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July, 1963

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COAST & GEODETIC SURVEY
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U. S. DEPARTMENT OF COMMERCE

John T. Connor, Secretary

COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

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

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

*Indicates a station maintained by a local institution in cooperation with the Coast and Geodetic Survey.
**Indicates a station operating on an independent basis.
Other stations are observatories of the Coast and Geodetic Survey.
WWNSS indicates the observatories are part of the World-Wide Network of Standard Seismographs.

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the data from the horizontal components of the seismographs at all stations except College, Honolulu, and Tucson will not be published for earthquakes occurring outside the United States.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

Mag. (CGS) is m_b of Gutenberg and Richter computed from the P phase only. The magnitude quoted is an average value determined from data forwarded by cooperating Standard stations and other observatories. Mag. (PAS), (PAL), (BRK) are as reported by the respective stations.

All coordinates of epicenters, origin times and focal depths have been calculated with the use of an electronic computer. The epicenters quoted in this bulletin are those previously reported on the Preliminary Determination of Epicenter cards with some refinement and minor additions.

All seismograms are on file in the Coast and Geodetic Survey. Requests for information on seismogram copies of the World-Wide Network observatories should be addressed to:

U. S. Department of Commerce
Coast and Geodetic Survey
Seismology Division
Washington Science Center
Rockville, Maryland

STATION AND INSTRUMENTAL CONSTANTS (JULY 1963)

Station	Position	Instrument	Foundation and Elevation	T_o	T_g	T_s	V	Σ	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Albuquerque, N. Mex.	Log cos 9.91367	Std-SP	Granite.	Z 1.0	0.75		400,000	17:1	60mm/min	Beginning	Up
H. J. Wirz	Lat. 34°56.5' N		1,853 m.	N 1.0	0.75		400,000				N
In Charge	Long. 106°27.5' W			E 1.0	0.75		400,000				E
		Std-LP		Z 30	100		3,000	Critical	15mm/min	Beginning	Up
				N 30	100		3,000				N
				E 30	100		3,000				E
Balboa Heights, C. Z.	Log cos 9.99467	Std-SP	Basalt.	Z 1.0	0.75		12,500	17:1	60mm/min	Beginning	Up
W. H. Esslinger	Lat. 8°57'39" N		36 m.	N 1.0	0.75		12,500				N
In Charge	Long. 79°33'29" W			E 1.0	0.75		12,500				E
		Std-LP		Z 30	100		750	Critical	15mm/min	Beginning	Up
				N 30	100		750				N
				E 30	100		750				E
Boulder City, Nev.	Log cos 9.90806	B, Paper	Fractured	Z 1.18	0.5	1.2	130,000	9:1	60mm/min	Beginning	Up
V. B. Uehling	Lat. 35°58'51" N	Z	Monzonite.								
In Charge	Long. 114°50'02" W	Mass 100 lb.	776 m.								
Bozeman, Mont.	Log cos 9.84437	Spg, N&E	Alluvium gla-	N 11.1	8.3		8,000	3:1	30mm/min	Beginning	N
A. J. M. Johnson	Lat. 45°40'01" N		cial drift	E 10.9	7.6		8,000	11:1			E
In Charge	Long. 111°02'43" W	W-L, Z	and lake de-	Z 1.1	1.7		24,000	Under	60mm/min		Up
			posit 500'					damped			
			thick over								
			gneiss and								
			schist.								
			1,490 m.								
Butte, Mont.	Log cos 9.84167	W-A, N	Rhyolite 30 m.	N 8.02			316	50:1	15mm/min	Beginning	S
S. W. Nile	Lat. 46°00.8' N	Mass 2g	Thick resting								
In Charge	Long. 112°33.8' W	W-L, N&E	on granite.	N 8.0	3.8		12,000	Near crit.	30mm/min		N
			1,758 m.	E 8.0	3.9		12,000	Near crit.			W
		B, Paper, Z		Z 1.1	0.5		50,000	Near crit.	60mm/min		Up
		Mass 100 lb.									
Chicago, Ill.	Log cos 9.87251	McC-R, N&E	Limestone.	N 10			335	15:1	15mm/min	End	N
W. F. Schmidt	Lat. 41°47.3' N	Mass 2.5 kg.	180 m.	E 10			335	15:1			W
In Charge	Long. 87°36.0' W										
*College, Alas.	Log cos 9.62825	W-L, Film, Z	Granite	Z 1.19	0.45		40,000**	Near crit.	15mm/min	Beginning	Up
J. B. Townshend	Lat. 64°51.6' N	B, Film, N&E	schist.	N 1.36	0.45		50,000**	Near crit.			N
In Charge	Long. 147°50.2' W		159 m.	E 1.40	0.45		50,000	Near crit.			E
		W, N		N 9.5	12.0		1,000	Near crit.			N
1College Outpost	Log cos 9.62781	B, paper, Z	Weathered	Z 1.5	0.53		425,000	Near crit.	60mm/min	Beginning	Up
J. B. Townshend	Lat. 64°53'08" N		schist.								
In Charge	Long. 147°48'04" W		183 m.								
Columbia, S. C.	Log cos 9.91857	W-L, Z, N&E	Consolidated	Z 1.1	1.6		24,000	Under	60mm/min	Beginning	Up
C. F. Mercer	Lat. 34°00' N		sand 150'	N 8.0	4.1		13,000	damped	30mm/min		N
In Charge	Long. 81°02' W		thick over	E 8.0	4.1		13,000				E
			granite. 94 m.								

Station	Position	Instrument	Foundation and Elevation		T_o	T_g	T_s	V	Z	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Eureka, Nev.	Log cos 9.88751	B, Paper, Z	Dolomite	Z	1.08	0.55		200,000	Near crit.	60mm/min	Beginning	Up
W. DePaoli	Lat. 39°29'00" N	Mass 100 lb.	bedrock.									
In Charge	Long. 115°58'12" W		2,178 m.									
Flaming Gorge, Utah	Log cos 9.87826	B, Film, Z,	Quartzite.	Z	1.06	0.58	1.03		8:1	15mm/min	Beginning	Up
J. Hanfelt	Lat. 40°55'36" N	N&E	1,982 m.	N	1.41	0.41	1.35		11:1			N
In Charge	Long 109°23'10" W			E	1.48	0.46	1.35		8:1			E
Glen Canyon, Ariz.	Log cos 9.90250	B, Film, Z	Navajo sand-	Z	1.10	0.37	1.08	25,000**	6:1	15mm/min	Beginning	Up
G. Atkinson	Lat. 36°58'25" N	N&E	stone.	N	1.40	0.42	1.42	50,000**	Critical			N
In Charge	Long. 111°35'35" W		1,339 m.	E	1.37	0.48	1.36	50,000**	18:1			E
Guam, Mariana Islands	Log cos 9.98776	Std-SP	Fractured	Z	1.0	0.75		6,250	17:1	60mm/min	Beginning	Up
K. Cravens	Lat. 13°32'18.0"N		Volcanic	N	1.0	0.75		6,250				N
In Charge	Long.144°54'42.0"E		tuff.	E	1.0	0.75		6,250				E
		Std-LP	230 m.	Z	30	100		750	Critical	30mm/min	Beginning	Up
				N	30	100		750				N
				E	30	100		750				E
	Log cos 9.98768	W-L, Z	Volcanics	Z	1.01	1.5		5,000	Near crit.	30mm/min	Beginning	Up
	Lat. 13°35'16" N		147 m.	N	7.35	7.0		3,000	Near crit.			N
	Long 144°51'58" E	Spg, N&E		E	7.09	7.2		3,000	Near crit.			E
*Honolulu, Hawaii	Log cos 9.96926	M-S, N&E	Coral. 3 m.	N	12			124	20:1	15mm/min	Beginning	N
R. C. Munson	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		20,000		60mm/min		Up
		Lamont, Z, N&E		Z	15	75		8,000		15mm/min		Up
				N	15	75		8,000				N
				E	15	75		8,000				W
Hungry Horse, Mont.	Log cos 9.82255	B-VR, Z	Argillaceous	Z	1.05	0.5		188,000	Near crit.	60mm/min	Beginning	Up
R. E. Wendt	Lat. 48°20'58" N		limestone	Z	1.05	92			Near crit.	30mm/min		Up
In Charge	Long. 114°01'39" W	W-L, N&E	(Belt series)	N	3.5	3.9		10,000	Near crit.			N
			1,100 m.	E	3.4	4.1		10,000	Near crit.			E
Kipapa, Hawaii	Log cos 9.96891	Std-SP	Basalt.	Z	1.0	0.75		12,500	17:1	60mm/min	Beginning	Up
R. C. Munson	Lat. 21°25'24" N		70 m.	N	1.0	0.75		12,500				N
In Charge	Long. 158°00'54" W			E	1.0	0.75		12,500				E
		Std-LP		Z	30	100		750	Critical	30mm/min	Beginning	Up
				N	30	100		750				N
				E	30	100		750				E
	Log cos 9.96893	B-VR, Z	Basalt.	Z	1.09	0.2		30,000	Near crit.	60mm/min	Beginning	Up
	Lat. 21°25.3' N		75 m.									
	Long. 158°00.9" W											
*Philadelphia, Pa.	Log cos 9.88452	W, N&E	Cape May	N	9.0	5.4	7.8	1,400	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	1,400	15:1			E
In Charge	Long. 75°10'30" W		gravel. 5 m.									

Station	Position	Instrument	Foundation and Elevation	T_o	T_g	T_s	V	Σ	Paper Speed	Time Break Reference Point	Ground Motion Trace "Up"
Rapid City, S. Dak.	Log cos 9.85637	Std-SP	Shale.	Z 1.0	0.75		25,000	17:1	60mm/min	Beginning	Up
E. L. Tullis	Lat. 44°04'30" N		995 m.	N 1.0	0.75		25,000				N
In Charge	Long. 103°12'30" W			E 1.0	0.75		25,000				E
		Std-LP		Z 30	100		750	Critical	15mm/min	Beginning	Up
				N 30	100		750				N
				E 30	100		750				E
Salt Lake City, Utah	Log cos 9.87932	McC-R, N&E	Bonneville	N 4.5	1.56	0.99	12,300	17:1	15mm/min	Beginning	N
A. M. Anderson	Lat. 40°45'55" N	Mass 2.5 kg.	Lake beds.	E 4.9	1.37	0.99	12,700	17:1			W
In Charge	Long. 111°50'54" W	W-L, Z	1,425 m.	Z 1.2	1.72	0.96	23,000	17:1	60mm/min		Up
San Juan, P. R.	Log cos 9.97726	W, N&E	Limestone.	N 9.8	15.6	10.4		20:1	30mm/min	Beginning	N
M. Vazquez	Lat. 18°22.9" N	Mass 500 g.	80 m.	E 9.8	16.8	10.4	1,280	20:1			W
In Charge	Long. 66°07.1' W	B, Z		Z 1.05	0.5	0.6	20,000	Critical	60mm/min		Up
*Sitka, Alas.	Log cos 9.73544	W, N&E	Graywacke.	N 7.5	16.5	8.2	1,000	20:1	15mm/min	Beginning	S
W. E. Osbakken	Lat. 57°03'25" N	Mass 500 g.	19 m.	E 7.5	13.2	8.2	1,000	5.5:1			E
In Charge	Long. 135°19'28" W	W-L, Z		Z 1.12	1.5		10,000		60mm/min		Up
Tucson, Ariz.	Log cos 9.92696	Std-SP	Metamorphics	Z 1.0	0.75		200,000	17:1	60mm/min	Beginning	Up
C. J. Beers	Lat. 32°18'35" N		985 m.	N 1.0	0.75		200,000				N
In Charge	Long. 110°46'56" W			E 1.0	0.75		200,000				E
		Std-LP		Z 30	100		1,500	Critical	30mm/min	Beginning	Up
				N 30	100		1,500				N
				E 30	100		1,500				E
	Log cos 9.92725	W-A, N&E	Caliche or	N 8.0			466	Critical	30mm/min	Beginning	S
	Lat. 32°14.8' N	Mass 2.3 g.	gravels 100-	E 8.0			457	Critical			E
	Long. 110°50.1' W	B, Z (LP)	300 m. thick.	Z 1.0	77		50,000	Near crit.	30mm/min		Up
		(SP)	700 m.		0.236		50,000		60mm/min		Up
Ukiah, Calif.	Log cos 9.88968	McC-R, N&E	Alluvium	N 11.9			75	Near crit.	30mm/min	Beginning	S
L. F. Caouette	Lat. 39°08' N	Mass 10 kg.	180 m. deep.	E 11.6			75				W
In Charge	Long 123°13' W	W-L, Z	199 m.	Z 1.1	1.4		24,000		60mm/min		Up
Washington, D. C.	Log cos 9.89117	W-L, Z	Recent allu-	Z 1.5	4.0		10,000		30mm/min		Up
	Lat. 38°53'33" N	Visible	vium on		Pen						
	Long. 77°01'59" W	recorder	schistose		0.5						
			granite. 0 m.								

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

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

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

1The seismometer is in a vault about 21 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.

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
1	04 03 42.9	17.4 S.	167.6 E.	New Hebrides Islands. h about 33 km. Mag. 4.2 (CGS).
1	06 31 27*	25.7 S.	179.1 E.	Fiji Islands region. h about 538 km. Mag. 4.1 (CGS).
1	09 20 12.5	29.9 N.	141.3 E.	South of Honshu, Japan. h about 75 km. Mag. 4.3 (CGS).
1	17 53 12*	20.8 S.	169.2 E.	Loyalty Islands. h about 33 km. Mag. 4.7 (CGS).
1	20 19 40.6	4.7 S.	103.7 E.	Off south coast of Sumatra. h about 91 km.
1	21 10 28.5	37.0 N.	96.1 E.	Tsinghai Province, China. h about 33 km. Mag. 5.3 (CGS).
1	22 39 57.8	46.5 N.	153.6 E.	Kurile Islands. h about 69 km. Mag. 4.5 (CGS).
2	00 15 22.4	43.9 N.	85.2 E.	Sinkiang Province, China. h about 39 km. Mag. 4.4 (CGS).
2	01 39 19.3	46.3 N.	153.4 E.	Kurile Islands. h about 33 km. Mag. 4.0 (CGS).
2	02 52 53.0	2.4 S.	77.8 W.	Ecuador. h about 33 km. Mag. 4.6 (CGS).
2	02 52 55.8	64.0 N.	148.4 W.	Central Alaska. h about 33 km. Mag. 4.0 (CGS).
2	06 02 13.7	51.5 N.	159.1 E.	Off east coast of Kamchatka. h about 33 km. Mag. 4.3 (CGS).
2	06 30 06.7	30.4 N.	114.3 W.	Gulf of California. h about 16 km. Mag. 3.9 (CGS).
2	08 02 56.3	39.8 N.	104.6 W.	North-central Colorado. Felt over an area of 3,000 square miles. h about 33 km. Mag. 4.6 (CGS).
2	09 46 35.8	7.8 S.	109.0 E.	Java. h about 117 km. Mag. 5.1 (CGS).
2	12 34 34.0	42.9 N.	126.2 W.	Off coast of Oregon. h about 33 km. Mag. 4.1 (CGS).
2	13 27 34.3	14.7 S.	70.5 W.	Southern Peru. h about 159 km. Mag. 3.9 (CGS).
2	15 03 09.6	45.7 N.	149.1 E.	Kurile Islands region. h about 33 km. Mag. 4.5 (CGS).
2	18 05 33.7	9.0 N.	83.0 W.	Panama-Costa Rica border. h about 64 km. Mag. 4.2 (CGS).
2	22 00 49*	13.7 N.	88.9 W.	El Salvador. h about 173 km. Mag. 4.2 (CGS).
3	02 16 11.7	50.6 N.	177.9 W.	Andreanof Islands, Aleutian Islands. h about 33 km. Mag. 4.3 (CGS).
3	09 13 30.7	14.6 N.	92.8 W.	Chiapas, Mexico. h about 72 km. Mag. 4.0 (CGS).
3	11 58 48.9	16.3 S.	173.8 W.	Tonga Islands. h about 24 km. Mag. 4.1 (CGS).
3	18 36 19.6	22.9 S.	175.6 W.	Tonga Islands region. h about 33 km. Mag. 4.6 (CGS).
3	22 06 34.1	12.4 S.	166.5 E.	Santa Cruz Islands. h about 35 km.
4	00 55 30.1	45.7 N.	151.5 E.	Kurile Islands. h about 50 km. Mag. 3.9 (CGS).
4	01 43 20.8	12.8 N.	88.7 W.	Near coast of El Salvador. h about 55 km. Mag. 4.1 (CGS).
4	05 50 49.5	43.7 N.	126.4 W.	Off coast of Oregon. h about 33 km. Mag. 4.4 (CGS).
4	06 55 16.8	24.0 N.	122.4 E.	Near east coast of Taiwan. h about 63 km. Mag. 4.6 (CGS).
4	08 03 47.6	7.5 N.	76.9 W.	Northwestern Colombia. h about 41 km. Mag. 4.1 (CGS).
4	10 58 13.2	26.3 S.	177.7 W.	Tonga Islands region. h about 158 km. Mag. 6¾ (PAS), 6¾-7 (BRK), 6.5 (CGS).
4	14 16 51.1	22.9 S.	175.6 W.	Tonga Islands region. h about 33 km. Mag. 4.8 (CGS).

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
4	17 49 42.7	15.8 S.	168.0 E.	New Hebrides Islands. h about 150 km.
4	21 45 31.1	0.5 N.	120.6 E.	Celebes. h about 59 km. Mag. 4.9 (CGS).
4	22 56 15.7	18.5 S.	12.6 W.	St. Helena Island region. h about 33 km. Mag. 5¼-5½ (PAL), 5.6 (CGS).
5	03 29 36.1	50.4 N.	90.6 E.	Outer Mongolia. h about 33 km. Mag. 4.5 (CGS).
5	05 48 13.4	11.6 S.	77.5 W.	Peru. Minor damage at Lima. h about 55 km. Mag. 5.8 (CGS).
5	07 19 15.8	27.7 N.	92.1 E.	Assam, India. h about 33 km. Mag. 4.2 (CGS).
5	08 35 10.9	31.7 N.	142.4 E.	South of Honshu, Japan. h about 30 km. Mag. 4.2 (CGS).
5	13 11 37.5	37.2 N.	73.0 E.	Hindu Kush. h about 111 km. Mag. 5.0 (CGS).
5	14 21 28.5	39.1 N.	22.9 E.	Greece. h about 33 km. Mag. 4.2 (CGS).
5	14 29 24.8	3.2 S.	77.8 W.	Peru-Ecuador border. h about 65 km. Mag. 4.2 (CGS).
5	14 40 54.7	12.8 N.	88.9 W.	Near coast of El Salvador. Felt at San Salvador. h about 85 km. Mag. 4.1 (CGS).
5	16 27 27.6	36.7 N.	73.0 E.	Hindu Kush. h about 193 km. Mag. 4.3 (CGS).
5	20 28 51.3	3.0 S.	141.9 E.	Near north coast of New Guinea. h about 68 km. Mag. 4.7 (CGS).
6	01 01 28.7	30.3 N.	99.8 E.	Sikang Province, China. h about 33 km. Mag. 4.9 (CGS).
6	05 21 14*	31.8 S.	179.0 W.	Kermadec Islands region. h about 33 km. Mag. 4.5 (CGS).
6	13 34 04*	28.0 N.	57.6 E.	Southeastern Iran. h about 80 km.
6	17 49 54.5	11.6 N.	142.7 E.	Mariana Islands region. h about 26 km. Mag. 4.6 (CGS).
6	22 22 22.9	37.7 N.	141.7 E.	Near east coast of Honshu, Japan. h about 34 km. Mag. 4.3 (CGS).
6	22 32 31.7	16.3 S.	39.7 E.	Near coast of Mozambique. h about 33 km.
7	00 01 13.3	42.2 S.	84.4 E.	Indian Ocean. h about 33 km. Mag. 5.0 (CGS).
7	01 09 12.7	18.0 S.	168.0 E.	New Hebrides Islands region. h about 33 km.
7	09 30 56.2	51.7 N.	156.4 E.	Kamchatka region. h about 33 km. Mag. 3.8 (CGS).
7	10 17 24.4	17.9 N.	145.6 E.	Mariana Islands region. h about 137 km. Mag. 4.7 (CGS).
7	10 52 01.4	6.2 N.	124.5 E.	Mindanao, Philippine Islands. h about 33 km. Mag. 4.6 (CGS).
7	19 20 42.4	39.6 N.	111.9 W.	Central Utah. Slight damage at Levan and Nephi. h about 33 km. Mag. 4.9 (CGS).
8	00 15 05.9	57.0 N.	134.5 W.	Southeastern Alaska. Felt at Sitka. h about 28 km. Mag. 3.7 (CGS).
8	04 19 08.4	40.8 N.	125.8 W.	Off coast of northern California. h about 33 km. Mag. 4.7 (CGS).
8	08 58 04.8	26.7 N.	55.7 E.	Near south coast of Iran. h about 33 km. Mag. 4.8 (CGS).
8	11 05 07.5	0.3 N.	17.8 W.	Mid-Atlantic Ocean. h about 33 km. Mag. 4.9 (CGS).

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
8	11 40 17.1	19.9 S.	178.7 W.	Fiji Islands region. h about 582 km. Mag. 4.3 (CGS).
8	14 12 30.5	57.4 N.	154.0 W.	Kodiak Island, Alaska. h about 30 km. Mag. 4.6 (CGS).
8	15 29 33.5	35.8 N.	69.7 E.	Hindu Kush region. h about 131 km.
8	16 02 26.8	36.6 N.	28.0 E.	Near south coast of Turkey. h about 30 km. Mag. 4.7 (CGS).
8	17 49 30.9	65.8 N.	153.9 W.	Central Alaska. h about 33 km. Mag. 4.8 (CGS).
8	21 02 56.9	6.8 N.	73.0 W.	Colombia. h about 166 km. Mag. 4.0 (CGS).
8	22 01 21.0	17.0 S.	174.7 W.	Tonga Islands region. h about 95 km. Mag. 4.0 (CGS).
8	23 51 43*	37.0 N.	90.5 W.	Southeastern Missouri. h about 25 km. Mag. 4.1 (CGS).
9	03 04 37.4	46.3 N.	153.7 E.	Kurile Islands region. h about 33 km. Mag. 4.8 (CGS).
9	04 09 28.6	22.0 N.	145.7 E.	Volcano Islands region. h about 33 km. Mag. 4.7 (CGS).
9	04 20 50.6	15.2 N.	94.0 W.	Mexico-Guatemala border. h about 33 km. Mag. 4.5 (CGS).
9	06 16 53.0	0.9 N.	121.5 E.	Celebes. h about 142 km. Mag. 4.9 (CGS).
9	09 24 33.3	8.5 N.	83.0 W.	Costa Rica-Panama border. h about 31 km. Mag. 5.1 (CGS).
9	15 20 47*	39.9 N.	111.9 W.	Central Utah. h about 33 km. Mag. 3.6 (CGS).
9	17 22 54.7	60.0 N.	154.5 W.	Southern Alaska. h about 60 km. Mag. 4.4 (CGS).
9	17 34 33.2	24.2 N.	122.4 E.	Near east coast of Taiwan. h about 33 km. Mag. 4.8 (CGS).
9	18 56 12.6	29.1 S.	68.1 W.	La Rioja Province, Argentina. h about 33 km. Mag. 4.8 (CGS).
9	20 25 27.5	40.0 N.	111.2 W.	Central Utah. Felt at Springville and Provo. h about 33 km. Mag. 4.1 (CGS).
10	02 11 58.3	36.5 N.	71.8 E.	Hindu Kush. h about 33 km. Mag. 4.9 (CGS).
10	03 14 41.8	46.3 N.	153.4 E.	Kurile Islands region. h about 33 km. Mag. 4.8 (CGS).
10	04 29 25.1	29.7 S.	177.2 W.	Kermadec Islands region. h about 33 km. Mag. 4.4 (CGS).
10	05 22 57.1	46.3 N.	152.9 E.	Kurile Islands region. h about 33 km. Mag. 5.6 (CGS).
10	07 19 41*	39.8 N.	23.9 E.	Aegean Sea. h about 127 km. Mag. 4.2 (CGS).
10	09 20 39.0	46.3 N.	154.0 E.	Kurile Islands region. h about 33 km. Mag. 3.9 (CGS).
10	09 49 29.6	13.4 N.	44.9 W.	North-Atlantic Ocean. h about 37 km. Mag. 4.9 (CGS).
10	11 47 35.1	16.3 S.	72.2 W.	Southern Peru. Felt at Arequipa. h about 90 km. Mag. 4.1 (CGS).
10	13 54 22.6	46.1 N.	153.9 E.	Kurile Islands region. h about 33 km. Mag. 4.8 (CGS).
10	16 48 42.2	30.2 S.	177.8 W.	Kermadec Islands region. h about 25 km. Mag. 4.7 (CGS).
10	18 22 47.9	8.8 N.	82.9 W.	Panama. h about 51 km. Mag. 4.3 (CGS).
10	18 32 51*	39.9 N.	111.4 W.	Central Utah. h about 33 km. Mag. 4.2 (CGS).
10	19 52 19.4	19.2 N.	145.2 E.	Mariana Islands region. h about 171 km. Mag. 5.4 (CGS).
10	20 21 49*	53.0 N.	171.4 W.	Fox Islands region, Aleutian Islands. h about 33 km. Mag. 4.4 (CGS).

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
10	21 06 55.9	18.2 S.	167.7 E.	New Hebrides Islands region. h about 33 km.
10	22 25 04.4	18.3 S.	167.8 E.	New Hebrides Islands region. h about 33 km.
10	22 31 48.5	18.3 S.	167.7 E.	New Hebrides Islands region. h about 33 km.
10	22 49 37.5	8.5 N.	83.0 W.	Panama-Costa Rica border. h about 48 km. Mag. 4.1 (CGS).
11	07 04 49.8	16.8 N.	91.3 W.	Chiapas, Mexico. h about 33 km. Mag. 3.5 (CGS).
11	13 20 13.1	16.6 N.	99.1 W.	Near coast of Oaxaca, Mexico. h about 33 km. Mag. 4.5 (CGS).
11	14 18 29.5	6.8 N.	72.9 W.	Colombia. h about 164 km. Mag. 4.0 (CGS).
11	17 49 09.0	12.0 S.	166.5 E.	Santa Cruz Islands region. h about 144 km. Mag. 4.2 (CGS).
11	22 16 26*	17.7 S.	179.1 W.	Fiji Islands. h about 588 km. Mag. 3.5 (CGS).
12	05 38 11.2	6.1 S.	106.2 E.	Java. h about 133 km. Mag. 5.4 (CGS).
12	06 43 51.5	7.0 N.	73.2 W.	Colombia. h about 127 km. Mag. 4.5 (CGS).
12	06 54 43.6	50.1 N.	129.8 W.	Vancouver Island region. h about 33 km. Mag. 4.0 (CGS).
12	07 55 02.3	17.9 S.	178.5 W.	Fiji Islands. h about 550 km. Mag. 4.6 (CGS).
12	12 23 27.5	50.2 N.	129.7 W.	Vancouver Island region. h about 33 km. Mag. 4.5 (CGS).
12	12 52 41.4	50.4 N.	129.0 W.	Near coast of Vancouver Island. h about 33 km. Mag. 4.0 (CGS).
12	14 03 38.3	50.3 N.	129.6 W.	Near coast of Vancouver Island. h about 33 km. Mag. 4.8 (CGS).
12	15 28 08.5	46.8 N.	153.6 E.	Kurile Island region. h about 33 km. Mag. 5-5¼ (PAL), 4.8 (CGS).
12	17 54 21.9	35.9 S.	71.9 W.	Central Chile. h about 62 km.
12	23 42 03*	33.9 N.	140.7 E.	Off south coast of Honshu, Japan. h about 73 km. Mag. 4.4 (CGS).
12	23 51 16.0	5.5 S.	153.3 E.	New Britain. h about 56 km. Mag. 5.0 (CGS).
13	07 26 15.3	31.8 S.	71.0 W.	Central Chile. h about 102 km. Mag. 4.1 (CGS).
13	08 24 24.7	29.6 N.	51.0 E.	Near west coast of Iran. h about 44 km. Mag. 5.0 (CGS).
13	08 51 33.6	46.0 N.	154.1 E.	Kurile Islands region. h about 33 km. Mag. 4.1 (CGS).
13	13 58 25.7	44.3 N.	148.8 E.	Kurile Islands. h about 33 km. Mag. 4.6 (CGS).
13	14 06 23.7	24.3 N.	122.3 E.	Ryukyu Islands. h about 33 km. Mag. 4.9 (CGS).
13	19 08 39.1	24.9 N.	70.3 E.	East Pakistan. h about 33 km.
14	00 02 22.8	30.5 S.	177.2 W.	Kermadec Islands region. h about 33 km. Mag. 5.3 (CGS).
14	01 31 10.0	46.3 N.	153.2 E.	Kurile Islands region. h about 33 km. Mag. 4.2 (CGS).
14	02 02 09.6	21.1 N.	121.4 E.	Batan Islands region. h about 58 km.
14	03 59 12.4	30.5 S.	177.3 W.	Kermadec Islands region. h about 50 km. Mag. 4.7 (CGS).
14	04 59 20.6	14.7 S.	173.2 W.	Samoa Islands region. h about 33 km. Mag. 4.2 (CGS).

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
14	05 38 48.6	46.1 N.	153.6 E.	Kurile Islands region. h about 33 km. Mag. 4.4 (CGS).
14	05 41 43.0	10.4 N.	62.6 W.	Near coast of Venezuela. Felt on Trinidad, West Indies. h about 24 km. Mag. 5¾ (BRK), 5¾-6 (PAL), 5.5 (CGS).
14	06 40 09.6	10.4 N.	62.5 W.	Near coast of Venezuela. h about 43 km. Mag. 4.3 (CGS).
14	07 46 21.4	29.5 N.	50.8 E.	Persian Gulf. h about 33 km.
14	09 08 32.7	31.7 S.	69.1 W.	San Juan Province, Argentina. h about 110 km. Mag. 4.6 (CGS).
14	10 51 42.7	36.1 N.	70.6 E.	Hindu Kush. h about 120 km. Mag. 5.1 (CGS).
14	14 28 22.1	30.2 S.	177.4 W.	Kermadec Islands. h about 42 km. Mag. 5.1 (CGS).
14	14 48 28.4	30.3 N.	78.5 E.	Northern India. h about 33 km. Mag. 4.8 (CGS).
14	17 06 38.6	39.4 S.	174.9 E.	North Island, New Zealand. h about 189 km. Mag. 6.0 (CGS).
14	19 18 25.3	8.9 S.	148.7 E.	Near north coast of eastern New Guinea. h about 26 km.
14	19 18 43.0	15.8 S.	168.0 E.	New Hebrides Islands. Felt at Santo. h about 186 km. Mag. 4.8 (CGS).
14	21 38 52*	14.6 S.	175.2 W.	Tonga Islands region. h about 260 km. Mag. 4.4 (CGS).
15	00 31 50.4	4.4 N.	77.5 W.	Near coast of Colombia. h about 47 km. Mag. 4.4 (CGS).
15	00 41 07.7	20.2 S.	178.3 W.	Fiji Islands. h about 510 km. Mag. 3.9 (CGS).
15	04 21 12*	24.5 S.	178.8 E.	Fiji Islands region. h about 33 km. Mag. 4.6 (CGS).
15	05 19 32*	1.6 N.	127.1 E.	Halmahera region. h about 33 km.
15	06 28 21.7	51.8 N.	176.8 W.	Andreanof Islands, Aleutian Islands. h about 33 km. Mag. 4.6 (CGS).
15	08 36 41*	61.7 N.	134.9 W.	Yukon Territory, Canada. h about 33 km. Mag. 4.2 (CGS).
15	08 41 07.5	55.6 N.	162.0 E.	Kamchatka. h about 60 km. Mag. 5.2 (CGS).
15	09 23 38*	48.7 N.	152.9 E.	Kurile Islands. h about 33 km. Mag. 4.0 (CGS).
15	16 32 18.6	14.4 N.	90.2 W.	Guatemala. Felt at San Salvador. h about 33 km. Mag. 3.8 (CGS).
15	16 42 34.8	62.0 N.	134.4 W.	Yukon Territory, Canada. h about 33 km. Mag. 3.8 (CGS).
15	19 22 17.9	53.2 N.	162.9 E.	Near east coast of Kamchatka. h about 33 km. Mag. 4.7 (CGS).
15	20 30 15*	20.6 S.	68.5 W.	Chile-Bolivia border. h about 263 km. Mag. 4.2 (CGS).
16	07 59 52.3	15.4 S.	173.3 W.	Samoa Islands region. h about 33 km. Mag. 4.4 (CGS).
16	09 18 22.1	34.1 N.	116.1 W.	San Bernardino County, California. Felt at Twentynine Palms. h about 16 km. Mag. 4.0 (CGS).
16	11 22 43*	48.9 N.	130.7 W.	Vancouver Island region. h about 33 km. Mag. 3.8 (CGS).
16	14 11 50.2	24.2 N.	108.7 W.	Gulf of California. h about 33 km. Mag. 3.7 (CGS).
16	18 27 18.4	43.1 N.	41.5 E.	Georgia S.S.R. h about 33 km. Mag. 5.8 (CGS).
16	19 08 29.2	30.6 S.	177.2 W.	Kermadec Islands. h about 41 km. Mag. 5.0 (CGS).

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
16	22 11 23.0	43.3 N.	41.6 E.	Georgia S.S.R. h about 17 km. Mag. 4.9 (CGS).
17	03 24 37.4	46.9 S.	33.3 E.	Prince Edward Islands region. h about 33 km.
17	07 01 57.1	7.5 S.	107.2 E.	Java. h about 41 km. Mag. 5.1 (CGS).
17	10 34 36.9	25.4 S.	111.6 W.	Easter Island region. h about 33 km. Mag. 4.7 (CGS).
17	11 57 06.7	43.1 N.	41.5 E.	Georgia S.S.R. h about 33 km. Mag. 5.3 (CGS).
17	14 10 31.3	49.9 N.	150.8 E.	Sea of Okhotsk. h about 370 km. Mag. 3.7 (CGS).
17	15 07 22.3	49.5 N.	156.3 E.	Kurile Islands region. h about 78 km. Mag. 4.7 (CGS).
17	19 05 19.6	14.9 S.	167.3 E.	New Hebrides Islands. Felt at Santo. h about 138 km. Mag. 4.4 (CGS).
17	20 44 33.3	34.1 N.	116.1 W.	San Bernardino County, California. h about 16 km. Mag. 4.3 (CGS).
17	23 05 42.5	34.1 N.	116.1 W.	San Bernardino County, California. h about 16 km. Mag. 4.2 (CGS).
17	23 11 05.6	34.1 N.	116.1 W.	San Bernardino County, California. Felt at Twentynine Palms. h about 16 km. Mag. 3.9 (CGS).
18	00 04 05.3	49.1 N.	128.9 W.	Vancouver Island region. h about 33 km. Mag. 4.8 (CGS).
18	04 01 16.3	37.2 N.	115.6 W.	Southern Nevada. h about 25 km. Mag. 3.9 (CGS).
18	04 58 09.2	61.0 S.	22.3 W.	Sandwich Islands region. h about 33 km. Mag. 6.0 (CGS).
18	05 25 04.3	18.5 S.	69.3 W.	Northern Chile. Felt at Arica. h about 72 km. Mag. 4.9 (CGS).
18	06 33 24.1	37.2 N.	115.5 W.	Southern Nevada. h about 25 km. Mag. 3.9 (CGS).
18	10 40 30.5	34.1 N.	116.1 W.	San Bernardino County, California. Felt at Twentynine Palms. h about 16 km. Mag. 4.3 (CGS).
18	11 15 11.3	22.5 S.	67.0 W.	Jujuy Province, Argentina. h about 258 km. Mag. 4.6 (CGS).
18	19 37 44.1	34.1 N.	116.1 W.	San Bernardino County, California. Felt at Twentynine Palms. h about 16 km. Mag. 4.4 (CGS).
19	04 12 10.3	7.1 N.	33.6 W.	Atlantic Ocean. h about 33 km. Mag. 4.4 (CGS).
19	05 45 28.0	43.4 N.	8.2 E.	Ligurian Sea. Felt in France, Italy and on Corsica. h about 33 km. Mag. 5¼ (PAL), 5.5 (CGS).
19	05 46 05.2	43.3 N.	8.1 E.	Ligurian Sea. h about 33 km. Mag. 5.6 (CGS).
19	07 01 46*	44.7 N.	7.0 E.	France-Italy border. Felt in Monaco. h about 33 km. Mag. 4.4 (CGS).
19	08 33 52.9	34.1 N.	116.1 W.	San Bernardino County, California. h about 16 km. Mag. 4.2 (CGS).
19	09 00 44.8	36.3 N.	141.0 E.	Near east coast of Honshu, Japan. h about 70 km. Mag. 4.6 (CGS).
19	11 46 39.1	52.0 N.	172.5 W.	Andreanof Islands, Aleutian Islands. h about 50 km. Mag. 4.4 (CGS).
19	15 54 55.8	34.1 N.	116.1 W.	San Bernardino County, California. Felt at Twentynine Palms. h about 16 km. Mag. 4.4 (CGS).

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
19	18 48 35.7	18.8 N.	145.7 E.	Mariana Islands. h about 102 km. Mag. 4.8 (CGS).
19	19 13 55.7	43.4 N.	146.3 E.	Kurile Islands region. h about 43 km. Mag. 4.4 (CGS).
19	19 26 33*	44.9 N.	110.6 W.	Yellowstone National Park, Wyoming. Felt at Papoose Creek, Montana. h about 33 km.
19	20 56 45.4	44.8 N.	110.6 W.	Yellowstone National Park, Wyoming. h about 33 km. Mag. 3.4 (CGS).
20	00 11 35.0	65.2 N.	133.7 W.	Yukon Territory, Canada. h about 33 km. Mag. 4.6 (CGS).
20	00 51 55.7	43.4 N.	41.2 E.	Georgia S.S.R. h about 33 km. Mag. 4.8 (CGS).
20	01 45 06.4	31.1 N.	116.5 W.	Near coast of Baja California. h about 14 km. Mag. 4.3 (CGS).
20	02 13 45.3	47.2 N.	152.2 E.	Kurile Islands region. h about 108 km. Mag. 4.4 (CGS).
20	05 26 19.1	14.4 N.	142.9 E.	Mariana Islands. h about 33 km. Mag. 5.1 (CGS).
20	05 35 33.6	51.3 N.	157.9 E.	Rat Islands, Aleutian Islands. h about 65 km. Mag. 4.2 (CGS).
20	06 36 10.8	57.6 S.	148.5 E.	Macquarie Island region. h about 33 km. Mag. 6 (PAL), 5.6 (CGS).
20	07 34 38.7	10.5 N.	62.5 W.	Near coast of Venezuela. h about 56 km. Mag. 4.0 (CGS).
20	07 38 50.9	32.4 N.	140.5 E.	South of Honshu, Japan. h about 124 km. Mag. 4.4 (CGS).
20	10 41 02*	45.1 N.	111.3 W.	Southwestern Montana. h about 33 km. Mag. 3.4 (CGS).
20	15 07 58.2	68.8 N.	4.6 W.	Jan Mayen Island region. h about 49 km. Mag. 4.8 (CGS).
20	19 13 05.9	37.1 N.	115.6 W.	Southern Nevada. h about 25 km. Mag. 4.1 (CGS).
21	06 01 57.3	14.8 N.	56.1 E.	Arabian Sea. h about 33 km.
21	06 47 32.2	17.8 N.	46.5 W.	North Atlantic Ocean. h about 33 km. Mag. 4.8 (CGS).
21	11 03 20*	56.1 S.	27.4 W.	Sandwich Islands region. h about 80 km. Mag. 5.5 (CGS).
21	12 12 47*	11.9 S.	166.7 E.	Santa Cruz Islands. h about 184 km. Mag. 4.1 (CGS).
21	12 45 07*	37.2 N.	141.7 E.	Near east coast of Honshu, Japan. h about 33 km. Mag. 3.9 (CGS).
21	14 45 07.1	9.7 N.	122.3 E.	Negros, Philippine Islands. h about 54 km.
21	18 48 30.4	36.5 N.	69.9 E.	Hindu Kush region. h about 112 km. Mag. 4.0 (CGS).
21	20 29 38.3	55.4 N.	155.7 W.	Kodiak Island region. h about 33 km. Mag. 3.7 (CGS).
22	00 16 33.1	13.6 N.	89.9 W.	El Salvador. Felt at San Salvador. h about 34 km. Mag. 4.0 (CGS).
22	00 29 14.9	6.1 S.	148.9 E.	New Britain. Felt at Kandrian. h about 59 km. Mag. 5 (BRK), 5.1 (CGS).
22	11 08 53*	50.4 N.	169.2 E.	Near Islands region, Aleutian Islands. h about 33 km. Mag. 4.2 (CGS).
22	13 45 41.2	3.2 S.	76.0 W.	Northern Colombia. h about 149 km. Mag. 3.8 (CGS).
22	15 47 55.1	20.9 S.	174.1 W.	Tonga Islands. h about 33 km. Mag. 4.1 (CGS).

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
22	16 33 22.2	12.5 S.	73.7 W.	Northern Peru. h about 79 km. Mag. 4.5 (CGS).
22	17 46 33.4	17.4 N.	94.8 W.	Vera Cruz, Mexico. h about 69 km. Mag. 4.0 (CGS).
22	19 22 22.3	7.7 N.	126.8 E.	Near coast of Mindanao, Philippine Islands. h about 125 km.
22	23 56 37.8	17.7 S.	167.9 E.	New Hebrides Islands. h about 33 km.
23	03 22 23.7	50.2 N.	143.7 E.	Sakhalin Island. h about 33 km. Mag. 4.2 (CGS).
23	06 17 51.5	41.5 N.	141.9 E.	Tsugaru Strait. h about 91 km. Mag. 4.4 (CGS).
23	12 40 55.4	43.1 N.	147.5 E.	Kurile Islands region. h about 33 km. Mag. 4.0 (CGS).
23	17 13 45*	12.4 S.	165.3 E.	Santa Cruz Islands. h about 33 km. Mag. 5.6 (CGS).
23	18 09 52.3	17.5 S.	167.2 E.	New Hebrides Islands. h about 33 km. Mag. 4.4 (CGS).
23	21 51 15.5	50.0 N.	176.3 W.	Andreanof Islands region, Aleutian Islands. h about 77 km.
24	05 22 54.3	20.6 S.	178.7 W.	Fiji Islands region. h about 531 km. Mag. 4.2 (CGS).
24	08 50 20.7	32.4 N.	138.4 E.	South of Honshu, Japan. h about 297 km. Mag. 4.2 (CGS).
24	09 26 46.5	27.2 S.	177.2 W.	Kermadec Islands region. h about 33 km. Mag. 4.4 (CGS).
24	09 49 12.6	57.6 N.	150.5 W.	Kodiak Island region, Alaska. h about 33 km. Mag. 4.0 (CGS).
24	10 57 47*	44.9 N.	111.1 W.	Southwestern Montana. h about 33 km.
24	11 01 32.4	16.7 S.	177.4 W.	Fiji Islands region. h about 33 km. Mag. 4.4 (CGS).
24	11 32 17.7	24.6 N.	122.0 E.	Near east coast of Formosa. Felt at Taipei. h about 33 km. Mag. 5.3 (CGS).
24	11 50 31.1	36.1 N.	136.8 E.	Honshu, Japan. Felt on west-central Honshu. h about 33 km. Mag. 4.1 (CGS).
24	12 28 19.8	14.5 S.	167.5 E.	New Hebrides Islands. h about 133 km.
24	14 06 04.4	12.3 N.	88.3 W.	Off coast of El Salvador. h about 47 km. Mag. 3.8 (CGS).
24	16 46 38.4	6.4 S.	147.8 E.	Near coast of eastern New Guinea. h about 55 km. Mag. 4.5 (CGS).
24	19 04 32.5	9.0 S.	158.2 E.	Solomon Islands region. h about 33 km. Mag. 5.8 (CGS).
24	20 57 00.5	17.9 S.	167.2 E.	Loyalty Islands region. h about 33 km. Mag. 4.7 (CGS).
24	21 47 54.1	9.7 S.	154.4 E.	Solomon Sea. h about 16 km. Mag. 5.2 (CGS).
25	07 04 21.9	6.8 N.	73.0 W.	Northern Colombia. Felt at Cucuta, Medellin, and Bogota. h about 152 km. Mag. 5.2 (CGS).
25	11 47 04.3	20.0 S.	179.4 W.	Fiji Islands region. h about 522 km. Mag. 3.7 (CGS).
25	12 57 49*	14.2 N.	92.1 W.	Mexico-Guatemala border. h about 33 km. Mag. 4.2 (CGS).
25	15 17 17.9	8.1 N.	123.5 E.	Mindanao, Philippine Islands. h about 637 km. Mag. 4.4 (CGS).
25	20 31 18*	2.4 S.	77.8 W.	Ecuador. h about 33 km. Mag. 4.0 (CGS).
26	04 17 12.5	42.1 N.	21.4 E.	Southern Yugoslavia. 1028 killed, 4038 injured, Skopje 85% destroyed. h about 5 km. Mag. 5¾-6 (PAS), 5½-5¾ (BRK), 5½ (PAL), 5.5 (CGS).

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
26	04 53 13.8	42.1 N.	21.6 E.	Southern Yugoslavia. h about 33 km. Mag. 4.2 (CGS).
26	05 26 45.1	15.0 S.	167.3 E.	New Hebrides Islands. h about 124 km. Mag. 4.6 (CGS).
26	07 33 51*	34.0 N.	117.2 W.	San Bernardino County. Felt at Colton, San Bernardino, Riverside, and Fontana. h about 16 km. Mag. 4.6 (CGS).
26	08 38 51*	18.7 N.	107.1 W.	Off coast of Jalisco, Mexico. h about 33 km. Mag. 3.7 (CGS).
26	09 26 46.4	39.6 N.	15.2 E.	Mediterranean Sea. h about 337 km. Mag. 4.2 (CGS).
26	13 40 29.5	28.5 N.	112.0 W.	Gulf of California. h about 33 km. Mag. 4.0 (CGS).
26	19 35 38.6	14.6 S.	173.0 W.	Samoa Islands region. h about 33 km. Mag. 4.1 (CGS).
26	19 46 33.2	36.9 N.	29.1 E.	Dodecanese Islands. h about 33 km.
26	23 18 04*	23.4 S.	72.3 W.	Off coast of northern Chile. h about 33 km. Mag. 4.3 (CGS).
26	23 48 26.5	9.7 S.	78.5 W.	Near coast of Peru. h about 62 km. Mag. 4.9 (CGS).
27	05 58 23.4	43.5 N.	8.4 E.	Ligurian Sea. Felt in Italy and France. h about 33 km. Mag. 5.1 (CGS).
27	06 27 03.0	43.9 N.	128.3 W.	Off coast of Oregon. h about 33 km. Mag. 4.5 (CGS).
27	08 00 45.3	19.7 S.	178.5 W.	Fiji Islands region. h about 523 km. Mag. 4.1 (CGS).
27	09 21 57*	18.4 N.	105.7 W.	Off coast of Jalisco, Mexico. h about 33 km. Mag. 3.8 (CGS).
27	13 44 32.9	34.3 N.	23.1 E.	Crete. h about 33 km. Mag. 4.3 (CGS).
27	16 47 03.7	35.9 S.	102.7 W.	Easter Island region. h about 33 km. Mag. 4.6 (CGS).
27	21 26 44.8	31.0 N.	140.3 E.	South of Honshu, Japan. h about 100 km. Mag. 4.2 (CGS).
27	22 19 52.0	13.2 N.	144.5 E.	Mariana Islands. h about 87 km. Mag. 4.3 (CGS).
27	22 21 16*	23.7 S.	179.6 W.	Fiji Islands region. h about 33 km. Mag. 4.5 (CGS).
28	04 17 50.7	51.7 N.	174.5 W.	Andreanof Islands, Aleutian Islands. h about 33 km. Mag. 3.8 (CGS).
28	07 12 17.1	29.8 S.	177.6 W.	Kermadec Islands region. h about 33 km. Mag. 5.1 (CGS).
28	07 55 21.9	11.3 S.	112.1 E.	Off south coast of Java. h about 21 km. Mag. 5.1 (CGS).
28	09 37 18*	19.2 S.	71.9 W.	Off coast of northern Chile. h about 110 km. Mag. 4.3 (CGS).
28	10 05 28*	1.5 N.	127.1 E.	Molucca Passage. h about 33 km.
28	11 43 16.4	6.7 N.	82.5 W.	South of Panama. h about 47 km. Mag. 4.1 (CGS).
28	12 11 27.9	52.6 N.	158.9 E.	Kamchatka. h about 33 km. Mag. 4.8 (CGS).
28	13 25 18.1	72.0 N.	0.0	Jan Mayen Island region. h about 33 km. Mag. 4.5 (CGS).
28	14 42 42.7	51.9 N.	174.3 W.	Andreanof Islands, Aleutian Islands. h about 33 km. Mag. 4.0 (CGS).
28	14 48 07.3	51.9 N.	174.2 W.	Andreanof Islands, Aleutian Islands. h about 33 km. Mag. 4.0 (CGS).
28	15 16 29*	14.2 N.	99.0 W.	Off coast of Guerrero, Mexico. h about 33 km. Mag. 3.7 (CGS).

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
28	16 22 44.7	51.8 N.	174.4 W.	Andreanof Islands, Aleutian Islands. h about 33 km. Mag. 4.0 (CGS).
28	16 32 25.0	4.9 S.	152.7 E.	New Ireland region. h about 69 km. Mag. 4.9 (CGS).
28	18 51 36.7	46.6 N.	153.1 E.	Kurile Islands region. h about 33 km. Mag. 5.0 (CGS).
29	01 09 26*	1.2 N.	126.0 E.	Molucca Sea. h about 85 km. Mag. 4.8 (CGS).
29	04 48 49.8	30.4 S.	177.7 W.	Kermadec Islands. h about 33 km. Mag. 4.5 (CGS).
29	05 31 26.1	6.7 S.	107.1 E.	Java. h about 85 km. Mag. 4.6 (CGS).
29	06 10 22.6	27.8 N.	55.6 E.	Southern Iran. 5 killed, 8 injured and 350 mud huts destroyed at Gahgum. h about 37 km. Mag. 5.2 (CGS).
29	10 36 26*	34.1 S.	70.4 W.	Central Chile. h about 33 km. Mag. 4.8 (CGS).
29	11 22 53.9	51.7 N.	173.5 E.	Near Islands, Aleutian Islands. h about 33 km. Mag. (4.1 (CGS).
29	12 43 12.6	79.3 N.	0.6 W.	Svalbard region. h about 33 km. Mag. 4.2 (CGS).
29	16 48 42.6	5.7 S.	1'0.2 E.	Java Sea. h about 530 km.
29	20 14 07.3	30.2 S.	177.3 W.	Kermadec Islands. h about 39 km. Mag. $6\frac{1}{2}$-$6\frac{3}{4}$ (BRK), 5.7 (CGS).
29	20 16 36.9	29.7 S.	177.0 W.	Kermadec Islands. h about 33 km. Mag. 5.5 (CGS).
29	22 55 14.1	10.3 N.	62.6 W.	Near coast of Venezuela. h about 39 km. Mag. 4.4 (CGS).
29	23 18 43.0	30.1 S.	177.1 W.	Kermadec Islands. h about 48 km. Mag. 4.5 (CGS).
29	23 40 03.4	5.4 S.	131.6 E.	Banda Sea. h about 33 km. Mag. 4.8 (CGS).
30	02 18 42.1	30.0 S.	177.0 W.	Kermadec Islands. h about 41 km. Mag. 4.1 (CGS).
30	02 57 31.6	30.0 S.	177.2 W.	Kermadec Islands. h about 40 km. Mag. 4.9 (CGS).
30	03 27 44*	19.5 S.	179.0 W.	Fiji Islands. h about 575 km. Mag. 4.1 (CGS).
30	04 22 25*	41.4 N.	39.0 E.	Eastern Turkey. h about 33 km.
30	04 27 25.0	30.2 S.	177.3 W.	Kermadec Islands. h about 17 km. Mag. 4.6 (CGS).
30	05 45 53.3	29.6 S.	177.3 W.	Kermadec Islands. h about 33 km. Mag. 5.3 (CGS).
30	06 34 55.9	34.1 N.	116.2 W.	San Bernardino County, California. Felt at Twntynine Palms. h about 16 km. Mag. 4.7 (CGS).
30	06 52 22.7	51.7 N.	158.1 E.	Kamchatka. h about 33 km. Mag. 5.3 (CGS).
30	07 55 42.3	29.8 S.	176.9 W.	Kermadec Islands region. h about 33 km. Mag. 4.3 (CGS).
30	08 28 07.1	33.9 N.	135.1 E.	Near southwest coast of Honshu, Japan. h about 149 km. Mag. 4.3 (CGS).
30	12 25 39.3	11.4 N.	87.3 W.	Off west coast of Nicaragua. h about 33 km. Mag. 4.2 (CGS).
30	12 57 25.3	29.2 S.	112.1 W.	Easter Island region. h about 33 km. Mag. 4.8 (CGS).
30	13 51 57.8	55.9 S.	27.5 W.	Sandwich Islands. h about 33 km. Mag. 6.2 (CGS).
30	14 23 13.7	29.5 S.	177.1 W.	Kermadec Islands region. h about 33 km. Mag. 5.2 (CGS).
30	15 04 38.7	29.9 S.	177.4 W.	Kermadec Islands. h about 76 km. Mag. 5.2 (CGS).

Date 1963	Origin Time G. C. T.	Lat.	Long.	Region, Focal Depth and Remarks
July	h m s	°	°	
30	17 24 35*	15.7 S.	71.1 W.	Southern Peru. h about 219 km. Mag. 3.7 (CGS).
30	17 38 10.2	59.3 N.	151.7 W.	Kenai Peninsula. h about 33 km. Mag. 4.4 (CGS).
30	23 30 59.0	7.3 S.	128.9 E.	Banda Sea. h about 143 km. Mag. 5.0 (CGS).
31	01 44 18.8	29.8 S.	177.2 W.	Kermadec Islands. h about 65 km. Mag. 4.8 (CGS).
31	08 32 12.5	71.4 N.	8.5 W.	Jan Mayen Islands region. h about 33 km. Mag. 4.3 (CGS).
31	08 51 43.0	20.6 S.	178.6 W.	Fiji Islands. h about 600 km. Mag. 3.8 (CGS).
31	11 29 20.4	41.9 N.	142.4 E.	Near south coast of Hokkaido, Japan. h about 33 km. Mag. 4.5 (CGS).
31	13 24 52.4	51.3 N.	175.0 W.	Andreanof Islands, Aleutian Islands. h about 33 km. Mag. 4.0 (CGS).
31	14 43 40.3	8.2 S.	116.4 E.	Sumbawa Island region. h about 33 km.
31	15 09 37.6	42.2 N.	142.4 E.	Off south coast of Hokkaido, Japan. h about 33 km. Mag. 4.3 (CGS).
31	15 37 20.3	14.5 N.	92.2 W.	Off coast of Chiapas, Mexico. h about 33 km. Mag. 3.9 (CGS).
31	16 20 20.0	22.5 S.	176.8 W.	Tonga Islands. h about 267 km. Mag. 4.7 (CGS).
31	18 33 28.7	9.2 N.	82.4 W.	South of Panama. h about 33 km.
31	21 53 03.6	43.1 N.	88.3 E.	Sinkiang Province, China. h about 45 km.

Date and Station	Phase (GCT)
	h m s
JUL 01	
BHP P	00 25 43.0
S	25 56.0
JUL 01	
TUC E(P)	02 07 57.6
JUL 01	
COL IP	03 28 58.8
JUL 01	
H-04 03 42.9	
17.4S 167.6E	
h ABOUT 033KM	
COL E(P)	04 16 41.0
EUR E(P)	04 16 47.2
E	17 10.0
HON ES	04 20 26.0
EL	27 24.0
JUL 01	
ALQ E(P)	04 12 46.0
JUL 01	
ALQ E(P)	06 26 54.8
JUL 01	
H-06 31 27.2	
25.7S 179.1E	
h ABOUT 583KM	
TUC IP	06 43 19.5
EUR EP	06 43 20.9
ALQ EP	06 43 39.8
JUL 01	
HHM E(P)	07 08 21.0
JUL 01	
COL IP	07 48 10.0
I	48 18.0
E	49 18.0
JUL 01	
H-09 20 12.5	
29.9N 141.3E	
h ABOUT 075KM	
COL EP	09 29 39.0
BUT EP	09 32 11.0
E▸P	32 31.0
EUR E(P)	09 32 17.9
E▸P	32 36.0
JUL 01	
COL E(P)	10 24 22.0
JUL 01	
EUR EP	10 24 56.5
COL IP	10 25 18.6
JUL 01	
EUR EP	10 37 34.5

Date and Station	Phase (GCT)
	h m s
JUL 01	
COL IP	11 36 02.0
I	36 09.0
JUL 01	
COL EP	15 23 13.0
JUL 01	
FGU EP	15 25 10.6
ES	25 59.6
JUL 01	
BCN IP	15 32 31.5
IS	32 32.9
JUL 01	
BCN IP	16 40 51.4
IS	40 52.9
JUL 01	
COL EP	17 48 24.0
JUL 01	
H-17 53 12.5	
20.8S 169.2E	
h ABOUT 033KM	
COL E(P)	18 06 17.0
TUC EP	18 06 27.0
JUL 01	
H-20 19 40.6	
4.7S 103.7E	
h ABOUT 091KM	
EUR EP'	20 38 44.3
ISKP	41 58.9
TUC ISKP	20 42 25.0
I	42 32.5
ALQ ISKP	20 42 30.8
JUL 01	
H-21 10 28.5	
37.0N 096.1E	
h ABOUT 033KM	
COL IP	21 21 19.8
JUL 01	
BOZ E(P)	22 15 12.0
JUL 01	
TUC IP	22 21 26.0
JUL 01	
H-22 39 57.8	
46.5N 153.6E	
h ABOUT 069KM	
COL IP	22 46 54.5
EUR IP D	22 50 19.8
I▸P	50 30.3
I	50 39.3
BCN EP	22 50 40.0
E▸P	50 49.9
TUC E(P)	22 51 05.0

Date and Station	Phase (GCT)
	h m s
ALQ IP	22 51 14.0
I▸P	51 26.0
JUL 01	
BCN IP	23 49 17.7
GCA E(P)	23 50 05.5
IS	50 41.5
EUR IP	23 50 13.4
I(S)	50 51.8
IL	51 08.4
JUL 02	
H-00 15 22.4	
43.9N 085.2E	
h ABOUT 039KM	
COL EP	00 25 53.0
EUR EP	00 28 40.8
JUL 02	
SJP IP	00 28 08.1
EUR EP	00 36 23.0
JUL 02	
H-01 39 19.3	
46.3N 153.4E	
h ABOUT 033KM	
EUR EP	01 49 47.3
JUL 02	
H-02 52 53.0	
02.4S 077.8W	
h ABOUT 033KM	
BHP P	02 55 36.0
SJP EP	02 58 03.0
ALQ IP	03 01 15.1
I	01 25.5
TUC IP	03 01 20.5
BCN EP	03 01 58.6
FGU E(P)	03 02 01.0
EUR EP	03 02 19.8
COL EP	03 05 22.2
JUL 02	
H-02 52 55.8	
64.0N 148.4W	
h ABOUT 033KM	
COL I(P)	02 53 07.6
I(S)	53 13.5
EUR EP	02 59 13.3
JUL 02	
EUR E(P)	03 43 39.3
COL EP	03 44 19.0
E	46 48.0
JUL 02	
ALQ E(P)	04 16 14.0

Date and Station	Phase (GCT)
	h m s
JUL 02	
BCN IP	05 40 17.0
IS	40 18.0
JUL 02	
ALQ IP	05 44 39.0
JUL 02	
H-06 02 13.7	
51.5N 159.1E	
h ABOUT 033KM	
COL E(P)	06 08 23.0
E	08 40.0
I	08 51.0
EUR EP	06 12 00.7
JUL 02	
FGU EP	06 15 52.7
JUL 02	
H-06 30 06.7	
30.4N 114.3W	
h ABOUT 016KM	
TUC EP	06 31 02.5
BCN EP	06 31 32.0
ALQ E(P)	06 32 08.0
EUR EP	06 32 23.2
IL	35 21.0
JUL 02	
H-08 02 56.3	
39.8N 104.6W	
h ABOUT 033KM	
FGU IP	08 03 54.2
I	04 00.1
I	04 45.1
ALQ EP	08 04 13.3
I	04 24.9
GCA IP	08 04 27.9
I	04 45.7
IL	06 03.0
SLC E(P)	08 04 33.1
IL	05 47.3
EUR EP	08 05 04.1
I(S)	06 39.4
BCN EP	08 05 08.0
IL	07 29.5
BOZ E	08 05 11.0
EL	06 50.0
TUC E(P)	08 05 18.0
COL E(P)	08 09 49.0
CSC EL	08 12 47.0
JUL 02	
SJP IP	09 24 37.0

Date and Station	Phase (GCT) h m s
JUL 02	
H-09 46 35.8	
7.8S 109.0E	
h ABOUT 117KM	
EUR EP'	10 05 45.2
ALQ EP'	10 05 47.0
JUL 02	
EUR EP	12 01 46.4
IL	03 19.0
BCN EP	12 02 01.5
JUL 02	
H-12 34 34.0	
42.9N 126.2W	
h ABOUT 033KM	
EUR EP	12 36 38.1
JUL 02	
EUR E(P)	13 37 47.5
E	38 03.5
JUL 02	
H-15 03 09.6	
45.7N 149.1E	
h ABOUT 033KM	
COL IP	15 10 31.6
E	10 38.0
EUR IP C	15 13 55.9
JUL 02	
SLC E(P)	16 43 28.0
JUL 02	
H-18 05 33.7	
9.0N 083.0W	
h ABOUT 064KM	
BHP IP	18 06 25.0
IS	07 16.0
SJP EP	18 09 53.0
BCN EP	18 13 01.7
EUR IP C	18 13 26.1
I	14 15.3
I	14 48.3
COL EP	18 16 47.0
JUL 02	
COL IP	19 35 22.0
JUL 02	
BOZ EP	20 39 03.0
IS	39 06.0
JUL 02	
H-22 00 49*	
13.7N 088.9W	
h ABOUT 173KM	
ALQ EP	22 06 10.7
BCN EP	22 07 02.0
E	07 16.0
EUR IP	22 07 27.9
COL E(pP)	22 11 49.0
JUL 02	
COL EP	22 13 47.0
JUL 02	
GCA E(P)	23 02 39.5
E	02 42.6
E(S)	03 06.1
JUL 02	
SLC EP	23 13 13.8
JUL 03	
COL IP	00 43 42.5
JUL 03	
EUR E(P)	01 13 37.0
E	13 53.0
JUL 03	
H-02 16 11.7	
50.6N 177.9W	
h ABOUT 033KM	
EUR EP	02 24 17.0
JUL 03	
ALQ E(P)	04 10 13.5
JUL 03	
BHP IP	05 34 12.0
IS	34 54.0
JUL 03	
EUR E(P)	06 11 55.8
JUL 03	
SJP EP	06 53 54.9
E	54 06.9
JUL 03	
FGU IP	07 23 27.9
IS	23 42.3
JUL 03	
H-09 13 30.7	
14.6N 092.8W	
h ABOUT 072KM	
ALQ E(P)	09 18 37.0
BCN EP	09 19 27.5
FGU E(P)	09 19 33.2
EUR EP	09 19 54.4
COL EP	09 23 46.0
JUL 03	
H-11 58 48.9	
16.3S 173.8W	
h ABOUT 024KM	
EUR EP	12 10 44.6
JUL 03	
EUR EP	13 32 23.0
JUL 03	
EUR EP	14 46 10.5
JUL 03	
COL IP	15 19 46.0
JUL 03	
H-18 36 19.6	
22.9S 175.6W	
h ABOUT 033KM	
EUR EP	18 48 45.7
I	48 58.7
ALQ EP	18 49 04.8
I	49 17.8
COL EP	18 49 18.0
JUL 03	
ALQ IP	19 08 20.2
IL	08 31.0
JUL 03	
ALQ EP	19 12 23.2
JUL 03	
SJP IP	19 18 29.0
JUL 03	
FGU IP	20 42 10.6
JUL 03	
ALQ EP	21 53 06.0
JUL 03	
COL EP	22 19 26.0
JUL 03	
SLC E(P)	22 34 25.0
JUL 03	
SLC E(P)	23 41 57.9
I	42 01.9
IL	42 33.4
JUL 03	
SLC E(P)	23 54 07.4
E	54 10.9
EL	54 49.4
JUL 04	
H-00 55 30.1	
45.7N 151.5E	
h ABOUT 050KM	
EUR EP	01 06 05.1
IpP	06 20.0
JUL 04	
H-01 43 20.8	
12.8N 088.7W	
h ABOUT 055KM	
FGU I(P)	01 49 57.1
JUL 04	
BCN EP	03 21 54.0
E	22 26.5
EL	23 00.0
EUR EP	03 22 07.5
IL	23 37.0
JUL 04	
ALQ EP	04 13 13.0
I	29 37.0
JUL 04	
TUC E(P)	04 26 17.0
ALQ EP	04 27 21.9
EUR EP	04 28 06.0
E	31 39.0
BCN E	04 28 26.0
E	29 00.0
EL	29 49.0
JUL 04	
H-05 50 49.5	
43.7N 126.4W	
h ABOUT 033KM	
EUR EP	05 52 59.5
JUL 04	
BHP IP	05 52 50.0
JUL 04	
EUR EP	05 55 31.0
JUL 04	
COL EP	05 58 33.0
JUL 04	
EUR EP	06 14 15.2
JUL 04	
H-06 55 16.8	
24.0N 122.4E	
h ABOUT 063KM	
COL EP	07 06 13.0
EUR EP	07 08 43.8
JUL 04	
BCN EP	07 01 10.2
EUR EP	07 01 16.5
ALQ E(P)	07 01 37.0
JUL 04	
SIT IP	07 39 32.0
IS	39 40.4
JUL 04	
SJP IP	07 48 00.5
JUL 04	
H-08 03 47.6	
07.5N 076.9W	
h ABOUT 041KM	
BHP IP	08 04 34.0
ALQ IP	08 11 09.0
EUR EP	08 12 19.6
JUL 04	
BCN IP	08 13 44.6
EL	15 01.4
EUR EP	08 14 32.1

Date and Station	Phase (GCT)
	h m s
JUL 04	
H-10 58 13.2	
26.3S 177.7W	
h ABOUT 158KM	
KIP IP	11 07 00.6
I	07 58.0
IS	14 10.0
I	15 21.0
ISCS	16 40.0
EL	20 36.0
HON IP	11 07 01.6
I	07 58.0
EPP	09 07.0
EPPP	10 18.0
IS	14 10.0
I	15 20.0
ISCS	16 45.0
I	17 38.0
EL	20 35.0
UKI IP	11 10 21.6
BCN IP D	11 10 37.2
I	11 14.2
I▸P	11 39.4
ESKS	20 42.2
ESP	21 58.2
PKKP	28 39.0
P'P'	36 46.4
E	37 31.4
E▸P'P'P'	57 59.2
TUC IP	11 10 42.0
I▸P	11 24.5
EPKKP	28 37.0
IP'P'	36 45.0
EUR IP D	11 10 43.1
I▸P	11 23.4
I	17 12.9
ISKS	20 57.1
E	21 37.9
ESP	22 13.9
IPKKP	28 34.4
E	29 22.9
P'P'	36 34.4
E	'1 13 73.0
E▸P'P'P'	15 80.4
GCA I(P)	11 10 50.6
SIT IP	11 10 58.5
IPP	14 34.2
IS	21 43.6
EPS	23 00.0
ESS	27 44.0
SLC IP	11 10 59.2
I	11 44.2
ALQ IP	11 11 01.0
I▸P	11 41.0
ISKS	21 14.2
I▸SKS	21 49.5
FGU IP	11 11 06.0
BUT IP	11 11 10.4
I	11 55.5
ISKS	21 29.5
IS	22 05.5
ISP	23 10.5

Date and Station	Phase (GCT)
	h m s
COL IP	11 11 12.0
I▸P	12 00.0
EPP	15 00.0
E	18 10.0
ESKS	21 28.0
ES	22 04.0
E	24 32.0
EPKKP	28 16.0
P'P'P'	57 32.0
BOZ EP	11 11 14.2
E▸P	17 01.2
ESKS	21 29.2
IS	22 15.2
E	27 35.2
RCD EP	11 11 31.0
SJP IP'D	11 16 38.5
EPP	17 47.5
ISKS	23 16.0
EPKKP	27 06.5
JUL 04	
BCN EP	12 42 23.2
EUR EP	12 42 57.4
JUL 04	
FGU EP	12 57 10.0
IS	57 38.0
JUL 04	
H-14 16 51.1	
22.9S 175.6W	
h ABOUT 033KM	
ALQ EP	14 29 31.0
COL EP	14 29 49.7
JUL 04	
COL EP	15 29 00.0
JUL 04	
BHP IP	17 22 31.0
IS	23 22.0
JUL 04	
BUT EP	17 44 30.3
ES	44 55.5
JUL 04	
COL EP	18 19 34.0
JUL 04	
BUT EP	18 44 48.7
JUL 04	
H-21 45 31.1	
00.5N 120.6E	
h ABOUT 059KM	
ALQ EP'	22 04 25.6
JUL 04	
H-22 56 15.7	
18.5S 012.6W	
h ABOUT 033KM	
SJP EP	23 06 46.5
BHP EP	23 07 35.0

Date and Station	Phase (GCT)
	h m s
ALQ EP'	23 14 34.0
COL EP'	23 15 08.0
E	15 13.0
I	15 20.0
JUL 05	
BUT EP	00 24 17.5
IS	24 34.5
JUL 05	
ALQ EP	01 54 22.0
JUL 05	
BUT EP	02 30 03.4
ES	30 30.4
JUL 05	
H-03 29 36.1	
50.4N 090.6E	
h ABOUT 033KM	
COL EP	03 39 15.0
ALQ EP	03 42 52.0
JUL 05	
H-05 48 13.4	
11.6S 077.5W	
h ABOUT 055KM	
SJP EP	05 54 32.0
ALQ IP	05 57 33.2
TUC IP	05 57 34.5
GCA IP	05 58 04.6
BCN EP	05 58 08.5
FGU IP	05 58 16.8
I▸P	58 31.8
SLC IP	05 58 25.1
BOZ E(P)	05 58 49.0
BUT IP	05 58 53.4
COL IP	06 01 18.5
I▸P	01 35.0
EPP	05 04.0
KIP IS	06 11 21.0
E	17 10.0
E	24 09.0
EL	27 35.0
HON ES	06 11 22.0
E	24 02.0
EL	27 44.0
JUL 05	
COL EP	06 44 25.0
JUL 05	
COL EP	07 14 54.0
JUL 05	
H-07 19 15.8	
27.7N 092.1E	
h ABOUT 033KM	

Date and Station	Phase (GCT)
	h m s
COL EP	07 31 05.0
JUL 05	
BCN IP	08 27 46.6
IS	28 18.1
TUC E(P)	08 28 41.0
JUL 05	
H-08 35 10.9	
31.7N 142.4E	
h ABOUT 030KM	
COL EP	08 44 28.5
JUL 05	
ALQ EP	10 22 21.0
JUL 05	
COL IP	11 25 02.5
JUL 05	
H-13 11 37.5	
37.2N 073.0E	
h ABOUT 111KM	
COL IP	13 22 58.2
JUL 05	
BHP IP	13 53 29.0
IS	54 10.0
ALQ EP	14 00 12.1
JUL 05	
H-14 21 28.5	
39.1N 022.9E	
h ABOUT 033KM	
COL E(P)	14 33 08.0
JUL 05	
BCN EP	14 28 28.5
JUL 05	
H-14 29 24.8	
03.2S 077.8W	
h ABOUT 065KM	
ALQ IP	14 37 48.0
E	37 55.0
JUL 05	
H-14 40 54.7	
12.8N 088.9W	
h ABOUT 085KM	
ALQ E(P)	14 46 33.0
TUC EP	14 46 43.0
FGU I(P)	14 47 26.1
COL EP	14 51 32.5
JUL 05	
BCN EP	14 59 28.0
ES	15 00 03.7
JUL 05	
H-16 27 27.6	
36.7N 073.0E	
h ABOUT 193KM	

Date and Station	Phase	(GCT)
		h m s
COL	IP	16 38 42.0
JUL 05		
ALQ	E	19 54 04.0
JUL 05		
SLC	E(P)	23 13 39.8
JUL 06		
H-01 01 28.7		
30.3N 099.8E		
h ABOUT 033KM		
COL	IP	01 12 49.0
JUL 06		
TUC	E(P)	04 27 43.5
JUL 06		
TUC	EP	05 04 48.0
JUL 06		
H-05 21 14.4		
31.8S 179.0W		
h ABOUT 033KM		
TUC	E(P)	05 34 17.0
JUL 06		
COL	IP	06 13 48.0
JUL 06		
TUC	EP	15 42 04.1
JUL 06		
BCN	IP	16 11 43.5
	E(S)	12 12.7
JUL 06		
H-17 49 54.5		
11.6N 142.7E		
h ABOUT 026KM		
GUA	IP	17 50 40.0
COL	IP	18 01 09.0
JUL 06		
COL	EP	21 40 58.0
	I	21 19.0
JUL 06		
H-22 22 22.9		
37.7N 141.7E		
h ABOUT 034KM		
COL	IP	22 31 04.5
ALQ	EP	22 34 50.2
JUL 06		
H-22 32 31.7		
16.3S 039.7E		
h ABOUT 033KM		
FGU	EP'	22 51 53.2
ALQ	IP'	22 52 07.3
SLC	EP'	22 52 09.5
TUC	EP'	22 52 16.5
BCN	EP'	22 52 22.5

Date and Station	Phase	(GCT)
		h m s
JUL 06		
SLC	EP	23 09 10.0
JUL 06		
SLC	EP	23 46 17.6
	IS	46 42.8
FGU	IP	23 46 49.0
	ES	47 20.5
JUL 07		
H-00 01 13.3		
42.2S 084.4E		
h ABOUT 033KM		
COL	EP'	00 20 46.0
TUC	IP'	00 21 16.1
ALQ	IP'	00 21 19.5
FGU	EP'	00 21 20.0
JUL 07		
FGU	IP	00 06 12.5
	IS	06 46.0
JUL 07		
COL	IP	00 14 03.5
	I	15 07.0
ALQ	IP	00 17 15.9
	IpP	18 20.0
JUL 07		
SLC	IP	00 20 42.0
	I	21 04.3
	IS	21 20.7
JUL 07		
TUC	EP	00 22 10.0
JUL 07		
BCN	IP	00 22 19.5
	IS	22 52.8
ALQ	IP	00 22 29.0
FGU	EP	00 22 34.7
	IS	23 21.0
TUC	E(P)	00 23 07.0
JUL 07		
SLC	E(P)	00 37 13.9
	E	37 28.5
JUL 07		
ALQ	IP	01 17 41.0
	E	19 39.3
JUL 07		
BCN	IP	03 58 03.8
	IS	58 46.0
EUR	IP	03 58 50.6
	I	04 00 23.8
JUL 07		
H-09 30 56.2		
51.7N 156.4E		
h ABOUT 033KM		
COL	EP	09 37 13.0

Date and Station	Phase	(GCT)
		h m s
JUL 07		
H-10 17 24.4		
17.9N 145.6E		
h ABOUT 137KM		
GUA	EP	10 18 29.0
COL	IP	10 27 44.5
	IpP	28 16.0
EUR	IP	10 29 48.0
	IpP	30 20.1
FGU	I(P)	10 30 06.9
	IpP	30 39.2
TUC	EP	10 30 18.0
RCD	EP	10 30 20.2
ALQ	IP	10 30 28.9
JUL 07		
H-10 52 01.4		
06.2N 124.5E		
h ABOUT 033KM		
COL	IP	11 04 27.3
JUL 07		
TUC	EP	15 21 08.2
EUR	IP	15 21 14.5
	E	21 43.5
COL	E(P)	15 24 33.0
	E	31 57.0
JUL 07		
EUR	E(P)	16 12 49.7
JUL 07		
FGU	E(P)	17 06 35.9
JUL 07		
H-19 20 42.4		
39.6N 111.9W		
h ABOUT 033KM		
SLC	IP	19 21 02.4
	IS	21 13.8
FGU	IP	19 21 20.9
GCA	IP	19 21 23.4
	I	22 09.0
EUR	IP	19 21 30.9
BCN	EP	19 21 47.7
	I	22 29.0
BOZ	EP	19 22 13.0
	EL	23 49.0
ALQ	IP	19 22 14.1
TUC	E(P)	19 22 30.0
RCD	IP	19 22 36.4
	IL	24 38.0
HHM	EP	19 22 51.9
	EL	25 16.7

Date and Station	Phase	(GCT)
		h m s
UKI	E(P)	19 22 55.2
	ES	24 29.6
	EL	25 20.0
SIT	EP	19 25 52.0
	EL	33 02.0
CSC	EP	19 26 08.5
	EL	33 46.0
COL	IP	19 27 14.5
JUL 07		
FGU	EP	19 35 00.9
	ES	35 29.1
JUL 07		
FGU	EP	21 05 19.2
	IS	05 49.0
JUL 07		
COL	IP	21 16 15.0
JUL 07		
COL	IP	21 40 32.5
JUL 07		
EUR	EP	22 14 40.3
	E	14 52.0
JUL 07		
SLC	E	22 30 32.3
JUL 07		
FGU	EP	22 34 48.0
	IS	35 16.6
JUL 07		
SLC	E	22 36 49.8
JUL 07		
SLC	E	22 41 32.8
	E	42 03.8
JUL 07		
FGU	EP	22 46 50.0
	IS	47 22.2
JUL 08		
H-00 15 05.9		
57.0N 134.5W		
h ABOUT 028KM		
SIT	IP	00 15 16.4
	IS	15 24.0
COL	EP	00 17 34.0
	IL	20 40.0
HHM	E(P)	00 18 46.7
EUR	EP	00 19 52.7
JUL 08		
BUT	E(P)	00 24 02.0
JUL 08		
SLC	EP	00 33 08.8
JUL 08		
UKI	IP	01 14 31.4
	IS	15 03.4

Date and Station	Phase (GCT)
	h m s
EUR EP	01 15 41.3
E	17 39.0
FGU E(P)	01 16 45.9
JUL 08	
EUR EP	01 20 54.0
JUL 08	
H-04 19 08.4	
40.8N 125.8W	
h ABOUT 033KM	
UKI IP	04 19 49.2
IS	20 17.0
EUR EP	04 21 00.3
SLC E(P)	04 21 40.7
BUT EP	04 21 44.0
FGU E(P)	04 22 04.9
GCA E(P)	04 22 05.7
TUC EP	04 22 38.0
ALQ IP	04 22 59.5
RCD EP	04 23 02.2
COL EP	04 24 50.0
E	25 22.0
JUL 08	
SJP EP	05 23 45.7
EL	24 55.0
JUL 08	
UKI EP	05 36 03.0
EUR IP	05 36 34.0
ES	37 33.5
JUL 08	
EUR EP	05 41 03.7
JUL 08	
BHP IP	07 15 55.0
JUL 08	
BHP IP	07 16 36.0
JUL 08	
H-11 05 07.5	
.3N 017.8W	
h ABOUT 033KM	
RCD E(P)	11 17 48.0
ALQ EP	11 18 00.0
FGU E(P)	11 18 10.9
TUC E(P)	11 18 12.0
EUR E(P)	11 18 39.3
JUL 08	
H-11 40 17.1	
19.9S 178.7W	
h ABOUT 582KM	

Date and Station	Phase (GCT)
	h m s
TUC EP	11 51 43.5
EUR EP	11 51 44.0
COL IP	11 52 06.0
E	52 24.0
I▸P	54 16.0
JUL 08	
TUC IP	11 43 22.5
COL IP	11 43 38.9
E▸P	45 52.0
JUL 08	
H-14 12 30.5	
57.4N 154.0W	
h ABOUT 030KM	
COL EP	14 14 29.0
EUR IP	14 18 42.3
FGU IP	14 19 03.1
TUC IP	14 19 53.0
JUL 08	
EUR IP	14 21 40.1
JUL 08	
H-15 29 33.5	
35.8N 069.7E	
h ABOUT 131KM	
COL IP	15 41 02.5
JUL 08	
H-16 02 26.8	
36.6N 028.0E	
h ABOUT 030KM	
COL EP	16 14 28.0
EUR EP	16 15 59.3
JUL 08	
HHM E(P)	16 14 12.0
ES	15 19.0
JUL 08	
H-17 49 30.9	
65.8N 153.9W	
h ABOUT 033KM	
COL IP	17 50 11.3
IS	50 41.0
SIT EP	17 52 29.0
EL	55 52.5
HHM EP	17 55 13.7
EL	18 03 41.8
BUT E(P)	17 55 35.5
EL	18 05 03.5
BOZ EP	17 55 43.0
EL	18 05 41.0
EUR IP	17 56 16.0
EL	18 07 38.0
FGU IP	17 56 24.5

Date and Station	Phase (GCT)
	h m s
SLC E(P)	17 56 18.5
RCD EP	17 56 21.7
BCN EP	17 56 45.5
ALQ IP	17 57 18.2
JUL 08	
H-21 02 56.9	
6.8N 073.0W	
h ABOUT 166KM	
ALQ EP	21 10 31.5
EUR EP	21 11 40.9
I▸P	12 37.8
JUL 08	
FGU EP	21 49 22.7
JUL 08	
H-22 01 21.0	
17.0S 174.7W	
h ABOUT 095KM	
EUR EP	22 13 14.4
COL EP	22 13 42.0
E	14 17.0
JUL 08	
TUC IP	22 45 41.0
JUL 09	
GUA E(P)	00 45 54.0
JUL 09	
HHM EP	00 53 51.4
JUL 09	
TUC EP	02 51 21.0
JUL 09	
EUR EP	02 57 56.5
JUL 09	
H-03 04 37.4	
46.3N 153.7E	
h ABOUT 033KM	
COL IP	03 11 39.0
E	12 13.0
HHM EP	03 14 34.8
EUR EP	03 15 03.7
FGU E(P)	03 15 23.1
RCD E(P)	03 15 30.5
ALQ E(P)	03 15 53.1
KIP ES	03 19 58.0
EL	25 40.0
HON ES	03 20 02.0
EL	25 32.0
JUL 09	
H-04 09 28.6	
22.0N 145.7E	
h ABOUT 033KM	

Date and Station	Phase (GCT)
	h m s
GUA EP	04 11 28.0
COL EP	04 19 36.0
EUR IP	04 21 48.5
FGU I(P)	04 22 09.1
ALQ EP	04 22 31.0
JUL 09	
TUC EP	04 16 06.0
JUL 09	
GUA IP	04 20 23.2
JUL 09	
TUC EP	04 20 18.0
JUL 09	
H-04 20 50.6	
15.2N 094.0W	
h ABOUT 033KM	
ALQ E(P)	04 25 49.2
FGU EP	04 26 49.1
EUR EP	04 27 05.7
COL I(P)	04 30 53.0
I	31 25.0
JUL 09	
EUR EP	04 32 44.3
E	33 25.5
JUL 09	
H-06 16 53.0	
.8N 121.5E	
h ABOUT 142KM	
COL E(P)	06 29 35.0
EUR EP'	06 35 20.4
I▸P'	35 55.5
JUL 09	
COL EP	08 18 15.0
JUL 09	
TUC E(P)	08 29 00.0
JUL 09	
H-09 24 33.3	
08.5N 083.0W	
h ABOUT 031KM	
BHP IP	09 25 25.0
IS	26 20.0
SJP IP C	09 28 59.0
I	32 44.0
CSC EP	09 30 03.5
ES	34 37.0
ALQ EP	09 31 15.0
RCD EP	09 32 03.0
ES	38 02.5
SLC E(P)	09 32 15.7

Date and Station	Phase	Phase (GCT) h m s
EUR	E(P)	09 32 23.7
	EPPP	34 11.7
BOZ	EP	09 32 42.0
BUT	EP	09 32 48.0
HHM	EP	09 33 07.8
COL	IP	09 35 54.2
	EPP	38 33.0
HON	EP	09 36 05.0
	ES	45 38.0
	EL	56 08.0
KIP	EP	09 36 05.0
	ESP	45 38.0
	EL	56 10.0
HON	EP	09 36 05.0
	ESP	45 38.0
	EL	56 08.0
JUL 09		
TUC	IP	09 25 52.0
JUL 09		
GUA	EP	10 04 51.3
JUL 09		
GUA	IP	11 58 53.9
JUL 09		
EUR	E(P)	12 44 13.0
JUL 09		
SLC	E(P)	15 09 38.0
FGU	IP	15 09 55.0
	IS	10 26.0
EUR	IP	15 10 11.6
	IS	10 47.6
JUL 09		
H-15 20 47.1		
39.9N 111.9W		
h ABOUT 033KM		
SLC	EP	15 21 03.5
FGU	IP	15 21 23.0
	IS	21 51.0
	I	22 37.5
GCA	EP	15 21 32.0
	ES	22 02.0
EUR	IP	15 21 37.6
	IS	22 15.2
BCN	EP	15 21 58.9
	EL	23 05.0
COL	EP	15 27 13.0
JUL 09		
FGU	IP	16 29 48.0
	IS	29 58.3
JUL 09		
FGU	EP	17 09 47.3
	ES	10 18.5
JUL 09		
H-17 22 54.7		
60.0N 154.5W		
h ABOUT 060KM		
COL	IP	17 24 21.4
EUR	EP	17 29 13.7
JUL 09		
H-17 34 33.2		
24.2N 122.4E		
h ABOUT 033KM		
COL	EP	17 45 35.0
	I	46 20.0
HHM	EP	17 47 40.8
EUR	EP	17 48 01.7
JUL 09		
FGU	IP	18 43 10.7
	IS	43 43.9
JUL 09		
H-18 56 12.6		
29.1S 068.1W		
h ABOUT 033KM		
ALQ	E(P)	19 07 45.0
BCN	EP	19 08 11.8
	E	08 43.3
FGU	IP	19 08 18.6
EUR	IP	19 08 29.1
BOZ	EP	19 08 41.0
BUT	EP	19 08 46.0
HHM	EP	19 08 56.8
JUL 09		
H-20 25 27.5		
40.0N 111.2W		
h ABOUT 033KM		
SLC	IP	20 25 41.8
	IS	25 48.8
FGU	IP	20 25 55.6
GCA	IP	20 26 16.2
EUR	IP	20 26 23.9
	E(S)	27 15.9
BCN	EP	20 26 43.8
	I	26 55.4
BOZ	EP	20 26 54.0
	I	27 10.0
BUT	EP	20 26 58.1
	EL	28 26.3
ALQ	EP	20 26 58.6
HHM	EP	20 27 32.8
COL	EP	20 31 57.0
JUL 09		
FGU	IP	21 00 07.5
	IS	00 30.0
JUL 09		
FGU	EP	22 18 07.9
	ES	18 26.0
JUL 09		
SLC	EP	23 50 59.7
	IL	51 25.5
FGU	EP	23 51 30.9
JUL 10		
EUR	E(P)	00 58 00.8
JUL 10		
FGU	IP	01 50 39.0
	IS	51 01.2
JUL 10		
COL	E(P)	02 24 00.0
JUL 10		
EUR	EP	03 03 11.9
HHM	EP	03 03 20.8
COL	IP	03 04 19.0
JUL 10		
H-03 14 41.8		
46.3N 153.4E		
h ABOUT 033KM		
COL	IP	03 21 44.5
	ES	27 24.0
	E	30 16.0
HON	EP	03 23 12.0
	ES	30 07.0
	EL	33 46.0
	EL	36 14.0
HHM	E(P)	03 24 39.8
EUR	E(P)	03 25 04.9
FGU	E(P)	03 25 29.6
TUC	EP	03 26 03.0
KIP	ES	03 30 00.0
	EL	33 42.0
	EL	36 06.0
JUL 10		
BHP	IP	03 38 44.0
JUL 10		
EUR	EP	04 03 17.8
JUL 10		
H-04 29 25.1		
29.7S 177.2W		
h ABOUT 033KM		
TUC	E(P)	04 42 07.0
EUR	EP	04 42 19.9
COL	EP	04 42 54.0
JUL 10		
H-05 22 57.1		
46.3N 152.9E		
h ABOUT 033KM		
COL	IP	05 30 00.0
	IS	35 42.0
SIT	EP	05 31 02.8
	I	31 16.0
KIP	EP	05 31 23.0
	EPP	33 12.0
	E	33 49.0
	E	36 54.0
	IS	38 12.0
	EL	42 16.0
HON	EP	05 31 25.0
	E(PP)	33 02.0
	EPPP	33 52.0
	E	36 53.0
	IS	38 14.0
	I	39 44.0
	EL	42 16.0
HHM	E(P)	05 32 50.7
	E	36 10.8
	ES	40 58.8
BUT	EP	05 33 10.3
	ES	41 34.3
BOZ	EP	05 33 20.0
	PP	33 32.0
	IS	41 44.0
EUR	IP	05 33 24.7
	IS	42 01.2
	EP'P'	06 02 20.5
SLC	EP	05 33 36.9
FGU	I(P)	05 33 44.3
RCD	E(P)	05 33 51.6
GCA	EP	05 33 52.6
	I	34 20.6
TUC	EP	05 34 14.8
ALQ	EP	05 34 19.0
CSC	EP	05 35 39.0
	ES	46 14.0
JUL 10		
FGU	E(P)	06 52 25.5
	I	52 29.5
	IS	52 51.0
JUL 10		
COL	EP	08 00 09.0
EUR	EP	08 03 36.0
JUL 10		
BHP	IP	09 11 34.0
JUL 10		
H-09 20 39.0		
46.3N 154.0E		
h ABOUT 033KM		

Date and Station	Phase (GCT) h m s
COL EP	09 27 40.0
JUL 10	
BCN IP	09 38 43.6
IS	38 44.9
JUL 10	
H-09 49 29.6	
13.4N 044.9W	
h ABOUT 037KM	
SJP IP D	09 54 11.5
RCD IP	09 59 20.8
ALQ IP	09 59 29.0
FGU E(P)	09 59 40.6
I	59 48.4
TUC EP	09 59 51.6
GCA E(P)	09 59 59.8
SLC I(P)	10 00 00.9
BOZ E(P)	10 00 03.0
BUT E(P)	10 00 07.4
BCN EP	10 00 16.4
EUR IP	10 00 21.0
EPP	02 54.9
EPPP	04 24.8
COL IP	10 01 53.8
JUL 10	
BCN IP	10 28 31.0
JUL 10	
BOZ E(P)	11 01 39.0
JUL 10	
FGU IP	11 44 03.0
IS	44 25.0
JUL 10	
H-11 47 35.1	
16.3S 072.2W	
h ABOUT 090KM	
TUC E(P)	11 57 39.0
FGU EP	11 58 17.6
BCN E>P	11 58 32.3
EUR EP	11 58 32.7
I>P	58 51.2
JUL 10	
SLC E(P)	12 07 54.0
FGU IP	12 08 15.0
IS	08 44.5
EUR E(P)	12 08 23.5
EL	09 10.0
GCA E(P)	12 08 37.6
ALQ E(P)	12 09 04.0

Date and Station	Phase (GCT) h m s
JUL 10	
H-13 54 22.6	
46.1N 153.9E	
h ABOUT 033KM	
COL IP	14 01 25.0
EUR IP	14 04 49.8
BCN EP	14 05 08.8
ALQ E(P)	14 05 42.2
HON ES	14 09 45.0
EL	14 20.0
KIP ES	14 09 45.0
EL	14 22.0
JUL 10	
EUR EP	14 48 02.6
JUL 10	
COL EP	16 19 42.0
JUL 10	
H-16 48 42.2	
30.2S 177.8W	
h ABOUT 025KM	
BCN EP	17 01 34.4
EUR IP	17 01 40.9
JUL 10	
BHP IP	17 36 31.0
JUL 10	
H-18 22 47.9	
08.8N 082.9W	
h ABOUT 051KM	
BHP IP	18 23 38.0
I	24 28.0
SJP EP	18 27 02.7
ALQ E(P)	18 29 24.6
JUL 10	
H-18 32 50.6	
39.9N 111.4W	
h ABOUT 033KM	
SLC IP	18 33 06.4
IS	33 17.3
FGU IP	18 33 20.2
GCA E(P)	18 33 40.4
IL	34 24.9
EUR IP	18 33 48.7
BCN E(P)	18 34 11.0
I	34 20.6
ALQ EP	18 34 24.1
BOZ E	18 34 34.0
BUT E(P)	18 34 38.0
E	36 03.0

Date and Station	Phase (GCT) h m s
JUL 10	
FGU EP	19 21 58.5
IS	22 17.7
JUL 10	
H-19 52 19.4	
19.2N 145.2E	
h ABOUT 171KM	
GUA EP	19 53 42.3
SIT EP	20 03 04.0
BUT IP	20 04 34.2
EUR IP	20 04 34.9
BOZ IP	20 04 40.1
EPP	07 58.0
BCN IP D	20 04 45.8
SLC IP	20 04 47.2
GCA I(P)	20 04 55.7
FGU IP	20 04 55.7
ALQ IP	20 05 17.0
JUL 10	
SJP EP	20 14 22.2
JUL 10	
BHP IP	20 18 28.0
JUL 10	
H-20 21 49.1	
53.0N 171.4W	
h ABOUT 033KM	
EUR IP	20 29 19.5
JUL 10	
FGU EP	20 59 36.2
IS	59 57.5
JUL 10	
EUR IP	21 31 23.1
JUL 10	
H-22 49 37.5	
08.5N 083.0W	
h ABOUT 048KM	
BHP IP	22 50 31.0
IS	51 10.0
TUC EP	22 56 29.0
JUL 10	
SLC IP	23 43 40.1
IL	44 01.9
JUL 11	
ALQ E(P)	00 29 46.0
JUL 11	
ALQ E(P)	00 42 22.5
JUL 11	
SJP IP	01 34 34.9
EL	35 28.4

Date and Station	Phase (GCT) h m s
JUL 11	
HON IP	02 33 53.1
KIP IP	02 33 55.2
JUL 11	
FGU E(P)	03 50 41.7
E	51 16.0
E	51 31.4
JUL 11	
COL IP	05 16 38.4
EUR EP	05 20 03.0
JUL 11	
SIT EP	05 27 29.5
E(S)	28 07.0
JUL 11	
H-07 04 49.8	
16.8N 091.3W	
h ABOUT 033KM	
TUC IP	07 09 58.9
JUL 11	
COL IP	08 13 17.8
JUL 11	
FGU EP	12 11 04.9
IS	11 35.9
JUL 11	
HON EP	12 44 53.0
ES	45 25.0
KIP EP	12 44 53.0
ES	45 28.0
JUL 11	
HON EP	13 11 01.0
ES	11 38.0
KIP EP	13 11 02.0
ES	11 41.0
JUL 11	
H-13 20 13.1	
16.6N 099.1W	
h ABOUT 033KM	
TUC EP	13 24 32.0
EL	30 13.5
E	31 20.5
ALQ IP	13 24 38.9
GCA E(P)	13 25 18.7
BCN E(P)	13 25 26.0
FGU E(P)	13 25 43.6
EUR EP	13 25 56.0
COL EP	13 30 05.0
E	31 02.0
JUL 11	
BOZ E(P)	14 09 07.0
JUL 11	
TUC E(P)	14 38 17.6

Date and Station	Phase	(GCT) h m s
JUL 11		
COL	EP	16 35 06.0
JUL 11		
H-17 49 09.0		
12.0S 166.5E		
h ABOUT 144KM		
COL	IP	18 01 23.7
JUL 11		
FGU	IP	18 43 29.4
JUL 11		
H-22 16 26.2		
17.7S 179.1W		
h ABOUT 588KM		
COL	E(P)	22 28 03.0
JUL 11		
ALQ	IP	23 00 31.0
JUL 11		
FGU	IP	23 12 18.6
	ES	12 52.3
JUL 12		
FGU	EP	00 12 27.3
	I	12 34.6
JUL 12		
EUR	EP	02 57 13.3
JUL 12		
H-05 38 11.2		
6.1S 106.2E		
h ABOUT 133KM		
EUR	SKP	06 00 19.2
ALQ	SKP	06 00 48.3
JUL 12		
H-06 43 51.5		
7.0N 073.2W		
h ABOUT 127KM		
BHP	IP	06 45 29.0
	IS	46 41.0
ALQ	EP	06 51 26.5
FGU	I(P)	06 52 10.4
EUR	IP	06 52 36.4
JUL 12		
H-06 54 43.6		
50.1N 129.8W		
h ABOUT 033KM		
EUR	I(P)	06 58 14.4
RCD	E(P)	06 59 08.5
ALQ	EP	06 59 46.0
JUL 12		
H-07 55 02.3		
17.9S 178.5W		
h ABOUT 550KM		
EUR	IP	08 06 23.0
GCA	E(P)	08 06 33.5
COL	IP	08 06 42.3
	E	08 59.0
ALQ	IP	08 06 45.0
FGU	I(P)	08 06 48.4
JUL 12		
FGU	IP	11 49 30.7
	IS	49 52.7
JUL 12		
FGU	E(P)	12 00 16.5
	ES	00 37.8
JUL 12		
H-12 23 27.5		
50.2N 129.7W		
h ABOUT 033KM		
EUR	IP	12 26 52.0
FGU	EP	12 27 26.1
COL	E(P)	12 27 35.0
RCD	E(P)	12 27 49.2
ALQ	EP	12 28 29.0
JUL 12		
H-12 52 41.4		
50.4N 129.0W		
h ABOUT 033KM		
EUR	IP	12 56 03.7
FGU	E(P)	12 56 38.6
COL	E(P)	12 56 45.0
ALQ	EP	12 57 40.5
JUL 12		
H-14 03 38.3		
50.3N 129.6W		
h ABOUT 033KM		
SIT	E(P)	14 05 36.5
	EL	07 24.0
HHM	E(P)	14 06 16.8
BUT	E(P)	14 06 31.0
BOZ	E(P)	14 06 47.5
SLC	E(P)	14 07 18.9
FGU	I(P)	14 07 38.1
COL	E(P)	14 07 42.1
BCN	EP	14 07 47.3
GCA	E(P)	14 07 55.5
RCD	EP	14 08 01.0
ALQ	EP	14 08 39.0
	I	08 59.0
	I	09 23.0
JUL 12		
COL	EP	14 30 42.0
JUL 12		
H-15 28 08.5		
46.8N 153.6E		
h ABOUT 033KM		
COL	IP	15 35 07.1
	I	36 13.0
SIT	EP	15 36 12.0
	E(S)	42 36.0
HON	EP	15 36 35.0
	ES	43 24.0
HHM	EP	15 38 03.8
BOZ	EP	15 38 27.5
SLC	E(P)	15 38 44.4
BCN	EP	15 38 51.2
ALQ	EP	15 39 27.0
KIP	IS	15 43 23.0
	E	47 05.0
	EL	48 54.0
JUL 12		
COL	EP	16 43 47.0
JUL 12		
H-17 54 21.9		
35.9S 071.9W		
h ABOUT 062KM		
ALQ	E(P)	18 06 14.0
	I	06 33.1
JUL 12		
TUC	EP	18 06 31.0
JUL 12		
BCN	IP	19 37 26.6
	IS	37 33.6
JUL 12		
BHP	EP	20 16 23.0
JUL 12		
TUC	IP	23 17 40.6
JUL 12		
SLC	IP	23 40 29.6
	IL	40 55.1
JUL 12		
H-23 51 16.0		
05.5S 153.3E		
h ABOUT 056KM		
COL	EP	24 03 31.3
JUL 12		
ALQ	EP	23 55 07.0
JUL 13		
HHM	EP	00 03 03.8
	ES	03 34.7
JUL 13		
TUC	E(P)	04 35 31.2
JUL 13		
SJP	EP	05 04 41.2
JUL 13		
SLC	E(P)	06 44 02.2
JUL 13		
H-08 24 24.7		
29.6N 051.0E		
h ABOUT 044KM		
COL	IP	08 36 55.8
JUL 13		
H-08 51 33.6		
46.0N 154.1E		
h ABOUT 033KM		
COL	E(P)	08 58 35.0
JUL 13		
BHP	IP	13 11 28.0
	IS	12 21.0
JUL 13		
TUC	EP	13 43 36.0
JUL 13		
H-13 58 25.7		
44.3N 148.8E		
h ABOUT 033KM		
COL	IP	14 05 58.8
HHM	EP	14 08 49.6
BCN	EP	14 09 36.8
	EpP	09 49.8
RCD	EP	14 09 42.8
TUC	IP	14 10 05.0
	IpP	10 18.1
ALQ	EP	14 10 09.0
JUL 13		
H-14 06 23.7		
24.3N 122.3E		
h ABOUT 033KM		
COL	EP	14 17 24.0
HHM	EP	14 19 31.7
JUL 13		
BCN	E(P)	16 23 10.2
	EL	23 51.4
JUL 13		
SJP	IP	18 05 43.8
JUL 13		
H-19 08 39.1		
24.9N 070.3E		
h ABOUT 033KM		
COL	EP	19 21 16.1

Date and Station	Phase (GCT)
	h m s
JUL 14	
SLC IP	00 00 44.7
IS	01 06.2
JUL 14	
H-00 02 22.8	
30.5S 177.2W	
h ABOUT 033KM	
HON EP	00 11 50.0
IS	19 36.0
I	21 56.0
EL	25 02.0
KIP IP	00 11 50.6
IS	19 36.0
BCN EP	00 15 13.3
TUC IP	00 15 14.0
EUR IP	00 15 19.4
ALQ EP	00 15 34.0
SLC E(P)	00 15 34.7
BUT E(P)	00 15 47.0
COL EP	00 15 56.0
JUL 14	
H-01 31 10.0	
46.3N 153.2E	
h ABOUT 033KM	
COL EP	01 38 12.0
ALQ E(P)	01 42 34.0
JUL 14	
ALQ EP	03 02 18.8
JUL 14	
H-03 59 12.4	
30.5S 177.3W	
h ABOUT 050KM	
TUC E(P)	04 11 51.0
I	11 55.9
BCN EP	04 12 02.6
ALQ EP	04 12 23.5
COL E(P)	04 12 44.0
HON ES	04 16 24.0
EL	22 18.0
KIP ES	04 16 24.0
EL	22 42.0
JUL 14	
EUR IP	04 16 07.9
JUL 14	
H-04 59 20.6	
14.7S 173.2W	
h ABOUT 033KM	
ALQ E(P)	05 11 30.0
COL IP	05 11 36.5

Date and Station	Phase (GCT)
	h m s
JUL 14	
H-05 38 48.6	
46.1N 153.6E	
h ABOUT 033KM	
COL EP	05 45 51.3
ALQ IP	05 50 13.1
JUL 14	
H-05 41 43.0	
10.4N 062.6W	
h ABOUT 024KM	
SJP IP	05 43 50.2
I	45 40.0
CSC IP	05 47 43.0
ES	52 26.0
E	53 14.0
WAS IP	05 48 02.9
RCD EP	05 50 24.0
E	06 01 38.0
TUC IP	05 50 33.0
SLC I(P)	05 50 58.9
I	51 16.9
BCN EP	05 51 05.0
BUT EP	05 51 15.8
E	53 19.6
E	58 35.6
EUR IP	05 51 16.9
HHM E(P)	05 51 38.7
E	59 38.7
UKI EP	05 51 54.5
SIT EP	05 53 06.5
E	06 02 44.0
COL IP	05 53 42.7
I	54 05.0
EPP	56 43.0
E	57 05.0
ES	06 03 32.0
KIP E(P)	05 54 53.0
ES	06 05 16.0
HON E(P)	05 54 54.0
ES	06 05 20.0
E	07 10.0
EL	19 42.0
JUL 14	
H-06 40 09.6	
10.4N 062.5W	
h ABOUT 043KM	
SJP EP	06 42 17.8
IS	43 44.8
ALQ EP	06 48 37.2
TUC EP	06 48 58.1
COL EP	06 52 06.0

Date and Station	Phase (GCT)
	h m s
JUL 14	
H-07 46 21.4	
29.5N 050.8E	
h ABOUT 033KM	
COL EP	07 58 54.4
JUL 14	
H-09 08 32.7	
31.7S 069.1W	
h ABOUT 110KM	
TUC EP	09 20 02.5
E▸P	20 32.1
ALQ IP	09 20 04.0
I▸P	20 36.0
BCN EP	09 20 31.4
E▸P	21 03.0
RCD IP	09 20 40.2
JUL 14	
H-10 51 42.7	
36.1N 070.6E	
h ABOUT 120KM	
COL IP	11 03 11.7
I▸P	02 42.0
JUL 14	
BOZ EP	11 16 54.0
I	16 57.0
JUL 14	
COL IP	12 40 17.8
JUL 14	
H-14 28 22.1	
30.2S 177.4W	
h ABOUT 042KM	
BCN EP	14 41 09.7
TUC EP	14 41 14.2
EUR IP	14 41 19.6
ALQ EP	14 41 32.5
COL EP	14 41 54.0
JUL 14	
H-14 48 28.4	
30.3N 078.5E	
h ABOUT 033KM	
COL EP	15 00 27.0
JUL 14	
KIP EP	17 17 04.0
COL EP	17 24 41.0
JUL 14	
H-19 18 25.3	
08.9S 148.7E	
h ABOUT 026KM	
COL EP	19 31 08.0
EUR IP	19 32 08.7

Date and Station	Phase (GCT)
	h m s
ALQ IP	19 32 45.0
I	33 22.6
JUL 14	
COL EP	19 31 53.0
JUL 14	
COL IP	20 33 44.3
I	33 52.0
JUL 14	
ALQ EP	21 02 37.0
JUL 14	
H-21 38 51.6	
14.6S 175.2W	
h ABOUT 260KM	
ALQ IP	21 50 42.2
COL IP	21 50 43.4
JUL 14	
BOZ E(P)	22 49 31.5
JUL 15	
COL EP	00 04 10.0
JUL 15	
H-00 31 50.4	
4.4N 077.5W	
h ABOUT 047KM	
BHP IP	00 33 06.0
IS	34 06.0
ALQ EP	00 39 26.5
JUL 15	
H-00 41 07.7	
20.2S 178.3W	
h ABOUT 510KM	
COL IP	00 53 03.0
E	55 03.0
JUL 15	
H-04 21 12.3	
24.5S 178.8E	
h ABOUT 033KM	
COL IP	04 34 23.1
E	36 13.0
JUL 15	
H-05 19 32.4	
01.6N 127.1E	
h ABOUT 033KM	
COL E(P)	05 32 12.0
JUL 15	
H-06 28 21.7	
51.8N 176.8W	
h ABOUT 033KM	
COL EP	06 32 52.0
E(S)	36 19.0
HHM EP	06 35 49.9
EUR IP	06 36 21.1
BCN EP	06 36 44.6

Date and Station	Phase (GCT)
	h m s
RCD EP	06 36 59.2
KIP ET	07 10 04.0
JUL 15	
H-08 36 40.7	
61.7N 134.9W	
h ABOUT 033KM	
COL IP	08 38 18.0
JUL 15	
H-08 41 07.5	
55.6N 162.0E	
h ABOUT 060KM	
COL EP	08 46 34.4
SIT EP	08 47 47.5
KIP IP	08 49 20.3
ET	09 37 12.0
HHM E(P)	08 49 44.0
BUT EP	08 50 08.5
EUR IP	08 50 30.8
RCD IP	08 50 53.3
BCN EP	08 50 54.5
GCA I(P)	08 51 00.8
JUL 15	
KIP E(P)	09 15 42.0
JUL 15	
H-09 23 38.0	
48.7N 152.9E	
h ABOUT 033KM	
COL EP	09 30 27.0
JUL 15	
H-16 32 18.6	
14.4N 090.2W	
h ABOUT 033KM	
COL I(P)	16 43 03.0
ES	44 58.0
JUL 15	
SIT EP	16 45 32.5
JUL 15	
EUR E(P)	16 47 41.8
E	48 08.8
JUL 15	
EUR EP	16 54 18.3
JUL 15	
H-19 22 17.9	
53.2N 162.9E	
h ABOUT 033KM	
COL IP	19 27 59.0
EUR IP D	19 31 45.7
E	32 06.7
E	32 44.7

Date and Station	Phase (GCT)
	h m s
JUL 15	
EUR IP D	19 41 19.2
I▸P	41 38.7
JUL 15	
H-20 30 14.8	
20.6S 068.5W	
h ABOUT 263KM	
EUR IP C	20 41 26.5
E	41 37.3
E	42 05.0
JUL 16	
EUR EP	01 45 10.5
JUL 16	
TUC IP	07 36 44.5
JUL 16	
TUC EP	07 42 14.1
JUL 16	
H-07 59 52.3	
15.4S 173.3W	
h ABOUT 033KM	
EUR EP	08 11 40.7
TUC E(P)	08 11 41.2
ALQ EP	08 12 05.0
COL IP	08 12 14.0
JUL 16	
ALQ EP	08 57 56.0
JUL 16	
H-09 18 22.1	
34.1N 116.1W	
h ABOUT 016KM	
BCN IP	09 18 58.9
I(S)	19 26.9
EUR IP	09 19 44.8
JUL 16	
H-11 22 42.7	
48.9N 130.7W	
h ABOUT 033KM	
EUR E(P)	11 26 01.4
ALQ EP	11 27 43.0
JUL 16	
H-14 11 50.2	
24.2N 108.7W	
h ABOUT 033KM	
EUR E(P)	14 15 41.0
JUL 16	
SLC E(P)	15 42 00.2
JUL 16	
EUR IP	16 33 21.6
IS	33 43.6
JUL 16	
EUR E(P)	18 16 54.4

Date and Station	Phase (GCT)
	h m s
JUL 16	
EUR EP	18 19 16.4
I(S)	20 26.2
JUL 16	
H-18 27 18.4	
43.1N 041.5E	
h ABOUT 033KM	
COL IP	18 38 40.5
EPP	41 24.0
EPPP	43 04.0
ES	47 56.0
E	52 20.0
EL	56 40.0
SIT IP	18 39 26.7
E(S)	49 36.0
WAS IP	18 39 33.0
E	42 24.0
EPPS	50 34.0
HHM EP	18 39 58.4
ES	50 30.4
CSC EP	18 40 02.0
ES	50 33.0
RCD EP	18 40 05.0
E	56 38.0
BUT EP	18 40 08.3
PP	43 35.3
ES	50 41.3
BOZ EP	18 40 08.5
E	50 19.5
SLC I(P)	18 40 31.0
EUR IP	18 40 41.4
I	44 34.1
ESKS	51 24.9
ES	52 04.9
ESP	53 11.9
ESPP	53 59.9
E	57 32.9
EPKKP	58 09.0
ALQ IP	18 40 48.9
BCN EP C	18 40 56.3
EPP	44 55.6
TUC IP	18 41 05.9
EPP	45 11.5
KIP EPP	18 46 42.0
IPS	56 27.0
ESS	19 02 40.0
ESSS	07 00.0
E	13 32.0
EL	21 18.0
HON EPP	18 46 45.0
ES	54 30.0
EPS	56 20.0
I	56 29.0
ESS	19 02 38.0
ESSS	07 00.0
E	09 00.0
E	13 29.0
EL	21 20.0

Date and Station	Phase (GCT)
	h m s
JUL 16	
H-19 08 29.2	
30.6S 177.2W	
h ABOUT 041KM	
TUC EP	19 21 21.0
BCN EP	19 21 21.3
EUR EP	19 21 26.0
ALQ EP	19 21 39.0
COL E(P)	19 22 03.0
JUL 16	
H-22 11 23.0	
43.3N 041.6E	
h ABOUT 017KM	
COL IP	22 22 46.0
HHM IP	22 24 05.4
BOZ EP	22 24 15.5
EUR EP	22 24 47.4
JUL 16	
CSC E(P)	22 44 10.0
JUL 17	
SLC IP	00 03 58.7
IL	04 21.6
EUR EP	00 04 27.8
IL	05 33.3
JUL 17	
TUC E(P)	00 13 26.0
JUL 17	
COL EP	01 08 01.8
EUR IP D	01 12 19.3
E	13 36.8
JUL 17	
H-03 24 37.4	
46.9S 033.3E	
h ABOUT 033KM	
ALQ EP'	03 44 16.1
RCD EP'	03 44 24.0
EUR EP'	03 44 29.7
EP'	45 01.0
TUC EP'	03 44 48.1
JUL 17	
UKI IP	06 22 52.3
JUL 17	
COL EP	06 29 25.5
JUL 17	
BHP IP	07 00 24.0
IS	01 09.0

Date and Station	Phase (GCT) h m s
JUL 17	
H-07 01 57.1	
7.5S 107.2E	
h ABOUT 041KM	
EUR EP'	07 21 02.0
I	21 05.5
ESKP	07 24 30.7
JUL 17	
EUR EP	07 45 31.0
EL	46 36.0
JUL 17	
EUR E(P)	08 08 09.0
EL	08 47.0
JUL 17	
H-10 34 36.9	
25.4S 111.6W	
h ABOUT 033KM	
TUC IP	10 44 24.0
ALQ E(P)	10 44 44.3
BCN EP	10 44 51.2
EUR IP D	10 45 13.9
RCD EP	10 45 46.0
BOZ EP	10 45 52.0
COL EP	10 47 53.0
JUL 17	
BOZ E(P)	11 19 13.0
JUL 17	
H-11 57 06.7	
43.1N 041.5E	
h ABOUT 033KM	
COL IP	12 08 28.5
HHM IP	12 09 47.4
RCD EP	12 09 53.7
BOZ EP	12 09 58.0
EUR IP C	12 10 30.1
E	13 40.4
ALQ EP	12 10 37.2
BCN EP	12 10 45.1
JUL 17	
EUR EP	13 46 25.5
EL	47 34.0
JUL 17	
H-14 10 31.3	
49.9N 150.8E	
h ABOUT 370KM	
COL IP	14 16 49.0
EUR IP	14 20 21.8
I*P	21 42.0
JUL 17	
TUC EP	14 17 53.1
JUL 17	
TUC E(P)	14 29 43.0
JUL 17	
EUR EP	14 58 56.1
JUL 17	
EUR EP	15 02 40.4
E	03 36.0
JUL 17	
H-15 07 22.3	
49.5N 156.3E	
h ABOUT 078KM	
COL IP	15 13 48.0
EUR IP D	15 17 23.1
I	17 37.6
I	17 54.1
BCN EP	15 17 44.1
TUC EP	15 18 15.0
ALQ IP	15 18 19.5
JUL 17	
EUR EP	15 10 44.6
JUL 17	
HHM IP	17 40 36.4
IS	40 55.2
JUL 17	
TUC EP	17 57 14.2
EUR EP	17 57 15.1
JUL 17	
EUR IP	18 14 54.2
BCN E(P)	18 15 38.2
E(S)	16 20.7
FGU IP	18 15 52.0
JUL 17	
H-19 05 19.6	
14.9S 167.3E	
h ABOUT 138KM	
EUR E(P)	19 18 01.0
JUL 17	
H-20 44 33.3	
34.1N 116.1W	
h ABOUT 016KM	
BCN IP	20 45 09.3
I(S)	45 36.8
EUR IP	20 45 55.5
IL	47 25.1
JUL 17	
COL E(P)	21 02 10.0
JUL 17	
BHP IP	21 44 13.0
IS	44 58.0
JUL 17	
H-23 05 42.5	
34.1N 116.1W	
h ABOUT 016KM	
BCN IP	23 06 18.9
I(S)	06 43.8
TUC EP	23 06 55.0
EUR IP	23 07 05.2
IL	08 31.2
ALQ E(P)	23 08 10.2
JUL 17	
H-23 11 05.6	
34.1N 116.1W	
h ABOUT 016KM	
BCN IP	23 11 42.1
I(S)	12 06.7
TUC EP	23 12 18.2
EUR IP	23 12 27.9
I(S)	13 33.6
ALQ E(P)	23 13 35.0
JUL 17	
SLC IP	23 42 44.4
IL	43 05.8
JUL 18	
H-00 04 05.3	
49.1N 128.9W	
h ABOUT 033KM	
HHM IP	00 06 26.2
EL	08 52.2
UKI EP	00 06 39.0
E	07 24.0
BUT EP	00 06 46.1
EL	09 25.1
BOZ E(P)	00 07 04.0
EUR IP D	00 07 15.3
IL	10 17.3
SLC EP	00 07 34.8
BCN EP	00 08 01.3
RCD EP	00 08 19.3
COL IP	00 08 24.0
TUC IP	00 08 54.0
ALQ EP	00 08 57.0
CSC EP	00 11 24.0
JUL 18	
HHM IP	00 04 12.2
IS	04 39.2
JUL 18	
BOZ EP	01 54 04.0
JUL 18	
EUR IP C	03 39 10.1
JUL 18	
EUR EP	03 58 12.3
JUL 18	
H-04 01 16.3	
37.2N 115.6W	
h ABOUT 025KM	
BCN IP	04 01 40.1
IS	01 57.1
EUR IP C	04 01 53.4
IS	02 22.4
TUC E(P)	04 02 49.2
FGU E(P)	04 03 09.3
ALQ E(P)	04 03 33.5
JUL 18	
H-04 58 09.2	
61.0S 022.3W	
h ABOUT 033KM	
BHP IP	05 10 31.0
ALQ EP'	05 16 50.1
IPKKP	27 11.0
TUC IP'	05 16 51.0
EPKKP	27 06.5
WAS EP'	05 16 53.0
BCN EP'	05 17 01.6
EPP	18 32.3
RCD EP'	05 17 02.4
EUR EP'	05 17 06.8
EPP	18 56.8
I	19 09.3
ESKKP	30 38.8
BOZ EP'	05 17 13.0
BUT EP'	05 17 13.2
EPP	19 12.2
COL EP'	05 17 55.0
IP'	18 25.0
E	21 54.0
HON	05 19 23.0
EL	58 24.0
KIP E	05 19 25.0
E	20 52.0
E	37 08.0
EL	58 32.0
JUL 18	
H-05 25 04.3	
18.5S 069.3W	
h ABOUT 072KM	
ALQ EP	05 35 30.0
TUC EP	05 35 33.5

Date and Station	Phase	(GCT) h m s
BCN	IP C	05 36 06.8
RCD	EP	05 36 07.8
EUR	IP	05 36 24.3
	I*P	36 41.3
JUL 18		
H-06 33 24.1		
37.2N 115.5W		
h ABOUT 025KM		
BCN	IP D	06 33 47.0
	IS	34 03.5
EUR	IP C	06 34 00.6
	IS	34 29.6
TUC	EP	06 34 55.0
ALQ	E(P)	06 35 26.5
	EL	37 05.0
JUL 18		
BCN	E(P)	06 58 11.5
	E(S)	58 24.8
EUR	EP	06 58 27.5
	ES	58 54.7
JUL 18		
BHP	IP	08 18 55.0
	IS	19 37.0
JUL 18		
H-10 40 30.5		
34.1N 116.1W		
h ABOUT 016KM		
BCN	IP	10 41 07.0
	IL	41 41.3
TUC	EP	10 41 43.2
EUR	IP	10 41 52.5
	IL	43 31.7
ALQ	E(P)	10 43 00.0
JUL 18		
H-11 15 11.3		
22.5S 067.0W		
h ABOUT 258KM		
ALQ	IP	11 25 47.0
	E	26 32.0
TUC	IP	11 25 48.8
BCN	EP	11 26 18.7
RCD	IP	11 26 20.9
EUR	IP D	11 26 35.9
	I	26 44.9
JUL 18		
BCN	IP	13 34 34.5
JUL 18		
GCA	E(P)	16 04 48.5
JUL 18		
EUR	E(P)	16 37 48.8
	E	38 01.8
	IL	39 15.8
JUL 18		
ALQ	IP	17 04 26.4
JUL 18		
BOZ	E(P)	17 21 06.0
JUL 18		
SLC	EP	17 26 56.1
	IS	27 21.6
FGU	E(P)	17 27 29.2
EUR	E(P)	17 27 41.8
	IL	28 30.8
JUL 18		
BHP	IP	17 45 34.0
	IS	45 58.0
JUL 18		
BCN	IP	19 12 51.7
	IS	13 03.2
JUL 18		
H-19 37 44.1		
34.1N 116.1W		
h ABOUT 016KM		
BCN	IP	19 38 20.5
	IL	38 51.7
TUC	EP	19 38 56.0
	E	39 07.0
GCA	E(P)	19 38 56.5
EUR	IP C	19 39 06.0
	IL	40 11.0
ALQ	EP	19 40 12.0
JUL 18		
BCN	EP	19 49 52.2
	ES	50 22.2
JUL 18		
COL	EP	20 35 13.0
JUL 18		
EUR	EP	20 45 40.3
	E(S)	46 11.0
JUL 18		
BCN	EP	21 34 09.6
	ES	34 39.6
JUL 18		
TUC	EP	22 02 24.5
EUR	E(P)	22 02 57.7
JUL 18		
ALQ	EP	22 08 29.0
JUL 18		
BHP	IP	22 18 18.0
	IS	18 58.0
JUL 18		
BCN	E(P)	22 26 10.0
	EL	26 40.0
EUR	IP	22 26 35.2
	EL	27 40.0
JUL 19		
BHP	IP	00 31 34.0
	IS	32 13.0
CSC	E	00 34 42.0
JUL 19		
COL	IP	03 58 38.5
JUL 19		
H-04 12 10.3		
07.1N 033.6W		
h ABOUT 033KM		
ALQ	EP	04 23 33.0
TUC	EP	04 23 53.0
EUR	EP	04 24 14.8
JUL 19		
H-05 45 28.0		
43.4N 008.2E		
h ABOUT 033KM		
WAS	EP	05 55 45.0
SJP	IP C	05 56 15.2
CSC	EP	05 56 20.0
	ES	06 05 10.0
COL	IP	05 56 41.4
RCD	IP	05 57 00.3
HHM	IP	05 57 11.1
BOZ	EP	05 57 16.5
	I	57 52.5
	E	06 07 37.5
BUT	EP	05 57 17.4
SLC	IP	05 57 37.5
ALQ	EP	05 57 47.0
EUR	IP C	05 57 53.9
	EPKKP	06 16 06.2
	IP'P'	24 18.2
BCN	EP	05 58 06.6
	EP'P'	06 24 49.2
TUC	EP	05 58 08.9
JUL 19		
H-05 46 05.2		
43.3N 008.1E		
h ABOUT 033KM		
WAS	EP	05 56 23.0
SJP	IP C	05 56 52.6
COL	IP	05 57 19.5
RCD	IP	05 57 37.0
SIT	EP	05 47 48.0
HHM	IP	05 57 48.1
BUT	IP	05 57 54.4
SLC	IP	05 58 14.5
ALQ	EP	05 58 24.0
	E	06 25 51.0
EUR	IP	05 58 30.4
BCN	EP	05 58 43.9
TUC	EP	05 58 46.1
HON	EPP	06 05 40.0
	E	12 46.0
	E	15 16.0
	E	21 22.0
	EL	36 03.0
KIP	E	06 21 38.0
	EL	36 06.0
JUL 19		
H-07 01 46.1		
44.7N 007.0E		
h ABOUT 033KM		
HHM	EP	07 13 20.1
JUL 19		
TUC	E(P)	07 52 57.0
JUL 19		
TUC	E(P)	07 53 00.0
JUL 19		
BCN	EP	08 19 25.0
EUR	EP	08 19 27.6
	ES	19 52.6
JUL 19		
H-08 33 52.9		
34.1N 116.1W		
h ABOUT 016KM		
BCN	IP	08 34 29.4
	I	34 51.4
GCA	EP	08 35 05.5
EUR	IP D	08 35 15.4
	I	36 18.1
TUC	E(P)	08 35 18.2
JUL 19		
BCN	EP	08 58 57.6
EUR	IP C	08 59 00.1
TUC	EP	08 59 03.0
ALQ	EP	08 59 24.0

Date and Station	Phase (GCT)
	h m s
JUL 19	
H-09 00 44.8	
36.3N 141.0E	
h ABOUT 070KM	
COL EP	09 09 33.0
HHM EP	09 12 06.1
BUT E(P)	09 12 18.4
BOZ E(P)	09 12 25.0
EUR IP C	09 12 29.6
I	12 40.8
BCN EP	09 12 48.8
RCD IP	09 12 54.3
TUC E(P)	09 13 10.5
ALQ EP	09 13 16.0
HON ES	09 17 58.0
EL	25 22.0
JUL 19	
H-11 46 39.1	
52.0N 172.5W	
h ABOUT 050KM	
COL EP	11 50 48.0
BOZ E(P)	11 54 05.0
EUR IP D	11 54 13.9
EPCP	56 15.9
I▸PCP	56 27.4
BCN EP	11 54 38.2
TUC IP	11 55 15.9
I	55 24.9
ALQ EP	11 55 21.5
JUL 19	
BOZ E(P)	12 00 22.0
BUT IP	12 00 38.5
IS	01 03.5
JUL 19	
EUR EP	12 03 50.8
JUL 19	
EUR IP D	12 25 18.2
COL IP	12 25 37.0
E	26 35.0
ALQ IP	12 25 40.0
JUL 19	
EUR E(P)	13 00 25.3
E(S)	01 02.0
JUL 19	
KIP I(P)	13 27 51.0
JUL 19	
ALQ EP	14 00 08.0

Date and Station	Phase (GCT)
	h m s
JUL 19	
H-15 54 55.8	
34.1N 116.1W	
h ABOUT 016KM	
BCN IP	15 55 31.7
I(S)	55 56.9
GCA IP	15 56 08.0
EUR IP C	15 56 17.9
I	57 21.9
ALQ IP	15 57 26.0
JUL 19	
FGU EP	18 04 33.2
IS	04 51.1
JUL 19	
H-18 48 35.7	
18.8N 145.7E	
h ABOUT 102KM	
GUA IP	18 49 53.7
E	50 56.0
COL IP	18 58 54.0
EUR IP D	19 00 58.9
I▸P	01 21.9
ALQ EP	19 01 40.3
JUL 19	
EUR EP	18 54 28.4
JUL 19	
H-19 13 55.7	
43.4N 146.3E	
h ABOUT 043KM	
COL IP	19 21 42.4
EUR EP	19 24 58.9
TUC IP	19 25 45.0
ALQ IP	19 25 50.1
JUL 19	
BHP IP	19 15 11.0
IS	15 51.0
JUL 19	
H-19 26 33.1	
44.9N 110.6W	
h ABOUT 033KM	
BOZ EP	19 26 48.0
BUT EP	19 27 03.4
IS	27 26.4
HHM E(P)	19 27 35.0
E	27 48.0
EUR E(P)	19 28 16.4
JUL 19	
H-20 56 45.4	
44.8N 110.6W	
h ABOUT 033KM	

Date and Station	Phase (GCT)
	h m s
BOZ IP	20 57 01.5
IS	57 14.0
BUT IP	20 57 15.4
IL	57 35.4
FGU EP	20 57 46.2
I	57 55.0
HHM E(P)	20 57 49.0
EL	58 58.0
SLC E(P)	20 57 57.4
RCD E(P)	20 58 28.3
EUR E(P)	20 58 29.0
JUL 19	
TUC E(P)	21 41 28.0
JUL 19	
EUR EP	21 59 56.7
IL	22 00 41.7
JUL 19	
FGU E(P)	22 04 13.6
JUL 19	
FGU IP	22 19 36.1
IS	19 55.3
JUL 19	
EUR IP	22 22 00.6
JUL 19	
TUC EP	22 24 22.0
JUL 19	
BOZ EP	22 42 04.0
ES	42 15.0
EUR IP	22 42 11.1
IS	43 09.1
FGU E(P)	22 42 50.1
E	42 57.6
JUL 19	
EUR E(P)	22 53 01.6
E(S)	54 09.0
JUL 19	
FGU EP	23 01 05.6
IS	01 29.1
JUL 19	
FGU E(P)	23 10 08.9
E(S)	10 43.9
JUL 19	
BHP IP	23 30 29.0
JUL 19	
SLC IP	23 44 33.4
IL	44 54.6
EUR E(P)	23 45 16.0
JUL 20	
BOZ EP	00 02 42.0

Date and Station	Phase (GCT)
	h m s
JUL 20	
BUT EP	00 05 44.3
IS	06 07.3
JUL 20	
H-00 11 35.0	
65.2N 133.7W	
h ABOUT 033KM	
COL IP	00 13 02.4
IL	14 38.0
SIT EP	00 13 33.0
EL	15 48.0
HHM EP	00 16 05.1
E	19 50.1
I	22 08.0
BUT EP	00 16 33.0
E	23 11.2
RCD E(P)	00 17 13.7
EUR EP C	00 17 22.7
EL	26 15.2
FGU E(P)	00 17 24.5
ALQ IP	00 18 22.0
JUL 20	
FGU EP	00 47 09.6
JUL 20	
H-00 51 55.7	
43.4N 041.2E	
h ABOUT 033KM	
COL EP	01 03 16.0
HHM EP	01 04 34.6
BOZ EP	01 04 45.0
EUR EP C	01 05 17.3
JUL 20	
H-01 45 06.4	
31.1N 116.5W	
h ABOUT 014KM	
TUC EP	01 46 24.0
BCN EP	01 46 24.2
E	47 26.1
GCA EP	01 46 53.5
EUR IP C	01 47 11.0
EL	49 14.0
JUL 20	
H-02 13 45.3	
47.2N 152.2E	
h ABOUT 108KM	
COL IP	02 20 38.5
I▸P	21 02.1
EUR IP D	02 24 06.1
I▸P	24 28.1

Date and Station	Phase	(GCT) h m s
JUL 20		
FGU	EP	02 59 22.5
	IS	59 51.5
JUL 20		
TUC	E(P)	05 10 15.0
JUL 20		
H-05 26 19.1		
14.4N 142.9E		
h ABOUT 033KM		
GUA	IP	05 26 53.4
EUR	IP	05 39 13.4
	E	39 33.7
BCN	EP	05 39 24.0
FGU	I(P)	05 39 32.9
TUC	EP	05 39 42.3
JUL 20		
H-05 35 33.6		
51.3N 157.9E		
h ABOUT 065KM		
COL	EP	05 41 43.0
EUR	IP D	05 45 23.9
	IpP	45 39.4
JUL 20		
H-06 36 10.8		
57.6S 148.5E		
h ABOUT 033KM		
KIP	EP	06 49 11.0
	ESKS	59 52.0
	ES	07 00 15.0
	EPS	01 20.0
	ESS	06 19.0
	EL	13 16.0
HON	EP	06 49 12.0
	ESKS	59 48.0
	ES	07 00 13.0
	EPS	01 15.0
	ESS	06 19.0
	EL	13 10.0
TUC	EP'	06 55 06.0
BCN	EP'	06 55 10.0
EUR	EP'	06 55 11.3
	E	56 10.8
	E	07 05 02.3
	E	07 56.3
ALQ	EP'	06 55 15.5
FGU	EP'	06 55 17.4
SLC	EP'	06 55 18.4
COL	EP'	06 55 19.0
BUT	EP'	06 55 24.2
HHM	EP'	06 55 28.1
RCD	EP'	06 55 34.0
CSC	EP'	06 55 40.0
WAS	IP'	06 55 46.0
	I	56 30.0
BHP	E	06 56 20.0
JUL 20		
H-07 34 38.7		
10.5N 062.5W		
h ABOUT 056KM		
SJP	I(P)	07 36 43.5
	I	36 53.0
	ES	38 11.5
EUR	EP	07 44 09.3
JUL 20		
H-07 38 50.9		
32.4N 140.5E		
h ABOUT 124KM		
COL	EP	07 48 02.0
HHM	EP	07 50 24.3
EUR	EP	07 50 45.0
FGU	I(P)	07 51 02.3
JUL 20		
TUC	E(P)	09 16 36.0
JUL 20		
H-10 41 02.5		
45.1N 111.3W		
h ABOUT 033KM		
BOZ	EP	10 41 15.0
	IS	41 25.0
BUT	IP	10 41 22.1
	IS	41 40.1
HHM	EP	10 42 01.1
	I	42 08.1
	E(S)	42 50.1
FGU	EP	10 42 10.0
EUR	E(P)	10 42 40.5
	EL	44 06.5
JUL 20		
FGU	IP	13 32 46.6
JUL 20		
H-15 07 58.2		
68.8N 004.6W		
h ABOUT 049KM		
COL	IP	15 16 04.5
HHM	EP	15 17 04.1
EUR	IP C	15 18 07.9
ALQ	IP	15 18 14.0
JUL 20		
HHM	EP	16 31 09.1
	I	31 15.1
JUL 20		
HHM	E(P)	18 08 11.0
	ES	08 46.0
JUL 20		
H-19 13 05.9		
37.1N 115.6W		
h ABOUT 025KM		
BCN	EP	19 13 29.5
	IS	13 46.1
EUR	IP C	19 13 43.2
GCA	EP	19 13 56.9
	I	14 00.9
	I	14 40.4
SLC	E(P)	19 14 25.2
	I	15 29.8
TUC	EP	19 14 38.2
FGU	EP	19 14 38.4
	I	14 58.1
	IL	16 11.6
ALQ	E(P)	19 15 06.0
JUL 20		
HHM	E(P)	20 26 33.0
	ES	27 11.0
JUL 20		
HHM	EP	20 57 15.1
	ES	58 03.1
JUL 20		
HHM	IP	21 35 24.0
	IS	35 54.1
JUL 20		
EUR	E(P)	21 46 26.1
JUL 20		
BUT	EP	22 42 18.3
	IS	42 40.3
HHM	EP	22 43 01.1
	ES	43 55.1
JUL 20		
SLC	IP	23 32 30.2
	IL	32 55.7
JUL 21		
EUR	IP	04 05 37.6
	IS	06 16.4
JUL 21		
FGU	IP	05 01 00.3
	IS	01 30.5
EUR	E(P)	05 01 38.4
	EL	02 51.6
JUL 21		
EUR	EP	05 48 15.3
JUL 21		
H-06 01 57.3		
14.8N 056.1E		
h ABOUT 033KM		
EUR	EP'	06 20 54.4
	EPP	22 45.6
JUL 21		
H-06 47 32.2		
17.8N 046.5W		
h ABOUT 033KM		
RCD	E(P)	06 56 55.5
ALQ	EP	06 57 06.0
TUC	EP	06 57 33.4
EUR	EP	06 57 59.5
	E	58 39.4
COL	IP	06 59 33.5
JUL 21		
FGU	EP	07 49 57.5
	IS	50 31.0
JUL 21		
JUL 21		
BUT	EP	08 40 59.8
	ES	41 25.8
JUL 21		
H-11 03 19.9		
56.1S 027.4W		
h ABOUT 080KM		
COL	IP'	11 23 01.5
JUL 21		
COL	EP	11 19 48.0
HHM	EP	11 20 15.0
RCD	E(P)	11 20 16.5
ALQ	EP	11 21 02.0
EUR	EP	11 21 12.4
JUL 21		
H-12 12 47.2		
11.9S 166.7E		
h ABOUT 184KM		
COL	IP	12 24 58.3
	EpP	25 50.0
EUR	EP	12 25 18.1
JUL 21		
TUC	EP	12 31 50.0
BCN	E(P)	12 32 57.8
	EL	35 20.1
EUR	EP	12 33 41.4
ALQ	E(P)	12 33 02.0
JUL 21		
COL	EP	12 35 42.0
JUL 21		
H-12 45 07.0		
37.2N 141.7E		
h ABOUT 033KM		

Date and Station	Phase (GCT)
	h m s
COL EP	12 53 51.0
JUL 21	
EUR EP	13 56 50.7
I	57 01.7
JUL 21	
H-14 45 07.1	
9.7N 122.3E	
h ABOUT 054KM	
COL EP	14 57 17.0
EUR EP'	15 03 30.1
ALQ EP'	15 03 47.0
JUL 21	
FGU EP	15 17 21.3
E(S)	17 45.0
JUL 21	
FGU E(P)	18 27 10.6
E	27 18.9
JUL 21	
BCN IP	18 36 32.8
E(S)	37 02.8
EUR EP	18 37 16.6
IL	38 50.1
JUL 21	
H-18 48 30.4	
36.5N 069.9E	
h ABOUT 112KM	
COL EP	18 59 59.0
JUL 21	
ALQ E(P)	19 32 40.0
EUR E(P)	19 33 09.7
E	33 57.7
JUL 21	
EUR E(P)	19 59 49.1
JUL 21	
HHM EP	20 06 34.0
IS	06 54.0
JUL 21	
H-20 29 38.3	
55.4N 155.7W	
h ABOUT 033KM	
COL EP	20 32 05.0
JUL 21	
SLC E(P)	22 59 35.6
IL	59 57.8
EUR E(P)	22 59 52.6
JUL 22	
H-00 29 14.9	
6.1S 148.9E	
h ABOUT 059KM	
HON EP	00 39 08.0
ES	47 14.0
E	51 27.0
EL	53 45.0

Date and Station	Phase (GCT)
	h m s
KIP E(P)	00 39 11.0
ES	47 11.0
EL	53 45.0
COL IP	00 41 42.6
EUR EP	00 42 45.5
I	43 10.9
I	46 00.9
I	47 08.0
IPKKP	59 22.5
EP'P'	01 07 33.5
HHM E(P)	00 43 01.0
EP'P'	01 07 31.9
BCN E(P)	00 43 05.2
EPKKP	59 22.8
ALQ E(P)	00 43 55.0
IPKKP	59 16.9
I	59 29.0
CSC EP'	00 48 15.0
SJP EP'	00 48 43.5
JUL 22	
FGU E(P)	03 00 34.6
E	00 44.4
JUL 22	
GCA E(P)	03 19 20.9
E	19 35.4
JUL 22	
EUR EP	03 43 39.4
ES	44 07.9
JUL 22	
EUR EP	04 19 54.2
JUL 22	
EUR EP	04 23 21.5
JUL 22	
GUA IP	05 33 48.0
JUL 22	
TUC E(P)	07 54 15.2
BCN E(P)	07 54 43.6
EL	56 07.9
JUL 22	
COL EP	07 57 48.0
JUL 22	
TUC E(P)	08 18 45.0
BCN E(P)	08 19 35.8
JUL 22	
EUR EP	08 34 10.2
JUL 22	
COL EP	10 32 36.0
JUL 22	
H-11 08 52.8	
50.4N 169.2E	
h ABOUT 033KM	

Date and Station	Phase (GCT)
	h m s
COL IP	11 14 28.4
E	14 40.0
EUR EP	11 18 02.5
JUL 22	
FGU EP	11 34 55.8
E(S)	35 30.1
JUL 22	
EUR EP	12 07 40.3
E(S)	08 30.1
JUL 22	
H-13 45 41.2	
3.2S 076.0W	
h ABOUT 149KM	
ALQ EP	13 54 03.0
COL E(P)	13 58 02.0
JUL 22	
FGU E(P)	13 48 36.8
ES	49 03.1
JUL 22	
H-15 47 55.1	
20.9S 174.1W	
h ABOUT 033KM	
EUR E(P)	16 00 09.6
E	00 21.1
ALQ E(P)	16 00 25.5
COL EP	16 00 41.0
JUL 22	
H-16 33 22.2	
12.5S 073.7W	
h ABOUT 079KM	
EUR EP	16 43 56.2
JUL 22	
H-17 46 33.4	
17.4N 094.8W	
h ABOUT 069KM	
ALQ IP	17 51 06.0
TUC IP	17 51 09.6
EUR EP	17 52 26.3
JUL 22	
EUR E(P)	19 45 05.9
JUL 22	
EUR EP	20 36 47.0
E(S)	37 29.5
JUL 23	
SJP IP	00 05 57.5
ES	06 33.5
JUL 23	
SLC E(P)	00 31 29.1
JUL 23	
H-03 22 23.7	
50.2N 143.7E	
h ABOUT 033KM	

Date and Station	Phase (GCT)
	h m s
COL EP	03 29 33.0
EUR E(P)	03 33 13.6
E	33 45.8
JUL 23	
TUC IP	05 14 15.2
GCA E(P)	05 15 05.3
JUL 23	
H-06 17 51.5	
41.5N 141.9E	
h ABOUT 091KM	
COL IP	06 26 01.1
HHM EP	06 28 44.9
EUR IP C	06 29 12.6
I▸P	29 29.1
FGU E(P)	06 29 29.1
BCN EP	06 29 31.1
E▸P	29 48.8
RCD E(P)	06 29 35.8
GCA E(P)	06 29 37.8
TUC EP	06 29 56.8
I▸P	30 15.0
ALQ IP	06 30 02.0
JUL 23	
EUR EP	06 39 29.9
JUL 23	
H-12 40 55.4	
43.1N 147.5E	
h ABOUT 033KM	
COL EP	12 48 40.0
EUR EP	12 51 57.5
	52 08.0
JUL 23	
TUC IP	19 07 10.9
JUL 23	
TUC E(P)	19 13 09.0
ALQ IP	19 13 54.0
JUL 23	
H-21 51 15.5	
50.0N 176.3W	
h ABOUT 077KM	
COL EP	21 55 55.0
EUR EP	21 59 09.5
ALQ E(P)	22 00 14.0
JUL 23	
EUR EP	23 16 00.6
JUL 23	
EUR EP	23 40 39.7

Date and Station	Phase	Phase (GCT) h m s
JUL 23		
EUR	E(P)	23 47 11.7
	I	47 39.7
TUC	IP	23 47 16.8
ALQ	EP	23 47 36.0
JUL 24		
FGU	EP	00 22 50.3
	IS	23 04.6
JUL 24		
GCA	E(P)	00 47 08.0
	I	47 23.5
JUL 24		
SLC	E(P)	00 56 44.4
JUL 24		
ALQ	E(P)	01 41 36.0
JUL 24		
H-05 22 54.3		
20.6S 178.7W		
h ABOUT 531KM		
EUR	EP	05 34 27.5
TUC	IP'	05 34 28.0
ALQ	IP	05 34 48.7
COL	IP	05 34 49.3
JUL 24		
GUA	EP	06 13 17.4
	ES	14 07.0
JUL 24		
COL	EP	06 22 13.3
EUR	EP	06 25 00.6
JUL 24		
H-08 50 20.7		
32.4N 138.4E		
h ABOUT 297KM		
COL	EP	08 59 19.0
HHM	EP	09 01 41.7
EUR	EP	09 02 02.3
JUL 24		
H-09 26 46.5		
27.2S 177.2W		
h ABOUT 033KM		
TUC	EP	09 39 29.0
EUR	EP	09 39 33.4
ALQ	E(P)	09 39 48.0
JUL 24		
TUC	EP	09 44 11.9
	E	44 26.5
JUL 24		
H-09 49 12.6		
57.6N 150.5W		
h ABOUT 033KM		
COL	EP	09 50 58.0
EUR	EP	09 55 08.4
	E	56 56.0
JUL 24		
BCN	IP	10 51 00.6
	ES	51 26.6
JUL 24		
H-10 57 46.9		
44.9N 111.1W		
h ABOUT 033KM		
BOZ	E(P)	10 58 00.0
BUT	EP	10 58 11.2
	IS	58 38.2
HHM	EP	10 58 49.7
	E(S)	59 40.7
FGU	EP	10 58 50.3
EUR	EP	10 59 23.4
JUL 24		
H-11 01 32.4		
16.7S 177.4W		
h ABOUT 033KM		
ALQ	EP	11 14 02.0
COL	IP	11 14 02.5
JUL 24		
H-11 32 17.7		
24.6N 122.0E		
h ABOUT 033KM		
COL	IP	11 43 15.0
SIT	EP	11 44 08.0
HHM	EP	11 45 23.8
BUT	EP	11 45 35.2
BOZ	E(P)	11 45 42.0
EUR	EP	11 45 47.0
TUC	E(P)	11 46 23.5
HON	ES	11 53 14.0
	EL	12 01 48.0
KIP	ES	11 53 14.0
	EL	12 01 06.0
JUL 24		
BCN	IP	11 42 28.2
	I(S)	42 53.5
TUC	E(P)	11 43 04.0
	E	43 21.0
EUR	EP	11 43 14.0
	EL	44 25.8
JUL 24		
H-11 50 31.1		
36.1N 136.8E		
h ABOUT 033KM		
EUR	EP	12 02 35.8
JUL 24		
FGU	EP	12 14 18.0
	IS	14 43.0
JUL 24		
EUR	I(P)	12 16 32.9
JUL 24		
GCA	E(P)	12 43 04.0
	E	44 17.3
JUL 24		
TUC	EP	13 51 29.0
JUL 24		
BCN	EP	14 35 45.0
	EL	36 31.0
JUL 24		
SLC	IP	15 53 13.9
	I	53 38.9
	IL	53 52.8
EUR	EP	15 53 57.8
	ES	54 39.0
JUL 24		
COL	EP	15 59 39.0
JUL 24		
H-16 46 38.4		
06.4S 147.8E		
h ABOUT 055KM		
COL	EP	16 59 09.0
JUL 24		
H-19 04 32.5		
09.0S 158.2E		
h ABOUT 033KM		
EUR	IP D	19 17 42.4
TUC	E(P)	19 17 56.4
BOZ	EP	19 18 03.0
FGU	I(P)	19 18 05.8
JUL 24		
H-20 57 00.5		
17.9S 167.2E		
h ABOUT 033KM		
COL	EP	21 09 52.3
JUL 24		
FGU	IP	21 41 57.7
	IS	42 15.8
JUL 24		
H-21 47 54.1		
09.7S 154.4E		
h ABOUT 016KM		
GUA	IP	21 53 20.1
COL	IP	22 00 33.1
EUR	EP	22 01 22.6
JUL 24		
BHP	IP	22 08 48.0
	IS	09 32.0
JUL 24		
ALQ	EP	23 00 23.5
JUL 24		
GCA	E(P)	23 06 05.2
	I	06 27.4
JUL 24		
GCA	EP	23 59 27.6
JUL 25		
EUR	E(P)	02 50 37.2
	IL	51 37.0
JUL 25		
H-07 04 21.9		
06.8N 073.0W		
h ABOUT 152KM		
BHP	IP	07 05 58.0
SJP	IP	07 07 26.0
CSC	EP	07 10 02.0
	E	10 50.0
WAS	IP	07 10 38.0
	E	11 11.0
ALQ	IP	07 11 55.9
TUC	IP	07 12 11.0
	ESCP	17 34.0
	ES	18 28.0
RCD	IP	07 12 27.4
GCA	I(P)	07 12 34.6
FGU	IP	07 12 39.2
BCN	IP	07 12 48.5
	E	13 25.6
	E	13 39.6
	EPP	14 48.2
SLC	EP	07 12 50.3
	E	14 04.1
EUR	IP D	07 13 06.0
	E	13 58.0
	ISCP	18 03.6
	E	20 38.6
BOZ	EP	07 13 09.0
	E	13 48.0
BUT	IP	07 13 16.7
HHM	EP	07 13 32.1
SIT	EP	07 15 15.0
COL	IP	07 16 01.5
	IPP	18 58.5
JUL 25		
H-11 47 04.3		
20.0S 179.4W		
h ABOUT 522KM		

Date and Station	Phase (GCT)
	h m s
EUR E(P)	11 58 39.1
COL EP	11 59 00.9
E	12 00 05.4
JUL 25	
H-12 57 49.1	
14.2N 092.1W	
h ABOUT 033KM	
ALQ IP	13 03 06.1
TUC E(P)	13 03 10.0
I	03 25.0
EUR EP	13 04 22.2
COL EP	13 08 13.0
JUL 25	
H-15 17 17.9	
8.1N 123.5E	
h ABOUT 637KM	
COL EP	15 28 35.0
JUL 25	
BCN EP	19 17 44.0
JUL 25	
H-20 31 17.7	
2.4S 077.8W	
h ABOUT 033KM	
ALQ EP	20 39 36.0
JUL 25	
SLC E(P)	23 12 15.8
IS	12 44.9
JUL 25	
FGU EP	23 19 58.3
ES	20 27.0
JUL 25	
BUT E(P)	23 58 49.0
JUL 26	
H-04 17 12.5	
42.1N 021.4E	
h ABOUT 005KM	
WAS EP	04 28 31.0
COL IP	04 28 45.3
CSC EP	04 29 04.0
SIT E(P)	04 29 25.5
HHM IP	04 29 33.9
BOZ EP	04 29 41.8
BUT EP	04 29 41.9
FGU E(P)	04 29 56.3
ALQ IP D	04 30 13.1
EUR EP	04 30 15.5
GCA EP	04 30 17.3

Date and Station	Phase (GCT)
	h m s
BCN EP	04 30 28.3
EPP	34 09.0
TUC IP D	04 30 33.1
HON ESKS	04 46 54.0
E	47 20.0
E	53 39.0
ESS	57 14.0
EL	05 08 34.0
KIP ESKS	04 46 58.0
E	48 24.0
E(S)	49 14.0
EPS	51 23.0
ESS	57 09.0
EL	05 08 27.0
JUL 26	
COL E(P)	05 04 42.0
HHM EP	05 05 31.4
JUL 26	
H-05 26 45.1	
15.0S 167.3E	
h ABOUT 124KM	
COL EP	05 39 13.1
EPP	39 44.0
BCN EP	05 39 29.5
EPP	39 59.3
TUC EP	05 39 38.2
EPP	40 07.0
JUL 26	
EUR EP	05 39 49.0
E	40 17.5
JUL 26	
COL E(P)	05 52 09.0
JUL 26	
H-07 33 51.1	
34.0N 117.2W	
h ABOUT 016KM	
BCN IP	07 34 35.7
I	35 05.2
TUC E(P)	07 35 13.0
EUR IP	07 35 14.5
I	36 13.5
GCA E(P)	07 35 29.5
JUL 26	
H-08 38 51.4	
18.7N 107.1W	
h ABOUT 033KM	
TUC EP	08 42 09.0
EUR EP	08 43 45.7
E	44 10.5
JUL 26	
HHM E(P)	08 46 01.0
ES	46 57.4

Date and Station	Phase (GCT)
	h m s
JUL 26	
H-09 26 46.4	
39.6N 015.2E	
h ABOUT 337KM	
COL IP	09 37 54.0
E	38 26.0
JUL 26	
BCN EP	10 05 25.4
ES	05 42.4
JUL 26	
BCN EP	10 29 52.9
E(S)	30 09.9
JUL 26	
EUR E(P)	11 31 44.2
E	31 51.0
E(S)	32 49.2
JUL 26	
FGU EP	11 51 03.5
JUL 26	
H-13 40 29.5	
28.5N 112.0W	
h ABOUT 033KM	
TUC IP	13 41 28.5
ALQ EP	13 42 25.0
GCA E(P)	13 42 35.0
E	44 47.5
BCN E(P)	13 42 55.7
EL	44 46.4
EUR EP	13 43 13.5
EL	46 48.8
HHM EP	13 44 57.4
JUL 26	
JUL 26	
FGU E(P)	13 47 07.3
JUL 26	
TUC E(P)	14 32 44.0
JUL 26	
FGU E(P)	14 51 00.9
JUL 26	
FGU E(P)	14 56 11.6
JUL 26	
HHM E(P)	15 33 23.0
ES	34 01.0
JUL 26	
EUR EP	15 58 55.9
JUL 26	
COL EP	16 23 56.5
HHM EP	16 24 57.4
JUL 26	
TUC EP	17 16 08.0
ALQ EP	17 17 02.8

Date and Station	Phase (GCT)
	h m s
GCA E(P)	17 17 28.4
E(S)	18 22.0
H-19 35 38.6	
14.6S 173.0W	
h ABOUT 033KM	
COL EP	19 47 53.7
JUL 26	
H-19 46 33.2	
36.9N 029.1E	
h ABOUT 033KM	
COL EP	19 58 33.0
HHM EP	19 59 25.5
JUL 26	
BOZ E(P)	22 51 35.0
E	51 44.0
E	53 12.0
JUL 26	
SLC EP	23 15 12.9
IL	15 42.9
JUL 26	
H-23 18 03.8	
23.4S 072.3W	
h ABOUT 033KM	
EUR EP	23 29 42.2
HHM EP	23 30 14.5
JUL 26	
SLC IP	23 42 23.4
I	42 44.4
IL	43 00.4
FGU IP	23 42 54.7
ES	43 24.5
EUR EP	23 43 06.7
EL	43 56.7
JUL 26	
H-23 48 26.5	
09.7S 078.5W	
h ABOUT 062KM	
SJP IP	23 54 35.0
CSC EP	23 56 26.5
ALQ IP	23 57 30.0
TUC I(P)	23 57 39.0
GCA E(P)	23 57 58.8
BCN EP	23 58 09.7
EPP	58 25.0
EPP	58 34.7
FGU I(P)	23 58 14.7
EUR EP	23 58 29.7
COL EP	24 01 21.1

Date and Station	Phase (GCT)
	h m s
JUL 27	
EUR EP	00 28 00.9
JUL 27	
SJP IP	05 33 07.2
JUL 27	
BCN EP	05 56 01.6
JUL 27	
H-05 58 23.4	
43.5N 008.4E	
h ABOUT 033KM	
COL EP	06 09 35.0
HHM IP	06 10 05.5
FGU I(P)	06 10 25.0
EUR IP C	06 10 49.1
JUL 27	
H-06 27 03.0	
43.9N 128.3W	
h ABOUT 033KM	
EUR EP	06 29 31.6
HHM EP	06 29 39.5
BOZ E(P)	06 30 02.0
BCN EP	06 30 10.1
FGU E(P)	06 30 26.2
GCA E(P)	06 30 30.5
TUC E(P)	06 31 19.0
ALQ EP	06 31 25.1
COL EP	06 32 13.1
JUL 27	
FGU E(P)	07 59 44.5
I	59 47.5
ES	08 00 07.0
JUL 27	
H-08 00 45.3	
19.7S 178.5W	
h ABOUT 523KM	
EUR EP	08 12 15.8
COL IP	08 12 37.7
JUL 27	
H-09 21 56.6	
18.4N 105.7W	
h ABOUT 033KM	
TUC E(P)	09 25 32.0
EUR EP	09 26 58.5
JUL 27	
COL EP	10 17 02.0
EUR EP	10 18 53.0

Date and Station	Phase (GCT)
	h m s
JUL 27	
COL EP	10 40 41.0
EUR EP	10 41 25.4
JUL 27	
EUR EP	12 01 01.9
JUL 27	
FGU EP	12 01 46.8
IS	02 14.8
JUL 27	
H-16 47 03.7	
35.9S 102.7W	
h ABOUT 033KM	
TUC EP	16 58 03.2
ALQ EP	16 58 17.0
GCA E(P)	16 58 35.4
FGU ,EP	16 58 55.0
BOZ E(P)	16 59 22.0
HHM EP	16 59 33.5
JUL 27	
H-21 26 44.8	
31.0N 140.3E	
h ABOUT 100KM	
HHM EP	21 38 27.5
E	38 57.5
EUR EP	21 38 47.4
E	39 07.4
E	40 23.4
FGU EP	21 39 01.7
JUL 27	
TUC IP	21 55 41.1
JUL 27	
EUR E(P)	22 12 46.2
JUL 27	
H-22 19 52.0	
13.2N 144.5E	
h ABOUT 087KM	
GUA IP	22 20 05.5
EUR EP	22 32 38.8
JUL 27	
H-22 21 16.3	
23.7S 179.6W	
h ABOUT 033KM	
TUC IP	22 33 56.0
EUR I(P)	22 33 56.1
JUL 27	
HHM EP	22 50 54.7
ES	51 14.5
JUL 27	
TUC IP	22 54 33.2

Date and Station	Phase (GCT)
	h m s
JUL 27	
SLC E(P)	23 08 13.1
E	09 37.6
I	10 05.3
JUL 27	
HHM EP	23 28 44.5
JUL 27	
SLC E(P)	23 31 12.7
EL	31 38.6
FGU EP	23 31 42.9
I	31 45.4
JUL 27	
FGU EP	23 44 02.7
ES	44 24.4
JUL 28	
BOZ EP	00 43 18.7
JUL 28	
FGU E(P)	03 01 42.1
JUL 28	
H-04 17 50.7	
51.7N 174.5W	
h ABOUT 033KM	
COL EP	04 22 12.0
EUR EP	04 25 35.3
FGU E(P)	04 26 00.8
ALQ E(P)	04 26 56.0
JUL 28	
FGU EP	05 33 42.8
IS	34 09.3
JUL 28	
H-07 12 17.1	
29.8S 177.6W	
h ABOUT 033KM	
EUR EP	07 25 12.5
GCA E(P)	07 25 20.4
ALQ EP	07 25 28.0
FGU E(P)	07 25 35.6
COL EP	07 25 47.0
E	27 16.0
HON ES	07 29 24.0
E	31 46.0
EL	34 47.0
KIP ES	07 29 25.0
E	31 46.0
EL	35 20.0
JUL 28	
H-07 55 21.9	
11.3S 112.1E	
h ABOUT 021KM	
COL EP	08 09 25.0

Date and Station	Phase (GCT)
	h m s
EUR EP'	08 14 17.0
IP'	14 32.3
EPP	16 49.9
GCA EP'	08 14 23.3
HHM EP'	08 14 26.3
FGU EP'	08 14 28.1
TUC EP'	08 14 29.5
BOZ EP'	08 14 34.0
ALQ EP'	08 14 37.6
I	14 50.0
CSC EP'	08 15 16.0
KIP ES	08 20 04.0
EL	39 36.0
HON ES	08 20 08.0
EL	39 40.0
JUL 28	
COL IP	09 10 09.0
JUL 28	
H-09 37 18.2	
19.2S 071.9W	
h ABOUT 110KM	
ALQ E(P)	09 47 37.0
TUC EP	09 47 39.2
EUR EP	09 48 28.2
E	49 06.2
JUL 28	
H-10 05 28.1	
01.5N 127.1E	
h ABOUT 033KM	
COL E(P)	10 18 15.0
JUL 28	
EUR IP	10 56 04.1
IS	56 26.6
JUL 28	
COL EP	11 09 46.0
JUL 28	
TUC E(P)	11 35 21.0
JUL 28	
H-11 43 16.4	
06.7N 082.5W	
h ABOUT 047KM	
BHP IP	11 44 12.0
IS	44 59.0
SJP IP	11 47 48.0
ALQ EP	11 50 08.8
EUR EP	11 51 26.1
HHM E(P)	11 52 03.0

Date and Station	Phase (GCT)
	h m s
JUL 28	
H-12 11 27.9	
52.6N 158.9E	
h ABOUT 033KM	
COL IP	12 17 28.4
EUR IP	12 21 14.0
I	21 30.0
FGU EP	12 21 31.7
TUC IP	12 22 08.5
ALQ IP	12 22 11.3
KIP ET	13 08 11.0
JUL 28	
EUR E(P)	12 26 34.7
JUL 28	
FGU EP	13 19 43.9
IS	20 30.4
ALQ EP	13 20 09.0
I	21 17.0
GCA E(P)	13 20 13.6
JUL 28	
H-13 25 18.1	
72.0N 000.0W	
h ABOUT 033KM	
COL EP	13 33 06.0
FGU E(P)	13 35 07.9
EUR EP	13 35 26.5
ALQ E(P)	13 35 33.0
TUC E(P)	13 36 03.3
EUR EP	14 06 04.6
IS	06 36.2
GCA E(P)	14 06 23.4
E(S)	07 00.4
JUL 28	
H-14 42 42.7	
51.9N 174.3W	
h ABOUT 033KM	
COL EP	14 47 03.0
EUR EP	14 50 28.7
JUL 28	
H-14 48 07.3	
51.9N 174.2W	
h ABOUT 033KM	
COL EP	14 52 27.0
EUR EP	14 55 52.6
E	56 23.1
JUL 28	
EUR EP	14 57 49.9

Date and Station	Phase (GCT)
	h m s
JUL 28	
H-15 16 28.9	
14.2N 099.0W	
h ABOUT 033KM	
TUC E(P)	15 21 12.5
JUL 28	
H-16 22 44.7	
51.8N 174.4W	
h ABOUT 033KM	
COL EP	16 27 05.0
EUR E(P)	16 30 31.5
JUL 28	
H-16 32 25.0	
04.9S 152.7E	
h ABOUT 069KM	
GUA EP	16 36 56.3
COL IP	16 44 37.6
EUR EP	16 45 38.3
E	46 04.8
JUL 28	
EUR I(P)	16 46 33.7
E	46 48.0
JUL 28	
EUR I(P)	16 47 48.5
I	48 05.5
JUL 28	
TUC IP	18 31 42.0
ALQ EP	18 32 06.1
GCA E(P)	18 32 36.1
E(S)	33 33.1
JUL 28	
H-18 51 36.7	
46.6N 153.1E	
h ABOUT 033KM	
COL IP	18 58 38.6
BOZ EP	19 01 54.8
EUR EP C	19 02 03.2
I	02 22.7
FGU EP	19 02 22.3
GCA EP	19 02 31.1
TUC IP	19 02 53.0
ALQ EP	19 02 58.0
CSC EP	19 04 16.0
KIP IS	19 06 58.0
EL	12 40.0
HON ES	19 07 00.0
EL	12 39.0

Date and Station	Phase (GCT)
	h m s
JUL 28	
GCA EP	18 54 57.6
I	55 02.5
ES	55 21.1
JUL 28	
HHM EP	19 20 33.4
JUL 28	
BOZ EP	20 27 33.0
ES	38 03.0
JUL 28	
ALQ EP	22 22 43.5
JUL 29	
TUC E(P)	00 38 02.8
JUL 29	
H-04 48 49.8	
30.4S 177.7W	
h ABOUT 033KM	
TUC EP	05 01 43.1
EUR EP	05 01 47.7
COL EP	05 02 21.0
JUL 29	
FGU E(P)	05 53 50.9
EUR EP	05 53 52.3
ALQ IP	05 54 08.2
JUL 29	
FGU E(P)	05 59 10.2
BOZ EP	05 59 19.0
E	59 33.0
JUL 29	
H-06 10 22.6	
27.8N 055.6E	
h ABOUT 037KM	
COL IP	06 23 01.3
EUR EP	06 25 04.0
EP'	28 59.3
EPP	29 40.8
EPKKP	39 58.4
FGU EP'	06 28 54.2
CSC EP'	06 28 55.0
ALQ EP'	06 29 03.5
EPKKP	39 39.0
TUC EP'	06 29 11.0
EPKKP	39 40.9
JUL 29	
COL EP	07 49 49.0
E	50 02.0
JUL 29	
EUR E(P)	07 59 23.0

Date and Station	Phase (GCT)
	h m s
JUL 29	
H-10 36 26.4	
34.1S 070.4W	
h ABOUT 033KM	
TUC IP	10 48 13.0
ALQ IP	10 48 15.1
FGU I(P)	10 48 49.2
EUR IP	10 48 57.0
JUL 29	
H-11 22 53.9	
51.7N 173.5E	
h ABOUT 033KM	
COL IP	11 28 04.2
JUL 29	
H-12 43 12.6	
79.3N 000.6W	
h ABOUT 033KM	
COL EP	12 50 04.0
EUR E(P)	12 52 59.5
ALQ EP	12 53 10.2
JUL 29	
H-16 48 42.6	
05.7S 110.2E	
h ABOUT 530KM	
EUR IP'C	17 06 48.6
JUL 29	
BHP IP	17 17 32.0
IS	18 18 14.0
JUL 29	
H-20 14 07.3	
30.2S 177.3W	
h ABOUT 039KM	
HON E(P)	20 23 36.0
E	27 04.0
IS	31 14.0
ESCS	33 28.0
EL	36 10.0
TUC IP	20 26 57.0
GCA I(P)	20 27 08.5
ALQ IP	20 27 17.0
BUT EP	20 27 30.2
HHM E(P)	20 27 32.0
COL EP	20 27 36.7
JUL 29	
H-20 16 36.9	
29.7S 177.0W	
h ABOUT 033KM	
TUC IP	20 29 27.2
GCA IP	20 29 39.0

Date and Station	Phase	Phase (GCT) h m s
ALQ	IP	20 29 46.9
COL	EP	20 30 05.1
JUL 29		
H-22 55 14.1		
10.3N 062.6W		
h ABOUT 039KM		
SJP	IP	22 57 20.5
ALQ	IP	23 03 43.0
JUL 29		
FGU	E(P)	23 09 15.7
JUL 29		
H-23 18 43.0		
30.1S 177.1W		
h ABOUT 048KM		
TUC	E(P)	23 31 31.0
EUR	EP	23 31 36.1
JUL 29		
SLC	E(P)	23 40 04.4
JUL 30		
FGU	EP	00 44 05.7
	ES	44 30.0
JUL 30		
BHP	IP	01 10 57.0
JUL 30		
H-02 18 42.1		
30.0S 177.0W		
h ABOUT 041KM		
TUC	E(P)	02 31 30.5
JUL 30		
H-02 57 31.6		
30.0S 177.2W		
h ABOUT 040KM		
TUC	EP	03 10 20.0
EUR	EP	03 10 26.4
GCA	E(P)	03 10 31.5
ALQ	EP	03 10 41.0
JUL 30		
ALQ	EP	03 40 39.8
JUL 30		
H-04 27 25.0		
30.2S 177.3W		
h ABOUT 017KM		
EUR	EP	04 40 24.2
KIP	ES	04 44 36.0
	E	46 58.0
	EL	51 45.0
HON	ES	04 44 42.0
	E	46 58.0
	EL	51 51.0

Date and Station	Phase	Phase (GCT) h m s
JUL 30		
BHP	IP	05 17 39.0
	IS	18 14.0
JUL 30		
H-05 45 53.3		
29.6S 177.3W		
h ABOUT 033KM		
HON	IP	05 55 17.0
	E	56 06.0
	IS	06 02 58.0
	ESCS	05 18.0
	EL	07 24.0
KIP	IP	05 55 17.0
	IS	06 02 58.0
	ISCS	05 18.0
	EL	07 34.0
TUC	IP	05 58 42.5
	E	06 16 27.0
EUR	EP	05 58 46.9
	I	59 01.9
	ESKS	06 09 03.3
	ES	09 34.7
	E	15 45.2
GCA	E(P)	05 58 54.0
ALQ	IP	05 59 03.0
SLC	EP	05 59 03.2
BUT	EP	05 59 14.7
HHM	E(P)	05 59 18.0
COL	EP	05 59 22.0
JUL 30		
H-06 34 55.9		
34.1N 116.2W		
h ABOUT 016KM		
TUC	IP	06 36 08.5
GCA	IP	06 36 08.7
	I	36 27.0
	IL	37 21.0
EUR	IP	06 36 18.0
	I	37 27.7
SLC	EP	06 36 49.5
	I	37 18.7
	E	38 46.7
ALQ	EP	06 36 57.0
FGU	IP	06 37 05.6
	I	37 31.8
	E	38 43.8
HHM	EP	06 38 24.6
JUL 30		
FGU	IP	06 42 05.2
JUL 30		
H-06 52 22.7		
51.7N 158.1E		
h ABOUT 033KM		

Date and Station	Phase	Phase (GCT) h m s
COL	IP	06 58 32.5
	EPCP	07 01 30.0
EUR	IP	07 02 14.6
	IpP	02 27.1
	E	04 42.8
	E	11 22.3
SLC	E(P)	07 02 24.7
FGU	I(P)	07 02 32.1
GCA	IP	07 02 43.5
TUC	IP	07 03 08.0
ALQ	IP	07 03 10.6
JUL 30		
EUR	E(P)	07 33 30.3
	IPCP	33 34.3
JUL 30		
COL	EP	08 13 40.0
JUL 30		
H-08 28 07.1		
33.9N 135.1E		
h ABOUT 149KM		
COL	EP	08 37 20.0
HHM	EP	08 39 48.4
EUR	IP	08 40 12.0
	E	41 38.3
JUL 30		
EUR	EP	08 33 08.1
JUL 30		
EUR	E(P)	09 32 34.9
	E(S)	33 56.0
TUC	E(P)	09 32 40.5
JUL 30		
EUR	E(P)	10 26 50.0
	E(S)	28 01.0
JUL 30		
TUC	E(P)	10 34 12.5
JUL 30		
BHP	IP	11 19 30.0
	IS	20 10.0
JUL 30		
BHP	IP	12 17 15.0
	IS	17 49.0
JUL 30		
H-12 25 39.3		
11.4N 087.3W		
h ABOUT 033KM		
ALQ	E(P)	12 31 42.6
JUL 30		
FGU	IP	12 37 33.5

Date and Station	Phase	Phase (GCT) h m s
JUL 30		
H-12 57 25.3		
29.2S 112.1W		
h ABOUT 033KM		
ALQ	E(P)	13 07 58.0
EUR	EP	13 08 26.1
CSC	E(P)	13 08 30.0
HON	E	13 17 20.0
	EL	24 52.0
KIP	E	13 17 22.0
	EL	25 24.0
JUL 30		
H-13 51 57.8		
55.9S 027.5W		
h ABOUT 033KM		
BHP	EP	14 03 51.0
SJP	IP D	14 04 08.3
	E	05 03.0
	E	05 31.0
	IPP	07 13.0
GCA	EP'	14 10 39.2
SLC	EP'	14 10 44.6
EUR	EP'	14 10 48.1
	IpP'	11 03.1
	EPP	12 19.0
	IpPP	12 38.5
	E(PKS)	14 18.0
	PKKP	20 52.0
	E	24 14.5
BOZ	EP'	14 10 51.0
	EpP'	11 07.0
COL	EP'	14 11 36.0
	IP'	11 44.0
JUL 30		
COL	IP	13 53 29.0
	I	55 08.0
JUL 30		
FGU	EP	14 15 41.4
JUL 30		
H-14 23 13.7		
29.5S 177.1W		
h ABOUT 033KM		
KIP	EP	14 32 38.0
	ES	40 28.0
	E	45 18.0
	EL	47 28.0
HON	EP	14 32 40.0
	ES	40 28.0
	E	46 32.0
	EL	50 10.0
TUC	IP	14 36 03.0
EUR	EP	14 36 07.5
GCA	I(P)	14 36 14.5

Date and Station	Phase (GCT) h m s
COL EP	14 36 41.9
JUL 30	
BHP EP	14 23 53.0
JUL 30	
ALQ EP	15 02 41.9
JUL 30	
H-15 04 38.7	
29.9S 177.4W	
h ABOUT 076KM	
TUC IP	15 17 24.0
EUR EP	15 17 29.2
GCA E(P)	15 17 35.2
HON ES	15 21 40.0
E	22 24.0
E	27 16.0
EL	29 41.0
KIP IS	15 21 40.0
E	22 23.0
E	27 19.0
EL	28 24.0
FGU E(P)	15 27 51.8
JUL 30	
ALQ EP	17 28 48.0
E	28 55.0
EUR E(P)	17 29 49.8
E(S)	30 58.0
TUC E(P)	17 29 50.2
JUL 30	
H-17 38 10.2	
59.3N 151.7W	
h ABOUT 033KM	
COL IP	17 39 36.5
E(S)	40 44.0
HHM EP	17 43 26.7
EUR I(P)	17 44 18.4
FGU E(P)	17 44 35.0
JUL 30	
EUR EP	17 43 30.2
JUL 30	
BHP EP	17 43 48.0
JUL 30	
GCA EP	17 48 53.6
E	50 07.1
TUC E(P)	17 49 03.9
EUR IP	17 49 05.4
E(S)	50 13.4
JUL 30	
FGU E(P)	18 05 13.5
E	05 34.2

Date and Station	Phase (GCT) h m s
JUL 30	
SLC E(P)	18 16 40.6
HHM E(P)	18 18 13.0
ES	18 49.7
JUL 30	
TUC E(P)	19 16 25.2
JUL 30	
TUC IP	20 10 11.6
ALQ IP	20 10 43.0
GCA EP	20 11 07.6
E	12 03.4
JUL 30	
EUR IP	22 23 42.9
I(S)	23 55.4
JUL 30	
FGU EP	22 29 04.4
E(S)	29 27.9
E	29 36.4
GCA IP	22 47 09.2
ES	48 21.7
EUR IP	22 47 18.5
E(S)	48 26.0
ALQ E(P)	22 48 28.0
E	50 07.0
JUL 30	
EUR IP	22 55 46.5
JUL 30	
FGU E(P)	23 14 30.4
E	14 38.4
IS	15 11.9
SLC E(P)	23 14 35.0
JUL 30	
GCA EP	23 18 34.7
JUL 31	
H-01 44 18.8	
29.8S 177.2W	
h ABOUT 065KM	
HON E	01 54 11.0
ES	02 01 23.0
EL	01 07 11.0
TUC EP	01 57 03.9
EUR EP	01 57 09.4
GCA E(P)	01 57 16.1
ALQ EP	01 57 24.5
E	57 33.5
FGU E(P)	01 57 41.9
JUL 31	
BHP EP	01 48 00.0
ES	51 00.0

Date and Station	Phase (GCT) h m s
JUL 31	
BHP IP	01 54 51.0
IS	55 22.0
JUL 31	
COL E(P)	01 59 53.0
KIP ES	02 01 24.0
EL	07 12.0
JUL 31	
EUR EP	05 11 22.3
I	11 49.8
JUL 31	
BHP IP	06 17 04.0
IS	17 38.0
JUL 31	
EUR E(P)	06 47 13.0
TUC E(P)	06 48 16.5
JUL 31	
EUR I(P)	06 47 22.9
I(S)	48 27.9
JUL 31	
BHP EP	08 03 20.0
IS	04 37.0
JUL 31	
COL IP	08 13 37.2
JUL 31	
H-08 32 12.5	
71.4N 008.5W	
h ABOUT 033KM	
EUR EP	08 42 05.6
ALQ EP	08 42 16.0
JUL 31	
H-08 51 43.0	
20.6S 178.6W	
h ABOUT 600KM	
TUC EP	09 03 10.0
JUL 31	
FGU IP	09 33 46.8
IS	34 07.5
JUL 31	
BHP IP	09 34 37.0
IS	35 00.0
JUL 31	
FGU E(P)	09 50 41.8
ES	51 06.8
JUL 31	
FGU E(P)	10 56 56.3
ES	57 19.8
JUL 31	
H-11 29 20.4	
41.9N 142.4E	
h ABOUT 033KM	
COL IP	11 37 31.0
EUR EP	11 40 44.3

Date and Station	Phase (GCT) h m s
FGU EP	11 41 01.2
TUC EP	11 41 29.0
ALQ EP	11 41 33.0
JUL 31	
BHP IP	12 00 46.0
IS	01 31.0
JUL 31	
H-13 24 52.4	
51.3N 175.0W	
h ABOUT 033KM	
COL EP	13 29 20.0
JUL 31	
H-14 43 40.3	
08.2S 116.4E	
h ABOUT 033KM	
EUR EP'	15 02 36.0
I	03 15.0
EPP	04 13.9
BOZ EP'	15 02 45.0
JUL 31	
H-15 09 37.6	
42.2N 142.4E	
h ABOUT 033KM	
COL EP	15 17 46.5
EUR IP	15 21 01.6
JUL 31	
H-15 37 20.3	
14.5N 092.2W	
h ABOUT 033KM	
ALQ IP	15 42 35.0
EUR EP	15 43 51.1
JUL 31	
H-16 20 20.0	
22.5S 176.8W	
h ABOUT 267KM	
TUC IP	16 32 19.0
EUR EP	16 32 21.3
GCA E(P)	16 32 30.1
ALQ IP	16 32 40.9
COL IP	16 32 50.4
JUL 31	
BHP EP	16 22 20.0
ES	23 52.0
JUL 31	
BHP IP	17 11 21.0
IS	12 03.0
JUL 31	
H-18 33 28.7	
09.2N 082.4W	
h ABOUT 033KM	

Date and Station	Phase	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
BHP	IP	18 34 12.0						
	IS	34 55.0						
JUL 31								
SLC	EP	19 03 46.3						
	IS	04 13.3						
FGU	IP	19 04 19.2						
JUL 31								
BOZ	E(P)	19 18 57.0						
JUL 31								
BOZ	EP	19 54 22.5						
	ES	54 42.5						
FGU	E(P)	19 55 06.2						
JUL 31								
H-21 53 03.6								
43.1N 088.3E								
h ABOUT 045KM								
COL	E(P)	22 03 32.0						
JUL 31								
FGU	IP	22 38 38.8						
	IS	38 52.6						
JUL 31								
ALQ	E(P)	22 58 45.0						
JUL 31								
BOZ	EP	23 54 01.7						