SEISMOLOGICAL BULLETIN

January, 1959

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U. S. DEPARTMENT OF COMMERCE

Lewis L. Strauss, Secretary

COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

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National Oceanic and Atmospheric Administration

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1959

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

**Balboa Heights, C. Z. (BH)
The Panama Canal Co.
*Boulder City, Nev. (BC)
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. (COLU)
University of South Carolina
*Eureka, Nev. (EUR)
Eureka Corporation Limited
Guam, M. I. (GUAM)
Honolulu, T. H. (HONO)
*Hungry Horse, Mont. (HH)
Bureau of Reclamation
Kipapa, T. H. (KIP)
*Lincoln, Nebr. (LIN)
Nebraska Wesleyan University
**Philadelphia, Pa. (PHIL)
The Franklin Institute
**Rapid City, S. D. (RC)
South Dakota State School of Mines
*Salt Lake City, Utah (SLC)
University of Utah
San Juan, Puerto Rico (SJ)
Sitka, Alaska (SIT)
*Thule, Greenland (THULE)
U. S. Army Ionosphere Station
Tucson, Ariz. (TUC)
Tucson, Ariz. Telemeter (TUC-T)
Ukiah, Calif. (UK)
International Latitude Observatory
Washington, D. C. (WASH)

*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the data from the horizontal components of the seismographs at all stations except College, Honolulu, and Tucson will not be published for earthquakes occurring outside the United States.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 location are 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 Height, Canal Zone.

STATION AND INSTRUMENTAL CONSTANTS FOR 1959

Station	Position	Instruments	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. W. H. Eeslinger In Charge	Log cos 9.99467 Lat. 8°57'39"N Long. 79°33'29"W	W-A, N&E Mass 1.3 g Spg. LP (Series H) Spg. LP (Series H) Spg. LP (Series D-H)	Basalt 36 m.	N 1.0 E 1.0 N 20 E 20 Z 1.9	 20 1.9		 5000 5000 3000	14:1	60mm/min.	Beginning	N E
Boulder City, Nev. W. H. Taylor In Charge	Log cos 9.90806 Lat. 35°58'51"N Long. 114°50'02"W	B, film ZNE, Mass 100 lb.	Fractured monzonite 776 m.	Z 1.4 N 1.4 E 1.4	0.45 0.45 0.45		12000 5000 5000	Near crit. crit. crit.	15mm/min.	Beginning	Up N E
Bozeman, Mont. F. H. C. Schultz In Charge	Log cos 9.84437 Lat. 45°40'01"N Long. 111°02'43"W	Spg, N&E W-L, Z	Alluvium glacial drift and lake deposits 500' thick over gneiss and schist. 1490 m.	N 11.1 E 10.9 Z 1.1	8.3 7.6 1.7		8000 24000	3:1 11:1 Under damped	30mm/min. 60mm/min.	Beginning Beginning	N E Up
Butte, Mont. S. W. Nile In Charge	Log cos 9.84167 Lat. 46°00.8' N Long. 112°33.8' W	W-A, N. Mass 2 g W-L, NE B, paper, Z Mass 100 lb.	Rhyolite 30 m. thick resting on granite 1758 m.	N 6.99 N 8.0 E 8.0 Z 1.1	 3.8 3.9 0.5		 12000 12000 50000	21:1 Near crit. Near crit. Near crit.	15mm/min. 30mm/min. 60mm/min.	Beginning Beginning	S N W Up
Chicago, Ill. W. F. Schmidt In Charge	Log cos 9.87251 Lat. 41°47.3' N Long. 87°36.0' W	McC-R, N&E Mass 2.5 kg	Limestone 180 m.	N 10 E 10			335 335	15:1 15:1	15mm/min.	End	N W
College, Alaska C. J. Beers In Charge	Log cos 9.62825 Lat. 64°51.6' N Long. 147°50.2' W	B, film, ZNE Mass 100 lb. W, N	Granitic schist. 159 m.	Z 1.5 N 1.5 E 1.5 N 9.3	0.45 0.45 0.45 16		12000	Near crit. Near crit. Near crit. Near crit.	15mm/min.	Beginning	Up N E N
[1]College Outpost C. J. Beers In Charge	Log cos 9.62781 Lat. 64°53'08"N Long. 147°48'04"W	B, paper, Z		Z 1.5	0.53		60000	Near crit.	60mm/min.		Up
Columbia, S. C. C. F. Mercer In Charge	Log cos 9.91857 Lat. 34°00' N Long. 81°02' W	W-L, ZNE	Consolidated sand 150' thick over granite, 94m.	Z 1.1 N 8.0 E 8.0	1.6 4.1 4.1		24000 13000	Under damped	60mm/min. 30mm/min.	Beginning	Up N E
Eureka, Nev. R. N. Breckenridge In Charge	Log cos 9.88739 Lat. 39°30'09"N Long. 115°59'22"W	B, paper, Z Mass 100 lb.	Dolomite bedrock 6870 ft.	Z 1.23	0.51		200000	Near crit.	60mm/min.	Beginning	Up
[3]Guam, Mariana Islands J. V. Hasting In Charge	Log cos 9.98767 Lat. 13°35'15"N Long. 144°51'58"E	W-L, Z Spg, NE		Z 1.00 N 8.9	1.67 6.8				30mm/min.	Beginning	Up N

Station	Position	Instrument	Foundation and Elevation		T_o	T_g	T_s	V	Σ	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Guam, Mariana Islands	Log cos 9.98789	W-L, Z GE gal	Coral	Z	1.1	1.5		18000	20:1	30mm/min.	Beginning	Up
Cmdr. James Cox	Lat. 13°27'45"N	B-VR, paper,	168 m.	N	1.0	18		15000	Near crit.	30mm/min.	Beginning	N
In Charge	Long. 144°43'29"E	NS L-N gal										
		B-VR, paper		E	1.0	17		15000	20:1	30mm/min.	Beginning	N
		EW L-N gal										
		B-VR, film, Z		Z	1.0	0.2		24000		15mm/min.	Beginning	Up
		Geotech gal										
		B-VR, film,		N	1.0	0.2		15000		15mm/min.	Beginning	N
		NS Geotech gal										
		B-VR, film,		E	1.0	0.2		15000		15mm/min.	Beginning	E
		EW Geotech gal										
*Honolulu, T. H.	Log cos 9.96926	M-S, N&E	Coral 3m.	N	12 -			124	20:1	15mm/min.	Beginning	N
G. E. Harsden	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				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	B-VR, Z	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, T. H.	Log cos 9.96893	B-VR	Basalt	Z	1.09	0.2		30000	Near crit.	60mm/min.	Beginning	Up
G. E. Harsden	Lat. 21°35.3' N		75 m.									
	Long. 158°00.9' W											
Lincoln, Nebr.	Log cos 9.87884	McC-R, E.	Dakota sand-	E	8			200	10:1	15mm/min.	Beginning	E
C. L. Moore	Lat. 40°50.3' N	Mass 2.5 kg.	stone. 366 m.									
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	6.2					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		1.6	1.1	20000		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. Vasquez	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		0.5	1.05	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		24000		60mm/min.		Up

Station	Position	Instruments	Foundation and Elevation	T_o	T_g	T_s	V	Σ	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Thule, Greenland Capt. C. R. de Zafra In Charge	Log cos 9.36644 Lat. 76°33.4' N Long. 68°40.5' W	W-L, Z	Glacial material 275 m.	1.3	1.55		24000	Near crit.	60mm/min.	Beginning	Up
*Tucson, Ariz. R. L. Viets In Charge	Log cos 9.92725 Lat. 32°14.8' N Long. 110°50.1' W	W-A, N&E Mass 2.3 g. B, Z(LP) (SP) B, E	Caliche or gravels 100-300 m. thick 700 m.	N 8.0 E 8.0 Z 1.0 E 1.6	 77 0.236 0.5		466 457 5000C	crit. crit. Near crit.	30mm/min. 30mm/min. 60mm/min. 30mm/min.	Beginning	S E Up Up W
[2]Tucson Telemeter R. L. Viets In Charge	Log cos 9.92682 Lat. 32°20.1' N Long. 110°43.4' W	B, Z Mass 100 lb.	Granite	1.1	0.5	0.6	150000	Near crit.	60mm/min.	Beginning	Up
Ukiah, Calif. L. F. Cacouette In Charge	Log cos 9.68968 Lat. 39°08' N Long. 123°13' W	McC-R, N&E Mass 10 kg. W-L, Z	Alluvium 180 m. deep. 199 m.	N 11.9 E 11.6 Z 1.1	 1.4		75 75 18000	Near crit.	30mm/min. 60mm/min.	Beginning	N E Up
*Washington, D. C.	Log cos 9.89117 Lat. 38°53'33"N Long. 77°01'59"W	W-L, Z Visible recorder	Recent alluvium on Schistose granite. 0 m.	Z 1.5	1.7 Pen 0.5	1.5	10000		30mm/min.	Beginning	Up

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

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.
[3]This is temporary instrumentation for site tests and operation pending completion of the vault.

Date 1959	Origin Time G. C. T.	Lat.		Long.		Region, Focal Depth, and Remarks
Jan.	h m s	°		°		
1	02 06 42*	83½	N.	8	W.	Off northeast coast of Greenland.
1	07 26 07*	18½	S.	175½	W.	Tonga Islands region.
1	07 48 01*	35	N.	29	E.	Mediterranean Sea.
1	07 49 35*	18½	S.	177	W.	Fiji Islands region.
2	03 15 40**					Andreanof Islands, Aleutian Islands.
2	05 19 36*	48	N.	4	W.	Near coast of Brittany, France. Slight damage in Channel Islands.
2	11 57 04**					Mediterranean Sea, near Crete.
2	20 03 19*	3	N.	92½	W.	Galapagos Islands region.
3	07 59 12*	35½	N.	29½	E.	Off south coast of Turkey.
3	11 17 38*	14½	S.	75½	W.	Near coast of Peru.
4	03 16 36*	10	S.	111½	E.	South of Java.
4	03 32 15*	21	S.	174½	W.	Tonga Islands.
4	03 58 09*	15½	N.	54	E.	Arabian Sea.
4	07 56 27*	46½	N.	151	E.	Kurile Islands. h about 100 km.
4	21 08 52*	8	S.	126½	E.	Timor Island region.
4	23 14 38*	35	N.	28	E.	Mediterranean Sea.
5	02 37 28*	11½	N.	141	E.	Mariana Islands region. h about 200 km.
5	04 53 56**					Near north coast of Turkey.
5	05 00 30*	72	N.	92	W.	Baffin Island region.
5	09 35 13*	7	S.	156½	E.	Solomon Islands. h about 100 km.
5	09 46 42*	22	S.	171½	E.	Loyalty Islands region. Mag. 6-1/2 - 6-3/4.
5	12 36 02*	36	N.	118	W.	Inyo County, California. Felt. Mag. 4-1/2 - 4-3/4 (Berk).
6	10 39 08*	29	N.	139½	E.	Bonin Islands region. h about 450 km.
6	11 53 39*	6½	S.	155	E.	Solomon Islands. h about 150 km.
6	12 05 40*	52	N.	168	W.	Fox Islands, Aleutian Islands.
6	12 29 45*	47½	N.	153½	E.	Kurile Islands.
6	14 48 03*	7½	S.	105½	E.	South of Java.
7	05 13 01*	26½	N.	54	E.	Near coast of Iran.
7	22 21 55*	37	N.	29½	E.	Southwestern Turkey. Felt at Fethiye.
8	01 33 48*	15½	N.	61	W.	Windward Islands. Felt on Trinidad. h about 100 km. Mag. 6-1/2 - 6-3/4.
8	04 06 46*	5	S.	151½	E.	New Britain. h about 150 km.
8	15 54 41**					Pacific Ocean, about 650 miles northwest of Galapagos Islands.
8	18 01 37*	7	S.	155½	E.	Solomon Islands. h about 150 km.
8	22 36 08*	4½	S.	138½	E.	New Guinea.
9	01 55 05*	36	N.	21	E.	Near south coast of Greece.
9	20 52 07*	14	N.	90½	W.	Guatemala-El Salvador border. Felt in western El Salvador. h about 150 km.
11	04 27 23*	36½	N.	29	E.	Near south coast of Turkey. Extensive property damage at Karacaoren.

Date 1959	Origin Time G. C. T.	Lat.		Long.		Region, Focal Depth, and Remarks
Jan.	h m s	°		°		
11	07 22 40*	15	N.	90	W.	Guatemala. h about 200 km.
11	08 37 39**					Hokkaido, Japan.
11	13 26 00*	21	S.	174½	W.	Tonga Islands.
11	16 43 46*	37	N.	79	E.	Sinkiang Province, China.
11	18 54 57*	36	N.	118	W.	Inyo County, California.
12	03 00 38**					Northeastern New Guinea.
12	12 26 27**					Northern Mariana Islands.
12	12 36 05*	36	N.	118	W.	Inyo County, California.
12	14 16 28*	44	N.	146	E.	Near north coast of Hokkaido, Japan. h about 100 km.
12	17 41 29*	14½	N.	145	E.	Mariana Islands. h about 150 km.
13	01 15 25*	13½	N.	146	E.	Mariana Islands. Mag. 6-3/4.
13	07 20 58*	53	N.	167½	W.	Fox Islands, Aleutian Islands.
13	07 33 43*	3	S.	102	E.	Near south coast of Sumatra. h about 150 km.
13	08 34 08*	9	N.	83½	W.	Costa Rica region. Felt at El Volcan, Panama. h about 100 km.
13	09 05 02*	19	S.	176½	E.	Fiji Islands.
13	09 37 18*	9	S.	67½	E.	Chagos Archipelago region.
13	11 49 15*	5	S.	153½	E.	New Britain region.
13	14 31 57*	45	N.	149	E.	Kurile Islands.
13	16 32 37*	7½	N.	74½	W.	Colombia.
13	19 06 40*	16½	S.	71½	W.	Southern Peru. h about 150 km.
13	20 35 54*	34½	S.	71	W.	Central Chile. Slight damage at Santiago. h about 100 km.
14	03 05 52*	10	S.	161	E.	Solomon Islands.
14	13 17 39*	21	S.	179	W.	Fiji Islands region. h about 650 km.
15	08 42 09*	44	N.	130	W.	About 300 miles off coast of Oregon.
15	15 39 12*	27	N.	128	E.	Ryukyu Islands.
15	16 38 47**					Near coast of northern Peru.
15	16 43 45*	9	N.	83½	W.	Costa Rica. Felt in northwestern Panama.
15	19 16 23*	49½	N.	128	W.	Vancouver Island region.
15	21 20 26*	25½	S.	180		South of Fiji Islands. h about 500 km. Mag. 6½.
16	00 10 05*	36	N.	118	W.	Inyo County, California. Mag. 4-3/4 (Berk).
16	01 31 25*	52	N.	171	W.	Fox Islands, Aleutian Islands. h about 60 km.
16	10 51 52*	22	S.	170	E.	Loyalty Islands.
16	16 50 40*	52	N.	131½	W.	Queen Charlotte Islands.
17	09 24 35*	10½	N.	126	E.	Near north coast of Mindanao, Philippine Islands. Felt at Hinatuan, Mambajao and Surigao.
17	10 17 19*	45½	N.	153	E.	Kurile Islands.
17	11 30 46*	10	S.	162½	E.	Solomon Islands.
18	07 37 20*	57½	N.	35	W.	Atlantic Ocean.

Date 1959	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth, and Remarks
Jan.	h m s	°	°	
18	14 41 06*	5 S.	152½ E.	New Britain region. Felt at Rabaul.
18	15 48 18*	52 N.	166½ W.	Fox Islands, Aleutian Islands.
18	17 15 03*	44 N.	127½ W.	About 150 miles off coast of Oregon.
18	19 25 45*	5 S.	152½ E.	New Britain region. Felt at Rabaul.
18	22 23 15*	19 S.	178 W.	Fiji Islands. h about 450 km. Mag. 6¼.
19	08 12 46*	30 N.	132 E.	South of Kyushu, Japan.
19	10 43 42*	16 S.	168½ E.	New Hebrides Islands.
19	21 46 01	36.1 N.	118 W.	Inyo County, California. Mag. 4¼ - 4½ (Berk).
20	16 46 11*	9 S.	126 E.	Timor Island.
21	11 08 10*	19 N.	120 E.	Near north coast of Luzon, Philippine Islands.
21	13 57 25*	13 N.	52 E.	Sokotra Island region.
22	05 10 25*	34 N.	142 E.	Near coast of Honshu, Japan. Felt in northern Honshu. Small seismic sea wave at Miyako. Mag 6-3/4 - 7.
22	05 36 06*	4 N.	132½ E.	About 300 miles northeast of Halmahera.
22	07 33 14*	43½ N.	144½ E.	Hokkaido, Japan.
22	09 46 40*	38½ N.	142 E.	Near coast of Honshu, Japan.
22	11 51 30*	52 N.	159 E.	Near east coast of Kamchatka.
22	12 35 54*	51 N.	180	Andreanof Islands, Aleutian Islands.
23	10 20 57*	16½ N.	47 W.	Atlantic Ocean.
23	18 52 11*	55½ N.	160 W.	Alaska Peninsula.
24	05 08 35*	37½ N.	141 E.	Near coast of Honshu, Japan. Felt. h about 100 km.
24	07 50 52*	1½ S.	116½ E.	Near east coast of Borneo.
24	15 34 01*	5 S.	152½ E.	New Britain region. Felt at Rabaul. h about 100 km.
24	15 51 47*	17½ S.	175 W.	Tonga Islands region. h about 100 km.
24	19 42 20*	15 N.	92½ W.	Mexico-Guatemala border. Mag. 6¼.
24	19 55 14*	37½ N.	24½ W.	Azores Islands. Mag. 6¼ - 6½.
26	03 18 35*	25 S.	71½ W.	Near coast of Chile.
26	05 48 27*	16½ S.	174½ W.	Samoa Islands region. h about 300 km.
26	11 38 35*	37 N.	29½ E.	Southwestern Turkey.
26	17 46 51*	1 S.	77 W.	Ecuador. h about 200 km.
26	21 43 12*	27 N.	128½ E.	Ryukyu Islands.
27	00 20 22*	18 N.	68½ W.	Eastern Dominican Republic. Felt at San Juan, Puerto Rico. h about 100 km.
27	03 35 29*	71½ N.	2 W.	Jan Mayen Island region.
27	20 07 30**			Banda Sea.
27	21 05 29*	4 N.	126 E.	Celebes Sea. h about 200 km.
27	23 32 52*	52 N.	159½ E.	Near southeast coast of Kamchatka.
28	01 21 16*	39½ N.	142½ E.	Near coast of Honshu, Japan.
28	10 04 10*	30½ S.	79 W.	Juan Fernandez Islands region. Mag. 6¼.

Date 1959	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth, and Remarks
Jan.	h m s	°	°	
28	13 59 53*	28½ N.	138 E.	South of Honshu, Japan. h about 550 km.
29	20 21 27*	52 N.	174 W.	Andreanof Islands, Aleutian Islands. Mag. 5-3/4 - 6.
29	20 58 18*	52 N.	174 W.	Andreanof Islands, Aleutian Islands.
29	22 35 54**			Southern Bolivia. h about 150 km.
29	23 24 30*	71 N.	8 E.	Off coast of Norway.
30	00 13 48*	11½ S.	74½ W.	Central Peru. h about 60 km.
30	00 19 25*	10 S.	161 E.	Solomon Islands. Mag. 6-3/4.
30	05 17 32*	61 N.	78½ W.	Hudson Bay.
30	16 15 58*	26½ S.	71 W.	Near coast of Chile. h about 100 km.
30	18 09 02*	31 S.	179 W.	Kermadec Islands.
30	20 38 58*	44 N.	144 E.	Hokkaido, Japan. Mag. 5-3/4 - 6.
30	22 16 47*	44 N.	144 E.	Hokkaido, Japan. Minor damage at Deshikutsu. Mag. 6¼.

Date and Station		Phase (GCT)
		h m s
Jan. 1		
EUR	eP	02 06 56
Jan. 1		
BC	eP	02 16 28
BOZ	eP	02 15 14
BUT	eP	02 15 12
COL	iP	02 12 57
EUR	eP	02 16 04
	iPcP	17 11
HH	eP	02 14 54
RC	eP	02 15 25
	iP	15 30
SLC	eP	02 15 50
THULE	iP	02 09 37
	eS	11 43
	eL	14 45
TUC	iP	02 16 51
	i	17 03
TUC-T	iP	02 16 50
	e	18 12
Jan. 1		
BC	eP	07 38 12
BUT	eP	07 38 57
COL	iP	07 38 50
EUR	eP	07 38 25
GUAM	iP	07 35 07
HH	eP	07 38 56
SLC	eP	07 38 42
TUC	eP	07 38 27
TUC-T	iP	07 38 26
Jan. 1		
BOZ	eP	08 01 07
EUR	e(P)	08 01 45
HH	eP	08 01 04
RC	eP	08 01 07
THULE	iP	07 57 52
Jan. 1		
BC	eP	08 01 47
BOZ	eP	08 02 23
BUT	eP	08 02 21
COL	iP	08 02 18
		h m s
COL	i	08 02 26
EUR	eP	08 01 52
GUAM	iP	07 58 34
HH	eP	08 02 23
SLC	eP	08 02 11
TUC	eP	08 01 53
TUC-T	eP	08 01 51
Jan. 1		
HH	e(P)	08 13 06
Jan. 1		
COL	iP	10 33 28
EUR	eP	10 36 46
HH	e(P)	10 36 26
Jan. 1		
EUR	eP	10 58 28
Jan. 1		
EUR	eP	13 16 08
HH	e(P)	13 17 07
Jan. 1		
EUR	eP	14 59 48
Jan. 1		
HH	e(P)	16 04 12
Jan. 1		
HH	e(P)	16 10 36
Jan. 1		
COL	iP	18 54 03
Jan. 1		
GUAM	iP	20 46 05
	iS	46 14
	iL	46 16
Jan. 2		
EUR	eP	02 05 57
	e	07 42
HH	eP	02 06 46
TUC	eP	02 04 49
TUC-T	iP	02 04 50
	e	05 08
Jan. 2		
COL	iP	03 20 29
EUR	iP	03 23 56
HH	iP	03 23 24
RC	eP	03 24 32
		h m s
TUC	eP	03 24 57
TUC-T	eP	03 24 58
	e	25 09
Jan. 2		
BUT	eP	05 30 38
COL	eP	05 30 17
HH	iP	05 30 32
TUC	eP	05 31 35
	e	31 43
TUC-T	eP	05 31 34
Jan. 2		
COL	e(P)	06 23 22
Jan. 2		
COL	eP	07 19 55
	iL	21 29
Jan. 2		
BH	iP	10 19 16
	iS	20 47
HH	eP	10 27 03
SJ	eP	10 22 46
TUC	eP	10 25 21
TUC-T	iP	10 25 21
	i	25 33
Jan. 2		
COL	eP	11 03 24
	i	03 39
Jan. 2		
COL	e(P)	12 09 17
HH	eP	12 10 06
Jan. 2		
TUC-T	eP	14 44 57
Jan. 2		
HH	e(P)	15 39 42
Jan. 2		
COL	iP	16 00 05
Jan. 2		
TUC	eP	19 57 59
TUC-T	eP	19 57 58
	i	58 07
Jan. 2		
BC	eP	20 10 49
BOZ	eP	20 11 45
BUT	eP	20 11 49
COL	iP	20 14 53
		h m s
EUR	iP	20 11 17
	i	13 07
HH	iP	20 12 09
RC	eP	20 11 16
	e	13 05
THULE	eP	20 14 59
TUC	eP	20 10 08
TUC-T	iP	20 10 08
Jan. 2		
EUR	eP	21 16 33
TUC-T	eP	21 15 24
Jan. 2		
HH	e(P)	21 42 04
Jan. 2		
COL	iP	22 30 40
	iS	30 54
	iL	30 59
HH	e(P)	22 35 48
Jan. 3		
EUR	eP	02 23 37
Jan. 3		
COL	iP'	04 34 24
EUR	eP	04 26 40
HH	e(P)	04 27 13
RC	eP	04 26 26
TUC	eP	04 25 47
TUC-T	eP	04 25 45
	i	25 47
Jan. 3		
EUR	eP	04 57 26
Jan. 3		
COL	eP	08 11 27
EUR	eP	08 12 55
HH	iP	08 12 17
RC	eP	08 12 15
THULE	eP	08 09 03
Jan. 3		
COL	eP	08 50 37
	i	51 14
EUR	iP	08 46 51
TUC	eP	08 45 42

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Date and Station		Phase (GCT)
		h m s
TUC-T	eP	08 45 41
Jan. 3		
TUC	e(P)	09 39 34
TUC-T	eP	09 39 30
	e	39 34
Jan. 3		
BC	eP	11 28 08
BOZ	eP	11 28 44
BUT	eP	11 28 48
COL	iP	11 31 08
	ePP	34 58
COLU	eP	11 26 26
EUR	iP	11 28 29
	i	28 49
	eP'P'	56 54
HH	iP	11 29 04
RC	iP	11 28 14
THULE	iP	11 30 46
TUC	iP	11 27 35
TUC-T	iP	11 27 35
Jan. 3		
COL	eP	15 24 37
GUAM	iP	15 17 02
Jan. 3		
COL	eP	15 57 24
Jan. 3		
EUR	eP	16 49 24
Jan. 3		
EUR	eP	17 43 40
HH	iP	17 43 09
	i	45 35
Jan. 3		
EUR	eP	19 08 10
RC	eP	19 08 03
Jan. 3		
HH	e(P)	20 51 38
Jan. 4		
COL	eP	00 47 51
Jan. 4		
COL	e(P')	03 35 00
HH	e(P')	03 35 42
Jan. 4		
BC	eP	03 44 28

Date and Station		Phase (GCT)
		h m s
COL	iP	03 45 08
EUR	eP	03 44 34
TUC	eP	03 44 33
TUC-T	eP	03 44 33
Jan. 4		
COL	e(P)	04 15 59
EUR	eP	04 17 11
THULE	iP	04 10 32
Jan. 4		
COL	eP	07 15 31
EUR	eP	07 19 49
RC	eP	07 19 59
TUC-T	eP	07 20 47
Jan. 4		
SLC	eP	07 22 54
	eL	23 17
Jan. 4		
COL	iP	08 03 34
EUR	eP	08 06 59
	epP	07 21
	i	07 32
HH	iP	08 06 28
	iPcP	07 13
RC	eP	08 07 24
THULE	iP	08 05 46
	epP	06 22
	esP	06 39
TUC	eP	08 07 48
TUC-T	eP	08 07 48
	e	08 21
Jan. 4		
HH	i(P)	15 44 51
Jan. 4		
COL	iP	16 17 34
EUR	eP	16 18 36
Jan. 4		
HH	e(P)	20 26 35
Jan. 4		
GUAM	iP	21 14 29
Jan. 4		
GUAM	iP	21 29 32
	eS	29 39
	eL	29 57

Date and Station		Phase (GCT)
		h m s
Jan. 4		
HH	eP	21 32 10
Jan. 4		
COL	e(P)	22 44 47
Jan. 4		
COL	eP	22 50 12
Jan. 4		
HH	e(P)	23 14 42
Jan. 4		
COL	eP	23 26 54
EUR	eP	23 29 22
HH	iP	23 27 44
RC	eP	23 27 41
THULE	eP	23 24 29
Jan. 4		
HH	eP	23 30 22
Jan. 5		
EUR	eP	00 48 47
Jan. 5		
BUT	eP	02 50 28
COL	eP	02 48 33
EUR	eP	02 50 28
GUAM	iP	02 38 30
	eS	39 09
HH	e(P)	02 50 22
Jan. 5		
COL	iP	05 05 13
	i	06 02
	e	09 11
HH	e(P)	05 06 03
	e	10 56
	i	12 41
	iL	13 48
EUR	e(P)	05 07 22
THULE	eP	05 02 25
	e(S)	03 44
	i(L)	04 44
Jan. 5		
EUR	eP	05 16 55
Jan. 5		
TUC-T	e(P)	05 44 59
Jan. 5		
THULE	iP	08 29 43
Jan. 5		
EUR	eP	08 36 22
HH	e(P)	08 40 19

Date and Station		Phase (GCT)
		h m s
Jan. 5		
COL	eP	09 47 32
	epP	47 57
EUR	eP	09 48 25
GUAM	iP	09 40 21
Jan. 5		
EUR	eP	09 52 23
Jan. 5		
BC	iP	09 59 49
	e	10 00 08
BOZ	eP	10 00 20
BUT	eP	10 00 15
	ePP	04 08
COL	iP	09 59 54
	i	10 00 25
	e	03 08
	iPKKP	17 09
	eP'P'	25 05
EUR	iP	09 59 53
	iPP	10 03 27
	eS	10 48
	iPKKP	17 55
	eP'P'	25 20
GUAM	iP	09 54 58
	iPcP	56 26
	iPP	56 39
HONO	eP	09 56 01
	iPcP	57 10
HH	iP	10 00 16
	ePP	04 06
	iPKKP	16 58
	eP'P'	25 16
RC	eP	10 00 41
	e	00 54
	ePP	04 51
	ePKKP	16 45
	e(P'P')	24 39
SLC	eP	10 00 03
	e	00 44
SJ	iP'	10 05 46
	e	06 26
	ePKS	09 06
SIT	eP	09 59 48
THULE	eP'	10 05 23
	ePP	06 37
	iPKKP	15 43
TUC	iP	09 59 56
	eSKS	10 10 30
	iPKKP	17 14
	eP'P'	25 19
TUC-T	iP	09 59 56

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Date and Station		Phase	(GCT)
			h m s
TUC-T	eSKS		10 10 51
	iPKKP		17 14
	ePʹPʹ		25 20
Jan. 5			
BC	eP		12 36 45
	i		36 50
EUR	iP		12 37 01
	iL		38 11
HH	eP		12 39 10
	eL		42 52
RC	iP		12 39 22
SLC	eP		12 37 44
	e		38 11
TUC	eP		12 37 48
	e		37 54
	e		38 06
	eL		39 45
TUC-T	eP		12 37 49
	e		37 56
	eL		39 45
Jan. 5			
COL	eP		12 45 27
Jan. 5			
COL	iP		14 07 15
			07 33
TUC	eP		14 06 41
TUC-T	iP		14 06 41
Jan. 5			
COL	eP		19 59 23
	i		59 40
	i(S)		20 00 21
	eS		00 38
	eL		00 43
HH	eP		20 04 01
TUC-T	eP		20 06 07
Jan. 5			
HH	eP		20 24 53
Jan. 5			
EUR	iP		23 05 50
Jan. 5			
GUAM	iP		23 46 37
	iS		47 02
	eL		47 36
Jan. 6			
THULE	eP		01 03 59
Jan. 6			
COL	iP		01 30 06
	i		30 25
HH	eP		01 33 01
	e		35 30

Date and Station		Phase	(GCT)
			h m s
RC	e(P)		01 34 20
TUC	eP		01 34 35
TUC-T	eP		01 34 36
Jan. 6			
COL	iP		04 16 19
EUR	e(P)		04 19 38
	iP		19 52
GUAM	iP		04 19 05
HH	iP		04 19 09
	i		19 23
RC	eP		04 20 03
	i		20 17
THULE	eP		04 15 54
TUC	eP		04 20 26
	e		20 40
TUC-T	eP		04 20 26
	i		20 40
Jan. 6			
COL	iP		04 33 41
HH	eI		04 36 31
TUC-T	eP		04 38 02
Jan. 6			
BUT	eP		04 53 41
COL	iP		04 54 53
GUAM	eP		04 45 27
HH	eP		04 53 30
RC	eP		04 54 16
TUC-T	eP		04 54 26
	e		54 38
Jan. 6			
HH	eP		06 11 43
Jan. 6			
COL	iP		10 48 14
	epP		49 41
EUR	eP		10 50 46
GUAM	iP		10 42 37
	iS		45 33
HH	iP		10 50 29
	epP		52 07
Jan. 6			
BH	iP		11 16 17
	iS		16 57

Date and Station		Phase	(GCT)
			h m s
Jan. 6			
COL	iP		12 05 50
EUR	iP		12 06 44
HH	e(P)		12 06 53
Jan. 6			
COL	iP		12 09 34
EUR	iP		12 12 59
	i		13 11
	ePcP		15 15
HH	iP		12 12 27
	iPcP		15 05
RC	eP		12 13 40
	i		13 53
TUC	eP		12 14 02
	i		14 15
	ePcP		15 41
TUC-T	eP		12 14 02
	i		14 14
Jan. 6			
COL	iP		12 36 42
EUR	eP		12 40 10
HH	eP		12 39 39
RC	eP		12 40 34
	e		40 46
THULE	iP		12 39 02
Jan. 6			
GUAM	iP		12 42 25
	iS		42 46
	eL		43 01
Jan. 6			
HH	eP		14 29 58
Jan. 6			
THULE	iP		14 38 14
Jan. 6			
HH	e(P)		14 54 01
Jan. 6			
BOZ	ePʹ		15 07 22
EUR	ePʹ		15 07 29
	iPʹ		07 33
HH	iPʹ		15 07 10
TUC-T	ePʹ		15 07 48
Jan. 6			
EUR	eP		15 10 39
TUC-T	i(P)		15 11 04
Jan. 6			
GUAM	eP		15 30 42

Date and Station		Phase	(GCT)
			h m s
HH	iP		15 38 30
Jan. 6			
BC	e(P)		16 11 08
EUR	iP		16 11 19
	i		11 28
	eS		12 07
	iL		12 15
TUC	eP		16 14 07
Jan. 6			
HH	e(P)		18 25 23
Jan. 6			
HH	eP		20 54 52
Jan. 6			
COL	iP		22 01 25
EUR	eP		22 04 49
	i		05 04
HONO	eP		22 09 11
HH	iP		22 04 19
KIP	eP		22 09 11
Jan. 7			
COL	iP		02 38 20
EUR	eP		02 37 58
HH	eP		02 38 26
TUC	iP		02 37 58
TUC-T	iP		02 37 59
Jan. 7			
COL	iP		05 25 52
EUR	ePʹ		05 31 39
RC	ePʹ		05 31 43
Jan. 7			
EUR	e(P)		05 42 39
Jan. 7			
BOZ	e(P)		06 36 06
COL	eP		06 32 37
HH	iP		06 35 30
	i		35 45
RC	eP		06 36 41
TUC	eP		06 37 03
	i		37 15
TUC-T	eP		06 37 02
	i		37 14

Date and Station		Phase (GCT)
		h m s
Jan. 7		
COL	eP	08 32 53
EUR	eP	08 36 24
	e	38 23
HH	eP	08 35 51
	e	38 11
TUC	eP	08 37 26
Jan. 7		
HH	e(P)	09 57 33
Jan. 7		
EUR	eP	11 57 38
HH	iP	11 57 08
	e	59 37
TUC	eP	11 58 42
Jan. 7		
EUR	e(P)	15 16 47
	i	19 00
TUC-T	eP	15 16 19
	i	17 17
Jan. 7		
SJ	iP	15 45 23
	eL	45 34
Jan. 7		
EUR	eP	16 18 33
Jan. 7		
BH	eP	17 32 27
Jan. 7		
COL	iP	18 10 55
HH	e(P)	18 13 45
Jan. 7		
EUR	e(P)	19 48 59
Jan. 7		
EUR	eP	20 42 42
TUC	eP	20 41 29
	e	42 16
TUC-T	iP	20 41 29
	e	41 36
Jan. 7		
COL	eP	22 34 02
HH	eP	22 34 54
THULE	iP	22 31 32
Jan. 7		
BH	iP	23 38 10
Jan. 8		
BC	eP	01 42 54
	e	43 03

Date and Station		Phase (GCT)
		h m s
BOZ	iP	01 42 51
	i	43 10
	eScP	47 44
BUT	eP	01 42 58
	epP	43 31
COL	eP	01 45 22
	ipP	45 46
	isP	46 04
	iPP	48 15
	eS	54 40
	eL	02 04 35
COLU	eP	01 39 17
	eS	43 36
EUR	iP	01 43 03
	ipP	43 22
	iScP	47 47
HH	iP	01 43 09
	iPcP	44 12
	iPP	45 13
	iScP	47 54
	eS	50 38
KIP	eP	01 46 46
RC	iP	01 42 05
	epP	42 40
	iScP	47 19
	eS	48 46
	eL	55 20
SLC	eP	01 42 42
	epP	43 06
	eScP	47 39
SJ	iP	01 36 22
	eL	39 06
	iScS	50 03
SIT	iP	01 44 48
TUC	iP	01 42 24
	esP	43 03
	ePP	44 22
	esPP	45 04
	iS	49 21
TUC-T	iP	01 42 22
	esP	43 00
	e	44 50
	e	46 20
	iScP	47 29
	eS	49 18
Jan. 8		
COL	iP	04 18 56
EUR	eP	04 19 59
	epP	20 55
HH	iP	04 20 06
Jan. 8		
EUR	eP	14 59 15

Date and Station		Phase (GCT)
		h m s
HH	iP	15 00 15
RC	eP	14 59 31
	e	59 37
TUC-T	eP	14 58 04
Jan. 8		
BC	eP	16 01 49
COL	iP	16 06 02
EUR	eP	16 02 19
HH	iP	16 03 19
RC	eP	16 02 35
SLC	eP	16 02 21
THULE	eP	16 06 36
	i	07 03
TUC	eP	16 01 08
	iP	01 10
TUC-T	eP	16 01 08
	iP	01 10
	i	01 45
	e(PcP)	04 06
Jan. 8		
COL	eP	18 13 51
EUR	eP	18 14 43
Jan. 8		
THULE	eP	19 06 26
Jan. 8		
HH	e(P)	19 39 48
Jan. 8		
EUR	eP	19 55 30
	i	56 04
HH	e(P)	19 56 07
Jan. 8		
HH	e(P)	20 50 38
Jan. 8		
COL	eP	22 48 58
EUR	eP	22 50 25
GUAM	iP	22 40 39
SJ	eP'	22 56 10
Jan. 9		
COL	eP	02 07 11
EUR	e(P)	02 08 36
HH	iP	02 07 52
RC	e(P)	02 07 56
	e	08 02

Date and Station		Phase (GCT)
		h m s
THULE	eP	02 04 31
Jan. 9		
GUAM	eP	02 04 31
Jan. 9		
BH	eP	02 08 56
	iS	09 32
Jan. 9		
COL	eP	02 13 15
EUR	iP	02 15 16
HH	iP	02 15 08
THULE	eP	02 14 59
TUC	eP	02 15 47
TUC-T	eP	02 15 47
Jan. 9		
COL	iP	03 29 39
Jan. 9		
EUR	eP	04 53 25
TUC	eP	04 52 10
TUC-T	eP	04 52 11
Jan. 9		
COL	eP	06 41 01
	i	41 20
	iS	42 13
	iL	42 22
Jan. 9		
HH	e(P)	13 07 59
Jan. 9		
COL	eP	15 25 25
	i	25 48
	iS	26 41
	iL	27 07
EUR	eP	15 29 23
HH	iP	15 28 16
	eL	33 37
RC	eP	15 29 41
Jan. 9		
THULE	eP	18 18 26
Jan. 9		
SIT	eP	19 26 02
	eL	26 52
Jan. 9		
BC	eP	20 58 19
COL	iP	21 02 30
	ipP	03 05
EUR	eP	20 58 44

Date and Station		Phase	(GCT)
			h m s
EUR		ePcP	21 01 19
HH		eP	20 59 30
		iPcP	21 01 35
RC		e(P)	20 59 28
THULE		eP	21 02 21
		ipP	02 46
TUC		eP	20 57 35
TUC-T		iP	20 57 34
		iPcP	21 01 00
Jan. 9			
HH		eP	21 19 23
THULE		iP	21 19 19
Jan. 9			
HH		e(P)	23 25 14
Jan. 10			
COL		iP	02 42 28
		i(S)	43 02
		iL	43 11
EUR		eP	02 47 43
Jan. 10			
THULE		eP	02 56 09
		i	56 27
Jan. 10			
COL		iP	06 05 06
		i	05 30
EUR		eP	06 06 26
GUAM		iP	05 57 25
Jan. 10			
COL		iP	06 16 13
EUR		eP	06 15 54
HH		e(P)	06 16 22
TUC		iP	06 15 57
TUC-T		iP	06 15 58
Jan. 10			
COL		iP	06 29 05
		i(S)	30 07
		iL	30 17
Jan. 10			
THULE		eP	16 21 24
		e	23 49
Jan. 10			
EUR		eP	16 44 45
HH		i(P)	16 44 16
Jan. 10			
EUR		eP	21 36 10

Date and Station		Phase	(GCT)
Jan. 10			h m s
COL		iP	22 04 16
		i	04 38
HONO		iP	22 03 31
Jan. 10			
HH		e(P)	22 46 07
Jan. 10			
EUR		eP	23 32 20
Jan. 11			
EUR		eP	00 58 55
TUC		eP	00 57 33
		e	57 53
TUC-T		e(P)	00 57 35
		e	57 46
Jan. 11			
COL		iP	01 12 22
EUR		iP	01 12 04
HH		e(P)	01 12 31
TUC		iP	01 12 07
TUC-T		iP	01 12 08
Jan. 11			
COL		eP	04 30 33
Jan. 11			
COL		iP	04 39 30
HH		eP	04 40 23
THULE		iP	04 36(59)
		ePP	38(59)
Jan. 11			
HH		e(P)	04 45 14
Jan. 11			
THULE		eP	06 29(57)
Jan. 11			
BC		iP	07 28 39
		ipP	29 20
		e(ScP)	34 57
BUT		eP	07 29 30
		epP	30 13
BOZ		eP	07 29 24
		epP	30 06
COL		iP	07 32 50
		iPcP	33 25
		ipP	33 37
		eP' P'	08 01 49
COLU		eP	07 27 13
		e	27 30
EUR		iP	07 29 06
		ipP	29 47

Date and Station		Phase	(GCT)
			h m s
EUR		iScP	07 35 06
HONO		ePcP	07 33 45
HH		iP	07 29 50
		iPcP	31 56
		iScP	35 25
KIP		eP	07 32 57
		epP	33 42
RC		eP	07 28 46
		epP	29 28
		isP	29 50
SLC		eP	07 28 53
		epP	29 34
SJ		iP	07 27 36
		e	27 53
THULE		iP	07 32(40)
		ipP	33(28)
		isP	34(00)
TUC		eP	07 27 57
		ipP	28 37
		e	29 02
		eL	33 33
		iScP	34 41
TUC-T		iP	07 27 57
		ipP	28 36
		e	30 04
		iScP	34 42
		e	35 40
Jan. 11			
COL		iP	07 43 27
EUR		eP	07 46 45
Jan. 11			
EUR		eP	08 00 14
HH		iP	07 59 50
TUC		eP	08 00 49
Jan. 11			
COL		iP	08 45 56
EUR		eP	08 49 04
HH		iP	08 48 37
RC		eP	08 49 25
TUC		eP	08 49 47
TUC-T		eP	08 49 48
Jan. 11			
COL		e(P)	11 23 21
EUR		eP	11 26 45
TUC		eP	11 27 50

Date and Station		Phase	(GCT)
Jan. 11			h m s
COL		iP	13 38 55
EUR		e(P)	13 38 17
		eP	38 26
Jan. 11			
COL		iP	14 17 16
Jan. 11			
COL		iP	16 36 44
		i	36 52
EUR		iP	16 37 38
Jan. 11			
COL		iP	16 55 15
THULE		iP	16 54(18)
Jan. 11			
BC		iP	18 55 46
		iS	56 21
		eL	56 35
EUR		iP	18 55 56
		i	56 05
		eS	56 46
		eL	56 55
TUC		e(P)	18 57 12
		e	58 49
		eL	59 06
TUC-T		e(P)	18 57 11
		e	57 39
		eL	58 47
Jan. 11			
HH		i(P)	23 03 17
Jan. 12			
GUAM		iP	01 00 39
		iL	00 58
Jan. 12			
COL		eP	03 13 23
Jan. 12			
COL		eP	06 59 49
		e(S)	07 01 22
		iL	01 37
Jan. 12			
HONO		iP	11 05 32
		i	05 40
		iS	05 45
		iL	05 50
KIP		eP	11 05 34
		i	05 42
		iS	05 46
		iL	05 50
Jan. 12			
BC		iP	12 36 54
		iS	37 28
		iL	37 42

Date and Station		Phase (GCT)
		h m s
COL	eP	12 36 58
EUR	iP	12 37 04
	i	37 11
	eS	37 53
	iL	37 59
GUAM	iP	12 27 53
	iS	28 51
HH	eP	12 38 53
SLC	eP	12 38 15
TUC	eP	12 38 19
	eL	39 57
TUC-T	e(P)	12 38 25
	eL	39 48
Jan. 12		
BOZ	eP	14 27 22
BC	iP	14 27 48
	ipP	28 18
COL	iP	14 24 10
	i	24 28
EUR	iP	14 27 29
	ipP	27 58
	iPP	30 06
HH	iP	14 27 01
	epP	27 29
	ePP	29 25
RC	iP	14 27 53
	epP	28 22
SLC	eP	14 27 38
	epP	28 08
SIT	eP	14 25 12
THULE	iP	14 26 11
TUC	iP	14 28 16
	epP	28 46
	e(sP)	29 08
TUC-T	iP	14 28 16
	ipP	28 46
Jan. 12		
EUR	eP	17 33 23
Jan. 12		
COL	eP	17 52 17
EUR	eP	17 54 10
GUAM	iP	17 41 58
HH	eP	17 54 03
TUC-T	iP	17 54 40

Date and Station		Phase (GCT)
		h m s
Jan. 12		
COL	eP	19 44 05
EUR	eP	19 47 00
HH	iP	19 46 37
Jan. 13		
BC	eP	01 28 29D
BOZ	eP	01 28 26D
BUT	eP	01 28 23C
COL	iP	01 26 26C
	iS	35 21
	eSS	40 03
	eL	43 35
EUR	eP	01 28 18C
	i	28 20
	i	28 46
	i	28 57
GUAM	iP	01 15 54C
HH	iP	01 28 11C
	ePP	31 34
RC	eP	01 28 54D
	ePP	32 42
THULE	eP	01 28 18
	ePP	31 40
	iS	39 00
TUC	eP	01 28 46
	e	29 37
	eL	02 01 45
TUC-T	iP	01 28 48
Jan. 13		
GUAM	iP	02 39 57
	iL	40 09
Jan. 13		
EUR	eP	03 09 15
TUC	eP	03 07 05
TUC-T	eP	03 07 04
Jan. 13		
BC	eP	07 28 39
BOZ	eP	07 28 09
COL	eP	07 24 40
	i	24 45
	eL	29 51
EUR	eP	07 28 13
	iPcP	30 29
HH	eP	07 27 41
	ePcP	30 18

Date and Station		Phase (GCT)
		h m s
RC	eP	07 28 57
	e	29 14
THULE	eP	07 28 46
	i	29 01
	ePcP	30 45
TUC	eP	07 29 18
	e	29 49
TUC-T	eP	07 29 19
	e	29 48
Jan. 13		
BC	ePKS	07 56 19
COL	eP'	07 51 29
COLU	eP'	07 53 20
EUR	eP'	07 52 45
	e	53 04
	e(PKS)	56 09
HH	eP'	07 52 34
RC	e(PKS)	07 56 21
TUC	eP'	07 53 07
	e(PKS)	56 37
TUC-T	ePKS	07 56 37
Jan. 13		
BH	iP	08 35 03
	iS	36 05
BC	eP	08 41 32
BOZ	eP	08 42 07
BUT	eP	08 42 15
COL	eP	08 45 15
	i	45 23
COLU	eP	08 39 22
	iP	39 31
EUR	e(P)	08 42 46
	eP	42 52
	i	43 06
HH	eP	08 42 27
RC	eP	08 41 21
	i	41 29
SLC	eP	08 41 40
	e	41 49
	ePcP	43 55
SJ	eP	08 38 32
THULE	eP	08 44 56
TUC	e(P)	08 40 41
	e	40 51

Date and Station		Phase (GCT)
		h m s
TUC-T	eP	08 40 45
	i	40 50
	iPcP	43 32
Jan. 13		
BC	eP	09 17 47
COL	eP	09 17 57
EUR	eP	09 17 50
TUC	eP	09 17 53
TUC-T	eP	09 17 54
Jan. 13		
GUAM	iP	09 28 46
	iS	29 08
Jan. 13		
BC	eP'	09 57 20
COL	eP'	09 57 21
EUR	iP'	09 57 10
	i	57 33
RC	eP'	09 56 57
TUC	e(P')	09 57 23
	eP'	57 33
TUC-T	eP'	09 57 22
	e	57 32
Jan. 13		
EUR	eP	10 22 07
Jan. 13		
COL	iP	12 01 38
EUR	eP	12 02 36
Jan. 13		
COL	iP	14 39 31
	i	39 45
EUR	iP	14 42 50
	i	43 04
HH	eP	14 42 21
RC	eP	14 43 18
THULE	iP	14 41 42
TUC-T	e(P)	14 43 38
	eP	43 51
Jan. 13		
COL	eP	16 44 26
EUR	iP	16 41 24
HH	eP	16 41 56
RC	eP	16 40 52

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Date and Station		Phase	(GCT) h m s
SJ		eP	16 35 52
		eS	38 08
THULE		eP	16 43 40
TUC-T		iP	16 40 35
Jan. 13			
BH		eP	18 08 34
		eS	09 30
Jan. 13			
EUR		eP	19 17 38
		ipP	18 15
HH		eP	19 18 10
		epP	18 48
TUC-T		e(P)	19 17 46
		epP	18 14
Jan. 13			
COL		eP	20 10 15
HH		iP	20 12 41
Jan. 13			
BC		eP	20 48 04
BOZ		eP	20 48 34
BUT		eP	20 48 40
EUR		iP	20 48 20
		ipP	48 45
		isP	48 56
HH		iP	20 48 50
		epP	49 16
RC		iP	20 48 14
		epP	48 39
TUC		iP	20 47 36
		epP	48 03
		isP	48 13
TUC-T		iP	20 47 36
		ipP	48 02
		isP	48 13
Jan. 13			
EUR		eP	21 42 35
Jan. 13			
BH		eP	22 53 26
		eS	54 23
Jan. 13			
SLC		eP	23 04 15
		e(S)	04 42
		eL	04 50
Jan. 14			
COL		eP	00 04 23
		i	04 32
Jan. 14			
COL		eP	03 18 24
EUR		iP	03 18 24
		ipP	19 02
Jan. 14			
COL		e(P)	04 39 31
THULE		iP	04 36 45
Jan. 14			
COL		iP	07 08 03
Jan. 14			
HH		eP	08 38 39
		i	40 19
Jan. 14			
HH		e(P)	08 51 37
Jan. 14			
EUR		eP	09 21 55
HH		eP	09 21 41
		e	22 35
Jan. 14			
EUR		e(P)	09 52 31
TUC		e(P)	09 51 06
TUC-T		e(P)	09 51 16
Jan. 14			
COL		iP	09 57 17
EUR		iP	09 57 54
Jan. 14			
EUR		e(P)	11 11 55
Jan. 14			
TUC		e(P)	11 11 20
TUC-T		eP	11 11 20
Jan. 14			
EUR		eP	13 18 47
GUAM		eP	13 11 30
HH		eP	13 18 25
TUC-T		eP	13 19 44
Jan. 14			
COL		iP	13 29 29
EUR		eP	13 29 09
		epP	31 37
TUC		eP	13 29 09
		epP	31 29
TUC-T		iP	13 29 10
		epP	31 25
Jan. 14			
GUAM		iP	17 06 20
		iS	06 39
Jan. 14			
HH		e(P)	18 55 14
Jan. 14			
HH		i(P)	20 54 14
Jan. 14			
EUR		eP	23 47 09
Jan. 15			
COL		eP	00 57 20
Jan. 15			
HH		i(P)	05 51 23
Jan. 15			
GUAM		iP	06 09 18
Jan. 15			
EUR		eP	06 44 48
HH		eP	06 45 23
TUC		eP	06 43 28
		e	43 53
TUC-T		eP	06 43 29
		i	43 53
Jan. 15			
RC		eP	08 02 40
Jan. 15			
BC		eP	08 45 34
BOZ		eP	08 45 24
EUR		iP	08 44 57
GUAM		iP	08 34 29
HH		eP	08 44 58
RC		iP	08 46 38
		e	48 42
TUC		eP	08 46 36
		e	46 46
TUC-T		eP	08 46 36
		i	46 44
UK		eP	08 43 54
Jan. 15			
EUR		eP	14 03 51
		ipP	04 38
TUC		iP	14 03 02
TUC-T		iP	14 03 02
Jan. 15			
COL		iP	15 49 46
EUR		eP	15 52 21
HH		iP	15 52 02
THULE		iP	15 51 05
Jan. 15			
EUR		eP	16 48 45
HH		e(P)	16 49 23
SJ		eP	16 44 52
TUC-T		eP	16 47 44
Jan. 15			
BH		iP	16 44 42
HH		eP	16 52 21
THULE		iP	16 54 46
Jan. 15			
COL		eP	19 20 42
EUR		eP	19 19 35
HH		iP	19 18 38
		iL	20 53
RC		eP	19 20 31
TUC		eP	19 21 16
		e	21 24
TUC-T		eP	19 21 15
		i	21 23
UK		eP	19 19 07
Jan. 15			
EUR		eP	19 52 53
Jan. 15			
EUR		eP	20 08 46
HH		eP	20 09 23
Jan. 15			
HH		eP	20 14 25
Jan. 15			
GUAM		iP	21 28 49
		iScP	33 09
Jan. 15			
BC		eP	21 32 23
		epP	34 11
		e	40 58
COL		iP	21 32 51
		ipP	34 46
		e(S)	42 29
		iScS	43 17
EUR		iP	21 32 29
		i	33 35
		i	33 41
		ipP	34 18
		ePP	35 41
HH		iP	21 32 56
		epP	34 46
		i(PP)	36 50
		e(S)	42 38

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Date and Station		Phase (GCT)
		h m s
HH	iPKKP	21 49 56
THULE	iP'	21 38 22
	ePP	39 50
	ipP'	41 12
TUC	iP	21 32 28
	epP	34 16
	iS	42 11
	e(S)	42 15
	e	45 06
TUC-T	iP	21 32 28
	e	33 46
	ipP	34 16
	iPP	35 58
	e	41 04
	eS	42 33
	eP'P'	58 21
UK	iP	21 32 07
	e	32 16
	e(S)	41 43
Jan. 15		
EUR	eP	22 26 27
Jan. 16		
BC	eP	00 10 48
EUR	iP	00 11 04
HH	e(P)	00 13 20
RC	iP	00 13 25
SLC	e(P)	00 12 15
TUC	eP	00 11 56
	e	12 29
	eL	13 52
TUC-T	eP	00 11 50
	e	11 57
	e	12 06
	eL	13 47
UK	e(P)	00 11 24
	e	11 37
	eL	12 38
Jan. 16		
BC	eP	01 39 19
	e(S)	44 59
BOZ	eP	01 38 49
	e(S)	44 45
BUT	iP	01 38 41
	i(S)	44 41
COL	iP	01 35 28
	iS	38 45
	eL	40 25
COLU	eP	01 41 57
EUR	iP	01 38 55

Date and Station		Phase (GCT)
		h m s
EUR	iScP	01 44 47
	eP'P'	02 10 46
HH	iP	01 38 25
	ePP	39 48
	iPcP	40 51
	eS	44 05
	iScP	44 35
KIP	eP	01 38 08
RC	iP	01 39 35
	ePP	41 26
	eScP	45 07
SLC	eP	01 39 10
	ePcP	41 50
	eScP	44 54
SJ	eP	01 43 54
	iP	43 56
	e	44 19
THULE	iP	01 39 20
	ePcP	41 11
	iScP	44 59
TUC	iP	01 39 58
	ePcP	41 37
	eScP	45 19
	eL	55 39
TUC-T	iP	01 39 57
	ePP	42 07
	iScP	45 17
UK	eP	01 38 19
	e	38 32
	e(PcP)	39 53
	eScP	44 31
Jan. 16		
COL	e(P)	01 47 18
Jan. 16		
EUR	eP	01 59 26
	i	59 36
Jan. 16		
EUR	eP	02 54 46
	i	55 01
	e	56 32
TUC-T	eP	02 54 14
Jan. 16		
GUAM	iP	07 16 47
Jan. 16		
COL	iP	07 48 17
	eS	48 44
	iL	48 47
HH	e(P)	07 53 22
Jan. 16		
COL	iP	11 05 06
EUR	iP	11 05 06

Date and Station		Phase (GCT)
		h m s
Jan. 16		
COL	eP	15 29 47
	i	30 19
EUR	e(P)	15 29 13
	eP	29 15
TUC-T	eP	15 29 13
Jan. 16		
BC	eP	16 55 15
BOZ	eP	16 54 13
	e	55 47
	eL	58 29
BUT	iP	16 53 57
	iPP	54 18
	iS	57 26
	iSS	57 53
	iL	57 58
COL	eP	16 54 25
	iP	54 28
	iS	57 37
	eL	58 41
EUR	iP	16 54 34
	i	54 48
HH	iP	16 53 32
	i	54 26
	i(S)	56 12
	iL	56 28
RC	iP	16 55 21
	eS	59 09
	eL	17 02 27
SLC	eP	16 54 47
	e	55 35
SIT	iP	16 52 10
	iS	53 06
	eL	53 08
THULE	iP	16 57 27
	i(L)	17 07 50
TUC	iP	16 56 07
	i	56 58
	eS	17 01 42
	eL	03 38
TUC-T	iP	16 56 06
	e	56 44
	eL	17 04 22
UK	iP	16 54 04
	eL	58 32
Jan. 16		
EUR	eP	20 19 13
Jan. 16		
COL	eP	20 54 09
Jan. 16		
RC	e(P)	21 33 17

Date and Station		Phase (GCT)
		h m s
RC	e	21 37 23
	e	43 10
Jan. 16		
GUAM	iP	22 32 22
	iS	32 35
Jan. 16		
EUR	eP	23 53 04
Jan. 17		
THULE	iP	03 03 46
Jan. 17		
EUR	eP	05 44 48
Jan. 17		
HH	eP	08 07 00
Jan. 17		
EUR	eP	08 32 58
HH	eP	08 33 11
Jan. 17		
COL	iP	09 36 43
	ePP	39 47
EUR	eP	09 38 37
	ePP	43 01
	e	43 04
GUAM	eP	09 29 01
HH	eP	09 38 31
SJ	iP'	09 44 32
THULE	iP	09 37 50
Jan. 17		
BC	e(P)	10 28 20
COL	eP	10 24 32
	i	24 48
EUR	eP	10 27 55
	e	29 06
HH	eP	10 27 28
THULE	eP	10 26 54
TUC	e(P)	10 28 58
TUC-T	eP	10 28 57
Jan. 17		
BC	eP	11 43 54
	e	44 06
COL	iP	11 43 18
EUR	iP	11 43 53
	i	44 06
HH	eP	11 44 08

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Date and Station		Phase	(GCT) h m s
TUC		eP	11 44 07
		e	44 19
TUC-T		eP	11 44 08
		e	44 19
Jan. 17 THULE		eP	12 28 47
Jan. 17 EUR		eP	12 45 33
TUC-T		eP	12 44 42
Jan. 17 GUAM		iP	13 59 20
		eS	59 38
Jan. 17 EUR		eP	14 52 00
TUC-T		eP	14 51 14
Jan. 17 EUR		eP	18 52 04
Jan. 17 EUR		eP	20 06 04
		i	06 13
		iL	07 02
Jan. 17 COL		eP	22 06 58
Jan. 18 COL		eP	02 44 10
Jan. 18 COL		iP	03 07 50
EUR		eP	03 08 51
Jan. 18 EUR		eP	05 01 47
Jan. 18 COL		eP	07 13 54
Jan. 18 COL		iP	07 46 00
EUR		eP	07 46 41
HH		eP	07 45 45
THULE		eP	07 42 23
		e	42 53
TUC-T		eP	07 47 08
Jan. 18 HH		i(P)	08 57 41
Jan. 18 HH		e(P)	09 08 05
Jan. 18 COL		iP	12 40 20
		i	41 32
COL		iL	12 41 43
Jan. 18 BC		eP	14 54 33
COL		iP	14 53 29
		i	53 46
EUR		iP	14 54 29
		i	55 01
GUAM		iP	14 45 44
HH		iP	14 54 37
SJ		eP'	15 00 40
THULE		eP	14 55 17
TUC-T		eP	14 54 49
		e	55 38
Jan. 18 EUR		eP	15 14 06
Jan. 18 BC		eP	15 55 51
BOZ		e(P)	15 55 25
COL		iP	15 52 09
EUR		iP	15 55 28
		iPcP	57 42
HH		iP	15 54 59
		iPcP	57 32
THULE		eP	15 56 09
		ePcP	57 54
TUC		iP	15 56 31
TUC-T		iP	15 56 30
		e	56 45
Jan. 18 BC		e(P)	17 18 01
BOZ		eP	17 17 53
COL		eP	17 20 19
EUR		eP	17 17 21
HH		iP	17 17 32
RC		eP	17 19 10
TUC		eP	17 19 07
TUC-T		eP	17 19 07
Jan. 18 COL		iP	19 38 09
		i	38 57
EUR		iP	19 39 09
GUAM		iP	19 30 25
HH		eP	19 39 16
Jan. 18 EUR		eP	22 19 01
Jan. 18 BC		iP	22 34 47
		ipP	36 31
BOZ		iP	22 35 25
		epP	37 11
BUT		iP	22 35 20
		ipP	37 05
		e	38 06
COL		iP	22 35 13
		ipP	36 58
		e(SKS)	44 31
		eSKS	44 54
		iS	45 10
		eP'P'	23 01 05
EUR		iP	22 34 53
		i	35 10
		ipP	36 37
		e	42 03
		ePKKP	54 47
		eP'P'	23 01 17
HH		iP	22 35 20
		ipP	37 06
		e(S)	45 05
		iPKKP	53 04
RC		eP	22 34 23
SLC		eP	22 35 09
		epP	36 55
SIT		eP	22 35 02
THULE		eP'	22 41 03
		ePP	41 43
TUC		iP	22 34 53
		epP	36 37
		e	38 07
		iS	44 33
TUC-T		iP	22 34 54
		ipP	36 37
		ePKKP	53 20
		iP'P'	23 01 08
UK		eP	22 34 27
		ipP	36 09
Jan. 19 EUR		eP	04 35 38
		e	36 06
HH		e(P)	04 36 08
		e	36 35
TUC		e(P)	04 34 50
		e	35 17
TUC-T		eP	04 34 50
		i	35 17
Jan. 19 COL		eP	05 07 30
Jan. 19 HH		e(P)	05 43 39
Jan. 19 EUR		eP	06 43 35
Jan. 19 BUT		eP	08 35 21
COL		iP	08 22 49
EUR		iP	08 25 32
		i	25 43
HH		iP	08 25 11
RC		eP	08 25 52
		e	26 04
TUC		eP	08 26 10
TUC-T		eP	08 26 09
Jan. 19 EUR		eP	08 39 37
Jan. 19 COL		iP	09 41 09
EUR		iP	09 44 40
Jan. 19 EUR		eP	10 10 47
TUC-T		eP	10 10 47
Jan. 19 COL		iP	10 21 08
		i(S)	21 42
		iL	22 10
HH		iP	10 25 54
Jan. 19 BC		eP	10 56 41
COL		iP	10 56 29
EUR		iP	10 56 42
		i	57 10
TUC		iP	10 56 51
TUC-T		iP	10 56 51
		e	57 07
Jan. 19 COL		eP	19 02 58
		i	03 29
		i	03 42
		i(S)	04 24
		iL	04 34

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Date and Station		Phase (GCT)
		h m s
EUR	eP	19 09 28
	e	11 03
HH	e(P)	19 08 28
	e	10 03
Jan. 19		
BC	eP	21 46 48
	e	47 08
EUR	iP	21 46 59
SLC	eP	21 48 08
TUC	e(P)	21 48 16
	eL	49 50
TUC-T	e(P)	21 47 48
	e	48 17
	e(S)	49 40
	eL	49 49
Jan. 19		
RC	iP	22 35 42
	epP	37 10
Jan. 19		
EUR	eP	22 58 48
Jan. 19		
EUR	eP	23 04 24
Jan. 19		
COL	eP	23 41 31
Jan. 20		
HH	iP	00 54 32
Jan. 20		
EUR	eP	03 29 24
Jan. 20		
THULE	iP	11 25 00
Jan. 20		
EUR	eP'	17 04 57
HH	eP'	17 04 54
TUC-T	eP'	17 05 09
Jan. 20		
EUR	e(P)	17 15 20
Jan. 20		
COL	iP	20 52 54
HH	iP	20 53 47
Jan. 21		
EUR	eP	02 15 50
HH	e(P)	02 15 20
Jan. 21		
EUR	iP	04 56 56
Jan. 21		
EUR	eP	05 08 15

Date and Station		Phase (GCT)
		h m s
Jan. 21		
EUR	eP	10 06 03
	e	07 53
UK	eP	10 05 09
	eL	05 45
Jan. 21		
COL	iP	11 19 49
EUR	eP	11 22 09
	ePP	26 13
HH	iP	11 21 50
THULE	iP	11 20 47
	i	20 56
	ePP	24 06
Jan. 21		
EUR	eP	11 38 31
KIP	eP	11 36 04
Jan. 21		
EUR	eP	13 14 26
HH	e(P)	13 14 06
Jan. 21		
COL	e(P)	13 33 03
	i	33 31
HH	eP	13 32 28
Jan. 21		
COL	eP'	14 15 24
EUR	iP'	14 16 39
	ePP	18 15
HH	ePP	14 17 27
THULE	eP	14 10 00
TUC-T	e(P')	14 17 09
Jan. 21		
EUR	eP	16 54 21
Jan. 21		
EUR	eP	16 58 49
Jan. 21		
EUR	eP	20 09 00
Jan. 21		
SLC	iP	23 01 10
	e	01 36
Jan. 22		
EUR	e(P)	00 25 37
	eP	25 39
	i	26 07
	eS	27 19
	eL	27 31
TUC	eP	00 24 57
	i	25 10
	eL	26 07

Date and Station		Phase (GCT)
		h m s
TUC-T	eP	00 24 59
	i	25 14
	eL	26 08
Jan. 22		
EUR	e(P)	00 58 24
TUC	eP	00 59 12
Jan. 22		
COL	eP	01 16 05
Jan. 22		
COL	eP	01 47 17
	i	47 29
EUR	eP	01 50 47
Jan. 22		
KIP	eP	04 19 49
	i	20 07
	i	20 44
Jan. 22		
HH	iP	04 50 04
Jan. 22		
BH	iPP	05 30 54
	iSKKS	37 36
BC	eP	05 22 27D
	e	22 46
BOZ	eP	05 22 07D
	e	22 19
BUT	eP	05 22 01
	i	23 39
	ePP	24 46
	e	25 54
	eS	31 14
	e(SS)	35 46
	eL	45 34
COL	iP	05 19 09C
	iS	26 08
	iScS	28 51
COLU	eP'	05 28 17C
EUR	iP	05 22 09
	i	22 25
	eP'P'	49 53
GUAM	iP	05 15 45D
HONO	e(P)	05 19 51
	eP	19 58
	ePcP	20 54
	eS	27 18
	i	28 06
	eL	32 30
HH	eP	05 21 46C
	ePP	24 23
	eS	31 02
	eP'P'	50 06

Date and Station		Phase (GCT)
		h m s
RC	eP	05 22 35
	i	22 39
	ePP	26 00
	eL	46 24
SLC	eP	05 22 22C
	e	23 14
	eS	32 04
	eL	43 12
SIT	eP	05 20 11D
TUC	eP	05 22 53D
	i	22 57
	i	24 12
	ePP	26 25
	iS	33 08
	e	40 46
	eL	47 46
	eP'P'	49 34
TUC-T	iP	05 22 53D
	i	31 37
	eS	33 25
	eP'P'	49 35
UK	eP	05 21 46D
	iP	21 48
	eL	42 46
WASH	eP	05 23 55
	iPP	27 48
	e	28 57
	iPS	36 52
	eSSS	45 27
	iL	54 20
Jan. 22		
COL	iP	05 48 30
Jan. 22		
BC	eP	06 32 41
	e	32 56
COL	iP	06 34 20
EUR	eP	06 33 30
TUC	eP	06 32 45
	i	33 00
	iL	33 56
TUC-T	e(P)	06 33 01
	eL	33 56
Jan. 22		
COL	eP	07 14 37
Jan. 22		
BC	eP	07 44 52
BOZ	eP	07 44 26
BUT	eP	07 44 17
COL	iP	07 41 13
EUR	iP	07 44 31

Date and Station		Phase	(GCT) h m s
HH		iP	07 44 03
RC		eP	07 44 54
		e	44 56
SLC		eP	07 44 42
TUC		eP	07 45 18
		iP	45 20
TUC-T		eP	07 45 20
UK		eP	07 44 08
Jan. 22			
COL		eP	07 56 51
Jan. 22			
HH		eP	08 12 43
Jan. 22			
BC		eP	09 58 34
BUT		eP	09 58 12
COL		iP	09 55 18
		i	55 28
EUR		iP	09 58 18
GUAM		iP	09 52 03
HH		eP	09 57 54
RC		eP	09 58 43
TUC		eP	09 59 07
Jan. 22			
HH		iP	11 16 35
Jan. 22			
COL		eP	11 26 43
EUR		e(P)	11 30 14
HH		iP	11 29 37
		e	32 08
TUC		eP	11 31 11
Jan. 22			
COL		eP	11 57 35
EUR		eP	12 01 19
RC		eP	12 01 45
Jan. 22			
HH		iP	12 13 02
Jan. 22			
COL		eP	12 40 49
EUR		eP	12 44 15
HH		eP	12 43 46
		e	46 18

Date and Station		Phase	(GCT) h m s
RC		eP	12 45 09
TUC		eP	12 45 21
Jan. 22			
EUR		eP	14 48 09
Jan. 22			
BH		iP	14 50 06
		eS	50 44
Jan. 22			
GUAM		eP	15 24 44
Jan. 22			
EUR		eP	17 08 13
Jan. 22			
COL		iP	18 03 27
EUR		eP	18 04 27
Jan. 22			
EUR		eP	21 32 29
Jan. 22			
COL		iP	22 36 28
EUR		iP	22 36 11
HH		eP	22 36 37
Jan. 22			
COL		iP	23 25 11
Jan. 22			
COL		e(P)	23 57 17
EUR		eP	00 01 01
		i	01 20
RC		eP	00 01 31
THULE		eP	23 59 53
Jan. 23			
EUR		eP	01 20 11
Jan. 23			
HH		e(P)	02 54 20
THULE		eP	02 54 37
Jan. 23			
THULE		eP	03 22 53
Jan. 23			
THULE		iP	03 25 47
Jan. 23			
THULE		eP	04 22 28
		e	23 35
		i	24 07
		i	24 42
Jan. 23			
COL		iP	06 31 22

Date and Station		Phase	(GCT) h m s
Jan. 23			
COL		eP	07 08 28
EUR		iP	07 11 29
HH		eP	07 11 05
THULE		eP	07 10 23
TUC-T		eP	07 12 12
Jan. 23			
EUR		iP	07 27 04
HH		iP	07 26 35
RC		iP	07 27 42
TUC		eP	07 28 04
Jan. 23			
BH		eP	08 09 45
		i	26 55
Jan. 23			
COL		iP	09 03 29
EUR		eP	09 01 55
RC		eP	09 00 51
TUC-T		eP	09 01 27
		e	01 34
Jan. 23			
COL		eP	09 49 10
		i	49 18
EUR		eP	09 50 20
HH		e(P)	09 50 25
Jan. 23			
BC		eP	10 31 29
BOZ		eP	10 31 13
BUT		eP	10 31 20
COL		iP	10 33 08
EUR		eP	10 31 33
HH		eP	10 31 26
		e	32 06
RC		eP	10 30 30
		iP	30 32
SLC		eP	10 31 13
		e	31 34
SJ		e(P)	10 25 33
THULE		eP	10 31 07
		i	31 13
TUC		iP	10 31 08
		i	31 13

Date and Station		Phase	(GCT) h m s
TUC-T		iP	10 31 07
		i	31 13
UK		eP	10 32 16
Jan. 23			
BC		eP	10 34 28
COL		iP	10 36 07
EUR		iP	10 34 33
RC		iP	10 33 30
SLC		eP	10 34 11
THULE		eP	10 34 08
TUC		eP	10 34 06
TUC-T		eP	10 34 05
Jan. 23			
COL		iP	10 49 26
EUR		eP	10 47 52
HH		eP	10 47 44
RC		eP	10 46 50
TUC		eP	10 47 25
TUC-T		eP	10 47 24
Jan. 23			
THULE		eP	13 11 27
Jan. 23			
THULE		eP	14 56 44
		i	58 18
Jan. 23			
BC		eP	17 07 02
COL		iP	17 11 14
		i	11 48
EUR		iP	17 07 28
HH		iP	17 08 13
		i	10 19
		i	11 29
TUC-T		iP	17 06 06
Jan. 23			
COL		eP	17 14 29
Jan. 23			
COL		eP	18 55 01
		i	55 07
		i	55 21
EUR		eP	18 58 54
		i	59 03

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Date and Station		Phase (GCT)
		h m s
HH	iP	18 58 26
	ePcP	19 01 20
RC	eP	18 59 41
THULE	eP	18 59 27
Jan. 24		
COL	iP	00 41 38
EUR	iP	00 41 04
TUC	eP	00 41 11
TUC-T	eP	00 41 04
Jan. 24		
EUR	iP	02 05 42
	i	05 53
Jan. 24		
COL	e(P)	04 20 33
EUR	eP	04 15 38
Jan. 24		
BC	eP	05 20 33
	e	21 34
BOZ	eP	05 20 22
	epP	20 42
BUT	iP	05 20 07
	ipP	20 28
COL	eP	05 17 16
	iP	17 18
	ipP	17 39
	eS	24 15
	eL	31 24
EUR	iP	05 20 17
	ipP	20 40
GUAM	iP	05 13 46
	ipP	13 58
	isP	14 07
	i	14 52
	eS	18 09
	iL	18 40
HH	iP	05 19 53
	ipP	20 16
KIP	eP	05 18 00
RC	eP	05 20 42
	iP	20 43
	ipP	21 04
SLC	eP	05 20 27
	epP	20 49
THULE	iP	05 19 09
	ipP	19 30
	iPP	21 33
TUC	eP	05 21 00
	epP	21 23

Date and Station		Phase (GCT)
		h m s
TUC-T	iP	05 21 00
	epP	21 25
Jan. 24		
HH	eP	07 07 39
Jan. 24		
BC	e(P')	08 09 49
COL	iP	08 04 11
EUR	iP'	08 09 43
	ePP	11 04
HH	iP'	08 09 36
RC	eP'	08 09 54
TUC	eP'	08 09 57
TUC-T	eP'	08 09 57
Jan. 24		
EUR	eP	08 19 55
Jan. 24		
COL	eP	10 25 02
	eL	26 46
Jan. 24		
HH	iP	12 38 15
Jan. 24		
THULE	eP	15 23 45
Jan. 24		
COL	iP	15 46 17
EUR	iP	15 47 17
GUAM	eP	15 38 37
	iP	38 42
Jan. 24		
COL	iP	16 04 16
	ipP	04 48
	isP	05 24
EUR	iP	16 03 46
	ipP	04 20
HH	iP	16 04 17
	epP	04 53
RC	e(P)	16 04 40
SLC	eP	16 04 05
TUC-T	iP	16 03 46
	epP	04 19
	e	05 46
Jan. 24		
EUR	eP	18 18 48
Jan. 24		
BH	iP	19 45 40
	iS	50 04

Date and Station		Phase (GCT)
		h m s
BC	eP	19 48 27
	e	48 42
BOZ	eP	19 49 16
BUT	eP	19 49 27
COL	iP	19 52 46
	i	53 00
	iPcP	53 26
COLU	eP	19 47 18
EUR	iP	19 48 54
	i	49 08
HH	iP	19 49 41
	ePcP	51 59
	eS	55 46
RC	iP	19 48 39
	iPP	49 40
SLC	eP	19 48 43
	e	48 56
	e	51 38
SJ	e(P)	19 47 50
	ePP	48 34
THULE	eP	19 52 48
TUC	iP	19 47 41
	eS	52 06
	eL	55 17
TUC-T	iP	19 47 41
	i	47 56
	eL	55 07
WASH	iP	19 48 14
	e(S)	52 28
	eL	55 05
Jan. 24		
BH	iP	20 05 03
	iS	13 00
BC	eP	20 06 26
	e	06 57
BOZ	eP	20 05 39
BUT	eP	20 05 45
COL	eP	20 06 20
	iS	15 31
	e	18 42
	eL	25 48
	iP' P'	34 27
COLU	eP	20 03 36
EUR	iP	20 06 19
	e	22 17
	eP' P'	34 35
HH	iP	20 05 41
	eP' P'	34 32

Date and Station		Phase (GCT)
		h m s
RC	iP	20 05 07
SLC	eP	20 05 57
	e	06 28
SJ	iP	20 02 58
	i	03 18
	ePcP	04 50
TUC	iP	20 06 20
	ePP	09 08
	eS	15 29
	eL	27 24
TUC-T	iP	20 06 19
	eP' P'	34 36
WASH	iP	20 03 02
Jan. 24		
RC	eP	20 33 59
Jan. 24		
HH	i(P)	21 21 16
Jan. 24		
HH	e(P)	23 37 01
Jan. 24		
EUR	eP	23 50 38
	i	51 11
Jan. 25		
THULE	iP	02 05 35
	i	06 13
Jan. 25		
EUR	eP	03 22 16
	e	22 36
Jan. 25		
GUAM	iP	03 37 59
Jan. 25		
EUR	eP	03 50 30
HH	iP	03 50 25
Jan. 25		
GUAM	iP	03 52 46
Jan. 25		
COL	iP	05 27 10
EUR	iP	05 27 54
HH	e(P)	05 25 35
Jan. 25		
EUR	eP	07 25 15
Jan. 25		
HH	e(P)	11 49 17
Jan. 25		
COL	iP	11 59 04

Date and Station		Phase	(GCT) h m s
Jan. 25			
COL		eP	12 50 46
Jan. 25			
HH		e(P)	15 46 39
Jan. 25			
COL		eP	17 52 52
Jan. 25			
COL		eP	17 56 35
EUR		eP	17 59 38
HH		iP	17 59 03
		i	18 00 08
RC		eP	17 59 25
TUC		eP	17 58 50
		e	59 16
TUC-T		iP	17 58 50
		e	59 16
Jan. 25			
EUR		eP	21 10 08
TUC		e(P)	21 08 51
TUC-T		eP	21 08 48
Jan. 25			
EUR		e(P)	22 13 13
		iP	13 39
Jan. 25			
EUR		eP	22 53 08
Jan. 25			
EUR		eP	23 36 18
Jan. 26			
COL		iP	02 38 49
EUR		eP	02 38 16
		i	38 38
HH		eP	02 38 45
RC		eP	02 39 06
TUC		eP	02 38 12
TUC-T		eP	02 38 13
Jan. 26			
BUT		eP	03 30 47
EUR		eP	03 30 28
HH		eP	03 30 59
RC		eP	03 30 17
TUC		eP	03 29 41
TUC-T		eP	03 29 41
Jan. 26			
EUR		eP	03 41 33
Jan. 26			
BC		eP	05 59 53
BOZ		e(P)	06 00 32
COL		iP	06 00 26
		ipP	01 26
EUR		iP	05 59 58
HH		iP	06 00 28
		epP	01 35
TUC		iP	05 59 58
		epP	06 01 05
TUC-T		iP	05 59 59
		e	06 00 07
		ipP	01 05
Jan. 26			
COL		eP	07 47 39
Jan. 26			
COL		iP	08 57 06
Jan. 26			
COL		iP	11 50 39
HH		iP	11 51 33
THULE		iP	11 48 18
		e	48 54
Jan. 26			
EUR		eP	12 48 01
HH		iP	12 47 40
Jan. 26			
EUR		eP	13 55 06
TUC		eP	13 54 11
Jan. 26			
COL		iP	14 53 30
Jan. 26			
THULE		eP	16 25 12
Jan. 26			
THULE		eP	16 49 28
Jan. 26			
COL		iP	17 58 58
EUR		iP	17 55 58
		ipP	56 41
		isP	57 00
HH		iP	17 56 34
		epP	57 20
RC		eP	17 55 37
		epP	56 18
SLC		eP	17 55 47
SJ		eP	17 51 39
		epP	52 16
THULE		iP	17 58 32
		ipP	59 17
TUC-T		iP	17 54 59
Jan. 26			
EUR		iP	18 00 42
Jan. 26			
EUR		e(P)	19 06 22
		eP	06 25
Jan. 26			
COL		iP	20 13 05
Jan. 26			
COL		iP	21 11 03
		e	11 41
EUR		eP	21 08 11
		i	08 36
		i	08 50
HH		iP	21 08 48
THULE		iP	21 10 45
		i	11 04
TUC-T		eP	21 07 11
Jan. 26			
EUR		e(P)	21 18 40
Jan. 26			
COL		iP	21 53 43
EUR		eP	21 56 19
GUAM		iP	21 48 07
HH		iP	21 55 59
THULE		iP	21 55 00
Jan. 26			
EUR		eP	23 34 55
Jan. 26			
GUAM		eP	23 47 03
		iS	47 55
Jan. 27			
BC		eP	00 28 27
BOZ		eP	00 28 30
BUT		iP	00 28 37
		ipP	29 01
COL		iP	00 31 21
COLU		eP	00 24 44
		ePcP	28 06
		e	28 15
EUR		iP	00 28 40
		ipP	29 05
		isP	29 20
HH		iP	00 28 52
		ipP	29 16
RC		eP	00 28 04
		e	29 27
SLC		eP	00 28 19
		epP	28 42
SJ		iP	00 21 03
		iS	21 31
		eL	21 32
THULE		iP	00 30 11
		epP	30 36
TUC		eP	00 27 55
		epP	28 19
TUC-T		iP	00 27 55
		epP	28 22
WASH		iP	00 25 27
		ipP	25 44
		eS	29 11
Jan. 27			
COL		eP	00 39 13
Jan. 27			
COL		iP	01 49 25
EUR		eP	01 52 43
HH		iP	01 52 16
Jan. 27			
COL		iP	02 33 04
EUR		iP	02 33 21
TUC		eP	02 33 30
TUC-T		eP	02 33 30
Jan. 27			
BC		eP	03 46 02
BOZ		e(P)	03 44 52
BUT		eP	03 44 50
COL		iP	03 43 23
EUR		iP	03 45 39
		e	46 18
HH		iP	03 44 35
RC		iP	03 44 46
SLC		eP	03 45 25
		e	45 38

Date and Station		Phase (GCT)
		h m s
THULE	eP	03 39 37
TUC	eP	03 46 16
	iP	46 18
	ePP	48 42
TUC-T	eP	03 46 15
	iP	46 18
	ePP	48 41
	eP'P'	04 15 06
Jan. 27		
COL	iP	06 47 48
EUR	iP	06 48 27
HH	iP	06 47 32
RC	eP	06 47 11
THULE	eP	06 44 11
TUC	eP	06 48 48
TUC-T	eP	06 48 46
	e	48 55
Jan. 27		
COL	iP	06 49 45
EUR	iP	06 53 12
HH	iP	06 52 42
RC	eP	06 53 49
SLC	eP	06 53 25
TUC	iP	06 54 12
TUC-T	iP	06 54 12
Jan. 27		
EUR	eP	09 43 08
Jan. 27		
HH	e(P)	10 19 08
Jan. 27		
EUR	eP	14 23 42
TUC	eP	14 23 42
TUC-T	eP	14 23 42
Jan. 27		
COL	iP	15 09 12
Jan. 27		
THULE	eP	15 31 07
Jan. 27		
EUR	eP	17 21 24
Jan. 27		
COL	iP	17 35 37
Jan. 27		
COL	eP	21 17 45

Date and Station		Phase (GCT)
		h m s
COL	epP	21 18 25
EUR	e(P')	21 23 19
GUAM	eP	21 09 57
Jan. 27		
EUR	eP	22 45 34
Jan. 27		
COL	eP	23 39 00
EUR	eP	23 42 50
HH	e(P)	23 42 17
RC	eP	23 43 13
THULE	eP	23 41 40
Jan. 28		
BOZ	eP	00 14 33
BUT	iP	00 14 46
EUR	eP	00 16 09
Jan. 28		
EUR	eP	00 25 41
Jan. 28		
EUR	eP	00 42 47
Jan. 28		
COL	eP	01 29 53
EUR	eP	01 32 54
HH	e(P)	01 32 25
THULE	iP	01 31 49
Jan. 28		
GUAM	iP	01 50 01
	iS	50 16
Jan. 28		
GUAM	iP	06 35 20
	eS	35 39
Jan. 28		
COL	eP	06 46 45
Jan. 28		
BH	iP	10 11 39
	iS	17 46
BC	eP	10 15 51
BUT	iP	10 16 34
COL	eP'	10 22 40
EUR	iP	10 16 11
	ePKKP	35 02
	eP'P'	43 17
HH	iP	10 16 46

Date and Station		Phase (GCT)
		h m s
RC	iP	10 16 09
SLC	eP	10 16 08
SJ	iP	10 13 08
TUC	iP	10 16 22
	eP'P'	43 29
TUC-T	iP	10 16 22
	eP'P'	43 27
WASH	iP	10 15 20
Jan. 28		
COL	eP	14 08 56
	iP	08 57
EUR	eP	14 11 29
GUAM	eP	14 03 23
	i	08 15
	i	08 52
HH	iP	14 11 12
	epP	13 08
THULE	iP	14 10 37
TUC	e(P)	14 12 06
TUC-T	eP	14 12 05
Jan. 28		
COL	eP	17 20 19
GUAM	eP	17 12 32
Jan. 28		
EUR	iP	18 09 48
	iS	10 23
	iL	10 26
TUC	e(P)	18 11 05
	eL	12 27
TUC-T	eP	18 10 43
	e	11 03
	eL	12 29
Jan. 28		
COL	e(P)	20 00 38
Jan. 28		
HH	eP	23 28 57
THULE	eP	23 36 29
Jan. 29		
UK	eP	00 32 07
Jan. 29		
COL	eP	01 27 16
Jan. 29		
COL	iP	01 57 37
	i	57 47
HH	e(P)	01 56 48

Date and Station		Phase (GCT)
		h m s
Jan. 29		
COL	eP	05 53 04
Jan. 29		
COL	eP	06 53 02
EUR	eP	06 55 37
HH	eP	06 55 12
Jan. 29		
BOZ	eP	06 56 12
COL	iP	06 56 42
EUR	e(P)	06 56 57
	iP	56 59
HH	iP	06 56 13
RC	eP	06 55 43
THULE	iP	06 53 25
TUC	eP	06 57 08
TUC-T	eP	06 57 07
	e	57 16
Jan. 29		
COL	e(P)	07 21 39
	iL	23 00
HH	i(P)	07 22 41
	i	23 16
Jan. 29		
EUR	eP	11 55 49
Jan. 29		
EUR	eP	16 42 39
	e	42 52
	eS	43 46
	eL	43 53
TUC-T	e(P)	16 46 51
UK	e(P)	16 42 10
	e	42 13
	eL	42 48
Jan. 29		
GUAM	iP	17 15 53
	iS	16 13
	iL	16 20
Jan. 29		
EUR	eP	19 09 08
Jan. 29		
BC	eP	20 30 02
BOZ	eP	20 29 10
BUT	eP	20 29 05
	e	31 24
COL	iP	20 25 48
	iS	29 26

Date and Station		Phase (GCT)
		h m s
COL	eL	20 31 02
COLU	eP	20 32 15
EUR	iP	20 29 16
	i	29 32
HH	iP	20 28 44
	iPcP	31 03
	eS	34 54
	eScS	38 50
RC	iP	20 29 55
SJ	iP	20 34 12
	i	34 28
SIT	eP	20 26 35
THULE	eP	20 29 34
TUC	iP	20 30 18
TUC-T	iP	20 30 17
	e	30 40
	ePcP	31 20
WASH	iP	20 32 04
	eL	21 01 14
Jan. 29		
BC	eP	21 06 52
BOZ	eP	21 06 01
COL	iP	21 02 38
	eS	06 30
	eL	07 52
COLU	eP	21 09 05
EUR	iP	21 06 06
	i	06 46
	iPcP	08 23
	e	10 48
	e	11 51
HH	iP	21 05 36
	iPcP	07 53
	eS	11 50
	eScS	15 54
RC	iP	21 06 45
SLC	eP	21 06 20
SJ	iP	21 11 02
THULE	iP	21 06 25
	e	06 39
	e	06 55
	iPP	08 12
	e	08 36
TUC	iP	21 07 08
	ePcP	08 09
TUC-T	iP	21 07 08
	e	07 23

Date and Station		Phase (GCT)
Jan. 29		h m s
COL	eP	21 37 32
Jan. 29		
BC	eP	22 47 37
EUR	eP	22 47 32
	i	47 46
HH	iP	22 48 00
RC	eP	22 47 14
	epP	48 02
TUC	eP	22 47 43
TUC-T	iP	22 47 43
	ipP	48 31
Jan. 29		
BC	eP	23 35 18
BOZ	eP	23 34 10
BUT	eP	23 34 10
	e	34 30
	e(PP)	36 48
COL	iP	23 32 36
	iPP	34 23
	eS	39 04
	e	40 25
	eScS	42 24
	eL	46 34
COLU	eP	23 34 24
EUR	iP	23 34 58
	i	35 10
	eS	43 04
	eScS	43 59
	e	52 14
	e(P'P')	00 02 44
HH	iP	23 33 56
	eP'P'	00 04 09
RC	eP	23 34 05
	iP	34 15
SLC	eP	23 34 44
SJ	eP	23 35 29
	iP	35 30
SIT	eP	23 33 24
THULE	iP	23 29 11
	eS	32 57
	eL	36 36
TUC	iP	23 35 35
	ePP	38 41
	eL	56 30
	eP'P'	00 03 51
	iP'P'	04 02
TUC-T	iP	23 35 34
	eP'P'	00 03 44
	iP'P'	04 02

Date and Station		Phase (GCT)
		h m s
UK	eP	23 35 13
WASH	iP	23 33 41
	i	34 14
	iPP	35 50
	e(S)	41 11
	eL	49 21
Jan. 29		
THULE	iP	23 38 14
Jan. 30		
COL	eP	00 27 03
	eL	01 01 08
EUR	iP	00 24 19
	i	24 27
HH	eP	00 24 50
RC	eP	00 24 01
THULE	eP	00 26 34
	iP	26 41
TUC	eP	00 23 23
TUC-T	iP	00 23 23
	i	23 30
Jan. 30		
BC	iP	00 32 57C
	eP'	36 31
BOZ	eP	00 32 55D
BUT	eP	00 32 48D
COL	iP	00 31 56C
EUR	iP	00 32 33C
	ePKKP	50 38
GUAM	iP	00 25 03D
HONO	eP	00 28 29C
KIP	iP	00 28 29C
RC	eP	00 33 19D
	e	37 30
SLC	eP	00 32 48C
TUC	iP	00 32 45C
	ePP	36 29
	eL	01 02 17
TUC-T	iP	00 32 46C
	e	33 00
	iPP	36 31
THULE	eP	00 33 50
	eP'	37 38
	ePP	38 20
	ePS	47 39
	e	48 13
	eP'P'	59 25

Date and Station		Phase (GCT)
Jan. 30		h m s
COL	eP	01 08 55
Jan. 30		
COL	eP	01 41 45
Jan. 30		
EUR	eP	04 23 29
Jan. 30		
EUR	eP	04 25 46
Jan. 30		
BOZ	eP	05 22 55
	eS	27 05
COL	iP	05 23 45
EUR	eP	05 23 55
HH	iP	05 22 43
	eS	26 51
	iL	29 31
RC	eP	05 22 29
	eS	26 17
	eL	28 44
THULE	iP	05 21 20
	eS	24 04
	eL	24 23
WASH	e(S)	05 27 04
	eL	28 55
Jan. 30		
TUC-T	eP	05 36 15
	e	36 40
Jan. 30		
UK	iP	06 00 48
	iS	00 50
	iL	00 51
Jan. 30		
HH	e(P)	08 52 29
Jan. 30		
THULE	eP	09 45 48
	i(S)	47 41
	iL	48 44
Jan. 30		
COL	eP	13 49 50
EUR	eP	13 52 43
	i	52 59
	i	53 06
HH	iP	13 52 22
THULE	iP	13 51 21
TUC-T	eP	13 53 26
	e	53 44
Jan. 30		
COL	eP	13 55 58
	e	56 33

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Date and Station		Phase (GCT)
		h m s
Jan. 30		
EUR	eP	14 00 30
HH	e(P)	14 00 26
TUC-T	eP	14 00 44
Jan. 30		
RC	eP	14 03 56
TUC	eP	14 03 55
TUC-T	iP	14 03 55
Jan. 30		
EUR	eP	15 16 51
	iP	16 57
HH	eP	15 17 26
	i	17 34
RC	eP	15 16 31
SJ	eP	15 12 27
TUC-T	eP	15 15 49
	i	15 58
Jan. 30		
BC	eP	16 27 33
BOZ	eP	16 28 06
BUT	eP	16 28 10
	e	28 25
	ePP	31 39
COL	eP'	16 34 34
COLU	iP	16 26 08
EUR	iP	16 27 51
GUAM	eP'	16 35 17
HH	iP	16 28 22
RC	iP	16 27 41
SLC	eP	16 27 45
SJ	eP	16 24 08
	ePcP	25 58
TUC	eP	16 27 03
	i	27 18
TUC-T	iP	16 27 03
	i	27 18
WASH	iP	16 26 35
Jan. 30		
COL	iP	17 10 21
Jan. 30		
THULE	eP	17 44 07
Jan. 30		
BC	eP	18 22 10

Date and Station		Phase (GCT)
		h m s
COL	iP	18 22 43
	i	25 03
	iPP	26 48
	ePKKP	39 04
EUR	iP	18 22 16
	i	24 12
	ePP	26 02
	iPKKP	40 04
GUAM	iP	18 18 43
	iPcP	19 34
HONO	iP	18 18 53
HH	eP	18 22 45
	ePP	26 50
	iPP	26 54
	iPKKP	39 05
	e(P'P')	49 26
KIP	iP	18 18 54
RC	eP	18 23 01
	ePP	27 22
THULE	iP'	18 27 58
	iPP	29 56
	iPKKP	37 38
	ePS	40 12
	ePPS	41 08
TUC	iP	18 22 11
	e	24 02
	eSKS	32 30
	iSKS	32 36
TUC-T	iP	18 22 12
	i	24 02
	e	24 56
	iPP	25 57
	ePKKP	39 26
UK	iP	18 21 55
Jan. 30		
RC	eP	18 32 55
Jan. 30		
EUR	eP	19 04 26
Jan. 30		
BC	eP	20 50 33
BOZ	eP	20 50 08
BUT	eP	20 50 00
	ePP	52 32
COL	iP	20 46 54
COLU	eP	20 52 14
EUR	iP	20 50 09
HH	iP	20 49 44
	eP'P'	21 18 21

Date and Station		Phase (GCT)
		h m s
RC	iP	20 50 37
	i	50 39
	ePP	53 27
SLC	eP	20 50 23
SIT	eP	20 48 00
THULE	iP	20 48 54
	e(PPP)	52 01
	eS	57 01
TUC	iP	20 51 02
	e	53 27
	eL	21 13 42
TUC-T	eP	20 51 00
	iP	51 02
	e(PP)	53 58
UK	eP	20 49 48
WASH	eP	20 51 53
Jan. 30		
BC	eP	22 28 24
	e	28 39
BOZ	eP	22 27 58
	e	28 14
BUT	eP	22 27 51
	ePP	30 20
COL	iP	22 24 45
COLU	eP	22 30 03
EUR	eP	22 28 04
	iP	28 05
	iPP	30 44
GUAM	iP	22 23 58
HH	iP	22 27 35
	ePKKP	46 22
	eP'P'	56 09
RC	iP	22 28 28
SLC	eP	22 28 14
SIT	eP	22 26 04
	e	26 26
THULE	eP	22 26 45
	iPcP	27 36
TUC	iP	22 28 50
	eL	51 14
TUC-T	iP	22 28 51
	e	30 06
UK	eP	22 27 39
	e	27 46
WASH	iP	22 29 52
	eL	23 04 30

Date and Station		Phase (GCT)
		h m s
Jan. 30		
COL	eP	22 43 32
EUR	eP	22 46 51
Jan. 30		
COL	iP	22 48 34
EUR	eP	22 51 51
HH	eP	22 51 24
RC	eP	22 52 17
THULE	eP	22 50 33
TUC-T	eP	22 52 41
Jan. 30		
COL	eP	23 03 30
HH	eP	23 05 49
Jan. 31		
COL	eP	02 55 42
HH	e(P)	02 58 02
Jan. 31		
COL	iP	03 54 24
	i(S)	55 18
	iL	55 28
Jan. 31		
COL	iP	04 14 17
	i	14 35
HH	e(P)	04 13 31
Jan. 31		
COL	iP	05 50 00
Jan. 31		
COL	iP	05 58 13
	e	06 00 03
EUR	iP	05 57 52
HH	iP	05 58 20
TUC	iP	05 57 53
	e	58 09
TUC-T	iP	05 57 53
	e	59 44
Jan. 31		
HH	e(P)	06 16 04
Jan. 31		
COL	iP	07 45 58
EUR	eP	07 46 35
Jan. 31		
EUR	eP	10 49 34
Jan. 31		
COL	iP	11 10 48

Date and Station		Phase (GCT)
		h m s
COL	i	11 11 34
EUR	iP	11 14 22
	i	14 42
HH	iP	11 13 49
	i	16 26
RC	eP	11 15 01
TUC	eP	11 15 27
TUC-T	iP	11 15 26
Jan. 31		
COL	iP	12 03 44
EUR	e(P)	12 06 57
HH	e(P)	12 05 56
Jan. 31		
HH	e(P)	12 21 30
Jan. 31		
EUR	eP	13 32 51
HH	eP	13 34 20
TUC	e(P)	13 31 44
	eL	33 15
TUC-T	eP	13 30 57
	eL	33 07
Jan. 31		
HH	iP	15 59 21
	iS	59 51
	iL	59 55
Jan. 31		
EUR	eP	16 05 16
TUC	eP	16 05 18
TUC-T	iP	16 05 19
Jan. 31		
EUR	eP	16 21 49
Jan. 31		
COL	iP	18 21 51
	iS	22 26
	iL	22 39
HH	e(P)	18 26 38
Jan. 31		
EUR	eP	18 40 28
Jan. 31		
EUR	e(P)	21 10 02
Jan. 31		
EUR	eP	21 34 29
HH	i(P)	21 34 07
	e	34 46

Date and Station		Phase (GCT)
Jan. 31		h m s
COL	iP	21 54 07
Jan. 31		
HH	i(P)	22 52 41
Jan. 31		
COL	iP	23 06 27
EUR	eP	23 09 46
HH	eP	23 09 17
Jan. 31		
EUR	eP	23 11 33
Jan. 31		
EUR	eP	23 34 13
HH	iP	23 34 49
TUC	eP	23 33 12
TUC-T	iP	23 33 13

Date and Station		Phase (GCT)
		h m s

Date and Station		Phase (GCT)
		h m s

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Date and Station	Phase (GCT)
	h m s
Local and Minor Earthquakes	
Jan.	
BUT	
12	02.5
17	00.8
24	22.5
	22.7
25	10.0
31	16.0
	23.3
Jan.	
COL	
2	23.4
	23.7
3	01.9
5	07.4
6	11.4
7	03.3
	21.8
	23.0
10	17.3
11	12.5
13	04.2
	18.7
15	14.7
17	15.8
18	01.2
19	23.5
21	12.3
22	04.4
23	07.3
24	07.1
	15.0
26	19.6
	22.3
Jan.	
EUR	
4	07.4
5	08.6
7	05.8
9	06.7
	08.3
	13.1
11	08.3
19	15.7 (2)
27	17.5
Jan.	
HONO	
3	00.5
4	00.3
17	01.6
27	23.8
29	01.4
	21.5
30	01.4
	02.0
Jan.	
KIP	
17	01.6
27	23.8
30	01.7

Date and Station	Phase (GCT)
	h m s
Jan.	
SIT	
21	22.4
24	10.4
Jan.	
SJ	
4	11.4
	17.5
5	11.3
7	14.0
8	09.5
11	18.2
	22.8
14	21.4
15	07.9
28	12.9
31	08.5
Jan.	
TUC	
2	03.1
3	11.1
4	22.9
7	08.7
	12.6
8	08.5
	09.6
9	06.7
	18.6
	21.9
10	07.1
	15.1
11	14.1
12	08.1
13	00.6
	01.7
	02.0
	07.0
	23.4
14	03.6
15	01.4
	03.0
	04.5
	06.1
	06.6
16	09.5
17	07.1
18	18.2
	19.6
19	14.0
22	07.7
	08.4
	10.3
23	09.6
24	13.5
	13.8
25	03.8
	05.5
	10.0
	11.2
	14.1
	15.2
	16.9
27	06.2
29	09.2
30	02.6

Date and Station	Phase (GCT)
	h m s
TUC	
31	04.6
	06.5
Jan.	
UK	
2	08.5
	17.4
10	11.5
17	21.0
21	05.4

Date and Station	Phase (GCT)
	h m s

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