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January, 1958

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CONTENTS

List of stations 1
Station instrumental constants 2
Provisional epicenters 4
Seismogram interpretations 8
Local and minor earthquakes 20

U. S. DEPARTMENT OF COMMERCE

Sinclair Weeks, Secretary

COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

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National Oceanic and Atmospheric Administration

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1958

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
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. Dak. (RC)
South Dakota State School of Mines
*Salt Lake City, Utah (SLC)
University of Utah
San Juan, Puerto Rico (SJ)
Sitka, Alaska (SIT)
Tucson, Ariz. (TUC)
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, 1958 the data from the horizontal components of the seismographs at all stations except College, Honolulu and Tucson will not be published for earthquakes occurring outside the United States.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. Two asterisks (**) following an origin time indicates error of one quarter minute. All origin times and locations 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 Heights, Canal Zone.

STATION AND INSTRUMENTAL CONSTANTS FOR 1958

Station	Position	Instruments	Foundation and Elevation	T_o	T_g	T_s	V		Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Balboa Heights, C. Z.	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 20 1.9		1370	14:1	60mm/min.	Beginning	N E •
Boulder City, Nev. L. Hudlow In Chg.	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. A.J.M. Johnson In Chg.	Log cos 9.84437 Lat. 45°40'01"N. Long. 111°02'43"W.	McC-R, N&E Mass 10 kg 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	 1.7		270 270	9:1 11:1 Near crit.	15mm/min. 60mm/min.	Beginning Beginning	N E Up
Butte, Mont. S. W. Nile In Chg.	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 8.0 N 8.0 E 8.0 Z 1.15	 3.9 4.0 0.48		516	50:1 Near crit. Near crit. Near crit.	15mm/min. 30mm/min. 60mm/min.	Beginning Beginning	S N W Up
Chicago, Ill. W. F. Schmidt In Chg.	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 Chg.	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
College Outpost	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 Chg.	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		15000 2000 2000	Near crit. Near crit. Near crit.	60mm/min. 30mm/min.	Beginning	Up N E
Eureka, Nev. R. N. Breckenridge In Chg.	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			Near crit.	60mm/min.	Beginning	Up
Honolulu, T. H. M. L. Cleven In Chg.	Log cos 9.96926 Lat. 21°18'13"N. Long. 158°05'44"W.	M-S, N&E Mass 1 lb. HTL Z Lamont, ZNE	Coral. 3m.	N 12 E 12 Z 0.5 Z 15 N 15 E 15	 0.5 75 75 75		124 142	20:1 20:1	30mm/min. 60mm/min.	Beginning	N W Up Up N W

Station	Position	Instruments	Foundation and Elevation		T_o	T_g	T_s	V		Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Hungry Horse, Mont.	Log cos 9.82255	B, film,	Argillaceous	Z	1.4	0.45		13000	Near crit.	15mm/min.	Beginning	Up
Robert D. Bush	Lat. 48°20'58"N.	ZNE. Mass	Limestone	N	1.4	0.45		5000	Near crit.			N
In Chg.	Long. 114°01'39"W.	100 lb.	(Belt series)	E	1.4	0.45		5000	Near crit.			E
			1100 m.									
Kipapa, T. H.	Log cos 9.96893	HTL Z	Basalt	Z	0.5	0.5			crit.	60mm/min.	Beginning	Up
M. L. Cleven	Lat. 21°25.3' N.		75 m.									
In Chg.	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 Chg.	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 Chg.	Long. 75°10'30"W.		gravel									
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 Chg.	Long. 103°12.0' W.	Mass 2 g.										
		W-L, Z		Z		1.6	1.1			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	10.0			335	15:1			W
In Chg.	Long. 111°50'54"W.	W-L, Z	1425 m.	Z	1.2	1.8			Near crit.	60mm/min.		Up
San Juan, P. R.	Log cos 9.97726	W, N&E	Limestone	N	9.9	25.5	11.0	1000	20:1	30mm/min	Beginning	N
M. Vazquez	Lat. 18°22.9' N.	Mass 500 g.	80 m.	E	10.1	16.8	10.8	1000	20:1			W
In Chg.	Long. 66°07.1' W.	B, Z		Z	1.04	0.5	1.05	5000	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
J. Bottum	Lat. 57°03'25"N.	Mass 500 g.	19 m.	E	7.5	13.2	8.2	1000	5.5:1			E
In Chg.	Long. 135°19'28"W.	W-L, Z		Z	1.12	1.5						Up
*Tucson, Ariz.	Log cos 9.92725	W-A, N&E	Caliche or	N	8.0			466	crit.	30mm/min.	Beginning	S
R. I. White	Lat. 32°14.8' N.	Mass 2.3 g.	gravels 100-	E	8.0			457	crit.			E
In Chg.	Long. 110°50.1' W.	B, Z(LP)	300 m. thick.	Z	1.0	77.0			Near crit.	30mm/min.		Up
		(SP)	700 m.			0.236				60mm/min.		Up
		B, E		E	1.6	0.5				30mm/min.		F
Ukiah, Calif.	Log cos 9.88968	McC-R, N&E	Alluvium	N	11.9			75	Near crit.	30mm/min.	Beginning	N
L. F. Couette	Lat. 39°08' N.	Mass 10kg.	180 m. deep.	E	11.6			75				E
In Chg.	Long. 123°13' W.	W-L, Z	199 m.	Z	1.1	1.4				60mm/min.		Up
*Washington, D. C.	Log cos 9.89117	W-L, Z	Recent allu-	Z	1.5	1.7	1.5			30mm/min.	Beginning	Up
	Lat. 38°53'33"N.	Visible	vium on			Pen						
	Long. 77°01'53"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.

B - Benioff, W - Wenner, McC-R - McComb-Romberg, W-A - Wood-Anderson, M-S - Milne-Shaw, Spr - Sprengnether, W-L - Wilson-Lawison

Date 1958	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth, and Remarks
Jan.	h m s	°	°	
1	03 06 16**			Unimak Island.
1	15 06 08*	52 N.	171½ W.	Fox Islands, Aleutian Islands.
1	23 02 33*	16 S.	174 W.	Tonga Islands region. h about 100 km.
2	00 21 22*	5 S.	152 E.	New Britain. Felt at Kokopo, Rabaul and Wonakgoi.
2	02 08 15*	36½ N.	22 E.	Off south coast of Greece.
2	15 45 22*	34½ N.	48 E.	Iran
2	21 12 07*	45 N.	151 E.	Kurile Islands. h about 60 km.
2	22 35 29*	11½ N.	60½ W.	Northeast of Trinidad.
3	01 55 10*	29½ N.	141 E.	South of Honshu, Japan.
3	06 24 31*	32 N.	41½ W.	North Atlantic Ocean.
3	06 49 56*	31 N.	40½ W.	Do
3	07 02 07*	31 N.	40½ W.	Do
3	07 55 40*	31½ N.	41 W.	Do
3	08 33 31*	32½ N.	41 W.	Do
3	09 25 47*	31½ N.	40½ W.	Do
3	10 12 33*	31½ N.	41 W.	Do
3	17 47 12*	22 S.	65 E.	Mascarene Islands region.
4.	06 39 45*	31½ N.	40½ W.	North Atlantic Ocean.
4.	08 02 20*	17 N.	99½ W.	Guerrero, Mexico. Felt. Mag. 5-3/4.
4	08 27 53*	27 N.	92 E.	India-Tibet border.
4	13 05 24*	6 S.	133 E.	Banda Sea.
4	15 33 54*	32 N.	41 W.	North Atlantic Ocean.
4	17 27 33*	40 N.	116 W.	Nevada. Mag. 4-1/2 - 4-3/4 (Berk).
4	23 21 38*	8½ S.	112 E.	Off south coast of Java. h about 200 km.
5	08 05 11*	2 N.	122½ E.	Celebes Sea. h about 550 km.
5	11 30 44*	56½ N.	121 E.	Stanovoi Mountains region, Siberia.
5	12 28 20*	6 S.	155 E.	Solomon Islands. Felt at Karoola and Rabaul. h about 100 km.
5	17 00 04*	41 N.	112½ W.	Great Salt Lake, Utah.
6	01 54 30*	37½ N.	71 E.	Hindu Kush.
6	09 07 40*	54½ N.	161 W.	Unimak Island region.
6	09 51 40*	7 S.	107 E.	Near south coast of Java.
6	09 54 13**			West-Central Iran.
6	11 24 11*	26 N.	96½ E.	Burma.
7	02 56 19*	18½ S.	69 W.	Peru-Bolivia-Chile border region. h about 150 km.
7	06 05 08*	39 N.	70 E.	Tadzhik S. S. R.
7	08 20 54**			Tonga Islands region.
8	03 12 55**			New Hebrides Islands.
9	11 13 56*	5½ S.	147 E.	Near north coast of New Guinea. Felt at Lae, Port Moresby and Wau. h about 150 km.

Date 1958	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth, and Remarks
Jan.	h m s	°	°	
9	17 39 24*	44½ N.	85 E.	Sinkiang Province, China.
10	13 37 14*	52 N.	171 W.	Fox Islands, Aleutian Islands.
10	22 57 12*	44½ N.	148 E.	Kurile Islands.
11	04 47 35*	55 N.	161 E.	Kamchatka.
11	08 36 01**			Fox Islands, Aleutian Islands.
11	13 18 47*	23½ S.	177 W.	Tonga Islands region.
11	23 21 00*	45½ N.	143 E.	Near north coast of Hokkaido, Japan.
12	14 55 09*	31½ N.	41 W.	Atlantic Ocean.
13	00 02 24*	52½ N.	177 E.	Rat Islands, Aleutian Islands. h about 100 km.
13	02 52 40*	7 N.	83 W.	Off south coast of Panama.
13	02 54 37*	11 S.	166 E.	Santa Cruz Islands. h about 100 km.
13	07 10 30**			Fiji Islands.
13	09 39 58*	20 S.	69½ W.	Northern Chile.
13	13 09 40*	20 S.	69½ W.	Do
13	13 19 49*	27½ N.	130 E.	Ryukyu Islands.
13	20 14 27*	11½ N.	92½ E.	Andaman Islands.
14	01 33 55*	51½ N.	178½ E.	Rat Islands, Aleutian Islands. h about 100 km.
14	05 54 48*	22 S.	175 W.	Tonga Islands.
14	07 20 25*	29 S.	179 W.	Kermadec Islands. h about 350 km.
14	13 34 40*	39½ N.	41 E.	Eastern Turkey.
14	15 00 14*	12½ S.	167 E.	Santa Cruz Islands.
15	04 10 45*	43 N.	136 E.	Near coast of Siberia.
15	07 37 40**			Near coast of El Salvador. Felt at San Salvador and in western El Salvador.
15	13 15 31*	40 N.	51½ E.	Caspian Sea.
15	19 14 29*	16½ S.	71½ W.	Southern Peru. 21 killed, 90 injured and extensive property damage. h about 100 km. Mag. 7.
15	22 15 44*	13½ S.	167 E.	New Hebrides Islands.
16	02 04 24**			Northern Iran.
16	04 16 46*	16 S.	175 W.	Tonga Islands region. h about 250 km.
16	04 18 10*	39½ N.	25 E.	Aegean Sea.
16	11 03 32*	14 S.	167 E.	New Hebrides Islands.
17	04 14 02*	1 S.	127 E.	Spice Islands.
17	05 23 08**			Tucuman Province, Argentina. h about 150 km.
17	07 15 38*	52 S.	139½ E.	Antarctic Ocean.
18	15 14 26*	29 S.	13 W.	North of Tristan da Cunha.
18	16 33 40**			Western Nevada.
18	19 24 30*	6 S.	155 E.	Solomon Islands. h about 100 km.

Date 1958	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
Jan.	h m s	°	°	
19	09 10 55*	25 N.	122½ E.	Off northeast coast of Formosa.
19	14 07 27*	1½ N.	79½ W.	Near coast of Ecuador. 14 killed, many injured, and extensive property damage at Esmeraldas, Palmas and Guayaquil. Seismic Sea Wave damage at Esmeraldas and Guayaquil. h about 60 km. Mag. 7-1/2.
19	14 43 24*	1½ N.	79 W.	Ecuador aftershock. Slight damage in northern Ecuador. h about 60 km. Mag. 6-3/4.
19	16 50 13*	5½ N.	95 E.	Near coast of Sumatra.
20	02 19 53*	30½ S.	71½ W.	Northern Chile.
20	07 13 02*	14½ N.	120 E.	Near coast of Luzon, Philippine Islands. Felt at Ambulong, Calapan, Manila and Quezon City. h about 100 km.
20	09 55 44*	30½ S.	71½ W.	Northern Chile.
21	08 06 56*	29 S.	73 W.	Near coast of Chile.
22	18 29 11*	23 N.	121½ E.	Near east coast of Formosa. Felt at Taipei. h about 200 km.
22	23 31 43*	54 N.	170 E.	Komandorskie Islands.
23	02 34 09*	44½ N.	146½ E.	Kurile Islands. h about 150 km.
23	05 30 10*	30½ N.	84 E.	Southern Tibet.
23	08 52 23*	18½ S.	170 E.	New Hebrides Islands. h about 150 km.
23	13 35 03*	65 N.	6½ E.	Off west coast of Norway. Felt in central Norway.
24	04 35 55*	56½ N.	115½ E.	Northeast of Lake Baikal, U. S. S. R.
24	05 53 58*	56½ N.	163 E.	Near east coast of Kamchatka. Mag. 6-1/2.
24	06 11 03*	56½ N.	163 E.	Near east coast of Kamchatka.
24	06 48 06*	49 S.	32 E.	About 300 miles southwest of Prince Edward Islands.
24	18 03 32*	54 N.	170 E.	Komandorskie Islands region.
24	22 58 57**			Near Islands, Aleutian Islands.
24	23 17 29*	60 N.	152 W.	Kenai Peninsula, Alaska. Felt at Anchorage. h about 60 km. Mag. 6-1/4 - 6-1/2.
24	23 53 29*	17½ S.	178½ W.	Fiji Islands. h about 550 km.
26	03 35 17*	54½ S.	133 W.	South Pacific Ocean.
26	06 42 13*	47½ N.	154½ E.	Kurile Islands.
26	07 28 33*	49½ N.	155 E.	Do.
27	07 43 58*	15 S.	174 W.	Samoa Islands. Mag. 6-3/4.
27	08 52 42*	8 S.	155 E.	Solomon Islands. h about 200 km.
28	17 15 00*	36 N.	58½ E.	Iran.
28	19 41 54*	3½ N.	127 E.	Molucca Passage.
29	00 16 30*	37 N.	142 E.	Off east coast of Hokkaido, Japan.
29	10 14 55*	16 N.	99 W.	Near coast of Guerrero, Mexico.
30	02 08 44*	21 S.	179½ W.	Fiji Islands. h about 250 km.
30	04 58 01*	19 S.	172½ W.	Tonga Islands.
30	06 13 24*	7½ S.	155½ E.	Solomon Islands. Mag. 6-1/2.
30	19 13 30**			Dodecanese Islands.

Date 1938	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
Jan.	h m s	°	°	
30	22 41 27**			Tonga Islands region. h about 600 km.
31	06 22 35*	44½ N.	153 E.	Kurile Islands region.
31	06 32 39*	40 S.	176½ E.	North Island, New Zealand. Slight damage at Dannevirke. Felt in southern part of North Island.
31	23 20 15**			Sikang Province, China.

Date and Station		Phase (GCT)
		h m s
Jan. 1		
COL	eP	00 18 20
Jan. 1		
BC	e(P)	02 33 49
EUR	iP	02 34 12
HH	eP	02 35 10
RC	eP	02 34 50
	e	38 53
SLC	eP	02 34 23
TUC	eP	02 33 26
	e	36 08
	eL	38 33
Jan. 1	eP	
COL	eP	03 09 29
	eL	13 55
EUR	iP	03 13 11
HH	eP	03 12 37
	iPcP	15 28
RC	eP	03 13 50
TUC	eP	03 14 18
Jan. 1		
HH	eP	04 11 22
Jan. 1		
EUR	eP	07 11 53
HH	eP	07 12 32
Jan. 1		
EUR	iP	07 24 56
Jan. 1		
EUR	iP	10 22 45
HH	eP	10 23 15
RC	e(P)	10 23 21
TUC	eP	10 22 42
Jan. 1		
EUR	eP	12 47 48
TUC	eP	12 47 48
Jan. 1		
HH	e(P)	14 02 14
Jan. 1		
COL	eP	14 07 15
	iS	07 54
	eL	07 59
Jan. 1		
KIP	eP	14 19 32
Jan. 1		
TUC	e(P)	14 35 11
	i	35 14

Date and Station		Phase (GCT)
		h m s
Jan. 1		
BC	iP	15 14 10
	e	14 49
BOZ	eP	15 13 42
	e	13 53
BUT	iP	15 13 37
COL	eP	15 10 19
COLU	iP	15 16 47
EUR	iP	15 13 46
HH	iP	15 13 15
	ePP	14 45
	iPcP	15 39
	iS	18 57
	i	19 22
RC	iP	15 14 26
SLC	eP	15 14 08
TUC	iP	15 14 49
	e	18 07
Jan. 1		
EUR	iP	15 19 35
Jan. 1		
EUR	eP	15 36 21
HH	eP	15 36 04
Jan. 1		
HH	eP	15 40 12
Jan. 1		
TUC	iP	16 25 07
	iS	25 29
	iL	25 32
Jan. 1		
BC	eP	19 39 19
	i	39 56
EUR	eP	19 40 23
TUC	eP	19 39 45
	e	40 44
Jan. 1		
HH	i(P)	20 31 28
Jan. 1		
COL	eP	22 37 12
HH	i(P)	22 45 58
Jan. 1		
BC	eP	23 14 17
COL	iP	23 14 53
	ipP	15 19
EUR	iP	23 14 23
HH	eP	23 14 54

Date and Station		Phase (GCT)
		h m s
TUC	eP	23 14 24
Jan. 2		
BC	iP	00 34 52
COL	iP	00 33 45
	i	34 05
EUR	iP	00 34 48
HH	iP	00 34 55
	e	35 09
RC	iP	00 35 30
Jan. 2		
HH	eP	01 41 56
Jan. 2		
EUR	eP	02 18 06
Jan. 2		
BOZ	eP	02 21 10
BUT	eP	02 21 11
	i	21 22
COL	iP	02 20 20
COLU	e(P)	02 20 30
	e	20 40
EUR	eP	02 21 42
HH	iP	02 21 04
	i	21 17
	e(PP)	24 56
RC	eP	02 21 00
SLC	eP	02 21 13
	e	21 40
Jan. 2		
COL	iP	02 52 23
	iS	52 34
	iL	52 36
Jan. 2		
EUR	eP	03 57 41
Jan. 2		
HH	e(P)	05 44 25
Jan. 2		
SJ	eP	09 02 18
	e	02 39
	eS	02 54
	eL	02 58
Jan. 2		
EUR	eP	13 36 40
Jan. 2		
COL	iP	15 57 36
Jan. 2		
COL	iP	17 05 04

Date and Station		Phase (GCT)
		h m s
Jan. 2		
EUR	eP	20 43 32
Jan. 2		
EUR	iP	21 09 50
Jan. 2		
BC	eP	21 23 07
	epP	23 22
BOZ	eP	21 22 42
	epP	22 55
COL	iP	21 19 29
	ipP	19 42
EUR	iP	21 22 49
	ipP	23 04
HH	iP	21 22 20
	ipP	22 34
RC	iP	21 23 15
	ipP	23 27
SLC	eP	21 23 00
	epP	23 14
TUC	eP	21 23 38
	epP	23 52
Jan. 2		
COL	iP	22 28 20
	iS	29 19
	iL	29 30
HH	e(P)	22 31 23
Jan. 2		
BH	iP	22 39 53
	iS	43 22
BC	eP	22 45 00
BUT	eP	22 45 04
	e	45 29
COL	iP	22 47 35
COLU	eP	22 41 36
EUR	eP	22 45 13
	iPcP	46 12
HH	eP	22 45 19
RC	eP	22 44 19
SJ	eP	22 37 43
	i	37 48
Jan. 2		
EUR	iP	23 05 08
HH	iP	23 05 33
RC	eP	23 04 53

Date and Station		Phase	(GCT)
Jan. 3			h m s
BC	eP		02 07 40
BUT	iP		02 07 21
	e		07 37
COL	iP		02 04 48
EUR	iP		02 07 26
HH	iP		02 07 09
RC	iP		02 07 54
SLC	iP		02 07 37
TUC	eP		02 08 05
Jan. 3			
EUR	eP		04 48 06
HH	eP		04 47 40
Jan. 3			
EUR	iP		06 03 35
RC	eP		06 04 16
Jan. 3			
BC	eP		06 34 42
BOZ	eP		06 34 03
BUT	eP		06 34 11
COL	iP		06 35 36
COLU	eP		06 31 14
EUR	iP		06 34 39
HH	eP		06 34 12
RC	eP		06 33 22
	e		34 10
	e		34 45
SLC	eP		06 34 15
SJ	iP		06 30 07
TUC	iP		06 34 28
Jan. 3			
EUR	eP		06 43 52
HH	eP		06 43 11
TUC	e(P)		06 43 40
Jan. 3			
EUR	eP		06 49 07
HH	e(P)		06 48 20
	e		48 42
RC	e(P)		06 47 52
	e		49 15

Date and Station		Phase	(GCT)
Jan. 3			h m s
BC	eP		07 00 11
BOZ	eP		06 59 33
COL	eP		07 01 06
COLU	eP		06 56 44
EUR	iP		07 00 09
HH	iP		06 59 43
	e		07 01 10
	e		02 38
RC	eP		06 58 52
	ePcP		07 00 17
SLC	eP		06 59 50
SJ	eP		06 55 36
TUC	iP		07 00 02
	eL		29 48
Jan. 3			
BC	eP		07 12 24
BOZ	eP		07 11 45
BUT	eP		07 11 53
COL	eP		07 13 17
COLU	eP		07 09 05
EUR	eP		07 12 22
HH	iP		07 11 54
	ePP		13 11
RC	eP		07 11 10
SLC	eP		07 12 03
SJ	eP		07 07 50
TUC	eP		07 12 12
Jan. 3			
BC	eP		07 25 58
COL	eP		07 26 53
EUR	eP		07 25 56
	epP		28 10
HH	eP		07 25 28
	epP		27 46
RC	eP		07 24 43
TUC	eP		07 25 45
Jan. 3			
BC	eP		08 05 52
EUR	iP		08 05 50
HH	eP		08 05 23

Date and Station		Phase	(GCT)
			h m s
TUC	eP		08 05 40
Jan. 3			
BC	eP		08 43 40
BUT	eP		08 43 12
COL	eP		08 44 34
EUR	eP		08 43 44
HH	eP		08 43 10
RC	eP		08 42 29
SLC	eP		08 43 18
TUC	eP		08 43 32
Jan. 3			
EUR	eP		09 02 57
RC	e(P)		09 02 42
TUC	eP		09 02 48
Jan. 3			
BC	eP		09 36 00
COL	eP		09 36 55
EUR	eP		09 35 58
HH	eP		09 35 30
TUC	eP		09 35 49
Jan. 3			
BC	eP		10 22 26
COL	eP		10 23 39
EUR	eP		10 22 44
HH	eP		10 22 16
TUC	eP		10 22 30
Jan. 3			
HH	eP		10 40 53
Jan. 3			
EUR	eP		11 02 34
Jan. 3			
EUR	eP		11 41 48
TUC	eP		11 41 35
Jan. 3			
EUR	eP		12 05 04
Jan. 3			
EUR	eP		13 33 35
Jan. 3			
BC	eP		13 40 52

Date and Station		Phase	(GCT)
			h m s
COL	iP		13 35 26
	iS		37 04
	iL		37 14
EUR	eP		13 40 40
HH	eP		13 38 30
	e		40 21
	e		44 43
RC	eP		13 39 41
TUC	e(P)		13 40 41
Jan. 3			
RC	e(P)		13 47 51
	e		48 46
Jan. 3			
EUR	eP		14 53 17
HH	eP		14 51 51
Jan. 3			
COL	eP		16 25 35
EUR	eP		16 24 38
HH	eP		16 24 12
Jan. 3			
EUR	eP		16 56 02
HH	eP		16 55 36
Jan. 3			
BOZ	eP'		18 07 10
BUT	eP'		18 07 09
COL	iP'		18 06 29
	i		08 43
COLU	iP'		18 06 58
EUR	iP'		18 07 18
	i		08 07
	i		11 52
HH	iP'		18 07 07
	i		07 54
	i		11 01
	e		18 12
RC	eP'		18 07 09
	i		07 37
	e		11 16
SLC	iP'		18 08 00
	e		11 40
TUC	iP'		18 07 25
	i		08 36
	e		12 25
UK	eP'		18 08 03

Date and Station		Phase (GCT)
		h m s
Jan. 3		
EUR	eP	22 06 09
Jan. 3		
COL	iP	22 12 52
EUR	eP	22 16 26
HH	iP	22 15 44
Jan. 3		
COL	iP	22 36 36
EUR	eP	22 36 14
HH	e(P)	22 36 46
TUC	eP	22 37 36
Jan. 3		
EUR	eP	23 22 47
Jan. 4		
BC	eP	06 49 58
BOZ	eP	06 49 20
BUT	eP	06 49 26
COL	iP	06 50 52
EUR	iP	06 49 55
HH	iP	06 49 28
RC	eP	06 48 40
SLC	eP	06 49 30
SJ	iP	06 45 24
TUC	eP	06 49 44
Jan. 4		
BH	iS	08 11 02
BC	iP	08 07 31
	i	07 39
	e(S)	11 49
	eL	14 40
BOZ	eP	08 08 34
BUT	eP	08 08 38
COL	iP	08 12 13
COLU	iP	08 07 36
EUR	iP	08 08 02
	eL	15 38
HH	iP	08 09 02
	e	10 49
RC	iP	08 08 07
	ePP	09 12
	eL	14 11

Date and Station		Phase (GCT)
		h m s
SLC	eP	08 07 55
	e	08 04
SJ	eP	08 08 51
TUC	iP	08 06 37
	i	07 23
	e(S)	09 28
	eS	10 14
	eL	11 48
Jan. 4		
COL	eP	08 39 52
Jan. 4		
COL	iP	08 59 11
EUR	eP	08 58 13
HH	eP	08 57 43
RC	eP	08 57 01
TUC	eP	08 58 05
Jan. 4		
EUR	iP	10 54 32
HH	e(P)	10 55 35
TUC	eP	10 53 07
	eL	58 44
Jan. 4		
EUR	eP	11 31 13
HH	eP	11 30 46
Jan. 4		
HH	e(P)	12 19 02
Jan. 4		
EUR	eP	12 43 17
Jan. 4		
COL	eP	13 10 09
EUR	eP	13 10 09
HH	eP	13 09 44
Jan. 4		
HH	eP	15 25 21
Jan. 4		
EUR	eP	15 44 03
HH	eP	15 43 35
SJ	eP	15 39 38
TUC	eP	15 43 52
Jan. 4		
EUR	eP	16 13 44

Date and Station		Phase (GCT)
		h m s
Jan. 4		
BC	eP	17 28 38
	i	28 52
	i(S)	29 46
	eL	29 58
BOZ	e(P)	17 29 30
BUT	e(P)	17 29 28
EUR	iP	17 27 44
HH	eP	17 29 37
	i	30 16
	e(S)	31 32
	iL	31 56
SLC	eP	17 28 30
	eS	29 11
	eL	29 16
TUC	e(P)	17 29 52
	i	30 18
	eL	32 16
Jan. 4		
EUR	iP	20 48 28
Jan. 4		
HH	e(P)	21 22 02
Jan. 4		
EUR	iP	21 33 37
HH	eP	21 33 11
Jan. 4		
EUR	eP'	23 40 31
HH	eP'	23 40 25
Jan. 5		
EUR	eP	04 56 04
Jan. 5		
EUR	iP	07 54 56
HH	iP	07 54 28
RC	eP	07 55 40
TUC	eP	07 56 00
Jan. 5		
COL	eP	08 17 08
	epP	19 03
COLU	iP'	08 26 27
EUR	eP'	08 22 50
	iPP	23 42
HH	e(pP)	08 21 14
	e(P')	22 47
	ePP	23 29
	epPP	26 08
RC	eP'	08 23 03
	ePP	24 28
	e	25 50

Date and Station		Phase (GCT)
		h m s
TUC	eP'	08 23 05
Jan. 5		
COL	eP	08 59 12
	eS	09 00 24
	iL	00 32
EUR	eP	09 03 43
HH	e(P)	09 02 37
SIT	eP	08 59 38
	e	09 00 50
Jan. 5		
EUR	eP	09 15 48
Jan. 5		
EUR	eP	10 15 31
Jan. 5		
BC	eP	11 42 37
	i	42 43
	i	43 00
BOZ	eP	11 41 54
	i	42 01
	iPcP	42 24
BUT	iP	11 41 49
	iPcP	42 16
	i	42 44
COL	iP	11 38 35
COLU	iP	11 43 36
	eS	54 21
	eL	12 11 20
EUR	iP	11 42 17
HH	iP	11 41 33
	iPP	44 00
	i	44 55
	eP'P'	12 09 52
RC	iP	11 42 17
	i	42 24
SLC	eP	11 42 20
	ePcP	42 43
SIT	eP	11 40 00
	eL	12 06 18
TUC	eP	11 43 04
	ePP	46 10
	eL	12 14 22
Jan. 5		
BUT	eP	12 10 07
Jan. 5		
SJ	eP'	12 47 41
COL	iP	12 40 37
	ipP	40 59

Date and Station		Phase	(GCT)
			h m s
EUR		iP	12 41 33
		i	41 48
HH		eP	12 41 41
Jan. 5			
EUR		eP	14 54 27
Jan. 5			
BC		eP	17 01 29
		i	01 47
		e	03 09
BOZ		eP	17 01 21
		e	01 45
BUT		eP	17 01 22
		e	02 01
EUR		iP	17 00 54
HH		eP	17 01 50
		i	02 14
		e	03 22
		eL	03 48
RC		eP	17 01 56
		e	02 05
		e	02 23
		eL	03 56
SLC		iP	17 00 16
Jan. 5			
COL		eP	18 29 23
Jan. 5			
EUR		eP	19 48 18
HH		e(P)	19 48 45
RC		eP	19 48 03
Jan. 6			
EUR		eP	00 20 47
Jan. 6			
BOZ		eP	02 08 07
BUT		iP	02 08 04
COL		iP	02 06 07
EUR		eP	02 08 35
HH		iP	02 07 53
		e	11 19
		ePP	12 00
RC		eP	02 08 13
		e	08 44
		ePP	12 15
Jan. 6			
HH		e(P)	02 53 38
Jan. 6			
HH		eP	04 08 28

Date and Station		Phase	(GCT)
			h m s
Jan. 6			
EUR		eP	05 26 45
		i	29 06
Jan. 6			
EUR		eP	09 09 01
		i	11 00
Jan. 6			
COL		eP	09 10 41
		i	10 49
		eS	13 02
		eL	14 47
EUR		iP	09 14 21
HH		e(P)	09 13 48
RC		eP	09 14 05
TUC		e(P)	09 15 28
Jan. 6			
COL		iP	09 51 40
Jan. 6			
COL		eP	10 06 25
COLU		iP'	10 11 38
EUR		eP'	10 10 54
HH		iP'	10 10 46
Jan. 6			
EUR		iP'	10 14 13
RC		eP'	10 14 29
Jan. 6			
COL		eP	11 36 05
		i	36 26
EUR		ePP	11 43 06
		ePKKP	54 05
HH		eP	11 38 05
		ePP	42 09
		e	42 58
Jan. 6			
EUR		eP	16 17 12
Jan. 6			
HH		e(P)	20 37 06
Jan. 6			
EUR		eP	22 37 00
HH		eP	22 37 30
Jan. 6			
COL		iP	23 16 21
Jan. 6			
COL		iP	23 37 36
		i	40 09
Jan. 7			
EUR		eP	03 07 35

Date and Station		Phase	(GCT)
			h m s
HH		eP	03 08 00
RC		eP	03 07 14
Jan. 7			
BC		eP	03 45 31
COL		iP	03 46 13
EUR		iP	03 45 39
HH		eP	03 46 10
SLC		eP	03 45 57
TUC		eP	03 45 35
Jan. 7			
BUT		eP	06 18 36
COL		iP	06 16 37
		ePP	19 23
HH		eP	06 18 26
		ePP	21 55
Jan. 7			
COL		iP	06 38 15
Jan. 7			
EUR		eP	07 03 31
Jan. 7			
EUR		iP	08 33 42
TUC		iP	08 33 41
Jan. 7			
EUR		iP	08 48 42
HH		e(P)	08 52 03
TUC		e(P)	08 48 26
		iP	50 28
Jan. 7			
COL		eP	11 49 45
Jan. 7			
EUR		eP	15 51 45
Jan. 7			
HH		e(P)	18 52 02
Jan. 7			
EUR		iP	19 04 35
Jan. 7			
HH		e(P)	19 41 02
Jan. 7			
COL		iP	21 09 06
		eS	09 48
		eL	09 56
Jan. 7			
HONO		eP	22 09 02

Date and Station		Phase	(GCT)
			h m s
Jan. 7			
COL		eP	23 07 44
		iS	08 27
		eL	08 32
Jan. 8			
EUR		eP	00 48 54
Jan. 8			
COL		eP	03 25 30
EUR		eP	03 25 52
Jan. 8			
HH		e(P)	06 20 57
Jan. 8			
HH		eP	06 51 10
Jan. 8			
COL		iP	08 50 00
		iS	50 50
		iL	51 06
EUR		eP	08 55 04
HH		iP	08 54 07
		i	54 18
Jan. 8			
EUR		eP	09 11 23
Jan. 8			
HH		e(P)	17 41 28
Jan. 8			
EUR		eP	18 04 46
Jan. 8			
HH		e(P)	18 40 13
Jan. 8			
HH		e(P)	20 07 38
Jan. 8			
BC		eP	21 04 09
EUR		iP	21 02 29
HH		eP	21 04 14
TUC		eP	21 00 43
		i	00 55
		iS	01 50
		eL	01 58
Jan. 8			
EUR		eP	21 06 07
Jan. 8			
BH		iP	23 29 39
		iS	30 41
EUR		eP	23 33 52
Jan. 9			
EUR		eP	00 56 24
HH		iP	00 56 52

Date and Station		Phase (GCT) h m s
RC	eP	00 56 09
TUC	eP	00 56 37
Jan. 9		
COL	iP	01 30 01
EUR	eP	01 33 05
HH	iP	01 32 27
Jan. 9		
EUR	iP	01 36 43
Jan. 9		
EUR	eP	03 50 44
Jan. 9		
EUR	eP	08 53 15
Jan. 9		
EUR	eP	09 08 34
Jan. 9		
HH	eP	11 00 32
Jan. 9		
COL	iP	11 26 17
	ipP	27 04
EUR	iP	11 27 24
	iPP	31 27
HONO	eP	11 23 51
HH	iP	11 27 29
	ePP	31 32
SJ	iP'	11 33 18
	e	33 27
Jan. 9		
TUC	eP	14 22 35
Jan. 9		
TUC	eP	14 33 52
Jan. 9		
EUR	eP	15 17 41
TUC	eP	15 16 32
Jan. 9		
EUR	eP	16 20 03
Jan. 9		
BC	eP	17 53 03
BCZ	iP	17 52 23
	i	52 32
COL	iP	17 49 56
	i	51 15
EUR	iP	17 52 48
	iPKKP	18 09 48
	eP'P'	17 58

Date and Station		Phase (GCT) h m s
HH	iP	17 52 07
	e	56 01
	ePKKP	18 10 08
	eP'P'	18 14
RC	iP	17 52 34
	i	52 44
UK	eP	17 52 42
Jan. 9		
COL	eP	18 18 50
Jan. 9		
EUR	eP	20 14 22
RC	e(P)	20 16 06
Jan. 9		
COL	eP	20 27 54
EUR	iP	20 31 16
Jan. 9		
HH	eP	21 12 37
	e	14 56
	eL	15 11
Jan. 9		
HH	e(P)	21 23 29
	e	25 39
	eL	26 08
Jan. 9		
RC	e(P)	21 30 42
	e	40 37
	e	41 19
Jan. 9		
HH	e(P)	22 42 51
Jan. 9		
COL	eP	23 06 39
Jan. 10		
TUC	e(P)	05 55 37
Jan. 10		
EUR	eP	11 56 37
Jan. 10		
BC	iP	13 45 13
	i	45 23
BOZ	eP	13 44 44
COL	eP	13 41 20
COLU	e(P)	13 47 50
EUR	iP	13 44 48
	iPcP	46 54
HH	iP	13 44 18
	iPP	45 41
	iPcP	46 44
	eS	49 53
	eScS	54 30

Date and Station		Phase (GCT) h m s
KIP	eP	13 43 49
	eT	14 17 37
RC	iP	13 45 29
	ePcP	47 11
	eS	52 03
SLC	eP	13 45 04
SJ	eP	13 49 49
SIT	eP	13 42 04
TUC	iP	13 45 54
Jan. 10		
COL	iP	13 49 30
	e	53 10
EUR	iP	13 50 40
HH	eP	13 50 26
Jan. 10		
COL	eP	16 02 01
EUR	eP	16 05 13
HH	iP	16 04 40
Jan. 10		
COL	eP	17 24 28
EUR	eP	17 27 55
HH	eP	17 27 25
Jan. 10		
EUR	eP	17 45 51
Jan. 10		
COL	eP	18 15 52
	iS	16 28
	iL	16 36
Jan. 10		
HH	e(P)	20 28 00
RC	eP	20 23 56
Jan. 10		
HH	iP	21 04 38
Jan. 10		
COL	iP	22 33 37
	i(S)	34 37
	iL	34 47
EUR	eP	22 38 25
HH	eP	22 37 33
	i	37 44
Jan. 10		
EUR	eP	23 07 13
Jan. 10		
COL	iP	23 04 51

Date and Station		Phase (GCT) h m s
EUR	iP	23 08 11
	iPcP	08 40
HH	iP	23 07 42
	iPcP	08 11
RC	iP	23 08 35
	i	08 43
	i	09 05
TUC	eP	23 09 04
	e	09 29
Jan. 11		
COL	eP	00 55 38
HH	e(P)	00 50 34
Jan. 11		
COL	iP	03 28 56
Jan. 11		
EUR	eP	04 35 34
TUC	eP	04 33 56
Jan. 11		
COL	iP	04 53 16
	iPP	54 03
EUR	iP	04 57 12
HH	iP	04 56 32
	ePcP	57 54
RC	iP	04 57 33
SLC	iP	04 57 21
TUC	iP	04 58 10
Jan. 11		
EUR	eP	05 53 51
Jan. 11		
COL	eP	06 01 42
HH	e(P)	06 02 45
Jan. 11		
COL	eP	06 52 25
Jan. 11		
COL	eP	08 39 51
EUR	iP	08 43 17
HH	iP	08 42 47
	i	42 59
	i(PcP)	45 25
RC	eP	08 44 58
	e	45 13
TUC	eP	08 44 22
Jan. 11		
EUR	eP	09 46 18

Date and Station		Phase	(GCT)
			h m s
Jan. 11			
EUR	eP		12 03 52
HH	eP		12 04 47
Jan. 11			
BC	iP		13 31 20
	e		31 49
BOZ	eP		13 31 57
	e		32 50
BUT	iP		13 31 53
	e		32 45
	ePP		35 30
COL	iP		13 31 54
	i		32 47
	e		42 11
	iS		42 36
	iPS		44 00
	eSS		48 32
	e		50 26
	eL		56 36
COLU	eP		13 33 34
EUR	iP		13 31 25
	ePKKP		49 48
	i		50 27
	iP'P'		57 41
	iSKP'P'		14 00 45
HONO	iP		13 27 36
HH	iP		13 31 55
	ePP		35 30
	e		35 56
	e(PKKP)		49 16
	eP'P'		57 23
	eSKPP'		14 00 31
KIP	iP		13 27 36
RC	iP		13 32 15
	e(PKKP)		49 07
	e		49 39
SLC	iP		13 31 42
SIT	eP		13 31 40
TUC	iP		13 31 25
	e		33 22
	i		33 30
	eS		41 32
	e(PS)		45 02
	ePKKP		49 35
	eP'P'		57 45
	eSKPP'		14 00 49
Jan. 11			
BC	eP		13 57 45
Jan. 11			
HH	e(P)		14 07 26
Jan. 11			
COL	eP		17 11 52
Jan. 11			
CCL	iP		20 21 29
Jan. 11			
EUR	eP		23 10 08
	i		10 22
	eS		11 22
	iL		11 30
Jan. 11			
COL	iP		23 28 50
EUR	iP		23 32 12
HH	iP		23 31 42
TUC	eP		23 33 00
Jan. 12			
BC	eP		01 13 54
COL	eP		01 09 59
EUR	iP		01 13 29
HH	iP		01 12 58
	i		15 36
Jan. 12			
COL	eP		01 48 09
	iL		50 30
HH	e(P)		01 52 42
Jan. 12			
SJ	e(P)		04 07 32
Jan. 12			
COL	iP		06 00 54
	iS		01 25
	iL		01 32
HH	iP		06 05 32
Jan. 12			
EUR	eP		06 29 45
Jan. 12			
EUR	eP		12 58 53
HH	e(P)		12 59 23
Jan. 12			
EUR	eP		14 17 51
HH	eP		14 17 23
TUC	eP		14 18 54
Jan. 12			
BC	iP		15 05 21
BOZ	eP		15 04 42
BUT	eP		15 04 49
	e		05 12
COL	iP		15 06 13
	i		08 03
COLU	iP		15 01 52
	ePP		03 20
EUR	iP		15 05 18
HH	eP		15 04 51
RC	iP		15 04 03
SLC	eP		15 04 55
SJ	iP		15 00 45
TUC	iP		15 05 08
Jan. 12			
EUR	eP		17 30 11
HH	eP		17 29 40
TUC	e(P)		17 31 13
Jan. 12			
EUR	eP		18 46 26
HH	eP		18 45 06
RC	eP		18 46 45
	e		48 07
Jan. 12			
HH	i(P)		22 44 26
Jan. 12			
COL	eP		23 36 39
Jan. 13			
BC	iP		00 11 10
	epP		11 28
BOZ	eP		00 10 41
	epP		11 18
BUT	eP		00 10 30
	iPcP		12 11
	iScP		15 51
COL	iP		00 07 12
	ipP		07 36
	eS		10 10
	iL		10 50
COLU	iP		00 13 31
	ipP		13 57
	e(PP)		16 07
EUR	iP		00 10 46
	ipP		11 14
	iScP		16 01
HONO	iP		00 09 24
HH	iP		00 10 15
	ipP		10 44
	isP		11 02
	iPcP		12 04
	iScP		15 43
KIP	iP		00 09 25
	i		10 03
	eT		46 39
	iT		47 35
RC	iP		00 11 20
	epP		11 50
	iScP		16 18
SLC	eP		00 10 59
SJ	iP		00 15 18
	epP		15 52
SIT	eP		00 08 06
	epP		08 34
	esP		09 03
TUC	iP		00 11 46
	e(PP)		14 29
	eScP		16 35
Jan. 13			
COL	eP		00 47 47
	i		49 03
Jan. 13			
BC	eP		01 44 1[illegible]
EUR	eP		01 44 44
HH	eP		01 45 43
TUC	eP		01 43 22
	eL		49 04
Jan. 13			
BC	eP		02 46 08
EUR	eP		02 46 23
	i		46 37
	eS		47 38
	iL		47 43
Jan. 13			
BH	iP		02 53 38
	iS		s 54 22
BC	eP		03 00 29
BOZ	eP		03 01 09
BUT	eP		03 01 11
EUR	eP		03 00 53
HONO	eP		03 03 12
HH	iP		03 01 30
SLC	eP		03 00 40
SJ	eP		02 57 14
TUC	eP		02 59 48
Jan. 13			
BC	eP		03 07 23
	e		07 37

B 4207-4

Date and Station		Phase (GCT)
		h m s
BOZ	eP	03 07 49
	epP	08 11
	e(sP)	08 44
BUT	eP	03 07 42
COL	iP	03 06 58
	iPcP	07 19
EUR	iP	03 07 23
	ipP	07 47
	iPP	10 49
HH	iP	03 07 40
	epP	08 03
	ePP	11 06
	epPP	11 32
	ePKKP	25 00
KIP	iP	03 03 15
SLC	eP	03 07 39
	epP	08 01
TUC	iP	03 07 34
	e	07 53
	ipP	07 58
	ePP	11 24
	eL	36 12
Jan. 13		
BC	eP	04 28 26
	i	28 35
	i	28 46
EUR	eP	04 28 04
	iP	28 07
HH	e(P)	04 30 09
	e	33 03
Jan. 13		
BH	iP	05 19 39
	iS	20 23
EUR	iP	05 26 53
HH	iP	05 27 32
TUC	eP	05 25 49
Jan. 13		
EUR	eP	06 21 58
Jan. 13		
COL	iP	07 23 04
HH	eP	07 23 13
TUC	eP	07 22 49
Jan. 13		
EUR	eP	09 06 24
TUC	eP	09 06 27
Jan. 13		
EUR	eP	09 51 33
HH	iP	09 52 03
SJ	eP	09 47 20

Date and Station		Phase (GCT)
		h m s
TUC	e(P)	09 51 02
Jan. 13		
EUR	eP	10 07 23
Jan. 13		
COL	iP	10 28 34
	iS	28 50
	iL	28 53
Jan. 13		
BUT	eP	13 21 31
EUR	iP	13 21 15
	i	21 31
HH	iP	13 21 45
SLC	eP	13 21 07
SJ	iP	13 17 04
	e	17 30
TUC	eP	13 20 23
Jan. 13		
COL	eP	13 30 15
EUR	eP	13 33 02
HH	iP	13 32 31
	i	32 41
Jan. 13		
BOZ	iP	17 01 04
	i(S)	01 19
	iL	01 30
EUR	eP	17 03 05
HH	iP	17 01 35
	i(S)	02 04
	iL	02 13
Jan. 13		
HH	iP	18 30 02
	i	30 29
Jan. 13		
COL	iP	18 45 42
	iS	46 37
	iL	46 45
Jan. 13		
BC	eP'	20 33 35
	ePP	35 27
BOZ	eP'	20 33 22
BUT	eP'	20 34 25
COL	iP	20 27 36
	iPP	31 06
	iPKKP	44 48
EUR	iP'	20 33 29
	iPP	35 10

Date and Station		Phase (GCT)
		h m s
HH	eP	20 29 29
	e	32 29
	iP'	33 13
	iPP	34 07
	ePKKP	43 46
SJ	eP'	20 34 04
TUC	iP'	20 33 45
	e(PP)	36 03
	iPKS	37 04
Jan. 13		
COL	iP	20 40 08
Jan. 14		
COL	iP	01 38 45
	ipP	39 07
EUR	iP	01 42 14
HH	iP	01 41 42
	iPcP	43 38
	e(ScP)	47 23
TUC	eP	01 43 14
Jan. 14		
BC	eP	06 07 10
BOZ	eP	06 07 49
BUT	eP	06 07 45
COL	iP	06 07 48
EUR	iP	06 07 16
HH	eP	06 07 46
RC	iP	06 08 08
SLC	eP	06 07 34
	e	07 55
	e	08 27
TUC	iP	06 07 13
	e	09 46
	eL	32 47
UK	e(P)	06 06 53
WASH	eP'	06 13 02
	eL	55 18
Jan. 14		
COL	eP	07 33 23
EUR	iP	07 32 54
	ipP	34 13
TUC	iP	07 32 50
	epP	34 09
	ePKKP	50 23
Jan. 14		
COL	eP	09 26 21
	i	26 29

Date and Station		Phase (GCT)
		h m s
HH	eP	09 29 48
Jan. 14		
EUR	eP	10 01 45
Jan. 14		
COL	eP	13 46 31
HH	eP	13 47 42
Jan. 14		
COL	iP	14 42 56
EUR	iP	14 43 08
Jan. 14		
COL	eP	15 12 48
EUR	eP	15 13 09
Jan. 14		
EUR	eP	21 34 16
Jan. 14		
COL	iP	21 55 10
Jan. 15		
EUR	eP	01 37 57
HH	e(P)	01 37 29
Jan. 15		
COL	iP	04 19 14
EUR	eP	04 22 28
HH	iP	04 21 58
Jan. 15		
COLU	e(P)	07 42 51
EUR	eP	07 44 34
Jan. 15		
COL	eP	08 35 18
	eS	36 16
	eL	36 25
Jan. 15		
COL	eP	11 10 36
EUR	iP	11 14 00
HH	eP	11 13 30
Jan. 15		
COL	iP	13 27 12
	i	27 27
HH	eP	13 28 39
Jan. 15		
TUC	eP	16 12 05
Jan. 15		
BH	iP	19 20 03C
	iS	24 53

B-4297-4

Date and Station		Phase	(GCT)
			h m s
BC	iP		19 25 10C
	ipP		25 34
	eScS		34 59
	eL		42 34
BOZ	iP		19 25 44C
	iPcP		26 04
BUT	iP		19 25 49C
COL	iP		19 28 03C
	ipP		28 32
	i		31 58
	iSKS		38 32
	i		40 40
	iSS		46 03
	eSSS		50 40
	iL		55 48
COLU	iP		19 23 26C
	e		34 20
	eL		35 00
EUR	iP		19 25 31C
	e(S)		44 41
	e		53 34
	iPKKP		53 39
	eP'P'		20 02 03
HH	iP		19 26 03C
	ipP		26 24
	eP'P'		53 15
	eSKPP'		57 02
	eP'P'P'		20 13 13
RC	iP		19 25 15C
	ipP		25 34
	ePP		28 12
	epPPP		30 02
	eS		33 59
	e(ScS)		35 24
	eL		41 15
SLC	iP		19 25 23C
	ePKKP		53 39
SJ	iP		19 21 19C
	epP		21 37
	ePP		22 44
SIT	eP		19 27 29D
	ePP		30 59
	iSKS		37 46
	iS		38 12
	isS		38 56
	iPS		39 29
	eSS		44 12
	eL		55 12
TUC	iP		19 24 38C
	i		26 19
	ePP		27 21
	epPPP		28 57
	ePcS		29 20
	iScP		29 24
	iS		32 59
	eL		42 55
	iP'P'		54 04
UK	iP		19 25 54C
	iPcP		26 16
	ipP		26 23
	isP		26 34
WASH	iP		19 24 01D
	e(PcP)		25 33
	iS		31 41
	esSS		36 32
	eL		40 43
Jan. 15			
COL	eP		21 07 17
HH	e(P)		21 10 11
Jan. 15			
BC	eP		22 28 45
	i		29 05
COL	iP		22 28 29
COLU	ePP		22 35 48
	eP'P'		45 14
EUR	eP		22 28 44
	iPP		32 31
	ePKKP		47 17
	eP'P'		54 31
	eSKPP		58 01
HONO	eP		22 24 54
	e		25 26
	eS		31 42
	eL		35 34
HH	eP		22 29 08
	i		29 27
	ePP		32 53
	e(PKKP)		45 59
	eP'P'		54 29
	eSKPP		58 06
KIP	eP		22 24 43
	i		25 00
RC	ePP		22 33 27
SLC	eP		22 29 11
SJ	eP'		22 35 00
	e		35 26
TUC	eP		22 29 11
	ePP		32 40
	e(PS)		41 23
	eL		53 19
UK	eP		22 28 39
Jan. 16			
COL	iP		02 16 26
Jan. 16			
BC	iP		04 28 15
BOZ	eP		04 28 55
COL	iP		04 28 48
	ipP		29 54
EUR	iP		04 28 20
HH	iP		04 28 51
RC	e(P)		04 29 14
	i		30 51
SLC	eP		04 28 39
TUC	iP		04 28 22
Jan. 16			
BOZ	eP		04 31 05
BUT	eP		04 31 02
EUR	iP		04 31 37
HH	iP		04 30 55
	ePP		34 13
TUC	eP		04 31 55
Jan. 16			
BC	eP		11 16 43
COL	iP		11 16 14
EUR	eP		11 16 33
HH	e(P)		11 17 14
TUC	eP		11 17 05
	eL		45 37
Jan. 16			
RC	iP		11 30 38
Jan. 16			
COL	iP		13 59 11
Jan. 16			
COL	eP		14 51 09
EUR	eP		14 54 37
RC	eP		14 55 16
Jan. 16			
EUR	eP		17 44 13
HH	e(P)		17 43 43
Jan. 16			
HH	eP		20 29 57
Jan. 16			
EUR	iP		21 52 41
HH	eP		21 53 21
RC	eP		21 52 26
Jan. 17			
HH	eP		00 00 02
	i		00 05
HH	eS		00 00 35
	iL		00 41
Jan. 17			
COL	eP		03 58 07
Jan. 17			
COL	eP		04 27 00
EUR	ePP		04 32 57
	ePKKP		43 51
HONO	iP		04 25 57
	eL		51 38
HH	e(P')		04 32 38
	ePP		33 10
	iPKKP		44 39
RC	e(PP)		04 34 17
Jan. 17			
EUR	iP		05 35 13
HH	iP		05 35 41
RC	eP		05 35 00
SJ	e(P)		05 31 19
TUC	iP		05 34 28
Jan. 17			
BC	eP'		07 34 45
COL	eP'		07 34 49
COLU	iP'		07 35 23
	e		36 36
EUR	iP'		07 34 48
	i		36 04
HH	eP'		07 34 55
RC	eP'		07 35 04
	e		35 09
SLC	eP'		07 34 57
Jan. 17			
EUR	eP		07 40 47
TUC	e(P)		07 41 50
	i		41 59
RC	e(P)		07 43 29
Jan. 17			
EUR	eP		09 17 01
HH	eP		09 16 43
Jan. 17			
COL	iP		13 36 52
EUR	iP		13 37 34

Date and Station		Phase (GCT)
		h m s
Jan. 17		
COL	eP	17 14 42
HH	eP	17 13 58
	i	14 03
Jan. 17		
EUR	eP	21 28 48
Jan. 17		
EUR	eP	23 32 36
Jan. 17		
EUR	eP	23 59 18
Jan. 18		
EUR	eP	00 24 38
Jan. 18		
COL	iP	03 24 31
	iS	25 45
	iL	25 54
HH	eP	03 28 11
	e	28 24
Jan. 18		
HH	iP	11 12 40
Jan. 18		
EUR	eP	11 51 03
Jan. 18		
COL	eP	13 39 31
Jan. 18		
RC	eP	13 56 57
Jan. 18		
TUC	e(P)	14 43 23
Jan. 18		
BC	ePP	15 34 18
COL	eP'	15 33 44
EUR	eP'	15 33 13
HH	eP'	15 33 16
	e	33 52
SJ	eP	15 25 41
Jan. 18		
BC	eP	16 34 50
	e(S)	35 48
	eL	35 57
BUT	eP	16 36 09
EUR	iP	16 34 07
HH	eP	16 36 14
	eL	38 42
SLC	eP	16 35 15
	e	36 19
TUC	eP	16 36 30
	e	38 33

Date and Station		Phase (GCT)
		h m s
Jan. 18		
COL	iP	19 36 46
EUR	iP	19 37 41
	ipP	38 16
HH	eP	19 37 50
Jan. 18		
COL	iP	19 49 44
Jan. 18		
HH	eP	22 25 30
TUC	eP	22 27 07
Jan. 18		
EUR	eP	23 40 14
Jan. 18		
TUC	eP	23 57 33
	e	59 27
Jan. 19		
EUR	iP	01 54 22
Jan. 19		
HH	iP	04 05 02
Jan. 19		
EUR	eP	06 06 32
Jan. 19		
COL	eP	08 13 43
	iS	14 16
	iL	14 21
Jan. 19		
COL	eP	09 21 56
EUR	eP	09 24 25
HH	iP	09 24 04
Jan. 19		
COL	eP	11 45 36
EUR	eP	11 46 06
Jan. 19		
COL	eP	12 08 45
	eS	09 30
	eL	09 38
Jan. 19		
EUR	eP	13 49 11
HH	eP	13 49 42
Jan. 19		
BH	iP	14 09 21C
	iS	11 07
BC	eP	14 16 01C
	i	16 09
	eS	23 07
	eL	29 25

Date and Station		Phase (GCT)
		h m s
BOZ	eP	14 16 36C
	i	16 40
	eS	23 58
BUT	eP	14 16 44C
COL	iP	14 19 30C
	iS	29 35
	iSS	35 03
	iL	39 06
COLU	iP	14 13 56C
	iS	19 12
	eL	21 35
EUR	eP	14 16 20C
HONO	eP	14 19 34
	iS	29 38
	i	30 05
	i	32 08
	iSS	35 10
	e	37 20
	eL	40 18
HH	iP	14 16 59C
	i	17 02
	i	18 36
	i	19 44
	e(PKKP)	35 00
	e	36 24
	eP'P'	47 15
HONO	eP	14 19(31)
RC	iP	14 15 59C
	i	16 12
	ePP	17 50
	iS	23 04
SLC	iP	14 16 15C
SJ	iP	14 12 15C
SIT	iP	14 18 45D
	ePP	21 29
	eS	28 00
	e	31 04
	i(SS)	32 16
	eL	43 12
TUC	iP	14 15 21D
	ePcP	17 17
	e(ScP)	20 28
	eS	21 27
	eL	24 36
UK	iP	14 16 59D
	e	19 32
WASH	iP	14 14 41
	eS	20 45
	eL	24 41
Jan. 19		
BH	iP	14 45 20C
BC	eP	14 52 03C
	ePcP	53 34

Date and Station		Phase (GCT)
		h m s
BOZ	eP	14 52 38C
COL	iP	14 55 33C
COLU	iP	14 49 58C
	e(S)	55 34
	eL	58 37
EUR	iP	14 52 25C
HONO	eP	14 55 43
	ePP	59 03
HH	iP	14 53 01C
	iPP	55 02
	eP'P'	15 23 05
HONO	eP	14 55 33
RC	iP	14 52 01D
	eP'P'	15 23 17
SJ	iP	14 48 17C
SIT	eP	14 54 49
TUC	iP	14 51 24C
	eL	15 07 33
UK	eP	14 53 00D
	i	53 11
	e(SS)	15 04 07
WASH	iP	14 50 44C
	eS	56 37
	eL	15 00 16
Jan. 19		
COL	e(P)	17 03 53
	ePP	07 39
EUR	eP'	17 09 21
HH	iP'	17 09 08
	e	10 38
Jan. 19		
RC	eP	18 24 17
Jan. 19		
HH	eP	20 50 24
Jan. 20		
HH	eP	02 08 02
Jan. 20		
COL	eP	02 18 38
HH	eP	02 21 35
Jan. 20		
COL	eP	02 29 48
Jan. 20		
BC	eP	02 31 53
	e	32 04
BOZ	eP	02 32 26
	e	32 36

Date and Station		Phase	(GCT) h m s
BUT		iP	02 32 36
		i	32 47
COLU		eP	02 30 34
		ePP	32 50
		eS	39 11
		eL	46 54
EUR		iP	02 32 11
		iPcP	32 22
		i	33 45
		eP'P'	59 04
HH		iP	02 32 42
		i	33 09
		e	35 38
RC		iP	02 32 03
		i	32 14
SLC		eP	02 32 07
		e	32 18
SJ		iP	02 28 41
TUC		iP	02 31 25
		i	31 34
		e	32 52
WASH		eP	02 31 05
Jan. 20			
COL		eP	03 24 40
Jan. 20			
EUR		eP	04 50 47
Jan. 20			
EUR		eP	06 22 06
Jan. 20			
COL		iP	07 24 54
		ipP	25 19
HH		e(P)	07 26 48
Jan. 20			
HONO		eP	07 26 34
		iL	26 58
Jan. 20			
EUR		eP	10 04 14
Jan. 20			
BC		eP	10 07 46
BOZ		eP	10 08 20
BUT		eP	10 08 24
EUR		iP	10 08 04
HH		eP	10 08 34
RC		iP	10 07 56
SLC		eP	10 08 00
SJ		eP	10 04 35

Date and Station		Phase	(GCT) h m s
TUC		eP	10 07 17
		e	07 29
		e	08 41
Jan. 20			
COL		e(P)	10 21 43
Jan. 20			
HH		iP	12 07 09
Jan. 20			
COL		eP	12 12 53
EUR		eP	12 16 33
HH		eP	12 15 51
Jan. 20			
BC		eP	19 41 41
COL		eP	19 42 22
EUR		iP	19 41 48
HH		eP	19 42 18
Jan. 20			
COL		eP	21 04 13
Jan. 20			
HH		e(P)	22 52 25
Jan. 21			
HH		iP	04 26 28
		e	28 56
Jan. 21			
RC		iP	06 18 54
		e	19 10
Jan. 21			
HH		e(P)	06 34 04
Jan. 21			
BC		eP	08 18 45
BOZ		eP	08 19 17
BUT		eP	08 19 22
EUR		iP	08 19 03
HH		iP	08 19 33
		i	19 49
SLC		eP	08 18 57
SJ		eP	08 15 34
TUC		eP	08 18 16
Jan. 21			
HH		iP	09 24 54
Jan. 21			
COL		eP	14 52 32
EUR		eP	14 49 32

Date and Station		Phase	(GCT) h m s
HH		e(P)	14 48 21
		e	50 13
Jan. 21			
BC		eP	16 00 57
Jan. 21			
EUR		eP	16 29 20
Jan. 21			
EUR		eP	18 41 07
Jan. 21			
COL		iP	19 43 57
EUR		eP	19 47 15
HH		eP	19 46 46
		e	46 59
Jan. 21			
EUR		eP	20 03 03
Jan. 21			
EUR		eP	21 14 07
HH		eP	21 14 29
SJ		eP	21 09 12
Jan. 21			
EUR		eP	21 23 34
		eL	24 35
Jan. 21			
HH		eP	21 53 55
Jan. 21			
EUR		eP	22 56 50
		i	57 04
HH		eP	22 58 00
RC		e(P)	22 58 07
		e	59 35
SLC		eP	22 56 12
TUC		eP	22 58 03
		e	59 43
Jan. 22			
HH		eP	05 12 36
Jan. 22			
COL		eP	05 28 06
Jan. 22			
EUR		eP	13 01 25
HH		iP	13 01 36
Jan. 22			
BUT		eP	18 42 20
COL		iP	18 40 03
EUR		iP	18 42 31
		iPP	46 27

Date and Station		Phase	(GCT) h m s
HH		iP	18 42 09
		e(PP)	46 15
		iPKKP	59 18
Jan. 22			
EUR		iP	21 18 54
		e	19 32
HH		iP	21 19 21
Jan. 22			
HH		eP	22 38 27
Jan. 22			
COL		iP	23 36 56
EUR		iP	23 40 42
HH		iP	23 40 06
RC		iP	23 41 11
TUC		eP	23 41 41
Jan. 23			
COL		eP	01 48 05
HH		eP	01 50 56
Jan. 23			
BC		iP	02 45 20
		e(pP)	45 34
BOZ		iP	02 44 55
BUT		iP	02 44 46
		ipP	45 14
COL		iP	02 41 43
		ipP	41 58
COLU		eP	02 47 00
		epP	47 37
EUR		iP	02 45 00
		ipP	45 34
HH		iP	02 44 32
		ipP	45 04
		eP'P'	03 13 24
RC		iP	02 45 23
		epP	45 57
SLC		iP	02 45 10
		epP	45 42
SIT		iP	02 42 45
TUC		iP	02 45 48
		epP	46 11
UK		iP	02 44 37
Jan. 23			
COL		iP	05 42 04

B 4207-4

Date and Station		Phase (GCT)
Jan. 23		h m s
BC	iP	09 05 06
COL	iP	09 05 03
EUR	iP	09 05 10
	iPP	08 46
KIP	iP	09 01 10
	ipP	01 45
HH	iP	09 05 29
	epP	06 11
	iPP	09 21
RC	eP	09 05 55
SLC	eP	09 05 24
TUC	iP	09 05 14
	ePP	08 54
UK	eP	09 04 44
Jan. 23		
BOZ	eP	13 45 11
BUT	iP	13 45 11
COL	iP	13 43 54
COLU	eP	13 45 04
EUR	iP	13 45 58
	iPcP	46 27
	eP'P'	14 14 24
HH	iP	13 44 58
	eP'P'	14 14 46
RC	iP	13 45 00
SLC	eP	13 45 41
TUC	iP	13 46 28
Jan. 23		
EUR	eP	16 17 53
Jan. 23		
COL	iP	16 33 57
	ipP	34 33
EUR	eP	16 33 33
HH	e(P)	16 34 05
Jan. 23		
COL	eP	16 38 51
EUR	eP	16 39 08
	i	39 18
Jan. 23		
HH	e(P)	21 12 04
Jan. 23		
BC	eP	23 58 23
	e	59 01
EUR	eP	23 58 29
	i	59 07

Date and Station		Phase (GCT)
		h m s
TUC	eP	23 58 27
	e	59 04
Jan. 24		
COL	eP	02 28 54
EUR	eP	02 29 51
Jan. 24		
BC	eP	04 07 01
COL	eP	04 11 50
EUR	iP	04 07 34
HH	iP	04 08 36
TUC	iP	04 06 06
	i	06 26
	eL	10 16
Jan. 24		
BC	eP	04 47 59
BOZ	eP	04 47 16
BUT	eP	04 47 11
COL	eP	04 44 00
	i	44 57
EUR	iP	04 47 38
HH	iP	04 46 54
RC	eP	04 47 34
SLC	eP	04 47 38
TUC	iP	04 48 23
	i	48 29
Jan. 24		
COL	eP	05 07 32
Jan. 24		
BC	eP	06 03 45
	e	03 55
BOZ	eP	06 03 09
BUT	eP	06 03 00
	i	03 18
COL	iP	05 59 23
	e(S)	06 03 34
	iS	04 06
	iL	05 20
COLU	iP	06 05 41
EUR	iP	06 03 22
KIP	eP	06 02 19
	eT	50 15
	iT	51 11

Date and Station		Phase (GCT)
		h m s
HH	iP	06 02 42
	i	02 59
	iPcP	04 07
	e(P'P')	33 23
RC	iP	06 03 42
	eP'P'	33 46
SLC	eP	06 03 30
SJ	eP	06 07 24
SIT	eP	06 00 36
	ePP	01 54
TUC	iP	06 04 21
	ePP	06 27
	e(PPP)	08 22
	eL	23 11
	eP'P'	33 29
WASH	iP	06 05 28
	ePP	08 08
	eL	38 34
Jan. 24		
COL	eP	06 12 21
EUR	eP	06 16 18
HH	e(P)	06 15 39
Jan. 24		
BC	eP	06 20 50
BOZ	eP	06 20 13
BUT	eP	06 20 04
COL	iP	06 16 29
COLU	eP	06 22 45
EUR	iP	06 20 27
HH	eP	06 19 46
	iPcP	21 15
RC	iP	06 20 47
	eP'P'	50 49
SLC	eP	06 20 35
SIT	eP	06 17 40
TUC	eP	06 21 25
Jan. 24		
COL	eP	06 32 30
Jan. 24		
BC	eP'	07 07 58
	iP'	08 04
BOZ	eP'	07 08 04
BUT	eP'	07 08 04
	i	08 28

Date and Station		Phase (GCT)
		h m s
COL	eP'	07 09 05
	e	12 54
EUR	iP'	07 08 02
	iPP	12 02
HH	eP'	07 08 02
	i	08 34
	eP'P'	12 12
RC	iP'	07 07 50
SLC	eP'	07 07 49
	iP'	08 06
	e	08 38
TUC	iP'	07 07 50
	ePP	11 22
Jan. 24		
COL	eP	08 03 12
Jan. 24		
COL	eP	08 19 24
Jan. 24		
COL	eP	12 16 16
Jan. 24		
COL	iP	13 20 42
EUR	eP	13 20 23
HH	eP	13 20 50
TUC	eP	13 20 24
Jan. 24		
EUR	eP	13 51 36
HH	eP	13 52 17
RC	eP	13 51 22
	e	51 29
SJ	e(P)	13 47 28
TUC	e(P)	13 50 43
Jan. 24		
BOZ	eP	16 34 03
COL	eP	16 37 11
EUR	eP	16 33 20
HH	e(P)	16 34 00
SJ	eP	16 31 34
TUC	eP	16 32 11
Jan. 24		
HH	eP	16 39 12
Jan. 24		
BC	eP	16 59 08
	e	59 54

8-4197-4.

Date and Station		Phase	(GCT) h m s
EUR		iP	16 58 15
Jan. 24 BC		eP	18 12 56
BOZ		iP	18 12 24
		e	13 06
BUT		iP	18 12 15
		iPcP	13 21
COL		iP	18 08 48
COLU		iP	18 15 06
EUR		iP	18 12 34
HH		iP	18 11 58
		iPcP	13 17
RC		iP	18 13 02
SLC		eP	18 12 45
SJ		eP	18 16 51
TUC		iP	18 13 33
		i	19 25
Jan. 24 COL		eP	18 54 52
EUR		eP	18 58 38
HH		e(P)	18 58 02
Jan. 24 EUR		eP	20 08 29
Jan. 24 HH		eP	21 07 12
Jan. 24 COL		iP	22 20 22
Jan. 24 COL		iP	22 31 02
EUR		eP	22 34 45
HH		eP	22 34 11
TUC		e(P)	22 38 28
Jan. 24 COL		iP	23 04 18
EUR		iP	23 08 03
HH		iP	23 07 28
		i	07 37
RC		eP	23 08 34
		e	08 43
Jan. 24 BC		iP	23 24 10
		ipP	24 25
BOZ		iP	23 23 19
		ipP	23 30
		i	24 01
BUT		iP	23 23 09
		i	23 34
COL		iP	23 18 48
COLU		iP	23 26 34
		eL	44 20
EUR		iP	23 23 41
		iPcP	26 39
		i	27 00
		eL	30 14
HH		iP	23 22 48
		i	23 20
		iL	29 55
RC		iP	23 24 02
SLC		iP	23 23 47
		epP	24 03
SJ		iP	23 28 48
		epP	29 26
		e	29 39
SIT		iP	23 19 39
		iS	21 17
		iL	22 41
TUC		iP	23 24 52
		epP	25 08
		e	26 22
WASH		iP	23 26 18
		eL	40 26
Jan. 25 BC		eP	00 04 49
BOZ		eP	00 05 26
COL		iP	00 05 13
		e	05 32
EUR		iP	00 04 55
		i	05 15
HONO		eP	00 00 52
HH		iP	00 05 21
		e	08 54
RC		eP	00 05 45
		e	09 34
SLC		eP	00 05 11
TUC		iP	00 04 57
Jan. 25 EUR		eP	02 41 59
TUC		eP	02 40 49
Jan. 25 EUR		eP	03 40 56
		eS	41 51
		eL	41 56
Jan. 25 EUR		eP	08 33 48
Jan. 25 BUT		e(P)	09 18 32
HH		eP	09 18 17
TUC		eP	09 20 01
Jan. 25 SJ		eP	11 18 49
Jan. 25 SJ		eP	14 33 51
Jan. 25 EUR		iP	15 30 26
Jan. 25 HH		iP	15 58 49
Jan. 25 HH		e(P)	16 36 37
Jan. 25 EUR		eP	18 04 21
HH		eP	18 03 48
		e	04 16
Jan. 25 HH		eP	18 06 27
Jan. 25 HH		e(P)	21 12 08
Jan. 25 EUR		iP	21 48 58
		i	49 12
TUC		eP	21 48 13
Jan. 25 BC		eP	21 50 36
BOZ		eP	21 50 09
COL		eP	21 46 44
EUR		iP	21 50 12
HH		iP	21 49 30
		i	49 41
		i	52 05
RC		e(P)	21 48 51
		e	50 51
TUC		iP	21 51 15
Jan. 25 KIP		eP	22 22 58
Jan. 26 COL		eP	02 22 07
EUR		eP	02 19 45
HH		eP	02 19 51
RC		eP	02 18 44
SJ		eP	02 11 45
		i(S)	12 24
		eL	12 30
TUC		eP	02 19 07
Jan. 26 EUR		eP	03 31 41
TUC		e(P)	03 31 17
		e	31 23
Jan. 26 BC		eP	03 48 29
EUR		eP	03 48 47
TUC		eP	03 48 15
Jan. 26 COL		eP	06 10 46
Jan. 26 RC		iP	06 38 44
Jan. 26 BC		eP	06 53 00
BOZ		eP	06 52 33
BUT		eP	06 52 24
COL		iP	06 49 10
COLU		eP	06 54 51
EUR		iP	06 52 37
KIP		eT	07 39 16
HH		iP	06 52 09
RC		iP	06 53 06
		e	53 13
SLC		eP	06 52 50
		e	52 59
TUC		eP	06 53 32
Jan. 26 BC		eP	07 39 07
BOZ		eP	07 38 40
BUT		eP	07 38 30
COL		iP	07 35 11
EUR		iP	07 38 49

Date and Station		Phase (GCT)
		h m s
HH	iP	07 38 14
	i	38 36
RC	iP	07 39 13
SLC	eP	07 38 58
TUC	iP	07 39 40
	e	39 53
Jan. 26		
EUR	iP	12 41 11
HH	iP	12 41 41
RC	eP	12 40 56
TUC	iP	12 40 25
Jan. 26		
COL	eP	13 27 17
Jan. 26		
HH	eP	16 28 21
Jan. 26		
EUR	eP	18 11 28
Jan. 26		
EUR	eP	20 23 43
	i	23 51
	eS	24 27
	eL	24 34
HH	eP	21 48 45
Jan. 26		
HH	e(P)	22 44 31
Jan. 27		
HH	eP	01 46 38
Jan. 27		
COL	eP	03 57 44
	eS	58 26
	eL	58 34
Jan. 27		
BC	eP	07 55 49D
	e	56 03
BOZ	eP	07 56 30C
	e	56 40
	ePP	59 40
BUT	eP	07 56 24
	e	56 38
	ePP	59 31
COL	iP	07 56 21C
	iS	08 06 36
	e	10 02
	eL	18 18
COLU	eSKS	08 08 37
	eL	36 38
EUR	iP	07 55 54D

Date and Station		Phase (GCT)
		h m s
HH	eP	07 56 25C
	ePP	59 31
KIP	eP	07 51 37
	eL	08 00 36
	eT	32 33
	iT	33 15
RC	eP	07 56 51C
SLC	eP	07 56 13
	e	56 31
TUC	iP	07 55 55C
	e	57 11
	ePP	58 53
	eL	08 18 45
Jan. 27		
COL	eP	08 29 37
Jan. 27		
BH	iP	08 31 37
	iS	31 53
Jan. 27		
EUR	eP	08 44 23
Jan. 27		
COL	eP	09 04 52
EUR	iP	09 05 49
	i	06 20
Jan. 27		
COL	eP	09 06 54
	iS	07 50
	iL	07 57
Jan. 27		
COL	eP	09 14 52
EUR	iP	09 15 44
Jan. 27		
EUR	eP	13 35 54
Jan. 27		
EUR	eP	18 49 02
Jan. 27		
EUR	eP	19 44 12
Jan. 27		
COL	eP	20 31 52
	iS	32 51
	iL	32 56
EUR	eP	20 37 17
Jan. 28		
KIP	iP	01 54 59
Jan. 28		
HH	eP	03 43 04
Jan. 28		
TUC	eP	04 18 57

Date and Station		Phase (GCT)
		h m s
Jan. 28		
COLU	e(P)	05 59 49
	eL	06 00 30
RC	eP	06 01 55
	eL	03 04
Jan. 28		
HH	e(P)	06 07 36
Jan. 28		
COL	eP	06 44 45
EUR	iP	06 49 20
HH	iP	06 48 48
RC	eP	06 49 59
TUC	eP	06 50 23
Jan. 28		
COL	eP	06 45 51
Jan. 28		
COL	eP	06 49 11
Jan. 28		
EUR	eP	10 28 00
HH	e(P)	10 27 30
TUC	eP	10 29 04
Jan. 28		
TUC	eP	11 21 51
Jan. 28		
HH	eP	13 19 04
Jan. 28		
RC	eP	13 42 44
Jan. 28		
COL	iP	17 26 59
Jan. 28		
COL	eP	19 54 30
Jan. 28		
HH	eP	20 44 45
Jan. 28		
EUR	eP	20 53 52
Jan. 28		
EUR	eP	21 51 13
HH	iP	21 50 58
Jan. 29		
COL	eP	00 25 18
	i	25 26
EUR	eP	00 28 17
HH	e(P)	00 27 53
RC	e(P)	00 28 48

Date and Station		Phase (GCT)
		h m s
Jan. 29		
HONO	iP	01 20 30
KIP	iP	01 20 33
Jan. 29		
EUR	eP	02 04 39
TUC	eP	02 03 12
Jan. 29		
COL	iP	08 30 56
EUR	eP	08 36 26
HH	iP	08 35 28
	i	35 46
Jan. 29		
HH	e(P)	08 42 35
Jan. 29		
HH	iP	08 48 35
Jan. 29		
EUR	eP	09 49 56
RC	eP	09 48 40
Jan. 29		
EUR	eP	10 08 16
Jan. 29		
BH	iP	10 19 38
	iS	23 36
BC	eP	10 20 16
	eL	27 36
BOZ	eP	10 21 21
BUT	eP	10 21 25
COLU	iP	10 20 17
	e	21 20
	eS	24 42
	eL	33 16
EUR	iP	10 20 46
	eL	29 28
HH	eP	10 21 45
RC	eP	10 20 51
	e	21 49
	e	22 20
	eL	29 51
SLC	eP	10 20 41
TUC	eP	10 19 24
	e(S)	23 20
	eL	24 51
Jan. 29		
COL	eP	11 27 00
EUR	eP	11 28 04

Date and Station		Phase (GCT) h m s
Jan. 29		
EUR	eP	12 29 31
Jan. 29		
COL	eP	13 42 49
	eS	43 39
	eL	43 45
Jan. 29		
COL	iP	18 52 15
	ipP	52 52
HH	eP	18 52 15
Jan. 29		
EUR	eP	20 36 55
HH	eP	20 37 04
Jan. 29		
HH	i(P)	21 32 41
Jan. 29		
EUR	eP	23 37 05
TUC	iP	23 38 00
Jan. 30		
HONO	iP	01 25 51
Jan. 30		
COL	iP	02 21 16
EUR	eP	02 20 53
HH	e(P)	02 21 22
TUC	eP	02 20 53
	i	22 34
Jan. 30		
EUR	iP	02 29 34
Jan. 30		
BC	eP	05 10 00
COL	iP	05 10 44
EUR	iP	05 10 07
HH	iP	05 10 40
RC	eP	05 11 02
TUC	iP	05 10 05
Jan. 30		
BC	eP	06 26 47
COL	eP	06 25 49
	iP	25 52
	i	27 37
	eS	36 14
	i	37 58
	e(SS)	42 01
	eL	52 12
EUR	iP	06 26 43
	i	28 30
	ePKKP	44 31
HONO	eP	06 22 54
	eS	30 29
	eL	34 32
HH	eP	06 26 56
	ePP	30 40
RC	eP	06 27 30
	ePP	31 49
SJ	eP'	06 32 55
TUC	ePP	06 30 55
	e	32 06
	e	39 44
	eL	57 52
Jan. 30		
HONO	e(P)	07 19 55
	e	20 20
Jan. 30		
HH	e(P)	07 49 00
Jan. 30		
COL	eP	08 23 31
Jan. 30		
COL	eP	08 44 48
EUR	iP	08 48 09
HH	eP	08 47 39
TUC	eP	08 49 11
Jan. 30		
COL	eP	10 03 15
HH	e(P)	10 06 15
Jan. 30		
HH	eP	14 01 30
Jan. 30		
COL	eP	14 53 50
EUR	iP	14 57 17
HH	iP	14 56 47
Jan. 30		
EUR	iP	15 20 25
Jan. 30		
COL	eP	15 45 49
	i	46 09
	iS	47 12
	iL	47 23
Jan. 30		
COL	iP	15 49 55
	i	50 23
	i	50 40
EUR	iP	15 53 30
HH	eP	15 54 20
Jan. 30		
COL	iP	18 31 57
Jan. 30		
COL	iP	18 34 20
EUR	eP	18 37 51
Jan. 30		
COL	eP	18 55 17
	iL	56 10
Jan. 30		
COL	eP	19 25 32
EUR	ePP	19 31 45
HH	iP	19 26 16
Jan. 30		
SJ	eP	20 10 35
	eL	12 06
Jan. 30		
COL	iP	22 53 35
	ipP	55 46
EUR	iP	22 53 16
	ipP	55 19
HH	eP	22 53 42
	eP'	57 27
Jan. 31		
HH	iP	01 15 51
Jan. 31		
HH	eP	01 41 57
Jan. 31		
HH	eP	02 24 46
Jan. 31		
BOZ	eP	05 28 06
BUT	eP	05 28 01
HH	eP	05 27 59
RC	eP	05 28 15
Jan. 31		
HH	eP	06 05 43
Jan. 31		
EUR	eP	06 21 15
	iL	21 55
Jan. 31		
COL	eP	06 29 53
EUR	iP	06 33 15
HH	eP	06 32 46
	e	32 58
Jan. 31		
BUT	eP'	06 51 20
EUR	e(P')	06 50 37
	ePP	50 51
HH	eP'	06 51 13
	iPP	51 24
RC	e(P)	06 51 11
TUC	eP	06 46 19
	ePP	50 19
Jan. 31		
EUR	eP	07 02 46
	i	03 19
HH	eP	07 02 22
	i	02 34
RC	eP	07 02 22
	e	02 33
	e	05 14
Jan. 31		
BOZ	eP	13 08 11
COL	eP	13 11 41
COLU	e(P)	13 06 20
EUR	iP	13 07 48
HH	eP	13 08 38
RC	eP	13 07 37
TUC	iP	13 06 36
Jan. 31		
HH	i(P)	20 43 26
Jan. 31		
BC	eP	21 11 59
COL	iP	21 12 38
	i	13 04
EUR	iP	21 12 06
HH	eP	21 12 36
RC	eP	21 12 56
TUC	eP	21 12 03
	eL	39 42
Jan. 31		
COL	eP	23 31 50

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
BUT		SJ					
Jan.		Jan.					
13	17.0	4	13.3				
17	00.0		13.7				
18	07.6		23.4				
27	06.3	5	07.1				
	20.9	9	05.6				
		13	22.6				
COL			23.2				
Jan.		15	17.8				
3	21.8	17	08.4				
5	23.3	22	13.8				
6	19.5	23	01.2				
7	16.7		21.0				
8	18.9	25	08.0				
9	23.7		17.9				
10	06.2	26	23.9				
11	04.2	28	11.9				
12	20.9	29	05.8				
13	15.3						
14	18.5	SIT					
15	15.5	Jan.					
16	13.6	27	11.2				
17	06.6	30	19.5				
	15.2						
19	17.9	TUC					
20	05.7	Jan.					
21	11.7	3	11.2				
26	16.8	4	12.0				
27	02.8	8	10.4				
		13	02.8				
EUR			04.5				
Jan.		14	03.4				
2	11.2	17	12.1				
8	07.0	18	07.1				
16	18.3	19	06.1				
18	18.2	21	05.9				
	22.4		16.0				
23	22.0	22	01.6				
25	14.6	23	05.7				
		25	04.1				
HONO			07.8				
Jan.		26	07.6				
16	02.3	27	01.1				
20	07.5	28	07.0				
22	21.4		13.6				
25	01.5	30	13.0				
28	01.4						
	01.9						
KIP							
Jan.							
20	08.0						
28	01.9						
29	01.3						
SLC							
Jan.							
4	17.5						
17	07.7						
SJ							
Jan.							
1	20.8						
4	06.0 (2)						
	06.1 (2)						
	06.2						
	11.2						