USCGS
.40

SEISMOLOGICAL BULLETIN

July, 1960

MSI - 235

COAST & GEODETIC SURVEY
28
LIBRARY & ARCHIVES

CONTENTS

List of stations 1
Station and Instrumental Constants - 1960 2
Provisional epicenters 5
Seismogram interpretations 9
Local and minor earthquakes 28

U. S. DEPARTMENT OF COMMERCE

Luther H. Hodges, Secretary

COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

FOR OFFICIAL DISTRIBUTION

National Oceanic and Atmospheric Administration

ERRATA NOTICE

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages
Faded or light ink
Binding intrudes into the text

This has been a co-operative project between the NOAA Central Library and the Climate Database Modernization Program, National Climate Data Center (NCDC). To view the original document, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or Library.Reference@noaa.gov

HOV Services
Imaging Contractor
12200 Kiln Court
Beltsville, MD 20704-1387
March 4, 2011

1960

The instrumental results of the following stations are tabulated in this report.

**Balboa Heights, C. Z. (BHP)
The Panama Canal Co.
*Boulder City, Nev. (BCN)
Bureau of Reclamation
*Bozeman, Mont. (BOZ)
Montana State College
*Butte, Mont. (BUT)
Montana School of Mines
*Chicago, Ill. (CHI)
University of Chicago and
U. S. Weather Bureau
College, Alaska (COL)
*Columbia, S. C. (CSC)
University of South Carolina
*Eureka, Nev. (EUR)
Eureka Corporation Limited
*Flaming Gorge, Utah (FGU)
Bureau of Reclamation
*Glen Canyon, Ariz. (GCA)
Bureau of Reclamation
Guam, M. I. (GUA)
Honolulu, Hawaii (HON)
*Hungry Horse, Mont. (HHM)
Bureau of Reclamation
Kipapa, Hawaii (KIP)
*Lincoln, Nebr. (LIN)
Nebraska Wesleyan University
**Philadelphia, Pa. (PHI)
The Franklin Institute
**Rapid City, S. D. (RCD)
South Dakota State School of Mines
*Salt Lake City, Utah (SLC)
University of Utah
San Juan, Puerto Rico (SJP)
Sitka, Alaska (SIT)
*Thule, Greenland (THU)
U. S. Army Ionosphere Station
Tucson, Ariz. (TUC)
Tucson, Ariz. Telemeter (TUT)
Ukiah, Calif. (UKI)
International Latitude Observatory
Washington, D. C. (WAS)

*Indicates a station maintained by a local institution in cooperation with the Coast and Geodetic Survey.
**Indicates a station operating on an independent basis.
Other stations are observatories of the Coast and Geodetic Survey.

All seismogram interpretations are made or revised at Washington except those for Balboa Heights. Beginning January 1, 1959 the data from the horizontal components of the seismographs at all stations except College, Honolulu, and Tucson will not be published for earthquakes occurring outside the United States. The horizontal instruments will continue in operation and the seismograms for the local and regional earthquakes will be scaled and the data published.

All magnitude determinations are by Pasadena unless otherwise stated. Minor earthquakes are listed at the end of the bulletin.

One asterisk (*) following an origin time indicates probable error of one-tenth minute. Two asterisks(**) following an origin time indicates error of one-quarter minute. All origin times and locationsare determined from P data only. For Pasadena epicenters the time is given in one-tenth minute.

All seismograms are on file in the Coast and Geodetic Survey, except those from Balboa Heights, which may be obtained on loan by addressing the Seismograph Station Director, Meteorological and Hydrographic Office, Panama Canal Company, Balboa Heights, Canal Zone.

STATION AND INSTRUMENTAL CONSTANTS FOR 1960

Station	Position	Instrument	Foundation and Elevation	T_o	T_g	T_s	V	Σ	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Balboa Heights, C. Z.	Log cos 9.99467	W-A, N&E	Basalt	N 1.0			1370	14:1	60mm/min.	Beginning	N
W. H. Esslinger	Lat. 8°57'39"N	Mass 1.3g	36 m.	E 1.0			1370				E
In Charge	Long. 79°33'29"W	Spg. LP (Series H)		N 20			5000				
		Spg. LP (Series H)		E 20	20		5000				
		Spg. LP (Series D-H)		Z 1.9	1.9		3000				
Boulder City, Nev.	Log cos 9.90806	B, film	Fractured	Z 1.4	0.45		100000**	Near crit.	15mm/min.	Beginning	Up
V. B. Uehling	Lat. 35°56'51"N	ZNE, Mass	monzonite	N 1.4	0.45		50000	Crit.			N
In Charge	Long. 114°50'02"W	100 lb.	776 m.	E 1.4	0.45		50000	Crit.			E
Bozeman, Mont.	Log cos 9.84437	Spg. N&E	Alluvium	N 11.1	8.3		8000	3:1	30mm/min.	Beginning	N
F. H. C. Schultz	Lat. 45°40'01"N		glacial drift	E 10.9	7.6		8000	11:1			E
In Charge	Long. 111°02'43"W	W-L, Z	and lake deposits 500' thick over gneiss and schist. 1490 m.	Z 1.1	1.7		24000	Under damped	60mm/min.	Beginning	Up
Butte, Mont.	Log cos 9.84167	W-A, N.	Rhyolite	N 8.02			316	50:1	15mm/min.	Beginning	S
S. W. Nile	Lat. 46°00.8' N	Mass 2g	30 m. thick								
In Charge	Long. 112°33.8' W	W-L, NE	resting on granite	N 8.0	3.8		12000	Near crit.	30mm/min.	Beginning	N
				E 8.0	3.9		12000	Near crit.			W
		B, paper, Z Mass 100 lb.	1758 m.	Z 1.1	0.5		50000	Near crit.	60mm/min.		Up
Chicago, Ill.	Log cos 9.87251	McC-R, N&E	Limestone	N 10			335	15:1	15mm/min.	End	N
W. F. Schmidt	Lat. 41°47.3' N	Mass 2.5 kg	180 m.	E 10			335	15:1			W
In Charge	Long. 87°36.0' W										
*College, Alaska	Log cos 9.62825	W-L, film, Z	Granite	Z 1.19	0.45		40000**	Near crit.	15mm/min.	Beginning	Up
C. J. Beers	Lat. 64°51.6' N	B, film, NE	schist.	N 1.36	0.45		50000	Near crit.			N
In Charge	Long. 147°50.2' W		159 m.	E 1.40	0.45		50000	Near crit.			E
		W, N		N 9.5	12.0		1000	Near crit.			N
*College Outpost	Log cos 9.62781	B, paper, Z		Z 1.5	0.53		425000	Near crit.	60mm/min.	Beginning	Up
C. J. Beers	Lat. 64°53'08"N										
In Charge	Long. 147°48'04"W										
Columbia, S. C.	Log cos 9.91857	W-L, ZNE	Consolidated	Z 1.1	1.6		24000	Under	60mm/min.	Beginning	Up
C. F. Mercer	Lat. 34°00' N		sand 150'	N 8.0	4.1		13000	damped	30mm/min.		N
In Charge	Long. 81°02' W		thick over granite, 94m.	E 8.0	4.1		13000				E
Eureka, Nev.	Log cos 9.88751	B, paper, Z	Dolomite	Z 1.02	0.55		420000	Near crit.	60mm/min.	Beginning	Up
W. DePaoli	Lat. 39°29'00"N	Mass 100 lb.	bedrock								
In Charge	Long. 115°58'12"W		7150 ft.								
Flaming Gorge, Utah	Log cos 9.87826	B, film ZNE	Quartzsite	Z 1.06	0.33			6:1	15mm/min.	Beginning	Up
J. Hanfelt	Lat. 40°55'36"N		6500 ft.	N 1.41	0.35			3:1	15mm/min.		N
In Charge	Long. 109°23'10"W			E 1.48	0.58			3:1	15mm/min.		E

Station	Position	Instrument	Foundation and Elevation	T_o	T_g	T_s	V	Σ	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Glen Canyon, Ariz.	Log cos 9.90250	B, film ZNE	Navajo Sand-	Z 1.10	0.37		25000	8:1	15mm/min.	Beginning	Up
George Atkinson	Lat. 36°58'25"N		stone. 390 ft.	N 1.40	0.43		50000	3:1			N
In Charge	Long. 111°35'35"W			E 1.37	0.45		50000	2:1			E
Guam, Mariana Islands	Log cos 9.98768	W-L, Z	147 ft.	Z 1.01	1.5		5000	Near crit.	30mm/min.	Beginning	Up
J. V. Hastings	Lat. 13°35'16"N	HTL, Z		Z 0.5	0.55		42000	Near crit.	30mm/min.	Beginning	Up
In Charge	Long. 144°51'58"E	Spg, NE		N 7.35	7.0		3000	Near crit.	30mm/min.	Beginning	N
				E 7.09	7.2		3000	Near crit.	30mm/min.	Beginning	E
*Honolulu, Hawaii	Log cos 9.96926	M-S, N&E	Coral 3m.	N 12			124	20:1	15mm/min.	Beginning	N
G. E. Haraden	Lat. 21°18'13"N	Mass 1 lb.		E 12			142	20:1			W
In Charge	Long. 158°05'44"W	HTL Z		Z 0.5	0.5		20000		60mm/min.		Up
		Lamont, ZNE		Z 15	75		8000		15mm/min.		Up
				N 15	75		8000				N
				E 15	75		8000				W
Hungry Horse, Mont.	Log cos 9.82255	B-VR, Z	Argillaceous	Z 1.05	0.5		188000	Near crit.	60mm/min.	Beginning	Up
R. D. Bush	Lat. 48°20'58"N		Limestone	Z 1.05	92			Near crit.	30mm/min.	Beginning	Up
In Charge	Long. 114°01'39"W	W-L, N	(Belt series)	N 3.5	3.9		10000	Near crit.	30mm/min.	Beginning	N
		W-L, E	1100 m.	E 3.4	4.1		10000	Near crit.	30mm/min.	Beginning	E
Kipapa, Hawaii	Log cos 9.96893	B-VR, Z	Basalt	Z 1.09	0.2		30000	Near crit.	60mm/min.	Beginning	Up
G. E. Haraden	Lat. 21°35.3' N		75 m.								
In Charge	Long. 158°00.9' W										
Lincoln, Nebr.	Log cos 9.87884	Spg, N&E	Dakota sand-	N 3.95	6.2		4800	2.11:1	15mm/min.	Beginning	N
C. L. Moore	Lat. 40°50.3' N		stone. 366 m.	E 4.3	6.8		4800	2.32:1	15mm/min.	Beginning	E
In Charge	Long. 96°39.2' W										
*Philadelphia, Pa.	Log cos 9.88452	W, N&E	Cape May	N 9.0	5.4	7.8	1400	15:1	20mm/min.	End	S
I. M. Levitt	Lat. 39°57'32"N	Mass 500 g.	sand and	E 9.2	4.1	7.4	1400	15:1			E
In Charge	Long. 75°10'30"W		gravel. 5 m.								
Rapid City, S. Dak.	Log cos 9.85637	W-A, E	Shale	E 6.7			725	15:1	15mm/min.	Beginning	E
E. L. Tullis	Lat. 44°04.6' N	(Dbl. refl.)	1045 m.								
In Charge	Long. 103°12.0' W	Mass 2 g.									
		W-L, Z		Z 1.08	1.6		10000		60mm/min.		Up
Salt Lake City, Utah	Log cos 9.87932	McC-R, N&E	Bonneville	N 9.9			335	15:1	15mm/min.	Beginning	N
A. M. Anderson	Lat. 40°45'55"N	Mass 2.5 kg.	Lake beds	E 10			335	15:1			W
In Charge	Long. 111°50'54"W	W-L, Z	1425 m.	Z 1.2	1.8		24000	Near crit.	60mm/min.		Up
San Juan, P. R.	Log cos 9.97726	W, N&E	Limestone	N 9.8	15.6	10.4		20:1	30mm/min.	Beginning	N
M. Vazquez	Lat. 18°22.9' N	Mass 500 g.	80 m.	E 9.8	16.8	10.4	1280	20:1			W
In Charge	Long. 66°07.1' W	B, Z		Z 1.05	0.5	0.6	20000	Crit.	60mm/min.		Up
*Sitka, Alaska	Log cos 9.73544	W, N&E	Graywacke	N 7.5	16.5	8.2	1000	20:1	15mm/min.	Beginning	S
M. L. Cleven	Lat. 57°03'25"N	Mass 500 g.	19 m.	E 7.5	13.2	8.2	1000	5.5:1			E
In Charge	Long. 135°19'28"W	W-L, Z		Z 1.12	1.5		10000		60mm/min.		Up
Thule, Greenland	Log cos 9.36644	W-L, Z	Glacial	Z 1.3	1.55		12000	Near crit.	60mm/min.	Beginning	Up
Capt. C. R. deZafra	Lat. 76°33.4' N		material								
In Charge	Long. 68°40.5' W		275 m.								

Station	Position	Instrument	Foundation and Elevation	T_o	T_g	T_s	V	Σ	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
*Tucson, Ariz.	Log cos 9.92725	W-A, N&E	Caliche or	N 8.0			466	Crit.	30mm/min.	Beginning	S
R. L. Viets	Lat. 32°14.8' N	Mass 2.3 g.	gravels 100-	E 8.0			457	Crit.			E
In Charge	Long. 110°50.1' W	B, Z(LP)	300m. thick	Z 1.0	77		50000	Near crit.	30mm/min.		Up
		(SP)	700 m.		0.236		50000		60mm/min.		Up
		B, E		E 1.6	0.5		25000		30mm/min.		W
[2]Tucson Telemeter	Log cos 9.92682	B, Z	Granite	Z 1.1	0.5		425000	Near crit.	60mm/min.	Beginning	Up
R. L. Viets	Lat. 32°20.1' N	Mass 100 lb.									
In Charge	Long. 110°43.4' W										
Ukiah, California	Log cos 9.88968	McC-R, N&E	Alluvium	N 11.9			75	Near crit.	30mm/min.	Beginning	N
L. F. Caouette	Lat. 39°08' N	Mass 10 kg.	180 m. deep.	E 11.6			75				E
In Charge	Long. 123°13' W	W-L, Z	199 m.	Z 1.1	1.4		24000		60mm/min.		Up
*Washington, D. C.	Log cos 9.89117	W-L, Z	Recent allu-	Z 1.5	4.0		10000		30mm/min.	Beginning	Up
	Lat. 38°53'33"N	Visible	vium on		Pen						
	Long. 77°01'59"W	recorder	Schistose		0.5						
			granite. 0 m.								

*These stations operate visible recording seismographs of Coast and Geodetic Survey design similar to the one at Washington.

**Magnifications for film records are stated as read using an 8 power viewer.

B-Benioff Moving Coil, B-VR - Benioff Variable Reluctance, W - Wenner, McC-R - McComb-Romberg, W-A - Wood-Anderson, M-S - Milne-Shaw.
HTL - Houston Technical Laboratory, Spg - Sprengnether, W-L - Wilson-Lamison

[1] The Seismometer is in a vault about 2.1 miles northeast of the main station. The signal is carried by cable to the main vault where it is fed into a galvanometer and recorded on photographic paper.

[2] The Seismometer is about nine miles northeast of the main station. The signal is transmitted by FM-FM radio to the main recorder room where it is recorded photographically.

Date 1960	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
1	07 58 58*	56 N.	165 E.	Komandorskie Islands.
1	08 18 51*	37 S.	73 W.	Central Chile.
1	10 10 10*	10½ S.	165½ E.	Santa Cruz Islands.
1	17 40 38*	11½ N.	142½ E.	Mariana Islands. h about 60 km.
1	22 13 44*	35 N.	117 W.	San Bernardino County, California. Mag. 4.5.
2	04 29 30*	51½ N.	173½ W.	Andreanof Islands, Aleutian Islands.
2	08 58 01*	45½ S.	75 W.	Southern Chile.
2	11 55 41*	56 S.	27 W.	Sandwich Islands.
2	12 44 21*	41 N.	131½ E.	Sea of Japan. h about 550 km.
2	21 53 22*	51½ N.	175½ W.	Andreanof Islands, Aleutian Islands.
3	03 19 19*	52 N.	174 W.	do.
3	05 16 08*	52 N.	173 W.	do.
3	07 16 14*	52 N.	173½ W.	do.
3	20 20 46*	50½ N.	177 W.	Andreanof Islands, Aleutian Islands. Mag. 7.
3	22 52 24*	50½ N.	177 W.	Andreanof Islands, Aleutian Islands.
4	04 09 21*	37 N.	141 E.	Near east coast of Honshu, Japan. Felt. h about 60 km.
4	04 28 33*	52 N.	131½ W.	Queen Charlotte Islands. Mag. 6½ - 6¾.
4	08 02 07*	8 S.	71 W.	Western Brazil. h about 600 km.
4	08 51 20*	52 N.	131 W.	Queen Charlotte Islands.
4	11 13 17*	52 N.	130½ W.	Queen Charlotte Islands.
4	13 10 05*	52 N.	131 W.	Queen Charlotte Islands. Mag. 6.
4	21 29 25*	43 S.	74 W.	Southern Chile. h about 60 km.
5	05 07 59*	51½ N.	178½ W.	Andreanof Islands, Aleutian Islands.
5	05 45 30*	38½ S.	73½ W.	Near coast of Chile.
5	08 06 31*	39 S.	74 W.	Near coast of Chile.
5	21 15 09*	8 S.	71½ W.	Western Brazil. h about 600 km.
6	05 16 44*	36½ N.	70½ E.	Hindu Kush region. h about 200 km.
6	14 43 00*	3 N.	126½ E.	Molucca Passage. h about 200 km.
6	23 14 19*	39½ N.	71½ E.	Tadzhik S.S.R.
6	23 17 09*	5 S.	125 E.	Banda Sea.
6	23 36 04*	5½ S.	155 E.	Solomon Islands.
7	15 47 14*	42 S.	75½ W.	Southern Chile.
7	16 45 26*	35½ S.	105 W.	South of Easter Island.
7	17 37 49*	38½ S.	73½ W.	Near coast of Chile.
7	21 41 00*	38½ S.	74 W.	do.
8	07 28 07*	44½ N.	111½ W.	Northeastern Idaho. Felt in Yellowstone National Park.
8	10 09 11*	52 N.	174½ W.	Andreanof Islands, Aleutian Islands.
8	12 51 27*	30½ N.	130½ E.	Near south coast of Kyushu, Japan. h about 100 km.

Date 1960	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
8	14 44 40*	7 S.	129 E.	Banda Sea.
8	15 23 42*	14 S.	167½ E.	New Hebrides Islands. h about 200 km.
9	00 24 40*	50 N.	177½ W.	Andreanof Islands, Aleutian Islands.
9	00 42 29*	25½ N.	125½ E.	Ryukyu Islands.
9	02 05 39*	15 S.	70½ W.	Southern Peru. h about 200 km.
9	21 36 40*	41½ N.	112 W.	Northwest Utah.
9	22 42 54*	40½ N.	21 E.	Southern Yugoslavia.
9	23 23 17*	41½ N.	144 E.	Hokkaido, Japan. h about 100 km.
10	00 05 38*	1 N.	98½ E.	Off west coast of Sumatra. h about 150 km.
10	13 39 55*	12½ N.	86 W.	Near coast of Nicaragua. Felt at Managua. h about 150 km.
10	20 22 51*	53½ S.	134 E.	South of Australia.
11	06 58 28*	38 S.	75 W.	Off coast of Chile.
11	07 33 32*	54 S.	140½ W.	South of Australia.
11	11 54 16*	51½ S.	173 W.	Andreanof Islands, Aleutian Islands.
11	11 55 10*	16 S.	172 W.	Tonga Islands region. Mag. 6.
12	17 00 25*	41 N.	142 E.	Off coast of northern Honshu, Japan. Felt.
13	02 30 32*	43 N.	143½ E.	Near south coast of Hokkaido, Japan. h about 100 km.
13	07 24 55*	30½ N.	114 W.	Gulf of California.
13	07 55 58*	54 S.	1 E.	Bouvet Island region.
13	10 20 32*	40½ N.	24½ E.	Greece. Felt on Chalcidice Peninsula.
13	13 01 00*	41 N.	23½ E.	Greece. Minor damage on Chalcidice Peninsulsa.
13	14 28 44*	15 S.	168½ E.	New Hebrides Islands.
13	16 23 56*	17 N.	94½ W.	Oaxaca, Mexico. h about 150 km.
13	20 27 46*	34 N.	139 E.	Off coast of Honshu, Japan.
13	21 45 09*	9½ S.	75 W.	Central Peru. h about 150 km.
14	02 07 21*	25 N.	124½ E.	Ryukyu Islands. h about 200 km.
14	10 26 58*	5 N.	127½ E.	Molucca Passage.
14	10 45 02*	23½ S.	180	South of Fiji Islands. h about 600 km.
14	11 24 58*	44½ N.	110½ W.	Yellowstone National Park, Wyoming
14	15 21 41*	1 N.	120½ E.	Celebes.
14	18 39 34*	7 N.	38½ E.	Ethiopia.
14	20 18 45*	0	123 E.	Celebes.
14	22 11 06*	36 N.	70 E.	Hindu Kush. h about 100 km.
15	05 02 09*	12 S.	45 E.	Off northwest coast of Madagascar. h about 60 km.
16	04 44 34*	21½ S.	67 W.	Southern Bolivia. h about 150 km.
16	17 17 44*	21½ N.	143 E.	Mariana Islands. h about 300 km.
16	21 19 37*	65½ N.	167½ W.	Seward Peninsula, Alaska.
16	22 02 53*	65½ N.	167½ W.	do.

Date 1960	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
17	02 15 07*	12 N.	125½ E.	Samar, Philippine Islands.
17	05 14 56*	36 N.	69 E.	Hindu Kush. h about 200 km.
17	11 50 15*	10½ N.	62 W.	Near coast of Venezuela. Felt on Trinidad, West Indies. h about 100 km.
17	19 42 38*	10 S.	13 W.	Ascension Island region.
18	00 54 07*	7 N.	94 E.	Nicobar Islands. h about 150 km.
18	01 15 24*	6½ N.	95½ E.	do.
18	01 43 29*	4½ S.	151 E.	New Britain region. Felt. h about 200 km.
18	01 48 36*	39 N.	65 E.	Uzbek S.S.R.
18	04 40 54*	56 N.	111 E.	Lake Baikal, U.S.S.R.
18	07 46 53*	17 S.	174½ W.	Tonga Islands.
18	16 51 41*	37½ N.	70½ E.	Hindu Kush.
18	18 50 32*	7 S.	51½ E.	Amirante Islands.
18	23 17 30*	44½ N.	110½ W.	Yellowstone National Park, Wyoming. Felt.
19	02 42 30*	1 N.	87½ W.	Galapagos Islands.
19	04 19 14*	7 S.	80 W.	Near coast of Peru.
19	11 12 55*	28½ S.	68½ W.	Argentina-Chile border. h about 200 km.
19	16 03 18*	16½ N.	92½ W.	Chiapas, Mexico. h about 200 km.
19	18 29 31*	13½ N.	146 E.	Mariana Islands. h about 100 km.
20	09 30 38*	49 N.	157½ E.	Kurile Islands region.
20	20 59 25*	20½ S.	169 E.	New Hebrides Islands. h about 200 km.
20	21 38 23*	38 S.	73½ W.	Near coast of Chile.
21	20 51 20*	27 N.	142½ E.	Bonin Islands.
22	15 49 30*	34 N.	107 W.	New Mexico.
23	01 31 17*	42½ N.	111½ W.	Southeast Idaho.
23	04 10 13*	42½ N.	111½ W.	Southeast Idaho.
23	07 26 49*	42½ N.	111½ W.	Southeast Idaho.
23	07 31 38*	21½ S.	179½ W.	Fiji Islands. h about 600 km.
23	14 15 26*	34 N.	106½ W.	New Mexico. Felt in Socorro area.
24	02 26 45*	50½ N.	177½ W.	Andreanof Islands, Aleutian Islands.
24	09 48 56*	56 N.	164 E.	Near coast of Kamchatka.
25	01 30 00*	42½ N.	111½ W.	Southeast Idaho.
25	01 47 18*	42½ N.	111½ W.	do.
25	03 41 05*	55 N.	163 E.	Near coast of Kamchatka. Mag. 6½.
25	10 27 00**			Fiji Islands. h about 500 km.
25	11 12 00*	54 N.	159 E.	Kamchatka. h about 100 km. Mag. 7.
25	15 30 24*	53½ N.	159 E.	Near east coast of Kamchatka.
25	21 11 36*	32 N.	56½ E.	Iran.

Date 1960	Origin Time G. C. T.	Lat.		Long.		Region, Focal Depth and Remarks
July	h m s	°		°		
25	21 36 46*	3	S.	148	E.	Bismarck Sea.
26	03 55 54*	40½	N.	144½	E.	Off east coast of Hokkaido, Japan.
26	12 36 20*	40½	N.	37	E.	Turkey.
27	03 57 21*	59½	S.	26	W.	Sandwich Islands.
27	08 56 10*	6	S.	103½	E.	Near coast of Sumatra.
27	10 05 07*	44½	S.	76	W.	Near coast of southern Chile. Mag. 6¼ - 6½. h about 150 km.
27	13 27 14*	19	S.	167½	E.	New Hebrides Islands.
27	14 10 01*	5½	S.	147½	E.	Bismarck Sea. h about 150 km.
27	21 01 00*	29	S.	176½	W.	Kermadec Islands.
28	10 35 41*	11½	S.	167	E.	Santa Cruz Islands.
29	00 24 06*	19½	S.	170½	E.	Loyalty Islands. Mag. 6½ - 6¾.
29	01 50 32*	19½	S.	170	E.	New Hebrides Islands. h about 100 km.
29	09 29 37*	7½	N.	72	W.	Venezuela-Colombia border.
29	10 42 43*	26½	N.	90½	E.	India.
29	14 33 40*	32	N.	67½	E.	Eastern Afghanistan. Felt at Quetta, Pakistan.
29	15 28 03*	19½	S.	170	E.	New Hebrides Islands.
29	16 45 43*	27½	N.	54½	E.	Southern Iran. h about 100 km.
29	17 31 45*	40	N.	142½	E.	Honshu, Japan. Mag. 6¾. h about 100 km.
30	02 04 48*	1½	S.	79	W.	Ecuador. 11 killed and minor property damage in Ambato area. Felt at Riobamba and Guayaquil.
30	07 15 15*	2½	S.	77½	W.	Ecuador. h about 200 km.
30	14 12 34*	56	N.	164	E.	Near east coast of Kamchatka.
31	02 55 51*	6	S.	150	E.	New Britain. Mag. 6¾. h about 100 km.
31	07 04 36*	6	S.	150	E.	New Britain. Felt. Mag. 6½. h about 100 km.
31	09 17 49*	6½	S.	130	E.	Banda Sea.
31	12 57 24*	20½	S.	170½	E.	New Hebrides Islands.
31	14 54 59*	43½	S.	75	W.	Near coast of southern Chile.
31	18 46 12*	3	S.	147	E.	Bismarck Sea.
31	22 26 49*	28	N.	55	E.	Southern Iran.

Date and Station		Phase	(GCT) h m s
July 1			
CSC	eP'		00 16 18
FGU	eP'		00 15 35
	i		15 45
HHM	eP'		00 15 23
July 1			
COL	iP		05 02 02
EUR	iP		05 05 42
FGU	eP		05 06 06
HHM	iP		05 05 08
July 1			
BCN	eP		08 08 38
COL	eP		08 04 15
	eS		07 40
	eL		08 36
CSC	eP		08 10 36
EUR	iP		08 08 14
	i		08 24
	i		09 36
FGU	eP		08 08 31
	i		08 41
	i		09 42
HHM	eP		08 07 36
	i		09 06
RCD	iP		08 08 40
	i		08 48
SLC	eP		08 08 25
TUC	eP		08 09 13
	e		09 22
TUT	eP		08 09 13
	i		09 20
July 1			
EUR	iP		08 31 32
	i		32 02
FGU	eP		08 31 27
TUT	eP		08 30 48
July 1			
TUT	e(P)		09 32 13
	i		32 32
	eS		33 20
	iL		33 28
July 1			
COL	iP		10 22 34
	i		22 50
EUR	iP		10 23 02
FGU	eP		10 23 26
TUT	eP		10 23 13
	e		23 36
July 1			
EUR	iP		13 47 48
FGU	eP		13 47 42
July 1			
COL	eP		17 51 53
EUR	eP		17 53 45
	epP		53 57
GUA	iP		17 41 20
	iS		41 47
	eT		43 28
HHM	eP		17 53 49
July 1			
COL	e(P)		18 06 35
July 1			
GUA	eP		18 44 58
	eS		45 29
July 1			
EUR	eP		20 35 40
FGU	iP		20 35 20
July 1			
COL	eP		20 59 57
July 1			
BCN	iP		22 14 16
EUR	iP		22 14 51
FGU	eP		22 15 49
	iL		18 09
RCD	eP		22 17 03
	i		17 07
	eL		20 52
SLC	e(P)		22 15 56
TUC	iP		22 15 11
	eL		16 55
TUT	iP		22 15 12
	e		16 17
July 2			
EUR	eP		01 11 15
FGU	eP		01 11 01
RCD	eP		01 10 59
July 2			
BCN	eP		04 37 40
BOZ	eP		04 37 14
BUT	eP		04 37 03
COL	eP		04 33 51
	eS		37 26
	eL		38 48
CSC	eP		04 40 40
EUR	eP		04 37 17
	i		37 31
FGU	eP		04 37 44
	e		43 19
GUA	eP		04 38 28
HHM	eP		04 36 43
	i		37 04
RCD	iP		04 37 57
SJP	eP		04 42 16
	e		42 24
SIT	eP		04 34 40
TUC	eP		04 38 19
July 2			
COL	eP		05 03 14
July 2			
BCN	eP		09 11 05
COL	eP'		09 17 05
EUR	iP		09 11 21
FGU	e(P)		09 11 19
SJP	iP		09 08 45
TUC	iP		09 10 42
	i		10 49
TUT	iP		09 10 42
	i		10 48
July 2			
EUR	eP		10 29 58
FGU	eP		10 29 51
TUC	iP		10 29 15
July 2			
BCN	eP'		12 14 27
BOZ	eP'		12 14 39
BUT	eP'		12 14 38
COL	eP'		12 15 23
	i		15 31
	ePKS		20 32
	eSKSP		28 15
	e		31 49
	eP'P'		37 06
EUR	e(P')		12 14 27
	i		14 34
	ePP		15 30
	e		15 35
FGU	iP'		12 14 29
	i		15 37
	ePP		15 43
	eSKS		21 12
HHM	eP'		12 14 44
	ePP		16 38
RCD	e(P')		12 13 29
	ePP		15 46
SJP	iP		12 07 56
	i		08 19
THU	iP'		12 14 59
	e		15 24
	ePP		17 34
	e(SKP)		18 18
TUC	eP'		12 14 29
	iPP		15 27
WAS	iP'		12 13 56
	iPP		14 19
July 2			
COL	e(P)		12 23 56
EUR	iP		12 24 39
	i		25 05
July 2			
BOZ	eP		12 55 23
BUT	eP		12 55 17
COL	iP		12 52 27
	iPcP		53 57
	ipP		54 22
EUR	iP		12 55 32
	epP		57 29
	ePP		58 34
FGU	iP		12 55 45
	eS		13 05 10
GUA	iP		12 50 48
HHM	eP		12 55 04
RCD	iP		12 55 48
TUC	iP		12 56 14
July 2			
BCN	eP		22 01 44
COL	iP		21 57 53
CSC	eP		22 04 17

Date and Station		Phase (GCT)
		h m s
EUR	iP	22 01 22
	ePcP	02 31
FGU	iP	22 01 45
	iPcP	03 23
	iScP	07 11
HHM	e(P)	22 00 51
RCD	iP	22 02 00
SJP	eP	22 06 13
	e	06 29
TUC	iP	22 02 22
	iPcP	03 40
TUT	eP	22 02 22
	iPcP	03 40
July 3		
BCN	eP	03 27 28
BOZ	eP	03 27 02
COL	eP	03 23 38
	eS	27 24
	eL	28 46
CSC	eP	03 30 05
EUR	eP	03 27 04
	i	27 17
	i	28 02
	iPP	28 31
FGU	eP	03 27 30
HHM	eP	03 26 34
RCD	iP	03 27 45
SLC	eP	03 27 19
SJP	eP	03 32 07
THU	eP	03 27 24
TUC	eP	03 28 07
TUT	eP	03 28 07
July 3		
BOZ	eP	05 23 50
COL	eP	05 20 27
CSC	eP	05 26 53
EUR	iP	05 23 54
	i	24 01
	i	24 19
FGU	eP	05 24 19
HHM	eP	05 23 24
RCD	iP	05 24 34

Date and Station		Phase (GCT)
		h m s
SJP	eP	05 28 52
TUC	eP	05 24 56
TUT	eP	05 24 56
July 3		
BCN	eP	07 24 24
BOZ	eP	07 23 57
COL	eP	07 20 34
CSC	eP	07 27 00
EUR	eP	07 24 02
	i	24 07
	i	24 15
	i	24 34
	iPP	25 31
FGU	eP	07 24 27
HHM	e(P)	07 23 34
RCD	eP	07 24 42
SJP	eP	07 29 01
	e	29 13
TUC	eP	07 25 00
TUT	eP	07 25 05
July 3		
COL	e(P)	07 25 42
July 3		
BCN	eP	12 22 59
TUC	eP	12 22 42
	e	23 00
	eL	24 00
TUT	eP	12 22 43
	e	23 00
July 3		
COL	eP	15 50 07
EUR	iP	15 53 47
July 3		
COL	eP	20 11 25
EUR	iP	20 15 17
July 3		
COL	eP	20 24 44
EUR	iP	20 28 12
July 3		
BHP	iP	20 33 39D
	iS	44 23
BCN	eP	20 29 15D
	eS	36 09
	e	39 12

Date and Station		Phase (GCT)
		h m s
BOZ	eP	20 28 49D
	eS	35 11
BUT	eP	20 28 40D
	eS	35 00
COL	iP	20 25 34D
	iS	29 26
	iL	30 18
CSC	eP	20 31 48D
	eS	40 25
EUR	iP	20 28 53D
	iPP	30 30
	eS	34 27
	eP'P'	21 00 03
FGU	iP	20 29 18
	i	29 31
	iPcP	30 50
	i	34 42
	eS	36 08
	eP'P'	21 00 09
GCA	iP	20 29 26
	i	30 01
	iPcP	30 56
	e	33 57
GUA	eP	20 29 13
	ePP	31 06
	eL	41 46
HON	iP	20 27 19C
	i	28 27
	iS	32 41
	iL	33 49
HHM	iP	20 28 25D
	i	28 55
	ePP	29 54
	iPcP	30 29
	e	34 17
	eS	34 29
KIP	eP	20 27 20
	e	30 07
	eT	21 02 56
RCD	iP	20 29 33D
	e(S)	36 47
	eL	39 51
	eP'P'	21 00 14
SLC	eP	20 29 07D
	eS	35 45
	eL	39 05
SJP	iP	20 33 43D
SIT	iP	20 26 16C
	eS	29 47
	eL	30 30
TUC	iP	20 29 53D
	iS	37 14
	i	37 38
	eL	45 20

Date and Station		Phase (GCT)
		h m s
TUT	iP	20 29 53D
UKI	eP	20 28 16
	eL	38 50
WAS	iP	20 31 40C
	iPP	34 13
	iS	40 36
	eSS	44 39
	eL	48 35
July 3		
SJP	e(P)	20 55 34
	e	55 38
	eL	56 23
July 3		
COL	eP	20 59 32
July 3		
BCN	eP	23 00 54
BUT	eP	23 00 19
COL	eP	22 57 12
	iS	23 01 11
	eS	01 05
	eL	02 30
CSC	eP	23 03 28
EUR	iP	23 00 31
	i	00 41
	iPP	02 18
FGU	iP	23 00 57
	i	02 30
HHM	eP	23 00 04
SLC	eP	23 00 45
SJP	eP	23 05 22
SIT	eP	22 57 56
TUC	iP	23 01 32
July 3		
COL	eP	23 56 05
EUR	iP	23 58 43
FGU	eP	23 58 59
July 4		
COL	iP	01 34 26
July 4		
BCN	eP	04 21 33
COL	iP	04 18 11
	i	18 20
EUR	eP	04 21 09
FGU	eP	04 21 24
	i	21 36

B-4297-4.

Date and Station		Phase	(GCT) h m s
GUA		eP	04 14 32
RCD		eP	04 21 32
TUC		eP	04 21 58
TUT		eP	04 21 58
July 4			
BHP		iP	04 38 45
		iS	46 59
BCN		iP	04 33 07
		eS	36 04
		eL	39 24
BOZ		eP	04 32 04
BUT		eP	04 31 48
		eS	35 06
		eL	40 06
COL		iP	04 32 17
		iS	35 20
		iL	36 14
CSC		iP	04 36 11
		eS	42 17
EUR		iP	04 32 26
FGU		eP	04 32 52
		iP	32 54
		i	38 40
		iL	39 37
GUA		eP	04 40 22
		eS	50 01
		eL	59 23
HON		iP	04 35 45
		i	36 59
		eS	41 25
		iL	43 09
HHM		iP	04 31 25
		eS	33 35
		iL	34 38
KIP		eP	04 35 44
		i	35 51
		iPP	37 15
		eT	05 14 19
RCD		eP	04 33 12
		iP	33 14
		iS	37 14
		eL	39 03
SLC		eP	04 32 39
		eS	36 13
		eL	37 45
SJP		iP	04 38 47
		eL	05 01 26
SIT		eP	04 30 00
		iL	31 07
TUC		iP	04 33 59
		iS	38 38
TUT		iP	04 33 59
UKI		iP	04 31 55
		eL	34 44
WAS		iP	04 36 03
		i	37 31
		iS	43 55
July 4			
COL		eP	05 35 00
		i	35 12
July 4			
EUR		iP	07 47 30
FGU		eP	07 47 49
July 4			
TUC		e(P)	08 06 08
		i	06 19
		e(S)	~ 07 03
		eL	07 13
TUT		eP	08 06 12
		i	06 22
		iL	07 15
July 4			
COL		iP	08 14 15
		epP	16 21
EUR		iP	08 11 40
		iPcP	12 12
FGU		iP	08 11 22
RCD		eP	08 11 18
SJP		eP	08 07 07
TUT		eP	08 11 40
July 4			
BCN		eP	08 55 48
BOZ		eP	08 54 48
BUT		eP	08 54 34
		eL	58 29
COL		eP	08 55 03
		eS	59 33
		eL	59 58
EUR		iP	08 55 09
		eL	09 00 24
FGU		eP	08 55 36
		i	56 00
		eL	09 00 57
GCA		eP	08 56 01
HHM		eP	08 54 08
		eS	56 58
		iL	57 19
RCD		iP	08 55 56
		eL	09 01 57
SLC		eP	08 55 20
SIT		eP	08 52 46
		e	53 48
		eL	54 10
TUC		eP	08 56 42
TUT		eP	08 56 42
July 4			
BCN		eP	09 52 13
COL		e(P)	09 56 10
		i	56 45
EUR		iP	09 52 25
		i	52 40
FGU		eP	09 52 13
TUC		eP	09 51 14
		e	51 29
TUT		eP	09 51 14
		i	51 28
July 4			
BCN		eP	11 17 47
BOZ		eP	11 16 55
BUT		eP	11 16 28
		e	20 13
COL		eP	11 16 58
		e(S)	21 32
		eL	22 18
EUR		eP	11 17 10
		i	17 30
FGU		eP	11 17 34
		i	17 58
GCA		e(P)	11 17 57
HHM		eP	11 16 05
		eL	19 14
RCD		eP	11 17 53
SIT		eP	11 14 46
		eL	16 14
TUC		iP	11 18 39
TUT		iP	11 18 39
July 4			
COL		eP	12 55 33
		eL	13 00 10
EUR		iP	12 55 40
FGU		eP	12 56 14
		eL	13 01 50
GCA		eP	12 56 31
HHM		e(P)	12 54 38
		eL	57 47
RCD		e(P)	12 56 23
		i	56 34
July 4			
BCN		eP	13 14 39
		e(S)	18 48
BOZ		eP	13 13 38
		eS	17 37
COL		iP	13 13 49
		iS	17 08
		iL	18 10
CSC		eP	13 17 42
		eS	23 50
		eL	30 54
EUR		iP	13 13 57
		eS	16 53
FGU		iP	13 14 25
		i	15 11
		e(S)	19 40
		iL	20 39
GCA		iP	13 14 48
		i	14 52
		i	15 35
HON		eP	13 18 34
		e	22 27
		eS	23 16
		eL	25 38
HHM		eP	13 12 55
		eS	14 59
		eL	16 01
RCD		iP	13 14 44
		iS	18 34
		eL	20 43
SLC		eP	13 14 10
		eS	17 53
SJP		eP	13 20 20
		e	20 35
TUC		iP	13 15 31
		iS	20 07
		eL	22 26
TUT		iP	13 15 30
WAS		e(P)	13 17 37
		eL	26 26
		e	30 44

B-4297-4

Date and Station		Phase (GCT) h m s
July 4		
COL	eP	13 54 38
FGU	eP	13 58 24
RCD	eP	13 58 33
	e	58 52
July 4		
BUT	eP	18 25 09
	e	28 30
COL	eP	18 25 30
	eL	30 18
EUR	e(P)	18 25 36
	iP	25 39
FGU	eP	18 26 04
GCA	e(P)	18 26 26
HHM	eP	18 24 35
	eL	27 44
RCD	eP	18 26 24
	i	26 37
SIT	e(P)	18 23 14
	eL	24 47
TUT	e(P)	18 27 04
July 4		
SJP	eP	18 24 37
	e	25 44
July 4		
BCN	eP	21 42 10
BOZ	eP	21 42 43
BUT	eP	21 42 46
CSC	eP	21 41 15
EUR	iP	21 42 27
	i	42 42
	ePKKP	59 29
FGU	iP	21 42 21
GCA	eP	21 42 09
SLC	eP	21 42 24
SJP	eP	21 39 38
TUC	iP	21 41 46
TUT	eP	21 41 46
July 5		
COL	iP	01 40 44
EUR	iP	01 43 40
July 5		
BCN	eP	05 16 30

Date and Station		Phase (GCT) h m s
BOZ	eP	05 16 04
BUT	eP	05 15 55
COL	eP	05 12 38
	iP	12 41
	iS	16 34
CSC	eP	05 19 00
EUR	iP	05 16 08
	i	17 22
	ePP	17 52
	e(S)	21 54
	eP'P'	47 24
FGU	iP	05 16 32
GCA	eP	05 16 42
GUA	iP	05 16 36
HHM	iP	05 15 38
	ePcP	17 41
RCD	iP	05 16 46
	i	16 56
	eS	23 48
SLC	eP	05 16 22
SJP	iP	05 20 54
TUC	iP	05 17 09
TUT	iP	05 17 09
July 5		
COL	eP	05 20 18
July 5		
COL	eP	05 24 03
July 5		
BUT	eP	05 58 33
EUR	iP	05 58 13
FGU	iP	05 58 06
GCA	eP	05 57 54
HHM	iP	05 58 45
RCD	eP	05 58 12
SLC	eP	05 58 09
TUC	iP	05 57 30
TUT	iP	05 57 30
WAS	iP	05 57 22
	i	58 28
July 5		
EUR	iP	08 19 18

Date and Station		Phase (GCT) h m s
FGU	eP	08 19 11
GCA	e(P)	08 18 58
HHM	eP	08 19 49
RCD	eP	08 19 24
TUC	iP	08 18 34
TUT	iP	08 18 34
July 5		
COL	iP	10 56 36
EUR	iP	10 59 48
July 5		
EUR	eP	12 07 41
July 5		
SJP	eP	12 43 38
	eL	44 03
July 5		
COL	iP	14 17 50
HHM	eP	14 17 03
July 5		
EUR	iP	15 24 07
July 5		
FGU	eP	17 19 59
HHM	e(P)	17 19 25
July 5		
EUR	e(P)	18 39 14
HHM	eP	18 38 16
	eL	41 10
July 5		
COL	iP	21 27 18
	ipP	29 15
EUR	iP	21 24 43
	iPcP	25 15
	epP	26 30
	iPP	27 16
	iScP	28 25
	ePPP	28 46
	eS	32 24
FGU	iP	21 24 23
	ipP	26 10
	iS	31 54
	e	33 16
HHM	iP	21 25 13
	ipP	27 02
	eS	33 26
	eP'P'	53 32
RCD	iP	21 24 20
	epP	26 05
	eS	31 57

Date and Station		Phase (GCT) h m s
SJP	iP	21 20 06
	e(pP)	21 21
	e	22 36
	eS	24 02
THU	iP	21 26 45
July 6		
EUR	eP	01 32 07
July 6		
BOZ	eP	05 30 04
BUT	eP	05 30 01
COL	iP	05 28 05
EUR	iP	05 30 30
	i	30 35
	eP'	34 27
	ePP	34 45
	iPKKP	46 14
	iSKKS	49 36
	iP'P'	54 33
FGU	eP	05 30 25
	i	34 32
	eS	40 43
HHM	iP	05 29 50
	ePP	33 06
RCD	iP	05 30 10
	ePP	34 07
SIT	iP	05 28 58
THU	iP	05 27 03
	ipP	28 10
	ePP	29 23
	e	30 33
TUC	ePP	05 34 29
	epPP	35 26
TUT	ePP	05 34 39
	ipPP	35 26
July 6		
COL	eP	05 54 58
	e	58 34
July 6		
EUR	e(P)	07 26 44
FGU	eP	07 27 18
GCA	e(P)	07 27 17
HHM	eP	07 26 38
RCD	eP	07 26 30
	e	27 13
TUC	e(P)	07 26 37
TUT	eP	07 26 37

Date and Station		Phase	(GCT) h m s
July 6			
COL		iP	13 30 47
July 6			
COL		eP	14 55 22
July 6			
COL		iP	15 02 36
July 6			
EUR		eP	15 46 13
July 6			
COL		iP	18 02 27
EUR		iP	18 06 05
July 6			
COL		iP	23 25 41
July 6			
EUR		iP'	23 36 04
FGU		eP'	23 36 06
RCD		eP'	23 36 18
July 6			
COL		iP	23 48 24
EUR		iP	23 49 20
July 7			
EUR		eP	00 26 55
GCA		iP	00 26 22
		e	26 57
July 6			
COL		eP	00 43 55
EUR		iP	00 39 49
FGU		eP	00 39 35
GCA		eP	00 39 14
TUC		eP	00 38 29
		iL	44 30
TUT		iP	00 38 29
		iL	44 30
July 7			
COL		e(P)	04 32 49
EUR		e(P)	04 32 15
July 7			
COL		iP	08 53 18
		iS	54 10
		iL	54 18
July 7			
COL		e(P)	10 40 31
		i	42 15
July 7			
BCN		eP	15 59 54
EUR		iP	16 00 11
GCA		e(P)	15 59 53
HHM		eP	16 00 42
TUT		iP	15 59 27
July 7			
BCN		eP	16 56 51
BUT		eP	16 57 48
EUR		eP	16 57 13
		iP	57 19
		i	57 31
FGU		eP	16 57 21
HHM		eP	16 58 03
RCD		eP	16 57 42
TUT		iP	16 56 29
		i	56 43
July 7			
EUR		iP	17 50 35
FGU		iP	17 50 28
GCA		eP	17 50 14
HHM		e(P)	17 51 05
RCD		eP	17 50 32
TUT		iP	17 49 52
July 7			
BCN		eP	21 53 31
BUT		eP	21 54 07
EUR		iP	21 53 46
		i	53 51
		i	53 54
FGU		iP	21 53 40
GCA		eP	21 53 30
HHM		eP	21 54 17
RCD		eP	21 53 48
SJP		eP	21 50 49
TUT		iP	21 53 03
UKI		eP	21 54 05
July 7			
COL		eP	22 49 07
July 7			
EUR		eP	22 58 48
July 7			
COL		e(P)	23 41 50
HHM		eP	23 39 42
July 8			
BOZ		eP	01 49 44
EUR		eP	01 51 31
FGU		iP	01 50 05
July 8			
COL		eP	03 57 03
EUR		iP	04 00 27
		i	00 37
FGU		eP	04 00 51
		i	01 01
HHM		e(P)	04 00 06
RCD		eP	04 01 16
July 8			
HHM		iP	07 14 14
		iL	15 17
July 8			
BOZ		iP	07 28 25
BUT		iP	07 28 39
		iS	29 02
		iL	29 04
EUR		e(P)	07 29 45
		eP	29 48
		i	30 05
		eS	31 02
		eL	31 15
FGU		eP	07 29 09
		i	29 23
		iL	30 09
HHM		eP	07 29 14
		i	29 26
		iL	30 14
RCD		e(P)	07 29 30
		e	29 54
		eL	30 51
SLC		e(P)	07 28 52
		eP	29 18
July 8			
COL		iP	07 49 50
July 8			
BCN		eP	10 17 24
BOZ		eP	10 17 00
BUT		eP	10 17 02
COL		eP	10 13 34
		eS	17 15
		eL	19 24
EUR		iP	10 17 01
		i	17 15
		iS	22 44
FGU		eP	10 17 29
		i	17 54
		e(S)	22 57
		e	23 06
GCA		eP	10 17 41
HHM		eP	10 16 31
		ePP	18 50
RCD		eP	10 17 41
		i	17 44
SIT		eP	10 14 22
TUC		eP	10 18 04
		i	18 12
TUT		eP	10 18 05
July 8			
COL		eP	11 44 35
July 8			
BCN		eP	13 04 20
BOZ		eP	13 04 02
BUT		iP	13 03 56
COL		iP	13 01 23
		eS	09 28
EUR		iP	13 04 06
		ipP	04 42
		ePP	07 32
FGU		iP	13 04 20
		i	04 38
GCA		eP	13 04 26
GUA		iP	12 56 12
		i	56 25
		e(S)	13 00 05
HHM		iP	13 03 45
RCD		iP	13 04 26
SLC		eP	13 04 15
THU		iP	13 02 48
		ipP	03 14
SIT		iP	13 02 16
		e	02 35
TUC		iP	13 04 43
TUT		iP	13 04 43
July 8			
COL		iP	14 16 17

Date and Station		Phase (GCT)
		h m s
EUR	iP	14 19 35
July 8		
COL	iP	14 57 57
	e	58 36
EUR	iP'	15 03 23
GUA	eP	14 50 22
	i	50 58
	i	51 24
	e(S)	54 57
RCD	eP'	15 04 39
July 8		
COL	iP	15 36 00
	epP	36 46
EUR	iP	15 36 16
July 8		
COL	iP	16 57 04
	i	59 34
EUR	iP	17 00 24
HHM	e(P)	16 59 56
RCD	eP	17 00 50
July 8		
EUR	eP	22 54 22
July 9		
COL	iP	00 29 34
EUR	iP	00 32 49
	i	32 58
	iPP	34 36
FGU	eP	00 33 17
RCD	e(P)	00 33 49
July 9		
BUT	eP	00 55 38
COL	iP	00 53 18
EUR	iP	00 55 50
	ePP	59 43
FGU	eP	00 56 04
GUA	eP	00 49 27
	eS	51 28
HHM	iP	00 55 31
July 9		
COL	eP	02 10 14
HHM	eP	02 12 27
July 9		
COL	iP	02 18 54
EUR	iP	02 16 24
FGU	iP	02 16 08
	eS	24 44
HHM	eP	02 16 55
RCD	iP	02 16 07
	e	16 22
TUC	eP	02 15 33
July 9		
EUR	eP	04 06 07
July 9		
EUR	iP	06 18 27
FGU	iP	06 18 21
TUC	iP	06 17 46
July 9		
COL	eP	07 49 06
EUR	eP	07 51 38
FGU	e(P)	07 51 52
HHM	eP	07 51 19
July 9		
COL	eP	08 22 50
July 9		
COL	eP	11 41 32
EUR	iP	11 45 10
July 9		
COL	iP	16 04 57
EUR	eP	16 04 21
July 9		
UKI	e(P)	17 12 09
	e	12 14
	eL	12 37
July 9		
COL	eP	18 07 14
	iP	07 24
HHM	eP	18 06 36
July 9		
COL	iP	21 33 51
	i	34 24
EUR	iP	21 31 03
FGU	eP	21 30 55
	e	31 19
July 9		
COL	iP	22 54 31
HHM	eP	22 55 16
July 9		
COL	iP	23 31 21
SLC	eP	23 33 20
July 10		
BOZ	eP'	00 24 30
COL	eP	00 19 06
	i	22 29
	iPP	22 54
	eSKS	29 42
	ePPS	32 39
	iPKKP	35 37
	eSS	37 45
	eL	53 50
CSC	eP'	00 25 02
FGU	eP'	00 24 13
	i	24 38
	ePP	27 01
	i	28 01
	i	28 57
GCA	eP'	00 24 42
	e	29 10
	e	30 31
GUA	eP	00 13 56
	ePcP	15 04
	eS	21 03
	eL	25 04
HHM	iP'	00 24 22
	ePP	26 10
RCD	eP'	00 24 37
	ePKS	28 00
SLC	eP'	00 24 36
TUC	eP'	00 24 43
	iPP	27 20
TUT	eP'	00 24 43
UKI	eP'	00 24 37
	e	25 22
WAS	eP'	00 24 46
	iPP	27 53
	eL	01 22 05
July 10		
COL	eP	01 59 28
July 10		
EUR	iP	03 53 55
July 10		
EUR	iP	06 54 25
July 10		
COL	iP	07 56 51
EUR	iP	07 56 15
FGU	eP	07 56 43
GCA	eP	07 56 25
TUC	iP	07 56 14
TUT	iP	07 56 14
July 10		
COL	iP	08 12 58
FGU	eP	08 16 53
July 10		
EUR	iP	09 22 30
FGU	eP	09 22 25
July 10		
COL	iP	10 23 06
EUR	eP	10 23 15
FGU	eP	10 23 39
July 10		
COL	iP	11 33 05
July 10		
EUR	eP	11 43 04
July 10		
COL	eP	13 50 36
	epP	51 03
CSC	eP	13 44 45
EUR	iP	13 47 00
	ipP	47 28
	isP	47 38
FGU	iP	13 46 37
	ipP	47 05
GCA	eP	13 46 25
HHM	eP	13 47 41
	i	47 58
	iPP	48 53
SLC	eP	13 46 48
	e	47 15
SJP	eP	13 44 30
	i	44 31
TUC	eP	13 45 54
	ipP	46 20
	isP	46 25
TUT	eP	13 45 54
	ipP	46 20
	isP	46 25
WAS	iP	13 45 38
	eS	50 06
July 10		
COL	iP	14 02 10
July 10		
EUR	iP'	20 42 13

8-4297-4

Date and Station		Phase	(GCT)
			h m s
July 11			
COL	e(P)		01 33 54
July 11			
EUR	eP		01 51 39
FGU	eP		01 51 33
July 11			
EUR	eP		02 02 16
FGU	eP		02 02 09
July 11			
COL	eP		05 22 00
EUR	e(P)		05 22 02
July 11			
EUR	iP		07 11 14
FGU	iP		07 11 08
GCA	eP		07 10 55
HHM	i(P)		07 11 45
RCD	eP		07 11 11
TUC	iP		07 10 31
	i		10 37
TUT	iP		07 10 31
July 11			
EUR	eP'		07 52 41
July 11			
EUR	iP		08 19 25
FGU	eP		08 19 19
GCA	e(P)		08 19 07
RCD	eP		08 19 26
TUC	eP		08 18 41
TUT	iP		08 18 42
July 11			
EUR	iP		10 40 59
	i		41 08
FGU	eP		10 40 52
RCD	e(P)		10 40 05
TUT	iP		10 40 25
WAS	iP		10 36 22
July 11			
BCN	eP		12 02 28
	e		02 40
BOZ	eP		12 02 00
COL	eP		11 58 38
	iP		58 40
EUR	iP		12 02 05
	i		02 17
FGU	eP		12 02 30
	i		04 28
GUA	iP		12 04 21
	e		05 32
HON	eP		12 02 46
	i		05 48
	eS		09 13
	eL		11 09
HHM	iP		12 01 35
	ePcP		03 53
	i		04 07
KIP	iP		12 02 46
	i		02 57
	i		03 05
RCD	iP		12 02 45
	i		03 04
SLC	eP		12 02 18
SIT	eP		11 59 25
TUC	iP		12 03 06
	i		03 18
TUT	iP		12 03 06
	i		03 18
July 11			
BCN	eP		12 06 54
BOZ	iP		12 07 36
BUT	eP		12 07 31
COL	iP		12 07 36
	eS		18 00
	e		26 11
EUR	iP		12 07 01
	i		07 20
	iPP		09 50
	e(S)		16 47
FGU	iP		12 07 18
	iPP		10 30
	e(S)		17 41
GCA	eP		12 07 10
HHM	iP		12 07 34
RCD	iP		12 06 56
SLC	eP		12 07 18
SIT	eP		12 07 17
TUC	iP		12 06 59
	e		07 18
	ePP		09 43
TUT	iP		12 06 59
UKI	iP		12 06 34
	eP'P'		34 28
WAS	iP		12 09 17
	ePP		13 17
	eL		44 02
July 11			
COL	eP		14 22 28
July 11			
EUR	eP		16 44 06
July 11			
COL	eP		17 47 53
July 11			
EUR	eP		19 43 04
	i		43 24
	eL		44 30
July 11			
EUR	iP		22 34 35
TUC	eP		22 33 25
TUT	eP		22 33 24
July 11			
EUR	eP		23 55 31
	e		55 37
	eS		56 11
	eL		56 17
FGU	iP		23 55 15
	iL		56 02
July 12			
EUR	iP		00 25 30
FGU	eP		00 25 50
GUA	iP		00 13 35
	iS		14 02
July 12			
TUC	eP		02 52 29
July 12			
GUA	iP		05 59 07
	iS		59 27
July 12			
COL	iP		06 45 24
	iS		45 53
	iL		45 57
HHM	e(P)		06 50 01
July 12			
COL	eP		09 21 52
EUR	iP		09 25 22
HHM	eP		09 24 50
TUC	iP		09 26 25
	e		26 38
TUT	iP		09 26 25
	e		26 39
July 12			
TUC	e(P)		11 25 11
July 12			
EUR	eP		12 08 19
July 12			
COL	iP		13 32 34
EUR	iP		13 36 05
	i		36 16
	i		36 23
HHM	eP		13 35 31
TUC	iP		13 37 09
TUT	eP		13 37 04
July 12			
COL	iP		17 08 49
	i		09 09
EUR	iP		17 11 57
	i		12 12
	i		12 29
HHM	iP		17 11 30
TUT	eP		17 12 41
July 12			
HHM	i(P)		17 16 09
July 12			
COL	iP		18 05 07
	e(S)		05 27
	iL		05 32
EUR	eP		18 11 01
HHM	eP		18 09 43
July 12			
EUR	iP		22 14 06
July 13			
UKI	eP		01 38 23
July 13			
COL	e(P)		02 29 37
July 13			
COL	iP		02 38 28
	ipP		38 56
	isP		39 06
EUR	iP		02 41 42
	ipP		42 13
	isP		42 24

Date and Station		Phase (GCT) h m s
FGU	eP	02 41 59
	epP	42 30
GCA	e(P)	02 42 07
HHM	iP	02 41 14
TUC	iP	02 42 29
TUT	iP	02 42 29
July 13		
EUR	eP	04 50 09
July 13		
COL	e(P)	06 46 10
July 13		
BOZ	eP	07 28 07
	e	28 37
BUT	eP	07 28 38
	eL	33 26
COL	eP	07 32 36
EUR	iP	07 27 09
	eS	28 48
	eL	28 56
FGU	eP	07 27 37
	i	28 48
	iL	30 52
GCA	iP	07 26 37
	i	28 04
	i(S)	28 20
	iL	28 32
HHM	eP	07 29 07
RCD	eP	07 28 44
	eL	33 30
TUC	iP	07 25 44
	i	25 58
	iS	26 35
	eL	26 53
TUT	iP	07 25 45
	i	26 01
July 13		
BOZ	eP'	08 15 34
BUT	eP'	08 15 33
	e	13 07
COL	eP'	08 16 02
	i	16 59
	ePP	20 31
	ePPS	34 30
	e	40 41
	eL	09 01 48
EUR	eP'	08 15 19
	i	15 31
	e(PP)	17 01
	e	17 18

Date and Station		Phase (GCT) h m s
FGU	eP'	08 15 23
	ePP	17 47
GCA	eP	08 15 26
HHM	eP'	08 15 33
	i	15 44
	ePP	18 34
RCD	eP'	08 15 19
	e	15 24
TUC	eP'	08 15 15
	i	15 23
TUT	eP'	08 15 13
	e	15 23
	ePP	17 17
July 13		
FGU	eP	08 40 30
TUT	eP	08 38 16
July 13		
COL	eP	10 32 13
FGU	e(P)	10 33 24
HHM	iP	10 33 02
July 13		
GCA	e(P)	11 35 06
	e	37 03
TUC	e(P)	11 34 22
	i	34 27
	eL	35 05
TUT	eP	11 34 16
	i	34 27
	eL	35 10
July 13		
EUR	eP	11 57 31
	eL	59 40
FGU	e(P)	11 59 02
GCA	e(P)	11 57 00
	e	57 27
	e	58 55
TUC	eP	11 56 07
	i	56 18
	iS	56 36
	eL	56 48
TUT	eP	11 56 10
	i	56 22
	eL	57 01
July 13		
EUR	iP	13 00 53
	ipP	01 37
FGU	eP	13 00 33
	i	01 12

Date and Station		Phase (GCT) h m s
GCA	eP	13 00 57
TUC	iP	12 59 43
	i	13 00 23
	e	00 45
TUT	iP	12 59 43
	i	13 00 22
	i	00 44
July 13		
TUC	eP	13 09 59
	i	10 18
	eL	11 09
TUT	eP	13 10 00
	i	10 18
	eL	11 10
July 13		
BOZ	eP	13 13 40
COL	iP	13 12 43
EUR	eP	13 14 13
FGU	eP	13 13 54
GCA	eP	13 13 43
HHM	iP	13 13 32
	i	14 33
RCD	iP	13 13 29
THU	iP	13 10 09
July 13		
EUR	eP	13 42 29
July 13		
COL	iP	14 41 29
EUR	eP	14 41 44
FGU	eP	14 42 08
TUT	iP	14 41 53
July 13		
COL	iP	15 33 29
EUR	eP	15 32 56
TUT	e(P)	15 32 54
	e	33 08
July 13		
COL	iP	15 45 28
	i(S)	45 44
	iL	45 48
July 13		
BOZ	eP	16 30 11
	epP	30 39
BUT	eP	16 30 43

Date and Station		Phase (GCT) h m s
COL	iP	16 33 47
	ipP	34 17
	i	35 07
CSC	eP	16 28 30
	eS	32 14
EUR	iP	16 29 47
	e	30 06
	epP	30 15
FGU	iP	16 29 30
	ipP	29 58
HHM	eP	16 30 39
	ipP	31 07
RCD	eP	16 29 28
	ipP	30 06
TUC	iP	16 28 34
	ipP	28 57
	e	29 32
	eL	34 54
TUT	iP	16 28 33
	ipP	28 58
	e	34 24
	iL	34 57
July 13		
COL	iP	17 15 52
EUR	iP	17 15 25
TUT	iP	17 15 23
July 13		
HHM	iP	19 34 46
	iS	34 56
	iL	34 58
July 13		
TUT	iP	20 08 45
	iL	09 07
July 13		
COL	eP	20 37 03
EUR	eP	20 39 55
FGU	eP	20 40 16
HHM	iP	20 39 34
July 13		
COL	i(P)	21 58 01
	i	58 15
	ipP	58 39
EUR	eP	21 55 17
	epP	55 53
FGU	iP	21 55 00
	ipP	55 37
HHM	eP	21 55 51
	ipP	56 28

B-4297-4

Date and Station		Phase	(GCT) h m s
RCD		eP	21 55 34
SJP		eP	21 50 53
		epP	51 20
TUT		iP	21 54 22
		epP	54 56
July 13			
GUA		eP	23 26 59
		eS	27 54
		eL	29 11
July 14			
COL		eP	02 17 56
EUR		eP	02 20 30
		e	20 42
HHM		eP	02 20 08
July 14			
EUR		eP	05 27 42
		e	28 15
		eL	29 35
TUC		eP	05 26 56
		i	27 11
		eL	28 04
TUT		eP	05 26 56
		i	27 13
		eL	28 04
July 14			
TUC		e(P)	07 09 35
July 14			
EUR		iP	09 19 28
July 14			
COL		e(P)	09 48 33
July 14			
BOZ		e(P')	10 45 44
BUT		eP	10 41 18
COL		iP	10 39 29
		i	39 45
		eS	50 06
		eSS	55 16
CSC		eP'	10 44 40
EUR		eP	10 41 19
		e	44 33
		e	45 28
FGU		eP	10 41 38
		e	45 06
		iPP	46 13
GUA		iP	10 31 30
		iS	35 12
		eT	51 47
HON		eP	10 38 38
HHM		eP	10 41 10
		e	44 48
KIP		iP	10 38 38
RCD		eP'	10 45 40
		i	46 31
SJP		eP'	10 47 01
		iP'	47 13
		i	48 05
TUT		eP'	10 45 42
		i	46 34
WAS		eP'	10 46 05
		i	49 13
July 14			
COL		iP	10 57 09
FGU		e(P)	10 56 36
HHM		eP	10 57 11
RCD		eP	10 56 34
TUC		eP	10 56 47
TUT		eP	10 56 28
		i	56 35
		epP	58 46
July 14			
BOZ		iP	11 25 14
		iS	25 25
BUT		iP	11 25 27
		iS	25 48
		iL	26 14
EUR		eP	11 26 39
		e(S)	27 56
		eL	28 03
FGU		iP	11 26 00
		i(S)	27 01
HHM		iP	11 26 02
		iL	27 07
RCD		e(P)	11 26 31
		e	26 40
		eL	27 58
July 14			
COL		iP	11 26 02
July 14			
COL		eP	13 46 48
EUR		eP	13 49 41
HHM		eP	13 49 18
July 14			
COL		eP	14 54 23
		e	54 34
EUR		iP	14 57 16
FGU		e(P)	14 57 35
HHM		eP	14 56 55
July 14			
EUR		iP'	15 40 27
		e	41 02
		e	41 30
July 14			
TUT		eP	16 16 41
		e	17 21
		iL	17 40
July 14			
COL		e(P)	17 25 03
		i	25 22
EUR		e(P)	17 26 19
July 14			
CSC		eP	19 15 00
July 14			
COL		iP	22 22 42
		ipP	23 05
EUR		iP'	22 29 06
FGU		e(P')	22 29 15
HHM		e(P')	22 28 17
THU		iP	22 21 42
July 14			
EUR		eP	22 40 07
July 15			
EUR		iP	00 21 25
July 15			
EUR		eP	01 44 54
		e	45 12
		eL	46 20
FGU		eP	01 44 22
		i	44 39
		e(S)	45 23
HHM		eP	01 44 12
		iP	44 17
		i(S)	45 07
		iL	45 22
RCD		e(P)	01 45 07
		e	46 25
July 15			
FGU		eP	02 37 54
		eL	38 48
HHM		eP	02 37 47
		eL	38 34
July 15			
COL		iP	03 18 01
EUR		iP	03 19 59
FGU		iP	03 20 21
GUA		iP	03 08 00
		iS	08 22
HHM		iP	03 19 53
July 15			
UKI		iP	04 22 02
July 15			
BOZ		eP'	05 21 39
COL		iP'	05 21 08
		ePP	23 00
EUR		eP'	05 21 51
FGU		iP'	05 21 51
HHM		eP'	05 21 28
		ePP	24 25
RCD		eP'	05 21 33
SLC		eP'	05 21 44
TUC		iP'	05 21 55
		i	22 00
TUT		iP'	05 21 55
July 15			
EUR		iP	07 03 42
July 15			
EUR		eP	11 08 03
		eL	09 37
FGU		eP	11 07 29
		iL	08 29
HHM		iP	11 07 24
		iL	08 26
RCD		e(P)	11 08 34
		eL	09 34
July 15			
EUR		eP	11 58 01
July 15			
COL		iP	12 44 32
July 15			
HHM		e(P)	16 46 17
July 15			
EUR		iP	19 06 21
FGU		eP	19 06 16
RCD		eP	19 07 06

Date and Station		Phase (GCT) h m s
TUT	eP	19 05 39
July 15		
EUR	iP	20 36 59
	e	37 25
	i	37 35
July 15		
TUC	eP	21 14 00
	e	14 21
TUT	iP	21 13 52
	iL	14 16
July 15		
HHM	e(P)	21 24 47
July 15		
EUR	eP	21 47 46
July 15		
COL	iP	23 52 28
EUR	eP	23 52 59
FGU	eP	23 52 24
HHM	eP	23 52 06
TUT	eP	23 53 16
July 16		
COL	iP	01 51 49
July 16		
EUR	e(P)	04 25 56
July 16		
BCN	eP	04 55 51
BOZ	eP	04 56 20
BUT	eP	04 56 24
EUR	iP	04 56 08
	i	56 21
	ipP	56 39
	e	57 38
FGU	iP	04 55 54
	ipP	56 26
GCA	iP	04 55 43
HHM	iP	04 56 38
	epP	57 10
RCD	iP	04 55 52
SLC	eP	04 56 01
SJP	eP	04 51 57
	epP	52 25
TUC	iP	04 55 19
TUT	iP	04 55 19

Date and Station		Phase (GCT) h m s
July 16		
COL	eP	08 33 12
EUR	iP	08 30 38
FGU	eP	08 30 49
HHM	e(P)	08 31 32
RCD	eP	08 31 10
TUC	eP	08 29 52
TUT	eP	08 29 51
July 16		
SJP	iP	15 57 22
	eL	57 45
July 16		
EUR	iP	16 54 08
	ipP	54 19
GCA	e(P)	16 53 13
RCD	eP	16 54 27
TUT	eP	16 52 10
	i	52 40
July 16		
COL	iP	17 27 36
	epP	28 47
	e	29 30
EUR	iP	17 29 50
	i	29 57
	i	30 12
	ipP	30 57
	i	31 08
	eS	39 48
GCA	e(P)	17 31 17
GUA	iP	17 19 48
	eS	21 13
HHM	iP	17 29 38
	i	30 46
	ipP	30 55
RCD	eP	17 30 19
THU	iP	17 29 26
TUT	iP	17 30 23
	epP	31 33
July 16		
SJP	eP	17 39 22
July 16		
COL	iP	18 57 42
	i	58 14
July 16		
BOZ	eP	19 01 06

Date and Station		Phase (GCT) h m s
EUR	iP	19 01 10
	i	01 23
FGU	eP	19 01 35
	i	03 26
HHM	iP	19 00 39
RCD	eP	19 01 48
TUC	e(P)	19 02 11
TUT	iP	19 02 11
July 16		
EUR	eP	19 03 16
July 16		
BOZ	eP	21 26 42
COL	iP	21 21 37
	e(S)	23 18
	iL	23 40
EUR	eP	21 27 07
	iPcP	29 21
FGU	eP	21 27 19
GCA	e(P)	21 27 38
HHM	iP	21 26 11
RCD	eP	21 27 18
SIT	eP	21 23 47
THU	eP	21 25 45
TUC	eP	21 28 18
TUT	iP	21 28 14
July 16		
COL	iP	22 04 53
	i	05 32
	e(S)	06 40
	iL	07 00
EUR	iP	22 10 23
	i	10 43
	e	11 07
	iPcP	12 34
FGU	iP	22 10 36
GCA	eP	22 10 55
HHM	iP	22 09 27
	ePcP	12 14
THU	eP	22 09 04
TUC	e(P)	22 11 31
TUT	iP	22 11 31

Date and Station		Phase (GCT) h m s
July 16		
BOZ	eP	23 09 58
July 17		
COL	eP	01 34 21
July 17		
EUR	eP	02 06 52
FGU	eP	02 06 42
GCA	e(P)	02 06 43
RCD	eP	02 06 41
TUT	iP	02 06 32
July 17		
COL	eP	02 27 04
SJP	eP'	02 34 56
July 17		
EUR	eP	04 38 42
July 17		
EUR	iP	04 58 58
FGU	iP	04 59 19
HHM	e(P)	04 58 49
July 17		
COL	iP	05 26 18
	ipP	27 09
	i	27 32
THU	eP	05 25 13
July 17		
EUR	iP	07 30 47
FGU	e(P)	07 30 20
GCA	eP	07 30 15
SJP	e(P)	07 27 20
	e	27 26
TUT	eP	07 29 52
July 17		
COL	eP	07 58 29
July 17		
COL	eP	12 02 08
	epP	02 33
EUR	iP	11 59 43
FGU	eP	11 59 11
GCA	iP	11 59 15
HHM	eP	11 59 55
SJP	eP	11 52 18
	iP	52 21
	iS	53 42

B-4297-4.

Date and Station		Phase	(GCT) h m s
TUC		eP	11 59 01
TUT		eP	11 59 00
		e	12 00 25
July 17			
COL		eP	12 26 14
		i	26 22
TUT		e(P)	13 44 18
		e	44 34
July 17			
GCA		e(P)	19 32 22
		eL	33 19
TUC		iP	19 31 30
		iL	31 50
TUT		iP	19 31 28
		iL	31 46
July 17			
GUA		eP	19 37 16
		eS	37 47
July 17			
COL		iP	20 14 15
		i	14 23
HHM		iP	20 13 28
		e	13 53
July 17			
HHM		e(P)	21 39 49
		i	39 53
		iL	40 46
July 17			
SJP		eP	23 55 30
July 18			
COL		eP	01 07 25
		epP	08 00
		ePP	11 10
EUR		eP'	01 12 59
		i	13 14
		e	13 21
RCD		eP'	01 13 06
SJP		e(P')	01 13 47
		eP'	13 51
TUC		eP'	01 13 23
TUT		e(P')	01 13 16
		e	13 23
July 18			
COL		e(P)	01 28 25
		ePP	32 25
EUR		eP'	01 34 19
July 18			
BCN		eP	01 56 39
		ePP	02 00 29
BUT		eP	01 56 46
		ePP	02 00 36
COL		iP	01 55 33
		ipP	56 26
		eS	02 05 43
CSC		eP'	02 02 11
EUR		iP	01 56 34
		epP	57 22
		e	57 36
		ePP	02 00 15
		ePKKP	02 13 34
GCA		eP	01 56 49
GUA		iP	01 47 48
		ipP	48 18
		iS	51 34
HON		eP	01 52 50
		eS	02 00 40
		eL	05 00
HHM		iP	01 56 42
		ePP	02 00 33
		e(PKKP)	21 44
RCD		eP	01 57 17
SJP		iP'	02 03 44
		ePP	06 21
		e	06 29
SLC		eP	01 56 51
TUC		eP	01 56 56
		e	02 28 16
TUT		eP	01 56 55
		i	56 57
		iPP	02 00 55
July 18			
COL		iP	04 49 16
EUR		iP	04 52 50
HHM		iP	04 52 05
RCD		eP	04 52 44
July 18			
EUR		eP	05 51 49
July 18			
HHM		e(P)	06 09 58
July 18			
EUR		eP	06 55 45
RCD		eP	06 57 31
July 18			
HHM		e(P)	07 40 04
		iL	41 02
July 18			
BCN		eP	07 58 48
BOZ		eP	07 59 28
BUT		eP	07 59 25
COL		iP	07 59 27
		i	59 44
EUR		iP	07 58 55
		i	59 10
		i	59 45
GCA		eP	07 59 04
		e	59 20
HHM		eP	07 59 27
RCD		e(P)	08 00 06
SLC		eP	07 59 12
TUC		iP	07 58 54
		e	59 09
TUT		iP	07 58 54
		i	59 07
July 18			
EUR		e(P)	10 00 48
July 18			
BUT		eP	10 09 12
EUR		iP	10 08 54
GCA		eP	10 08 32
HHM		iP	10 09 23
RCD		eP	10 08 47
TUT		eP	10 08 07
July 18			
EUR		eP	10 38 19
July 18			
EUR		iP	13 54 54
July 18			
COL		eP	17 51 48
EUR		eP	17 55 24
RCD		eP	17 56 06
July 18			
EUR		eP	18 42 36
July 18			
COL		iP'	19 10 55
EUR		iP'	19 10 17
		i	10 54
FGU		eP'	19 10 09
		e	13 14
GCA		eP	19 10 19
HHM		e(PP)	19 12 31
RCD		eP'	19 09 59
TUC		iP	19 10 31
		i	10 55
TUT		iP'	19 10 26
		i	10 31
July 18			
EUR		iP	19 51 56
TUT		iP	19 52 08
July 18			
COL		e(P)	22 45 14
July 18			
BOZ		eP	23 17 55
		eL	18 17
BUT		iP	23 18 09
		eL	18 41
EUR		eP	23 19 08
		e	19 22
		i	19 32
		eS	20 18
		eL	20 26
FGU		eP	23 18 26
		i	18 36
		e(S)	19 17
		iL	19 26
HHM		iP	23 18 42
		iL	19 57
RCD		eP	23 18 48
		e	19 10
		iL	20 07
July 19			
FGU		eP	00 13 57
		i	13 59
		eL	14 24
SLC		eP	00 13 26
		iS	13 44
		eL	14 01
July 19			
BUT		eP	02 51 26
COL		e(P)	02 54 24
		e	54 29
EUR		iP	02 51 01
		e	51 43
FGU		iP	02 50 46
HHM		iP	02 51 47
RCD		eP	02 50 52

Date and Station		Phase (GCT)
		h m s
TUC	iP	02 49 55
TUT	iP	02 49 55
July 19		
BHP	iP	04 23 02
	iS	26 09
BCN	eP	04 28 38
BOZ	eP	04 29 18
BUT	iP	04 29 24
COL	iP	04 32 00
	i	32 11
CSC	eP	04 26 57
EUR	iP	04 29 00
	e	29 10
	i	29 35
FGU	iP	04 28 45
GCA	eP	04 28 31
HHM	iP	04 29 40
RCD	iP	04 28 47
SLC	eP	04 28 53
SJP	eP	04 25 20
THU	iP	04 31 44
TUC	iP	04 28 01
	e	28 37
TUT	iP	04 28 01
	e	29 24
July 19		
TUC	eP	04 46 53
TUT	iP	04 46 53
July 19		
COL	iP	10 13 04
EUR	iP	10 12 41
July 19		
EUR	eP	11 24 53
FGU	e(P)	11 24 42
July 19		
FGU	eP	12 01 36
RCD	e(P)	12 01 28
July 19		
EUR	eP	13 01 45

Date and Station		Phase (GCT)
		h m s
July 19		
RCD	e(P)	13 52 54
	e	54 20
July 19		
COL	iP	14 23 55
July 19		
BCN	eP	16 08 57
	epP	09 38
BOZ	eP	16 09 42
	epP	10 26
BUT	eP	16 09 50
	ipP	10 33
COL	iP	16 13 15
	ipP	14 01
	i	14 09
	i	14 46
EUR	iP	16 09 23
	i	10 33
FGU	iP	16 09 02
	ipP	09 44
	iS	15 28
GCA	iP	16 08 57
	i	09 28
HHM	eP	16 10 10
	ipP	10 53
	e	15 56
RCD	iP	16 09 07
	ipP	09 51
SLC	eP	16 09 12
SJP	e(P)	16 08 39
	epP	09 15
TUC	iP	16 08 14
	ipP	08 51
TUT	iP	16 08 12
	ipP	08 50
July 19		
COL	iP	18 40 24
EUR	iP	18 42 13
	epP	42 44
FGU	iP	18 42 34
	i	42 45
GUA	iP	18 30 04
	iS	30 27
HHM	iP	18 42 09
RCD	eP	18 42 48
TUT	eP	18 42 42

Date and Station		Phase (GCT)
		h m s
July 19		
TUT	e(P)	19 01 00
July 19		
EUR	eP	19 06 34
FGU	eP	19 06 01
HHM	e(P)	19 05 55
	iL	06 59
RCD	e(P)	19 06 11
	e	06 29
	eL	07 35
July 19		
COL	e(P)	20 05 17
EUR	eP	20 08 21
July 19		
EUR	eP	22 26 15
FGU	eP	22 25 56
July 20		
COL	iP	02 53 12
EUR	eP	02 52 42
FGU	eP	02 53 09
	i	53 58
GCA	e(P)	02 52 52
HHM	eP	02 53 14
TUT	eP	02 52 43
July 20		
COL	iP	03 00 33
July 20		
EUR	iP	05 28 26
HHM	eP	05 27 44
July 20		
COL	eP	06 11 19
	i	11 30
EUR	eP	06 15 17
FGU	eP	06 15 34
July 20		
COL	eP	09 30 48
FGU	eP	09 31 43
HHM	iP	09 31 34
July 20		
BCN	eP	09 41 05
BOZ	eP	09 40 37
BUT	eP	09 40 30

Date and Station		Phase (GCT)
		h m s
COL	iP	09 37 13
	eS	42 28
	i	42 37
	e	44 30
	eL	46 02
	i	10 08 35
EUR	iP	09 40 45
	e	40 56
	i	41 10
	i	41 54
FGU	iP	09 41 04
	ePP	44 09
GCA	iP	09 41 13
GUA	eP	09 37 45
HHM	iP	09 40 14
RCD	iP	09 41 13
	e(P'P')	10 09 58
	e	10 08
SLC	eP	09 40 56
SIT	e(P)	09 38 30
TUC	iP	09 41 37
	i	41 52
TUT	iP	09 41 37
July 20		
FGU	eP	10 02 29
July 20		
EUR	e(P)	10 09 53
	eP	10 19
July 20		
BCN	eP	10 25 50
EUR	eP	10 26 22
	eL	27 39
GCA	e(P)	10 26 39
HHM	eP	10 28 27
July 20		
COL	eP	11 09 11
July 20		
GCA	e(P)	11 50 14
	eL	51 15
TUC	e(P)	11 49 48
	e	50 03
	eL	50 53
TUT	eP	11 49 48
	e	50 03
	eL	50 53

Date and Station	Phase	Phase (GCT) h m s
July 20		
EUR	e(P)	14 02 09
July 20		
EUR	e(P)	14 05 22
July 20		
COL	eP	15 32 08
July 20		
EUR	iP	16 34 13
July 20		
EUR	eP	17 13 41
July 20		
HHM	eP	17 41 16
July 20		
BCN	eP	21 12 12
COL	iP	21 12 10
	i	12 35
	ipP	13 01
	ePP	15 39
	eS	22 50
	e	25 54
	e(SS)	27 55
	eL	41 45
GUA	iP	21 06 58
	iPP	08 41
	e(S)	12 57
	eScS	16 36
HON	eP	21 08 10
	eeS	15 44
	eL	19 36
HHM	eP	21 12 36
	e(PP)	16 28
	ePKKP	29 51
RCD	ePP	21 17 09
SJP	iP'	21 18 14
TUC	iP	21 12 19
TUT	iP	21 12 20
	ePP	16 04
July 20		
BCN	eP	21 50 59
FGU	eP	21 51 00
	i	51 09
GCA	eP	21 50 55
HHM	eP	21 51 39
RCD	eP	21 51 05
	e	51 13
TUC	iP	21 50 32
TUT	iP	21 50 19
	i	50 32
July 21		
TUC	e(P)	00 23 55
TUT	iP	00 23 56
July 21		
COL	eP	03 32 37
July 21		
FGU	e(P)	04 14 04
	e	14 08
TUT	eP	04 13 26
July 21		
COL	eP	05 14 13
	iP	14 16
	i(S)	16 33
	eL	17 08
FGU	eP	05 18 39
HHM	e(P)	05 17 27
RCD	eP	05 18 48
	e	18 53
July 21		
FGU	eP	08 07 49
	i	07 50
	i	08 15
GCA	eP	08 07 39
HHM	iP	08 08 31
RCD	iP	08 07 52
	e	08 17
TUC	eP	08 07 08
TUT	eP	08 07 12
	e	07 36
July 21		
FGU	eP	08 23 17
GUA	iP	08 15 23
HHM	iP	08 23 54
TUT	eP	08 22 39
July 21		
TUT	eP	08 38 08
July 21		
BCN	eP	08 52 25
	e	54 32
FGU	e(P)	08 53 49
	eL	57 10
GCA	e(P)	08 52 44
	eL	55 00
TUC	eP	08 51 49
	i	52 05
	eL	52 54
TUT	eP	08 51 49
	e	52 03
	eL	52 54
July 21		
TUC	iP	08 57 32
	e	58 03
	eL	58 29
TUT	e(P)	08 57 32
	eL	58 35
July 21		
BCN	eP	09 36 11
TUC	eP	09 33 44
	i	33 54
	eL	34 40
TUT	eP	09 33 46
	e	33 56
	eL	34 48
July 21		
COL	e(P)	10 01 28
FGU	e(P)	09 59 09
GUA	iP	09 54 38
July 21		
BCN	eP	10 39 53
FGU	e(P)	10 42 56
GCA	e(P)	10 40 37
TUC	eP	10 37 36
	i	37 46
	iL	38 35
TUT	eP	10 37 38
	e	37 52
	eL	38 40
July 21		
GUA	iP	12 41 39
	iS	41 51
HHM	e(P)	12 52 02
	e	53 52
July 21		
COL	iP	13 13 05
July 21		
COL	eP	14 12 07
July 21		
SJP	eP	14 47 30
	i	48 51
July 21		
HHM	e(P)	16 33 49
July 21		
COL	iP	17 10 28
July 21		
BUT	eP	21 03 33
COL	iP	21 01 09
FGU	iP	21 03 57
GUA	eP	20 54 38
HHM	iP	21 03 23
RCD	eP	21 04 07
	e	04 16
July 21		
RCD	e(P)	22 27 42
July 21		
GUA	iP	22 40 18
	iS	40 34
July 22		
BCN	eP	02 47 26
	e	47 59
July 22		
TUC	e(P)	05 35 21
	e	35 31
	eL	36 14
TUT	e(P)	05 35 22
	e	35 36
	eL	36 30
July 22		
COL	e(P)	06 44 14
	e	44 31
FGU	eP	06 44 10
	e	44 19
	i	44 32
HHM	eP	06 44 04
TUC	eP	06 45 12
TUT	eP	06 45 10
July 22		
COL	eP	07 46 32
HHM	eP	07 48 43
July 22		
TUC	e(P)	10 46 42
	e	47 12
July 22		
HHM	iP	11 20 32
July 22		
BCN	eP	15 51 32
	e	52 57
FGU	e(P)	15 51 20
	i	51 23
	i(S)	53 00
	iL	53 07

Date and Station		Phase (GCT) h m s
GCA	eP	15 50 40
	i	50 53
	i(S)	51 53
	iL	52 07
RCD	eP	15 52 50
	eL	54 50
TUC	iP	15 50 28
	i	50 39
	iL	51 30
TUT	iP	15 50 25
	i	50 37
	iL	51 25
July 22		
TUT	iP	18 29 49
	iL	30 07
July 22		
COL	eP	21 33 03
July 22		
COL	iP	21 43 49
July 22		
RCD	eP	21 52 06
	e	52 20
July 22		
HHM	e(P)	22 35 49
	e	36 09
July 23		
CSC	eP	00 23 20
July 23		
CSC	eP	00 51 37
RCD	eP	00 51 50
July 23		
BOZ	eP	01 32 07
FGU	iP	01 31 55
	iL	32 26
HHM	eP	01 32 59
	eS	34 23
	eL	35 00
RCD	eP	01 34 33
SLC	iP	01 31 49
	eL	32 14
July 23		
TUC	iP	02 50 19
	i	50 28
TUT	iP	02 50 19
	i	50 30
July 23		
FGU	iP	04 05 52
	iL	06 23
GCA	e(P)	04 11 55

Date and Station		Phase (GCT) h m s
July 23		
BOZ	iP	04 11 04
FGU	iP	04 10 51
	iL	10 22
HHM	eP	04 11 49
RCD	eP	04 12 13
	e	13 30
SLC	eP	04 10 45
July 23		
BUT	eP	04 26 17
July 23		
BUT	eP	05 04 06
July 23		
COL	iP	05 56 33
GCA	eP	05 56 07
HHM	eP	05 56 29
SLC	eP	05 54 22
TUC	iP	05 55 56
TUT	eP	05 55 56
July 23		
BUT	eP	06 10 39
HHM	e(P)	06 11 56
July 23		
BOZ	eP	07 27 42
BUT	eP	07 27 49
FGU	iP	07 27 27
	i	27 30
GCA	e(P)	07 28 33
HHM	e(P)	07 28 26
	eL	29 56
RCD	eP	07 28 46
	i	28 09
SLC	eP	07 27 22
	eS	27 47
	eL	28 27
July 23		
BCN	eP	07 43 10
FGU	iP	07 43 38
	ipP	45 50
COL	eP	07 43 33
	ipP	45 49
GUA	iP	07 39 40
HHM	iP	07 43 41
	iPP	47 26

Date and Station		Phase (GCT) h m s
RCD	e(P)	07 44 08
	e(PP)	48 02
SLC	eP	07 43 30
TUC	iP	07 43 14
TUT	iP	07 43 15
	ipP	45 25
July 23		
BOZ	eP	08 23 42
FGU	iP	08 23 30
RCD	eP	08 24 46
	i	26 09
SLC	eP	08 23 36
July 23		
SJP	e(P)	10 46 38
July 23		
TUC	iP	12 54 11
TUT	eP	12 54 10
July 23		
BCN	eP	14 17 16
	e	17 32
	eL	18 59
COL	eP	14 22 58
FGU	eP	14 17 11
	i	17 32
	iL	19 07
GCA	eP	14 16 39
	iS	17 16
HHM	eP	14 19 08
RCD	e(P)	14 18 00
	e	18 33
	eL	20 24
SLC	eP	14 17 44
TUC	iP	14 16 27
	e	16 42
	eL	17 30
TUT	iP	14 16 24
	i	16 36
	eL	17 23
July 23		
BCN	eP	15 33 09
FGU	eP	15 33 08
GCA	eP	15 32 27
	eL	33 38
TUC	eP	15 32 01
	eL	33 05

Date and Station		Phase (GCT) h m s
TUT	eP	15 31 59
	e	32 13
	iL	33 00
July 23		
COL	eP	16 37 27
SIT	eP	16 33 25
	eL	33 48
July 23		
COL	iP	17 06 09
HHM	eP	17 09 03
July 23		
COL	eP	17 53 50
TUT	e(P)	17 56 55
	e	57 03
July 23		
COL	iP	19 25 51
July 23		
SLC	eP	23 56 56
July 24		
RCD	eP	01 23 28
TUC	eP	01 21 33
	e	21 38
TUT	eP	01 21 34
July 24		
COL	iP	02 31 34
	e	35 25
CSC	eP	02 37 48
FGU	eP	02 35 17
GCA	eP	02 35 24
HHM	iP	02 34 24
RCD	eP	02 35 31
	ePP	36 57
TUC	iP	02 35 52
	ePP	37 06
TUT	iP	02 35 51
	ePP	37 06
July 24		
CSC	eP	03 37 30
	eS	37 47
July 24		
GUA	iP	03 39 01
	iS	39 08
July 24		
HHM	iP	08 22 59

Date and Station		Phase	(GCT) h m s
July 24			
BCN		eP	09 58 38
BOZ		eP	09 58 02
BUT		eP	09 57 54
COL		iP	09 54 17
		iS	58 36
		eL	10 00 04
CSC		eP	10 00 36
FGU		iP	09 58 33
GCA		eP	09 58 49
HHM		eP	09 57 34
		e	59 35
		e(S)	10 04 47
SLC		eP	09 58 24
SIT		eP	09 55 29
TUC		iP	09 59 15
		eL	10 20 20
TUT		iP	09 59 14
		i	59 28
UKI		iP	09 58 00
July 24			
TUC		iP	10 38 26
		e	38 38
		iL	39 28
TUT		eP	10 38 23
		i	38 37
		iL	39 24
July 24			
FGU		iP	10 43 54
HHM		e(P)	10 44 31
RCD		e(P)	10 42 47
		e	43 19
TUC		eP	10 43 18
TUT		iP	10 43 17
July 24			
FGU		eP	10 50 15
GCA		e(P)	10 50 00
HHM		eP	10 50 51
TUC		eP	10 49 38
TUT		eP	10 49 37
July 24			
TUT		eP	15 34 38

Date and Station		Phase	(GCT) h m s
July 24			
BOZ		eP	21 36 22
		e(S)	37 04
FGU		iP	21 36 10
		iL	36 42
SLC		eP	21 36 03
		eS	36 29
July 24			
SJP		eP	21 57 01
		e	57 51
July 24			
COL		eP	22 04 35
July 24			
BUT		eP	23 27 42
HHM		eP	23 27 55
July 24			
GUA		iP	23 54 53
July 25			
COL		e(P)	00 00 37
July 25			
BOZ		eP	01 30 50
BUT		eP	01 31 02
		e	31 44
FGU		iP	01 30 38
		iL	31 08
HHM		e(P)	01 31 50
RCD		e(P)	01 31 58
		e	33 15
SLC		eP	01 30 32
		eS	30 56
July 25			
BUT		eP	01 48 20
		e	49 04
FGU		iP	01 47 56
		iL	48 27
GCA		e(P)	01 49 02
RCD		eP	01 50 34
SLC		eP	01 47 48
		eS	48 15
July 25			
BCN		eP	03 49 54
		e	55 05
		e(P'P')	04 19 56
COL		iP	03 46 34
		i	46 48
		iPP	47 17
		iS	50 57
		eL	52 06

Date and Station		Phase	(GCT) h m s
CSC		eP	03 52 54
		eS	04 02 26
EUR		iP	03 50 31
		e(P'P')	04 20 12
FGU		eP	03 50 38
		i	51 14
		i	51 29
		e	55 47
		eS	04 00 58
GCA		eP	03 51 00
		e	51 13
HON		eP	03 49 24
		eS	56 02
		eL	59 30
HHM		eP	03 49 54
		e	55 13
		e(S)	57 10
		eL	04 04 07
KIP		eP	03 49 23
RCD		eP	03 50 54
		i	50 56
		eP'P'	04 20 58
SLC		eP	03 50 42
TUC		eP	03 51 28
		iP	51 30
		eS	04 00 31
		e	05 34
		e(PKKP)	10 18
		eP'P'	19 42
UKI		eP	03 50 05
		eL	04 08 07
WAS		iP	03 52 47
		eS	04 01 59
		eL	13 03
July 25			
COL		eP	04 25 38
July 25			
COL		e(P)	05 45 46
July 25			
FGU		eP	07 17 50
TUC		iP	07 17 22
TUT		eP	07 17 21
July 25			
RCD		iP	09 58 39
July 25			
COL		iP	10 38 47
		e	41 02
EUR		iP	10 38 28

Date and Station		Phase	(GCT) h m s
FGU		iP	10 38 52
		e	41 09
GCA		iP	10 38 37
GUA		iP	10 34 59
TUC		iP	10 38 30
TUT		iP	10 38 30
July 25			
BHP		iP'	11 30 22D
BCN		iP	11 22 02C
		eS	30 07
		eeS	31 04
		eL	36 58
		eP'P'	51 33
		e	52 08
BOZ		eP	11 21 26C
		epP	21 56
		ePcP	22 48
		eS	29 00
		e	31 00
BUT		eP	11 21 19C
		eScP	26 07
		eS	28 42
		e	30 54
COL		iP	11 17 51
		iS	22 29
		iL	24 20
CSC		eP	11 23 54
		eS	33 36
EUR		iP	11 21 39C
		iScP	26 15
		iPcS	26 25
		eS	29 26
		eeS	30 18
		eScS	31 15
		ePKKP	41 32
		i	51 54
		eSKPP'	55 47
FGU		iP	11 21 56C
		iScP	26 23
		i	30 18
		eScS	31 33
		e	40 54
		eP'P'	51 17
		iP'P'	51 33
		eL	45 03
GCA		iP	11 22 07C
		i	23 35
		eS	30 19
		e	31 45
		eP'P'	51 27

Date and Station		Phase (GCT) h m s
GUA	eP	11 19 39
	isP	20 21
	ePP	21 27
	i	22 14
	eS	25 41
	isS	26 35
	eScS	29 27
HON	iP	11 20 18C
	iS	26 57
	eL	30 01
HHM	iP	11 21 02C
	isP	21 41
	iPcP	22 20
	i	22 48
	iScP	25 59
	i	27 05
	iS	28 10
	iScS	30 39
	iL	34 49
	e(P'P')	50 32
KIP	iP	11 20 16C
	eT	12 08 23
	iT	08 46
RCD	iP	11 22 03C
	iS	30 08
	iScS	31 41
	eP'P'	51 07
	i	51 30
SJP	eP	11 25 31D
	ipP	26 10
	ePP	29 35
	e(SKS)	36 00
SIT	iP	11 19 00C
	ipP	19 33
	ePcP	21 26
	eS	24 34
SLC	eP	11 21 48C
	eS	29 14
	esS	30 10
	eScS	31 06
THU	eP	11 20 22
TUC	iP	11 22 34C
	i	24 12
	iS	31 09
	iScS	32 18
	eL	39 33
	eP'P'	51 16
TUT	iP	11 22 34C
	iS	31 11
	iScS	32 17
	eL	38 43
	iP'P'	51 17
UKI	iP	11 21 11C
	ipP	21 44
	ePP	23 11
	iS	28 35
	e	31 47
	eL	37 58

Date and Station		Phase (GCT) h m s
WAS	iP	11 23 36D
	isP	24 15
	epPP	26 31
	e	28 39
	eS	33 03
	i	34 07
	e	39 07
July 25		
COL	eP	11 50 06
July 25		
FGU	e(P)	11 59 05
	e	00 42
HHM	e(P)	11 58 31
SJP	eP	12 08 19
July 25		
SJP	iP	13 11 38
July 25		
SJP	eP	14 29 11
	i	29 15
	iS	29 36
	iL	29 37
July 25		
COL	eP	15 36 26
	i	36 54
EUR	eP	15 40 12
HHM	e(P)	15 40 07
THU	iP	15 38 55
July 25		
RCD	eP	15 55 36
	e	56 05
July 25		
COL	eP	16 38 09
July 25		
COL	iP	17 01 54
July 25		
COL	iP	17 06 05
July 25		
COL	eP	21 24 00
	i	24 16
THU	eP	21 22 34
July 25		
COL	iP	21 49 10
EUR	iP	21 50 21
GUA	iP	21 40 47
	i	41 06
	i	41 54
	eL	45 53
HHM	eP	21 50 24

Date and Station		Phase (GCT) h m s
July 25		
COL	e(P)	22 39 58
July 26		
EUR	iP	00 17 50
	i	18 03
July 26		
EUR	eP	00 35 31
July 26		
COL	iP	04 04 11
	i	04 21
EUR	iP	04 07 18
FGU	eP	04 07 36
HHM	iP	04 06 53
	i	07 06
THU	iP	04 06 10
July 26		
EUR	eP	07 02 38
July 26		
EUR	iP	07 28 32
July 26		
COL	e(P)	08 08 30
	e	09 28
July 26		
HHM	eP	09 49 41
	iL	50 41
July 26		
EUR	eP	10 09 48
July 26		
EUR	eP	11 30 23
FGU	eP	11 30 31
TUC	eP	11 28 46
July 26		
BOZ	eP	12 49 18
COL	iP	12 48 00
EUR	iP	12 49 50
	e	50 16
HHM	iP	12 49 10
	e(PP)	52 35
RCD	iP	12 49 12
July 26		
SJP	e(P)	17 38 40
July 26		
COL	i(P)	20 37 49
July 26		
HHM	eP	23 16 12
	iL	17 16

Date and Station		Phase (GCT) h m s
July 27		
EUR	eP	00 15 55
July 27		
COL	e(P)	02 38 47
July 27		
COL	eP	03 35 32
	e	35 51
HHM	iP	03 37 46
July 27		
COL	iP'	04 17 16
	i	17 30
EUR	iP'	04 16 19
HHM	iP'	04 16 29
July 27		
EUR	iP	04 26 12
FGU	eP	04 26 18
July 27		
EUR	iP	04 45 15
	i	45 26
July 27		
EUR	iP	05 27 43
July 27		
COL	i(P)	07 48 37
July 27		
COL	eP	07 51 49
	eL	53 10
July 27		
COL	iP	08 03 24
EUR	iP	08 06 50
HHM	eP	08 06 20
July 27		
COL	eP'	09 14 21
	e	14 27
CSC	eP'	09 16 10
EUR	iP'	09 15 27
	i	15 43
FGU	eP'	09 15 33
	e	15 36
	ePP	19 00
HHM	iP'	09 15 19
RCD	e(P')	09 15 28
	e	15 50
July 27		
BCN	eP	10 17 45
BOZ	eP	10 18 19
BUT	eP	10 18 21

B-4297-4

Date and Station		Phase	(GCT) h m s
COL	iP'		10 23 48
CSC	eP		10 16 56
EUR	iP		10 18 01
	ePKKP		35 22
	eP'P'		43 31
FGU	iP		10 17 57
GCA	iP		10 17 44
HHM	eP		10 18 33
	iPKKP		35 31
RCD	iP		10 18 02
SLC	eP		10 17 58
SJP	iP		10 15 24
TUC	iP		10 17 21
	eS		27 44
	eL		39 38
July 27			
EUR	iP		10 55 47
	i		55 57
July 27			
COL	eP		13 40 19
	i		40 30
EUR	iP		13 40 28
	ipP		40 38
TUC	eP		13 40 34
	epP		40 44
	i		40 55
July 27			
COL	iP		14 22 21
July 27			
COL	iP		18 31 12
July 27			
COL	eP		21 14 38
EUR	iP		21 13 54
TUC	iP		21 13 49
TUT	eP		21 13 51
July 28			
HHM	eP		01 09 53
July 28			
COL	iP		01 31 49
EUR	iP		01 31 36
FGU	eP		01 32 00
July 28			
EUR	eP		01 57 04
TUC	eP		01 56 38
	e		56 45
TUT	eP		01 56 38
July 28			
COL	eP		06 41 05
EUR	iP		06 37 38
FGU	eP		06 37 42
GCA	e(P)		06 37 13
HHM	eP		06 38 39
RCD	eP		06 38 07
TUC	e(P)		06 37 31
	e		37 46
July 28			
EUR	iP		06 54 20
FGU	iP		06 54 44
July 28			
COL	eP		09 16 30
	i		16 43
EUR	iP		09 15 59
FGU	eP		09 16 23
GCA	eP		09 16 08
TUC	eP		09 15 57
	e		16 12
TUT	eP		09 15 57
	e		16 13
July 28			
COL	eP		10 24 36
EUR	iP		10 28 01
HHM	eP		10 27 31
July 28			
COL	iP		10 48 13
EUR	iP		10 48 35
	i		49 07
FGU	e(P)		10 49 01
HHM	eP		10 48 53
TUC	e(P)		10 48 46
	e		49 18
TUT	e(P)		10 48 45
	e		49 18
July 28			
COL	e(P)		14 46 45
July 28			
COL	eP		16 46 57
	i		47 10
EUR	iP		16 47 59
HHM	iP		16 47 59
July 28			
COL	eP		17 12 25
July 28			
COL	eP		17 52 00
	iL		52 51
July 28			
COL	eP		17 54 36
	iL		55 28
July 28			
COL	iP		18 30 59
July 28			
EUR	iP		21 21 22
FGU	eP		21 21 11
July 28			
COL	iP		22 38 09
July 29			
BCN	eP		00 37 14
COL	eP		00 37 09
	ePP		40 52
	eS		47 38
	e		49 12
	e(SS)		53 42
	eL		01 02 10
EUR	iP		00 37 16
GCA	eP		00 37 27
GUA	iP		00 31 59
	e		33 35
FGU	eP		00 37 39
	ePP		41 31
	e(S)		48 21
	eS		49 14
HON	iP		00 33 19
	eS		40 30
	iL		44 40
HHM	eP		00 37 40
RCD	e(P)		00 38 20
	eP'		42 09
SJP	eP'		00 43 18
TUC	iP		00 37 21
	iPP		41 03
	ePS		49 44
	e		53 30
	e		54 40
	iL		01 06 21
TUT	iP		00 37 20
	iPP		41 02
UKI	eP		00 36 49
	iP		36 50
July 29			
COL	eP		02 03 26
EUR	iP		02 03 32
	ePKKP		21 28
	eP'P'		28 42
TUC	iP		02 03 39
TUT	eP		02 03 37
July 29			
TUT	eP		02 21 33
July 29			
COL	eP		09 41 34
EUR	eP		09 38 40
FGU	eP		09 38 14
GCA	eP		09 38 08
HHM	iP		09 39 05
RCD	iP		09 38 00
SJP	eP		09 32 34
	e		34 50
TUC	iP		09 37 47
TUT	iP		09 37 45
	e		38 13
July 29			
EUR	eP		10 13 28
FGU	e(P)		10 13 01
RCD	eP		10 12 48
TUC	e(P)		10 12 34
	e		12 38
July 29			
COL	iP		10 54 47
EUR	eP'		11 01 38
	i		02 00
HHM	e(P)		10 56 54
	e		11 00 58
July 29			
COL	eP		13 38 33
EUR	eP		13 38 37
TUT	eP		13 38 42
	epP		39 01
	i		39 05

Date and Station		Phase (GCT)
		h m s
July 29		
TUT	iP	14 13 12
	i	13 23
	i	13 33
July 29		
COL	iP	14 45 50
EUR	e(P')	14 51 53
July 29		
COL	iP	15 38 56
HHM	iP	15 37 45
RCD	eP	15 37 29
July 29		
COL	eP	15 41 06
EUR	iP	15 41 09
July 29		
COL	iP	16 14 18
HHM	eP	16 13 07
July 29		
COL	eP	16 58 18
	e	59 03
July 29		
COL	iP	17 10 56
EUR	iP	17 14 28
HHM	iP	17 13 56
July 29		
CSC	eP	17 30 07
HHM	i(P)	17 29 58
July 29		
BCN	iP	17 43 27C
	e	43 45
	eS	53 15
BOZ	eP	17 43 04C
	e(S)	52 21
	eL	18 00 21
BUT	eP	17 42 56
	eS	52 03
	eL	59 59
COL	iP	17 40 01D
	ePcP	41 40
	i	42 34
	iS	46 43
	iL	49 54
EUR	iP	17 43 10C
	eP'P'	18 10 17
FGU	iP	17 43 26C
	i	43 32
	i	43 42
	eS	53 10
	e	53 38
	eP'P'	18 10 43
	eP'P'P'	30 32
GCA	eP	17 43 34C
	i	43 48
	e(S)	53 46
	e	54 15
	e	54 47
GUA	eP	17 37 19
	iS	42 24
HON	eP	17 41 00
	iS	48 28
	iL	52 06
HHM	iP	17 42 42C
	i	42 57
	iPP	45 13
	eS	51 44
	e	55 33
	e	57 07
	eL	59 26
	i(P'P')	18 10 49
KIP	eP	17 41 00
RCD	iP	17 43 33C
	i	43 48
SLC	eP	17 43 19
	eS	52 57
SJP	eP'	17 51 11D
	e	51 31
SIT	eP	17 41 00
TUC	iP	17 43 54C
	ipP	44 15
	iS	54 02
	eL	18 09 36
TUT	iP	17 43 53C
	i	44 08
	eS	54 12
UKI	eP	17 42 43D
	i	42 58
	e(S)	51 39
	eP'P'	18 10 54
July 29		
BOZ	eP	18 55 24
EUR	e(P)	18 55 34
	eL	56 34
FGU	iP	18 55 12
	iL	55 42
SLC	e(P)	18 55 05
July 29		
COL	iP	22 07 41
July 29		
EUR	eP	23 13 00
TUC	e(P)	23 12 57
	e	13 05
TUT	eP	23 12 57
	e	13 06
July 30		
BHP	iP	02 07 19
BOZ	eP	02 14 23
BUT	eP	02 14 29
COL	iP	02 17 12
EUR	iP	02 14 08
FGU	iP	02 13 49
GCA	eP	02 13 39
HHM	eP	02 14 45
SLC	eP	02 14 00
SJP	eP	02 09 57
	i	10 05
TUC	eP	02 13 08
	i	13 10
TUT	eP	02 13 07
July 30		
BOZ	eP	04 14 35
BUT	eP	04 14 40
FGU	eP	04 14 10
RCD	e(P)	04 16 29
	e	17 00
July 30		
COL	eP	05 57 49
July 30		
FGU	e(P)	06 12 33
HHM	e(P)	06 13 18
SJP	eP	06 08 28
July 30		
COL	iP	06 33 50
	i	35 21
July 30		
COL	eP	07 27 29
EUR	iP	07 24 31
FGU	iP	07 24 12
GCA	e(P)	07 24 00
HHM	iP	07 25 06
RCD	iP	07 24 08
	e	24 32
TUC	iP	07 23 32
TUT	iP	07 23 31
	e	24 02
July 30		
BCN	eP	08 15 31
July 30		
SJP	eP	14 08 57
	eL	09 10
July 30		
BCN	eP	14 16 12
EUR	iP	14 15 48
	i	16 09
FGU	eP	14 16 05
HHM	eP	14 15 08
RCD	eP	14 16 11
	e	16 31
July 30		
GUA	iP	14 17 54
	iS	18 08
	i	19 50
July 30		
BCN	eP	14 22 17
COL	iP	14 17 55
	i	18 07
EUR	iP	14 21 54
	ePP	23 58
FGU	iP	14 22 10
GCA	eP	14 22 23
HHM	iP	14 21 13
RCD	iP	14 22 16
SIT	eP	14 19 07
TUC	iP	14 22 51
TUT	eP	14 22 50
July 30		
FGU	eP	14 30 29
HHM	iP	14 30 03
July 30		
COL	iP	14 45 09

B-4297-4a

Date and Station		Phase	(GCT) h m s
EUR		eP	14 46 11
July 30			
HHM		e(P)	15 11 42
July 30			
BCN		eP	15 24 37
		e	25 47
EUR		eP	15 25 03
		eS	26 36
		eL	26 56
TUT		e(P)	15 24 19
		eL	25 43
July 30			
TUT		iP	17 05 11
		iL	05 30
July 30			
COL		e(P)	19 20 58
July 30			
COL		iP	19 36 03
EUR		eP	19 35 33
GCA		eP	19 35 42
		e	36 07
July 30			
HHM		i(P)	23 09 43
July 30			
COL		iP	23 46 32
		i	46 42
HHM		i(P)	23 45 44
July 31			
COL		e(P)	00 42 19
		i	43 48
July 31			
TUC		eP	01 25 39
TUT		iP	01 25 39
July 31			
BHP		iP'	03 14 56
BCN		eP	03 09 20
		eS	20 02
BOZ		eP	03 09 31
BUT		eP	03 09 28
		eS	20 06
		eL	31 04
CSC		eP'	03 14 46
		ePP	16 36
COL		iP	03 08 12
		ipP	08 40
		eS	18 34
		e	19 38
		e(SS)	24 43
		e	26 34
		eL	29 14
		eP'P'	34 36
		eSKPP'	38 06
EUR		iP	03 09 16
		ePP	13 06
		eS	20 03
		ePKKP	25 59
		eSS	26 43
		eP'P'	34 13
		eSKPP'	37 18
		eL	41 00
		eP'P'P	54 53
FGU		eP	03 09 38
		e	13 04
		eSKS	20 18
		iS	20 57
		e	25 51
		eP'P'	34 08
		eSKPP'	36 58
GUA		iP	03 00 23
		eS	04 12
HON		eP	03 05 43
		eS	13 40
		eL	23 06
HHM		eP	03 09 22
		i	09 40
		ePP	13 22
		e	25 48
		eP'P'	34 09
KIP		eP	03 05 42
RCD		eP	03 10 06
		ePP	14 23
		eL	48 50
SJP		eP'	03 15 12
		i	15 22
		e	19 01
SIT		eP	03 08 35
		eL	35 42
TUC		eP	03 09 42
		iPP	13 42
		e	14 39
		ePS	22 44
		e	26 23
		eP'P'	34 07
		eL	42 20
TUT		eP	03 09 41
		iPP	13 40
		eP'P'	34 10
UKI		e(P)	03 08 59
July 31			
TUC		eP	04 40 25
TUT		eP	04 40 25
July 31			
COL		iP	07 16 59
EUR		eP	07 18 03
GUA		iP	07 09 10
		eS	12 59
HHM		eP	07 18 09
SJP		eP'	07 23 58
		e	24 07
July 31			
HHM		e(P)	09 04 13
July 31			
COL		eP	09 31 02
FGU		eP'	09 36 36
HHM		eP'	09 36 26
July 31			
COL		iP	13 10 32
TUT		eP	13 10 37
July 31			
COL		eP	13 32 12
		i	33 08
July 31			
BHP		iP	15 04 12
BCN		eP	15 07 42
		eS	18 28
BOZ		eP	15 08 18
BUT		eP	15 08 21
COL		iP'	15 13 49
		iPP	15 27
FGU		iP	15 07 55
		i	08 36
		eS	18 36
GCA		eP	15 07 43
		iP	07 44
HHM		eP	15 08 28
		ePP	12 32
		e	24 11
RCD		eP	15 08 00
SJP		eP	15 05 18
		i	05 26
TUC		iP	15 07 19
TUT		iP	15 07 19
		ePP	10 30
July 31			
COL		iP	16 38 59
		e	42 02
July 31			
COL		iP	18 58 35
GUA		eP	18 50 10
		eS	54 18
HHM		eP	18 59 51
July 31			
COL		iP	21 20 05
July 31			
COL		eP	22 39 33
July 31			
COL		iP	22 46 40

Date and Station	Phase (GCT)
	h m s
Local and Minor Earthquakes	
July	
BOZ	
2	11.3
5	14.4
6	17.0
10	05.6
	13.8
12	09.5
	09.8
14	11.4
15	01.7
	11.1
17	21.6
18	02.6
	18.8
19	19.1
21	18.5
26	09.8
	23.2
July	
BUT	
1	18.5
2	11.3
4	17.8
10	05.6
	23.1
12	09.5
	10.3
15	01.7
	11.1
17	21.6
18	07.7
	23.2
24	20.7
July	
COL	
11	05.7
	19.2
14	07.2
15	11.4
	12.4
18	11.0
	12.5
	22.3
19	08.6
20	06.0
21	13.3
22	17.1
23	02.6
25	15.3
	22.9
30	14.9
July	
EUR	
2	22.4
3	11.1
6	11.2
7	21.3
11	22.4
EUR	
12	17.3
	18.9
	20.3
14	02.4
	23.7
15	18.9
	21.2
16	15.0
	22.7
17	10.7
19	12.0
	19.2
20	01.0
28	12.4
30	04.4
	08.2
	15.8
July	
FGU	
3	08.8
	23.6
5	05.1
	05.2
	05.3
	05.8
	06.6
	06.9
	07.3
	08.8
	09.5
	13.5
	14.4
	18.4
6	17.0
7	00.4
	02.9
	21.6
9	21.6
	22.6
	23.0
	23.5
10	05.7
11	03.5
	15.1
	19.7
12	00.5
	09.5
	10.3
13	22.6
14	06.9
	11.4
	23.7
15	01.7
	03.8
	06.8
17	14.1
20	21.2
21	23.0
22	19.9
	20.0
	20.2
	20.8
	21.2
FGU	
23	00.5
	01.7
	04.3
	05.0
	05.5
	06.0
	06.1
	06.8
	07.2
	07.5
	08.4
	10.2
	10.4
	10.8
	11.0
	11.1
	13.8
	21.2
	23.9
24	01.4
	18.2
	19.0
	22.9
25	00.1
	07.5
	09.6
	13.5
	23.5
26	09.3
	10.5
27	00.5
	12.0
28	07.3
	13.0
	15.7
	21.8
29	05.5
	17.0
	18.9
30	03.9
	04.1
	04.2
	04.3
	04.4
	04.5
	04.7
	04.8
July	
GCA	
8	23.4
11	12.1
12	00.2
16	20.6
18	01.4
21	18.1
27	08.0
28	12.4
29	21.7
July	
RCD	
6	18.8
23	23.2
July	
SJP	
2	23.2
3	09.0
5	10.3
6	03.1
7	12.3
9	08.9
	20.1
10	01.8
11	08.1
	23.6
14	02.0
	12.1
15	01.1
	11.5
17	01.7
	08.9
	09.6
	23.0
18	08.8
20	12.2
23	16.3
24	19.3
28	07.6
	16.5
	20.1
29	21.6
30	04.1
	04.9
31	02.6
July	
SIT	
4	08.2
	10.6
	12.9
5	18.6
6	16.3
7	10.6
	23.6
10	21.6
17	07.4
26	03.1
27	07.9
July	
TUC	
1	09.5
4	08.5
	13.6
	19.7
5	08.9
10	14.9
13	07.8
	07.9
	08.0
	10.3
	11.1
	12.7
14	07.6
	11.0
	12.1
15	23.5
16	09.1
17	20.0

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
Local and Minor Earthquakes Cont.							
TUC							
20	10.4						
	19.0						
21	08.2						
	08.6						
	08.9						
	09.6						
23	14.5						
26	05.4						
	06.3						
	08.0						
27	08.0						
28	12.0						
29	01.8						
	04.7						
30	15.6						
	23.1						
31	22.5						