsushiro) 30.7 N., 130.9 E Near southwest of Kyushu, Japan. h:100 km ca. J.M.A.					
4.	P	NZ	06	48	51
	i	E			53
	S	NE		50	20
4.	P	NEZ	11	56	44.7
	i	N			48.7
	S	N	58	16	
	i	E			19
P:S,compression Hokkaido, Japan. H=11 55 12 USCGS					
4. ✓	e	N	17	08	39
72 N., 1 1/2 W. Jan Mayen Is. region. H=16 25 25 USCGS					
4.	e	N	18	36	25
	e	N			37 33
4.	e	E	20	06	38
	e	N			43
	eL	N		07	32
4. ✓	P	NEZ	21	14	40
	i	Z			44.2
	PcP	Z		16	02.4
	S	N		21	45
	SS	E		26	09
	L	N		28	27
	L	E		29	05
	L	Z		30	47
Mag. 6 (Matsushiro) 7 1/2 N., 94 E. Nicobar Is. H=21 05 45 USCGS					
4.	P	NEZ	21	42	44
	i	Z			43 11.0
	S	NEZ			57
5.	P Z, eP	NE	07	32	26
	eS	N			50
5.	P	NEZ	10	36	44
	eS	NE			37 08
5. ✓	P	EZ	11	33	42
(cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	iP	Z	11	34	11
	sP	Z			20.5
	PP	Z		35	12
P:compression 29 N., 81 E. Nepal. H=11 25 00 USCGS					
5. ✓	iP	NZ	13	56	24.6
	i	NEZ			25.0
	i	E			25.4
	i	Z			28.6
	PP	NEZ		57	49.6
	i	N		58	00.3
	PcP	N			45
	S	N	14	02	05
	ScP?	N			16.3
	PcSorSS?	N			41.3
	L	N		04	13
	L	E			19
	i	E			53
	i	Z			55
	i	N			57
	Lr	Z		06	45
P:N,compression Mag. 7 1/4 (Matsushiro) 1 N., 129 E. Halmahera I. H=13 49 16 USCGS					
5.	P	NEZ	14	19	26
5.	eP	Z	14	32	08
	i	N			50
5.	P	NE	14	41	14
	i	N			19.0
	i	EZ			42 35
5.	iP	NZ	15	57	00.8
	i	Z			05.3
	PP	NZ		58	41
	PP	E			42
	i	E		16	05 28
	i	N			32
	i	Z			06 10
P:S,dilatation 1 N., 129 E. Halmahera aftershock. H=15 49 53 USCGS					
5.	P	Z	16	06	14
5.	eP	Z	16	14	22
5.	P	Z	18	17	09
	i	NEZ			18
	S	Z			18 04
5.	iP	Z	18	19	36.3
P:dilatation					

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
5.	eL	N	21	31	18	6.	P	Z	13	19	04
	e	E			32 05 ca.		S	NEZ			23
6.	P EZ, eP	N	00	18	20	7. ✓	e	E	01	23	05
	i	N			41		e	N			39
	i	N			48		eL	E			27 50
							eL	N			28 29
6. ✓	P	Z	02	29	18.3	7.	P	NEZ	02	17	29
	i	NEZ			15.5		L	N			36 28
	i	E			16.1		L	N			40 05
	PP	N			41	5 1/2 S., 101 E. Off coast of Sumatra. H=02 03 04 USCGS					
	i	N			48	7. ✓	iP	NZ	05	20	20.6
	sP	N			30 01		i	E			21.1
	PP	Z			39		i	NZ			48.3
	sPP	NE			55		i	NZ			54.7
	i	Z			31 07		PP	N			21 43.1
	PcP	Z			39		PPP	Z			22 19
	S	NE			34 57		PcP	Z			41.6
	L	N			37 00		S	NE			25 53
	L	E			05		i	Z			26 01
	i	EZ			37		L	NEZ			28 41
Mag. 6 1/4 - 6 1/2 (Matsushiro) 1 N., 129 E. Halmahera aftershock. H=02 22 06 USCGS						P:N,compression Mag. 5 - 5 1/2 (Matsushiro) 1 1/2 N., 125 1/2 E. Celebes. H=05 13 10 USCGS					
6. ✓	P	Z	04	25	08	7. ✓	P	Z	06	15	59
	i	Z			32		i	N			16 01
	eS	N			36 19		eS	E			19 09
	eL	N			50 45		i	E			11
24 N., 108 W. Gulf of California. H=04 11 54 USCGS						52 N., 153 E. Off southwest coast of Kamchatka. h:100 km ca. H=06 11 38 USCGS					
6.	P	NEZ	06	01	11.4	7.	iP	Z	09	47	15.6
	e	N			55		eL	N			10 01 17
P:E,dilatation							eL	E			57
6.	P	Z	07	05	10	P:compression Mag. 5 1/2 - 5 1/2 (Matsushiro) 10 S., 160 1/2 E. Solomon Is. H=09 38 09 USCGS					
	i	Z			20	7.	eP	N	11	38	48
6.	P	NEZ	07	59	14		e	Z			57
	eS	N			08 01 24		S	E			48 14
Kurile Is. H=07 56 28 USCGS							e	N			20
6.	iP	NEZ	09	31	14.1		i	N			43 15
	i	Z			32.3		L	E			35
	i	E			32 35	23 1/2 N., 123 1/2 E. Ryukyu Is. H=11 34 23 USCGS					
P:N,E,dilatation 37.2 N., 141.3 E. Near northeast coast of Honshu, Japan. h:60 km ca. J.M.A.						7.	iP	NEZ	12	04	10.8
6.	iP	NEZ	13	03	12.8		i	N			29
	iS	NE			31.5	(cont.)					
P:N,W,compression											

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
i	N		12	04	40.2
i	N				45.2
P:E,dilatation 36.7 N.,141.0 E. Near coast of Ibaragi Pref., Japan. h:40 km ca. J.M.A.					
7.	P	Z	13	53	34
e	N		14	06	31
7.	eP	Z	14	22	07
iS	NE				11.0
7.	iP	Z	15	51	44.5
i	NE				51
i	Z				56
eS	N		54	59	
L	E		56	41	
L	N		57	15	
P:compression 24 1/2 N.,125 E. Ryukyu Is. H=15 47 50 USCGS					
7.	P	EZ	16	47	40.7
i	EZ				51.7
P:dilatation					
7.	P Z,eP N		21	15	18
i	Z				19.2
i	N				19.5
iS	N		17	02	
8.	P	Z	01	45	23
i	Z				29.8
eS	Z		46	01	
8.	P	Z	06	34	34
e	N		43	11	
eL	N		45	53	
8.	P	Z	06	53	32.0
S	NE				45.2
8.	P	EZ	06	57	18.6
i	N				19.0
P:compression					
8.	P	Z	08	06	03
eS	NZ				22
8.	SS	N	12	24	46
SS	E				48
L	N		55	53	
L	N		44	53	
Mag. 6 (Matsushiro) 65 S.,179 1/2 E. Antarctic Ocean. H=11 51 10 USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
8.	iP	NZ	16	43	25.3
i	NEZ				25.8
i	E				26.0
i	Z				45
pP	Z		44	13	
sP	Z				49
sPP	Z		46	55	
S	NEZ		51	21	
sS	Z		52	11	
ScS	NEZ		53	00	
i	N				18
i	Z				24
i	E		54	44	
SSS	NEZ		58	26	
PKPPKP	N		17	12	28
i	Z				50
P:S,dilatation Mag. 7.4 (Matsushiro) 16 1/2 S.,168 1/2 E. New Hebrides Is. h:250 km ca. H=16 33 38 USCGS					
8.	P	NEZ	17	02	32
S	E				52
8.	iP	Z	17	03	39.6
i	NE				40.5
iS	E				59.1
8.	P	NEZ	19	38	53
9.	iP Z,P NE		01	13	35.8
P:compression 5 1/2 S.,148 1/2 E. New Britain. h:150 km ca. H=01 05 42 USCGS					
9.	e	N	02	01	35
9.	iP Z,P NE		08	30	10.1
S	NEZ				18.5
P:dilatation					
9.	P	Z	08	33	26
S	NEZ				34.8
P:compression					
9.	P	Z	08	34	37
S	NEZ				45.8
9.	P	Z	08	55	18.9
eS	NE				44.4
P:dilatation					
9.	P	NEZ	10	31	53
S	E				32 00
9.	P	NEZ	10	33	32
S	NZ				41

Date	Phase	Comp.	Time(GMT)		
			h	m	s
9.	P	Z	10	55	01
S	NEZ				10
9.	iP	NEZ	12	01	53.5
iS	NE		02	02.1	
P:N,E,dilatation					
9.	iP	NEZ	12	05	48.1
iS	NE				56.6
i	Z				57.1
P:S,compression					
9.	iP Z,P NE		12	25	03.5
S	EZ				12
P:N,dilatation					
9.	P	Z	12	42	27
S	EZ				36
9.	P	NZ	16	41	43
i	E				43 01
10.	iPKP	Z	00	13	53.9
i	N				55.6
i	E				55.9
i	Z		14	23.4	
i	NE		18	45	
SS	E		38	14	
eSSS	NE		42	43	
eL	N		52	12	
P:compression Mag. 6 - 6 1/4 (Matsushiro) 16 S.,72 W. Southern Peru. h:150 km ca. H=23 54 20 USCGS					
10.	iP	EZ	04	31	26.1
i	N				26.8
S	N				49.3
P:W,compression					
10.	P	NEZ	05	11	32
31 1/2 S.,179 1/2 E. Kermadec Is. region. h:500 km ca. H=05 00 23 USCGS					
10.	P	NEZ	07	51	05
S	NE				28.8
10.	P	NEZ	09	17	08
7 1/2 N.,126 E. Mindanao, P.I. H=09 10 47 USCGS					
10.	P	Z	09	54	02
i	Z				11
i	Z				14.1
(cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
S	NE		10	01	21
L	E				07 25
L	N				41
Mag. 5 3/4 - 6 (Matsushiro) 10 S.,161 E. Solomon Is. H=09 44 57 USCGS					
10.	iP	NEZ	13	55	31.5
i	Z				44
i	Z				56 10
eS	N		14	04	33
eScS	N				05 33
L	N				12 33
L	E				40
Lr	E		15	57	
Lr	N		16	11	
P:N,W,compression Mag. 5 3/4 - 6 (Matsushiro) 15 S.,174 W. Samoa Is. region. H=13 44 25 USCGS					
10.	iP	NEZ	14	36	03.4
i	Z				10.9
i	NE				11.6
i	Z				17.9
P:N,E,dilatation 47 N.,152 E. Kurile Is. h:100 km ca. H=14 32 39 USCGS					
10.	iP	Z	14	44	35.6
P:dilatation					
10.	e	N	19	09	49
e	E				10 13
10.	iP	N	20	50	17.8
S	NE				50
i	N				52
P:dilatation					
10.	iP NZ,P E		23	16	50.7
eS	N				18 28
e	N				19 10
e	E				15
P:S,dilatation					
11.	iP	NEZ	00	43	41.6
i	N				44 27.8
i	E				28.4
i	Z				28.9
eL	N		01	06	30
P:N,W,dilatation					
11.	iP	NEZ	06	23	20.3
P:N,E,dilatation (cont.)					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
			37.5 N., 141.7 E, Near northeast coast of Honshu, Japan. h:50 km ca. J.M.A.		
11.	P	NE	08	01	06.0
	S	NEZ			10.5
	P:N.				
11.	iP	NZ	11	36	27.6
	17 1/2 S., 178 1/2 W. Fiji Is. h:600 km ca. H=11 26 20 USCGS				
11.	P	Z	11	49	24.1
	i	E			25.4
	i	Z			41.3
	i	E			41.8
	i	E			51.8
	i	Z			52.0
	i	Z	50	08.9	
	P:compression				
11.	P	Z	13	15	23.5
	i	E			24.8
	i	N			25.1
	18 1/2 N., 145 E. Mariana Is. h:200 km ca. H=13 11 10 USCGS				
11.	iP	NZ	16	10	49.2
	i	E			49.5
	S	NE	11	34	
	P:S,dilatation				
11.	iP	Z	16	31	09.0
	e	N	40	16	
	P:compression				
12.	P	NEZ	02	22	46
	eS	E			28 53
	eScS	E			32 28
	e	N			36
	L	E			34 42
	4 S., 152 1/2 E. Near coast of New Britain. h:150 km ca. H=02 14 56 USCGS				
12.	P	EZ	06	13	29.5
	S?	E			14 00.0
	i	N			00.6
	P:compression				
12.	iP	NEZ	12	06	28.9
	eS	E			17 00
	(cont.) - 6 -				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	L	E	12	39	44
	L	N			46
	Mag. 5 1/2 - 5 3/4 (Matsushiro) 42 N., 21 E. Southern Yugoslavia. H=11 54 00 USCGS				
12.	iP	NEZ	13	19	55.8
	S	EZ			20 19
	i	N			20
	P:S,E,dilatation				
12.	eP	E	19	48	31
	e	N			32
	e	E			33
12.	iP	Z	20	38	53.4
	i	N			53.7
	i	E			55.3
	iPP	Z	40	30	
	PcP	Z			48.7
	i	Z			44 38.0
	iS	NE			45 52
	ScS	N			48 50
	Lq	E			49 37
	Lr	N			52 11
	Lr	Z			13
	P:dilatation Mag. 6 1/4 (Matsushiro) 6 S., 152 E. New Britain. H=20 30 39 USCGS				
12.	iP	EZ	22	55	05.4
13.	iP	NZ	02	25	03.5
	i	E			03.7
	i	Z			26 00.7
	L	N			27 12
	P:S,compression 42 N., 143 E. Near south coast of Hokkaido, Japan. H=02 23 37 USCGS				
13.	P	Z	03	23	44.4
	i	NZ			24 09.4
	i	E			10.0
13.	iP	Z	08	24	11.7
	i	N			12.3
	i	E			12.6
	P:dilatation				
13.	iP	Z	14	51	30.6
	i	NEZ			50.5
	P:compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
13.	iP	Z	16	22	31.8
	1	N			32.2
13.	S	Z	17	08	38
	S	Z			39
14.	ePP	N	00	14	32
	e	E			33
	7 1/2 N., 77 W. Panama-Colombia border, h:60 km ca. H=23 55 32 USCGS				
14.	iP	NEZ	00	54	45.7
	1	Z			55 22
	eS	N			56 02
	i	E			19
	eS	E			38
	P:S,W,compression 42 1/2 N., 143 E. Hokkaido, Japan, H=00 52 57 USCGS				
14.	P	NEZ	03	32	16.5
	1	E			16.8
	S	Z			50.9
14.	iP	Z	05	09	41.4
	1	N			10 18
	P:compression 35.9 N., 132.7 E. Southwest of Honshu, Japan, h:0 km. J.M.A.				
14.	P	Z	09	30	52.4
	1	N			52.8
14.	eP	E	10	14	10
14	iP	NEZ	17	50	38.8
	P:N,W,compression				
14.	P	Z	19	03	08.5
	1	NE			08.9
	e	NE			04 28
	42 1/2 N., 143 E. Near coast of northern Honshu, Japan. H=19 01 35 USCGS				
14.	iP	Z	19	28	28.8
	44 1/2 N., 139 1/2 W. Off coast of Oregon. H=19 17 27 USCGS				
14.	e	N	20	45	01
	eL	N			45 21
	29 N., 49 1/2 E. Persian Gulf. H=20 14 35 USCGS				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
14.	P	E	21	07	48.8
	44 1/2 N., 129 1/2 W. Off coast of Oregon, H=20 27 03 USCGS				
14.	e	N	21	24	50
	a	N			25 48
14.	eP	E	22	16	31
	1	E			49.5
	1	N			49.7
15.	iP	EZ	05	31	32.2
	i	N			33.2
	1	Z			43
	1S?	EZ			52
15.	eP	Z	06	56	42
	1	Z			57 17.4
	1	N			20.3
15.	iP	EZ	09	08	00.9
	1	N			01.5
	P:W,dilatation 2 N., 127 1/2 E. Molucca Passage, H=09 00 55 USCGS				
15.	iP	Z	09	28	02.7
	1	NE			03.3
	iPcP	EZ			30 26.9
	1	N			28.9
	S	N			33 45
	L	N			36 13
	L	E			37 23
	P:compression 51 N., 174 1/2 W. Andreanof Is., Aleutian Is., H=09 20 58 USCGS				
15.	iP	Z	10	20	27.4
	eL	N			41 47
	L	N			45 57
	P:compression 20 S., 174 W. Tonga Is. H=10 08 58 USCGS				
15.	iP	Z	15	27	08.3
	P:compression				
15.	iP	Z	17	01	49.5
15.	iP	Z	19	42	08.6
	20 1/2 S., 179 W. Fiji Is. region. h:600 km ca. H=19 31 50 USCGS				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
20.	iP i	NEZ E	23	01	01.3 02 19
	P:S,W,compression				
20.	iP Z,P i	NE NE	23	11	13.6
	P:S,W,compression				
20.	iP i	EZ N	23	33	00.1 00.2
	P:W,compression				
20.	iP Z,P i	E N	23	37	16.4 17.0
	P:compression				
20.	eP	Z	23	52	13.4
21.	P i	Z Z	00	00	33 44
21.	iP S e	NEZ N E	00	36 37	09.8 05 15
	P:S,W,compression Mag. 5 1/2 - 5 3/4 (Matsushiro) 39 1/2 N., 143 E. Near east coast of Honshu, Japan. H=00 34 50 USCGS				
21.	P	NEZ	00	49	00
21.	iP eS	NEZ N	00	59 01	56.7 01 06
	P:S,W,compression				
21.	iP i i	NZ E Z	01	27	40.2 40.5 50.7
	P:S,compression				
21.	iP Z,P iS	N NZ	02	45	10.8 27.0
	P:compression				
21.	iP	NEZ	03	39	28.5
	P:N,E,dilatation				
21.	e	N	04	04	55
21.	iP S	NEZ N	04	44 45	45.0 51
	P:S,W,compression 40 N., 142 1/2 E. Near east coast of Honshu, Japan. H=04 43 22 USCGS				
21.	iP Z,P i	E E	04	54	28.6
	P:W,compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
21.	iP Z,P S	E NE	05	01	31.2 02 37
	P:W,compression				
21.	iP eS	NEZ NE	05	55 56	53.5 33
	P:S,W,Compression 40 N., 143 1/2 E. Near east coast of Honshu, Japan. H=05 54 16 USCGS				
21.	iP S i	NEZ N E	06	52 53	50.8 55 57
	P:S,W,compression 40 N., 143 1/2 E. Near east coast of Honshu, Japan. H=06 51 29 USCGS				
21.	iP EZ,P S	N N	08	20	04.4
	P:S,W,compression				
21.	iP eS e	NEZ N E	08	23 24	19.6 22 26
	P:S,W,compression				
21.	P	Z	08	35	12
21.	iP Z,P i	N N	08	52	26.8
	P:compression				
21.	iP S i	NEZ E N	09	14 15	13.0 23 25
	P:S,W,compression				
21.	iP i iS eL L	Z NE NE N N	09	19 20 21	40.7 40.9 41 10 37
	P:compression Mag. 5 3/4 - 6 (Matsushiro) 40 N., 143 E. Near east coast of Honshu, Japan. H=09 18 22 USCGS				
21.	iP i	Z EZ	09	34	22.8 23.2
	P:compression				
21.	P i	Z E	09	55	27 27.8
	P:compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
21.	iP Z,P i	NE NEZ	10	10	02.0
	P:S,W,compression				
21.	P	Z	10	34	04
21.	P	Z	10	34	27
21.	P i	Z NEZ	10	56	13 13.5
21.	iP eS	NEZ N	11	06 07	30.6 38
	P:S,W,compression				
21.	iP Z,P i	NE NEZ	11	12	52.5
	P:S,W,compression				
21.	eP i	Z Z	11	51	32
	16 S., 172 1/2 W. Samoa Is. region. H=11 40 15 USCGS				
21.	iP i	Z Z	11	59	59.3 17.4
	P:compression				
21.	iP i	Z Z	12	32	03.7 17.4
	P:compression				
21.	eP i	Z Z	12	41	06 22
21.	P i	NEZ EZ	12	50	23 32
21.	iP EZ,P i	N N	13	38	38.6
	P:S,W,compression				
21.	P	EZ	13	56	24
21.	iP NZ,P i	E N	14	48	31.6
	P:N,dilatation				
21.	eP i	Z Z	16	45	51
	4 1/2 S., 154 E. New Ireland region. H=16 37 46 USCGS				
21.	iP i	EZ Z	19	20	47.6 50.2
	P:E,dilatation				
21.	PKP i	1 Z	20	08	49.9 50.2
	21 S., 70 1/2 W. Near coast of Chile. H=19 48 56 USCGS				
21.	iP	NEZ	20	13	28.0
	P:S,W,compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
21.	P	Z	20	39	47
21.	iP	Z	20	45	40.5
	P:compression				
21.	iP E,P i	Z Z	20	49	12.9
	P:W,compression				
21.	iP	NEZ	22	00	58.4
	P:S,W,compression				
21.	P	Z	22	10	44
21.	iP S e	NEZ NE N	22	58 59	16.2 17 24
	P:S,W,compression 39 1/2 N., 143 1/2 E. Near east coast of Honshu, Japan. H=22 56 58 USCGS				
21.	iP S	NEZ N	23	23	01.0 01
	P:S,W,compression 39 1/2 N., 143 E. Near east coast of Honshu, Japan. H=23 21 43 USCGS				
21.	P	Z	23	37	29
22.	iP	NEZ	00	29	58.4
	P:S,W,compression				
22.	iP	NEZ	00	53	10.7
	P:S,W,compression 39 1/2 N., 143 E. Near east coast of Honshu, Japan. H=00 51 52 USCGS				
22.	iP	NEZ	01	24	21.0
	P:W,compression				
22.	iP EZ,P S	N EZ	01	46	12.2 36
	P:W,compression				
22.	eSKS e SS G eLr eLr	E N NE E N Z	02	56	39 41 03 03 24 13.5 17 55 18 26
	Mag. 6 1/2 - 6 1/2 (Matsushiro) 61 1/2 S., 154 E. About 400 miles northwest of Balleny Is. H=02 31 17 USCGS				

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
22.	eP	NEZ	03	11	39	22.	iP	NEZ	17	00	14.2
								P:N,E,dilatation			
22.	iP	EZ,P N	04	06	53.2	22.	iP	Z	17	17	50.2
	i	Z			57.7		i	NEZ			50.3
	e	Z	07	04				P:compression			
		P:E,dilatation									
22.	iP	NEZ	04	58	14.9	22.	iP	Z,P NE	18	04	27.2
		P:S,W,compression						P:S,W,compression			
22.	iP	NEZ	07	02	49.4	22.	iP	NEZ	18	41	40.7
		P:N,E,dilatation					e	N		42	47
22.	iP	NEZ	07	34	37.5			P:N,E,dilatation			
		P:N,E,dilatation				22.	P	Z	18	46	47
22.	iP	NEZ	08	14	40.1		i	Z			58.4
		P:S,W,compression				22.	P	EZ	19	55	11
22.	iP	NEZ	10	24	02.1		i	N			28.0
		P:S,W,compression				22.	iP	Z,P NE	21	21	41.3
22.	iP	NZ	10	24	14.1		eS	N		28	50
	i	E			14.7		eSS	N		32	36
	i	EZ			23			P:compression			
	i	N	25	09				Near coast of western Java.			
	i	E			15			h:150 km ca.			
	i	Z			19			H=21 12 42	USCGS		
		P:S,compression				22.	iP	NEZ	21	47	25.2
22.	iP	N	11	56	25.9			P:S,W,compression			
	i	EZ			26.3	23.	iP	NEZ	00	24	39.7
	e	E	57	51			e	N		25	43
	e	N	58	01			i	NE			59
		P:S						P:S,W,compression			
22.	iP	Z	12	18	30.2			Mag. $6\frac{1}{4}$ - $6\frac{1}{2}$ (Matsushiro)			
	i	E			30.7			$39\frac{1}{2}$ N., 143 E.			
		P:compression						Near east coast of Honshu,			
22.	iP	Z	13	40	53.7			Japan.			
	i	NE			54.1			H=00 23 22	USCGS		
	i	E			41 00.6	23.	eP	Z	00	46	45
	e	N			44.7						
		P:compression				23.	eP	Z	00	48	18
22.	e	N	14	15.0		23.	iP	EZ	00	50	21.7
								P:W,compression			
22.	iP	NEZ	15	39	24.9	23.	iP	Z	00	50	44.8
		P:N,E,dilatation						P:compression			
22.	iP	NEZ	16	13	59.2	23.	eP	Z	00	56	15
		P:N,E,dilatation				23.	eP	Z	01	03	06
22.	iP	Z	16	17	08.5	23.	iP	NEZ	01	08	33.2
	i	NE			09.0		i	N		09	39
		P:compression						P:S,W,compression			
								Mag. 6 - $6\frac{1}{4}$ (Matsushiro)			

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
						23.	iP	NEZ	02	37	15.0
							i	Z			26.0
							i	E		38	28
								P:S,W,compression			
						23.	P	Z	02	59	10
						23.	iP	NEZ	03	47	25.1
							e	Z		48	34
								P:N,E,dilatation			
						23.	iP	NEZ	04	06	34.0
								P:N,E,dilatation			
						23.	iP	Z	04	34	27.5
							i	NE			27.7
							e	N		35	25
								P:compression			
						23.	iP	Z	04	42	24.2
								P:compression			
						23.	P	NEZ	04	56	01
						23.	iP	NEZ	05	06	45.2
							i	Z			54.5
							i	N		07	42
							e	E			51
								P:S,W,compression			
						23.	iP	Z	06	15	18.0
								P:compression			
						23.	iP	NEZ	06	39	55.2
							eS	E		41	02
								P:S,W,compression			
						23.	iP	Z	06	51	56.3
								P:compression			
						23.	iP	NEZ	07	52	00.4
							eS	N		53	09
							i	E			26
								P:S,W,compression			
						23.	iP	NEZ	08	24	35.1
							eS	EZ		25	42
							e	Z		26	02
								P:N,E,dilatation			
						23.	iP	NEZ	08	48	02.5
							S	N			59
							i	Z		49	04
							i	E			15
								P:S,W,compression			
								40 N., 142 $\frac{1}{2}$ E.			
								Near east coast of Honshu,			
								Japan.			
								H=08 46 44	USCGS		

Date	Phase	Comp.	Time(GMT)		
			h	m	s
23.	iP S	EZ,P N E	09	04	44.8
		P:S,W,compression		05	54
23.	iP	NEZ	09	21	52.2
		P:N,W,dilatation			
23.	iP S e i	NEZ N Z E	10	30	08.0
		P:S,W,compression		31	09
		39 $\frac{1}{2}$ N., 143 E. Near east coast of Honshu, Japan. h:100 km ca. H=10 29 01		13	27
		USCGS			
23.	iP S i i	NEZ E N N	11	52	15.5
		P:S,W,compression		53	12
		Mag. 5.7 (Matsushiro) 39 $\frac{1}{2}$ N., 143 E. Near east coast of Honshu, Japan. H=11 51 00		29	45
		USCGS			
23.	iP	NEZ	13	26	52.5
		P:N,E,dilatation			
23.	iP	NEZ	13	26	53.3
		P:N,E,dilatation			
23.	iP iS	NEZ NZ	14	36	53.0
		P:S,E,compression		37	00.3
23.	iP L e i	NEZ E N NE Z	16	02	23.8
		P:S,W,compression		03	16
		Mag. 6 (Matsushiro) 39 $\frac{1}{2}$ N., 143 E. Near east coast of Honshu, Japan. h:100 km ca. H=16 01 13		22	24
		USCGS		38	
23.	iP	NEZ	16	20	54.0
		P:S,W,compression			
23.	iP	NEZ	16	28	49.0
		P:S,W,compression			

Date	Phase	Comp.	Time(GMT)		
			h	m	s
23.	iP i	NEZ Z	16	51	45.8
		P:N,E,dilatation			53.1
23.	iP i e e	EZ Z E NE	16	53	57.8
		P:W,compression		54	42
		55			
23.	iP EZ,P N		19	25	30.5
		P:S,W,compression			
23.	iP i	Z NEZ	19	48	58.7
		P:compression			58.9
23.	eP	Z	20	09	42
		32 $\frac{1}{2}$ N., 103 $\frac{1}{2}$ E Szechwan Province, China. H=20 03 47			USCGS
23.	iP i	NEZ N	21	01	56.6
		P:N,E,compression		02	55
23.	iP eS e	NEZ N E	21	35	36.8
		P:S,W,compression		36	34
		39 $\frac{1}{2}$ N., 143 $\frac{1}{2}$ E. Near east coast of Honshu, Japan. H=21 34 19		45	
		USCGS			
23.	iP i i	NEZ N N	22	25	52.1
		P:S,W,compression		24	55
		Mag. 6 (Matsushiro) 39 $\frac{1}{2}$ N., 143 E. Near east coast of Honshu, Japan. H=22 22 36		25	00
		USCGS			
23.	P	Z	22	32	29
23.	iP Z,P N i		22	40	42.0
		P:S,compression			42.3
23.	iP	NEZ	22	52	54.8
		P:S,W,compression			
		40 N., 143 E. Near east coast of Honshu, Japan. H=22 51 41			USCGS

Date	Phase	Comp.	Time(GMT)		
			h	m	s
23.	P eS	Z E	23	21	06
				22	12
23.	iP S	NEZ N	23	27	33.6
		P:S,W,compression		28	25
		39 N., 143 E. Near east coast of Honshu, Japan. H=23 28 15			USCGS
24.	iP iS	EZ NZ	01	57	19.9
		P:E,dilatation			28.4
24.	iP i i	Z NE Z	02	27	20.0
		P:compression			20.3
					28.4
24.	iP Z,P NE		02	48	18.2
		P:S,W,compression			
24.	eP	Z	03	04	03
		50 N., 175 $\frac{1}{2}$ W. Andreanof Is., Aleutian Is. H=02 57 01			USCGS
24.	iP P:E	NEZ	03	25	21.0
24.	iP Z,P E i		03	38	00.0
		P:compression			00.3
24.	P P:E,dilatation	EZ	05	44	31.2
24.	iP S L	NEZ E E	05	57	57.6
		P:S,W,dilatation		06	00
		47 N., 152 $\frac{1}{2}$ E. Kurile Is. H=05 54 28			36
		USCGS			58
24.	P i	EZ NZ	06	18	21.3
		P:E,dilatation			31
24.	P i	Z NE	08	49	34.6
		P:dilatation			34.8
24.	iP i i eS	Z NE Z N	08	45	46.8
		P:compression			47.2
					56.5
					46
					54

Date	Phase	Comp.	Time(GMT)		
			h	m	s
24.	iP	NEZ	08	49	55.6
		P:N,E,dilatation			
24.	iP i i L L	NEZ N E N E	10	00	04.8
		P:S,W,compression		01	07
					11
					31
					34
24.	iP i	Z NEZ	10	29	09.9
		P:compression			10.1
24.	iP EZ,P N i		12	22	45.1
		P:S,W,compression		23	45
					52
24.	iP iS	NEZ NEZ	13	05	17.6
		P:N,E,dilatation			25.9
24.	iP	NEZ	13	32	09.9
		P:N,E,dilatation			
24.	eP	EZ	14	13	05
24.	P	EZ	14	14	43
24.	iP S	NEZ NE	14	31	38.8
		P:N,E,dilatation			46.9
24.	iP	NEZ	15	27	01.2
		P:S,W,compression			
24.	iP	NEZ	15	54	07.9
		P:S,W,compression			
24.	iP iS	NEZ NEZ	16	20	34.2
		P:N,E,compression		21	14.3
24.	iP Z,P E S		16	50	30.9
		P:compression		51	11
24.	iP i i	Z NE N	17	24	00.6
		P:compression			00.9
					13
24.	iP i	Z NE	17	55	25.2
		P:compression			25.4

Date	Phase	Comp.	Time(GMT)		
			h	m	s
24.	iP	EZ	20	03	59.8
	i	N			59.8
	S	N		04	56
	i	E		05	00
	i	E		06	09
	P:W,compression 40 N.,142½ E. Near east coast of Honshu, Japan. H=20 02 44 USCGS				
24.	iP	Z	21	02	11.3
	i	E			14.5
	i	Z			41.6
	i	NE			43.9
	i	Z			45.8
	P:dilatation				
25.	P	NZ	01	33	09
	e	N		34	35
25.	iP	NEZ	02	39	26.8
	P:S,E,dilatation 19 S.,177½ W. Fiji Is. h:400 km ca. H=02 28 56 USCGS				
25.	P	EZ	03	00	33
	i	Z			49.0
	i	N			49.6
	i	EZ			51
25.	eP	NEZ	04	58	45
	i	Z			46
	i	Z			54
	i	Z		59	22
	i	Z			25
	i	N			33
	e	Z			34
25.	P	NEZ	05	06	18.6
	i	NEZ			27.5
	P:N,E,dilatation				
25.	e	N	06	47	51
25.	P	Z	09	58	14
25.	iP	NEZ	11	05	12.9
	e	N		06	09
	i	E			16
	L	NE			39
	P:S,W,compression				
25.	iP	NEZ	11	17	26.6
	i	N		18	31
	i	E			34
	L	N			53
	P:S,W,compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
25.	iP	Z	13	08	52.3
	i	NE			32.6
	S	N		09	36
	P:compression				
25.	e	NE	16	28	41
25.	iP	NEZ	20	00	59.5
	iS	NE		01	15.5
	P:S,E,dilatation				
25.	iP	EZ,P N	03	50	08.7
	e	N			27
	P:S,E,dilatation				
26.	iP	Z	06	35	23.0
	P:compression				
26.	iP	Z	08	09	31.5
	i	NE			31.8
	i	Z			39.8
	P:compression				
26.	iP	NEZ	10	08	59.1
	P:N,E,dilatation				
26.	iP	EZ	15	52	21.0
	iS	EZ			30.8
	P:E,dilatation				
26.	P	Z	19	33	34
	i	N			39.3
	i	Z			44.0
	S	NEZ			55
26.	P	NZ	23	38	39
	e	Z			50
27.	iP	EZ	02	18	27.5
	S	N		19	11
	P:E,dilatation				
27.	iP	Z,P NE	02	52	28.8
	i	Z		53	02.2
	i	N			56
27.	iP	NEZ	03	46	39.7
	e	Z			47
	P:N,E,dilatation				
27.	P	Z	03	58	09
	i	NEZ			10.0
	S	NE		04	06 05
	i	N			07 26
	ScS	E			59
	SS	N			09 45
	Lq	N			11 29
	L	E			12 47
	(cont.)				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
continued					
	Lr	N	04	14	49
	Mag. 6 - 6½ (Matsushiro) 13½ S.,166 E. New Hebrides Is. H=03 48 27 USCGS				
27.	iP	NZ,P E	05	03	39.1
	P:S,W,compression				
27.	iP	NZ,P E	06	24	57.0
	P:N,dilatation				
27.	P	Z	08	48	13
	i	E			13.9
	e	Z			16
	i	E			41
	i	Z			46
	i	Z			51
27.	iP	NEZ	09	07	36.3
	i	Z			44.3
	e	N		10	29
	e	Z			43
	S	E		15	30
	i	N			39
	ScS	E		17	22
	i	N			20 53
	Lq	NE			21 44
	Lr	N			24 18
	Lr	Z			27
	P:S,E,dilatation Mag. 6½ - 6½ (Matsushiro) 13½ S.,166½ E. New Hebrides Is. H=08 57 53 USCGS				
27.	iP	Z	09	47	24.4
	S	NEZ			44
	P:compression				
27.	P	EZ	09	49	19
	e	N			44
27.	iP	Z	09	57	04.4
	i	Z			21
	P:compression				
27.	eP	Z	17	36	45
	30½ S.,178 W. Kermadec Is. H=17 24 41 USCGS				
27.	P	Z	19	45	03
	e	N		53	05
	13 S.,166 E. New Hebrides Is. H=19 35 25 USCGS				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
27.	eLq	N	20	56	44
	eLr	E	21	01	22
	Mag. 5 3/4 - 6 (Matsushiro) 20 N.,104½ W. Jalisco,Mexico. H=20 15 46 USCGS				
27.	iP	Z	23	40	24.8
	i	N			25.1
	i	E			25.3
	eS	E		50	19
	P:compression 37½ S.,177 E. Off coast of North I., New Zealand. H=23 28 04 USCGS				
28.	ePKP 1	Z	00	32	42
	e	N			58
	e	Z			33 11
	ePPS	N			46 02
	eSS	N			50 45
	eL	N	01	05	22
	Mag. 6½ - 6½ (Matsushiro) 7½ N.,82 W. Off south coast of Panama. H=00 13 38 USCGS				
28.	iP	NZ	00	55	13.4
	i	E			13.6
	e	Z			42
	e	E			58
	e	N			56 04
	P:N,dilatation				
28.	eP	Z	01	01	59
	e	Z		02	37
	e	E			39
28.	iP	Z	02	06	28.7
	i	Z			29.0
	i	Z			46.8
	i	Z			07 12
	P:dilatation				
28.	P	Z	02	53	37
28.	iP	Z,P NE	05	02	43.9
	eS	Z		04	25
	P:compression				
28.	iP	Z	05	50	48.9
	i	NE			49.1
	e	Z			52 06
	e	Z			11
	P:compression				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
28.	iP	EZ	06	35	18.7
	S	N		36	07
	i	Z			08.3
	P:W, compression				
28.	P	Z	06	45	41
	i	Z			48
	i	Z			46 10
	eS	N			53 31
	i	E			55 39
	SS	N			57 26
	SSS	N			59 37
	L	E	07	01	14
	L	NZ			02 22
	Mag. 6 (Matsushiro) 13 1/2 S., 165 E. New Hebrides Is. h:300 km ca. H=06 36 27 USCGS				
28.	eP	Z	06	49	18
	13 1/2 S., 166 E. New Hebrides Is. H=06 39 32 USCGS				
28.	iP Z, P N		06	52	27.1
	e	Z			32
	P:compression 13 1/2 S., 166 E. New Hebrides Is. H=06 42 44 USCGS				
28.	P	Z	07	55	46
28.	eP	Z	08	05	42
	i	Z			48
	13 1/2 S., 166 E. New Hebrides Is. H=07 55 59 USCGS				
28.	iP	Z	08	22	34.8
	i	NE			35.1
	i	EZ			45
	e	N			23 56
	P:compression				
28.	P	Z	11	34	04
	e	Z			19
	i	E			49
28.	iP Z, P N		11	53	38.1
	i	Z			42.9
	e	E			54 14
	eS	N			22
	i	E			23
	P:S, compression				
28.	iP	EZ	12	37	58.9
	i	N			58 00.2
	i	N			03

(cont.)

Date	Phase	Comp.	Time(GMT)		
			h	m	s
	e		12	38	08
	iS	NE			10.8
	P:E, dilatation				
28.	iP	EZ	12	49	22.8
	PP	Z			52 12
	ePPP	N			54 03
	eS	E			58 41
	eL	N	13	09	11
	P:W, compression 23 S., 176 W. Tonga Is. region. H=12 37 50 USCGS				
28.	iP	Z	13	13	49.9
	i	NEZ			50.3
	eS	N			14 55
	P:compression				
28.	iP	Z	14	05	07.3
	i	E			07.8
	e	E			06 05
28.	P	Z	16	54	17
	i	EZ			18.6
	i	N			19.2
	i	E			59
	i	E			58
	i	N			55 01
	i	N			15
29.	iP Z, P N		03	08	14.3
	i	NZ			14.8
	i	E			15.0
	e	Z			29
	S	N			33
	P:compression				
29.	iP	NZ	04	20	01.3
	i	N			21 12
	iS	E			15.1
	i	Z			16.2
	P:N, compression				
29.	iP	NEZ	04	42	17.8
	i	Z			34.6
	iS	E			55.0
	i	N			36.0
	P:N, W, compression				
29.	iP	NEZ	05	12	48.5
	e	E			13 17
	iS	NZ			19
	P:N, W, compression				
29.	iP	NEZ	05	42	12.1
	i	NZ			20.3
	P:N, E, dilatation				

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Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)			
			h	m	s				h	m	s	
29.	iP	Z	06	41	04.9	29.	P	NZ	14	35	37	
	i	NE			05.1		e	Z			38 26	
	i	Z			09		17 S., 167 1/2 E. New Hebrides Is. H=14 25 26 USCGS					
	i	NZ			10.8		P	NEZ	17	10	49.8	
	S	NE			49 19		S	N			11 34	
	SS	N			53 25		P:N, E, dilatation					
	Lq	E			55.6		29.	iP	NZ	20	35 21.6	
	Lq	N			55.7		i	Z			26.8	
	L	NE			57 51		e	Z			36 04	
	Lr	Z			58 25		PcP	EZ			40 10.8	
	ePKPPKP	Z	07	10	39		P:N, dilatation					
	e	Z			11 04		29.	iP	Z	22	18 26.0	
	P:dilatation Mag. 6 3/4 - 7 (Matsushiro) New Hebrides Is. H=06 30 54 USCGS						i	NE			26.3	
29.	eP	Z	07	39	44		e	NEZ			27	
	e	E			45		i	Z			20 27	
	PcP	Z			40 59		S	N			24 49	
	0,98 E. Off coast of Sumatra. H=07 30 33 USCGS						e	NEZ			25 11	
29.	e	Z	08	52	24		eScS	E			28 17	
	e	Z			34		Lr	N			31 42	
	i	N			36.3		Lr	Z			44	
29.	iP	Z	09	56	13.6		P:compression Mag. 6 1/2 (Matsushiro) 6 S., 147 E. East coast of New Guinea. H=22 10 20 USCGS					
	e	NE			19		30.	iP	NEZ	00	36 02.5	
	P:dilatation						S	NE			37 04	
29.	iP	NE	09	58	11.3		e	N			25	
	P:S						e	E			27	
29.	P	Z	10	21	22.3		P:S, W, compression					
	e	Z			32.6		30.	P	EZ	02	06 52	
	e	E			22 19		30.	iP	NEZ	02	43 39.4	
	e	Z			22		S	NE			44 44	
29.	iP	EZ	11	42	56.1		P:S, W, compression 40.2 N., 142.7 E. Near northeast coast of Honshu, Japan. h:30 km J.M.A.					
	i	N			56.3		30.	iP	NEZ	03	03 36.3	
	S	N			43 15		P:N, E					
	P:E, dilatation						30.	e	N			04 39.3
29.	iP	NZ	12	13	51.7		30.	iP	E	04	57 32.8	
	i	N			14 02.3		i	Z			37.8	
	i	E			04.1		S	NEZ			58 16	
	S	E			30		P:E					
	i	N			35		29.	iP	NZ	13	38 27.0	
	P:N, dilatation						iS	NE			31.8	
29.	iP	NZ	13	38	27.0		P:N, dilatation					
	iS	NE			31.8		29.	P	N	14	18 25.8	
	P:N, dilatation						i	Z			26.0	
29.	P	N	14	18	25.8		e	N			24.3	
	i	Z			26.0		P:N					
	e	N			24.3		30.	iP	NEZ	05	06 51.8	
	P:N						iS	Z			54.8	
	P:W, dilatation											

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Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)			
			h	m	s				h	m	s	
30.	iP	EZ	07	05	26.3	30.	iP	NZ	17	58	01.0	
	i	N			26.7		P	Z	20	34	50	
	P:W,compression						S	Z	35	17		
	51 N.,178 1/2 W.											
	Andreanof Is., Aleutian Is.											
	H=06 58 36 USCGS											
30.	iP	NZ	09	48	19.0	31.	P	EZ	00	44	06	
	i	E			19.8		i	Z			12.3	
	e	Z			50 47		i	Z			20.0	
	e	E			49		e	N			45 03	
	e	N			57.0		sP	Z			28	
	P:S,compression						S	N			47 24	
	17 S.,167 1/2 E.						eL	E			48 55	
	New Hebrides Is.						18 1/2 N.,146 E.					
	H=09 58 08 USCGS						Mariana Is. region.					
							h:250 km ca.					
							H=00 39 59 USCGS					
30.	iP	NEZ	10	33	46.3	31.	P	Z	00	47	29.3	
	iS	NEZ			48.9	31.	iP	NEZ	01	30	05.0	
	P:S,E,compression						i	Z			13.6	
30.	P	NZ	10	59	30		P:N,E,dilatation					
	e	E			31	31.	iP	Z	03	03	24.0	
	S	NE			11 07 13		i	E			24.2	
	SS	NE			11 17		L	N			24.3	
	eL	N			13 27		S	N			04 22	
	eL	Z			15 45		i	E			28	
	e	NE			16 15		e	Z			32	
	Mag. 6 (Matsushiro)						L	NE			45	
	13 1/2 S.,166 E.						P:compression					
	New Hebrides Is.						39 1/2 N.,143 E.					
	H=10 49 47 USCGS						Off northeast coast of Honshu,Japan.					
							H=03 02 03 USCGS					
30.	iP	NEZ	12	43	24.1	31.	eP	Z	03	37	43	
	e	NE			44 14		6 S.,143 E. New Guinea.					
	eS	E			25		H=03 29 45 USCGS					
	e	N			27							
	L	NE			45 00							
	P:S,W,compression											
30.	iP	NZ	14	20	55.3	31.	iP	NEZ	06	14	54.8	
	ePcP	Z			22 06		e	N			15 52	
	P:S,W,dilatation						eS	N			59	
	3 1/2 S.,102 E.						L	N			16 25	
	Near coast of Sumatra.						P:S,W,compression					
	H=14 11 40 USCGS						40 N.,143 1/2 E.					
							Off northeast coast of Honshu,Japan.					
							H=06 13 55 USCGS					
30.	iP	NZ	15	30	30.3	31.	iP	NEZ	07	48	52.5	
	i	E			30.8		eS	N			49 54	
	S	EZ			39 31		L	N			50 33	
	L	N			47.0		P:S,W,compression					
	L	E			47.1							
	eLr	N			51.0							
	eLr	E			51.1		31.	P	EZ	08	31	58
	P:N,compression											
	Mag. 5 3/4 - 6 (Matsushiro)											
	22 1/2 S.,174 E.											
	Loyalty Is. region.											
	H=15 19 30 USCGS											

Date	Phase	Comp.	Time(GMT)		
			h	m	s
31.	e	N	12	05	5
	49 N.,129 1/2 W.				
	Off coast of Vancouver I.				
	H=11 41 45 USCGS				
31.	iP	NEZ	15	49	37.6
	S	N			50 40
	e	EZ			49
	L	N			59
	P:S,W,compression				
	39 1/2 N.,143 E.				
	Off northeast coast of				
	Honshu,Japan.				
	H=15 48 13 USCGS				
31.	iP	NZ	16	55	43.8
	i	E			56 00
	i	Z			02.3
	P:N,dilatation				
31.	iP	NEZ	17	31	00.0
	eS	N			32 02
	e	N			29
	P:S,W,compression				
	40 N.,143 E.				
	Off northeast coast of				
	Honshu,Japan.				
	H=17 29 40 USCGS				
31.	eP	Z	20	09	20
	ePPP	N			14.9
	e	N			20 13
	eSS	N			26.1
	eG	N			33.3
	e	N			39.6
	Mag. 5 3/4 (Matsushiro)				
	26 N.,110 W.				
	Gulf of California.				
	H=19 56 14 USCGS				
31.	P	NZ	20	13	30
	S?	Z			45
31.	iP	NEZ	21	34	16.0
	i	Z			43.8
	e	E			35 23
	P:N,E,dilatation				
	41 1/2 N.,142 E.				
	Near north coast of				
	Honshu,Japan.				
	H=21 32 44 USCGS				

April

Date	Phase	Comp.	Time(GMT) h m s	Date	Phase	Comp.	Time(GMT) h m s
1. ✓	iP P:dilatation 22 S., 179½ W. Fiji Is. region. h:650 km ca. H=02 55 04	EZ	03 05 24.0	2.	P i S	Z NZ NE	06 43 38 42 47 12.7 18½ N., 146 E. Mariana Is. H=06 39 08 USCGS
1.	iP EZ, P N i Z P:E,dilatation		04 02 40.3 03 17.8	2.	iP eS? i e	NEZ N N N	09 07 10.3 08 13 32 38 P:N,W,compression
1.	P i i i	Z NEZ NE Z	08 01 10.3 11.8 03 53.8 55.8	2.	iP i i S	NEZ Z Z NZ	13 46 40.8 45.3 52 47 03.8 P:N,dilatation
1.	P i S	Z NEZ NEZ	08 07 17.8 21 44.3	2.	iP Z,P PP P:dilatation 6 S., 152 E. New Britain. H=14 14 42 USCGS	NE Z Z	14 22 52.3 24 39.6
1.	iP i S	NEZ Z NEZ	10 46 31.6 42.8 47	2.	iP eL P:N,E,dilatation	NEZ N	15 05 03.8 18 47
1.	P? iPKP e eL PKP:compression Mag. 5 3/4 - 6 (Matsushiro) 4½ S., 173½ W. Southern Peru. h:100 km ca. H=13 18 23 USCGS	Z Z N N	13 13 01 13 37 49.8 14 31 35 38 44	2.	PKP PKP:compression 3 N., 76½ W. Colombia. h:150 km ca. H=15 00 36 USCGS	Z	15 19 28.8
1.	iP S P:compression	Z NE	16 18 20.5 35.9	2.	eP i i	Z Z NE	17 33 38 49 34 20
1.	iP S? i P:W,compression	NEZ NE Z	16 23 17.0 35 41	2.	iP S P:E,compression	NEZ NE	17 48 52.9 49 26
1.	iP P:compression 17½ S., 180 W. Fiji Is. h:550 km ca. H=23 02 31 USCGS	Z	23 12 42.2	2.	iP i e S i P:S,dilatation	NZ E N NE Z	19 24 13.5 13.8 25 01 08.5 08.8
2.	iP i	NZ EZ	00 16 23.7 24.7	2.	iP i i i e	Z NE E N N	21 56 07.3 07.8 57 11.8 12.8 36 P:dilatation

Date	Phase	Comp.	Time(GMT) h m s	Date	Phase	Comp.	Time(GMT) h m s
2. ✓	P 36 N., 50 E. Western Iran. H=22 36 08 USCGS	Z	22 47 16	3.	iP e P:N,E,dilatation	NEZ N	12 19 40.0 40 43
2.	iP i P:N,E	NEZ E	23 01 01.5 24	3.	iP S P:S,W,dilatation	NEZ NE	14 00 33.3 01 19
2.	iP P:S,W,dilatation	NEZ	23 03 30.8	3.	PKP PKP:compression 31 S., 72½ W. Off coast of Central Chile. h:150 km ca. H=17 04 19 USCGS	Z	17 24 19.8
2.	P i P:dilatation 11 S., 113 E. Off south coast of Java. H=23 02 50 USCGS	Z E	23 12 08.3 08.6	3.	iP eS P:W,compression	NEZ NE	22 23 38.7 24 37
3.	iP i S P:S,E,dilatation	NEZ Z NE	02 19 22.5 36.8 41	3.	iP iS P:W,compression Mag. 5 - 5½ (Matsushiro) 34.8 N., 140.2 E. Off south coast of Honshu, Japan. J.M.A.	NEZ NEZ	23 45 17.6 42.9
3. ✓	iP S i i i P:N,W,compression Mag. 5½ (Matsushiro) 28 N., 139½ E. Bonin Is. region. h:550 km ca. H=05 10 32 USCGS	NEZ NE Z Z Z	05 12 36.9 14 13 17 28 44	3.	iP P:dilatation	Z	23 54 50.3
3.	iP S P:S,W,compression Mag. 5 (Matsushiro) 40 N., 143 E. Off northeast coast of Honshu, Japan. H=07 19 58 USCGS	NEZ N	07 21 16.2 22 11	4.	iP i i S? i P:W,compression	NEZ N E E N	02 23 47.5 53.3 06 58 28.4 28.9 52.2 56 57.9
3.	iP i S P:S,dilatation	NZ E NZ	07 34 13.7 19.3 34	4.	P S i P:N,compression Mag. 5½ (Matsushiro) 10 S., 161½ E. Solomon Is. h:100 km ca. H=07 56 15 USCGS	NEZ Z Z	07 12 49 15 06.9 08.4
3.	iP eS? eL P:compression 6 S., 148½ E. New Britain. H=09 52 06 USCGS	EZ N N	10 00 26.0 06 29 13 43	4. ✓	iP i i pP eS eSSoreL eL P:N,compression Mag. 5½ (Matsushiro) 10 S., 161½ E. Solomon Is. h:100 km ca. H=07 56 15 USCGS	NZ E Z Z NE NE NE	08 05 12.9 13.2 14.9 42.4 12 26 15 46 17 40
3.	iP e P:N,E,compression	NEZ N	11 46 52.9 43 32				

Date	Phase	Comp.	Time(GMT)		
			h	m	s
4.	iP	NEZ	09	09	29.2
	e	NE		10	27
	i	Z			56
	e	NE		11	00
P:S,W,compression					
4.	iP	NZ	10	27	34.5
	eS	N		33	30
	eL	N		37	11
P:N,compression 1 S.,145 $\frac{1}{2}$ E. Bismarck Archipelago. H=10 20 12 USCGS					
4.	P	EZ	12	53	28
	eS	N		59	50
	eL	E		13	04
	eL	N		06	41
	eL	E		08	00
Mag. 5 $\frac{1}{2}$ (Matsushiro) 5 S.,152 E. New Britain. h:100 km ca. H=12 45 30 USCGS					
4.	iP	NEZ	15	29	30.2
	S	Z			45.5
P:N,W,dilatation					
4.	iP	EZ	15	34	54.9
	i	Z		35	01
	e	N			34
P:W,compression					
4.	iP	NEZ	16	46	20.5
P:S,E,compression					
4.	iP	NEZ	17	33	36.5
	i	NE		34	22
	i	Z			32
P:S,E,dilatation					
4.	iP	NEZ	17	51	47
	e	N		53	14
P:S,W,compression					
4.	eP	Z	20	49	19
	e	N		21	03
	e	N		09	28
4.	eP	Z	20	58	02
15 N.,119 $\frac{1}{2}$ E. Near west coast of Luzon I.,Philippine Is. H=20 52 15 USCGS					
4.	iP	NEZ	22	16	55.0
P:S,W					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
4.	iP	Z	23	06	39.2
	S	NEZ			43
P:compression					
4.	iP	Z	23	29	42.5
	eL	N		38	14
P:compression 50 $\frac{1}{2}$ N.,177 W. Aleutian Is. H=23 22 47 USCGS					
5.	iP	NEZ	00	32	13.9
	i	Z			24.5
	i	Z			34.0
	S	NE			39
36.0 N.,141.0 E. Near east coast of Honshu,Japan. h:40 km ca. J.M.A.					
5.	iP	NEZ	06	36	28.0
	i	Z			37
	S	Z			44
P:S,W					
5.	iP Z, P N		07	06	23.5
	i	E			24.5
	S	NE		07	05
P:dilatation					
5.	ePKP	Z	07	37	43
	i	N			53
	i	E			57
	ePP	N		41	44
	ePPS	N		55	46
	e	N	08	02	02
	L	E		21	30
	L	NE		56	18
Mag. 6 - 6 $\frac{1}{4}$ (Matsushiro) 61 S.,26 W. Sandwich Is. H=07 17 45 USCGS					
5.	iP NZ, P E		10	03	34.1
	i	Z			43
	S?	E		04	04
	i	NE			11
P:N,compression					
5.	iPKP Z, PKP E		12	56	14.5
	i	N			16.0
	ePPP	N	13	03	43
	e	N		09	46
	e	N		15	19
	SS	N		19	52
	SSS	N		25	46
	eL?	N		53	53
PKP:dilatation 60 $\frac{1}{2}$ S.,25 W. Sandwich Is. H=12 36 15 USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
5.	P	Z	17	25	02
	i	Z			08.9
	i	N			41
	i	E			42
5.	i	E	21	17	51
	i	EZ			57
	i	EZ		18	12
6.	iP	NEZ	00	03	05.2
	i	Z			10.4
	S	NEZ			14.4
P:S,dilatation					
6.	iP	NEZ	00	41	36.2
	i	E			54.9
P:N,W,compression					
6.	iPKP	Z	02	24	58.4
	i	EZ		25	02.9
PKP:dilatation 20 S.,68 $\frac{1}{2}$ W. Chile-Bolivia border. H=02 05 06 USCGS					
6.	iP	NZ	09	26	26.0
	S	NE			27.4
P:compression					
6.	P	Z	10	24	45.9
	i	EZ			55
	e	E		27	31
6.	e	E	13	53	11
6.	P	NEZ	17	06	54.1
	i	E			57.4
	eS	E		08	02
	i	Z			16
41.7 N.,141.6 E. Near north coast of Honshu,Japan. h:40 km ca. J.M.A.					
6.	iP	Z	19	32	02.9
	i	N			07.9
	i	Z			08.9
P:compression					
7.	iP EZ, P N		02	20	15.4
	i	NEZ			22.4
	i	NE		21	08.9
	i	E			13.4
P:E,dilatation					
7.	iP	Z	06	15	53.9
Fiji Is. region. h:600 km ca. H=03 05 35 USCGS					

Date	Phase	Comp.	Time(GMT)		
			h	m	s
7.	iP	NEZ	08	38	09.1
	S	E			39
	i	E			42
P:S,W,compression 40 N.,143 E. Off east coast of Honshu,Japan. J.M.A.					
7.	iP	NEZ	12	31	06 ca.
	i	EZ			15
7.	iP	Z	13	28	43.9
	i	NEZ			44.9
	i	E			54.9
	S	E		29	04.4
P:compression					
7.	iP	NEZ	13	58	05 ca.
	S	E		14	06
	eSS	E			09
	eSS	E			11
Mag. 6 (Berkly) 24 S.,179 $\frac{1}{2}$ W. Fiji Is. region. h:500 km ca. H=13 47 28 USCGS					
7.	P	NZ	20	09	02
	i	E			03.4
	eL	E			14
	eL	E			16
12 N.,143 $\frac{1}{2}$ E. Mariana Is. H=20 03 37 USCGS					
7.	iP	NEZ	20	40	46.1
	i	NE			42
	i	Z			40
P:N,E,dilatation					
8.	iP	Z	00	06	58.7
	e	E			08
	e	E			16
	e	E			21
P:dilatation					
8.	P	EZ	04	02	30.0
	i	N			03
P:E,dilatation					
8.	P	NZ	04	15	11.6
	i	NEZ			12
	S	NE			16
	i	Z			15
8.	P	Z	08	43	36
	i	EZ			40.8
	S	N			50
	eLq	N			53
	eLr	N			56
(cont.)					

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)			
continued					h	m	s					
Mag. 5 - 5 $\frac{1}{4}$ (Matsushiro) 6 S., 147 E. New Guinea. H=08 05 37 USCGR					18	51	48					
8.	iP	NEZ	18	28	20.8	9.	P	EZ	19	48	35.7	
	i	Z			23.3		i	NEZ			40.1	
	S	NEZ			24.3		i	NEZ			49.1	
8.	iP	NEZ	14	30	55.8	9.	P	Z	19	48	35.7	
	S	N		32	23		i	EZ			40.1	
P:W,compression						i	N				40.4	
8.	iP	NEZ	19	56	41.9	9.	eL?	N	20	06	46	
	eS?	N		58	16	9.	eL	N	20	50	24	
P:N,E,dilatation						9.	iP	NEZ	21	27	52.0	
8.	iP	NEZ	20	40	36.1		S	NE		28	11	
	S	NEZ			38.4	P:S,E,dilatation						
P:dilatation						9.	iP	NEZ	21	42	29.6	
9.	iP	NEZ	02	15	47.5		i	Z			36.4	
P:N,W,dilatation						i	Z				42.9	
9.	iP	NEZ	02	45	09.5		e	NE	43	56		
	S	NE		46	09	P:N,E,dilatation						
	i	NE			39	10.	iP	EZ, P N	00	05	57.4	
P:S,W,compression							i	NEZ		06	12.4	
Mag. 4 $\frac{3}{4}$ (Matsushiro) 40 N., 143 E. Near east coast of Honshu, Japan. H=02 43 51 USCGR							S	N			49	
9.	iP	NEZ	10	04	07.5		i	E		07	02	
	e	N		05	19	P:W,compression						
P:N,E,dilatation						Mag. 5 (Matsushiro) 36 N., 142 E. Near east coast of Honshu, Japan. H=00 04 43 USCGR						
9.	iP	NZ, P E	11	16	22.0	10.	iP	Z	04	54	55.5	
	i	Z			25.3		i	NE			55.9	
	e	NE		18	27		eS	N		59	24	
P:N,dilatation							eL	NE	05	01	25	
9.	e	N	12	57	56		L	N		03	19	
						P:dilatation						
9.	iP	EZ, P N	14	44	29.6		12 $\frac{1}{2}$ N., 145 $\frac{1}{2}$ E. Mariana Is. r region. h:100 km ca. H=04 49 41 USCGR					
	i	NEZ			35	10.	iP	Z, P NE	13	09	55.4	
	i	Z			39.8		i	N		11	37	
	S	NE		45	10.3		i	E			39	
P:E,dilatation							eS	E			50	
9.	iP	NEZ	15	22	27.4		e	N			54	
	e	N		23	58		eL	N		12	51	
P:S,W,compression						P:compression						
9.	P	Z	17	08	01.7		Bonin Is. H=13 07 30 USCGR					
	eS	NE		11	29	10.	iP	Z	17	05	05.7	
	eL	NE		12	53		i	NE			05.9	
						P:dilatation						
						10.	P	NE	17	08	26	

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)			
continued					h	m	s					
Mag. 5 - 5 $\frac{1}{4}$ (Matsushiro) 6 S., 147 E. New Guinea. H=08 05 37 USCGR					18	51	48					
10.	iP	NEZ	19	38	44.8	13.	eP	Z	09	03	31	
	i	N		39	12.9		e	N			06 16	
	S?	NEZ			15	44 $\frac{1}{2}$ N., 127 E. Manchuria. H=07 57 46 USCGR						
P:N,dilatation						13.	eL	N	13	20	5	
10.	iP	EZ	20	33	58.4		eL	N			24.2	
	i	NEZ			58.9	Mag. 6 (Pasadena) 15 $\frac{1}{2}$ N., 92 $\frac{1}{2}$ W. Guatemala-Mexico border. H=12 37 38 USCGR						
	eS	N		35	49	13.	iP	EZ	13	22	07.3	
	eL	N		40	14		i	N			07.6	
P:E,dilatation							e	EZ			20	
53 N., 167 $\frac{1}{2}$ W. Fox Is. H=20 26 12 USCGR							eL	N			32.0	
10.	iP	Z	22	17	49.4		eL	Z			44 44	
	i	Z			53.4	P:W,compression						
P:compression						Mag. 5 - 5 $\frac{1}{4}$ (Matsushiro) 52 $\frac{1}{2}$ N., 169 W. Fox Is. H=13 14 28 USCGR						
Western Turkey H=22 05 29 USCGR						11.	iP	NEZ	01	39	15.9	
11.	iP	NEZ	01	39	15.9		P:N,E,dilatation					
						11.	iP	Z	16	10	33.6	
							P:compression					
						17 S., 167 $\frac{1}{2}$ E. New Hebrides Is. H=16 00 26 USCGR						
12.	iP	NZ	07	13	15.2	14.	iP	Z	04	34	48.3	
	i	E			15.3		i	NE			48.8	
	i	Z			22.9	P:compression						
	eS	N		14	14	14.	S	N	06	39	50	
	eL	NE			40	8 S., 118 E. Sumbawa Is. region. H=06 24 30 USCGR						
P:S,compression						14.	iP	Z	12	29	03.6	
12.	iP	NZ	11	38	44.4		i	NE			04.0	
	i	E			44.6		S	Z			30	
	iS	Z		39	02.3		i	Z			37.8	
P:S,dilatation						P:compression						
12.	e	N	11	53	0	14.	iP	NEZ	16	38	47.5	
						P:S,E,compression						
12.	eP	EZ	20	52	38	14.	iP	Z	16	39	16.8	
	e	N		58	26		S	Z			40 25.3	
						P:compression						
13.	P	Z	04	57	31.0	53.8 N., 132.3 E. Near southwest coast of Honshu, Japan. h:50 km ca. J.M.A.						
	i	NEZ			32.3	15.	iP	EZ	05	49	22.8	
	i	Z			56.3		i	N			23.1	
52 N., 175 W. Andreanof Is. H=04 50 28 USCGR							S	NEZ			45.8	
						P:W,compression						
13.	P	EZ	08	00	33.6							
	S	E		02	59							
	i	N		03	02							
	eL	E			22							
	eL	N			33							
P:W,dilatation												

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s	continued			h	m	s
15.	PS	E	03	56	05		e	NZ	20	24	14
	PSFS	N	04	02	25		eL?	N		50	45
	Lq	E		13.8							
	Lr	E		20	54	15.	P	NEZ	22	14	50.7
	Mag. 6 - 6 $\frac{1}{2}$ (Matsushiro)						i	Z		17	14.6
	27 S., 113 W.						PP	Z		17	
	Easter Island region.						iS	NE		22	42
	H=03 25 38 USCGS						e	E		24	39
15.	P	Z	04	23	06.8		SS	N		26	21
	13 $\frac{1}{2}$ S., 166 E. New Hebrides Is.						L	NE		28	53
	H=04 13 25 USCGS						L	N		31	32
							L	E			38
	Mag. 6-6 $\frac{1}{4}$ (Matsushiro)						13 $\frac{1}{2}$ S., 166 E. New Hebrides Is.				
15.	iP	NEZ	06	44	05		H=22 05 06 USCGS				
	i	Z			10.5						
	S	Z			39	15.	iP	Z	22	31	43.8
	e	NE			46		i	NE			43.9
	34.9 N., 136.1 E. Honshu, Japan.						P:dilatation				
	h:10 km ca. J.M.A.										
15.	iP	NEZ	10	08	02.8	16.	P	Z	02	24	28.5
	e	E			45		i	E			33.2
	S	NE			09 19		P:dilatation				
	L	N			35	16.	iP	Z	03	47	08.6
	L	E			36		i	E			08.8
	P:S,W,compression						eS	N			38
	42 $\frac{1}{2}$ N., 143 $\frac{1}{2}$ E. Near south coast of Hokkaido, Japan.						e	EZ			39
	H=10 06 20 USCGS						P:compression				
15.	iP	NEZ	11	05	29.4	16.	iP	Z	11	29	34.0
	S	E			06 47		i	N			34.2
	L	E			07 27		i	E			34.4
	L	N			31		P:compression				
	P:S,W,compression					16.	iP	EZ	12	34	06.5
	42 N., 144 E. Near south coast of Hokkaido, Japan.						i	N			06.7
	H=11 03 45 USCGS						iS	Z			28.2
15.	iP	NEZ	11	40	16.8		P:W,compression				
	S	NEZ			41 13	16.	iP	NEZ	20	41	40.9
	P:S,W,compression						P:S,W,compression				
	40 $\frac{1}{2}$ N., 142 E. Near north coast of Honshu, Japan.						45 N., 150 E. Kurile Is.				
	h:150 km ca.						H=20 38 25 USCGS				
	H=11 39 01 USCGS					17.	P	Z	01	20	43.7
15.	iP	Z	16	02	14.2		54 N., 164 W. Unimak I. region.				
	i	NE			14.3		H=01 12 44 USCGS				
	P:dilatation					17.	iP	Z	01	42	00.1
15.	iP	NEZ	19	32	22.9		S	NZ			07
	e	EZ			49		P:compression				
	e	N			51	17.	iP	NE,P Z	01	42	53.7
	P:N,E,dilatation						S	N			58
15.	e	Z	20	23	56		i	EZ			58.9
	(cont.) - 28 -										

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
17.	iP	NZ, P E	04	14	36.5	18.	eP	Z	09	10	56
	iS	NE			51.7		13 $\frac{1}{2}$ S., 166 E. New Hebrides Is.				
	i	Z			52.2		H=09 01 20 USCGS				
	P:S,dilatation					18.	iP	Z	10	50	09.5
17.	P	EZ	13	30	11		i	NE			09.6
	i	EZ			20.5		i	E			20.5
							S	EZ			29
	P:dilatation					18.	iP	Z	11	22	41.2
17.	P	Z	14	41	33.2		i	E			41.4
	i	NEZ			34.5		P:compression				
	e	NE			42 44	17.	P	NEZ	15	14	29.7
							e	Z			35
							e	EZ			49
							P:S,W,compression				
17.	e	NE	15	51.7		18.	eP	Z	13	10	54
	e	NE	16	01.8			13 $\frac{1}{2}$ S., 166 E. New Hebrides Is.				
	e	N			08.1		H=13 01 12 USCGS				
17.	eP	Z	18	21	14	18.	P	NEZ	14	03	51
	e	N			25 09		eS	NE			04 09
	e	E			15	18.	P	EZ	14	26	47
							i	E			27 40
							i	Z			44.7
							P:dilatation				
							20 S., 180. Fiji Is.				
							h:500 km ca.				
							H=21 49 24 USCGS				
18.	P	EZ	00	29	57	18.	P	Z	14	48	29.2
	i	N			58.7		i	NE			29.7
	i	Z			30 33		P:dilatation				
18.	iP	EZ	00	58	34.7	18.	iP	NEZ	14	55	42.7
	i	Z			59 13.5		e	Z			56 08
	P:W,compression						P:N,W,dilatation				
18.	iP	NEZ	06	05	55.0	18.	P	Z	17	04	59.9
	e	E			06 13		P:dilatation				
	i	Z			14		16 $\frac{1}{2}$ S., 168 E. New Hebrides Is.				
	P:S,W,compression						H=16 54 52 USCGS				
18.	iP	NEZ	08	09	07.0	19.	eP	Z	01	01	50
	S	Z			10 31		e	Z			02 42
	i	E			34		e	E			44
	i	NE			40		P:N,W,compression				
	28 N., 139 $\frac{1}{2}$ E. Bonin Is. region.					19.	iP	Z	01	16	42.0
	h:450 km ca.						i	E			42.5
	H=08 07 07 USCGS						i	EZ			54.0
							e	N			19 25
							e	N			26 24
							P:dilatation				
							46 N., 151 E. Kurile Is.				
							H=01 13 27 USCGS				
18.	P	NEZ	08	13	11						
	S	EZ			33						
	i	N			34						

Date	Phase	Comp.	Time(GMT)	Date	Phase	Comp.	Time(GMT)
			h m s	continued			h m s
19.	iP	Z	09 34 00.9	20.	i	EZ	05 06 42
	i	NE	01.5		P:compression		
	ScS?	N	44 23	20.	P	NEZ	05 48 31
	Lq	N	52.3		e	E	49 31
	Lr	N	55 15	20.	iP	Z	06 17 07.2
	P:dilatation				i	NE	07.5
	20 S., 173 $\frac{1}{2}$ W. Tonga Is.				i	Z	14.6
	H=09 22 31 USCGS			20.	iP EZ, P N		07 06 25.3
19.	iP	NEZ	09 39 57.4		e	Z	34
	i	Z	40 01		e	E	36
	i	Z	14.4		P:dilatation		
	P:S,E,dilatation			20.	iP	NEZ	07 22 17.7
19.	iP	Z	10 44 09.4		e	N	57
	i	N	10.1		eS	N	23 28
	i	E	10.7		eL	N	24 11
	iS	E	31.7		P:S,W,compression		
	i	N	32.2	20.	iP	Z	13 57 49.9
	i	Z	32.3		i	NE	50.1
	P:dilatation				i	E	58.7
19.	iP NZ, P E		12 11 35.8		i	NZ	58.9
	P:N,dilatation				P:dilatation		
19.	iP	NZ	14 43 16.4	21.	eP	Z	06 11 02
	i	E	16.6		i	E	23
	S	E	38.4		S	NZ	33
	i	Z	38.7				
	i	Z	45.7	21.	P	Z	13 01 16.1
	P:S,dilatation				i	E	17.6
19.	iP	NEZ	17 28 03.7		i	NZ	18.1
	iS	Z	15.3		S	E	04 00
	P:S,W,compression				i	NZ	01
19.	iP NZ, P E		19 20 56.2		P:compression		
	iS	Z	21 40.2	21.	P	Z	16 33 27.9
	P:N,compression				i	NE	28.6
19.	iP Z, P E		19 33 11.1		i	Z	38
	i	N	11.5		P:compression		
	i	Z	15.9		20 $\frac{1}{2}$ S., 174 W. Tonga Is.		
	P:compression				H=16 21 57 USCGS		
	51 $\frac{1}{2}$ N., 174 W. Andreanof Is.			21.	P	Z	16 58 46.6
	H=19 26 00 USCGS				i	NE	46.9
19.	P	Z	21 23 55.7		i	Z	59 27
	i	Z	59.7		i	N	17 00 18
	S	E	24 33.7		eS	E	06 16
	e	N	34		eL	N	12 19
	P:compression			21.	iP N, P Z		21 00 08.4
19.	e	N	23 56.9		i	E	09.4
	e	N	00 08 45		i	NZ	21
20.	iP	Z	05 06 32.0		i	NZ	35
	i	E	40		i	EZ	49
	(cont.) - 30 -				(cont.)		

Date	Phase	Comp.	Time(GMT)	Date	Phase	Comp.	Time(GMT)
			h m s	continued			h m s
	i	N	21 01 13		Mag. 5 $\frac{1}{2}$ (Matsushiro)		
	i	Z	17		17 $\frac{1}{2}$ S., 174 $\frac{1}{2}$ W. Tonga Is.		
	i	NE	20		h:200 km ca.		
	P:S				H=20 26 28 USCGS		
21.	P	Z	22 18 49.1	22.	P	EZ	23 54 39
	i	E	49.5		i	NZ	46
	S?	E	20 15		i	N	55 28
					i	EZ	31
22.	iP	EZ	08 45 50.9		i	Z	33
	i	N	52.0	23.	P	NEZ	01 48 26
	S	NE	46 42		i	NEZ	36
	i	Z	49		e	N	49 31
	L	E	47 13	23.	P	Z	05 07 34
	i	N	19		i	NZ	36
	P:W,compression				i	E	36.7
22.	eP	NEZ	14 29 06		iS NZ, S E		51.6
	e	E	55	23.	eP	Z	06 57 22
22.	P	Z	16 22 42.1		e	E	29
	i	NEZ	43.4		i	E	46
	i	N	53		i	E	58 13
	i	N	23 45	23.	iP NZ, P E		12 10 21.8
	i	N	24 33		i	N	29.7
	eL	N	43.2		P:S,compression		
22.	P	EZ	18 00 14.6	23.	eP	Z	13 14 26
	i	N	14.8		e	E	24 15
	iS	NE	17.2		eL	E	47
	P:W				45 N., 98 E. Outer Mongolia.		
22.	eP	Z	18 53 25		H=13 08 35 USCGS		
	eS	E	57 53	23.	iP	NZ	13 26 20.4
	eL	N	58 45		S	NEZ	27 55
	eL	E	50		P:S,E,dilatation		
	12 $\frac{1}{2}$ N., 123 $\frac{1}{2}$ E. Masbate, P.I.			23.	iP	Z	14 00 08.7
	H=18 47 17 USCGS				i	N	09.3
22.	iP	EZ	20 04 48.1		i	E	09.7
	i	N	48.4		S	N	01 20
	iS	E	05 07.6		i	EZ	23
	i	N	11		P:dilatation		
	i	Z	12	23.	P	NEZ	17 26 07
	P:dilatation				i	N	16
22.	iP	NEZ	20 37 21.1		i	Z	19
	i	Z	39		e	E	27 30
	pp	N	47		e	N	28 01
	i	Z	38 29	23.	iP	NEZ	20 00 02.6
	S	E	46 13		i	Z	14
	i	EZ	47 19		i	EZ	01 11
	i	NE	48 02		i	E	18
	e	E	54 19		i	Z	41
	L	N	55 15		P:S,E,dilatation		
	L	E	45				
	eL	Z	21 00.1		(cont.) - 31 -		
	P:N,W,compression						

Date	Phase	Comp.	Time(GMT)			Date	Phase	Comp.	Time(GMT)		
			h	m	s				h	m	s
29.	iP	Z	20	52	00.2		i	Z	04	15	00
	i	NE			00.5		S	NE			03
	i	Z			24		Lq	E	17	29	
	i	N	53	11			Lq	N			50
	i	Z	54	20			i	Z	18	19	
	i	Z	57	53			Lr	Z	20	39	
	S	NEZ			59		Lr	N			55
	i	Z	58	18			P:compression				
	Lq	N	21	00	45		Mag. 6 (Matsushiro)				
	Lq	E			59		0., 122 E. Celebes.				
	Lr	Z			03 31		H=04 01 32 USCGS				
	P:compression										
	Mag. 5 1/2 - 5 3/4 (Matsushiro)										
	0., 121 1/2 E. Celebes.										
	H=20 44 27 USCGS										
29.	eP	Z	21	45	36	30.	P	EZ	05	24	02
	i	E			37		i	E			03.5
	i	Z			51		i	Z			23
	S	N	46	45			i	NE			36
	i	E			47		i	E			45
29.	eP	NEZ	21	51	02	30.	P	Z	06	08	19.3
29.	eP	NEZ	22	23	05		i	NE			19.7
30.	eP	EZ	00	02	31		i	NEZ			27
	i	N			33		i	Z			35
30.	iP NZ, P E		00	27	44.3		i	N			36
	i	E			44.7		i	EZ			46
	i	Z			55		i	N	09	37	
	PcP	Z	29	51			P:compression				
	L	N	36	25		30.	eP	NZ	03	48	36
	L	E			41		i	E			39
	P:S,W,dilatation						i	Z			53
	Mag. 5 (Matsushiro)						i	Z	49	12	
	0., 122 E. Celebes.					30.	P	Z	03	51	19.6
	H=00 20 09 USCGS						i	N			30
30.	P EZ, eP N		02	28	20		P:compression				
30.	P 1 Z		04	03	49.9	30.	iP	NZ	10	18	56.7
	iP 2 NZ				50.0		i	E			57.1
	i	E			51.2		i	Z			19 12
	iS NEZ		04	14.1			eS	N			24 55
	P 1:dilatation						eL	NE			27.7
	iP2:S,dilatation						0., 121 1/2 E. Celebes.				
							H=10 11 23 USCGS				
30.	iP	Z	04	09	06.6	30.	eP	EZ	11	11	20
	i	NE			06.9		i	E			36
	i	NZ			20		16 S., 173 W.				
	i	E	10	08			Tonga Is. region.				
	PP	Z			39		H=11 00 05 USCGS				
	PcP	Z			39	30.	eP	EZ	11	20	11
	i	Z	11	13			i	N			16
	i	Z			31		i	Z			20
	i	Z	13	39			eL	E			23
	(cont.)						eL	E			33.1
							eL	N			34.1

Date	Phase	Comp.	Time(GMT)		
			h	m	s
30.	P	NEZ	13	19	01.7
	e	N			21
	S?	E			22
	P:W,compression				
30.	eP	Z	14	25	52
	e	NE			55
	S	E			26 22
	e	NE			32 53
	e	E			36 08
	e	N			14
	eL	NE			37 59
	eL	E			39 45
		Z			42.1
	9 S., 157 E. Solomon Is.				
	H=14 17 04 USCGS				
30.	eL	NE	21	00	1
30.	P	NEZ	22	01	01
	eL	E			10 38
30.	iP	NZ	22	17	29.2
	i	Z			18 28
	PcP	Z			58
	S E, eS N				23 17
	i	Z			30
	P:S,W,dilatation				
	Mag. 6 1/4 (Matsushiro)				
	6 S., 124 1/2 E. Banda Sea.				
	h:600 km ca.				
	H=22 10 07 USCGS				
30.	iP	NZ	22	21	51.8
	i	E			52.2
	i	Z			22 31
	S E, eS Z				26 14
	i	N			16.7
	i	Z			32
	e	E			29 25
	P:S,dilatation				
30.	P	Z	23	16	44.4
	i	N			45.0
	eS?	N			23 24
	i	E			49
	eL	N			25 35
	L	E			43
	P:compression				

Takeshi Honda
Director